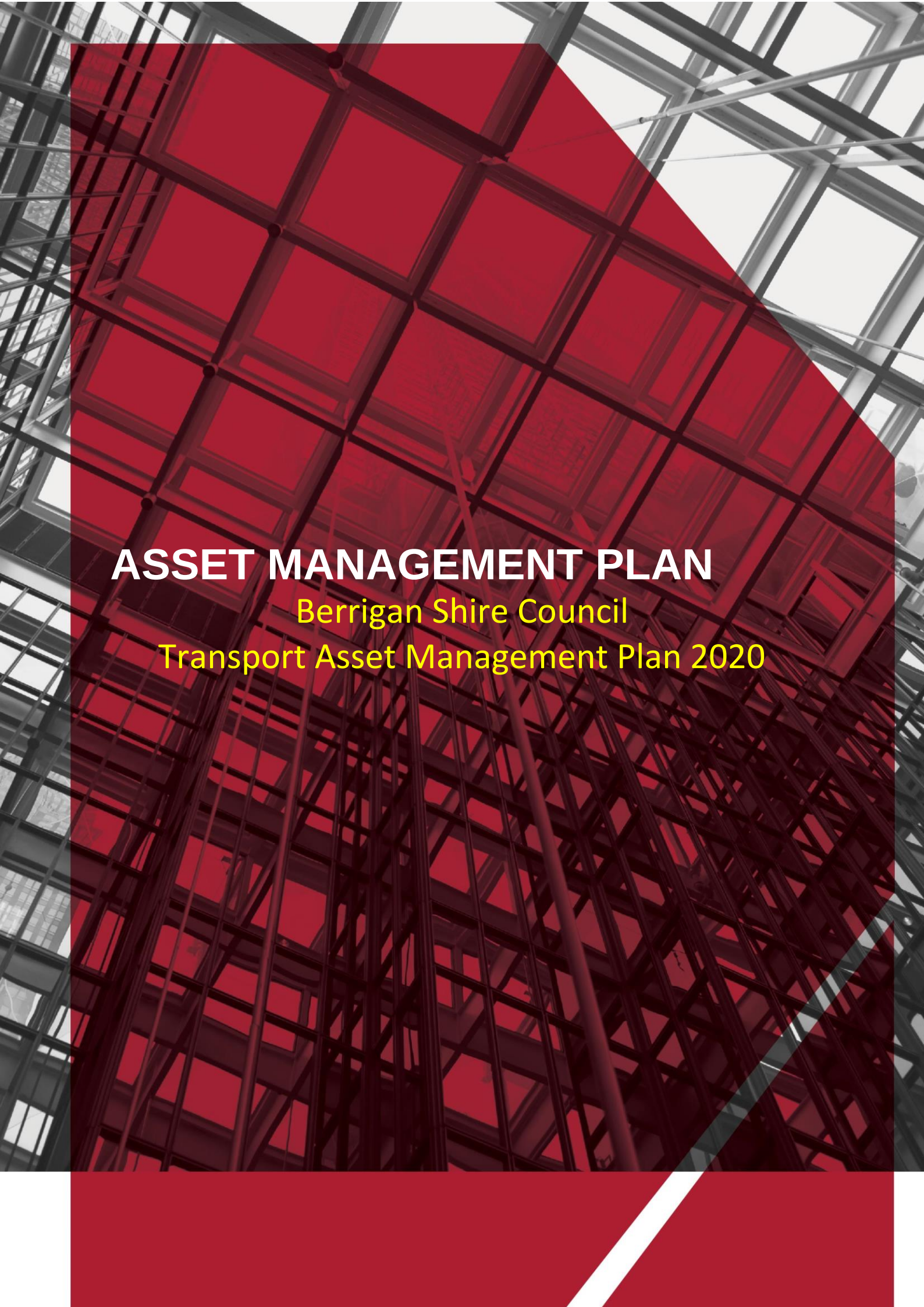


ASSET MANAGEMENT PLAN

Berrigan Shire Council

Transport Asset Management Plan 2020

Document Control	Asset Management Plan				
Document ID :					
Rev No	**Date**	**Revision Details**	**Author**	**Reviewer**	**Approver**
V1	20.01.2021		ESM		

The entity can choose either template to write/update their plan regardless of their level of asset management maturity and in some cases may even choose to use only the Executive Summary.

The illustrated content is suggested only and users should feel free to omit content as preferred (e.g. where info is not currently available).

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

Contents

1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

Asset management planning is a comprehensive process ensuring delivery of services from infrastructure is financially sustainable.

This Asset Management Plan (AM Plan) details information about infrastructure assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide over the 20 year planning period. The Asset Management Plan will link to a Long-Term Financial Plan which typically considers a 10 year planning period.

This plan covers the infrastructure assets that provide transport facilities including roads, bridges, carparks, kerb and gutter and footpaths.

1.2 Asset Description

The Transport assets network comprises:

Asset category	Dimension (km)	Replacement Value ($000)
Arterial Road	9.924	$4,340.10
Asphalt Footpath	7.680	$358.98
Asphalted Concrete Footpath	1.502	$599.56
Barrier Kerb and Gutter	62.36	$6,610.12
Brick Kerb and Gutter	0.196	$20.77
Carpark	0.340	$272.65
Collector Gravel Road	17.533	$1,235.06
Collector Sealed Road	158.905	$27,936.90
Concrete Footpath	24.094	$ 3,021.88
Firetrail	37.915	$2,036.76
Gravel Footpath	2.983	$53.72
Kerb Only	5.539	$587.18
Mountable Kerb and Gutter	58.211	$6,170.38
Pattern Concrete Footpath	1.503	$514.24
Paving Footpath	0.160	$66.65
Property Access Rural	**377.465**	**$16,346.04**
Property Access Urban	**24.587**	**$1,083.92**
Quarry Dust Footpath	13.037	$274.86
Regional Road	107.632	$26,661.35
Resident Rural Gravel	**300.208**	**$19,561.93**
Resident Rural Sealed	**209.646**	**$26,218.71**
Resident Urban Gravel	**5.303**	**$332.37**
Resident Urban Sealed	**100.598**	**$20,909.81**
Formed	6.412	$338.00
Vehicular Track	21.148	$727.12
Road Bridge	0.497	$7,032.32
Spoon Drain	0.083	$7.29
Swing Bridge	0.035	$47.25
TOTAL		**$173,365.90**

The above infrastructure assets have significant total renewal value estimated at $173,366,000

1.3 Levels of Service

Our present funding levels are sufficient to continue to provide existing services at current service levels in the medium term.

The Planned Budget should be sufficient to maintain existing service levels for the Transport assets with some gradual improvement in road width and the footpath and kerb and gutter networks.

1.4 Future Demand

The main demands for new services are created by:

- Population Increase will result in increased vehicle movements, increase the need for footpaths and kerb & gutter and roads.
- Increased demand for routes for Restricted Access Vehicles could result in decreased vehicle movements, however, it will result in increased intersection seal damage, increased operational costs evaluating route applications and increased pavement and shoulder damage.
- The aging demographic of our population will result in increased need for footpaths.

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

- Assets for new developments will generally be donated by the developer.

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AM Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AM Plan may be prepared for a range of time periods, it typically informs a Long-Term Financial Planning period of 10 years. Therefore, a summary output from the AM Plan is the forecast of 10 year total outlays, which for the Transport assets is estimated as $46,541,120 or $4,654,112on average per year.

1.6 Financial Summary

1.6.1 What we will do

Estimated available funding for the 10 year period is $58,963,450 or $5,896,345 on average per year as per the Long-Term Financial plan or Planned Budget. This is 102% of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The Informed decision making depends on the AM Plan emphasising the consequences of Planned Budgets on the service levels provided and risks.

The anticipated Planned Budget for Transport assets gives a excess of $124,223 on average per year of the forecast lifecycle costs required to provide services in the AM Plan compared with the Planned Budget currently included in the Long-Term Financial Plan. This is shown in the figure below.

Forecast Lifecycle Costs and Planned Budgets

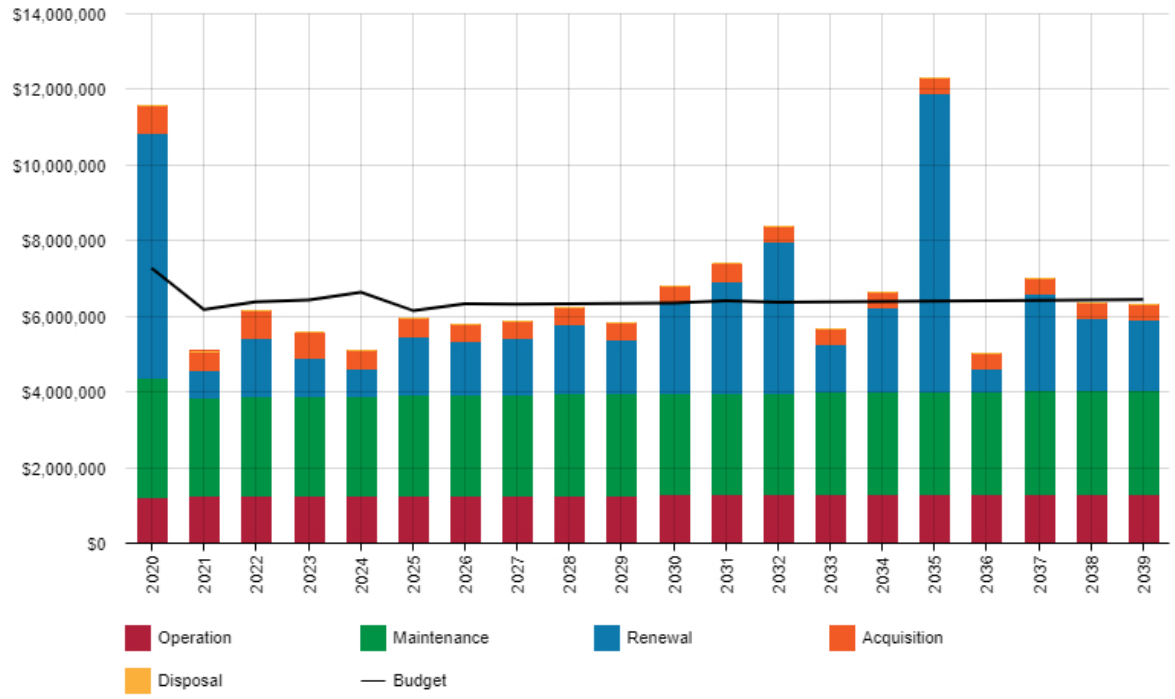


Figure Values are in current dollars.

We plan to provide Transport asset services for the following:

- Operation, maintenance, renewal and upgrade of roads, bridges, carparks, kerb and gutter and footpaths to meet service levels set by this plan and provided for in annual budgets.

1.6.2 What we cannot do

We currently allocate enough budget to sustain these services at the proposed standard, however, we do not allocate sufficient budget to provide all new services being sought or identified as being below adopted service levels. Works and services that cannot be provided under present funding levels are:

- Widening of all bridge structures to the adopted service levels.
- Widening of all roads to the adopted service levels.
- Extension of footpath network to extend identified in the Pedestrian Access and Mobility Plans
- Extension of kerb and gutter network to service all residential streets.
- Upgrading of Lower River Road to provide access to all residences in a 1 in 5 year flood event.

1.6.3 Managing the Risks

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

The identified risk consequences and treatment plans are captured in Table 6.2: Risks and Treatment Plans.

The main risk consequences are:

- Road Safety is compromised.
- Pedestrian Safety is compromised.
- Street amenity is reduced where open earth drains remain.
- Greater risk of personal and property damage and possible compensation claims against Council.

- Increased maintenance costs where road width is not fit for traffic conditions.

We will endeavor to manage these risks with available funding by:

- Maintaining a high level of inspection of assets and correction of defects
- Improving networks to meet greater level of conformance with adopted service levels

1.7 Asset Management Practices

Our systems to manage assets include:

Council's 'Practical' accounting software and 'AssetFinda' asset management system in conjuction with MapInfo mapping and database.

Assets requiring renewal/replacement are identified from either the asset register or an alternative method. These methods are part of the Lifecycle Model.

- If Asset Register data is used to forecast the renewal costs this is done using the acquisition year and the useful life,
- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems (such as Pavement Management Systems) and may be supplemented with, or based on, expert knowledge.

The Asset Register was used to forecast the renewal life cycle costs for this Asset Management Plan.

1.8 Monitoring and Improvement Program

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

- Condition rating of Assets
- Review remaining life of assets
- Componentisation of assets such as drainage structures, signs and traffic facilities including review of unit costs
- Develop chart of accounts to allow separation of operation costs and maintenance costs and to split the maintenance costs into reactive, planned and cyclic and to separate capital expenditure into renewal, new and upgrade works.
- Investigate options to integrate Asset Management system with the Accounting / financial system
- Review customer request /complaint settings in customer request management system to reflect desireable data being collected
- Ensure all assets in Asset Mangement System have a condition score

2.0 Introduction

2.1 Background

This Asset Management Plan communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the long term planning period.

