Tamworth REGIONAL COUNCIL

ASSET MANAGEMENT PLAN 2023-2032

Transport Infrastructure

January 2024

Acknowledgement of Country

Tamworth Regional Council would like to acknowledge the Gamilaroi/Kamilaroi people, who are the traditional custodians of this land. We would like to pay respect to Elders past and present and extend that respect to other Aboriginal and Torres Strait Islander peoples living in and visiting our Region.

Job #	Version	Author	Peer Review	Approving Director	Date
7710	1	[redacted]	[redacted]		Oct-23
7710	2	[redacted]		[redacted]	Nov-23

Document credit

This Asset Management Plan may be used as a supporting document to inform an overarching Strategic Asset Management Plan.

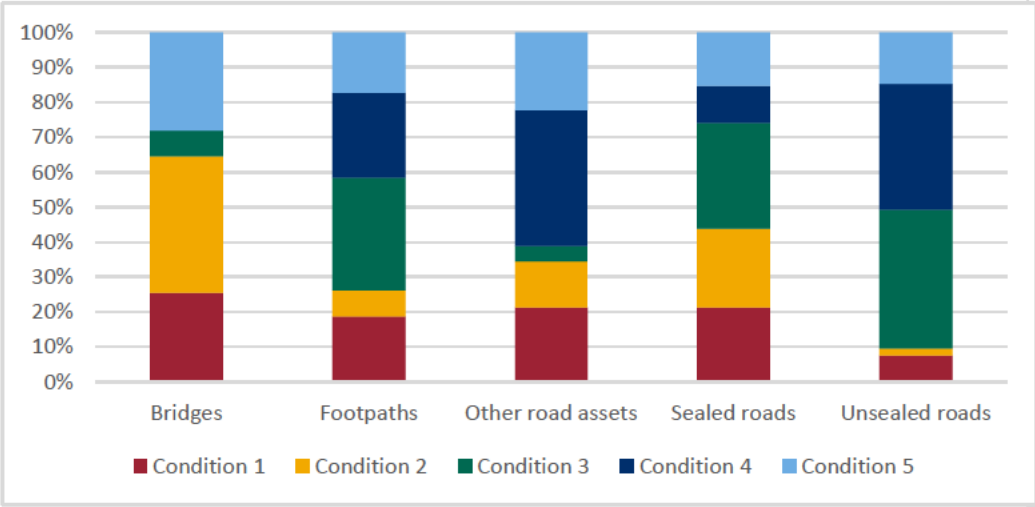
Contents

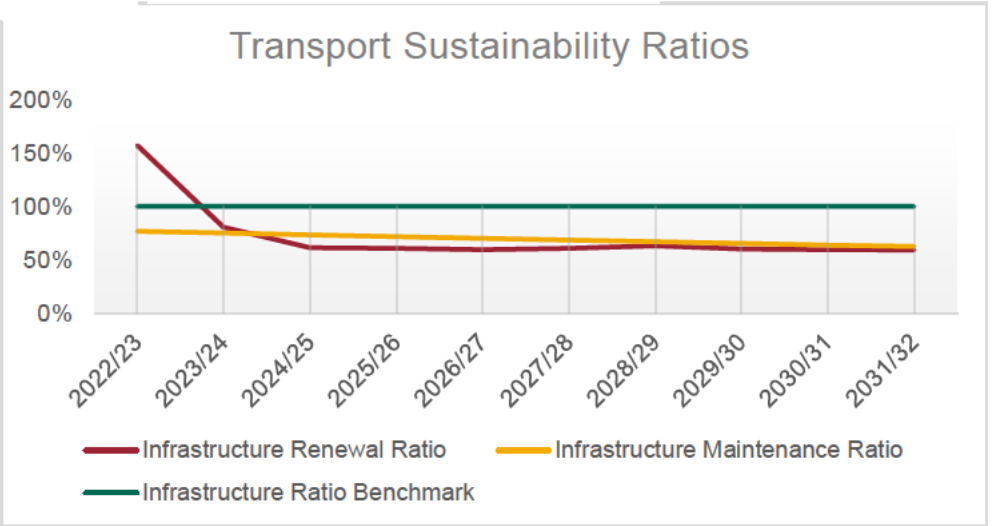
TRANSPORT INFRASTRUCTURE AT A GLANCE

The Transport Infrastructure asset portfolio comprises infrastructures relating to roading and pedestrian travel.

Value & Composition	Community Satisfaction	Importance to the Community
Transport Infrastructure assets have a total value of: **$1.12b**	**56%** Overall condition of local road network	**89%** Overall condition of local road network

Sealed Roads $394m | Unsealed Roads $92.5m | Bridges $353m | Pathways $47m | Other Transport $234m





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 10 year planning period. The AM Plan will link to councils Long-Term Financial Plan.

1.2 Asset Description

Transport Infrastructure is Council's largest asset portfolio (by value). It comprises a complex network of roading and pedestrian elements. The Transport Infrastructure network comprises:

Asset	Gross Replacement Cost ($m)	Written Down Value ($m)	Annual Depreciation ($m)	Unit of Measure	Units
Bridges and Major Culverts	352.89	223.53	-3.27	No.	353
Causeways	17.33	9.02	-0.2	No.	76
Carparks	8.27	6.28	-0.11	Spaces	3854
Footpaths, Cycleways and Shared pathways	46.9	28.33	-0.65	Km	209
Kerb and Gutter	85.06	57.27	-0.79	Km	627
Minor Culverts	88.57	70.1	-0.82	No.	5480
Roads Local Sealed	322.51	238.73	-4.49	km	1129
Roads Local Unsealed	91.32	66.6	-1.71	km	1848
Roads (laneways and unmaintained)	3.09	1.69	-0.05	Km	301
Roads Regional Sealed	71.85	53.21	-0.86	km	227
Roads Regional Unsealed	1.15	0.92	-0.02	km	16
Transport Ancillary	31.52	21.19	-0.33	No.	1020

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.

The main service consequences of the Planned Budget are:

- Expected deterioration of the condition of the transport portfolio and an increase in the portfolio backlog
- Inability to meet current service standards and agreements as well as the inability to incorporate resilience into the portfolio.

1.4 Future Demand

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

- Population increase
- Environmental changes and the impacts of climate change
- Civil engineering standards may change over time.

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

- Consultation and engagement with the community to capture and monitor customer needs
- Monitoring changes in technology, relating specifically to design and engineering standards.

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 Transport Infrastructure is estimated as **$375.6m** or **$37.56m** on average per year.

1.6 Financial Summary

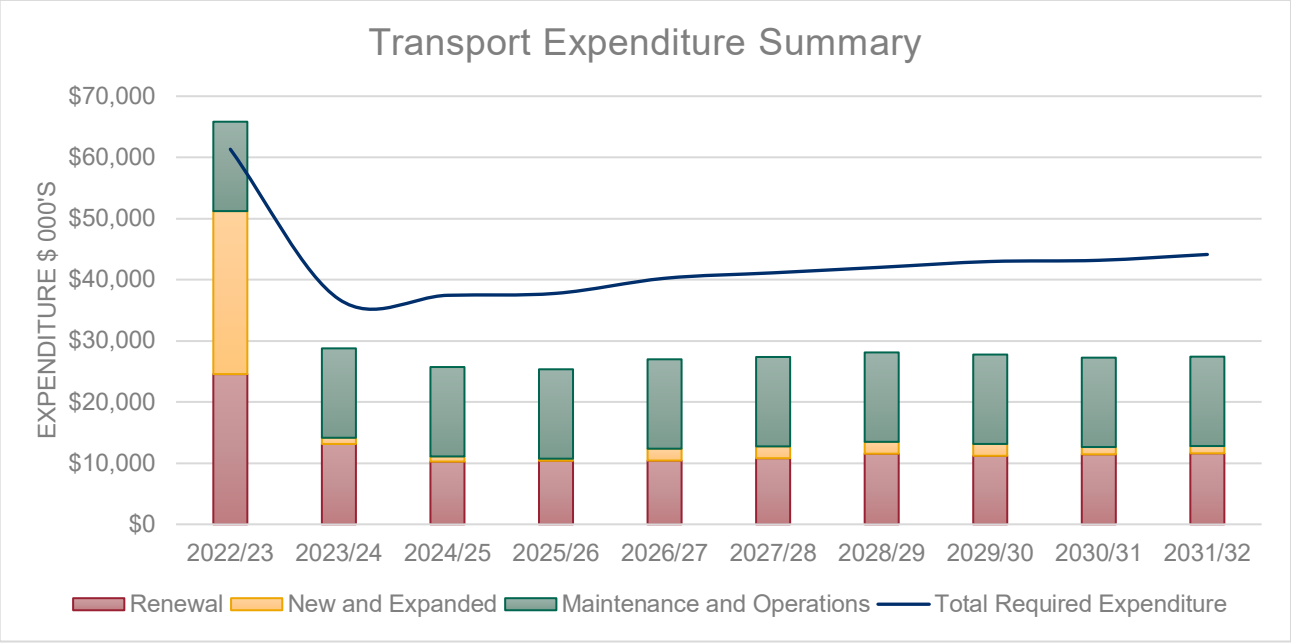
1.6.1 What we will do

Estimated available funding for the 10 year period is **$310.6m** or **$31.06m** on average per year as per the Long-Term Financial Plan or Planned Budget. This is **83%** of the cost to sustain the current level of service at the lowest lifecycle cost.

The asset management reality is that only what is funded in the Long-Term Financial Plan can be provided. 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 Transport Infrastructure leaves a shortfall of **-$6.5m** 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.

Figure 1.6 Forecast Lifecycle Costs and Planned Budgets



We plan to provide Transport Infrastructure services for the following:

- Operation, maintenance, renewal and acquisition of Transport assets to meet service levels set by Council in annual budgets
- $164.4m Major Capital works (New assets and Renewals) within the 10-year planning period.

1.6.2 What we cannot do

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

- Renewal and replacement of our portfolio in line with depreciation
- Meet the required operational funding to deliver on our current service level agreements.

1.6.3 Managing the Risks

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

The main risk consequences are:

- Deterioration of the condition of the Transport portfolio
- Lack of resilience for expected increase in severe weather events.

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

- Prioritising works planning to deliver capital works which provide the best bang for buck for the community
- Undertaking additional inspection of Council's most critical and vulnerable transport infrastructure.

