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EXECUTIVE SUMMARY

Context

Dubbo Regional Council is responsible for the acquisition, operation, maintenance, renewal and disposal of an extensive range of physical assets with a replacement value of \$3.5B, of which \$2.8B is covered in specific Asset Management Plans.

These assets include land, buildings, parks, recreation areas, roads, footpaths, drainage systems, water sewerage and associated operating assets and provide service essential to our community's quality of life.

Those assets not closely covered by this strategy include other land, land held for re-sale, artworks, library and some assets associated with airport and saleyards activities.

This Strategic Asset Management Plan (SAMP) takes the organisational objectives in our Strategic Plan, develops the asset management objectives, principles, framework and strategies required to achieve our organisational objectives. The plan summarises activities and expenditure projections from individual asset management plans to achieve the asset management objectives.

Timeframe

While some sections of this plan will highlight a 10 year outlook, many parts of this strategic plan introduce 20 year projections and show 20 year trends. This recognises the need to be able to respond to infrastructure needs over a strategic timeframe while supporting the necessary lead-time for major infrastructure items.

The initial four years are based on strong available data including the currently adopted budget, known grant funding and planned works.

Years five to year 10 are activities that are being consolidated and confirmed. External funding with strong and ongoing patterns is included.

Activities beyond year 10 have greater uncertainty and require verification. Condition assessment and other tools are used to review those predictions and promote or postpone the activity as appropriate. Those changes will be reflected in future AM Plans and Strategy through the amended source information.

Current situation

Our aim is to achieve a 'core' maturity for asset management activities and improve our maintenance management and asset condition data in line with our improvement plan and continue maturity improvement where the benefits exceed the costs. Improvement tasks with costs and target dates have been identified and documented in Table 8.2.

What does it Cost?

Operating Outlays (excluding depreciation)

The projected operating outlays necessary to provide the services covered by this SAMP includes operation and maintenance of existing assets over the 10 year planning period and is \$79.7M on average per year.

Capital Outlays

The projected required capital outlays including renewal/replacement and upgrade of existing assets and acquisition of new assets over the 10 year planning period is \$46.5M on average per year.

We have balanced the projected expenditures in the SAMP with financial outlays in the Long-Term Financial Plan (LTFP) involving:

- community consultation on desirable and affordable levels of service
- balancing service performance, risk and cost in a trade-off of projects and initiatives
- considering the impact of trade-offs and accepting the service and risk consequences
- identification of anticipated future capital projects that are not funded by extrapolation of "business as usual" budget, particularly transport.
- Identification of significant single infrastructure water treatment plant expansion currently projected to be in 2036, coinciding with the existing plant renewal in 2037.

What we will do

Our aim is to provide the services needed by the community in a financial sustainable manner. Achieving financial sustainability requires balancing service levels and performance with cost and risk.

This strategy is founded on continuation of currently provided levels of service. Introduction of higher expectations would be associated with related increases in costs in that portfolio and thus decisions relating to funding of such decisions.

It may not be possible to meet all expectations for services within current financial resources. This is especially relevant to recent additions of short-lived assets enabled through external funding. We will continue to engage with our community to ensure that needed services are provided at appropriate levels of service at an affordable cost while managing risks.

What we have deferred

We do not have enough funding over the 20 year period reviewed to provide all services at the desired service levels or provide new services. Major initiatives and project that are identified within the plan that are currently not funded under long-term financial plan funding levels are:

- \$20M in water treatment plant renewal in 2037 (anticipated to be funded from Water fund.)
- Transport and buildings 2023 renewal backlog, the asset's useful life has triggered a renewal that has not occurred due to service level priorities and capacity. This backlog will roll forward from 2023 as service level prioritisation and capacity constraints continue.
- There is an ongoing and increasing gap between projected funding and the needs for Operations and Maintenance.

Renewal Funding Ratio

Currently the renewal funding ratio is at 86%. That is, the nominated renewals budget only accounts 86% of the nominated renewals (and backlog) over the first 10 years of the plan. This situation means that the backlog will increase unless that situation is addressed. See Section 7.1 for additional detail.

Backlog

We use the term backlog to identify intended renewals that are unable to be performed in the intended timeframe.

The current renewal backlog is \$63.3M and is predicted to remain below \$55M until 2030, but then trends to \$141.2M by 2042.

This situation is further discussed in Section 5.4.

This measure is different from the amounts reported elsewhere as "Report on Infrastructure Assets", which is a financial model of the cost to "bring to satisfactory" by some lesser treatment than renewal.

Managing the Risks

There are risks associated with providing the service and not being able to complete all identified initiatives and projects. We have identified major risks as:

- Deteriorating transport infrastructure (especially bridges) dependant on grant funding for renewals.
- Increased portfolio of short lifecycle assets in Recreation and Open Spaces. Current budget is insufficient to support projected renewals.
- Inadequate urban drainage systems, not up to expectations for safety or service.
- Water and Sewerage infrastructure unable to support community growth.
- The funding gap for operations and maintenance will need to be managed, creating some level of continually reducing levels of service and re-directing funds from other actions to sustain services.
- Reduced service due to loss of key staff and skills shortages.

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

- Ongoing pursuit of external funding opportunities to supplement internal transport budgets.
- Investigate efficiencies and lower cost renewal options for related assets.
- Specific urban drainage projects affecting safety and service identified through inspection to enable management.
- Fund specific management of system growth. System growth should support funding growth through user charges to offset capital and operational costs.
- Managing community expectations for levels of service from existing and new assets.
- Succession plans and knowledge capture.

Confidence Levels

This SAMP is based on a medium level of confidence in the available information. While there is relatively high confidence in the details of the asset portfolios, there is some uncertainty relating to asset condition or age in some portfolios.

The Next Steps

The actions resulting from this asset management plan are:

- implement the improvement plan in Section 8.2
- review outcomes of the 2023 community consultation to increase awareness of service performance, risk and cost pressures we are facing from community expectations
- investigate actions to extend the life of assets without affecting performance and risk
- review asset renewal and replacement options to reduce service delivery lifecycle costs
- implement lifecycle cost evaluation as part of asset creation to support budget projection.

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2. ASSET MANAGEMENT STRATEGY

2.1 Asset Management System

Asset management enables an organisation to realise value from assets in the achievement of organisational objectives, while balancing financial, environmental and social costs, risk, quality of service and performance related to assets.¹

An asset management system is a set of interrelated and interacting elements of an organisation to establish the asset management policy and asset management objectives, and the processes, needed to achieve those objectives. An asset management system is more than 'management information system' software. The asset management system provides a means for:

- coordinating contributions from and interactions between functional units within an organisation,² and
- consistent application of the asset management processes to achieve uniform outcomes and objectives.

The asset management system includes:

- The asset management policy
- The asset management objectives
- The strategic asset management plan
- The asset management plans, which are implemented in
 - operational planning and control
 - supporting activities
 - control activities
 - other relevant processes.³

The asset management system fits within the organisation's strategic planning and delivery process as shown in Figure 1.

¹ ISO, 2014, ISO 55000, Sec 2.2, p 2

² ISO, 2014, ISO 55000, Sec 2.5.1, p 5

³ ISO, 2014, ISO 55002, Sec 4.1.1, p 2.

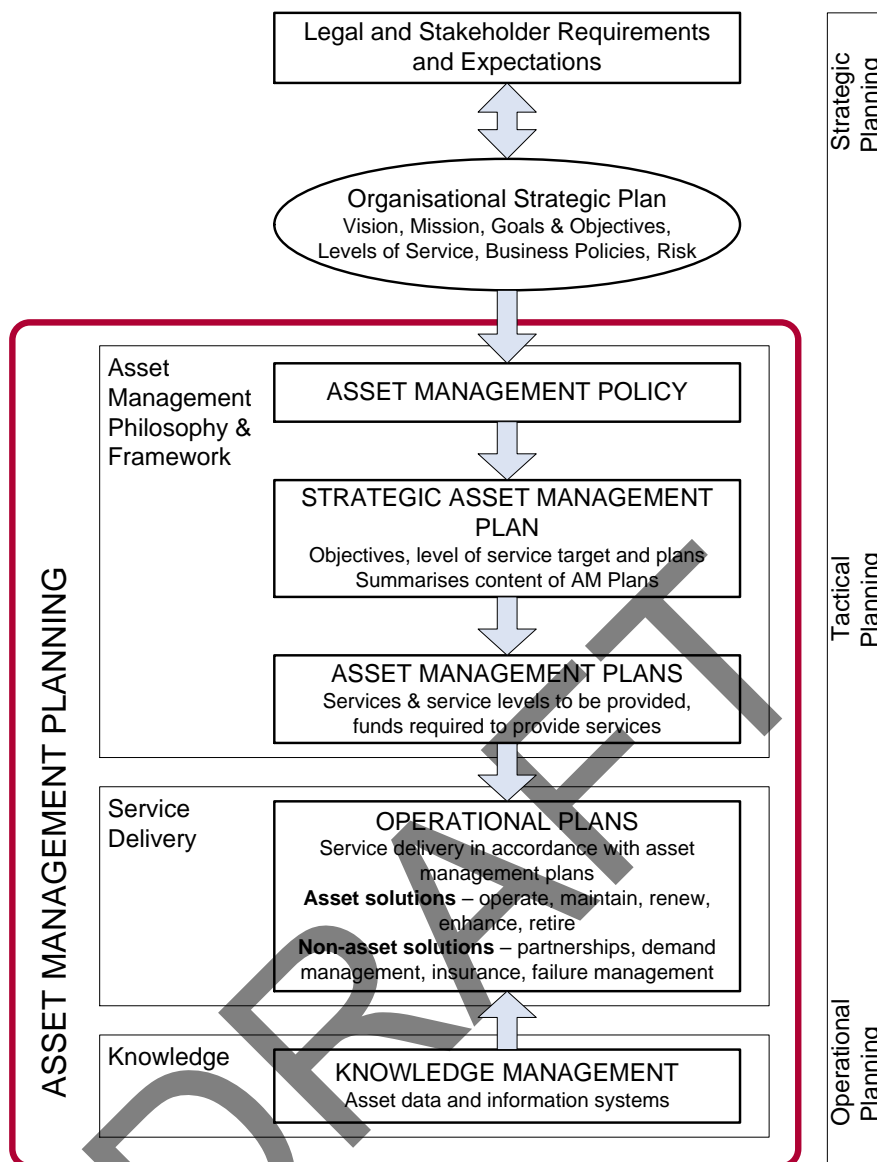


Figure 1: Strategic Asset Management Plan fit in Planning Process

2.1.1 Asset Management Policy

The asset management policy sets out the principles by which the organisation intends applying asset management to achieve its organisational objectives.⁴ Organisational objectives are the results the organisation plans to achieve, as documented in its Strategic Plan. Our adopted asset management policy is available as “Council Policy – Asset Management”.