The asset management plan is to be read with the Berrigan Shire Council's Asset Management Policy (2020), and the following associated planning documents:

Berrigan Shire 2023
Berrigan Shire Council Asset Accounting Policy 2019
Engagement Framework 2011
Resourcing Strategy 2013-2023 (includes Asset Management Strategy and LTFP)
Delivery Program 2020-2024
Liveability and Healthy Ageing Strategy Action Plan 2013-2017
Berrigan Pedestrian and Mobility Plan 2020
Barooga Pedestrian and Mobility Plan 2020
Finley Pedestrian and Mobility Plan 2020
Tocumwal Pedestrian and Mobility Plan 2020

Berrigan Shire Council is well advanced in Asset Management practices. This is the fourth version of asset management plans prepared for these assets using the NAMS process with the initial plan being developed in 2009. All plans have been developed by Council staff and processes have been set up for inspection and management of assets along with long term financial planning to ensure the assets are maintained and improved to satisfy adopted service levels.

The infrastructure assets covered by this Asset Management Plan include roads, bridges, carparks, kerb and gutter and footpaths. For a detailed summary of the assets covered in this Asset Management Plan refer to Table 5.1.1 in Section 5.

These assets are used to provide an adequate transport network to be used by road transport, motor vehicles, bicycles, pedestrians and people using mobility aids.

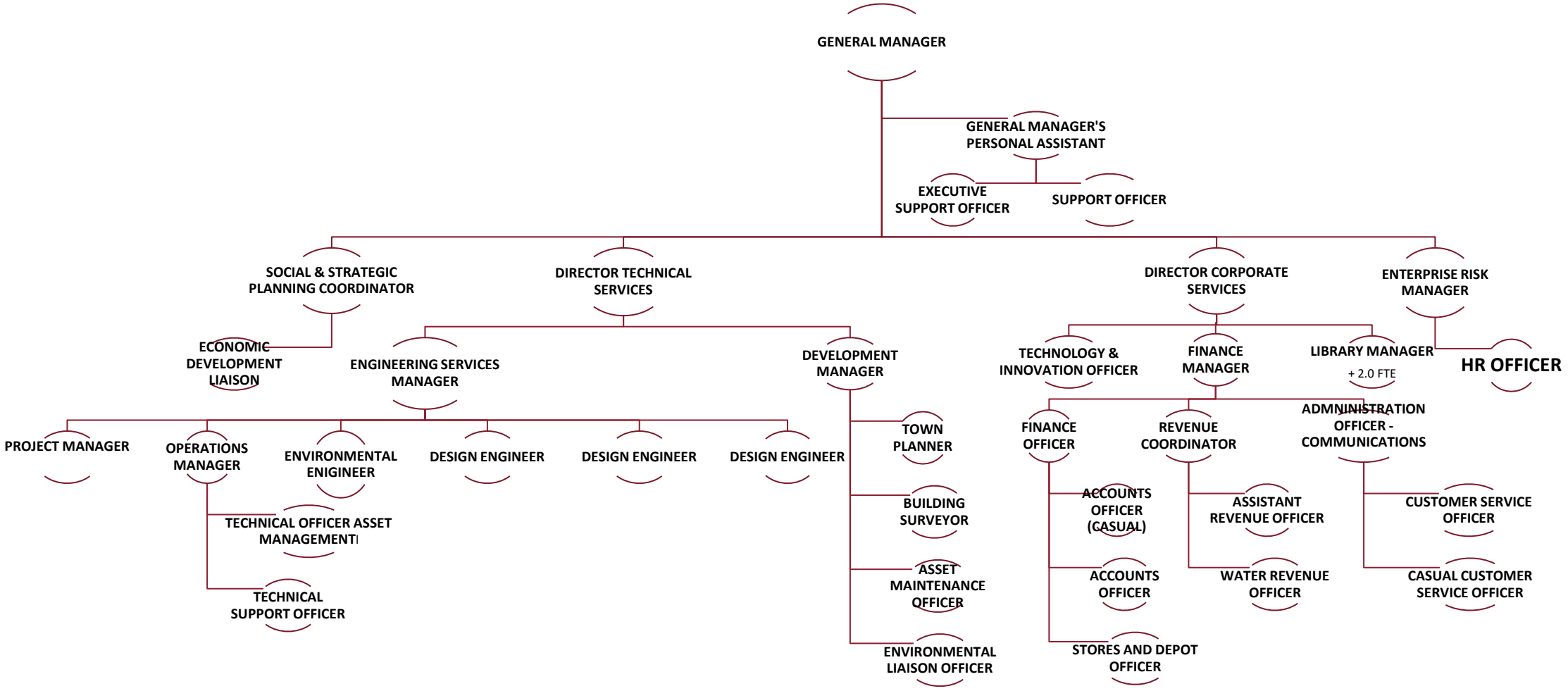
The infrastructure assets included in this plan have a total replacement value of **$173,365,905**
.

Key stakeholders in the preparation and implementation of this Asset Management Plan are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Shire Councillors	• Represent needs of community/shareholders, • Allocate resources to meet the organisation's objectives in providing services while managing risks, • Ensure organisation is financial sustainable.
State Local Member	• Represent community interest
Transport NSW	• State department responsible for management of Federal and State Highways and Murray River Crossings and traffic facilities on all roads. • Has control of works carried out by Council on Regional Roads and provides funding for works on these roads.
Murray Irrigation	• CAAT agreement for maintenance and improvement of bridges and culverts conveying irrigation water across roads. • Interest in drainage from roads and streets
West Corurgan Private Irrigation District	• Interest in drainage from roads and streets • Interest in irrigation bridges and culverts
Local Land Services	• Coordinate management strategies within the Murray Catchment for the sustainable use of its natural resources and protection of native vegetation. • Travelling Stock Routes • Vegetation
The General Public	• Road network that provides reliable and safe transport connectivity between homes, commercial centres, employment locations and recreation locations.
Local Businesses	• Road network adequate to transfer freight throughout the shire. • Road network adequate for customers to access their businesses and for freight transfers to and from.
National Heavy Vehicle Regulator	• Road network adequate for restricted access vehicles • Road network to have designated freight networks.
NSW Department of Infrastructure	• Funding organisation for grants for roadworks.

Our organisational structure for service delivery from infrastructure assets is detailed below,



2.2 Goals and Objectives of Asset Ownership

Our goal in managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are

- Levels of service – specifies the services and levels of service to be provided,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

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

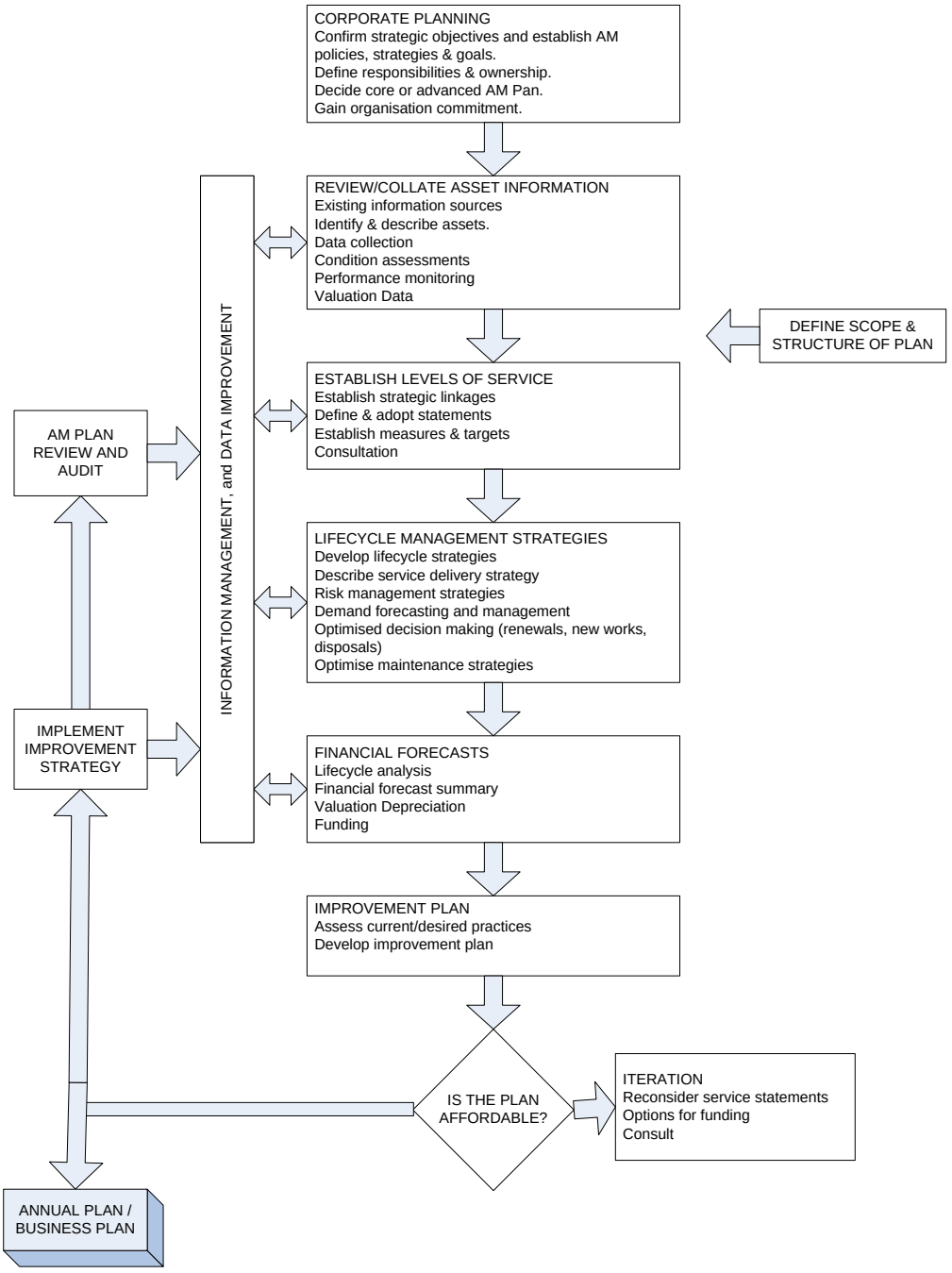
- International Infrastructure Management Manual 2015 [1]
- ISO 55000[2]

A road map for preparing an Asset Management Plan is shown below.

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

[1] Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13

[2] ISO 55000 Overview, principles and terminology


CORPORATE PLANNING
Confirm strategic objectives and establish AM policies, strategies & goals.
Define responsibilities & ownership.
Decide core or advanced AM Pan.
Gain organisation commitment.
REVIEW/COLLATE ASSET INFORMATION
Existing information sources
Identify & describe assets.
Data collection
Condition assessments
Performance monitoring
Valuation Data
DEFINE SCOPE & STRUCTURE OF PLAN
ESTABLISH LEVELS OF SERVICE
Establish strategic linkages
Define & adopt statements
Establish measures & targets
Consultation
AM PLAN REVIEW AND AUDIT
INFORMATION MANAGEMENT, and DATA IMPROVEMENT
LIFECYCLE MANAGEMENT STRATEGIES
Develop lifecycle strategies
Describe service delivery strategy
Risk management strategies
Demand forecasting and management
Optimised decision making (renewals, new works, disposals)
Optimise maintenance strategies
IMPLEMENT IMPROVEMENT STRATEGY
FINANCIAL FORECASTS
Lifecycle analysis
Financial forecast summary
Valuation Depreciation
Funding
IMPROVEMENT PLAN
Assess current/desired practices
Develop improvement plan
IS THE PLAN AFFORDABLE?
ITERATION
Reconsider service statements
Options for funding
Consult
ANNUAL PLAN / BUSINESS PLAN

2.3 Community Consultation

This asset management plan includes community comments and feedback on service levels and the condition of the Council's transport network prior to adoption by the Council. This revision of the asset management plan will assist the Council and the community match the level of service needed by the community, service risks and the benefits with our community's ability and willingness to pay for the service.

3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

The last review of this asset management (2014) was conducted in conjunction with the Council's review of its Pedestrian Access and Mobility Plans (Barooga, Berrigan, Finley and Tocumwal). This consultation and engagement process included town-based street meetings. At these meetings Shire residents were given information on Council's 10-year program of works with resident feedback sought on the proposed service levels. Comment, at these meetings, was also sought on what works also needs be prioritised.

Since this March 2014 program of engagement the key messages which inform the Council's Transport Asset Management Plan 2014 – 2019 and the Council's Pedestrian Access and Mobility Plans and this review of these plans remains unchanged. These messages are that the Council's Transport Asset Plan and Pedestrian Access and Mobility Plan (PAMP) must:

1. Ensure that the asset management of our Roads, Streets and Bridges is financially sustainable.
2. Meet legislative requirements for asset management and pedestrian access and mobility
3. Ensure Council decision-making on the management of Roads, Bridges, Footpaths, Kerb and Guttering is informed by community consultation, feedback from other stakeholders and road users.
4. Ensure that Council has the resources and operational capabilities it needs over the life of its Transport Asset Management Plan to meet the service levels identified in the asset management plan and PAMP.

Engagement Program 2014 - 2020

The Council, per its Community Engagement Framework, is committed to a rolling program of engagement with Council residents, other stakeholders and service users. The Council's transport and PAMP network contributes to the social and economic fabric of our communities therefore, as part of the Council's rolling program of community engagement in the development of its Town Landscape Management Plan's (2014 – 2018), Precinct Landscape Management Plan's (Tocumwal Foreshore Master Plan 2016, Barooga Foreshore Master Plan 2016, Finley Railway Park Master Plan 2018, Hayes and Apex Park – Berrigan Master Plans 2019), also the 2016 review of the Council's Community Strategic Plan 2027 and the 2018 review of the Berrigan Shire Council Liveability and Disability Action Plan 2017 – 2021 a comprehensive program of community engagement which is documented in these plans has informed the development and adoption by the Council of these plans.