1.7 Asset Management Planning Practices

Key assumptions made in this AM Plan are:

- To implement Tamworth Regional Blueprint 100
- Council's Finance Section and Council documents Asset Capitalisation Policy (Ref 101454/2010) and Asset Register & Valuation Guidelines (Ref 145585/2014)
- Future asset revaluations will not significantly alter the value of the portfolio outside of indexation adopted in the financial modelling
- Budgeted capital expenditure has been determined by assessing remaining lives of Council's asset portfolio while the annual required spend has been derived from Council's annual depreciation.

This AM Plan is based on 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:

- Determining criteria for Service Levels and Critical Assets
- Ensuring consistency in data capture, use and reporting.

2.0 INTRODUCTION

2.1 Background

Asset management is the "…combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost-effective manner"[1].

Council maintains a network of physical infrastructure within the Local Government Area that is necessary to enable the community to live, work and play in a prosperous, safe and accessible region.

Managing this infrastructure is a complex and expensive task that requires long term planning and funding. Moreover, provision of additional infrastructure in response to growth poses challenges, with changes in community expectations, standards and population likely to change our infrastructure requirements into the future. Council is also under significant pressure to deliver infrastructure in a sustainable manner.

2.1.1 Our Asset Management Performance

Successful asset management will include the following elements:

- Provision of a defined level of service, reviewed from time to time
- Systems to monitor performance
- A plan for managing the impact of growth
- A lifecycle approach to developing cost effective management strategies for the long term that meet the defined level of service
- Identification, assessment, and appropriate control of risks
- A long term financial plan which identifies required affordable expenditure and how it will be financed
- An asset management improvement strategy.

Council strives to achieve these elements and is continuously improving our asset management practice.

Independent assessment in 2018 by GHD Advisory of Council's asset management maturity against the ISO55000 suite of asset management standards, found Council to be operating at a competent level in core asset management. Since 2018, significant progress has been made in documenting and reporting on asset information across the portfolio, with key improvements in identifying and working to close information gaps, increasing condition data, and better understanding of long-term funding considerations. More improvement is targeted in these areas, as well as increasing consultation with the community, and articulating levels of service and risk. Another maturity assessment would be of value in the near future to independently track Council's progress.

2.1.2 This Plan

This Asset Management Plan sets out the current Transport Infrastructure assets owned and managed by Council, and communicates the requirements for the sustainable delivery of services through management of said assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the planning period.

The infrastructure assets covered by this AM Plan include councils roads, pathways, bridges and ancillary transport infrastructure that allow for the movement of freight, vehicles and people throughout the LGA. For a detailed summary of the assets covered in this AM Plan refer to Table 5.1.1 in Section 5.

The Transport Infrastructure assets included in this plan have a total replacement value of **$1.12 billion.**

[1] IPWEA International Infrastructure Management Manual (IIMM) 2015

Asset Management Plans are one of a series of corporate documents produced by Council to facilitate decision making and report on performance. Other significant documents that should be considered in conjunction with this plan include:

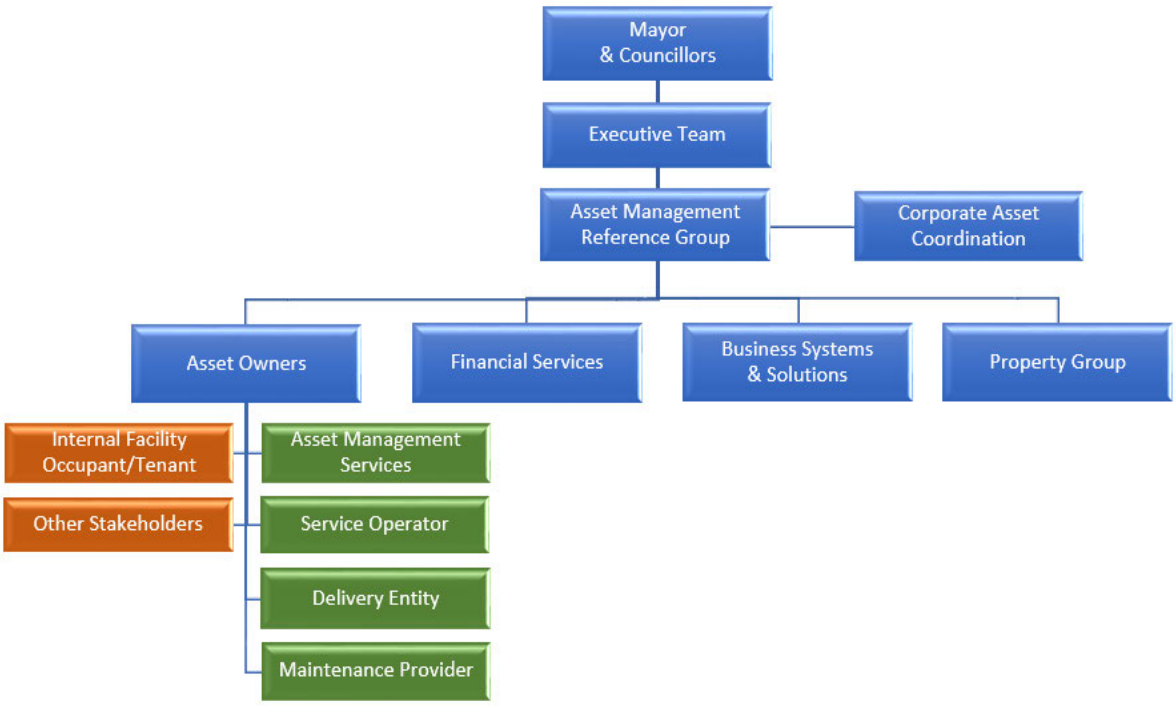
- Asset Management Policy
- Tamworth Regional Blueprint100
- Our Community Plan 2022-2032
- Our Delivery Plan 2022-2025
- Our Annual Plan & Budget – 2022-23
- Our Resourcing Plan 2022-2025 (includes asset management strategy).

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 and Councillors	▪ Represent needs of community ▪ Allocate resources to meet planning objectives in providing services while managing risks ▪ Ensure service is sustainable.
Executive Management Team	▪ Provide decision making and strategic direction on how assets are managed.
Asset Owner	▪ Overall responsibility for developing infrastructure asset management systems, policies and procedures and financial models ▪ Reporting on the status and effectiveness of asset management ▪ Allocation of staff resources.
Asset Custodian	▪ Collecting, maintaining and reporting on asset information ▪ Arranging for asset lifecycle activities to occur ▪ Managing budgets to meet lifecycle costs ▪ Identifying risks and improvement strategies related to the management of their assets.
Finance Division	▪ Provide long term financial plans and operational financial data ▪ Annual Reporting Statements.
Public	▪ Provide feedback on service level expectations and suitability.
Assets Staff	▪ Develop and update asset management documentation.

Our organisational structure for service delivery from assets is detailed below:



2.2 Goals and Objectives of Asset Ownership

Our goal for managing 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
- 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:

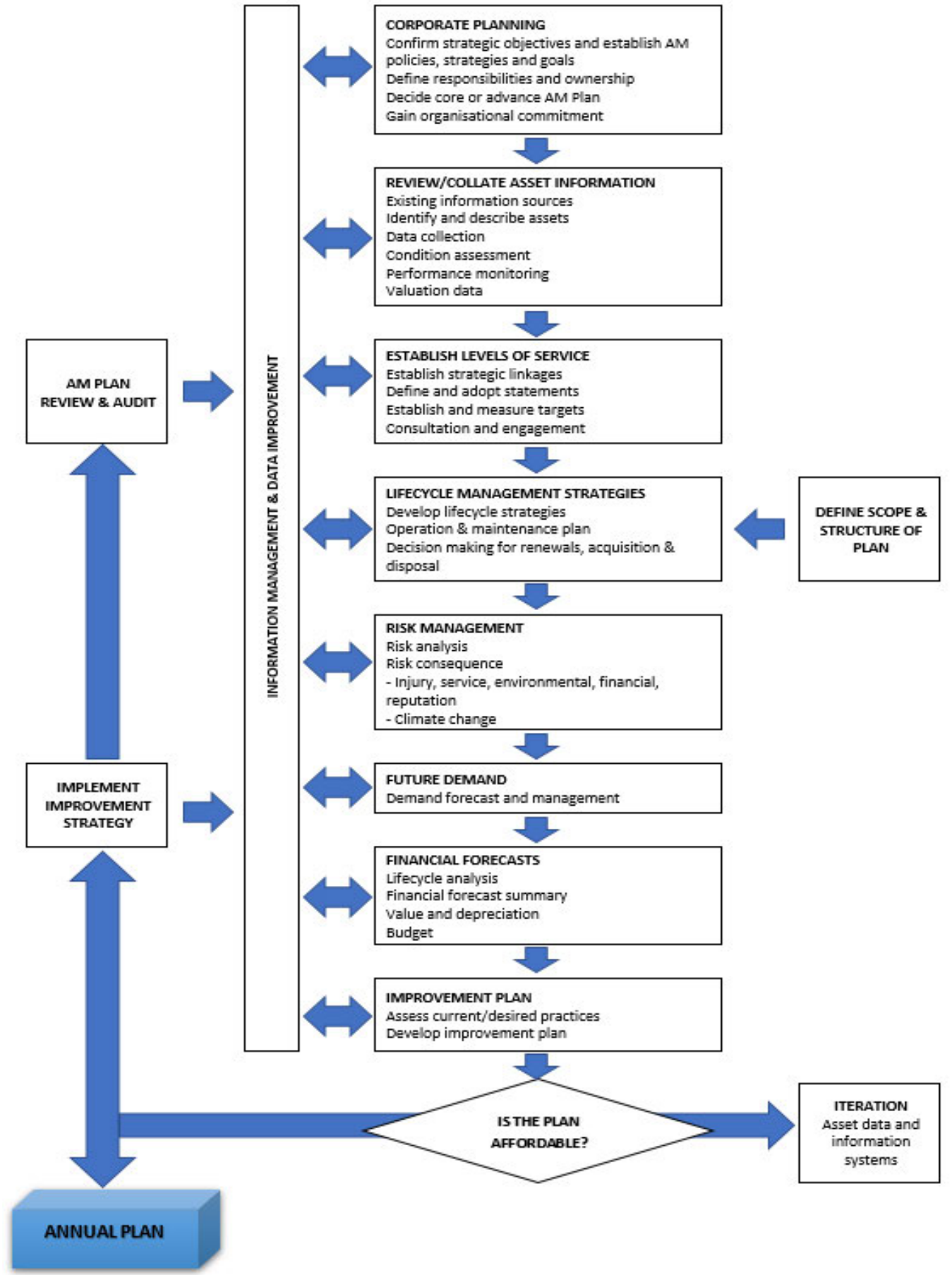
- Levels of service – specifies the services and levels of service to be provided
- Risk Management
- Future demand – how this will impact on future service delivery and how this is to be met
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service
- 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 [2]
- ISO 55000[3].