⁴ ISO, 2014, ISO 55002, Sec 5.2, p 7.

2.1.2 Asset Management Objectives

The asset management objectives developed in Section 2.4.3 provide the essential link between the organisational objectives and the asset management plan(s) that describe how those objectives are going to be achieved. The asset management objectives transform the required outcomes (product or service) to be provided by the assets, into activities typically described in the asset management plans. Asset management objectives should be specific, measureable, achievable, realistic and time bound (i.e. SMART objectives).⁵

2.1.3 Strategic Asset Management Plan

This strategic asset management plan is to document the relationship between the organisational objectives set out in the 'Community Strategic Plan – 2040' and the asset management (or service) objectives and define the strategic framework required to achieve the asset management objectives.⁶

Since this asset management strategy and the supporting Asset management plans are focused on infrastructure held and managed by Council on behalf of the community, it's focus is on the role of "provider" in support of the other roles relating to leader, collaborator and advocate.

This strategic asset management plan encompasses the following services:

- Transport, that is the roads and associated infrastructure to enable the connectivity of the community and support our economy.
- Water and Sewerage infrastructure to support healthy outcomes for the community in a way that provides leadership and is environmentally sustainable.
- Recreation and Open Spaces infrastructure to encourage liveability and to enhance the utility of housing while supporting our local economy.
- Urban drainage infrastructure to support housing and economic amenity in the community with consideration for sustainable environmental outcomes.
- To manage our building infrastructure in a way that enables us to perform our roles across the community and to lead in provision of community opportunities that supplement the other roles.

The strategic asset management framework incorporates strategies to achieve the asset management objectives. The strategies are developed in 4 steps:

- What assets do we have?
- Our assets and their management
- Where do we want to be?
- How will we get there?⁶

⁵ ISO, 2014, ISO 55002, Sec 6.2.1, p 9.

⁶ LGPMC, 2009, Framework 2, Sec 4.2, p 4.

2.1.4 Asset Management Plans

Supporting the strategic asset management plan are asset management plans for major service/asset categories. The asset management plans document the activities to be implemented and resources to be applied to meet the asset management objectives. The strategic asset management plan summarises the key issues from the following asset management plans:

- Transport (the roads and associated infrastructure)
- Water
- Sewerage
- Recreation and Open Spaces
- Stormwater (Urban Drainage in Wellington and Dubbo)
- Buildings (those used for Council purposes and those managed for public utility)

The Strategic Asset Management Plan is part of the organisation's strategic and annual planning and reporting cycle as shown in Table 2.1.

Table 2.1: Strategic Asset Management Plan within the Planning and Reporting Cycle

	Plan	Planning Cycle	Performance Reporting	Reporting Method
Community Planning	20 year Community Plan	4 – 10 years	Community Objectives Indicators	Annual Report
Strategic Planning	10 year Strategic Plan	4 years	Organisational Objectives	Annual Report
	10 year Long-Term Financial Plan		Financial Indicators	
	Strategic Asset Management Plan Asset Management Plans	Annual Review	Asset Management Objectives	
Operational Planning	4 year Operational Plan	4 years	Operational Objectives incorporated into Annual Plan	Annual Report
Annual Planning & Budget	Annual Plan & Budget	Annual	Annual Objectives Budget Objectives	Annual Report Monthly Reports to Council
	Departmental/Directorate Work Plans		Work Plan Objectives	Monthly Reports to Council
	Individual Work Plans		Work Plan Objectives	Performance Reviews

2.2 What Assets do we have?

We manage a lot of assets to provide services to our community. The assets provide the foundation for the community to carry out its everyday activities, while contributing to overall quality of life.

Table 2.2: Assets covered by this Plan

Asset Class/Category	Dimension
Transport	1,409km sealed roads, 1,356km unsealed roads, 75 bridges, 551km Kerb and Gutter, 122km of paved footpaths, 3,652 culverts.
Water	742km of water mains, 4 treatment plants, 14 pump stations and 17 reservoirs.
Sewerage	566km of pipe network, 5 treatment plants and 30 pump stations.
Urban Drainage	260km pipe drainage, 9,082 drainage pits, 68 Gross Pollutant Traps, 9.8km of channels, 103 stormwater basins and 139 urban road culverts.
Recreation and Open Spaces	1011Ha of public open space (217Ha of this irrigated) including 44 playgrounds, 3 swimming pools.
Buildings	In excess of 150 buildings of which 31 are specifically utilised for Council activities such as depots or airport terminals.

2.3 Our Assets and their management

2.3.1 Asset Values

The infrastructure assets covered by this strategic asset management plan are shown in Table 2.3.1. These assets are used to provide services to the community.

Table 2.3.1: Assets covered by this Plan (\$M)

Asset Class/Category	Gross Replacement Cost *	Carrying Value	Annual Depreciation
Transport	1,837	1,258	19
Water	444	308	6
Sewerage	236	186	3
Urban Drainage	181	144	2
Recreation and Open Spaces	104	67	4
Buildings	276	184	10
Total in these plans	3,078	2,147	44
Non-AM Plan Assets	448		
TOTAL	3,526		

Note* Values are determined by routine independent revaluation in line with Office of Local Government and audit office expectations based on a cyclic timetable. There are other assets managed by Council that are not within the scope of these AM Plans with a recognised Gross Replacement Cost of \$448M. These include assets like land and some land improvements, Fleet and similar plant, runways, heritage and library collections and capital works not yet completed.

2.3.2 Asset Condition, Function and Capacity

Our State of the Assets Report monitors the performance of the assets under three community service indicators. Currently only “condition” is monitored explicitly. There are opportunities to improve our understanding of asset community service indicators by also introducing measures for function and capacity.

- condition/quality – how good is the service?
- function - does it meet users’ needs?
- capacity/utilisation – is the service usage appropriate to capacity?

State of the Assets

Assessment of performance of assets under condition (quality), service indicators assign Condition 1 as indicative of assets that are early in their lifecycle. Assets progress through the condition scores until condition 5 which represents an unserviceable asset.

Condition 1 also includes assets (like bulk earthworks for roads) that do not deteriorate in the timeframes considered for these assets. These assets should not ever need renewal, though there may be some maintenance performed. Condition information included in the asset attribute register is replicated in the financial asset register. Alignment is required in some cases where they are incorrectly shown as Condition 1. This will be part of the refinement to reflect the current financial year budget and forecast.

2.3.3 Lifecycle Costs

Lifecycle costs (or whole of life costs) are the average annual costs that are required to sustain the service levels over the longest asset life. Lifecycle costs include operation and maintenance expenditures plus asset consumption (depreciation). Life cycle costs can be compared to lifecycle expenditure to give a comparison of current expenditures to lifecycle costs of services.

Lifecycle expenditures include operation and maintenance expenditures (excluding depreciation) plus capital renewal expenditure. The capital renewal component of lifecycle expenditure can vary depending on the timing of asset renewals.

The lifecycle costs and expenditures averaged over the 10 year planning period will be part of the refinement to reflect the current financial year budget and forecast.

2.3.4 Asset Management Indicators

An asset management objective is to provide the services that the community needs at the optimum lifecycle cost in a financially sustainable manner

The purpose of this strategic asset management plan is to develop the strategies to achieve the asset management objectives through balancing of asset service performance, cost and risk.

The first four years are the current approved budget. 2023 forecast includes an unfunded renewals backlog, mainly in Transport assets, but also Buildings, that is not covered by available internal funding and known external grants. When the asset useful life ends prior to 2023 an overdue renewal results. In some cases, a decision not to renew may be due to a reassessment of useful life that is not reflected in the asset register. Funding and capacity not available to address genuine backlogs in 2023 effectively become a rolling backlog. This will be part of the refinement to reflect the current financial year budget and forecast.

The years to 2033 (10 year timeframe) indicate an annual shortfall between anticipated funding and projected costs in the order of \$10M per year. This may in part be addressed by continued and expanded grant funding for related infrastructure, but also indicates that restraint is necessary. A significant contribution to that shortfall is the anticipated operation and maintenance costs of the growing asset portfolio.

The projections from 2034 to 2042 warrant review and investigation to increase confidence in those predictions, especially relating to asset renewals. The funding shortfall in this period is mainly in transport, water and buildings. The individual Water infrastructure item currently forecast into 2036 is expansion of the Dubbo Water Treatment Plant and the timing of that will ultimately be dependent upon the actual timing of growth in potable water usage by the community. It is anticipated that this item would be budgeted from the Water fund at that time.

Growth in the asset portfolio drives increases in operating and maintenance costs. For some asset types (water and sewerage especially) it is anticipated that these costs would be offset by increased customer charges that would be reflected in an increased available budget. Noting that the expansion needs to be completed before such increased revenue becomes available, a conservative approach has been taken

2.3.5 Opportunities and Risks

We have identified opportunities relevant to the services included in this strategic asset management plan including:

- Obtain additional grant funding, especially Transport, to address backlog situation.
- Review anticipated income from additional users in Water and Sewerage infrastructure to update available budget.
- Condition assessment of assets in the later stages of this strategy to confirm and potentially defer their renewal outlook.
- Review of lifecycle modelling for asset types to identify opportunity to extend useful life of some assets.