The Council's Town Landscape Management Plans include actions about the 'walkability' of our pedestrian access, the separation of road uses: access for local traffic, parking and opportunities for the resolution of heavy vehicle parking and other long vehicle parking in our urban areas. The precinct landscape plans provide detailed information on service levels and expectations for active transport in particular the connectivity of routes, also service levels for local access and parking requirements. The Council's review of its Community Strategic Plan 2016 provided residents, visitors and local business with further opportunities to comment on the connectivity and service levels and priorities with the maintenance of existing transport network, pedestrian access and trails between our towns identified as central to strengthening the liveability of our towns. This theme was expanded by community feedback in the development of the Council's Liveability and Disability Action Plan 2017 with community feedback highlighting the need to continue the Council's investment in improving pedestrian access and parking.

Specific feedback on service users expectations and experience of the Council's transport infrastructure network was also sought from community members as part of the Berrigan Shire Council's Residents and Business Satisfaction Survey 2015. This statistically valid survey was conducted by Nexus Research Pty Ltd. This 2015 survey confirmed that current levels of service be maintained. Overall, there were no comments received suggesting an increase in current service levels i.e.: gravel roads upgraded to sealed etc.

Specific comments drawn from the Council's rolling program of community engagement includes the need to investigate and where possible address the following:

- The intersection of Vermont Street, Golf Course Road and Collie Street, Barooga
- The intersection of Murray Street and Pinnuck Street, Finley safety for pedestrians Murray Street – NSW Transport controlled road
- Long vehicle parking in Finley – adjacent to or near Murray Street, retail precinct
- Heavy vehicle parking in Berrigan – opposite Hayes Park, Jerilderie Street, Berrigan

- Heavy vehicle and long vehicle parking in Tocumwal – Dean Street, Tocumwal and also various locations within Tocumwal
- Pedestrian access to Finley Hospital and Finley Regional Care – Dawe Avenue, Finley – condition of parking bays Dawe Avenue, Finley
- Safety of angle parking for disabled parking bays Jerilderie Street, Tocumwal and Murray Street, Finley
- Connectivity – footpaths and signage from off street car parking areas and Finley's railway park
- The camber and undulation of the footpath network in various locations

During the course of the development of the Town Landscape Plans no substantive comments were received requesting a change to overall service levels for footpaths and kerb and guttering. Observations, as has been the case previously, were made by some property owners that they would like the footpath network extended to their side of the street. There is, however, limited support from property owners for the installation of a footpath if the NSW the property owner is required to pay a contribution toward the path's installation. Comments continue to be received in relation to weed management – in particular the control of Bindi and the difficulty this caused for property owners.

3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of Berrigan Shire Council's vision, mission, goals and objectives.

Our vision is:

In 2027 we will be recognised as a Shire that builds on and promotes our natural assets and advantages to create employment and economic activity to attract residents, families and tourists.

Relevant organisation goals and objectives and how these are addressed in this asset management plan are:

Table 3.2: Organisation Goals and how these are addressed in this Plan

Outcome	Objective	How Goal and Objectives are addressed in AM Plan
Sustainable and Natural Built Landscapes	Support sustainable use of our natural resources and built landscape	Ensuring that Council's services and infrastructure are provided in a sustainable manner, with the appropriate levels of service to residents, visitors and the environment. (Asset Management Strategy 2019)
	Connect and protect our communities	
Good Government	Ensure effective governance by Council of Council operations and reporting	Establishing processes that integrate asset management and community strategic planning with Council corporate and long-term financial planning. Creating an environment where all Council employees take an integral part in overall management of Council assets by creating and sustaining asset management awareness throughout the Council. Meeting legislative requirements for asset management. Ensuring resources and operational capabilities are identified and responsibility for asset management is allocated. Demonstrating transparent and responsible asset management processes that align with demonstrated best practice. (Asset Management Strategy 2019)
Supported and Engaged Communities	Create safe, friendly and accessible communities	Safe paths and travel in and between our towns. Age friendly pedestrian access in and between open space, public buildings and retail centres (Liveability and Healthy Ageing Strategy 2017-2021)
	Support community engagement through life-long learning, culture and recreation	
Diverse and Resilient	Strengthen and diversify the local economy	Develop and promote Berrigan Shire regional transport and freight infrastructure. (Economic Development Strategy 2019-2023)
	Connect local, regional and national road, rail and aviation infrastructure	

The Council will exercise its duty of care to ensure public safety in accordance with the infrastructure risk management plan prepared in conjunction with this AM Plan. Management of infrastructure risks is covered in Section 5.2

3.3 Legislative Requirements

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

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act 1993 No 30	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Environmental Planning and Assessment Act 1979 No 203	Requirement for Local Environmental Plans and Development Control Plans. Provides for Council control of development of towns and approval of infrastructure expansion.
Local Land Services Act 2013 No 51	Requirement for ongoing management plan. Promotes the coordination of activities within catchment areas. Under the provision of this Act, Local Catchment Management Authorities oversee this process in the region. Also oversee travelling stock routes
Soil Conservation Act 1938 No 10	Preservation of water course environment.
Work Health and Safety Act 2011 No 10	Impacts all operations in relation to safety of workers and the public. Council's responsibility to ensure health, safety and welfare of employees and others at places of work.
Roads Act 1993 No 33	Provides authority to Council for administration and development of roads and streets
Road Transport Act 2013 No 18	Sets requirements for vehicles and operators using roads.
Transport Administration Act 1988 No 109	Provides authority to Roads and Traffic Authority for management of roads.
Australian Road Rules	Sets requirements for vehicles and operators using roads.
Heavy Vehicle (Adoption of National Law) Act 2013 No 42 Heavy Vehicle National Law Act 2013 No 42a	Establishes a national scheme for facilitating and regulating the use of heavy vehicles on roads in a way that-- (a) promotes public safety; and (b) manages the impact of heavy vehicles on the environment, road infrastructure and public amenity; and (c) promotes industry productivity and efficiency in the road transport of goods and passengers by heavy vehicles; and (d) encourages and promotes productive, efficient, innovative and safe business practices.

3.4 Customer Values

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

Customer Values indicate:

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

Table 3.4: Customer Values

Service Objective:

Customer Values	Customer Satisfaction Measure	Current Feedback	Expected Trend Based on Planned Budget
To be able to drive/ride on roads and streets that are safe and functional.	Customer Requests received and periodic community consultation.	Customers are reasonably happy with the current level of service.	Council budgets for continual improvement of the road network and therefore it is expected that the trend will be greater satisfaction
To be able to walk on footpaths and tracks that are safe and functional.	Customer Requests received and periodic community consultation.	Customers are reasonably happy with the current level of service.	Council budgets for continual improvement of the road network and therefore it is expected that the trend will be greater satisfaction
To have kerb and gutter in urban areas that is safe and functional and enhances the amenity of the neighbourhood	Customer Requests received and periodic community consultation.	There are current issues with damaged/deformed gutters and unserviced areas.	Council budgets for continual improvement of the road network and therefore it is expected that the trend will be greater satisfaction

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Quality How good is the service … what is the condition or quality of the service?

Function Is it suitable for its intended purpose …. Is it the right service?

Capacity/Use Is the service over or under used … do we need more or less of these assets?

In Tables 3.5.1 to 3.5.4 under each of the service measures types (Quality, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current funding level.

These are measures of fact related to the service delivery outcome e.g. number of occasions when service is not available, condition %'s of Very Poor, Poor/Average/Good, Very Good and provide a balance in comparison to the customer perception that may be more subjective.

Table 3.5.1: Sealed Roads Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Rideability Visibility	Customer Requests Customer Requests	8 2	Expected to trend down
	Confidence levels		Medium	Medium
Function	Meet user requirements for: • Accessibility • Road width • Traffic management	Customer Requests	 1 1 1	Expected to trend down
	Confidence levels		Medium	Medium
Safety	Safe, accessible network	Accident Reports Customer Requests	1 1	Expected to trend down
	Confidence levels		Medium	Medium

Table 3.5.2: Unsealed Roads Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Rideability Visibility	Customer Requests Customer Requests	17 1	Expected to trend down
	Confidence levels		Medium	Medium
Function	Meet user requirements for: • Accessibility • Road width • Traffic Management	Customer Requests	 4 1 29	Expected to trend down
	Confidence levels		Medium	Medium
Safety	Safe, accessible network	Accident Reports Customer Requests	0 14	Expected to remain the same Expected to trend down
	Confidence levels		Medium	Medium

Table 3.5.3: Footpaths Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Surface Lighting	Customer Requests Customer Requests	14 1	Expected to trend down
	Confidence levels		Medium	Medium
Function	Meet user requirements for: • Accessibility • Location	Customer Requests	 1 0	Expected to remain the same
	Confidence levels		Medium	Medium
Safety	Safe, accessible network	Incident Reports Customer Requests	11 6	Expected to trend down
	Confidence levels		Medium	Medium

Table 3.5.4: Kerb & Gutter Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Flooding/Amenity	Customer Requests	4	Expected to trend down
	Confidence levels		Medium	Medium
Function	Meet user requirements for: • Accessibility • Location	Customer Requests	 0 0	Expected to remain the same
	Confidence levels		Medium	Medium
Safety	Damage	Customer Requests	9	Expected to trend down
	Confidence levels		Medium	Medium

3.6 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

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

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.[3]

[3] IPWEA, 2015, IIMM, p 2|28.

3.6.1 Adopted Levels of Service Road Width and Clearzones

The following tables 3.6.a to 3.6.c set out the adopted desirable standards for road width and clearzone distance.

Table 3.6.a - Road Hierarchy

Road Classification No.	Road Classification	Standard	Pavement/Seal Width	Lane Width	Typical Warrants				
					Traffic Counts	% Heavy Vehicles	No. of Homes/Km	Mail Run	School Buses/Day
	Highways (RTA Determined)								
1	**Regional Roads**	Seal	8.0m	3.5m	>300 AADT	n/a	n/a	n/a	n/a
2	**Arterial Roads**	Seal	8.0m	3.5m	>300 AADT	>20%	n/a	n/a	n/a
3	**Collector Roads**	Seal	7.5m	3.25m	>80 AADT	>20%	>3 homes/km	>1	>1
	Collector Roads	Gravel	6.5m	3.25m	<80 AADT				
4	**Residential Access**	Seal	6.2m	3.1m	>80 AADT	>20%	>3 homes/km	>1	>1
	Residential Access	Gravel	6.2m	3.1m	<80 AADT		1 or more homes/km		
5	**Property Access**	Seal	6.2m	3.1m	>80 AADT	>30%	No homes		
	Property Access	Gravel	5.0m	Shared 3.5m	<80>10 AADT	>20%	No homes		
	Property Access	Formed	5.0m	Shared 3.5m	<10 AADT		No homes		
	Property Access	Unformed	n/a		<1 AADT		No homes		
NOTES:									
		1. For a road to be considered for upgrading from formed to gravel or gravel to seal it must meet traffic count warrants plus 1 of the other 4 warrants.							
		2. Priority for works will be given to roads meeting the most warrants.							
		3. Urban streets construction standards determined on an individual basis depending on site conditions, traffic and in accordance with the Council's Subdivision Code.							

Clear Zones

Berrigan Shire Council adopted the Roadside Hazard Treatment Policy (Jan 2012). This policy set desired lane widths and these have been subjected to minor amendments to suit current conditions. They are set out in Table 3.6.b and clear zones in Table 3.6.c below and the Roadside Hazard Treatment Policy should be amended accordingly.

Table 3.6.b		
Road Classification	**Design AADT (vpd)**	**Design Lane Width (m)**
Sealed Roads		
Regional Roads	1500	3.5
Arterial Roads	800	3.5
Collector Roads	300	3.25
Residential Access	200	3.1
Property Access	200	3.1
Unsealed Roads		
Collector Roads	100	3.25
Residential Access Roads	100	3.1
Property Access Roads	100	Shared 3.5

Table 3.6.c				
Road Classification	**Design AADT (vpd)**	**Design Lane Width (m)**	**Minimum Clear Zone (m)**	**Minimum Clear Zone + Lane Width (m)**
Sealed Roads				
Regional Roads	1500	3.5	5.0	8.5
Arterial Roads	800	3.5	5.0	8.5
Collector Roads	300	3.25	3.0	6.25
Residential Access	200	3.1	2.0	5.1
Property Access	200	3.1	2.0	5.1
Unsealed Roads				
Collector Roads	100	3.1	2.0	5.1
Residential Access Roads	100	3.1	2.0	5.1
Property Access Roads	100	Shared 3.5	2.75	4.5

Tables 3.6.1 to 3.6.4 show the activities expected to be provided under the current Planned Budget allocation, and the Forecast activity requirements being recommended in this AM Plan.

