ASSET MANAGEMENT PLAN STRATEGY

2022

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Related documents	Asset Management Policy Asset Management Plans Delivery Program and Operational Plan Community Strategic Plan 2032 Integrated Planning and Reporting requirements
Responsible officer	Manager Strategic Assets
Department/Section	Strategic Assets
Category	Financial & Asset Management
Community Strategic Priority	Maintaining and developing our infrastructure network to meet the ongoing needs of our population
	SO 4.1 Provide for replacement, improvement and additional Community and open space infrastructure through investment, best practice and risk management. **SO 4.2** Provide inviting public spaces that are clean, green, properly maintained, well designed, encourage active participation, family friendly and accessible to all. **SO 4.3** Provide safe and reliable water and sewerage services to meet the demands of current and future generations. **SO 4.4** Maintain and upgrade the road network and bridges. **SO 4.5** Advocate and improve access to communication services.

Contents

2 Introduction

The Asset Management Strategy (AMS) is designed to provide a plan to manage Councils physical infrastructure assets over the long term including setting parameters for asset selection, maintenance, inspection and renewal which plays a key role in determining the operational performance and sustainability of Council.

This Asset Management Strategy is included as part of the Council Resourcing Strategy as required by the Local Government Integrated Planning and Reporting framework.

Asset Management Planning incorporates an Asset Management Strategy, Asset Management Policy and Asset Management Plans.

The Council Resourcing Strategy consists of three components:

- Long Term Financial Planning
- Workforce Management Planning
- Asset Management Planning

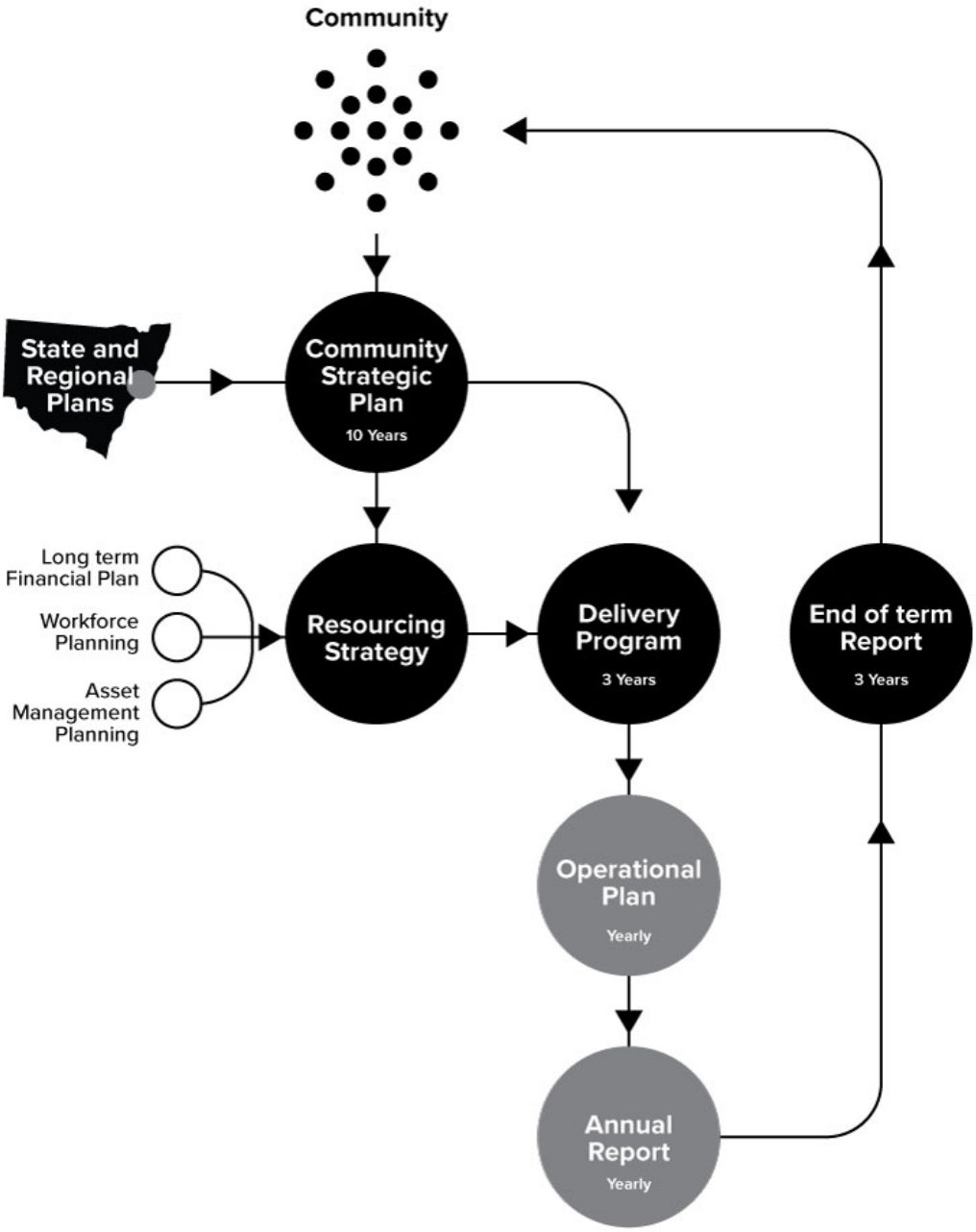
2.1 Our Integrated Planning and Reporting Framework

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 Plans and Workforce Management Plan. 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 on the Upper Hunter Shire Integrated Planning and Reporting Framework.



2.2 Resourcing Strategy

Asset Management Strategy

The Asset Management Strategy identifies assets that are critical to the Council's operations and outlines risk management strategies for these assets. The strategy and plans also include specific actions required to improve the Councils asset management capability and projected resource requirements and timeframes.

Long Term Financial Plan

The Long Term Financial Plan projects financial forecasts for the Council for at least ten years, and is updated annually as part of the development of the Operational Plan. The Long Term Financial Plan is used by the

Council to inform its decision making during the finalisation of the Community Strategic Plan and the development of the Delivery Program.

Workforce Management Plan

Council's Workforce Management Planning considers what people with what skills experience and expertise are required to implement the Delivery Program and achieve the Community Priorities. It provides an opportunity every 4 years to plan adjustments to the workforce to meet changing priorities and take into account new technologies.

2.3 Asset Management Process

Objective

Asset management deals with the optimal management of physical asset systems and their life cycles. The objective is to minimise the whole of life cost of assets and to identify other critical factors such as risk or business continuity to be considered objectively in the decision making process. It represents a cross-disciplinary collaboration to achieve best net sustained value-for- money in the selection, design/acquisition, operations, maintenance and renewal/disposal of physical infrastructure and equipment, for the purpose of achieving the objectives of the Community Strategic Plan 2032.

A strong and sustainable local government system requires a robust planning process to ensure that Council assets are managed in the most appropriate way on behalf of the community.

What is Asset Management?