[2] Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13
[3] 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, 2015, IIMM, Fig 1.5.1, p 1.11

3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

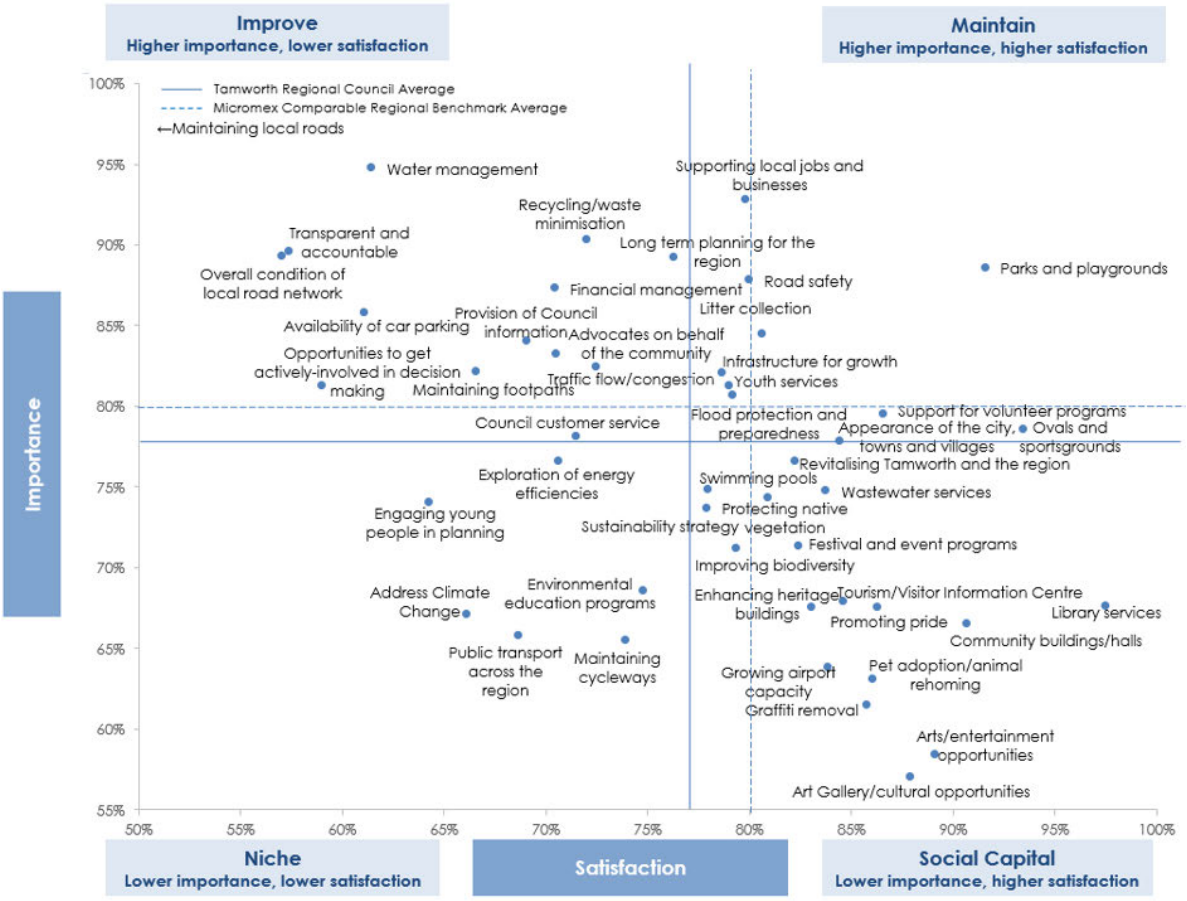
During December 2021 and January 2022, Council commissioned a survey, carried out by Micromex Market Research & Consulting[4], asking community members about their satisfaction with Council's services, and what they felt was important for the future of our region.

We have also drawn on feedback from a number of other targeted community consultation activities, including:

- Blueprint100
- Revive the Region
- 2021/22 Annual Operational Plan
- Open Space Management Plan
- Sport and Recreation Plan
- Active Transport Plan
- Sustainability Strategy
- Visitor Economy Plan
- Talking Tamworth Tomorrow
- Economic Development and Investment Strategy.

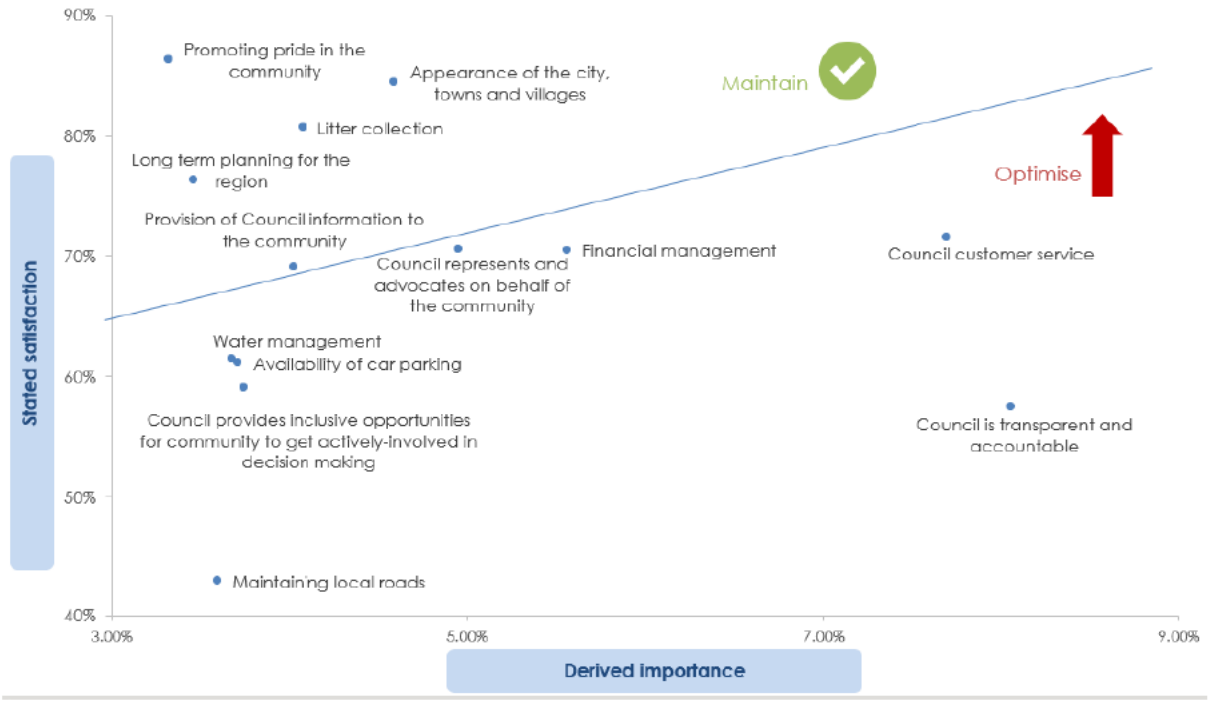
Results from the Micromex community consultation process are shown below.

The analysis below is completed by plotting the variables on x and y axes, defined by stated importance and rated satisfaction. The top 2 box importance scores and top 3 satisfaction scores are aggregated for stated importance and rated satisfaction to identify where the facility or service should be plotted.



[4] Micromex Market Research & Consulting | Inspired Actionable Solutions

The chart below looks at the relationship between stated satisfaction (top 3 box) and derived importance (Regression result) to identify the level of contribution of each measure. Services/facilities above the blue line are meeting community satisfaction measures, while those below the blue line can be targeted to elevate satisfaction levels in these areas.



The table below shows areas with very high/high importance to the community, but where satisfaction ratings are significantly lower than importance ratings.

Service Area	Service/Facility	Importance	Satisfaction	Performance Gap (I – S)
Social	Maintaining local roads	96%	43%	53%
Environmental	Water management	95%	61%	33%
Social	Overall condition of local road network	89%	57%	32%
Civic	Council is transparent and accountable	90%	57%	32%
Social	Availability of car parking	86%	61%	25%
Civic	Council provides inclusive opportunities for community to get actively-involved in decision making	81%	59%	22%
Environmental	Recycling/waste minimisation	90%	72%	18%
Civic	Financial management	87%	70%	17%
Social	Maintaining footpaths	82%	67%	16%
Civic	Provision of Council information to the community	84%	69%	15%

It was evident that Council's transport assets were important to the community with high importance scores for its roads and road conditions, pathways and carpark facilities. Yet their performance gap was significant, particularly with maintaining its roads.

3.2 Strategic and Corporate Goals

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

Council has adopted Blueprint100 as its overarching strategic roadmap, which targets achieving a population of 100,000 by 2041 via a number of strategic initiatives across 8 priority themes designed to promote a prosperous economy and high living standards in the region.

Community consultation conducted in 2021/2022 was based around the Blueprint100 themes and together Blueprint100 and community feedback informed the development of Our Community Plan 2022-2032, which has 9 Focus Areas as follows:

The relevant focus areas and strategies and how these are addressed in this AM Plan are summarised in the Table 3.2 series below.

Table 3.2: Strategic Focus Areas and how these are addressed in this Plan

FOCUS AREA 5 - **CONNECT OUR REGION AND ITS CITIZENS**		
Priority	**Strategies**	**How priority is addressed in this Plan**
A safe and efficient transport network	▪ Plan transport infrastructure to meet the needs of our community into the future ▪ Provide and maintain safe, cost effective and fit for purpose roads, bridges and carparks ▪ Partner with NSW Government to deliver efficient future proofed highways across our region.	▪ Addresses the planning, provision and upkeep of safe transport infrastructure in a sustainable manner through levels of service, maintenance and capital expenditure planning.
Expanded public transport options to meet the needs of our community in the future	▪ Improve local bus services ▪ Investigate and advocate for the expansion of rail services within and out of our region.	▪ Provision and management of ancillary infrastructure to support alternative transportation option within the LGA.
Improved access to active transport options for movement between places	▪ Increased participation in walking and cycling.	▪ Addresses the planning, provision and upkeep of active transport assets throughout the LGA.

Sustainability Strategy

In addition to the suite of strategic documents that detail the focus areas and how we plan to achieve them, Council is currently preparing a new Sustainability Strategy. The targets and actions of this strategy will be incorporated where applicable in future versions of this Plan.