Relevant risks to the strategic asset management plan in the future are:

- Community growth exceeding asset capacity – For example, new developments growing beyond stormwater service extent.
- Maturity of understanding of lifecycle costing. Asset portfolio “growth” introduces budget commitment that is not sustainable - Ongoing costs exceed benefits derived, or income created.
- Climate variability accelerates asset deterioration (reduces asset useful life).
- Community expectation of higher levels of service from existing infrastructure with potential increased maintenance costs or accelerated asset deterioration.

Infrastructure risk management plans for these and other relevant risks are summarised with risk management activities and resource requirements incorporated in the relevant asset management plans.

2.3.6 Asset and Financial Management Maturity

We have taken steps to improve our asset and financial management performance including assessing alignment of our asset management maturity with ISO 55001 Asset Management – Management Systems – Requirements. Figure 5 shows the Morrison Low maturity assessment situation from 2020.

For an organisation of our size and scope, a target score of 8 is regarded as appropriate in terms of capability and affordability.

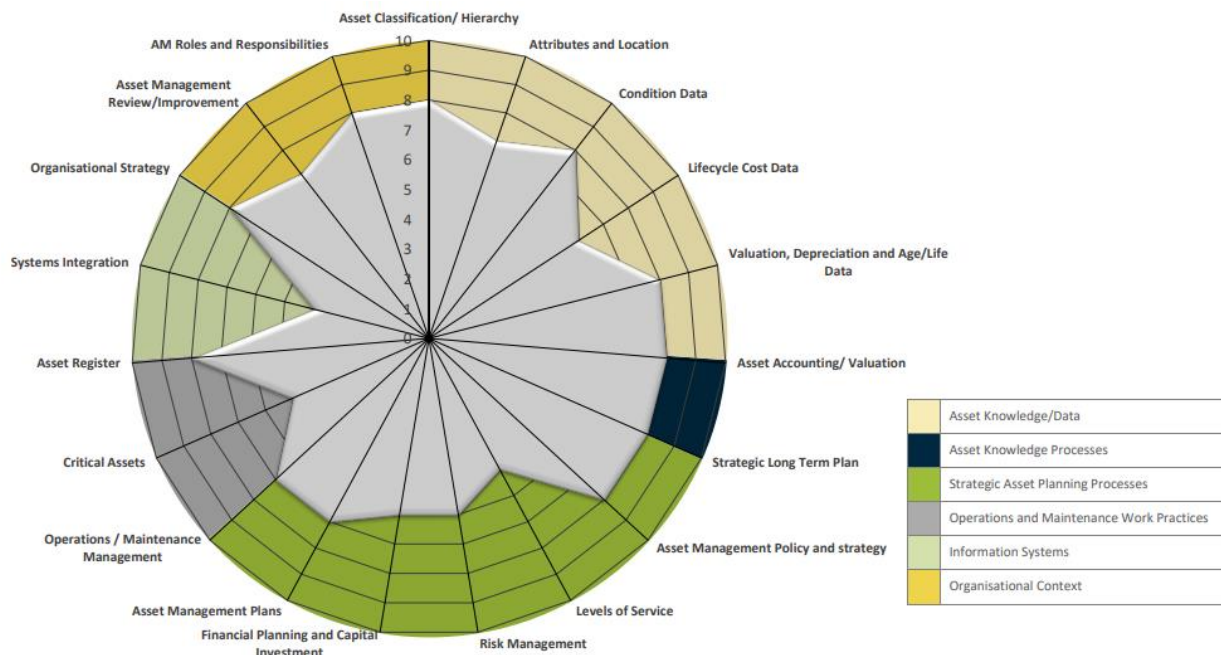


Figure 5: Maturity Assessment

Since that assessment, there have been significant improvements implemented by the actions of the Asset Working Group and those improvements are ongoing.

Elements with low maturity scores where further work remains are:

- System integration highlights the use of multiple maintenance management systems and alternate asset physical attribute systems that are poorly integrated with the asset financial system.
- Strategic Asset Planning Process improvement opportunities are now improving, with recent training of the AM Plan authors and other staff in a nationally recognised methodology including focus on aspects such as levels of service, risk management, asset criticality and the AM Plans themselves.
- Lifecycle costs have significant linkage to many other items in the chart. Awareness and improvement in this area is to be enhanced by stronger analysis of lifecycle costs during project review and budget preparation.
- The shortfall relating to attributes and location identified gaps in information from the amalgamation asset data. The specific observation is being addressed in current financial year.

2.3.7 Strategy Outlook

1. With appropriate restraint, we will struggle to maintain current levels of service for the next ten years based on current knowledge and projections in AM Plans and Long-Term Financial Plan.
2. Funding for projected capital items (renewals, upgrades and acquisitions) are almost adequate for the next 10 years with a modest increase in the backlog amount and are reliant on supplementary external grant funding to support that outcome. Beyond the 10 year timeframe, there is a growing gap between identified available funds and the forecast expenditure.
3. For the 20 year life of this plan, there is a growing shortfall for operational costs that is matched to the increases in costs to service the additional assets under our control created from upgrades, acquisitions and contributed.
4. Some aspects of our current asset and financial management maturity are below 'core' level and investment is needed to improve information management, lifecycle management, service management, accountability and strategic direction.

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2.4 Where do we want to be?

2.4.1 Community Expectations

We have identified community expectations for service levels to be generally consistent with current levels of service. We engage with the community through significant consultative processes and have developed our Community Strategic Plan Dubbo 2040. Community engagement is necessary to ensure that informed decisions are made on future levels of service and costs and that service and risk consequences are known and accepted by stakeholders.

This document is publicly available and will not be expanded upon here.

2.4.2 Organisational Objectives

The organisation objectives are developed in the Dubbo 2040 Community Strategic Plan under Vision, Purpose, Values and Priority Areas as shown below.



2.4.3 Asset Management Objectives

The asset management objectives (or strategies) translate the organisational objectives into the required service outcomes to be provided by infrastructure assets and activities described in the asset management plans. Actions to achieve the asset management objectives with performance targets and timelines are shown in Tables 2.4.3 – 2.4.3.5 and included in operational and capital works plans

Table 2.4.3: Asset Management Objectives - Transport

Organisational Objective To provide connectivity for the community and to support economic development

Asset Management Objective	Action	Performance Target & Timeline
Timely renewal of transport infrastructure.	Ongoing programs for resealing program and gravel resheeting programs.	Renewal backlog remains manageable. Ongoing.
Timely maintenance of assets	Ongoing periodic grading, pothole, signage replacement programs to continue.	Level of service maintained. System not deteriorating. Ongoing.
Recognised safety improvements implemented	Road widening and alignment adjustments prioritised and implemented using available resources and external funding when available.	Maintain current momentum. Identify and implement grant sources if available.
Transport asset resilience to changes.	Implemented design criteria for all new and replacement assets for identified future challenges.	Appropriate design standards are in place. These to be reviewed periodically to ensure that additional resilience features are included.
Business and activity dependant on transport are adequately serviced.	Monitor and review road network classifications and suitability of network for current and anticipated use. Identify and prioritise appropriate items for upgrade.	Review of road classifications at least in line with revaluation cycle
Support regional growth	Implement necessary growth in the network to accommodate growth.	Ongoing in line with development activities.

Table 2.4.3.1: Asset Management Objectives - Water

Organisational Objective To provide the community with safe potable water

Asset Management Objective	Action	Performance Target & Timeline
Effective and efficient water network operation.	Timely renewal of assets as they reach the end of their useful life.	Ongoing asset renewal to support efficient system operation.
Cost effective supply of water to the community.	Effective operations and timely maintenance of the assets to support efficient operation of the assets in use. Investigation of alternate cost effective means to deliver outcomes.	Ongoing operations and maintenance of the assets.
Water Quality	Investigate options to improve water quality outcomes in a cost effective manner. Determine community expectation of quality improvements with associated costs.	Maintain current technology and thus level of service. Revision dependant on treatment plant renewal timeframe.
Water Availability	Retain and maintain all current water resources and investigate alternative to supplement these for future resilience.	Negligible periods of water restrictions
Support community growth	Plan and implement network assets with adequate capacity (or upgrade potential) to service anticipated growth over the asset lifecycle.	Design criteria for renew/new assets to include consideration for system and population growth

Table 2.4.3.2: Asset Management Objectives - Sewerage

Organisational Objective To assure public health and community amenity by removal and treatment of sewerage

Asset Management Objective	Action	Performance Target & Timeline
Effective and efficient sewerage network operation.	Timely renewal of assets as they reach the end of their useful life in service	Ongoing renewal of assets to support efficient system operation.
Cost effective operation of the sewerage asset system	Effective operations and timely maintenance of the assets to support efficient operation of the assets in use. Investigation of alternate cost effective means to deliver outcomes.	Ongoing operation and maintenance of the assets.
Environmental performance of the system.	Continue to achieve or exceed current licence agreements and investigate means to improve environmental outcomes	Ongoing current practice. Improvements would typically be linked to system or treatment plant upgrades or renewals.
Improve system resilience	Identify and implement improvements to increase system resilience, especially in new assets as constructed.	Implement identified improvements as identified and practical.
Support community growth	Plan and implement network assets with adequate capacity (or upgrade potential) to service anticipated growth over the asset lifecycle.	Design criteria for renew/new assets to include consideration for system and population growth.

Table 2.4.3.3: Asset Management Objectives – Recreation and Open Spaces

Organisational Objective To provide public amenity and sporting facilities for the community

Asset Management Objective	Action	Performance Target & Timeline
Maintain amenity of public park, reserves and similar facilities.	To maintain a level of assets that support the utility of those parks as used by the public	Maintain current performance over time.
Provide sporting facilities suitable for the selected community sports.	To provide and maintain assets suited to the various levels of service based upon facility classification.	Maintain current performance over time.
Anticipate and support growth, both in new sports and increased participation.	Monitor trends in facility utilisation and determine level of service gaps indicative of community expectations.	Ongoing process.
Promote regional visitation	Develop and maintain a core set of assets to become public showcase for the region.	Monitor utilisation of facilities by visitors to the region and local elite sporting bodies

Table 2.4.3.4: Asset Management Objectives – Urban Drainage

Organisational Objective Urban drainage networks control and manage stormwater to support community amenity

Asset Management Objective	Action	Performance Target & Timeline
Effective and efficient operation of the stormwater network	Timely renewal of assets as they reach the end of their useful life in service	Ongoing renewal of assets to support efficient system operation
Effective and efficient operation of the stormwater network	Ongoing maintenance of stormwater quality improvement devices (SQID) to intercept debris before release to environment	Maintain current and identify additional locations for SQIDs
Implement Water Sensitive Urban Design (WSUD) initiatives	New assets and renewals to enhance the WSUD outcomes.	Current and ongoing assets to incorporate the new levels of service.