Asset management is a process of logic used to guide the planning, acquisition, operation and maintenance, renewal and disposal of assets. Its objective is to maximize asset service-delivery-potential and manage related risks and costs over the entire life of assets.

Asset management ensures that Council's assets are capable of providing services, of an agreed quality, in a sustainable manner, for present and future generations.

The key elements of successful infrastructure asset management are:

- ensuring appropriate maintenance standards are used
- making the most out of assets (service potential optimized)
- applying fully life cycle costs
- pursuing reduction or optimization of integration of those assets not achieving the most productive outcome
- defining clear responsibilities for assets, accountability and reporting and recognizing that infrastructure assets must support Council in the delivery of services to the community.

A formal approach to the management of infrastructure assets is essential in order to provide services in the most cost-effective manner, and to demonstrate this to customers and other stakeholders.

Why is Asset Management Important to Council?

Asset management delivers benefits that are realized in the areas of improved accountability, sustainable service delivery, risk reduction and improved financial management and forecasting. Specific benefits can include:

- More informed decision-making
- Improved efficiency and reduction of limited capital funds and asset operation costs.

- Ability to plan for present and future generations.
- Improved long-term financial forecasting and management.

Role of Local Government

In accordance with the Local Government Act 1993 and Local Government (General) Regulations 2005, Council has a wide range of objectives and functions which relate to the provision and management of infrastructure. The Act provides the legal framework to assist Councils in providing an efficient and effective infrastructure system.

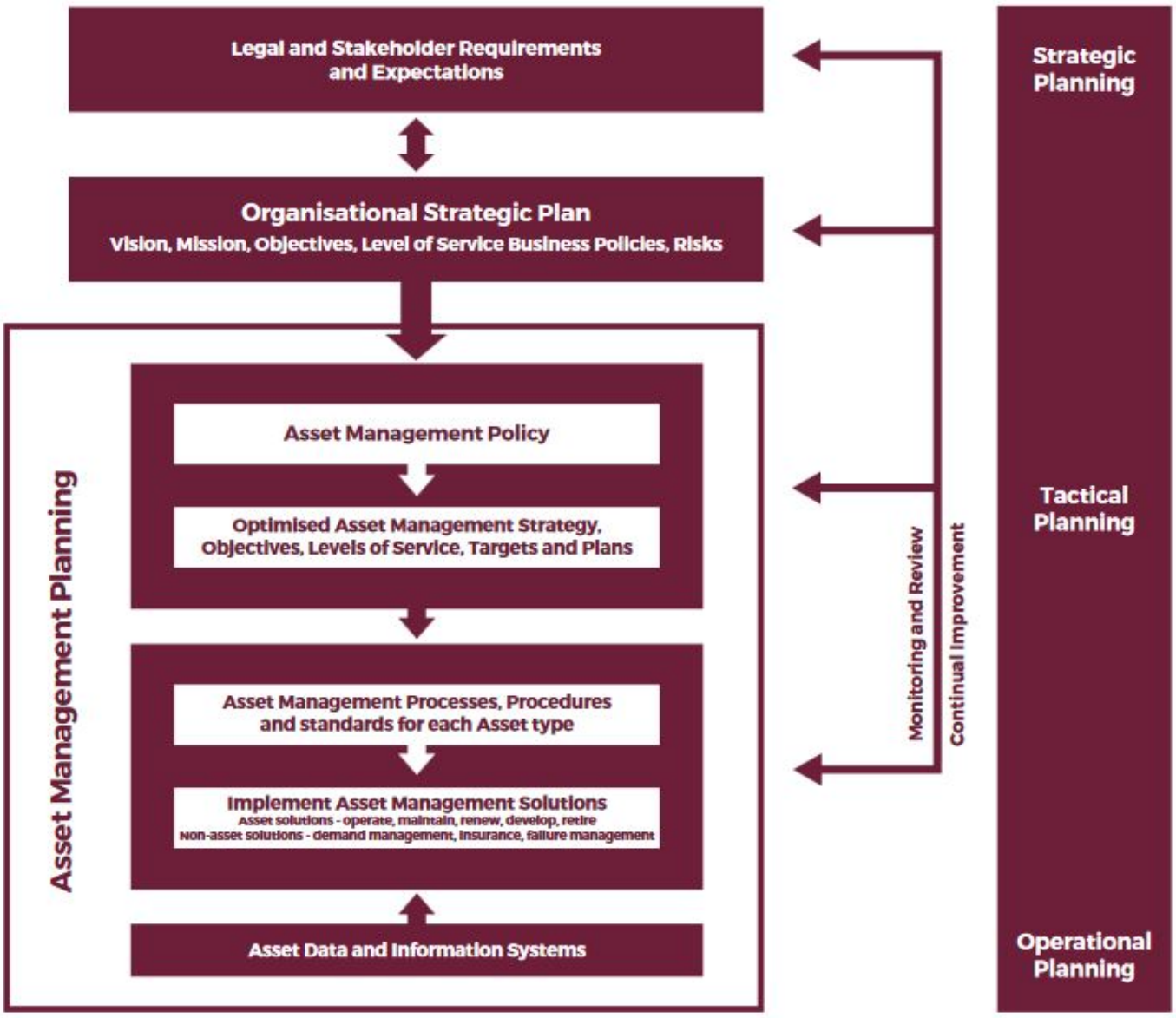
The provision of infrastructure is considered to be one of the most important roles of Council as it strives to provide a safe and functional environment for its community. Ensuring that this infrastructure is managed in an effective and efficient manner and continues to meet the needs of our community in both the short and long term is a key issue for Council.

Strategic Planning Process

Asset management planning aims to optimise services to the community at a cost and risk that is acceptable. Planning starts with Council's strategic plans, vision, mission, goals and objectives and translates these into an asset management policy and strategy framework, asset management plan and operational plans. The framework showing asset management's strategic role in delivering Council's objective and community expectations is shown in Figure 1.

Underpinning asset management decision making and the monitoring and review process is asset data and asset information systems. The identification, assessment and control of risks is a key focus at all levels of planning, with the results from this process providing input into the asset management strategy, policies, objectives, processes, plans, controls and resourcing.

Figure 1.



2.4 Asset Management Policy

The Asset Management Policy sets a vision for Council's asset management activities:

To manage and operate the appropriate mix of sustainable community infrastructure at the lowest life cycle cost that supports communities in the Upper Hunter Shire Council

Council's endorsed Asset Management Policy is attached as Appendix 1 and includes the following key principles it will consider when making any decisions impacting on infrastructure assets:

Level of Service

- Implementing a systematic approach to the management of its assets and ensuring that appropriate asset management practices are applied across all areas of the organisation.

- provide quality infrastructure assets that support service levels that are appropriate, accessible, responsive and sustainable to the community.
- consult with the community and key stakeholders in determining Levels of Service and asset service standards.

Demand Forecasting

Develop sustainable and effectual management strategies for the long term including demand analysis covering changes in demographics.