Part of the process of developing this strategy has been the alignment of our strategic focus areas with the United Nations Sustainable Development Goals (SDGs), adopted by the United Nations Member States in 2015.

The SDGs are aligned as follows:

3.3 Legislative Requirements

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

Table 3.3: Legislative Requirements

Legislation	Requirement
Disability Discrimination Act 1992, Disability Discrimination and Other Human Rights Legislation Amendment Act 2009	An act relating to discrimination on the ground of disability. The Federal Disability Discrimination Act 1992 (D.D.A.) provides protection for everyone in Australia against discrimination based on disability. It encourages everyone to be involved in implementing the Act and to share in the overall benefits to the community and the economy that flow from participation by the widest range of people.
Government Information (Public Access) Act 2009	The purpose of the Act is to open government information to the public by (a) authorising and encouraging the proactive public release of government information by agencies, (b) giving members of the public an enforceable right to access government information, and (c) providing that access to government information is restricted only when there is an overriding public interest against disclosure.
Local Government Act 1993	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Local Government (General) Regulation 2005	Sets out standards, requirements and conditions relating to approvals for water supply, sewerage and stormwater drainage work, management of waste, activities on community land, public roads and other public spaces
Local Government Act - Annual Reporting Section 428(2)(d)	A report of the condition of the public works (including public buildings, public road and water sewerage and drainage works) under the control of council as at the end of that year; together with ▪ An estimate (at current values) of the amount of money required to bring the works up to a satisfactory standard ▪ An estimate (at current values) of the annual expense of maintaining the works at that standard ▪ The Council's programme for maintenance for that year in respect of the works.
Local Government Amendment (Planning and Reporting) Act 2009	Local Government Amendment (Planning and Reporting) Act 2009 includes the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Public Health Act 2010 and Public Health Regulation 2012	The purpose of the Act is to promote, protect and improve public health, control risks to public health, promote control of infectious diseases, prevent the spread of infectious diseases, recognise the role of local government in protecting public health, and monitor diseases and conditions affecting public health. Under the Act a local government authority has, in relation to its area, the responsibility: ▪ To take appropriate measures to ensure compliance with the requirements of this Act in relation to private water suppliers, water carters, public swimming pools and spa pools, regulated systems and premises on which skin penetration procedures are carried out ▪ Of appointing authorised officers to enable it to exercise its functions under this Act and ensuring that its authorised officers duly exercise their functions under this Act. The Regulation makes provision for: installation, operating and maintenance requirements for air-conditioning systems and other regulated systems; operating requirements for public swimming pools and spa pools.

Legislation	Requirement
Public Records Act 2002	This act sets out requirements in respect maintaining Public Records.
State Records Act, 1997	Sets out responsibilities and requirements in relation to the management of Council records.
Work Health & Safety Act 2012, Work Health & Safety Regulation 2011, Workplace Injury Management and Workers Compensation Act 1998 and Workers Compensation Act 1987	Sets out roles and responsibilities to secure the health, safety and welfare of persons at work and covering injury management, emphasising rehabilitation of workers particularly for return to work. Council is to provide a safe working environment and supply equipment to ensure safety.
Work Health and Safety Act 2011	Sets out the roles and responsibilities to secure the health, safety and welfare of persons at work.

Codes and Standards

Asset management is also carried out in accordance with the following Codes and Standards:

- **Australian Accounting Standards** – Sets out the financial reporting standards relating to the (re)valuation and depreciation of infrastructure assets. AASB116 relates specifically to reporting on asset condition and consumption to Councillors, management and the community
- **Australian Standards** – cover a wide range of design, construction, trades and service provision requirements including standards for playgrounds, accessibility.

3.4 Customer Values

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

Customer Values indicate:

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

Table 3.4: Customer Values

Service Objective: *Assessing and establishing the community's priorities and satisfaction in relation to Council activities, services, and facilities.*
Community Survey 2022 – carried out by Micromex Research – February 2022

Customer Values	Customer Satisfaction Measure	Current Feedback	Expected Trend Based on Planned Budget
Local roads are maintained	Community Survey 2022	Survey identified that the community was 52% satisfied and the importance of this value was high in the community	Additional State and Federal funding will assist in improving the local road network
Footpaths and cycle paths are maintained	Community Survey 2022	Survey identified that the community was 74% satisfied and the importance of this value was high in the community	
Road Safety	Community Survey 2022	Survey identified that the community was 80% satisfied and the importance of this value was high in the community	Continue to remain reasonably constant.

3.5 Levels of Service

The 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 3.5 under each of the service measures 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.

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

Table 3.5: Level of Service Measures

Outcome	Level of Service	How will we measure it?	What is our target?	How are we going?
Condition - Quality/Condition	Provide sealed road network with smooth ride appropriate to the road type and speed limits	Survey of road pavement condition	All road pavement is in Condition 3 or better	
Condition - Quality/Condition	Provide Kerb and gutter in a good condition and fit for purpose	Condition survey of kerb and gutter portfolio	90% of kerb and gutter assets in Condition 3 or better	
Condition - Quality/Condition	Provide sealed footpaths which are smooth and free of defects	Condition survey of footpath portfolio	90% of footpath assets in Condition 3 or better	
Condition - Quality/Condition	Assets are maintained in a satisfactory condition	Council's infrastructure backlog ratio	OLG Benchmark of 2%	
Functionality - Reliability / Responsiveness	Be responsive to the needs of the road and transport asset users	Customer Service Requests	85% of requests are completed within Councils service charter	
Functionality - Reliability / Responsiveness	Planned works completed in accordance with schedules	Completion of scheduled work	90% completion within scheduled service standard	
Functionality - Sustainability	Provide well maintained infrastructure that is affordable to the community	Planned vs. Reactive Maintenance	Greater than 50% of maintenance expenditure is undertaken through planned maintenance schedules	
Functionality - Sustainability	Assets are being renewed in a sustainable manner	Infrastructure asset renewal ratio	OLG benchmark > 100%	
Capacity - Affordability	The services are affordable and managed using the most cost-effective methods for the required level of service	Annual budget reporting	Maintenance / Operational Expenditure within 5% of Annual budget	
Capacity - Affordability	Council maintains its assets	Infrastructure Asset Maintenance Ratio	OLG benchmark of 100%	
Capacity - Health and Safety	Provide roadways free from hazards	Number of road accidents (annual RMS accident report)	Reduction in 3 year rolling average	
Capacity - Health and Safety	Provide pathways free from hazards	Number of insurance claims received	Reduction in 3 year rolling average	

4.0 FUTURE DEMAND

4.1 Demand Drivers

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

4.2 Demand Forecasts

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

Of note in relation to forecast demand, Council has adopted Blueprint100 as its growth strategy, which sets a population target of 100,000 by 2041. This is equivalent to annual population growth from 2022 of 2.29%. If this target is achieved, it will represent a higher than current growth rate (0.87% per annum 2016-2021[5]) and have a commensurate impact on increased demand.

4.3 Demand Impact and Demand Management Plan

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

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

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this AM Plan.

[5] Population and dwellings | Tamworth Regional Council | Community profile (id.com.au)

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population growth in the region	The current population of the Tamworth Region is 64,459 (2022 ABS).	By 2041 project growth of the population is estimated to be 75,700. TRC have a growth strategy to gain a regional population of 100,000 by 2050.	Increase in demand for asset services in the region.	This has been considered in the Tamworth Regional Blueprint 100.
Impact of Climate Change	Increased rainfall, temperatures and more extreme weather conditions in the region.	Both min and max average temperatures are expected to increase in the near future (+0.7°C by 2030) and the far future (+2.1°C by 2070). North west of NSW is expected to experience increased rainfall in summer and autumn, but decreases in winter and spring. By 2070 there is expected to be an overall increase in autumn rainfall across the north west of the state.	Temperature extremes will impact on operational and maintenance costs which in turn could impact on rate payers long-term.	Road and Transport assets will be impacted by climate change.
Agricultural Practices	General access vehicle used to transport goods from farms in the region.	Increased demand for restricted access vehicles (B-Doubles) to service farms.	Requirement for freight routes and upgrade of roads. Change in freight routes/land use resulting in change of Service Level.	Deployment of traffic counters to measure usage.
Council Financial Sustainability	Council is required to provide its projects, programs, and services within an environment of constrained revenue control resulting from rate capping.	Rate capping has the potential to affect effective asset management if sufficient funds are unable to be secured to manage existing assets to agreed levels of service, or to provide new assets desired by the community	Making sure that the community receives maximum benefit from the investment in recreation facilities and programs.	Community sequencing of infrastructure can be planned alongside improved asset renewal programming to allow for priority allocation and timely intervention as required.
Technology changes	Technology is continuously evolving and providing beneficial impacts on the service of the asset.	Technology will continue to evolve especially with road survey technology and council will continue to monitor this type of technology.	Potential to reduce operational costs and maintenance frequency. Improve work efficiencies and service delivery.	New and also emerging technologies should be assessed for performance ability to improve service and costs. Particularly the ability of AI to assist with condition and defect inspection as well as optimisation of works programs driven by asset data.

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.4.

Acquiring new assets will commit the 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 5).

4.5 Climate Change Adaptation

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

How climate change impacts 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.[6]

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

4.5.1 Climate Change Data[7]

AdaptNSW is an online platform produced by the NSW Government Office of Environment and Heritage to inform and empower communities, businesses, households and government to adapt to climate change. The NSW Climate Change Snapshot report provided on the AdaptNSW site documents climate change projections from the NSW and ACT Regional Climate Modelling (NARCliM) project. The report provides the following information in relation to climate change for NSW and the Tamworth region, which is situated in the northwest of the state. The report is divided into time periods under consideration into the near future (2020-2039) and the far future (2060-2079).

Temperature	Both minimum and maximum average temperatures are expected to increase in the near future (+0.7°C by 2030) and the far future (+2.1°C by 2070). The greatest increases are projected for the northwest of the state in summer.
Hot Days (>35°C)	In the northwest of NSW it is expected there will be an additional 10-20 hot days by 2030 and 40+ additional hot days by 2070.
Cold Nights (<-2°C)	For the northwest slopes and plains of NSW it is expected there will be 5-10 fewer cold nights per annum in the near and far future.
Rainfall	By 2030 there is little change projected in overall rainfall across NSW (+0.4% per annum), although the northwest of NSW is expected to experience increased rainfall in summer and autumn but decreases in winter and spring. By 2070 there is expected to be an overall increase in autumn rainfall across the northwest of the state.
Fire Weather	By 2030 increases of +0.7 in number of average severe fire weather days are projected in summer and spring, with projected decreases in Autumn, likely as a consequence of projected increases to autumn rainfall.