Table 2.4.3.5: Asset Management Objectives - Buildings

Organisational Objective To support the operation and identified initiatives of the Council

Asset Management Objective	Action	Performance Target & Timeline
Buildings support effective operation of the Council	Ensure building assets are “fit for purpose” and maintained to support those functions.	Support existing utility and adapt to usage modifications as required.
Maintain value of the Council infrastructure.	Co-ordinate and undertake actions necessary to protect the value of the building assets over time and to maximise their utility for intended operations.	Ongoing monitoring of building condition to confirm and co-ordinate necessary actions

2.5 Asset Management Vision

To ensure the long-term financial sustainability of the organisation, it is essential to balance the community's expectations for services with their ability to pay for the infrastructure assets used to provide the services. Maintenance of service levels for infrastructure services requires appropriate investment over the whole of the asset life cycle. To assist in achieving this balance, we aspire to:

Develop and maintain asset management governance, skills, process, systems and data in order to provide the level of service the community need at present and in the future, in the most cost-effective and fit for purpose manner.

In line with the vision, the objectives of the strategic asset management plan are to:

- ensure that our infrastructure services are provided in an economically optimal way, with the appropriate level of service to residents, visitors and the environment determined by reference to our financial sustainability
- safeguard our assets including physical assets and employees by implementing appropriate asset management strategies and appropriate financial resources for those assets
- adopt the long term financial plan as the basis for all service and budget funding decisions
- meet legislative requirements for all our operations
- ensure resources and operational capabilities are identified and responsibility for asset management is allocated
- ensure operational and service delivery risks are adequately managed
- continually improve our asset, risk and financial management and service delivery performance
- provide high level oversight of financial and asset management responsibilities through Audit Committee/CEO reporting to Council on development and implementation of the Strategic Asset Management Plan, Asset Management Plan(s) and Long Term Financial Plan.

Strategies to achieve this position are outlined in Section 2.6.

2.6. How will we get there?

The strategic asset management plan proposes strategies to enable the organisational objectives and asset management policies to be achieved.

Table 2.6: Asset Management Strategies

No	Strategy	Desired Outcome
1	Incorporate Year 1 of long term financial plan revenue and expenditure projections into annual budgets.	Long term financial planning drives budget deliberations and the long term implications of all services are considered in annual budget deliberations.
2	Report our financial position at Fair Value in accordance with Australian Accounting Standards, financial sustainability and performance against organisational objectives in Annual Reports.	Financial sustainability information is available for Council and the community.
3	Develop and maintain a long term financial plan covering 10 years incorporating asset management plan expenditure projections with a sustainable funding position outcome.	Sustainable funding model to provide our services.
4	Develop and annually review asset management plans and strategic asset management plan covering at least 10 years for all major asset classes (85% of asset value).	Identification of services needed by the community and required funding to optimise 'whole of life' costs.
5	Review and update asset management plans, strategic asset management plan and long term financial plans after adoption of annual budgets. Communicate any consequence of funding decisions on service levels and service risks.	We and the community are aware of changes to service levels and costs arising from budget decisions.
6	Develop and maintain a risk register of operational and service delivery risks showing current risk levels, risk management treatments and report regularly to Council on current high level risks.	Risk management of operational and service delivery risks is an integral part of governance.
7	Ensure Council decisions are made from accurate and current information in asset registers, on service level performance and costs and 'whole of life' costs.	Improved decision making and greater value for money.
8	Report on our resources and operational capability to deliver the services needed by the community in the annual report.	Services delivery is matched to available resources and operational capabilities.
9	Ensure responsibilities for asset management are identified and incorporated into staff position descriptions.	Responsibility for asset management is defined.
10	Implement an improvement plan to realise 'core' maturity for the financial and asset management competencies on an ongoing basis.	Improved financial and asset management capacity within the organisation.
11	Report six monthly to Council by Audit Committee/CEO on development and implementation of strategic asset management plan, AM Plans and long term financial plans.	Oversight of resource allocation and performance.

2.7 Asset Management Improvement Plan

The tasks required achieving a 'core' financial and asset management maturity are shown in priority order in the asset management improvement plan in Section 8.2

2.8. Consequences if actions are not completed

There are consequences for the Council if the improvement actions are not completed. These include:

- Inability to achieve strategic and organisational objectives
- Inability to achieve financial sustainability for the organisation's operations
- Current risks to infrastructure service delivery are likely to eventuate and response actions may not be appropriately managed
- We may not be able to accommodate and/or manage changes in demand for infrastructure services.

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3. LEVELS OF SERVICE

3.1 Consumer Research and Expectations

The expectations and requirements of various stakeholders were considered in the preparation of asset management plans and are described in detail in section 3.1 of those plans.

An improvement opportunity in this strategy is to develop and implement monitoring and reporting methods of the satisfaction levels being delivered across these asset portfolios.

3.2 Organisational Objectives

Sections 2.4.2 and 2.4.3 of this strategic asset management plan reported the organisational objectives from the Strategic Plan and asset management objectives developed from the organisational objectives.

The organisational and asset management objectives provide focus for the community and technical level of service tables in Section 3.4.

3.3 Legislative Requirements

We have to meet many legislative requirements including Australian and State legislation and State regulations. These are detailed in the various asset management plans summarised in this strategic asset management plan.

3.4 Levels of Service

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

Customer Values indicate:

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

Customer Levels of Service measure how the customer receives the service and whether the organisation is providing value.

Customer levels of service measures used in the asset management plan are:

Quality/condition	How good is the service?
Function	Does it meet users' needs?
Capacity/Utilisation	Is the service usage appropriate to capacity?

Our current and projected community levels of service for the services covered by this strategic asset management plan are shown in the AM Plans summarised in this strategic asset management plan.

While we have some maturity in utilising quality/condition information where we utilise a graded scale, the other measures are basically measured on a two point scale (adequate – inadequate) and refinement of these measures could provide advantages in strategic asset management planning.

Technical Levels of Service - Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the organisation undertakes to best achieve the desired community outcomes and demonstrate effective organisational performance.

Technical service measures are linked to annual budgets covering:

- Operation – the regular activities to provide services such as availability, cleansing, mowing, etc.
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition (e.g. road patching, unsealed road grading, building and structure repairs),
- Renewal – the activities that return the service capability of an asset similar to that which it had originally (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement) or to a lower service level,
- Acquisition – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).

Service managers plan, implement and control technical service levels to influence the customer service levels.⁷

Together the community and technical levels of service provide detail on service performance, cost and whether service levels are likely to stay the same, get better or worse.

Our current and projected technical levels of service for the services covered by this strategic asset management plan are shown in the AM Plans summarised in this strategic asset management plan.

Tables summarising the current and desired technical levels of service for services are shown in Appendix A.

⁷ IPWEA, 2011, IIMM, p 2.22

4. FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include population change, changes in demographics, seasonal factors, climate change, vehicle ownership rates, consumer preferences and expectations, government decisions, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecast

The present position and projections for demand drivers that may impact future service delivery and utilisation of assets were identified and are documented in Table 4.3.

4.3 Demand Impact on Assets

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

Table 4.3: Demand Drivers, Projections and Impact on Services

Projection	Impact on services
Population increase	
Area population increases by 0.9% per annum	Increased utilisation of resources such as transport (traffic congestion), higher demand for potable water, increased utilisation of parkland, higher sewerage volumes.
Area population increases by 0.9% per annum	Growing demand for Council services relating to development approvals and planning support.
Area population increases by 0.9% per annum	Necessary growth of some infrastructure portfolios to support this growth, leading to increased assets to be maintained and operated with the associated costs.
Area population increases by 0.9% per annum	Increased income from fees and charges associated to higher service demand, especially for water and sewerage.
Climate variability	
Progressive temperature increases	Accelerated deterioration of temperature affected assets.
Progressive temperature increases	Increased maintenance and operating costs for assets impacted by temperature such as sporting fields, playgrounds, parks and air conditioned buildings.
Increased rainfall variability	Potential increased severity of stormwater events impacting urban areas and the road networks.
Extended periods of heatwave conditions	Increased utilisation of air conditioned and other suitable public spaces for comfort and relief. Eg libraries, swimming pools and riverfront locations.
Extended periods of heatwave conditions	Staff working conditions adversely impacted. Additional relief methods to be implemented. Potentially need adaptable work practices.
Urban Density	
Increased urban density	Reduced rainfall absorption in urban areas, increasing stormwater runoff.
Increased urban density	Increased litter density impacting stormwater quality improvement initiatives and public spaces leading to increased maintenance/operation costs.
Increased urban density	Congestion in roadways, footpaths and similar areas.
Increased urban density with higher car ownership per household	Planning issues relating to urban development.
Water Availability	
Reduced water availability for prolonged periods. (drought)	Limitation on daily amounts available relative to community expectations.
Vehicle design	

Continued increase in heavy vehicle sizes	Expectation for transport infrastructure to accommodate larger and heavier vehicles (road strength) and clearance expectations (visibility distances and turning circles).
Larger passenger vehicles selected	Parking and lane size concerns, congestion in urban shopping precincts.
Increased proportion of electric vehicles (EVs) within and visiting region	Expectation of supporting infrastructure for EVs. Expectation of amenities relating to charging cycle times for drivers and passengers. Traffic management around those areas as utilisation becomes higher.
Sustainable Energy	
Solar and wind farms to become more established with localised infrastructure stress.	Development considerations relative to the scale/magnitude of those developments especially at initiation in a way that ensures “fairness” to those affected and the community as a whole.
Sustainable Energy hardware impacts relating to landscape “view”.	Development considerations relating to location, orientation, scale and size of installed infrastructure. Council to behave as advocate on behalf of the community.
Recreation	
Increased passive participation	Increased utilisation of available open spaces. Potential expectation for increased amenities at those sites.
Increased active participation	Increased utilisation of sporting facilities with associated pressure on features of those sites.