Life Cycle Planning

implementing a life cycle approach to asset management whereby the costs and benefits of assets are considered over the assets life.

- developing and regularly reviewing an Asset Management Strategy and Asset Management Plan which will detail the approach taken in managing assets and which will facilitate the continuous improvement of asset management practices.
- provide the necessary resources and operational capabilities to adequately manage assets and to comply with legislative requirements.
- setting the priority for asset management in descending order as follows:
  1. Asset Renewal
  2. Asset Upgrade
  3. Asset Expansion

Risk Management

- Resources and priorities for asset management practices will include a risk assessment.

Financial Management

- the amount of renewal funding required to maintain minimum service levels will be reflected in Council's 10 year Long Term Financial Plan.
- the provision of funding for new projects will only be considered after renewal requirements are identified and considered.

This Asset Management Strategy complements the policy by detailing a set of strategies and actions aimed at improving asset management performance over time. In turn, it is supplemented by detailed individual Asset Management Plans.

3 Community Service Delivery

Connected Community

Support the community by providing safe programs, services and facilities that promote wellbeing and a connected, healthy and happy community – a great place for families.

Protected Environment

Protect the natural environment and plan for a sustainable future.

Thriving Economy

A sustainable and prosperous economy delivering lifestyle benefits to the community through employment and sustainable economic growth whilst focusing on the growth, enhancement and maintaining of Council's infrastructure assets including community facilities, open spaces and road networks to meet the needs of the current and future generations of the Shire.

Quality Infrastructure

Maintaining and developing our infrastructure network to meet the ongoing needs of our population and provide for replacement, improvement and additional Community and open space infrastructure through investment, best practice and risk management.

Responsible Governance

Provide Community leadership through strong governance and advocacy on behalf of our community so Council can effective meet the needs and expectations of our people.

The Community Strategic Plan 2032 details the service outcomes and objectives, as derived from the community consultation process, of Council. The service areas that the community identified as important were grouped around the following themes:

Council utilises infrastructure assets to provide services to the community through:

- Roads, bridges and footpaths to provide reliable and safe transport services.
- Stormwater drainage to protect properties and roads from flooding and control water runoff quality.
- Sporting grounds and venues, parks and landscape assets to provide recreation services and enhance and protect the built and natural environment.
- Water and Sewerage services to provide essential reliable and safe services for towns and villages; and
- Community Buildings to provide cultural, recreational and community services.

The Council provides a high level of service to its community due to the standard of construction and relatively young age of infrastructure assets.

Council's infrastructure assets represent a vast investment built up over many generations, which in itself presents a significant challenge, as many of the assets were constructed or acquired many decades ago and as such are approaching the end of their useful lives. The efficient management of these assets is vital in maintaining safe, reliable and efficient services that help achieve the strategic priorities and goals of Council. Failure to adequately plan for the replacement of existing assets and the development of new assets will result in Council not having the assets to meet the needs of the community, now or into the future.

The Asset Management Strategy is a procedure to determine what the infrastructure asset requirements are needed to be to achieve strategic objectives. The Asset Management Strategy is therefore an ongoing process as strategic objectives develop and change. The steps in this process are to:

- review the strategic trends;
- assess potential impacts on the asset stock;
- assess gaps in asset knowledge to enable the asset management plan and asset improvement plan to be developed.

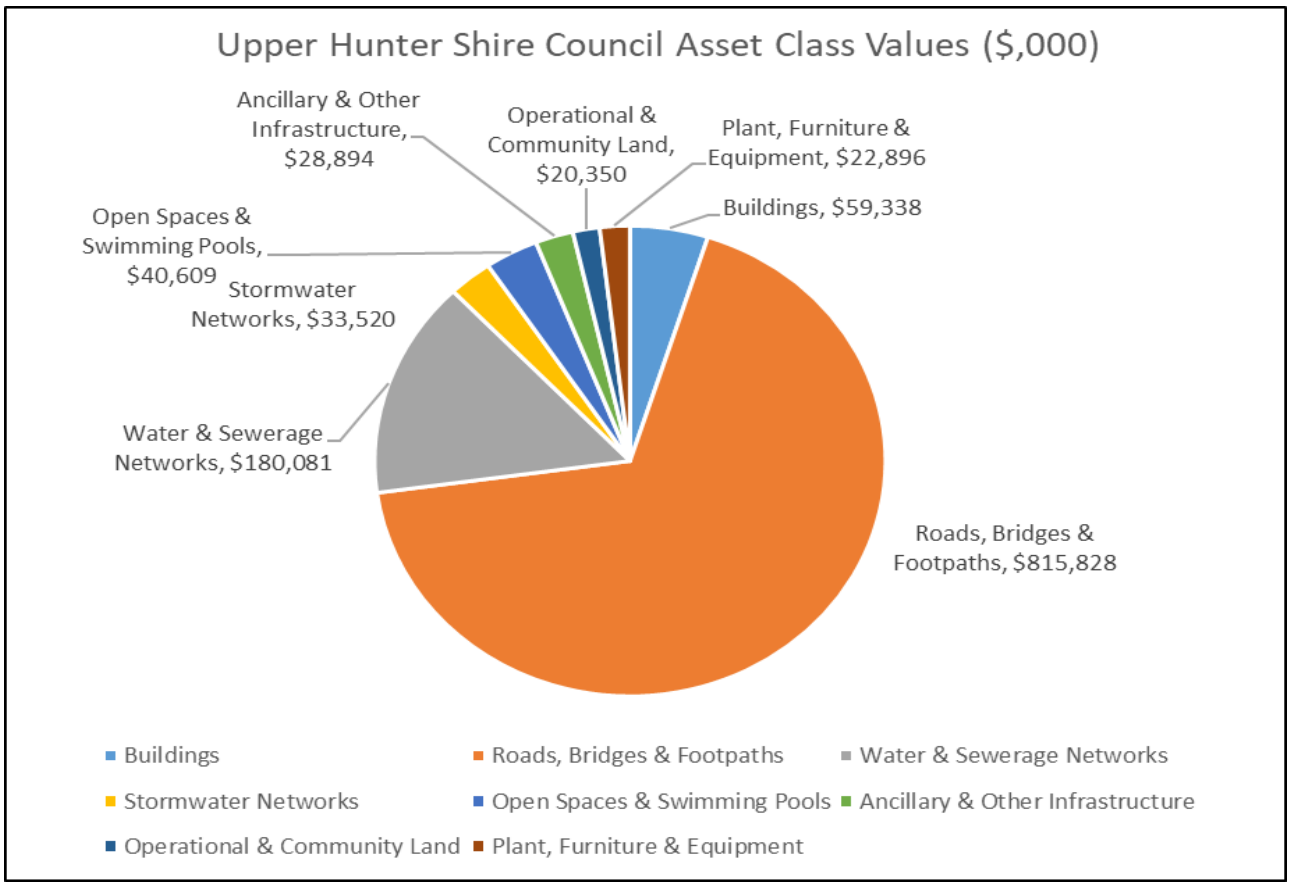
Linking of service levels and the cost of service delivery is an essential component of strategic asset management. It is essential that council knows the true costs of service delivery and the service levels that are desired by the community and what level they are willing to pay for.