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

[7] Sourced from Home | AdaptNSW and NSW climate change snapshot.pdf

In addition to the data collated by the NSW Government, the Australian Bureau of Meteorology[8] and Climate Council[9] both document evidence of increasing frequency in Australia of extreme weather events, such as heavy rainfall and severe storm activity.

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
Rainfall	A drier climate is anticipated.	Cost of water will increase. Road seal life expectancy will decrease due to drier climate and impact from the sun as temperatures rise.	Budget for increased cost of water supply. Plan for reduction in useful lives of the asset base and increased cost of delivery.
Storm intensity	More extreme weather events.	More localised flooding potentially. Unsealed roads side drain impacted.	Ensure that table drains are well maintained for the sealed and unsealed road network.

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 better 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.

Table 4.5.2 summarises some asset climate change resilience opportunities.

Table 4.5.2 Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact These assets?	Build Resilience in New Works
Sealed Network	Increased heat – cracking and reduced life.	Activating circular economy and investigation into suitable materials.
Asset Design	Fit for purpose.	Building resilience into assets at design will increase the asset life based on climate impacts, and also lower the carbon impact due to longer lasting assets if built with resilience in mind.

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.

[8] State of the Climate 2020: Bureau of Meteorology (bom.gov.au)

[9] Cranking Up The Intensity: Climate Change and Extreme Weather Events | Climate Council

5.0 LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

5.1.1 Physical parameters

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

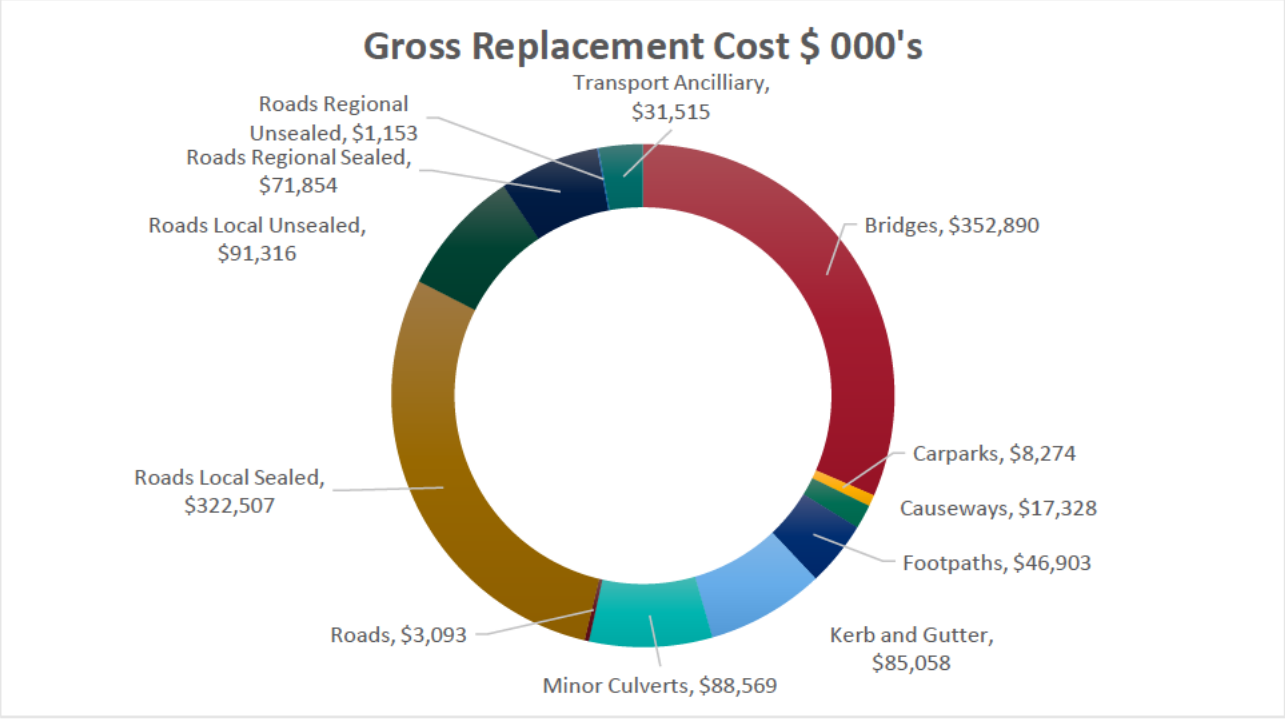
These assets include sealed and unsealed roads, bridge and major culverts, carparks, footpath, kerb and shoulders.

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

Table 5.1.1: Assets covered by this Plan

Asset	Gross Replacement Cost ($m)	Written Down Value ($m)	Annual Depreciation ($m)	Unit of Measure	Units
Bridges and Major Culverts	352.89	223.53	-3.27	No.	353
Causeways	17.33	9.02	-0.2	No.	76
Carparks	8.27	6.28	-0.11	Spaces	3854
Footpaths, Cycleways and Shared pathways	46.9	28.33	-0.65	km	209
Kerb and Gutter	85.06	57.27	-0.79	km	627
Minor Culverts	88.57	70.1	-0.82	No.	5480
Roads Local Sealed	322.51	238.73	-4.49	km	1129
Roads Local Unsealed	91.32	66.6	-1.71	km	1848
Roads (laneways and unmaintained)	3.09	1.69	-0.05	km	301
Roads Regional Sealed	71.85	53.21	-0.86	km	227
Roads Regional Unsealed	1.15	0.92	-0.02	km	16
Transport Ancillary	31.52	21.19	-0.33	No.	1020

Figure 5.1.1: Assets covered by this Plan



5.1.2 Asset condition

Condition is currently monitored.

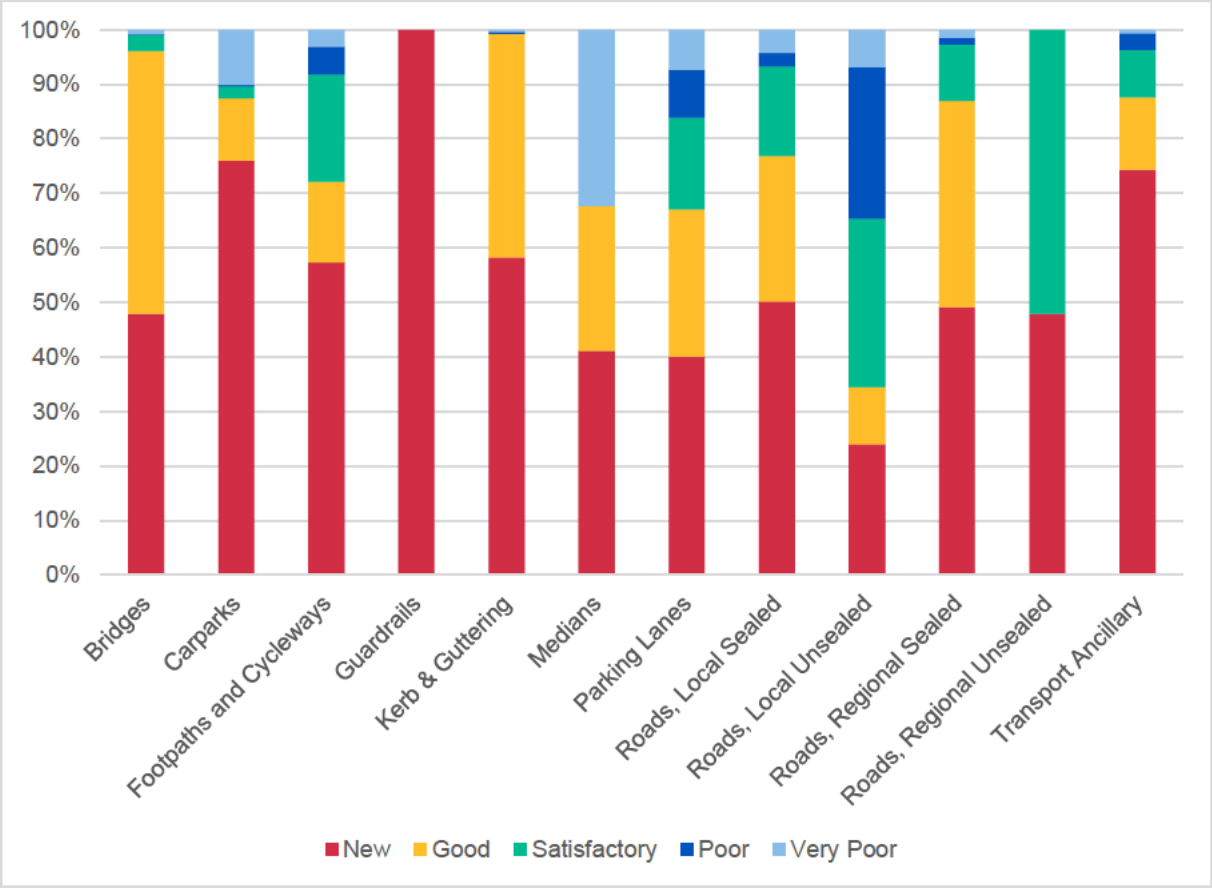
Condition is measured using a 1 – 5 grading system[10] as detailed in Table 5.1.2. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level, however, for reporting in the AM Plan the results are translated to a 1 – 5 grading scale for ease of communication.

Table 5.1.2: Condition Grading System

Condition Grading	Description of Condition
0	**Unrated**: no condition rating recorded at this time or rating not required
1	**Very Good**: free of defects, only planned and/or routine maintenance required
2	**Good**: minor defects, increasing maintenance required plus planned maintenance
3	**Fair**: defects requiring regular and/or significant maintenance to reinstate service
4	**Poor**: significant defects, higher order cost intervention likely
5	**Very Poor**: physically unsound and/or beyond rehabilitation, immediate action required

The condition profile of our assets is shown in Figure 5.1.2.

Figure 5.1.2 Asset Condition Profile



Condition is measured using a 1 – 5 grading system (based on IIMM). Where necessary, a rudimentary condition state can be assumed for an asset based on its asset consumption figure.

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

5.2 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 Tables 5.2a and 5.2b.

Table 5.2a: Operations Budget Trends

Year	Operations Budget $
2022/2023 Financial Year	$3,918,811
2023/2024 Financial Year	$3,918,811
2024/2025 Financial Year	$3,918,811

Operations budget levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where operation 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.