4.4 Demand Management Plan

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

Non-asset solutions focus on providing the required service without the need for the organisation to own the assets and management actions including reducing demand for the service, reducing the level of service (allowing some assets to deteriorate beyond current service levels) or educating customers to accept appropriate asset failures⁸. Examples of non-asset solutions include providing joint services from existing infrastructure such as aquatic centres and libraries that may be in another community area or public toilets provided in commercial premises.

Opportunities identified for demand management are shown in Table 4.4.

Table 4.4: Demand Management Plan Summary

Service Impact	Demand Management Plan
Water Scarcity	Beneficial re-use of treated effluent in appropriate identified purposes, offsetting use of water sourced for potable use.
Water Scarcity	Additional extraction points to spread the impact on aquifers.
Increasing vehicle size and mass	Review and ongoing improvements to road construction and alignments aligned to renewal programs.
Urban area expansion expecting public spaces and amenities	Developer contributions of amenity features in these growth areas.
Population growth increasing utilisation of water, sewerage and waste services.	Cost recovery through user fees and charges should offset the increased operations and maintenance costs.
Increased rural activities impacting transport infrastructure	Traffic density and such will mostly impact state infrastructure, while OSOM traffic will continue to be monitored and controlled through active review of proposed loaded traffic.

⁸ IPWEA, 2015, IIMM, Sec 2.3.6, p 2|53.

4.5 Asset Programs to meet Demand

The new assets required to meet growth will be acquired free of cost from land developments and constructed/acquired by the organisation. New assets constructed/acquired by the organisation are discussed in Section 5.4.

Acquiring these new assets will commit the organisation to fund ongoing operation, 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 operation, maintenance and renewal costs in Section 6.

Since Council would rarely discontinue a service that is already provided to the community, the commitment to accept growth assets creates an ongoing and essentially permanent commitment to those future costs.

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5. LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this strategic asset management plan are shown in Tables 2.2 and 2.3.1.

5.1.2 Asset capacity and performance

The organisation's services are generally provided to meet design standards where these are available.

Asset capacity and performance is currently monitored for condition (quality), while monitoring for function and capacity/utilisation is less well developed and currently reactive in nature.

5.2 Routine Operation and Maintenance Plan

Operation include regular activities to provide services such as public health, safety and amenity, e.g. cleansing, utility services, street sweeping, grass mowing and street lighting.

Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where portions of the asset fail and need immediate repair to make the asset operational again. Maintenance is that work that is carried out to enable the assets to achieve their useful life in service.

5.2.1 Operation and Maintenance Plan

Operation activities affect service levels including quality and function, such as cleanliness, appearance, etc., through street sweeping and grass mowing frequency, intensity and spacing of street lights and cleaning frequency and opening hours of building and other facilities.

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, e.g. road patching but excluding rehabilitation or renewal.

Maintenance expenditure levels are considered to be adequate to sustain similar to current service levels for the current asset portfolio, but a growing gap develops relating to asset portfolio growth over the period of this plan. Where maintenance expenditure levels are such that will result in a lesser level of service, the service consequences and service risks have been identified and service consequences highlighted in the respective AM Plan and service risks considered in the Infrastructure Risk Management Plan.

A significant proportion of the projected gap relates to water and sewerage infrastructure. It is felt that increased fees and charges derived from services provided by those assets will offset the identified gap for those asset types.

5.2.2 Operation and Maintenance Strategies

We will operate and maintain assets to provide the defined level of service to approved budgets in the most cost-efficient manner. The operation and maintenance activities include:

- Scheduling operations activities to deliver the defined level of service in the most efficient manner
- Undertaking maintenance activities through a planned maintenance system to reduce maintenance costs and improve maintenance outcomes. Undertake cost-benefit analysis to determine the most cost-effective split between planned and unplanned maintenance activities (50 – 70% planned desirable as measured by cost)

- Maintain a current infrastructure risk register for assets and present service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council
- Review current and required skills base and implement workforce training and development to meet required operation and maintenance needs
- Review asset utilisation to identify underutilised assets and appropriate remedies, and over utilised assets and customer demand management options
- Maintain a current hierarchy of critical assets and required operation and maintenance activities
- Develop and regularly review appropriate emergency response capability
- Review management of operation and maintenance activities to ensure we are obtaining best value for resources used.

5.2.3 Summary of future operation and maintenance expenditures

Future operation and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 7. The forecast expenditures (shown in Appendix B) have not been accommodated in the organisation's long-term financial plan. Note that all costs are shown in current dollar values (i.e. real values) and the budget is based on projection of current approved budget without growth in the asset portfolio being serviced.

The majority of growth in Operations and Maintenance relate to the Water and Sewerage portfolios where there is expectation that income from the increased portfolio would enable related budget increases.

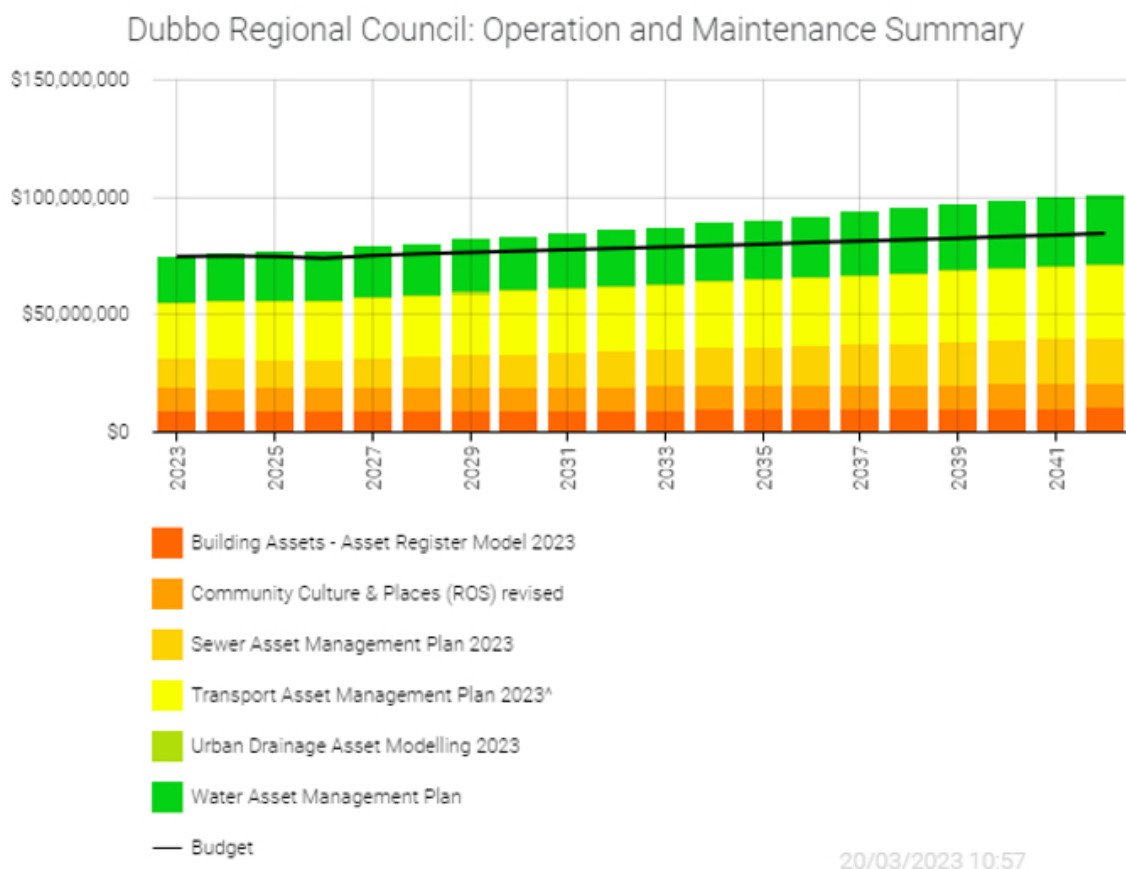


Figure 7: Projected Operation and Maintenance Expenditure and LTFP Outlays

5.3 Renewal/Replacement Plan

Renewal and replacement expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original or lesser required service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.

5.3.1 Renewal and Replacement Strategies

We will plan capital renewal and replacement projects to meet level of service objectives and minimise infrastructure service risks by:

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner
- Undertaking project scoping for all capital renewal and replacement projects to identify
 - the service delivery 'deficiency', present risk and optimum time for renewal/replacement
 - the project objectives to rectify the deficiency
 - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency
 - and evaluate the options against evaluation criteria adopted by Council, and
 - select the best option to be included in capital renewal programs,
- Using optimal renewal methods (cost of renewal is less than replacement) wherever possible
- Maintain a current infrastructure risk register for assets and service risks associated with providing services from infrastructure assets and report Very High and High risks and Residual risks after treatment to management, Audit Committee and Council
- Review current and required skills base and implement workforce training and development to meet required construction and renewal needs
- Maintain a current hierarchy of critical assets and capital renewal treatments and timings required
- Review management of capital renewal and replacement activities to ensure we are obtaining best value for resources used.

Renewal ranking criteria

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replace a bridge that has a 5t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. roughness of a road).

Capital renewal and replacement priorities are indicated by identifying assets or asset groups that:

- Have a high consequence of failure
- Have a high utilisation and loss of service would have a significant impact on users
- Have the highest average age relative to their expected lives
- Are identified in the AM Plan as key cost factors

- Have high operational or maintenance costs, and
- Where replacement with modern equivalent assets would yield material savings.

The ranking criteria used to determine priority of identified renewal and replacement proposals is detailed in the respective asset management plans.

5.3.2 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time as the asset stock ages. Note that all amounts are shown in real values.

Projections beyond 10 years should be used with care. Those assets need to have condition assessments performed to confirm that actual renewal/replacement will be required or whether extension of useful life is an acceptable proposition.