Table 3.6.1: Sealed Roads Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Widen roads to meet adopted standards for road classification	Percentage of road network complying	46%	100%
	Upgrade pavements to meet current loading requirements	Percentage of road network in poor condition due to inadequate pavement	6%	0%

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
	Replace/Upgrade Bridges to meet adopted standards	Percentage of bridges complying	60%	100%
	Reseal roads within adopted lifecycle time for road classification	Percentage of seal network complying	95%	100%
	Accept gifted roads for new developments	Roads accepted are constructed to adopted standards	100%	100%
		Budget	*$322,775*	*$322,775*
Operation	Ensure road network is managed and developed in a sustainable manner	AMP Reviewed and Updated on time Adopted inspection and reporting timelines adhered to NHVR applications responded to within timeline Council reporting on budget and achievement completed on time Environmental requirements are complied with. Design, Supervision and Contract Management are provided in a professional manner	Compliant	Compliant
		Budget	$792,950	$792,950
Maintenance	To maintain the sealed road network including bridges and drainage structures in a safe and functional state	Adopted inspections intervals and response times achieved	60% compliance	100% compliance
		Budget	$1,493,922	$1,493,922
Renewal	To reconstruct and reseal segments of the sealed road network before they become unserviceable	Condition Rating Useful life	100% serviceable	100% serviceable
	To reconstruct bridges and drainage structures before they	Condition Rating Useful life	100% serviceable	100% serviceable

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
	become unserviceable			
		Budget	$1, 790,725	$2,558,677
Disposal	Dispose of sealed road pavements and seals that are being renewed prior to the end of the adopted useful life	Asset inventory and data maintained to be current at the end of financial year.	Comply	Comply
	Dispose of sealed road pavements and seals that are no longer required due to realignment	Asset inventory and data maintained to be current at the end of financial year.	Comply	Comply
	Dispose of bridges and drainage structures that are being renewed prior to the end of the adopted useful life	Asset inventory and data maintained to be current at the end of financial year.		
		Budget	*Nil*	*Nil*

Table 3.6.2: Unsealed Roads Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Widen roads to meet adopted standards for road classification	Percentage of road network complying	6%	100%
	Upgrade pavements to meet current loading requirements	Percentage of road network in poor condition due to inadequate pavement	5%	0%
	Replace/Upgrade Bridges to meet adopted standards	Percentage of bridges complying	0% on bridge width	100%
		Budget	*Nil*	*Nil*
Operation	Ensure road network is managed and developed in a sustainable manner	AMP Reviewed and Updated on time Adopted inspection and reporting timelines adhered to	Non compliance with AMP review time and some Maintenance Response Times	Full Compliance

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
		NHVR applications responded to within timeline Council reporting on budget and achievement completed on time Environmental requirements are complied with. Design, Supervision and Contract Management are provided in a professional manner		
		Budget	*$400,000*	*$400,000*
Maintenance	To maintain the unsealed road network including bridges and drainage structures in a safe and functional state	Adopted inspections intervals and response times achieved	100% compliance	100% compliance
		Budget	$1,087,848	$1,087,848
Renewal	To reconstruct segments of the unsealed road network before they become unserviceable	Condition Rating Useful life	100% serviceable	100% serviceable
	To reconstruct bridges and drainage structures before they become unserviceable	Condition Rating Useful life	100% serviceable	100% serviceable
		Budget	*Nil*	*Nil*
Disposal	Dispose of unsealed road pavements that are being renewed prior to the end of the adopted useful life	Asset inventory and data maintained to be current at the end of financial year.	Comply	Comply
	Dispose of unsealed road pavements that are no longer required due to realignment	Asset inventory and data maintained to be current at the end of financial year.	Comply	Comply
	Dispose of bridges and drainage structures that are	Asset inventory and data maintained to be		

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
	being renewed prior to the end of the adopted useful life	current at the end of financial year.		
		Budget	*Nil*	*Nil*

Table 3.6.3: Footpaths Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Extend footpath network to areas adopted in the Pedestrian Access and Mobility Plans for each town	Percentage of footpath network contructed	78%	100%
	Widen existing footpath to meet current standards	Percentage of footpath network complying	100%	100%
	Accept gifted footpaths for new developments	Footpaths accepted are constructed to adopted standards	100%	100%
		Budget	*$58,000*	*$168,000*
Operation	Ensure footpath network is managed and developed in a sustainable manner	AMP Reviewed and Updated on time Adopted inspection and reporting timelines adhered to Council reporting on budget and achievement completed on time Environmental requirements are complied with. Design, Supervision and Contract Management are provided in a professional manner	Non compliance with AMP review time and some Maintenance Response Times	Full Compliance
		Budget	*$25,000*	*$25,000*
Maintenance	To maintain the footpath network in a safe and functional state	Adopted inspections intervals and response times achieved	50% compliance	100% compliance
		Budget	*$20,306*	*$20,306*
Renewal	To reconstruct segments of the	Condition Rating	100% serviceable	100% serviceable

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
	footpath network before they become unserviceable	Useful life		
		Budget	*$35,000*	*$15,220*
Disposal	Dispose of footpaths that are being renewed prior to the end of the adopted useful life	Asset inventory and data maintained to be current at the end of financial year.	Comply	Comply
	Dispose of footpaths that are no longer required due to realignment	Asset inventory and data maintained to be current at the end of financial year.	Comply	Comply
		Budget	Nil	Nil

Table 3.6.4: Kerb & Gutter Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Extend Kerb and Gutter network to service developed urban areas	Percentage of developed urban area serviced	86%	100%
	Accept gifted kerb and gutter for new developments	Kerb and gutter accepted is constructed to adopted standards	100%	100%
		Budget	*$101,200*	*$101,200*
Operation	Ensure kerb and gutter network is managed and developed in a sustainable manner	AMP Reviewed and Updated on time Adopted inspection and reporting timelines adhered to Council reporting on budget and achievement completed on time Environmental requirements are complied with. Design, Supervision and Contract Management are provided in a	Non compliance with AMP review time and Maintenance Response Times	Full Compliance

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
		professional manner		
		Budget	*$25,000*	*$25,000*
Maintenance	To maintain the kerb and gutter network in a safe and functional state	Adopted inspections intervals and response times achieved	Non Compliance	Full Compliance
		Budget	*$16,020*	*$16,400*
Renewal	To reconstruct segments of the kerb and gutter network before they become unserviceable	Condition Rating Useful life	Periodic replacement of segments that have been identified as having rotated and are holding puddles of water or creating trip hazards.	100% serviceable
		Budget	*$130,500*	*$6,886*
Disposal	Dispose of kerb and gutter that is being renewed prior to the end of the adopted useful life	Asset inventory and data maintained to be current at the end of financial year.	Comply	Comply
	Dispose of kerb and gutter that is no longer required due to realignment	Asset inventory and data maintained to be current at the end of financial year.	Comply	Comply
		Budget	Nil	Nil

Note: * Current activities related to Planned Budget.

** Forecast required performance related to forecast lifecycle costs.

It is important to monitor the service levels provided regularly as these will change. The current performance is influenced by work efficiencies and technology, and customer priorities will change over time.

4.0 FUTURE DEMAND

4.1 Demand Drivers

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

4.2 Demand Forecasts

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

4.3 Demand Impact and Demand Management Plan

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

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

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

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population	8510	9688	Increased vehicle movements. Increase need for footpaths and kerb & gutter and roads	Assets for new developments will generally be donated by the developer. Kerb and gutter extensions will be provided on a priority basis and within capital budget constraints. Footpath network extensions will be provided generally in accordance with the adopted PAMP priorities and within capital budget constraints.
Restricted Access Vehicles	Standard Vehicles/Road Trains	B-Triples. AB-Triples and Higher Mass Limits	Decreased vehicle movements. Increased intersection seal damage. Increased route applications. Increase pavement damage	The rural road network will be continually upgraded generally in accordance with priorities set out in this plan and within capital budget constraints.
Demographics	Average age of population greater than State average	Will become even greater	Increased need for footpaths	Footpath network extensions will be provided generally in accordance with the adopted PAMP priorities and within capital budget constraints.

4.4 Asset Programs to meet Demand

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

Acquiring new assets will commit the Berrigan Shire Council to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial plan (Refer to Section 5).

4.5 Climate Change and Adaption

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

How climate change will impact on assets can vary significantly depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.

As a minimum we should consider both how to manage our existing assets given the potential climate change impacts, and then also how to create resilience to climate change in any new works or acquisitions.

Opportunities identified to date for management of climate change impacts on existing assets are shown in Table 4.5.1

Table 4.5.1 Managing the Impact of Climate Change on Assets

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Lower River Road, Taylors Road, Bullatale Road	Road will become impassable and damaged due to flooding more frequently	More frequent damage to roads and structures due to flooding. More frequent interruptions to access to properties	Increase level of causeways to provide uninterrupted access for 1in 5 year design flood.

Additionally, the way in which we construct new assets should recognise that there is opportunity to build in resilience to climate change impacts. Buildings resilience will have benefits:

- Assets will withstand the impacts of climate change
- Services can be sustained
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

Table 4.5.2 summarises some asset climate change resilience opportunities.

Table 4.5.2 Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact These assets?	Build Resilience in New Works
Upgrade Lower River Road, Taylors Road and Bullatale Road to provide uninterrupted access to all dwellings for 1 in 5 year design flood	Access to properties will be available for 99% of time.	Road constructed with structures that allow 1 in 10 year flood flows only over/through protected structures. Water depth for 1 in 5 year flow over causeways to be maximum 200mm deep.

The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this Asset Management Plan.

5.0 LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

5.1.1 Physical parameters

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

They include roads, bridges, carparks, kerb and gutter and footpaths.

These assets are used to provide an adequate transport network to be used by road transport, motor vehicles, bicycles, pedestrians and people using mobility aids.

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

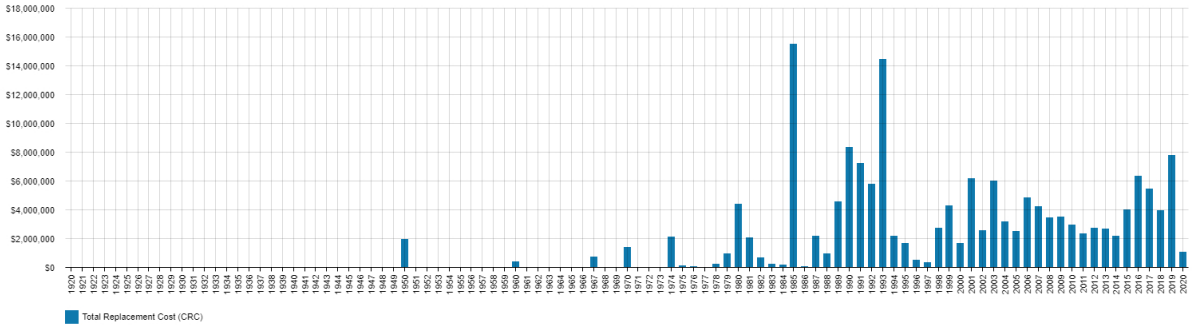
Table 5.1.1: Assets covered by this Plan

Asset category	Dimension (km)	Replacement Value ($000)
Arterial Road	9.924	$4,340.10
Asphalt Footpath	7.680	$358.98
Asphalted Concrete Footpath	1.502	$599.56
Barrier Kerb and Gutter	62.36	$6,610.12
Brick Kerb and Gutter	0.196	$20.77
Carpark	0.340	$272.65
Collector Gravel Road	17.533	$1,235.06
Collector Sealed Road	158.905	$27,936.90
Concrete Footpath	24.094	$ 3,021.88
Firetrail	37.915	$2,036.76
Gravel Footpath	2.983	$53.72
Kerb Only	5.539	$587.18
Mountable Kerb and Gutter	58.211	$6,170.38
Pattern Concrete Footpath	1.503	$514.24
Paving Footpath	0.160	$66.65
Property Access Rural	**377.465**	**$16,346.04**
Property Access Urban	**24.587**	**$1,083.92**
Quarry Dust Footpath	13.037	$274.86

[1] IPWEA, 2011, Sec 4.2.6, Example of an Asset Management Plan Structure, pp 4|24 – 27.

Asset category	Dimension (km)	Replacement Value ($000)
Regional Road	107.632	$26,661.35
Resident Rural Gravel	**300.208**	**$19,561.93**
Resident Rural Sealed	**209.646**	**$26,218.71**
Resident Urban Gravel	**5.303**	**$332.37**
Resident Urban Sealed	**100.598**	**$20,909.81**
Formed	6.412	$338.00
Vehicular Track	21.148	$727.12
Road Bridge	0.497	$7,032.32
Spoon Drain	0.083	$7.29
Swing Bridge	0.035	$47.25
TOTAL		**$173,365.90**

Figure 5.1.1: Asset Age Profile



All figure values are shown in current day dollars.

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

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Berrigan township	Some area lacking kerb and gutter and associated drainage
Finley Township	Some area with very flat kerb and no associated drainage
Rural road network	Many segments of road do not meet the adopted warrants in relation to width and clear zones
Lower River Road	Causeways are of substandard width and vertical alignment. Bridges and pavement are of substandard width.
Rural road intersections	No provision for turning traffic on most intersections

Barooga Township	Footpaths as shown in updated PAMPS
Berrigan Township	Footpaths as shown in updated PAMPS
Finley Township	Footpaths as shown in updated PAMPS
Tocumwal township	Footpaths as shown in updated PAMPS

The above service deficiencies were identified from Shire Officers experience and knowledge.

5.1.3 Asset condition

Condition is currently monitored in different ways for different assets as follows:

Sealed roads are regularly inspected and annually rated for condition;

Unsealed roads are regularly inspected but not formally rated for condition;

Kerb and Gutter is regularly inspected and a condition rating applied to obvious poor sections;

Footpaths are regularly inspected and formally rated for condition.