In summary the strategy will assist Council to:

- develop a set of actions aimed at improved asset management practices across the organization through:
  - improved stewardship and accountability of assets;
  - improved communication and relationships with service users;
  - improved risk management
  - more effective utilization of assets; and
  - improved financial effectiveness.
- ensure that asset management practices are applied consistently across the organization and supported by a continuous improvement plan so that Council may more effectively management community assets now and into the future.
- more effectively plan and fund its works programs.
- competently deliver services to the community.
- maintain its assets to acceptable standards.

Asset Values & Conditions

At 30 June 2021 the estimated gross replacement value of Council infrastructure assets was over $1.2 billion as represented below:



Council Assets

Council's asset types are summarised below and are categorised by the Community Strategic Plan 2032 themes which illustrates how these assets help meet the objectives as set out in the Plan:

Connected Community

- Street scaping
- Community Buildings
- Swimming Pools
- Cemetery Assets
- Library Books
- Parks and Gardens
- Sportsgrounds
- Showgrounds
- Community Service and Program Assets
- Animal Control Facilities
- Public Amenities

Protected Environment

- Tourism Buildings and Signage
- Saleyards
- Aerodrome
- Investment property and development
- Council's Roads and Bridges
- Footpaths and Cycleways
- Communications Assets

Quality Infrastructure

- Water Supply Infrastructure
- Waste Water Infrastructure
- Solid Waste Management Assets
- Stormwater Infrastructure
- Noxious Weeds Assets
- Environment education facilities
- Sustainable Energy Assets
- Other Community Land

Responsible Governance

- Corporate Buildings
- Plant and Machinery

3.1 Asset Classes Graphic

Council assesses the condition of its infrastructure asset classes on an annual basis and includes these assessments into the Annual Financial Statements and Special Schedules.

From information included in these reports ratios are calculated to provide an assessment as the state of Council major infrastructure against benchmarks set by the Office of Local Government. These ratios provide Council with trend information to recognise where possible gaps exist in providing satisfactory asset infrastructure to meet Community service expectations.

Listed below is the assessment of infrastructure assets (excluding Land and Plant & equipment) based on the 30 June 2021 financial reports.

ASSET CLASS	ESTIMATED COST TO BRING TO THE AGREED LEVEL OF SERVICE SET BY COUNCIL	2020/21 REQUIRED MAINTENANCE $ '000	2020/21 ACTUAL MAINTENANCE $ '000	NET CARRYING AMOUNT $ '000	GROSS REPLACEMENT COST (GRC) $ '000	ASSETS IN CONDITION AS A PERCENTAGE OF GROSS REPLACEMENT COST				
						1	2	3	4	5
Buildings	765	556	631	40,102	59,338	53.3%	45.0%	1.8%	0.0%	0.0%
Other Structures	100	122	119	2,252	2,660	28.8%	60.0%	2.0%	1.0%	0.0%
Roads	6,650	4,240	4,713	720,078	815,828	61.4%	29.5%	5.1%	1.3%	2.7%
Water Supply Network	1,325	631	1,093	64,270	104,963	27.8%	31.4%	27.2%	13.6%	0.0%
Sewerage Network	950	552	851	37,777	75,118	10.0%	11.3%	67.3%	11.4%	0.0%
Stormwater Drainage	775	185	78	24,552	33,520	43.5%	30.8%	20.5%	3.5%	1.6%
Open Spaces and Swimming Pools	1,750	1,283	1,794	26,133	40,609	26.0%	30.5%	31.4%	11.8%	0.3%
Ancillary Infrastructure	400	591	346	23,579	28,894	31.8%	63.2%	29.0%	6.1%	0.3%
TOTALS	**12,715**	**8,160**	**9,625**	**938,743**	**1,160,930**	**52.9%**	**29.3%**	**12.4%**	**3.5%**	**2.0%**

Notes: Required maintenance is the amount identified in Council's asset management plans. Infrastructure asset condition assessment 'key'

1 **Excellent** No work required (normal maintenance)

2 **Good** Only minor maintenance work required

3 **Average** Maintenance work required

4 **Poor** Renewal required

5 **Very poor** Urgent renewal/upgrading required

Special Schedule 7 - Report on Infrastructure Assets as at 30 June 2021

Purpose of asset renewals ratio

To assess the rate at which these assets are being renewed relative to the rate at which they are depreciating.

Buildings and infrastructure renewals ratio

To assess the rate at which these assets are being renewed relative to the rate at which they are depreciating.

Commentary on result

20/21 ratio 161.00%

Council's renewal ratio has increased during the 2020/21 year with a number of major infrastructure projects being progressed ahead of schedule due to the influx of stimulus grant funding provided by both the Federal and State Governments. It is expected that continuation of these funding opportunities will occur over the next couple of year.

Benchmark: — >= 100.00%

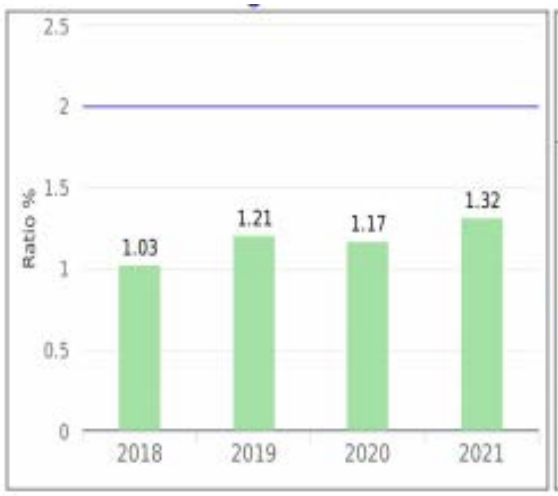
Source of benchmark: Code of Accounting Practice and Financial Reporting

Ratio achieves benchmark

Ratio is outside benchmark

Purpose of infrastructure backlog ratio

This ratio shows what proportion the backlog is against the total value of a Council's infrastructure.



Infrastructure backlog ratio

This ratio shows what proportion the backlog is against the total value of a Council's infrastructure.

Commentary on result

20/21 ratio 1.32%

Council has maintained a reasonable hold on the infrastructure backlog for the 2020/21 year. Although Council is meeting the benchmark for the backlog ratio, Council acknowledges the requirement to continue to invest into its maintenance and renewal programs. Accordingly, Council has increased its budget in the 2021/22 year for both sealed and unsealed road maintenance and re-sheeting programs, water mains renewals and sewer relining.