Figure 8: Projected Capital Renewal and Replacement Expenditure and LTFP Outlays

Where renewal projections are based on estimates of asset useful lives, the useful lives are documented in the relevant asset management plan(s). Projected capital renewal and replacement programs are shown in Appendix C. The projected renewal and replacement program makes no allowance for borrowings to fund high priority items, but does include allowance for significant external grants where historic patterns are consistent.

The renewal summary shows a situation that results in changes to the infrastructure backlog. The initial trend in backlog is there are some years where backlog reduction is predicted and others where the backlog will increase. The situation is relatively stable until 2033 when increases are more common.

Asset type	Replacement Value	Operations & Maintenance	Renewals	Upgrade & New	Funding Shortfall	Renewal Backlog Year 1	Renewal Backlog Year 20
	At 30/6/22	1st 10 year average				2023	to 2042
\$ million:							
Transport	1,837	26	15	6	6	51	88
Water	444	21	2	7	2	-	16
Sewerage	236	13	0	6	2	-	-
Urban Drainage	181	1	1	1	1	10	10
Recreation and Open Spaces	104	10	3	-	1	1	14
Buildings	276	9	5	-	-	1	14
Other	448					-	-
Total	3,526	80	26	20	12	63	141
Infrastructure Backlog Ratio						1.8%	4.0%

By 2042, the backlog is projected to be \$141.2M in the absence of additional funding. The funding gap over the period of this plan is \$8M per year, however, there is an initial backlog of \$63M and almost \$86M occurring in the final 10 years of this review.

5.4 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to the organisation from land development. These assets from growth are discussed in Section 4.5.

5.4.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as councillor or community requests, proposals identified by strategic plans or partnerships with other organisations. Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate. Verified proposals are ranked

by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed in the respective asset management plans.

5.4.2 Capital Investment Strategies

We will plan capital upgrade and new projects to meet level of service objectives by:

- Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner
- Undertake project scoping for all Renewal projects to identify
 - the service delivery 'deficiency', present risk and required timeline for delivery of the upgrade/new asset
 - the project objectives to rectify the deficiency including value management for major projects
 - the range of options, estimated capital and life cycle costs for each option that could address the service deficiency
 - management of risks associated with alternative options
 - and evaluate the options against evaluation criteria adopted by Council, and
 - select the best option to be included in renewal programs
- Review current and required skills base and implement training and development to meet required construction and project management needs
- Review management of capital project management activities to ensure we are obtaining best value for resources used.

Standards and specifications for maintenance of existing assets and construction of new assets and upgrade/expansion of existing assets are detailed in relevant asset management plans.

5.4.3 Summary of future upgrade/new assets expenditure

Projected upgrade/new asset expenditures and estimated long-term financial plan outlays are summarised in Figure 9. The forecast expenditures have not been accommodated in the organisation's long-term financial plan. The projected upgrade/new capital works program is shown in Appendix D. All amounts are shown in real values.

The figure highlights some water and transport works in 2029 and 2030. These are currently not included in the long-term financial plan and this strategy highlights these items for specific consideration.

There is also a significant water treatment plant expenditure in 2036 that will need to be funded when that expansion is implemented.

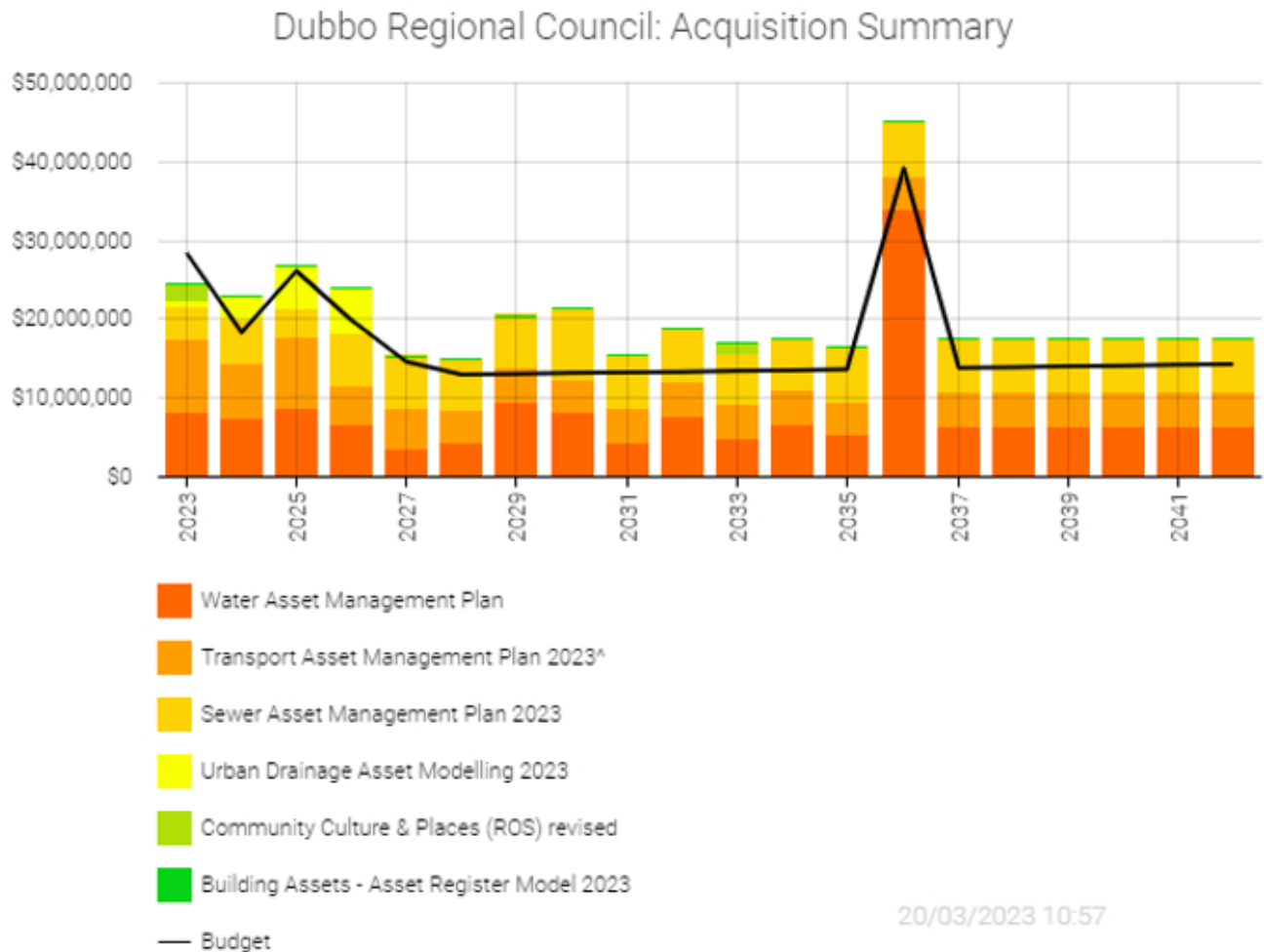


Figure 9: Renewal Asset Expenditure and Budget

The projected upgrade and new asset program is based upon current funding patterns. This is usually significantly supplemented by external grant funding. Shortfalls in this figure highlight necessary review of the long-term financial plan to determine the funding strategies to be utilised at those times. 2036 has anticipated budget for water treatment plant expansion that will need to be supported when that decision is made.

5.5 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in the respective asset management plans summarised in this strategic asset management plan.

There are no disposals included in the Asset Management Plans. Disposal of assets (without replacement) is relatively rare for Council, since implementation of a service for the community would usually continue in some way in the future. Thus it would be typical for the assets providing such service to be replaced/renewed or upgraded.

5.6 Service Consequences and Risks

The organisation has prioritised decisions made in adopting the asset management plans summarised in this strategic asset management plan to obtain the optimum benefits from its available resources.

The asset management plans are based on balancing service performance, cost and risk to provide an agreed level of service from available resources in our long-term financial plan.

5.6.1 Deferred initiatives and projects

There are some operation and maintenance initiatives and capital projects that have been deferred for the next 10 years. These are shown in Appendix E. The major initiatives and projects include:

- Transport infrastructure “backlog”. There is a recognised magnitude of renewals that are not funded in the current budget year. These are managed over time as funds (internal and external) become available.
- Building Maintenance to expected levels of service.
- Transport maintenance (like grading) is consuming the available budget each year, delivering reduced cyclic service.
- City presentation is also consuming available budget in each year, delivering reduced cyclic services.

5.6.2 Service consequences

Operation and maintenance initiatives and capital projects that have been deferred will maintain or create service consequences for users. The major service consequences include:

- Some specific transport assets (roads or bridges) may provide a reduced level of service to users for assets already at their intended renewal/replacement condition.
- Building users (staff and community) will observe some levels of reduced quality of service from delayed (non-safety) maintenance activities.
- Road users may experience deteriorated road surfaces awaiting treatment.
- Visitors and community will observe reduced quality of presentation of parks and recreation locations.

5.6.3 Risk consequences

The operation and maintenance initiatives and capital projects that cannot be undertaken may maintain or create risk consequences for the organisation. The major service risks include:

- Local perception for that asset may be projected as typical of the whole network. Increased community complaints.
- Modest concern relating to presentation that may lead to community or staff observations and complaints.
- Local perception for specific asset (eg that road segment or park) creating a locality with perception they are being underserved. Possible customer complaints.
- Comparison to observations in other locations and even other council areas. In extreme cases this would lead to complaints.

These risks have been included with the Infrastructure risk management plan summarised in the relevant asset management plan and risk management plans actions and expenditures included within projected expenditures.

6. 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 31000:2009 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2009 as: ‘coordinated activities to direct and control with regard to risk’⁹. An assessment of risks¹⁰ associated with service delivery will identify critical risks that will result in loss or reduction in service from infrastructure assets or a ‘financial shock’. 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, evaluate the risks and develop a risk treatment plan for those risks that are deemed to be non-acceptable.

Dubbo Regional Council has implemented an extensive risk management policy and methodology. Outcomes from those risk assessments represent the council assessment and response to those risks. Thus, the following is a brief description of some examples rather than an exhaustive review.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Similarly, critical failure modes are those which have the highest consequences.