Bridges and Structures are regularly inspected and formally rated for condition.

Condition is measured using a 1 – 5 grading system[4] as detailed in Table 5.1.3. It is important that consistent condition grades be used in reporting various assets across an organisation. This supports effective communication. At the detailed level assets may be measured utilising different condition scales, however, for reporting in the AM plan they are all translated to the 1 – 5 grading scale.

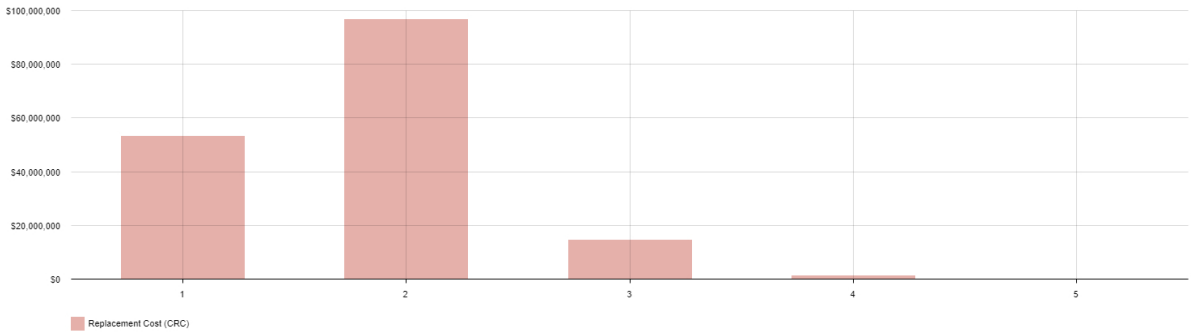
Table 5.1.3: Simple Condition Grading Model

Condition Grading	Description of Condition
1	**Very Good**: only planned maintenance required
2	**Good**: minor maintenance required plus planned maintenance
3	**Fair**: significant maintenance required
4	**Poor**: significant renewal/rehabilitation required
5	**Very Poor**: physically unsound and/or beyond rehabilitation

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

Figure 5.1.3: Asset Condition Profile

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



As can be seen from the graph above, the majority of transport assets are in good to excellent condition. All assets are in a serviceable condition and those that are rated in Condition 4 are programmed for renewal.

All figure values are shown in current day dollars.

5.2 Operations and Maintenance Plan

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

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include pipe repairs, asphalt patching, and equipment repairs.

The trend in maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: Maintenance Budget Trends

Year	Maintenance Budget $
	$
2019/20	$3,146,500
2020/21	$2,619,500

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

Reactive maintenance is carried out in accordance with response levels of service detailed in Appendix C.

Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

The service hierarchy is shown is Table 5.2.2.

Table 5.2.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Regional Road Seal	Minimum width of 8.0m

Arterial Road Seal	Minimum width of 8.0m
Sealed Collector Road Seal	Minimum width of 7.5m
Gravel Collector Road Pavement	Minimum width of 6.2m
Sealed Residential Access Road Seal	Minimum width of 6.5m
Gravel Residential Access Road Pavement	Minimum width of 6.2m
Gravel Property Access Road Pavement	Minimum width of 5.0m
Formed Property Access Road Formation	Minimum width of 5.0m
Road Clear Zones	As per Berrigan Shire Council Roadside Hazard Treatment Policy
Kerb and Gutter	Minimum Fall of 1:300
Footpath	Minimum width of 1.2m
Bridges and Structures	HML capacity and width to match road classification objectives

Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

Figure 5.2: Operations and Maintenance Summary

All figure values are shown in current day dollars.

Maintenance and operational costs are expected to increase slightly for the forecast period to service acquisitions and budgets have been prepared to balance expected costs.

5.3 Renewal Plan

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an acquisition resulting in additional future operations and maintenance costs.

Assets requiring renewal are identified from one of two approaches in the Lifecycle Model.

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

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives were last reviewed on 30 June, 2016 when transport assets were last revalued.[5]

Table 5.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
Arterial Road Formation	1000
Arterial Road Pavement	50
Arterial Road Seal	15
Asphalt Footpath	25
Asphalted Concrete Footpath	80
Barrier Kerb and Gutter	80
Brick Kerb and Gutter	50
Carpark Formation	1000
Carpark Pavement	50
Carpark Seal	18
Collector Gravel Road Formation	1000
Collector Gravel Road Pavement	50
Collector Sealed Road Formation	1000
Collector Sealed Road Pavement	50
Collector Sealed Road Seal	15
Concrete Footpath	80
Firetrail Formation	1000
Gravel Footpath	30
Kerb Only	80
Mountable Kerb and Gutter	80
Pattern Concrete Footpath	80
Paving Footpath	50
Property Access Rural Formed Road Formation	1000

[5] Enter Reference to Report documenting Review of Useful Life of Assets

Property Access Rural Gravel Road Formation	1000
Property Access Rural Gravel Road Pavement	50
Property Access Urban Formed Road Formation	1000
Property Access Urban Gravel Road Formation	1000
Property Access Urban Gravel Road Pavement	50
Quarry Dust Footpath	50
Regional Road Formation	1000
Regional Road Pavement	50
Regional Road Seal	12
Residential Access Rural Gravel Road Formation	1000
Residential Access Rural Gravel Road Pavement	50
Residential Access Rural Sealed Road Formation	1000
Residential Access Rural Sealed Road Pavement	50
Residential Access Rural Sealed Road Seal	15
Residential Access Urban Gravel Road Formation	1000
Residential Access Urban Gravel Road Pavement	50
Residential Access Urban Sealed Road Formation	1000
Residential Access Urban Sealed Road Pavement	50
Residential Access Urban Sealed Road Seal	18
Road Bridge	80
Spoon Drain	80
Swing Bridge	50

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

5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5 t load limit), or

- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a playground).[6]

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.[7]

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

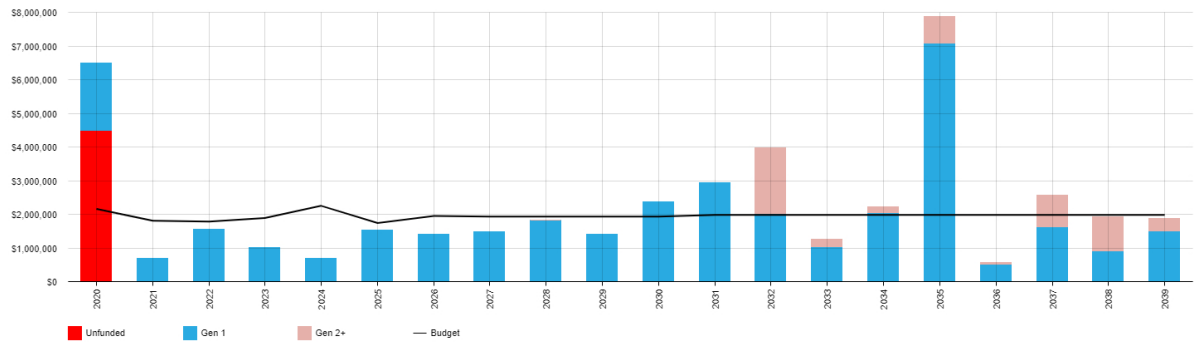
Table 5.3.1: Renewal Priority Ranking Criteria

Criteria	Weighting
Risk / Safety	30%
Condition Rating	25%
Road Hierarchy	25%
Other Technical	20%
Total	**100%**

5.4 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix D.

Figure 5.4.1: Forecast Renewal Costs



All figure values are shown in current day dollars.

The average spend that is budgeted generally allows for renewal of assets as required. There is a significant backlog that should be addressed over the coming five years and then progress with renewal will need to be monitored as the mid term of the budget is approached at 2030 when some significant renewals are forecast.

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

It is possible that these issues can be addressed by deferring renewals if condition ratings are favourable or alternatively the budget may have to be increased for this period.

5.5 Acquisition Plan

Acquisition reflects are new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to the Berrigan Shire Council.

5.5.1 Selection criteria

Proposed upgrade of existing assets, and new assets, are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential to the Entities needs. Proposed upgrade and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed in Table 5.4.1.

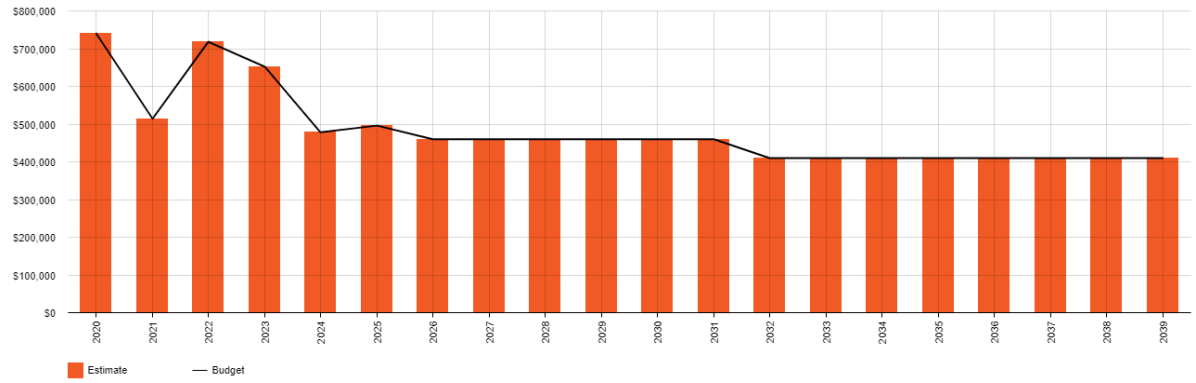
Table 5.5.1: Acquired Assets Priority Ranking Criteria

Criteria	Weighting
Risk / Safety	30%
Condition Rating	25%
Road Hierarchy	25%
Other Technical	20%
Total	**100%**

Summary of future asset acquisition costs

Forecast acquisition asset costs are summarised / summarised in Figure 5.4.1 and shown relative to the proposed acquisition budget. The forecast acquisition capital works program is shown in Appendix A.

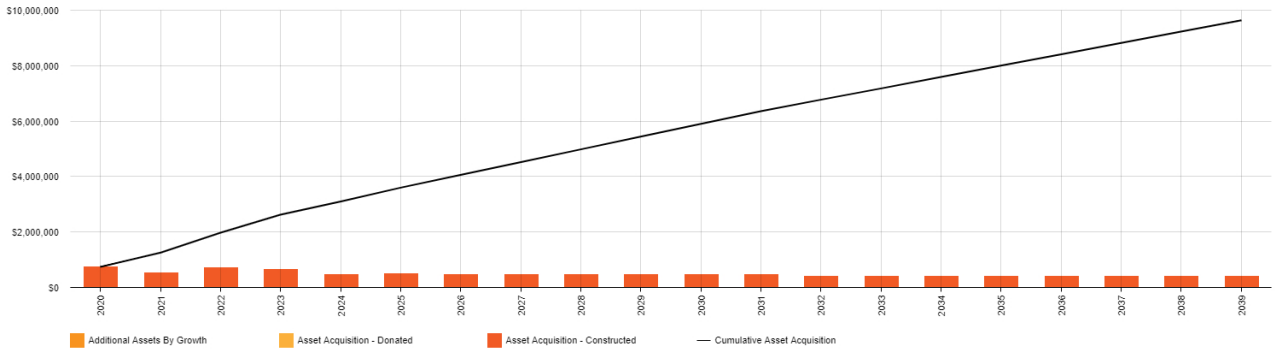
Figure 5.5.1: Acquisition (Constructed) Summary



All figure values are shown in current day dollars.

When an Entity commits to new assets, they must be prepared to fund future operations, maintenance and renewal costs. They must also account for future depreciation when reviewing long term sustainability. When reviewing the long-term impacts of asset acquisition, it is useful to consider the cumulative value of the acquired assets being taken on by the Entity. The cumulative value of all acquisition work, including assets that are constructed and contributed shown in Figure 5.4.2.

Figure 5.5.2: Acquisition Summary



All figure values are shown in current dollars.

Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding.