Table 5.2b: Maintenance Budget Trends

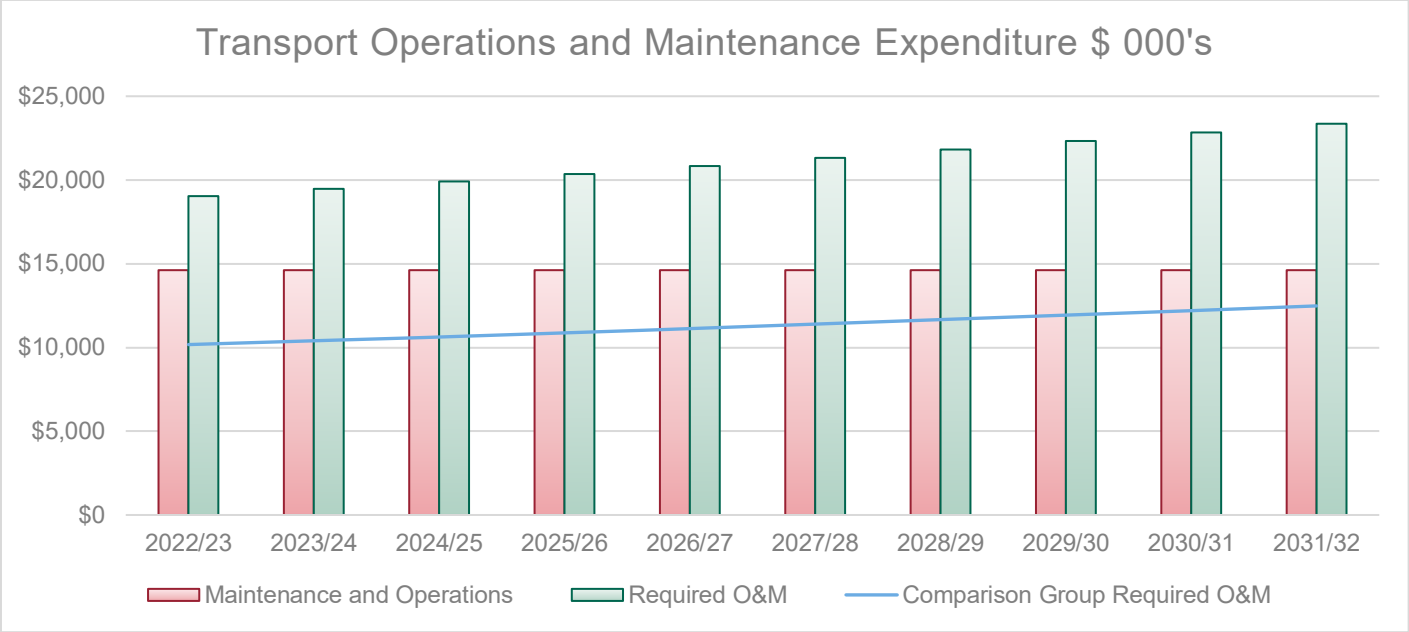
Year	Maintenance Budget $
2022/2023 Financial Year	$10,697,033
2023/2024 Financial Year	$10,697,033
2024/2025 Financial Year	$10,697,033

Maintenance budget levels are considered to be inadequate 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.

5.2.1 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 5.2.1 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

Figure 5.2.1: Operations and Maintenance Summary



Currently there is a shortfall in O&M expenditure to meet the current levels of service expected by the community. The gap between available and required funding further widens as our transport portfolio grows with the addition of new assets. A high-level comparison was undertaken against other NSW regional councils to compare the level of required maintenance for the value of the portfolio, however, this does not take into consideration the adopted levels of service for the individual councils as well as potential differences in reporting.

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.

Traditionally, assets requiring renewal are identified from one of two approaches in the Lifecycle Model. Council uses a combination of these two approaches:

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

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives are comprehensively reviewed at asset revaluation, then yearly to take into account significant changes due to condition or future works.

Table 5.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
Sealed roads • Sub-base • Base sealed • Spray seal • Asphalt • Concrete	 150 years 70 years 20 years 30 years 50 years
Unsealed roads	15 years
Kerb and gutter	100 years
Bridges and major culverts – concrete/steel	100 years
Parking (Car Parks) – Asphalt and bitumen	65 years
Footpaths • Asphalt • Bitumen • Concrete • Gravel	 35 years 65 years 70 years 35 years
Guard rails, barriers, fences and gates	40 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).[11]

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
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.[12]

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.3.1.

Table 5.3.1: Renewal Priority Ranking Criteria

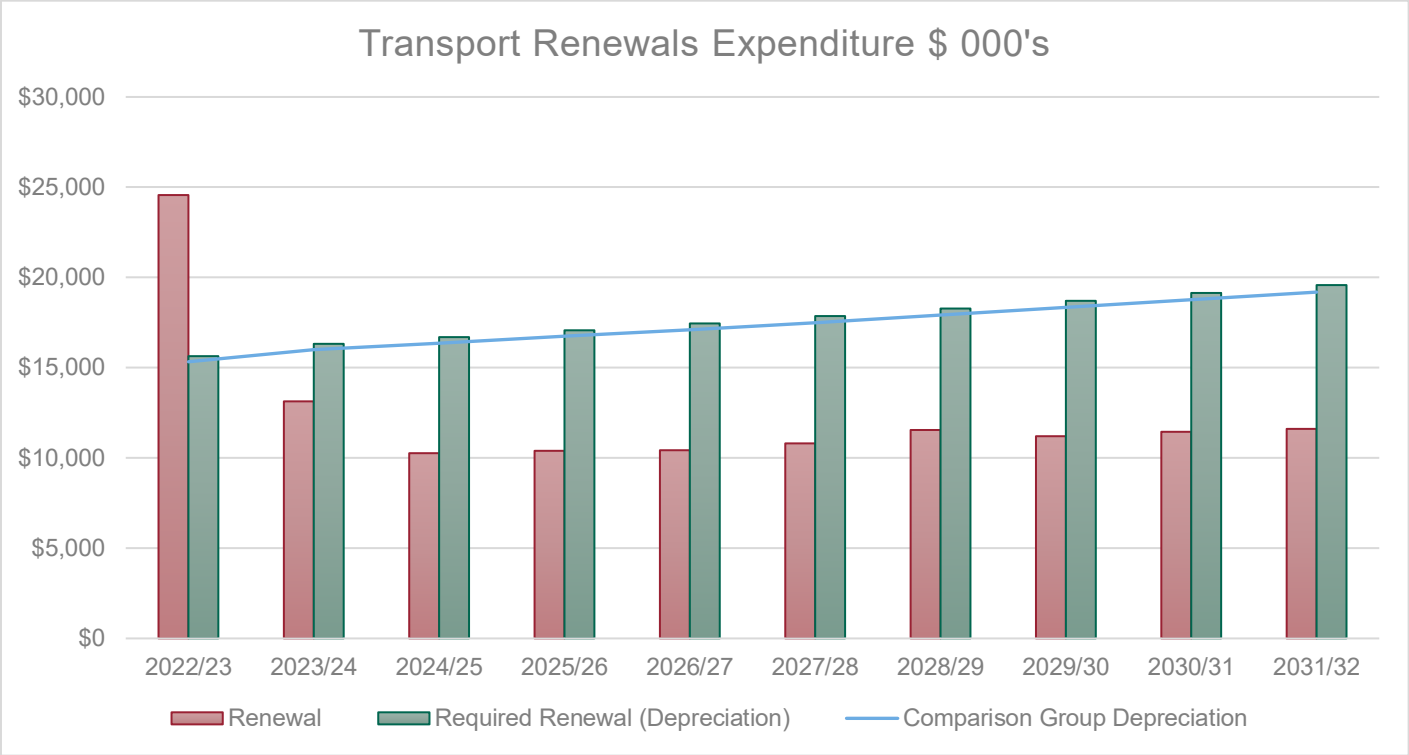
Criteria	Weighting
Road hierarchy	20%
Road surface type	30%
Traffic count	25%
Condition	15%
Bus route	10%
Total	**100%**

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

5.4 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4. A detailed summary of the forecast renewal costs is shown in Appendix D.

Figure 5.4: Forecast Renewal Costs



Council undertook a high level comparison of required renewal against other regional NSW councils. The analysis showed that councils required expenditure is on par with the industry given the value of our assets.

5.5 Acquisition Plan

Acquisition reflects 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 gifted or contributed to the Council for zero acquisition cost.

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation.

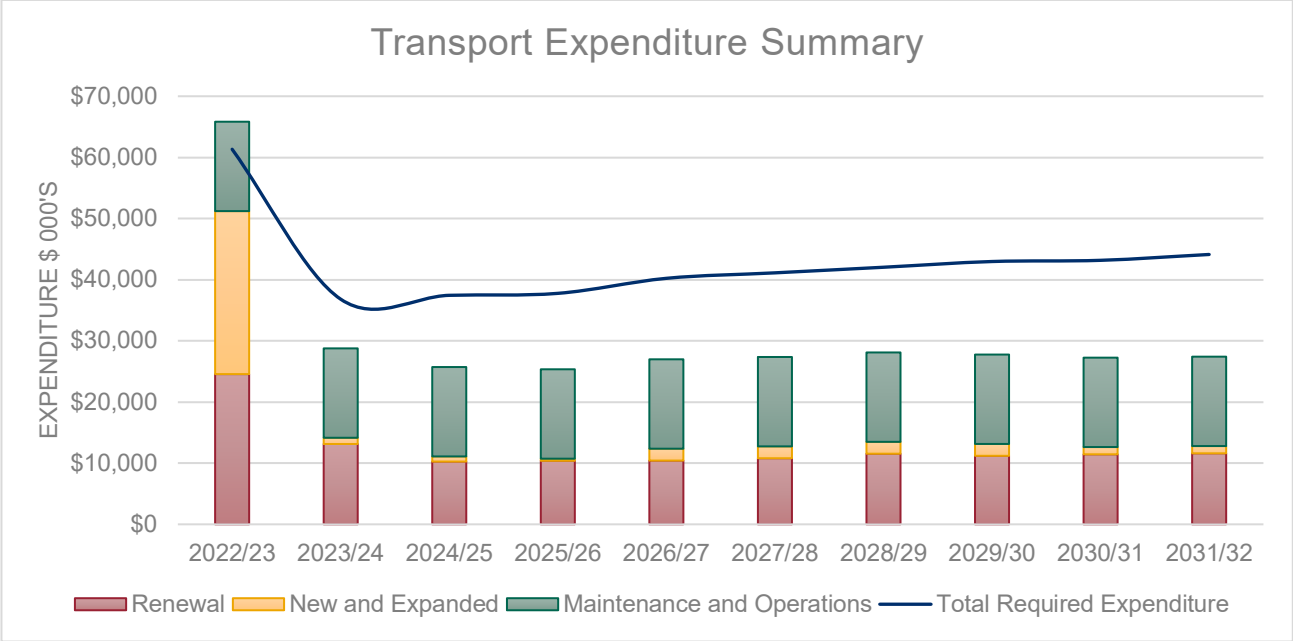
No assets have been identified for disposal at this time.