Examples if failure mode could include:

- Physical failure, collapse
- Essential service interruption

Critical assets have been identified and their typical failure mode and the impact on service delivery are summarized in Table 6.1. Comprehensive lists are provided in the individual Asset Management Plans.

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Bridges in Transport network	Collapse or load limitations	Need to divert traffic to alternate routes, reputational damage for council professionalism.
Water Treatment Plant	Processing failure – Pathogen in supplied water	Water treatment and supply interruption. Community health impacted, reputational damage, regulatory intervention.
Sewerage Network	Excessive leaks, blockage, electrical or chemical failure	Environmental contamination, reputational concerns, regulatory intervention.
Administration Buildings	Loss of Use	Service delivery/business disruption, financial and reputational loss.
Irrigation Systems.	Significant failure	Loss of services and increased cost of restoration.
Urban Drainage Network	Pipe collapse or blockage	Flooding, erosion, business and road disruption, reputational damage.

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

⁹ ISO 31000:2009, p 2

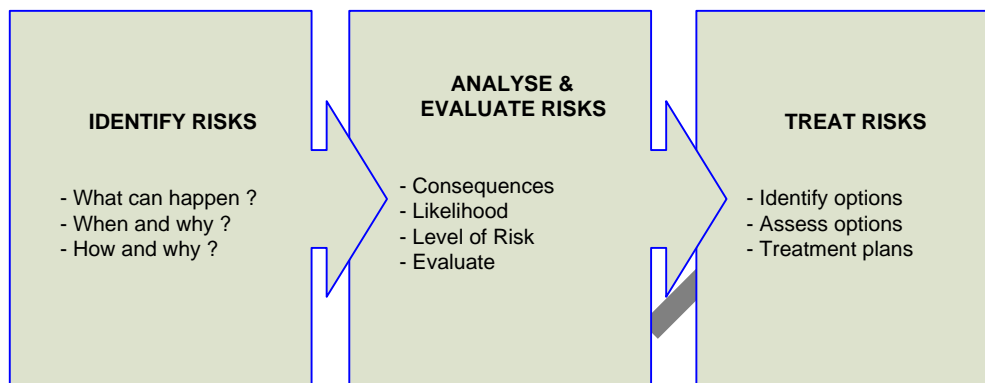
¹⁰“Enterprise Risk Management Framework”

6.2 Risk Assessment

The risk management process used in this project 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 the ISO risk assessment standard ISO 31000:2009.

Figure 6.2 Risk Management Process – Abridged



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

An assessment of risks¹¹ associated with service delivery from infrastructure assets will identify the critical risks that will result in significant loss, 'financial shock' or a reduction in service.

¹¹"Enterprise Risk Management Framework"

¹²IPWEA, 20015, IIMM, Sec 3, p9.

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to “withstand and given level of stress or demand”¹² and to respond to possible disruptions to ensure continuity of service.

Resilience is built on aspects such as robustness, response and recover planning, financial capacity and crisis leadership. Our current measure of resilience is shown in Table 6.4 which includes the types of threats and hazards, resilience and assessment and identified improvements and/or interventions.

Table 6.4: Resilience

Threat/Hazard	Resilience Actions	Improvements/Interventions
Climate variability	Infrastructure design guidelines for resilient assets.	Formalise the relationship between design guidelines and climate change resilience.
Water Treatment capacity servicing a growing population.	Demand projections and pro-active determination of facility capacity upgrades.	Treatment yield efficiencies and non-asset support through demand management influences.
Escalating Community Expectations in a fixed income environment	Transparent management practices and community education.	Improved communication of lifecycle modelling as a community education tool. Financially sustainable asset creation filters

6.4 Service and Risk Trade-Offs

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

6.4.1 What we cannot do

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

- Increased level of service for unsealed rural roads
- Increased level of service for existing recreation and open spaces
- Higher level of service on future recreation and open spaces
- Increased quality of water and sewerage treatment
- Timely renewal of sealed roads(there will continue to be a backlog)
- Additional GPTs for stormwater quality improvements
- Plus others as noted in the individual AM Plans

6.4.2 Service trade-off

If there is forecast work (Operation, maintenance, capital renewal, upgrade / new) that cannot be undertaken due to available resources, then this will result in service consequences for users. These include:

- Static or reduced level of service in the transport network
- Static or declining the level of service for recreation and open spaces experienced by the public
- Additional stormwater networks will not include quality improvement devices

- Sewerage network operation could be compromised to operate less efficiently, leading to increased costs
- Plus others as noted in the individual AM Plans

6.4.3 Risk trade-off

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

- Reputational damage relating to levels of service
- Reputational concern relating to “value” delivered to community relative to fees and charges.
- Inefficient maintenance and operation costs for aging infrastructure escalating cost burden.

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

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7. FINANCIAL SUMMARY

This section contains the financial requirements resulting from all the information presented in the previous sections of this strategic asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset performance.

7.1 Financial Indicators and Projections

Asset Renewal Funding Ratio

The Asset Renewal Funding Ratio indicates whether projected capital renewal and replacement expenditure are able to be financed in the long-term financial plan. It is calculated by dividing the projected capital renewal expenditure shown in the AM Plans by the estimated capital renewal budget provided in the long-term financial plan. Over the next 10 years, we are forecasting that we will have 86% of the funds required for the optimal renewal and replacement of assets.

While the target for this measure is nominated to be 100%, it is necessary to understand where we are in the lifecycle of our assets. Prudent asset management will match actual renewals to the need for renewal rather than simply achieving a target. For long lived assets (like water, sewerage and transport network infrastructure) there should be no expectation to renew them for many decades after they have been constructed. This (below 100%) figure should be understood in terms of renewal of short lived assets (like playground equipment and road bitumen coatings) and those long lived assets (like water mains, sewerage pipes and road base or formation layers) that were constructed prior to 50 years ago.

To simply target 100% for this score at this point in time could initiate premature renewal of assets.

7.2 Funding Strategy

The funding strategy to provide the services covered by this strategic asset management plan and supporting asset management plans is contained within the organisation's 10 year long term financial plan. The funding strategy is developed in conjunction with the AM Plans and long-term financial plan. The funding strategy considers all available sources of funding, whether from fees and charges, grants or borrowings in order to deliver a sustainable outcome. Servicing of the borrowings is accommodated within the long-term financial plan. This process is cyclic and this AM Strategy will inform future long-term financial plans as they are developed.

7.3 Valuation Forecasts

Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by the organisation and from assets constructed by land developers and others and donated to the organisation.

The depreciated replacement cost will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets

The various asset types are revalued using professional specialists on a regular timetable to ensure that the asset register is representative of "fair value" of our assets. This timetable covers a five year timeframe in accordance with Office of Local Government Guidelines.

7.4 Key Assumptions made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this strategic asset management plan and in preparing forecasts of required operating and capital expenditure and asset values, depreciation expense and carrying amount estimates. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan and risks that these may change are shown in Table 6.4.

Table 6.4: Key Assumptions made in Strategic Asset Management Plan and Risks of Change

Key Assumptions	Risks of Change to Assumptions
Budget funding pattern will remain similar to current.	Predictions across any changed asset portfolio would be impacted by whatever increase/reduction in relative budget was made.
Growth value used for predictions will continue at 0.9% as has been used from previous planning models.	Lower increases would lead to reduced levels of contributed assets and reduced need for constructed assets. Higher increases would create higher than modelled levels of asset creation and higher utilisation of existing assets leading in some cases to compromised levels of service.
Budget funding pattern will remain similar to current.	Specifically for water and sewerage, this assumption is conservative. It is anticipated that any system growth would be matched by user fees and charges that would offset any increases in costs. This model is seen to be the least risk method.
Grants that are confirmed, or based on long term history have been included. Special purpose grants have not been included in projections beyond their confirmed/announced timeframe.	There is felt to be low risk of change to grants that are confirmed or have long term history. There is definite probability that Council will be successful in gaining additional external grant funding that would assist to manage the identified growing backlog.
Borrowings will not be increased. Identified major capital will be funded from internal sources.	Increased borrowings would imply additional infrastructure is being created. The compound impact of additional debt to service and additional infrastructure to operate and maintain would be detrimental to projections in this strategy.
Borrowings will reduce as they are paid off.	Reduced outgoings to service, releasing other funds for utilisation within the organisation.
The six associated AM Plans cover the majority of infrastructure managed by Council. These are assumed to provide indication of the situation faced by Council over time.	If those other assets have significantly different impact, then they would alter the long term availability of funds to support these infrastructure assets.

7.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this strategic asset management plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management.

The estimated confidence level for and reliability of data used in this strategic asset management plan is shown in Table 6.5.

Table 6.5: Data Confidence Assessment for AM Plans summarised in Strategic AM Plan

AM Plan	Confidence Assessment	Comment
Transport AM Plan	Medium to high	The transport network is well understood and through regular maintenance activities has good knowledge of asset condition profiles. Targeted grant funding has current focus on growth and will increase the portfolio to be maintained in the future. The presence of a backlog of renewals increases focus on monitoring of actions in this asset portfolio. An external valuation is being conducted and was prioritised due to effect of recent flooding.
Urban Drainage AM Plan	Medium	Lifecycle data from financial registers has some mismatch relating to creation date for the assets. This has been corrected in short term data, but has led to some uncertainty for items beyond the 10 year timeframe. Significant amounts of this buried infrastructure are approaching the need for actual condition verification.

Water AM Plan	Medium	Portions of the pipe network are currently not mapped or included in the AM Plan source data. These are typically older assets in the former Wellington LGA. Mapping of those assets is underway and will be available for future AM Plans.
Sewerage AM Plan	Medium	Portions of the pipe network are currently not mapped or included in the AM Plan source data. These are typically older assets from the former Wellington LGA. Mapping of those assets is underway and will be available for future AM Plans.
Recreation and Open Spaces AM Plan	Medium	Many new assets have been created and early lifecycle assumptions are still to be confirmed. There is also concern that the financial creation date for many assets does not match the actual creation date, leading to some assumptions about asset life.
Buildings AM Plan	Medium to low	Building attribute information and capital details are felt to be medium to high. The uncertainty in this AM Plan relates to the operations and maintenance budgets where building operations are under control of separate functions/divisions of Council while the reporting of buildings in the AM Plan uses data that is managed independently of them. Historic AM Plans seem to have had significant “crossover” into other AM Plans through inclusion of “other structures”. This has not been included.