Benchmark: — < 2.00%

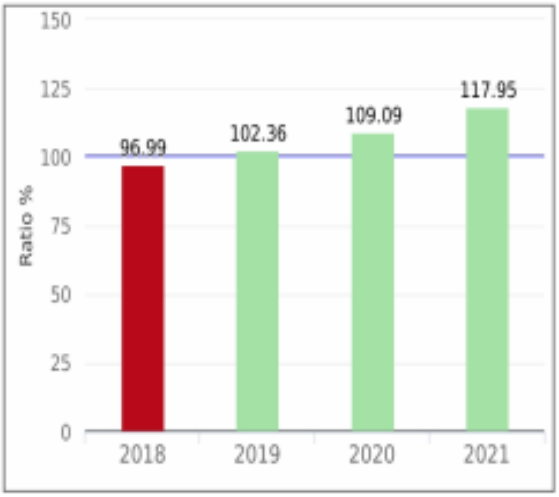
Source of benchmark: Code of Accounting Practice and Financial Reporting

Ratio achieves benchmark

Ratio is outside benchmark

Purpose of asset maintenance ratio

Compares actual vs. required annual asset maintenance. A ratio above 1.0 indicates Council is investing enough funds to stop the infrastructure backlog growing.



Asset maintenance ratio	Commentary on result
	20/21 ratio 117.95%
Compares actual vs. required annual asset maintenance. A ratio above 1.0 indicates Council is investing enough funds to stop the infrastructure backlog growing.	Council's primary focus over a number of years has been towards its infrastructure maintenance and renewal programs. Continued adherence to these programs will only ensure that it limits the possibility of future backlog issues placed upon its infrastructure asset base.

Benchmark: — > 100.00%

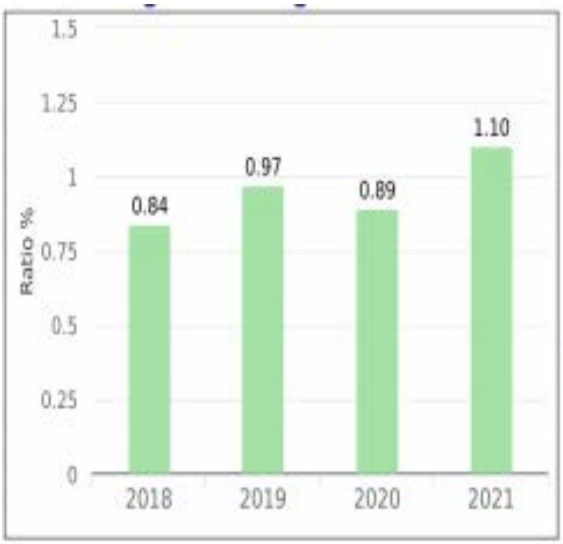
Ratio achieves benchmark

Ratio is outside benchmark

Source of benchmark: Code of Accounting Practice and Financial Reporting

Purpose of cost to bring assets to agreed service level ratio

This ratio provides a snapshot of the proportion of outstanding renewal works compared to the total value of assets under Council's care and stewardship.



Cost to bring assets to agreed service level	Commentary on result
	20/21 ratio 1.10%
This ratio provides a snapshot of the proportion of outstanding renewal works compared to the total value of assets under Council's care and stewardship.	Council's cost to bring its infrastructure assets to an agreed level of service has increased during the 2020/21 year. This is a reflection on the increased backlog ratio noted, which is still within the acceptable benchmark ratio range. Council acknowledges and is committed to investing in the maintaining and renewal of its primary infrastructure asset base such as roads, water and sewerage in order to provide a satisfactory level of service to its residents and community.

4 Targets of Council Asset Management

asset management, information on asset inventory, renewal costs, asset life, intervention criteria and asset condition have been documented and consolidated into detailed spreadsheets, which enables further analysis to determine the current and future infrastructure funding gap levels.

The identification of the renewal gap will allow Council to predict levels of funding required to be spent for the long term on maintenance of our assets. This information will assist in developing and reviewing Council's long term financial plan.

The total replacement cost of Council's major infrastructure assets is estimated to be $1.2 billion with an estimated long term average renewal requirement per annum of approximately $10 million.

The imbalance between the rates of renewal and asset consumption has developed because renewal has a 'delay function'; most of Council's assets have been built by developers or with the assistance of State and Federal funding over the last 30, 40 or more years. Renewal infrastructure cost can be somewhat lumpy and unlike depreciation, which averages the renewal costs, actual payments for renewal are periodic, and for any given asset group renewal can be far less, or much more, than depreciation.

As apparent from the internal gap analysis Council will need extra financial resources, in addition to s94 funding, to deliver its current levels of service.

Options to bridge this renewal funding gap are:

- Increase Council's revenue base
- Seek additional project funding through special grants or long term loans
- Phasing in funding over next ten years for replacement of assets
- Focussing expenditure on essential and high priority works
- Asset rationalisation
- Increasing the effectiveness and utilisation of the existing asset base
- Deferring works with the recognition that this is not sustainable in the medium term
- Comprehensive review of service levels across all asset categories.
- Limit expansion of the Asset base so as not to widen the gap or prolong replacements beyond economic life.

Only sound long term renewal forecasting will let Council know where it stands in preparing for the renewal challenge. Renewal is not associated with increased funding. Instead, it has to compete with many other demands on Council, and recently these demands – for social and environmental reasons as well as for increased services – have themselves been increasing. Revenue increases have not kept pace with these extra demands; a limited revenue base and community sensitivity to tax (property rates) increases have been the main reasons.

5 Our Asset Management System

In order to capture the necessary data to create accurate and meaningful Asset Management Plans, Council requires an up to date asset management system which collects the following information:

- Asset registers;
- Asset ownership/custodianship;
- Asset condition assessments;
- Asset attributes (physical and lifecycle);
- Asset maintenance and management systems;
- Strategic planning capabilities;
- Predictive modelling;
- Deterioration modelling; and
- Lifecycle costing.

Council currently uses an integrated asset management system that captures and provides the above data in order to complete fair value financial modelling as required on a 5-year cyclical rotation for each major asset category.

This asset management system captures actual data for capital works and operating costs, which is then used to model Asset Management Plans and long term financial asset planning.

In order to improve the integrity of data, assist in managing data and to assist Management to make informed decisions regarding maintenance practices and to more efficiently determine Capital Works programs Council is currently implementing a computer based asset management system to store and analyse the significant quantities of asset data collected for asset management purposes.

Council's objectives in selecting this asset management system were:

- to have a central repository for all asset data
- to undertake lifecycle management of all Council asset categories
- to facilitate an asset management culture
- to reduce the overall costs and risks associated with Council assets
- to implement a system that is flexible enough to accommodate the variations in the management of the various asset categories
- to provide the ability to add advanced asset management functionality as the Council matures with respect to asset management.
- to implement an integrated system that will support the concept of once only data entry and be easily interfaced with other corporate applications.

Once fully implemented, the asset system will be supplemented with other integrated systems and standalone modelling tools such as GIS mapping software.