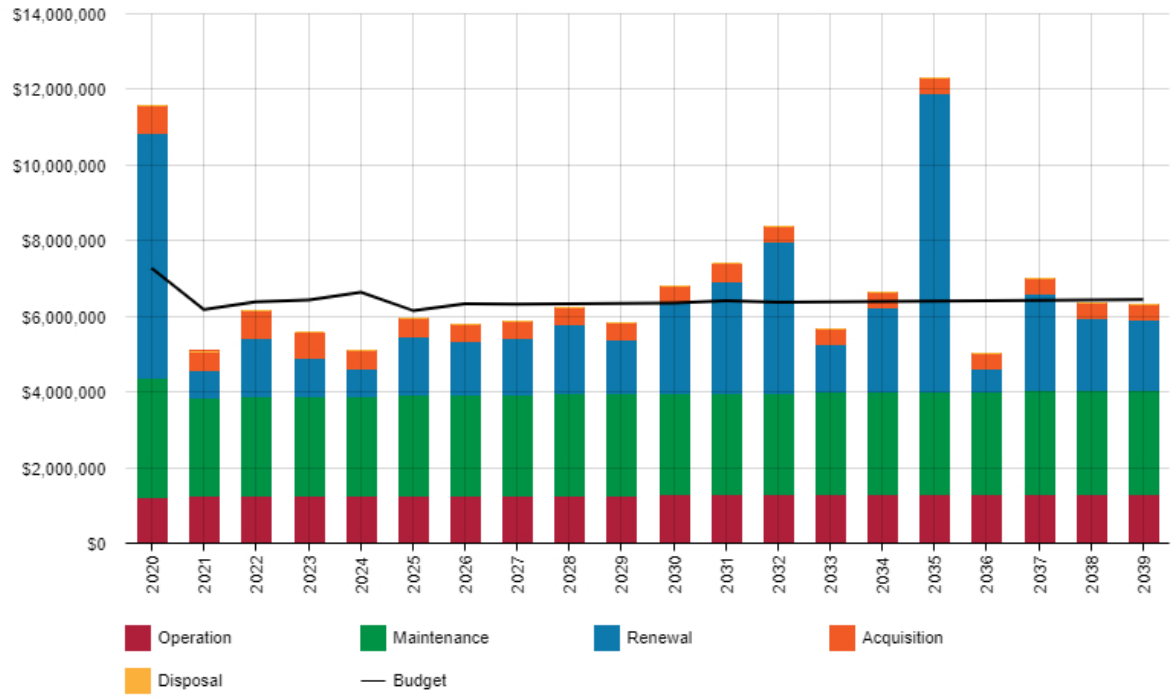
Acquisitions will generally be associated with widening of rural roads to adopted service standards or the extension of the kerb and gutter and footpath networks to service the existing residential areas. There will be some donated assets received from property developments, however, there has been no attempt to factor these in as the development rate is unpredictable and they will have only a minor effect on the total asset quantum.

Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.4.3. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

The bars in the graphs represent the forecast costs needed to minimise the life cycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

Figure 5.5.3: Lifecycle Summary



All figure values are shown in current day dollars.

The proposed budget is adequate to service the predicted costs for the planning period, however, as previously mentioned, there is a significant backlog to be addressed over the coming five years and then progress with renewal will need to be monitored as the mid term of the budget is approached at 2030 when some significant renewals are forecast.

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 5.6. Any costs or revenue gained from asset disposals is included in the long-term financial plan.

The only assets identified for disposal during life of this plan are components of the transport infrastructure that replaced prior to reaching their adopted useful life. These assets will have not revenue value and the remaining valuation will be written off the asset register as a book entry.

6.0 RISK MANAGEMENT PLANNING

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control with regard to risk'[8].

An assessment of risks[9] associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 6.1. Failure modes may include physical failure, collapse or essential service interruption.

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Bridge Structures	Collapse/Damage due to overloading of flood event	Access along key roads prevented until repairs/alternative crossing can be completed

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

6.2 Risk Assessment

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

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

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

[8] ISO 31000:2009, p 2

[9] REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

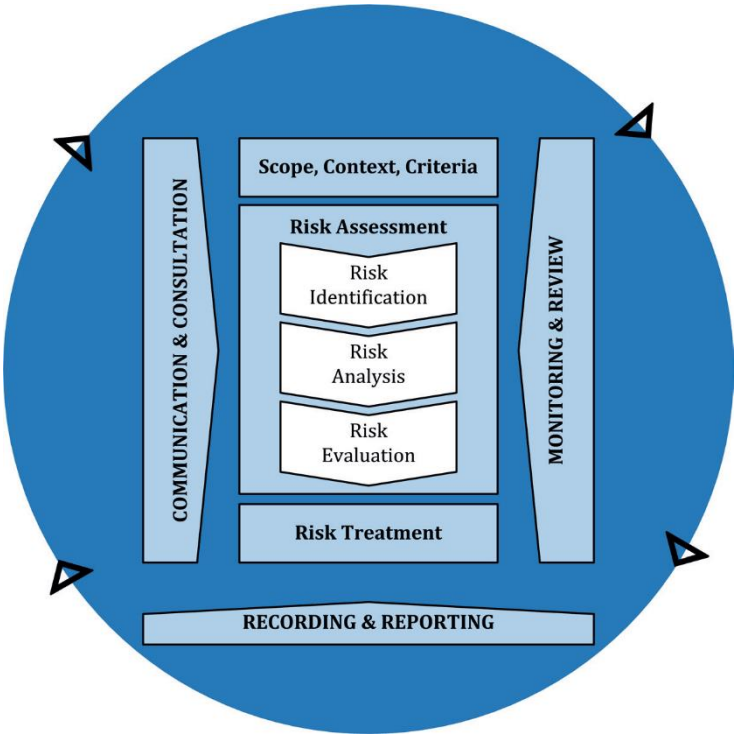


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

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

An assessment of risks[10] associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and the Berrigan Shire Council

Table 6.2: Risks and Treatment Plans

Service or Asset at Risk	***What can Happen***	***Risk Rating (VH, H)***	***Risk Treatment Plan***	***Residual Risk ****	***Treatment Costs $,000***
Road Structure /Roadside furniture/ signs/ traffic	***Damage to roads and signs etc and blockage of traffic lanes from traffic accident***	***Very High***	***Existing Procedures considered adequate***	***Very High***	***$0***

[10] REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

Lower River Road/Taylors Road/Bushlands Road	*Road can be impassable and damaged due to flooding*	*High*	*Ensure staff are aware of monitoring requirements and procedures and have suitable resources for road closures*	*High*	*$5*
All roads and streets	*Trees and debris blocking traffic lanes and damaging road furniture*	*Very High*	*Existing Procedures considered adequate*	*Very High*	*$0*
Rural Road	*Vehicle collision with wildlife*	*Very High*	*Existing Procedures considered adequate*	*Very High*	*$0*
Rural Road	*Vehicle collision with livestock*	*Very High*	*Existing Procedures considered adequate*	*Very High*	*$0*
Rural Road	*Vehicle collision with livestock associated with travelling stock*	*Very High*	*Existing Procedures considered adequate*	*Very High*	*$0*
Rural Road	*Vehicle collision with livestock at stock crossing*	*Very High*	*Improved signage and maintenance and encourage owners to Construct Underpasses*	*High*	*$5*
Lower River Road concrete causeways	*Vehicle accident due to narrow crossing and poor vertical alignment*	*Very High*	*Upgrade causeways*	*High*	*$800*
Lower River Road Bridges	*Vehicle accident due to narrow bridges and approaches*	*Very High*	*upgrade bridges with a preference to replacing bridges with causeways*	*High*	*$2,550*
Lower River Road , Taylors Road, Tocumwal Boat Ramp Access, Town Beach Road, MR 226 Barooga	*Damaged by floodwaters*	*High*	*Routine maintenance and improvement. Monitor condition of roads and structures to allow for emergency relief funding to be obtained.*	*High*	*$52*
Rural Road	*Traffic accident due to narrow pavement*	*Very High*	*Develop program to upgrade council roads to adopted widths*	*very high*	*$1,000*
Rural Road	*Traffic accident due to inadequate clearance to roadside obstacles*	*Very High*	*Develop program to clear roadsides of obstacles*	*very high*	*$500*

Rural road intersection	*Traffic accident due to no right turn lanes*	*Very High*	*Provide right turn lanes where traffic warrants and intersections are being reconstructed*	*very high*	*$100*
Footpath	*Trip / Fall*	*High*	*Update SOP's for Footpath inspection and mainteance*	*High*	*$0*
Pedestrian Crossing	*Pedestrian colliding with vehicle*	*Very High*	*Existing Procedures considered adequate*	*Very High*	*$0*
Road Bridge	*Collapse due to Age, structural fatigue, Not built for current/future loadings*	*High*	*Devlop SOP"s for Bridge Inspection and maintenance*	*High*	*$5*
Rural Roads	*Vehicle accident due to faded or missing linemarking*	*High*	*Adequate provision made in works budget for remarking faded linemarking and marking new works. Develop a procurement agreement that requires linemarking contractor to complete works within 7 days of order.*	*High*	*$10*
Railway Level Crossings Tuppal Road and Browne Street	*Vehicle/Pedestrian collision with Train*	*High*	*Existing Procedures considered adequate*	*High*	*$0*
Rural Roads	*Collision involving school bus/children*	*High*	*Develop procedures for ongoing updating of changes to school bus routes. Determine and adopt standards for school bus routes and bus stops and adopt a programme for the ongoing improvement of school bus routes.*	*Medium*	*$0*
Road pavements	*Pavement failure due to inadequate strength*	*High*	*Progressively upgrade road pavements on a priority basis based on condition and risk ratings.*	*High*	*$510*
Paved Footpaths	*Visually impaired pedestrians could*	*High*	*Upgrade tactile markings on all Priority Level 1*	*High*	*$20*

	walk into traffic or fall		***paths to AS1428.4 compliance***		
Urban Roads	***Vehicles could collide with pedestrians walking along urban roads.***	***High***	***Construct paved footpaths on urban roads and streets in accordance with priorities determined in the Pedestrian Access and Mobility Plan for each town***	***High***	***$150***
Intersection of Golf Course Road and Vermont Street, Barooga	***Vehicle collision with pedestrian***	***High***	***Reconfigure intersection to provide more direct and safer predestrian linkages on all 4 approaches***	***High***	***$150***
Chanter Street (Riverina Highway), Berrigan	***Vehicle collision with pedestrian***	***High***	***Construct a pedestrian crossing point in front of the Berrigan Library with build out protection to the edge of the traffic lanes.***	***High***	***$10***
intersection of Chanter Street and Jerilderie Street, Berrigan	***Vehicle collision with pedestrian***	***High***	***Construct a pedestrian crossing point from the south east corner of Jerilderie Street/Chanter Street to the north west corner of Jerilderie Street/Carter Street.***	***High***	***$10***
Pedestrian Crossing, Murray Street, Finley	***Vehicle collision with pedestrian***	***High***	***Relocate the Pedestrian Crossing north of the intersection.***	***High***	***#VALUE!***
Footpaths and Walking/Cycling Tracks	***Pedestrians or cyclists could fall down slopes on verges of paths***	***High***	***Provide guidepost delineation and/or barriers on paths/cycle tracks with steep batters or drop offs.***	***High***	***$17***
Concrete Footpaths	***Pedestrians could trip or fall as a result of excessive drop off at edge of concrete paths***	***High***	***Place fill along edge of concrete paths where there is a drop off***	***Medium***	***$10***

Endeavour Street carparks, Finley	***Pedestrians could trip and fall and disabled could be hit by vehicles on road due to no pedestrian connections***	***High***	***Construct concrete path connections from carparks in Endeavour Street to public toilets and Railway Park entrance path.***	***Medium***	***$9***
Bushlands Road-Jerilderie Street intersection, Tocumwal	***Pedestrian connections from Levee walk through Pony Club and across Jerilderie Street are not provided***	***High***	***Provide gravel path connection from the levee path in the Tocumwal Pony Club to the path on the north side of Jerilderie Street at Bushlands Road***	***High***	***$20***
Sealed Rural Roads - Cross Intersections	***Vehicle collision***	***High***	***Progressively reconfigure sealed rural roads cross intersections to staggered T intersections on a priority basis***	***High***	***$200***
Unsealed Rural Roads	***Vehicle collision due to Vehicles traversing Road construction works or maintenance works in progress.***	***High***	***Existing Procedures considered adequate***	***High***	***0***
Sealed Rural Roads	***Vehicle collision due to Vehicles traversing Road construction works or maintenance works in progress.***	***High***	***Existing Procedures considered adequate***	***High***	***0***
Footpaths and Walking/Cycling Tracks	***Pedestrians or cyclists fall while traversing path/track construction works or maintenance works in progress.***	***High***	***Existing Procedures considered adequate***	***High***	***0***

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

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 a given level of stress or demand', 1 and to respond to possible disruptions to ensure continuity of service.

Resilience is built on aspects such as response and recovery planning, financial capacity, climate change and crisis leadership.

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

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

- Widening of all bridge structures to the adopted service levels.
- Widening of all roads to the adopted service levels.
- Extension of footpath network to extend identified in the Pedestrian Access and Mobility Plans.
- Extension of kerb and gutter network to service all residential streets.

6.4.2 Service trade-off

If there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. These service consequences include:

- Road Safety is compromised.
- Pedestrian Safety is compromised.
- Street amenity is reduced where open earth drains remain.

6.4.3 Risk trade-off

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

- Greater risk of personal and property damage and possible compensation claims against Council.
- Increased maintenance costs where road width is not fit for traffic conditions.

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

7.0 FINANCIAL SUMMARY

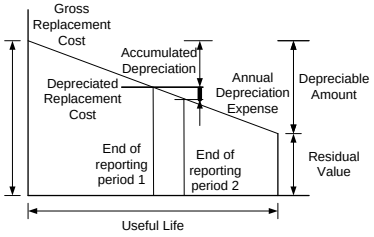
This section contains the financial requirements resulting from the information presented in the previous sections of this Asset Management Plan. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Statements and Projections

7.1.1 Asset valuations

The best available estimate of the value of assets included in this Asset Management Plan are shown below. The assets are valued at fair value:

Current (Gross) Replacement Cost	**$173,365,905**
Depreciable Amount	**$173,365,905**
Depreciated Replacement Cost[11]	$123,905,834
Depreciation	$2,785,348



7.1.2 Sustainability of service delivery

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

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

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[12] 107%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 107% of the funds required for the optimal renewal of assets.