5.7 Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.7. 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. The significant capital spend in the early years of the model are reflective of the grant funding and significant expenditure on disaster recovery funding following the significant weather events in 2022.

Figure 5.7: Lifecycle Summary



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'[13].

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.

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. The follow criteria were considered when determining asset criticality:

Criteria	High	Medium	Low
Road classification	Arterial	Primary Collector/Local Collector	Local Access
Waterway area	Roads near or parallel to waterways	Road runs perpendicular to waterways	Road near retention/treatment system
Emergency services	Police Ambulance	RFS, NSWFB, SES	Airfield, Council Depot
Schools	40km zones		
Bus routes	School Bus Routes		
Accident history	Fatality	Accidents (hospitalisation)>5	
Isolated communities	Only one road providing access to or from a community		

6.2 Risk Assessment

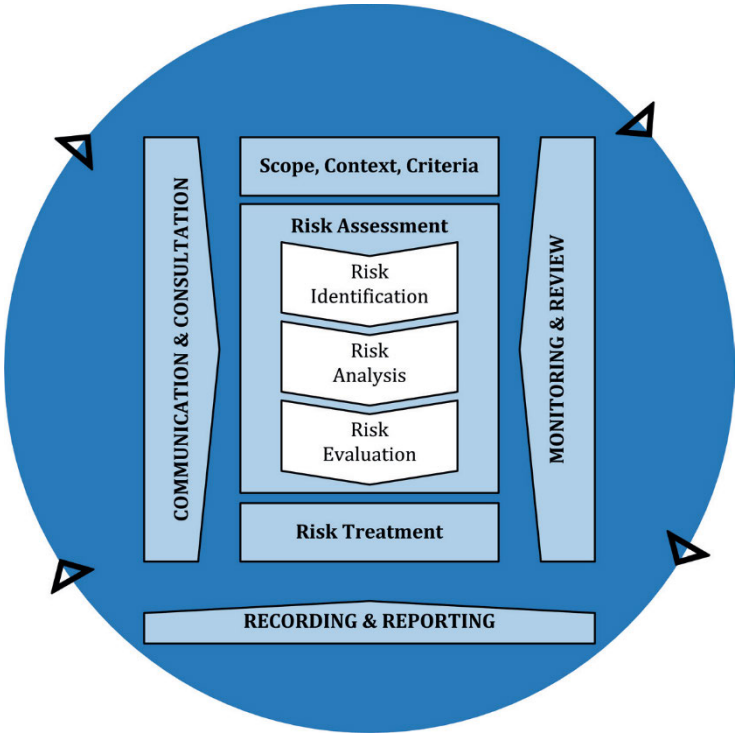
The risk management process used is shown in Figure 6.2 below.

It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

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

[13] 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 identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and the Council.

Table 6.2: Risks and Treatment Plans

Risk Rating Key

Very High **High** **Medium** **Low** **Eliminated**

Service or Asset at Risk	What can Happen	Risk Rating	Risk Treatment Plan	Residual Risk *	Treatment Costs
Poor asset condition	Accident may be caused by poor asset condition or insufficient function; Poor community perception threatening Council reputation	VH	Undertaken asset condition assessments via a prioritised schedule and maintenance and operational budgets increased.	M	TBC
Maintenance and Renewal programs driven by reactive works.	Deteriorating asset condition leading to increased operational and maintenance costs, Poor community perception threatening Council reputation	VH	Improve data collection and asset conditioning routines to avoid "reaction to failure" approach.	M	TBC
Poor quality data in Asset Register	Inflated or insufficient budgeting	VH	Carry out regular surveys and inspections of transport assets to improve the data being captured.	M	TBC
Organisational staff have poor understanding of the importance of Asset Management	Lack of awareness can lead to poor data capture and data quality	H	Provide direct training or increase communication to directorates about Asset Management processes to increase awareness.	M	TBC

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

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 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:

- A reduction to the level of service provided
- Degradation of the asset portfolio
- Reputational consequences.

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

7.0 FINANCIAL SUMMARY

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

7.1 Financial Sustainability and Projections

7.1.1 Sustainability of service delivery

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

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

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[14]

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have **100%** of the funds required for the optimal renewal of assets.

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 acquisitions, operations, maintenance and renewal costs over the 10 year planning period is **$31m** on average per year.

The required acquisitions, operations, maintenance and renewal funding is **$37.5m** on average per year giving a 10 year funding shortfall of **-$6.5m** per year. This indicates that **83%** of the forecast costs needed to provide the services documented in this AM Plan are accommodated in the proposed budget.

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

Table 7.1.2 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). We will manage the ‘gap’ by developing this AM Plan to provide guidance on future service levels and resources required to provide these services in consultation with the community.

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

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

Expenditure Type	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32
Actual (Budgeted) Expenditure										
Renewal	$24,565	$13,135	$10,264	$10,395	$10,427	$10,806	$11,549	$11,204	$11,448	$11,610
New and expanded	$26,653	$1,020	$840	$340	$1,940	$1,940	$1,940	$1,940	$1,190	$1,190
Maintenance and Operations	$14,616	$14,616	$14,616	$14,616	$14,616	$14,616	$14,616	$14,616	$14,616	$14,616
Total Expenditure	**$65,834**	**$28,771**	**$25,719**	**$25,351**	**$26,983**	**$27,362**	**$28,104**	**$27,760**	**$27,254**	**$27,416**
Required Expenditure										
Required Renewal (Depreciation)	$13,584	$14,199	$14,524	$14,853	$15,184	$15,541	$15,906	$16,279	$16,660	$17,040
New and expanded	$26,653	$1,020	$840	$340	$1,940	$1,940	$1,940	$1,940	$1,190	$1,190
Required O&M	$16,466	$16,843	$17,225	$17,609	$18,023	$18,447	$18,880	$19,323	$19,765	$20,216
Total Required Expenditure	**$56,703**	**$32,062**	**$32,589**	**$32,802**	**$35,147**	**$35,928**	**$36,726**	**$37,541**	**$37,614**	**$38,447**
OPEX Balance (GAP)	-$1,850	-$2,227	-$2,609	-$2,993	-$3,407	-$3,831	-$4,264	-$4,707	-$5,149	-$5,600
RENEWAL Balance (GAP)	$10,981	-$1,064	-$4,260	-$4,458	-$4,757	-$4,735	-$4,357	-$5,075	-$5,212	-$5,431
TOTAL Balance (GAP)	**$9,131**	**-$3,291**	**-$6,869**	**-$7,451**	**-$8,164**	**-$8,566**	**-$8,621**	**-$9,782**	**-$10,360**	**-$11,031**

7.2 Funding Strategy

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

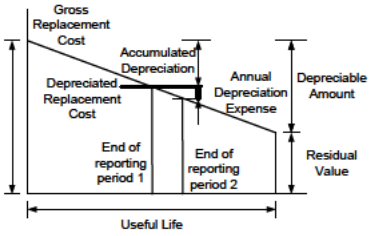
The financial strategy of the entity determines how funding will be provided, whereas the AM Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1.1 Asset valuations

The best available estimate of the value of assets included in this AM Plan are shown below. The assets are valued at Fair Value based on the 21/22 audited annual financial statements.

Replacement Cost (Current/Gross)	**$1,124,598,378**
Depreciable Amount	**$1,124,598,378**
Depreciated Replacement Cost[15]	**$785,325,480**
Depreciation	**$14,270,551**



7.3.2 Valuation forecast

Asset values are forecast to increase as Council's Long-Term Financial Plan has budgeted for an additional $39m in transport infrastructure to either be built or donated over the ten-year period. Additional assets will 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 this Plan

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:

- To implement Tamworth Regional Blueprint 100
- Councils Finance Section and Council documents Asset Capitalisation Policy (Ref 101454/2010) and Asset Register & Valuation Guidelines (Ref 145585/2014)
- Future asset revaluations will not significantly alter the value of the portfolio outside of indexation adopted in the financial modelling
- Budgeted capital expenditure has been determined by assessing remaining lives of Council's asset portfolio while the annual required spend has been derived from Council's annual depreciation.

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[16] in accordance with Table 7.5a.

[15] Also reported as Written Down Value, Carrying or Net Book Value.
[16] Based on IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

Table 7.5a: Data Confidence Grading System

Confidence grade	General meaning
Highly reliable	Data based on sound records, procedure, investigations and analysis that is properly documented and recognised as the best method of assessment.
Reliable	Data based on sound records, procedures, investigations and analysis which is properly documented but has minor shortcomings; for example, the data is old, some documentation is missing, and reliance is placed on unconfirmed reports or some extrapolation.
Acceptable	Data based on sound records, procedures, investigations and analysis with some shortcomings and inconsistencies.
Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported or extrapolation from a limited sample.
Very uncertain	Data based on unconfirmed verbal reports and/or cursory inspection and analysis.

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 7.5b.

Table 7.5b: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment
Demand drivers	Reliable
Growth projections	Acceptable
Acquisition forecast	Acceptable
Operation forecast	Reliable
Maintenance forecast	Reliable
Renewal forecast - Asset values	Reliable
- Asset useful lives	Reliable
- Condition modelling	Acceptable
Disposal forecast	Acceptable

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

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[17]

8.1.1 Accounting and financial data sources

This AM Plan utilises accounting and financial data. The source of the data is Council's audited 21/22 annual financial statements as well as Council's Long-Term Financial Plan.

8.1.2 Asset management data sources

This AM Plan also utilises asset management data. The source of the data is technical data stored in Council's TechOne Asset Management System.