For the year ended 30 June 2017 Council utilised the "Confirm" software asset data base system to record the Water and Sewerage network whilst utilising Excel spreadsheets for the following assets:

- Roads (sealed and unsealed)
- Bridges and major (including major culverts)
- Footpaths and Cycleways

- Stormwater Drainage
- Buildings
- Open Spaces
- Other Ancillary infrastructure

6 Asset Management Plans

Asset Management Plans (AMPs) provide a long term assessment of the asset activities and actions required to deliver the defined level of service in the most cost effective manner to the community.

The objective of the AMP is to outline the particular actions and resources required to provide a Council has developed Asset Management Plans for:

- Road Infrastructure (road pavement, kerb and channel, footpaths and cycleways)
- Bridges
- Stormwater Drainage
- Buildings
- Open Spaces
- Other Infrastructure (swimming pools, saleyards and aerodrome)
- Water Supply
- Sewerage Services

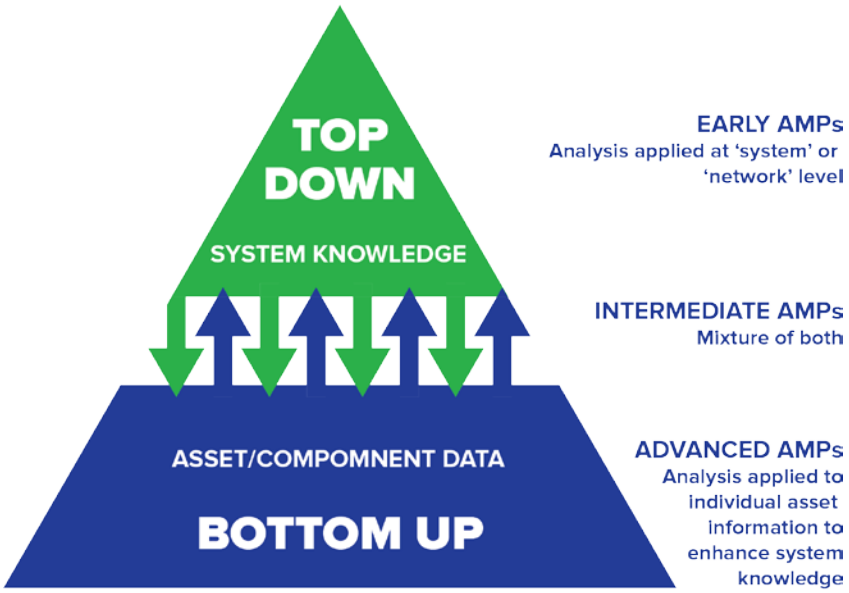
In general these Asset Management Plans:

- describe the asset (physical, financial)
- describe the objective/purpose of the asset
- define the current levels of service
- describe future demand requirements for service delivery
- describe the risks associated with the asset
- define the intended time frame (life cycle) of the asset or key components
- include financial information
- recognize the decline in service potential
- state assumptions and confidence levels
- outline an improvement program
- identify key performance measures
- have the firm commitment of the organisation
- reviewed regularly

In order to implement asset management effectively it is appropriate to produce asset management plans and recognize the deficiencies these plans have over time. Council's plans have been prepared as a 'core' asset management plan in accordance with the International Infrastructure Management Manual.

They meet the minimum legislative and organizational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a 'top down' approach where analysis is applied at the 'system' or 'network' level.

From here the necessary activities to enhance the plans can be undertaken as a 'bottom up' approach as shown:



Core versus advanced asset management status

Council overall has core asset management plans developed for each asset category, with some elements at an advanced stage.

The level of detail within each plan will depend on the complexity and size of the asset portfolios under consideration. It is important that all Asset Management Plans match the complexity required and are practical, readily understood and useable documents.

Figure 2.

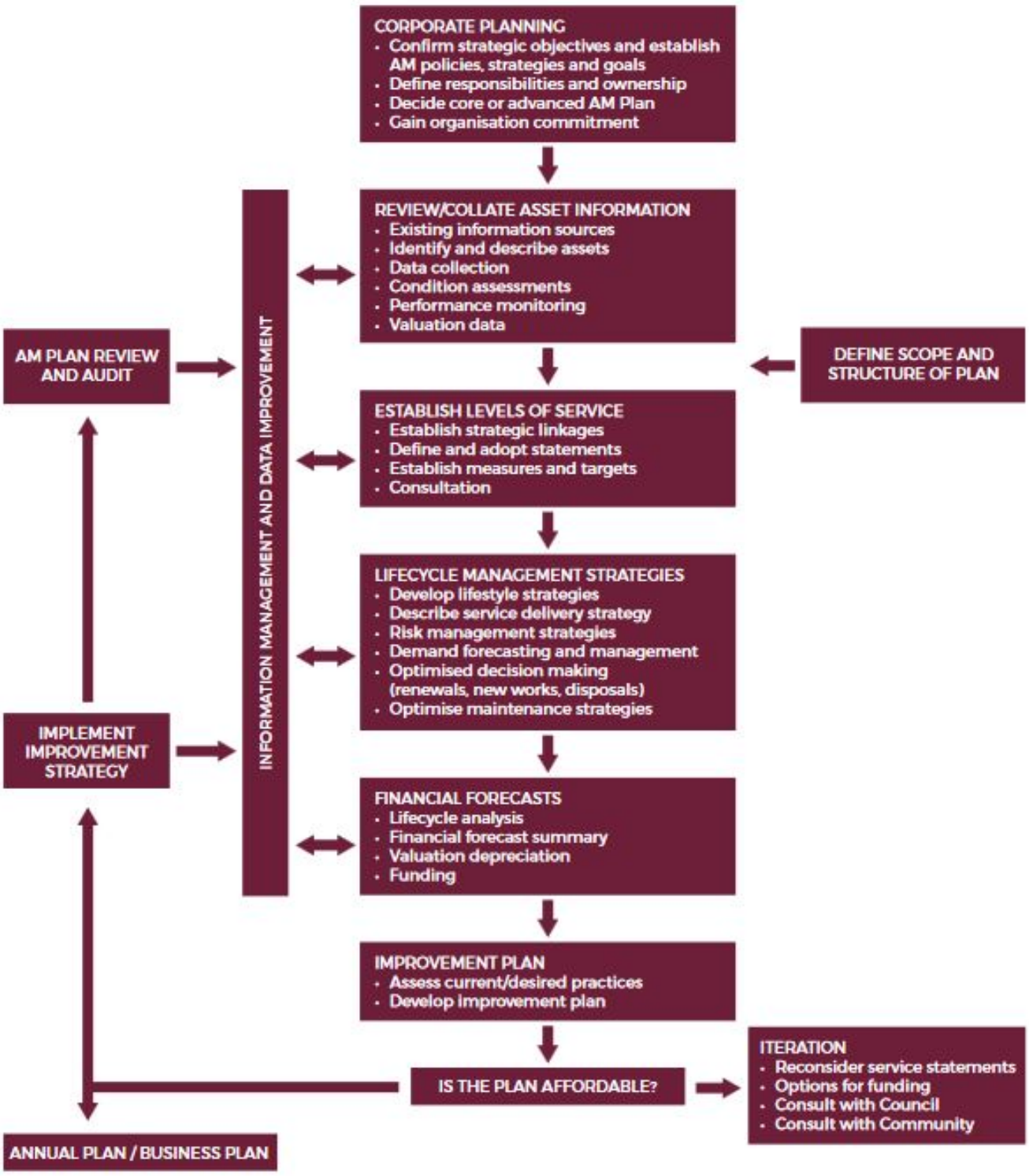


Figure 2 sets out the preferred method of preparation for Asset Management Plans.