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

Medium term – 10 year financial planning period

This Asset Management Plan identifies the forecast operations, maintenance and renewal costs required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

This forecast work can be compared to the proposed budget over the 10 year period to identify any funding shortfall.

The forecast operations, maintenance and renewal costs over the 10 year planning period is $4,654,112 on average per year.

The proposed (budget) operations, maintenance and renewal funding is $5,896,345 on average per year giving a 10 year funding excess of $124,223 per year. This indicates that 102% of the forecast costs needed to provide the services documented in this Asset Management Plan are accommodated in the proposed budget. This excludes acquired assets.

[11] Also reported as Written Down Value, Carrying or Net Book Value.
[12] AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately 1.0 for the first years of the Asset Management Plan and ideally over the 10 year life of the Long-Term Financial Plan.

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

Table 7.1.3 shows the forecast costs (outlays) for the 10 year long-term financial plan.

Forecast costs are shown in 2020 dollar values.

Table 7.1.3: Forecast Costs (Outlays) for the Long-Term Financial Plan

Year	Forecast Acquisition	Forecast Operation	Forecast Maintenance	Forecast Renewal	Forecast Disposal
2020	$741,500	$1,223,000	$3,146,007	$2,159,700	$0
2021	$514,200	$1,244,000	$2,619,520	$1,807,300	$0
2022	$718,400	$1,249,118	$2,630,297	$1,784,500	$0
2023	$652,000	$1,253,763	$2,640,078	$1,890,000	$0
2024	$478,200	$1,257,169	$2,647,251	$2,251,000	$0
2025	$496,000	$1,260,703	$2,654,692	$1,742,000	$0
2026	$460,000	$1,263,980	$2,661,592	$1,950,000	$0
2027	$460,000	$1,267,257	$2,668,493	$1,930,000	$0
2028	$460,000	$1,270,534	$2,675,393	$1,930,000	$0
2029	$460,000	$1,273,811	$2,682,294	$1,930,000	$0
2030	$460,000	$1,277,088	$2,689,194	$1,930,000	$0
2031	$460,000	$1,280,365	$2,696,095	$1,980,000	$0
1980000	$410000	$1,283,286	$2,702,245	$1,980,000	$0
1980000	$410000	$1,286,207	$2,708,396	$1,980,000	$0
1980000	$410000	$1,289,128	$2,714,546	$1,980,000	$0
1980000	$410000	$1,292,048	$2,720,697	$1,980,000	$0
1980000	$410000	$1,294,969	$2,726,847	$1,980,000	$0
1980000	$410000	$1,297,890	$2,732,998	$1,980,000	$0
1980000	$410000	$1,300,811	$2,739,148	$1,980,000	$0
1980000	$410000	$1,303,732	$2,745,298	$1,980,000	$0

7.2 Funding Strategy

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

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

7.3 Valuation Forecasts

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

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

7.4 Key Assumptions Made in Financial Forecasts

In compiling this Asset Management Plan, it was necessary to make some assumptions. This section details the key assumptions made in the development of this AM plan and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this Asset Management Plan are:

Key Assumptions	Risks of Change to Assumptions
The useful lives of rural road assets have been reviewed on the basis of condition and roughness reports and these will be required to be updated prior to the next review of the plan.	Changes to traffic conditions or extreme wet conditions could accelerate deterioration
For sealed roads carrying less than 80 vehicles per day a lifecycle of 100 years has been assumed regardless of condition and roughness measures. Should dangerous conditions materialise on these roads they will be corrected by maintenance strategies including heavy patching.	Changes to traffic conditions could accelerate deterioration
The urban street network and bridges have not had condition ratings carried out and these need to be done to improve the accuracy of this plan.	Condition inspections may generate additional works for reparis
Bitumen reseals have been considered as capital renewal works for this plan	Nil
The useful life of footpath assets has been taken from the asset management model	Review of useful life's on the basis of condition could change required annual expenditure
It is assumed that asset utilisation frequency will not change	Acceleration / deceleration of asset condition

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AM Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale[13] in accordance with Table 7.5.1.

Table 7.5.1: Data Confidence Grading System

Confidence Grade	Description
A. Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B. Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C. Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D. Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E. Unknown	None or very little data held.

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

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 7.5.2.

Table 7.5.2: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	Medium	Based on current figures
Growth projections	Medium	Based on current figures
Operations expenditures	High	Based on current actual costs
Maintenance expenditures	High	Based on current actual costs
Projected Renewal exps. - Asset values	High	Based on current actual costs
- Asset residual values	High	Based on current actual costs
- Asset useful lives	High	Based on current actual costs
- Condition modelling	High	Based on current actual costs
- Network renewals	High	Based on current actual costs
- Defect repairs	High	Based on current actual costs
Upgrade/New expenditures	High	Based on current actual costs
Disposal expenditures	N/A	N/A

Over all data sources, the data confidence is assessed as high confidence level for data used in the preparation of this
AM Plan.

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[14]

8.1.1 Accounting and financial data sources

This Asset Management Plan utilises accounting and financial data. The source of the data is Council's 'Practical' accounting software.

8.1.2 Asset management data sources

This Asset Management Plan also utilises asset management data. The source of the data is Council's 'AssetFinda' asset management system in conjuction with MapInfo mapping and database.

8.2 Improvement Plan

It is important that an entity recognise areas of their Asset Management Plan and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this Asset Management Plan is shown in Table 8.2.

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Condition rating of Assets	ESM	Staff	June 2023
2	Review remaining life of assets	ESM	Staff	June 2023
3	Componentisation of assets such as drainage structures, signs and traffic facilities including review of unit costs	ESM	Staff	June 2023
4	Develop chart of accounts to allow separation of operation costs and maintenance costs and to split the maintenance costs into reactive, planned and cyclic and to separate capital expenditure into renewal, new and upgrade works.	FM	Staff	June 2023
5	Investigate options to integrate Asset Management system with the Accounting / financial system	DTS DCS ESM FM	Staff	June 2023
6	Review customer request /complaint settings in customer request management system to reflect desireable data being collected	AOM	Staff	June 2022
7	Ensure all assets in Asset Mangement System have a condition score	AOM	Staff	June 2021
8				
9				
10				

[14] ISO 55000 Refers to this the Asset Management System

8.3 Monitoring and Review Procedures

This Asset Management Plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

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

The AM Plan has a maximum life of 4 years and is due for complete revision and updating within 2 years of each Berrigan Shire Council election.

8.4 Performance Measures

The effectiveness of this Asset Management Plan can be measured in the following ways:

- The degree to which the required forecast costs identified in this Asset Management Plan are incorporated into the long-term financial plan,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures take into account the 'global' works program trends provided by the Asset Management Plan,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 1.0).

9.0 REFERENCES

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- IPWEA, 2012 LTFP Practice Note 6 PN Long-Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- Berrigan Shire Council Asset Management Strategy 2020 – 2030,
- Berrigan Shire Council Asset Accounting Policy 2020
- Berrigan Shire Council Annual Report, Management Plan, Financial Statements and Budget.

10.0APPENDICES

Appendix A Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

Acquisitions will generally be associated with widening of rural roads to adopted service standards or the extension of the kerb and gutter and footpath networks to service the existing residential areas. There will be some donated assets received from property developments, however, there has been no attempt to factor these in as the development rate is unpredictable and they will have only a minor effect on the total asset quantum.

A.2 – Acquisition Project Summary

The project titles included in the lifecycle forecast are included here.

Year	Project	$ Estimate
2020	Footpath Network Extension	211000
2020	Kerb & Gutter Network Extension	135000
2020	Road widening	395500
2021	Road widening	292000
2021	Kerb & Gutter Network Extension	124000
2021	Footpath Network Extension	98200
2022	Footpath Network Extension	116400
2022	Kerb & Gutter Network Extension	293000
2022	Road widening	309000
2023	Road widening	310000
2023	Kerb & Gutter Network Extension	272000
2023	Footpath Network Extension	70000
2024	Footpath Network Extension	29200
2024	Kerb & Gutter Network Extension	100000
2024	Road widening	349000
2025	Road widening	320000
2025	Kerb & Gutter Network Extension	100000
2025	Footpath Network Extension	76000
2026	Footpath Network Extension	40000
2026	Kerb & Gutter Network Extension	100000
2026	Road widening	320000
2027	Road widening	320000
2027	Kerb & Gutter Network Extension	100000
2027	Footpath Network Extension	40000
2028	Footpath Network Extension	40000
2028	Kerb & Gutter Network Extension	100000
2028	Road widening	320000
2029	Road widening	320000
2029	Kerb & Gutter Network Extension	100000
2029	Footpath Network Extension	40000
2030	Footpath Network Extension	40000
2030	Kerb & Gutter Network Extension	100000
2030	Road widening	320000

2031	Road widening	320000
2031	Kerb & Gutter Network Extension	100000
2031	Footpath Network Extension	40000
2032	Footpath Network Extension	40000
2032	Kerb & Gutter Network Extension	50000
2032	Road widening	320000
2033	Road widening	320000
2033	Kerb & Gutter Network Extension	50000
2033	Footpath Network Extension	40000
2034	Footpath Network Extension	40000
2034	Kerb & Gutter Network Extension	50000
2034	Road widening	320000
2035	Road widening	320000
2035	Kerb & Gutter Network Extension	50000
2035	Footpath Network Extension	40000
2036	Footpath Network Extension	40000
2036	Kerb & Gutter Network Extension	50000
2036	Road widening	320000
2037	Road widening	320000
2037	Kerb & Gutter Network Extension	50000
2037	Footpath Network Extension	40000
2038	Footpath Network Extension	40000
2038	Kerb & Gutter Network Extension	50000
2038	Road widening	320000
2039	Road widening	320000
2039	Kerb & Gutter Network Extension	50000
2039	Footpath Network Extension	40000

Insert Acquisition table with year project $Estimate titles.

A.3 – Acquisition Forecast Summary

Table A3 - Acquisition Forecast Summary

Year	Constructed	Contributed	Planned Budget
2020	741500	0	0
2021	514200	0	0
2022	718400	0	0
2023	652000	0	0
2024	478200	0	0
2025	496000	0	0

2026	460000	0	0
2027	460000	0	0
2028	460000	0	0
2029	460000	0	0
2030	460000	0	0
2031	460000	0	0
2032	410000	0	0
2033	410000	0	0
2034	410000	0	0
2035	410000	0	0
2036	410000	0	0
2037	410000	0	0
2038	410000	0	0
2039	410000	0	0

Appendix B Operation Forecast

B.1 – Operation Forecast Assumptions and Source

Operational costs are expected to increase slightly for the forecast period to service acquisitions and budgets have been prepared to balance expected costs.

B.2 – Operation Forecast Summary

Table B2 - Operation Forecast Summary

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2020	1223000	0	1223000
2021	1244000	0	1244000
2022	1249117	0	1249117
2023	1253762	0	1253762
2024	1257169	0	1257169
2025	1260702	0	1260702
2026	1263979	0	1263979
2027	1267257	0	1267257
2028	1270534	0	1270534
2029	1273811	0	1273811
2030	1277088	0	1277088
2031	1280365	0	1280365
2032	1283285	0	1283285
2033	1286206	0	1286206
2034	1289127	0	1289127
2035	1292048	0	1292048
2036	1294969	0	1294969
2037	1297890	0	1297890
2038	1300810	0	1300810
2039	1303732	0	1303732

Appendix C Maintenance Forecast

C.1 – Maintenance Forecast Assumptions and Source

Maintenance costs are expected to increase slightly for the forecast period to service acquisitions and budgets have been prepared to balance expected costs.

C.2 – Maintenance Forecast Summary

Table C2 - Maintenance Forecast Summary

Year	Forecast	Additional Costs	Additional Forecast	Total Forecast
2020	3146007		0	3146007
2021	2619520	0	0	2619520
2022	2630296.75	0	0	2630296.75
2023	2640077.5	0	0	2640077.5
2024	2647251	0	0	2647251
2025	2654691.75	0	0	2654691.75
2026	2661592.25	0	0	2661592.25
2027	2668492.75	0	0	2668492.75
2028	2675393.25	0	0	2675393.25
2029	2682293.75	0	0	2682293.75
2030	2689194.25	0	0	2689194.25
2031	2696094.75	0	0	2696094.75
2032	2702245.25	0	0	2702245.25
2033	2708395.75	0	0	2708395.75
2034	2714546.25	0	0	2714546.25
2035	2720696.5	0	0	2720696.5
2036	2726847	0	0	2726847
2037	2732997.5	0	0	2732997.5
2038	2739148	0	0	2739148
2039	2745298.5	0	0	2745298.5

Appendix D Renewal Forecast Summary

D.1 – Renewal Forecast Assumptions and Source

Asset renewals are determined using Asset Register data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year). The useful life of assets is reviewed periodically following condition assessments of the assets and a reassessment of the remaining useful life. A spreadsheet has been developed for the assessment of road pavement assets and renewal priorities have been heavily weighted to roads that carry higher volumes of traffic.