Over all data sources, the data confidence is assessed as medium confidence level for data used in the preparation of this strategic asset management plan.

Actions to mitigate the adverse effects of data quality are included within Table 7.2 Improvement Plan.

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8. PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices

Major changes to asset management practices identified in this plan are:

Ongoing focus on the gaps identified in the Asset Management System Maturity Assessment (AMSMA) that was done in 2020 and the related improvement plan from that. See Figure 5 for gap details.

- Harmonisation of asset creation date in the financial and engineering systems.
- Investigation of elimination of “picket fence” impact of revaluation, creating an artificial grouping of asset RUL based on condition.
- Appropriate determination of asset “parts” to enable management of major assets.
- Data review for completeness. Being completed this year for water and sewerage networks.
- Increased performance on condition assessment for items identified in the later portion of this strategy to confirm condition and thus actual need for renewal

8.2 Improvement Plan

The asset management improvement tasks identified from an asset management maturity assessment and preparation of this strategic asset management plan are shown in Table 8.2. The table also includes relevant recommendations of local government audit office.

Table 8.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	AMSMA: data system integration of separate asset systems including Buildings Plus, Asset Edge, Loftus, GIS, Civica.	Asset Working Group	Asset Working Group	Ongoing
2	AMSMA: Lifecycle Costing analysis incorporated in day to day asset and long term financial plans.	Asset Working Group	Asset Working Group	2023/2024
3	AMSMA: Level Of Service (LOS) definitions and consistent framework applied.	Finance and Asset Specialist	Asset Managers	2022/2023 in AM Plans and ongoing
4	AMSMA: Risk identification and awareness including threats and opportunities in a consistent framework.	Finance and Asset Specialist	Asset Managers	2022/2023 in AM Plans and Ongoing
5	AMSMA Criticality methodology and awareness improvement.	Finance and Asset Specialist	Asset Managers	2022/2023 in AM Plans Ongoing
7	Asset creation date harmonisation between financial and engineering attribute systems.	Asset Managers	Asset Managers	Ongoing
9	Componentisation information generating throughout project lifecycle.	Finance and Asset Specialist	Asset Managers	Ongoing
10	Review of asset data for “completeness”: Capture “found assets”, inspect and validate existing assets.	Asset Managers	Asset Managers	2022/2023
11	Increased performance of appropriate condition assessment to confirm asset condition and reliably predict renewal and upgrade necessity.	Asset Managers	Asset Managers	2022/2023 in AM Plans Ongoing
12	Review fair value based on observable unit rates.	Finance and Asset Specialist	Asset Managers	2022/2023

14	Capital work in progress status reporting and timely transfer to asset register.	Finance and Asset Specialist	Asset Managers	2022/2023
16	Develop integration between strategic plans, asset plans and long term financial plans.	CFO and Senior Management	Asset Managers	2022/2023

8.3 Monitoring and Review Procedures

The strategic asset management plan is reviewed each year to provide insight into the impact of approved budgets and asset situation. This annual review provides opportunity to observe the projected interaction from amended budget strategies in a timely manner. It also causes annual review of assets with predicted renewal or upgrades slightly outside of the normal budget duration.

8.4 Performance Measures

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

- The degree to which the required projected expenditures identified in this strategic asset management plan are incorporated into the organisation's long term financial plan,
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the summarised asset management plans,
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the organisation's Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving an appropriate target.

9. REFERENCES

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10. APPENDICES

Appendix A	Levels of Service Summaries for Services
Appendix B	Projected 10 year Operation and Maintenance Expenditures
Appendix C	Projected 10 year Capital Renewal and Replacement Works Program
Appendix D	Projected 10 year Renewal Works Program
Appendix E	Deferred Initiatives and Capital Works proposals

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Appendix A Summary Technical Levels of Service

Dubbo Regional Council asset management team are refining how these are recorded and described. We strongly identify with the services that are undertaken in management of these assets, being operation, maintenance, renewal and upgrade/new and have budgets aligned to those service attributes. While we aspire to a system that would describe and relate service objectives across current performance, desired optimal lifecycle costs and agreed sustainable positions, those measures are not adequately developed to present at this time. Such detail needs to be based upon a higher level of confidence in the asset data. The measures are encompassed in the technical specifications used in the management of these various infrastructure assets and are described in greater detail in the specific Asset Management Plans. The technical specifications are reviewed in line with national developments relevant to the specific asset portfolios

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Appendix B Projected Operation and Maintenance Expenditure

Projected operation and maintenance expenditures included in the Long-Term Financial Plan are shown below in \$'000s.

Year	Transport \$	Recreation \$	Buildings \$	Urban Drainage \$	Water \$	Sewerage \$
2023	23,803	9,928	9,280	745	18,777	12,219
2024	23,994	9,970	8,937	753	19,518	12,610
2025	24,159	10,149	8,982	770	20,099	11,984
2026	24,350	10,289	9,063	797	20,312	11,277
2027	24,486	10,132	9,144	825	20,555	12,709
2028	24,623	10,132	9,227	830	20,907	13,156
2029	24,751	10,132	9,310	835	21,284	13,601
2030	24,879	10,132	9,393	840	21	14,053
2031	25,006	10,132	9,478	846	22	14,624
2032	25,134	10,132	9,563	851	22	15,083
2033	25,262	10,132	9,649	856	23	15,539
2034	25,390	10,246	9,736	861	23,789	15,993
2035	25,518	10,246	9,824	866	24,285	16,444
2036	25,647	10,246	9,912	901	24,724	16,908
2037	25,775	10,246	10,002	871	26,414	17,374
2038	25,903	10,246	10,092	876	26,904	17,841
2039	26,031	10,246	10,182	881	27,395	18,309
2040	26,160	10,246	10,274	886	27,889	18,778
2041	26,288	10,246	10,366	891	28,384	19,248
2042	30,076	10,246	10,457	896	28,881	19,720

Appendix C Projected Capital Renewal/Replacement Program

Transport:

Renewal of assets as they reach the end of their life will continue to be focus, including resealing and resheeting programs. Renewal/Replacement will be performed to the current expected service level, with an understanding that level of service expectations will continue to creep higher over time.

Often, upgrades (like lane widening) are linked to this work and will be co-ordinated to align. External grant funding is usually linked to upgrades/growth. Continued utilisation of grants will be required to keep pace with asset consumption.

Water:

Renewal of assets as they reach the end of their life will continue to be focus, especially mechanical and electrical items in treatment plants and pump-stations and identified deteriorated pipework programs. Renewal/Replacement will be performed to the current expected service level. Funding for this work is from the related internal fund.

Sewerage:

Renewal of assets as they reach the end of their life will continue to be focus, especially mechanical and electrical items in treatment plants and pump-stations and identified deteriorated pipework programs. Renewal/Replacement will be performed to the current expected service level. Funding for this work is from the related internal fund

Urban Drainage:

Renewal of assets as they reach the end of their life will continue to be focus, especially deteriorated pipework programs. Renewal/Replacement will be performed to the current expected service level.

Recreation and Open Spaces:

The recreation and open space assets undergo significant inspection and maintenance to sustain their safety in use. Many assets in this portfolio would have pressure to renew based upon “style” rather than functionality. Renewal will be based upon available funding available at the time the maintenance is no longer the suitable lifecycle choice.

Buildings:

There is no anticipated renewal program for whole buildings, however, there are some candidates where the fitout or finishes assets are due for renewal. That is, while whole buildings are not anticipated to be renewed, there will be work performed to support the ongoing utility of those buildings to modern expectations.

Appendix D Projected Acquisition Works Program

Transport:

Replacement of six timber bridges with concrete constructed bridges. While these bridges will replace the existing bridges, they represent a significant upgrade to the existing situation and thus are included as the acquisition forecast. There is an anticipated \$4M per year after that time to support mostly urban growth and possible sealing programs for roads that have increased utilisation and advance into higher classifications. Note that the addition of seal to a road increases commitment to future renewals costs for that level of service.

Water:

There is a separate grant being processed for future water security that is not included in this strategy, nor the current AM Plan. There is also a large predicted acquisition in 2036 and 2037 that relates to Expansion of the Dubbo water treatment plant and renewal of the existing plant. While this is currently identified in a single year, any decision to proceed will depend on actual demand projections. It is probable that as this work timing approaches, that work would be spread over multiple years to enable efficient management of the design and construction activities. There is also an ongoing baseline of new assets anticipated to service urban growth.

Sewerage:

As with “Water”, there will be some impact from the grant materials for future water security that is not included. Other than baseline growth associated to servicing urban growth there is no other identified acquisition

Urban Drainage:

There is planned acquisition of additional Gross Pollutant Traps (GPTs) in the first four years of the plan. We are exploring the opportunity to introduce additional GPTs to outfalls that are not currently protected by such devices, but these are not shown in this plan. Their individual high cost would corrupt the message of the AM Plan and this strategy.

Recreation and open spaces:

There is intention to undertake acquisition for the Wellington Pedestrian Bridge, Brocklehurst Playground as these are largely supported by external funding. Liveability is not seeking to acquire additional assets at this time.

Buildings:

There are some minor incidental acquisitions of buildings that are currently underway. The buildings are generally associated to land acquisitions where the buildings already exist on land that is being purchased.

Appendix E Deferred Initiatives and Capital Works proposals

The plan as proposed generally includes all known and necessary initiatives and capital works.

These then project as the funding gaps that are observed over the timeframe of this plan. The proposed works and initiatives are such a scale, scope and importance that executive management need to understand them and determine how they will be managed.

The AM Plan authors do not have authority to introduce the risk that would be initiated by deferral of those items.

Items that have not been included include the following:-

- Additional GPTs for stormwater locations where such devices would function to enhance environmental outcomes.
- Road widening and alignment adjustments that upgrade the assets, but would introduce premature renewals or treatment of existing assets

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