7 Measuring Asset Expenditure

An understanding of expenditure trends is fundamental to managing assets. Assets that are allowed to deteriorate beyond their optimum renewal period will start requiring high levels of reactive maintenance in order to control risk and correctly separating recurrent or reactive maintenance cost from asset renewal enables better asset planning and the reduction of lifecycle costs.

It is also important to differentiate between capital expenditure on the existing asset stock and capital expenditure on expanding the asset stock.

Expenditure on public works assets may be split into four categories, maintenance, capital renewal, capital upgrade and capital expansion.

- **Maintenance** - expenditure on an asset, which maintains the asset in use but does not increase its service potential or life
- **Capital Renewal** - expenditure on renewing an existing asset or a portion of an infrastructure network, which increases the service potential or extends the life
- **Capital Upgrade** - expenditure on upgrading the standard of an existing asset or infrastructure network to provide a higher level of service to users, e.g. widening the pavement and sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, building a grandstand at a sporting facility, replacing an existing bridge with one having a greater carrying capacity, replacing a chain link fence with a wrought iron fence.
- **Capital Expansion** - expenditure on extending an infrastructure network, at the same standard currently enjoyed by existing residents, to a new group of users, e.g. extending a drainage or road network, the provision of an oval or park in a new suburb.

8 Risk Management

Management of risk and liability through a risk assessment process is fundamental in assisting Council to allocate resources and meet community expectancies. The following asset categories have been identified as critical to this process, and although further and continuous work in this area is required, Council is committed to reducing risk in Council assets as demonstrated in the table below.

Asset Class	Risk Identified	Possible Causes	Risk Matrix Rating	Risk Treatment
Roads	Motor vehicle accidents causing injury/fatality/damage to property	Road deterioration, design flaws, missing safety signage, vandalism of safety signage	High	Australian Standards, RTA regulations, asset condition testing, public liability insurance
	Increased infrastructure deterioration	Design flaws, reduced material quality, reduced work quality, heavy vehicle movements, excessive weather events, poor maintenance	High	Annual maintenance program, reactive maintenance, public liability insurance
Playgrounds/Sportsgrounds	Damage to assets (outside of normal effective life)	Natural disasters, vandalism, accidental damage,	High	Identify high risk areas and use proactive means e.g. levee banks, security cameras, education programs
	Damage to sportsgrounds	Overuse	High	Management of use of grounds and parks
	Inadequate amenities	Underestimated use or capacity	Medium	Review and upgrade where required
	Injury/fatality to users	Unmaintained infrastructure, mis-use of assets, component failures, poor design, inadequate safety signage	High	Maintenance programs and AMP's, public liability insurance, safety signage
Buildings	Injury/fatality to users	Unmaintained infrastructure, mis-use of assets, component failures, poor design, inadequate safety signage	High	Maintenance programs and AMP's, public liability insurance, safety signage
	Damage to property	Natural disasters, vandalism, accidental damage	High	Identify high risk areas and use proactive means e.g. security cameras, education programs, planning & development legislation

Asset Class	Risk Identified	Possible Causes	Risk Matrix Rating	Risk Treatment
Stormwater Drainage	Reticulation Risk	Flood events or continued heavy rainfall	High	Regular asset condition monitoring, Hazard reporting, education programs
	Structural failure	Poor design or quality of materials used	High	Regular asset condition monitoring, Australian standards, Hazard reporting
	Blockages	Environmental conditions, roots leaves	High	Regular asset condition monitoring, Hazard reporting, maintenance programs
	Injury/fatality from inadequate infrastructure	Blocked access escape paths during natural disaster event, drowning, health, odours, mosquitoes	High	Public liability insurance, Australian standards, Legislation compliance e.g. WHS Acts, Hazard reporting, education programs
	Damage to property	Attempted vehicle access through flooded assets, inadequate reticulation causing flooding on private property	High	Regular asset condition monitoring, public liability insurance, Australian standards, Hazard reporting, education programs
Water Supply/Sewerage	Reticulation Risk	Poor design or quality of materials used, aged infrastructure	High	Australian standards, asset condition testing, maintenance programs, AMPs
	Blockages	Environmental conditions, roots leaves	High	Regular asset condition monitoring, Hazard reporting, maintenance programs
	Health of community	Insufficient or inadequate infrastructure, non-functioning infrastructure, leakage	High	Regular asset condition monitoring, Hazard reporting, maintenance programs, EPA legislation, public liability insurance
Solid Waste Management	Health of community, injury/fatality	Sharps or incorrectly dumped waste treatment e.g. illegal asbestos dumping	High	Public liability insurance, Legislation compliance e.g. WHS Acts, Hazard reporting, education programs, EPA Legislation

8.1 Risk Management Strategies

Council aims to improve its risk management processes in regard to Asset Management and will incorporate information from the Asset Management System with the following risk management strategies to develop an ongoing risk management plan within the next 12 months.

The main elements of risk management as defined in AS/NZS 4360 are:

- Establish Risk Management Context,
- Determine Risk Evaluation Criteria,
- Identify Risks,
- Analyse Risks
- Evaluate Risks,
- Treat Risks (or Manage Risks),
- Monitor and Review

Establish the Context

The risk management context is established in three areas, strategic, organisational and risk management. The Strategic Context involves identifying:

- the relationships between the council and the environment;
- strengths, weaknesses, opportunities and threats (SWOTs), including the financial, operational, competitive, political (public perception/image) social and legal aspects of the council's functions; and
- the stakeholders.

The purpose of the strategic context is to identify and determine the crucial elements that might support or impair the council's ability to manage the risks associated with its operation.

Organisational Context

The purpose of this stage is to develop an understanding of the council and its capabilities, as well as its goals and objectives and the strategies that are in place to achieve them.

Risk Management Context

The purpose of this stage is to develop the criteria against which risk is to be assessed. This may depend on operational, technical, financial, legal, social, humanitarian, or other criteria.

Risk evaluation criteria can include

- financial loss of up to a certain amount,
- injury to a person requiring hospitalisation,
- number of incidents not to exceed a certain amount.

Risk Identification

Risk identification seeks to identify the risks and elements at risk that may need to be managed. A well-structured systematic process is crucial, because a potential risk not identified at this stage is excluded from further analysis. All risks should be identified, whether or not they are under the control of the council.

The risks are identified in three stages:

- What can happen. The aim is to generate a comprehensive list of events which might affect each element of the council's service delivery.
- How and why it can happen. It is necessary to consider possible causes and scenarios. There are many ways and event can be initiated. It is important that no significant causes are omitted.
- Are risks credible? An assessment of credibility of all risk is undertaken to ensure that credible risks receive proper and due consideration.