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

Improvement Plan tasks	Priority	Suggested Timeframe
Asset Data and Knowledge		
Clean asset data to ensure that asset condition is measured consistently across the various asset classes and sub classes.	High	
Develop an asset condition inspection strategy that ensures all assets are inspected on a regular basis.	High	
Ensure asset register is maintained at an appropriate granularity to ensure currency and usability of data.	Medium	
Asset Knowledge Processes		
Valuation methodology and assumptions must be fully documented and applied.	High	
Undertake review of cost-code allocation in Council's OPEX budgets, particularly with respect to whether works are capital in nature.	Medium	
Undertake an annual desktop review of asset valuations ensuring that there is an annual review of useful life of assets.	High	
Council to review required maintenance and depreciation budgets for each asset class particularly where there is a significant disparity between the group average and councils current adopted targets.	High	
Strategic Asset Planning Processes		
Determine the long-term expenditure requirements for Council's assets based on a sustainable asset approach and incorporate findings in the Council's LTFP.	Very High	
Ensure that all asset classes have up to date asset management plans.	Very High	
Review and update asset management plans and Long-Term Financial Plans after adoption of annual budgets. Communicate any consequence of funding decisions on service levels and service risks.	Very High	
Review the Asset Management Strategy to ensure that it incorporates the most up to date and relevant information on each asset class.	Very High	
Consider consolidating asset management plans by asset custodian to minimise required annual workload to keep strategic documentation current and relevant.	Medium	
Operations and Maintenance Work Practices		

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

Improvement Plan tasks	Priority	Suggested Timeframe
Identify critical assets and incorporate critical asset risk mitigation plans into Council's emergency response planning procedures.	High	
Organisational Context		
Ensure responsibilities for asset management are identified and incorporated into staff position descriptions.	High	

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 4 years and is due for complete revision and updating within 6 months of each Council election or in response to significant change impacting (an) asset class or classes.

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 (this target is often 90 – 100%).

9.0 REFERENCES

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Appendix G Glossary of Asset Management Terms

Annual service cost (ASC)	1) Reporting actual cost - The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue. 2) For investment analysis and budgeting - An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, finance/opportunity and disposal costs, less revenue.
Asset category	Sub-group of assets within a class hierarchy for financial reporting and management purposes.
Asset class	A group of assets having a similar nature or function in the operations of an entity, and which, for purposes of disclosure, is shown as a single item without supplementary disclosure.
Asset condition assessment	The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for some preventative or remedial action.
Asset Consumption	A measure of how much of the assets service potential has been 'consumed'.
Asset hierarchy	A framework for segmenting an asset base into appropriate classifications. The asset hierarchy can be based on asset function or asset type or a combination of the two.
Asset management (AM)	The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost-effective manner.
Asset renewal funding ratio	The ratio of the net present value of asset renewal funding accommodated over a 10-year period in a long-term financial plan relative to the net present value of projected capital renewal expenditures identified in an asset management plan for the same period [AIFMG Financial Sustainability Indicator No 8].
Asset Type - Cultural/Heritage asset*	An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture and this purpose is central to the objectives of the entity holding it.
Asset Type - Infrastructure asset	Physical assets that contribute to meeting the needs of organisations or the need for access to major economic and social facilities and services, e.g. roads, drainage, footpaths and cycleways. These are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally, the components and hence the assets have long lives. They are fixed in place and are often have no separate market value.
Asset*	A resource controlled by an entity as a result of past events and from which future economic or other benefits are expected to flow to the entity.
Average annual asset consumption (AAAC)*	The amount of an organisation's asset base consumed during a reporting period (generally a year). This may be calculated by dividing the depreciable amount by the useful life (or total future economic benefits/service potential) and totalled for each and every asset OR by

	dividing the carrying amount (depreciated replacement cost) by the remaining useful life (or remaining future economic benefits/service potential) and totalled for each and every asset in an asset category or class.
Borrowings	A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of time or at a specified point in time, to cover both the initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to finance outlays (typically physical assets) when it has insufficient funds of its own to do so, and for the lending entity to make a financial return, normally in the form of interest revenue, on the funding provided.
Capital expenditure	Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly. **EXPANSION** - Expenditure that extends the capacity of an existing asset to provide benefits, at the same standard as is currently enjoyed by existing beneficiaries, to a new group of users. It is discretionary expenditure, which increases future operations and maintenance costs, because it increases the organisation's asset base, but may be associated with additional revenue from the new user group, e.g. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents. **NEW** - Expenditure which creates a new asset providing a new service/output that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operations and maintenance expenditure. **RENEWAL** - Expenditure on an existing asset or on replacing an existing asset, which returns the service capability of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in Value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it generally has no impact on revenue, but may reduce future operations and maintenance expenditure if completed at the optimum time, e.g. resurfacing or resheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval. **UPGRADE** - Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operations and maintenance expenditure in the future because of the increase in the organisation's asset base, e.g. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.
Capital funding	Funding to pay for capital expenditure.
Capital grants	Monies received generally tied to the specific projects for which they are granted, which are often upgrade and/or expansion or new investment proposals.
Capitalisation threshold	The value of expenditure on non-current assets above which the expenditure is recognised as capital expenditure and below which the expenditure is charged as an expense in the year of acquisition.

Carrying amount	The amount at which an asset is recognised after deducting any accumulated depreciation / amortisation and accumulated impairment losses thereon.
Component	Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.
Core asset management	Asset management which relies primarily on the use of an asset register, maintenance management systems, job resource management, inventory control, condition assessment, simple risk assessment and defined levels of service, in order to establish alternative treatment options and long-term cashflow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than detailed risk analysis and optimised decision- making).
Cost of an asset	The amount of cash or cash equivalents paid or the fair value of the consideration given to acquire an asset at the time of its acquisition or construction, including any costs necessary to place the asset into service. This includes one-off design and project management costs.
Critical assets	Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than noncritical assets.
Current replacement cost (CRC)	The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a technologically modern equivalent new asset (not a second hand one) with the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs.
Deferred maintenance	The shortfall in rehabilitation work undertaken relative to that required to maintain the service potential of an asset.
Depreciable amount	The cost of an asset, or other amount substituted for its cost, less its residual value.
Depreciated replacement cost (DRC)	The current replacement cost (CRC) of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.
Depreciation / amortisation	The systematic allocation of the depreciable amount (service potential) of an asset over its useful life.
Expenditure	The spending of money on goods and services. Expenditure includes recurrent and capital outlays.
Expenses	Decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or increases in liabilities that result in decreases in equity, other than those relating to distributions to equity participants.
Fair value	The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arm's length transaction.
Financing gap	A financing gap exists whenever an entity has insufficient capacity to finance asset renewal and other expenditure necessary to be able to appropriately maintain the range and level of services its existing asset stock was originally designed and intended to deliver. The service

	capability of the existing asset stock should be determined assuming no additional operating revenue, productivity improvements, or net financial liabilities above levels currently planned or projected. A current financing gap means service levels have already or are currently falling. A projected financing gap if not addressed will result in a future diminution of existing service levels.
Impairment Loss	The amount by which the carrying amount of an asset exceeds its recoverable amount.
Key performance indicator	A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.
Level of service	The defined service quality for a particular service/activity against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental impact, acceptability and cost.
Life Cycle Cost *	1. Total LCC - the total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs. 2. Average LCC - the life cycle cost (LCC) is the average cost to provide the service over the longest asset life cycle. It comprises average operations, maintenance expenditure plus asset consumption expense, represented by depreciation expense projected over 10 years. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.
Life Cycle Expenditure	The Life Cycle Expenditure (LCE) is the average operations, maintenance and capital renewal expenditure accommodated in the long term financial plan over 10 years. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of affordability of projected service levels when considered with asset age profiles.
Maintenance	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, e.g. road patching but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life. **Planned maintenance** - Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance. **Reactive maintenance** - Unplanned repair work that is carried out in response to service requests and management/supervisory directions. **Specific maintenance** - Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget. **Unplanned maintenance** - Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.
Maintenance expenditure **	Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. It is expenditure, which was anticipated in determining the asset's useful life.

Materiality	The notion of materiality guides the margin of error acceptable, the degree of precision required and the extent of the disclosure required when preparing general purpose financial reports. Information is material if its omission, misstatement or nondisclosure has the potential, individually or collectively, to influence the economic decisions of users taken on the basis of the financial report or affect the discharge of accountability by the management or governing body of the entity.
Modern equivalent asset	Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing. It allows for technology changes and, improvements and efficiencies in production and installation techniques.
Net present value (NPV)	The value to the organisation of the cash flows associated with an asset, liability, activity or event calculated using a discount rate to reflect the time value of money. It is the net amount of discounted total cash inflows after deducting the value of the discounted total cash outflows arising from e.g. the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.
Non-revenue generating investments	Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the organisation, e.g. parks and playgrounds, footpaths, roads and bridges, libraries, etc.
Operating expenditure	Recurrent expenditure, which is continuously required to provide a service. In common use the term typically includes, e.g. power, fuel, staff, plant equipment, on costs and overheads but excludes maintenance and depreciation. Maintenance and depreciation are on the other hand included in operating expenses.
Operating expense	The gross outflow of economic benefits, being cash and non-cash items, during the period arising in the course of ordinary activities of an entity when those outflows result in decreases in equity, other than decreases relating to distributions to equity participants.
Operating expenses	Recurrent expenses continuously required to provide a service, including power, fuel, staff, plant equipment, maintenance, depreciation, on-costs and overheads.
Operations	Regular activities to provide services such as public health, safety and amenity, e.g. street sweeping, grass mowing and street lighting.
Operations, maintenance and renewal financing ratio	Ratio of estimated budget to projected expenditure for operations, maintenance and renewal of assets over a defined time (e.g. 5, 10 and 15 years).
Operations, maintenance and renewal gap	Difference between budgeted expenditures in a long term financial plan (or estimated future budgets in absence of a long term financial plan) and projected expenditures for operations, maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).
Recoverable amount	The higher of an asset's fair value, less costs to sell and its value in use.
Recurrent expenditure	Relatively small (immaterial) expenditure or that which has benefits expected to last less than 12 months. Recurrent expenditure includes operations and maintenance expenditure.

Recurrent funding	Funding to pay for recurrent expenditure.
Rehabilitation	See capital renewal expenditure definition above.
Remaining useful life	The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life is useful life.
Renewal	See capital renewal expenditure definition above.
Residual value	The estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.
Revenue generating investments	Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, e.g. public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.
Risk management	The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.
Service potential	The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.
Service potential remaining	A measure of the future economic benefits remaining in assets. It may be expressed in dollar values (Fair Value) or as a percentage of total anticipated future economic benefits. It is also a measure of the percentage of the asset's potential to provide services that is still available for use in providing services (Depreciated Replacement Cost/Depreciable Amount).
Specific Maintenance	Replacement of higher value components/subcomponents of assets that is undertaken on a regular cycle including repainting, replacement of air conditioning equipment, etc. This work generally falls below the capital/ maintenance threshold and needs to be identified in a specific maintenance budget allocation.
Useful life	Estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset are expected to be consumed by the organisation.
Value in Use	The present value of future cash flows expected to be derived from an asset or cash generating unit. It is deemed to be depreciated replacement cost (DRC) for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, where the entity would, if deprived of the asset, replace its remaining future economic benefits.