Risks should be defined as a statement of risk. For example: There is a risk of injury to people from tripping on a paved footpath.

Risk Analysis

Risk is analysed by combining estimates of likelihood and consequences in the context of existing control measures. The objective of a risk analysis is to separate the minor acceptable risks from the major risks and to provide data to assist in assessment and treatment of risk.

The level of risk is determined by considering two aspects against existing controls:

- how likely it is that things may happen (likelihood, frequency of probability), and
- the possible consequences (impact or magnitude of the effect) if they do occur.

The risk analysis process is to:

- identify the existing management controls, technical systems and procedures to control risk,
- evaluate the likelihood of events occurring and their consequences in the context of these existing controls,
- combine the evaluation of likelihood and consequences to produce a level of risk.

Risk Evaluation

Risk evaluation involves comparing the level of risk found during the analysis process with previously established risk criteria and deciding whether the risks can be accepted.

Options should be evaluated on the basis of the extent of risk reduction and the extent of benefits or opportunities created, taking into account the criteria developed in Risk Context. In general, the adverse impact of risks should be made as low as reasonably practicable irrespective of any absolute criteria. A combination of options may give the optimum risk reduction outcome. If the risks fall into the acceptable or low categories, they may be accepted with minimal further treatment. Acceptable or low risks should be monitored and periodically reviewed to ensure they remain acceptable. If the risks do not fall into the acceptable or low category, they should be managed using one of the options below.

The output of risk evaluation is a prioritised list of risks for further action.

Risk Matrix

LIKELIHOOD	CONSEQUENCE					
		Insignificant	**Minor**	**Moderate**	**Major**	**Massive**
	Certain	Moderate	High	High	Extreme	Extreme
	Likely	Moderate	Moderate	High	Extreme	Extreme
	Possible	Low	Moderate	Moderate	High	Extreme
	Unlikely	Low	Low	Moderate	High	High
	Rare	Low	Low	Low	Moderate	High

Manage the Risks

Risks need to be managed appropriately to the significance of the risk and importance of the affected item/asset to the region as a general guide:

- low levels of risk can be accepted and additional action may not be needed; these risks should be monitored,
- major or significant levels of risk should be managed with actions to reduce or eliminate the risk,
- high levels of risk require close management and the preparation of a formal plan to manage the risks.

Options for managing risk are shown below. The optimum solution may involve a combination of options.

- Avoid the risk by deciding not to proceed with the activity that would incur the risk, or choose an alternative course of action that achieves the same outcome,
- Reduce the level of risk by reducing the likelihood of occurrence or the consequences, or both;
- The likelihood may be reduced through management controls, organisational or other arrangements which reduce the frequency of, or opportunity for errors, such as alternative procedures, quality assurance, testing, training, supervision, review, documented policy and procedures, research and development.
- the consequences may be reduced by ensuring that management or other controls, or physical barriers, are in place to minimise any adverse consequences, such as contingency planning, contract conditions or other arrangements.
- Transfer the risk by shifting the responsibility to another party (such as an insurer), who ultimately bears the consequences if the event occurs. Risks should be allocated to the party, which can exercise the most effective control over those risks.
- Accept and retain the risks within the organisation where they cannot be avoided, reduced or reduced or transferred, or where the cost to avoid or transfer the risk is not justified, usually because the risk is acceptable or low. Risks can be retained by default, i.e. where there is a failure to identify and/or appropriately transfer or otherwise manage risks.
- The cost of managing risks needs to be commensurate with the benefits obtained, the significance of the event and the risks involved.

Risk Management Plans

Plans should document how the chosen options are to be implemented. The plan should identify responsibilities, schedules, the expected outcomes of treatment, budgeting, performance measures and the review process to be set in place.

The successful implementation of the risk management plan requires an effective management system which specifies the methods chosen, assigns responsibilities and individual accountabilities for actions and monitors them against specified criteria.

Monitoring and Review

Monitoring and review is an essential and integral step in the process of managing risk. It is necessary to monitor risks, the effectiveness of any plans, strategies and management systems that have been established to control implementation of risk management actions. Risks need to be monitored periodically to ensure changing circumstances do not alter the risk priorities.

Risk Management Process Improvement

The process improvement covers 3 steps and identifies further issues to be addressed.

- Improve risk management process and link to assets,
- Link work history for scheduled and reactive work to assets,
- Monitor costs on important scheduled and reactive jobs.

9 Definitions

Asset Class - Grouping of like asset categories, e.g. all pavement, seal, kerb and gutter are all part of the asset class of roads.

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.

Current Replacement Cost - The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.

Depreciation - Depreciation is a measure of the average annual consumption of service potential over the life of the asset. Depreciation is not a measure of required expenditure in any given year.

Fair Value - The amount for which an asset could be exchanged or liability settled, between knowledgeable, willing parties, in an arm's length transaction, normally determined by reference to market or comparable prices. Generally, there is no market for Council's infrastructure assets and Fair Value is current replacement cost less accumulated depreciation.

Infrastructure Assets - These are typically large, interconnected networks of or portfolios of composite assets such as roads, drainage and recreational facilities. They are generally comprised of components and sub-components that are usually renewed or replaced individually to continue to provide the required level of service from the network. These assets are generally long lived, are fixed in place and often have no market value.

Level of Service - The defined service quality for a particular Primary Service (e.g. roads, child care services) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental, acceptability and cost (e.g. the number of accidents on local roads).

Maintenance and Renewal Gap - Difference between estimated budgets and projected expenditures for maintenance and renewal of assets, totalled over a defined time (e.g. 5, 10 and 15 years).

Materiality – The concept of materiality referred to in accounting standards has been amplified in these guidelines. An asset is material if its omission would result in misleading the reader of the financial report. The convention of an asset being material if greater than 10 – 15 % of asset value is only partly useful for road assets because of historic variability in practice in measuring value. The overriding principle is that financial reports present a true and fair picture of the financial position of the council.

Operating Expenditure - Expenditure on providing a service, which is continuously required including staff salaries and wages, plant hire, materials, power, fuel, accommodation and equipment rental, on-costs and overheads. Operating expenditure excludes maintenance and depreciation.

Remaining Life - The time remaining until an asset ceases to provide the required service level or economic usefulness. Remaining life is economic life minus age.

Risk Management - The allocation of probability and consequence to an undesirable event and subsequent actions taken to control or mitigate that probability and/or consequence.

Service Level Target - Target set for level of service to be achieved in the next reporting period (e.g. to retain, increase or reduce the number of accidents on local roads).

Useful Life - The period from the acquisition of an asset to the time when the asset, while physically able to provide a service, ceases to be the lowest cost alternative to satisfy a particular level of service. The economic life is at the maximum when equal to the physical life, however obsolescence will often ensure that the economic life is less than the physical life.

Version History

Rev No	Date	Revision Details