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives were last reviewed on 30 June, 2016 when transport assets were last revalued.[15]

Table 5.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
Arterial Road Formation	1000
Arterial Road Pavement	50
Arterial Road Seal	15
Asphalt Footpath	25
Asphalted Concrete Footpath	80
Barrier Kerb and Gutter	70-80
Brick Kerb and Gutter	50
Carpark Formation	1000
Carpark Pavement	50
Carpark Seal	18
Collector Gravel Road Formation	1000
Collector Gravel Road Pavement	50
Collector Sealed Road Formation	1000
Collector Sealed Road Pavement	50
Collector Sealed Road Seal	15
Concrete Footpath	70-80
Firetrail Formation	1000
Gravel Footpath	30
Kerb Only	80
Mountable Kerb and Gutter	80

15

Pattern Concrete Footpath	80
Paving Footpath	50
Property Access Rural Formed Road Formation	1000
Property Access Rural Gravel Road Formation	1000
Property Access Rural Gravel Road Pavement	50
Property Access Urban Formed Road Formation	1000
Property Access Urban Gravel Road Formation	1000
Property Access Urban Gravel Road Pavement	50
Quarry Dust Footpath	50
Regional Road Formation	1000
Regional Road Pavement	30-50
Regional Road Seal	12
Residential Access Rural Gravel Road Formation	1000
Residential Access Rural Gravel Road Pavement	50
Residential Access Rural Sealed Road Formation	1000
Residential Access Rural Sealed Road Pavement	50
Residential Access Rural Sealed Road Seal	15
Residential Access Urban Gravel Road Formation	1000
Residential Access Urban Gravel Road Pavement	50
Residential Access Urban Sealed Road Formation	1000
Residential Access Urban Sealed Road Pavement	50
Residential Access Urban Sealed Road Seal	18
Road Bridge	80
Spoon Drain	80
Swing Bridge	50

The estimates for renewals in this Asset Management Plan were based on the asset register.
The average spend that is budgeted generally allows for renewal of assets as required. There is a significant backlog that should be addressed over the coming five years and then progress with renewal will need to be monitored as the mid term of the budget is approached at 2030 when some significant renewals are forecast. It is possible that these issues can be addressed by deferring renewals if condition ratings are favourable or alternatively the budget may have to be increased for this period.

D.2 – Renewal Project Summary

The project renewals included in the lifecycle forecast are summarized here.

Year	**Total**	Kerb & Gutter	Footpaths	Roads
2020	2159700	235000	10000	1914700
2021	1807300	120000	50000	1637300
2022	1784500	40000	20000	1724500
2023	1890000	40000	50000	1800000
2024	2251000	225000	80000	1946000
2025	1742000	100000	50000	1592000
2026	1950000	100000	50000	1800000
2027	1930000	100000	30000	1800000
2028	1930000	100000	30000	1800000
2029	1930000	100000	30000	1800000
2030	1930000	100000	30000	1800000
2031	1980000	150000	30000	1800000
2032	1980000	150000	30000	1800000
2033	1980000	150000	30000	1800000
2034	1980000	150000	30000	1800000
2035	1980000	150000	30000	1800000
2036	1980000	150000	30000	1800000
2037	1980000	150000	30000	1800000
2038	1980000	150000	30000	1800000
2039	1980000	150000	30000	1800000

D.3 – Renewal Forecast Summary

Table D3 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2020	6480245	2159700
2021	688992	1807300
2022	1560174	1784500
2023	1021994	1890000
2024	698651	2251000
2025	1542517	1742000
2026	1416987	1950000
2027	1476591	1930000

2028	1840273	1930000
2029	1405843	1930000
2030	2374275	1930000
2031	2950594	1980000
2032	3976775	1980000
2033	1257682	1980000
2034	2225334	1980000
2035	7893870	1980000
2036	581479	1980000
2037	2578268	1980000
2038	1913635	1980000
2039	1869757	1980000

D.4 –Renewal Plan
Proposed renewals are included with acquisitions in the detailed construction programs included below:

CAPITAL WORKS PLAN DRAFT 20-21

	Original 2020-21	Adapted 2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
KERB & GUTTER							
KERB & GUTTER INCOME							
BAROOGA							
Snell Rd - Arramagong to McKinley	2000	2000	0	0	0	0	0
Snell Rd - Kamarooka to Chomley	35000	35000	0	0	0	0	0
BAROOGA Total	37000	37000	0	0	0	0	0
BERRIGAN							
Horsfall St - Jerilderie to Denison	12000	0	12000	0	0	0	0
Barooga St - Horsfall to Nangunia St	0	0	0	28000	0	0	0
Nangunia St - Jerilderie to Barooga St	0	0	0	0	7000	0	0
Barooga St - Nangunia to Orr St	0	0	0	28000	0	0	0
Denison St - Horsfall to Nangunia West side	0	0	0	0	0	28000	0
Denison St -Nangunia to Orr St - West Side	0	0	0	0	0	0	28000
BERRIGAN Total	12000	0	12000	56000	7000	28000	28000
FINLEY							
Murray St - Wollamai Sth	0	0	0	0	0	0	0
Dawe Ave - Full Length	7000	7000	0	0	0	0	0
McCallister St - Headford St to Osborne St	0	0	0	0	0	0	0
FINLEY Total	7000	7000	0	0	0	0	0
TOCUMWAL							

Bruton St - End existing kerb to Bruce Birrell Dr north side	0	0	0	0	17000	0	0
Barooga St - Murray to Morris	12000	12000	0	0	0	0	0
Bruton St - Barooga St Nth to Charlotte - Sth side	0	0	0	21000	0	0	0
Hannah St - Calaway to end existing	0	0	0	0	0	0	0
Emily St - Lane 960 to Hennessy	0	0	10000	0	0	0	0
Calaway St - Emily to Charlotte (bs)	0	0	0	30000	0	0	0
Charlotte St - Hennessy to Kelly	0	0	0	0	20000	0	0
Hennessy St - South side Jerilderie to Emily	0	0	0	0	0	0	0
Hill St - Stabilise Pavement & Repair Kerb	0	0	0	0	0	0	0
TOCUMWAL Total	12000	12000	10000	51000	37000	0	0
UNGROUPED							
To be determined	0	0	0	0	0		
UNGROUPED Total	0	0	0	0	0	0	0
KERB & GUTTER INCOME Total	68000	56000	22000	107000	44000	28000	28000
KERB & GUTTER EXPENDITURE							
BAROOGA							
Snell Rd - Arramagong to McKinley	-12000	-12000	0	0	0	0	0
Snell Rd - Kamarooka to Chomley	-63000	-63000	0	0	0	0	0
BAROOGA Total	-75000	-75000	0	0	0	0	0
BERRIGAN							
Horsfall St - Jerilderie to Denison	-65000	0	-65000	0	0	0	0
Barooga St - Horsfall to Nangunia St	0	0	0	-60000	0	0	0
Nangunia St - Jerilderie to Barooga St	0	0	0	0	-32000	0	0
Barooga St - Nangunia to Orr St	0	0	0	-60000	0	0	0
Corcoran St - Drainage improvements	0	0	0	-10000	0	0	0

Denison St - Horsfall to Nangunia West side	0	0	0	0	0	-60000	0
Denison St -Nangunia to Orr St - West Side	0	0	0	0	0	0	-60000
BERRIGAN Total	-65000	0	-65000	-130000	-32000	-60000	-60000
FINLEY							
Tocumwal St Tuppal St to Wollamai St	0	0	0	0	0	0	-60000
Dawe Ave - Full Length	-50000	-50000	0	0	0	0	0
Denison St - Ulupna to Tongs inc Median Treatment	0	0	0	0	0	-300000	0
McCallister St - Headford St to Osborne St	0	0	-80000	0	0	0	0
FINLEY Total	-50000	-50000	-80000	0	0	-300000	-60000
TOCUMWAL							
Deniliquin Rd - Replace brick K&G Cowley to Duff ST	0	0	0	0	0		
Barooga St - Murray to Morris	-60000	-60000	0	0	0	0	0
Bruton St - End existing kerb to Bruce Birrell Dr north side	0	0	0	0	-40000	0	0
Bruton St - Barooga St Nth to Charlotte - Sth side	0	0	0	-60000	0	0	0
Jerilderie St Nth - Connect to Bruton St	0	0	0	0	0	0	0
Hannah St - Calaway to end existing	0	0	0	0	0	0	0
Emily St - Lane 960 to Hennessy	0	0	-44000	0	0	0	0
Emily St - Falkiner to Hennessy (east)	0	0	-15000	0	0	0	0
Calaway St - Emily to Charlotte (bs)	0	0	0	-63000	0	0	0
Charlotte St - Hennessy to Kelly	0	0	0	0	-70000	0	0
Hennessy St - South side Jerilderie to Emily	0	0	0	0	-90000	0	0
Hill St - Repair and Realign Kerb - Reconstruct Shoulder	0	0	-40000	0	0	0	0
TOCUMWAL Total	-60000	-60000	-99000	-123000	-200000	0	0
UNGROUPED							
Repair existing kerb and shoulder	0	0	0	-40000	-40000	-40000	-40000
UNGROUPED Total	0	0	0	-40000	-40000	-40000	-40000

KERB & GUTTER EXPENDITURE Total		-250000	-185000	-244000	-293000	-272000	-400000	-160000
KERB & GUTTER TOTAL		-182000	-129000	-222000	-186000	-228000	-372000	-132000
SHIRE ROADS								
URBAN ROADS CONSTRUCTION INCOME								
	BAROOGA							
	To be determined	0	0	0	0	0		
	BAROOGA Total	0	0	0	0	0	0	0
	BERRIGAN							
	To be determined	0	0	0	0	0		
	BERRIGAN Total	0	0	0	0	0	0	0
	FINLEY							
	To be determined	0	0	0	0	0		
	FINLEY Total	0	0	0	0	0	0	0
	TOCUMWAL							
	Transfer from Works Reserve - Jersey St - TOC Upgrades	0	0	0	0	0		
	TOCUMWAL Total	0	0	0	0	0	0	0
URBAN ROADS CONSTRUCTION INCOME Total		0	0	0	0	0	0	0
URBAN ROADS CONSTRUCTION EXPENDITURE								
	BAROOGA							
	To be determined	0	0	0	0	0		
	Snell Rd - Arramagong to McKinley	-5000	-5000	0	0	0	0	0

Snell Rd - Kamarooka to Chomley	-80000	-80000	0	0	0	0	0
BAROOGA Total	-85000	-85000	0	0	0	0	0
BERRIGAN							
To be determined	0	0	0	0	0		
Horsfall St - Jerilderie to Denison	-90000	0	-90000	0	0	0	0
Barooga St - Horsfall to Nangunia St	0	0	0	-40000	0	0	0
Nangunia St - Jerilderie to Barooga St	0	0	0	0	-16000	0	0
Barooga St - Nangunia to Orr St	0	0	0	-40000	0	0	0
Denison St - Horsfall to Nangunia West side	0	0	0	0	0	-40000	0
Denison St -Nangunia to Orr St - West Side	0	0	0	0	0	0	-40000
Corcoran St - Drainage improvements				-29000			
Drohan St - Construct & Seal - Lysaght to Hayes	0	0	-50000	0	0	0	0
BERRIGAN Total	-90000	0	-140000	-109000	-16000	-40000	-40000
FINLEY							
Murray St - Wollamai Sth (drainage)	0	0	0	0	0	0	0
Dawe Ave - Full Length	-150000	-150000	0	0	0	0	0
McCallister St - Headford St to Osborne St	0	0	-70000	0	0	0	0
Tocumwal St Tuppal St to Wollamai St	0	0	0	0	0	0	-40000
Coree St - Ulupna to Tongs Median Treatment	-24000	-476253	0	0	0	0	0
Denison St - Ulupna to Tongs inc Median Treatment	0	0	0	0	0	-475000	0
FINLEY Total	-174000	-626253	-70000	0	0	-475000	-40000
TOCUMWAL							
Bruton St - Barooga St Nth to Charlotte - Sth side	0	0	0	-120000	0	0	0
Bruton St - End existing kerb to Bruce Birrell Dr north side	0	0	0	0	-80000	0	0
Barooga St - Murray to Morris	-95000	-95000	0	0	0	0	0
Town Beach Road - Construct & Seal	0	0	0	0	0		

	Jerilderie St Nth - Connect to Bruton St	0	0	0	0	0	0	0
	Hannah St - Calaway to end existing	0	0	0	0	0	0	0
	Emily St - Lane 960 to Hennessy	0	0	-18000	0	0	0	0
	Emily St - Falkiner to Hennessy (east)	0	0	-5000	0	0	0	0
	Calaway St - Emily to Charlotte (bs)	0	0	0	-25000	0	0	0
	Hennessy St - South side Jerilderie to Emily	0	0	0	0	-120000	0	0
	Charlotte St - Hennessy to Kelly	0	0	0	0	-140000	0	0
	Repair existing kerb and shoulder Hill St - Repair and Realign Kerb - Reconstruct Shoulder	0	0	-35000	0	0	0	0
	TOCUMWAL Total	-95000	-95000	-58000	-145000	-340000	0	0
	UNGROUPED							
	Repair existing kerb and shoulder	0	0	0	-60000	-60000	-60000	-60000
	UNGROUPED Total	0	0	0	-60000	-60000	-60000	-60000
URBAN ROADS CONSTRUCTION EXPENDITURE Total		-444000	-806253	-268000	-314000	-416000	-575000	-140000
URBAN ROADS - RESEALS EXPENDITURE								
	CHANTER ST 771 - 833 (Park Lanes)	0	-1000	0	0	0	0	0
	SCOULLAR ST 980 - 1028	0	0	-1000	0	0	0	0
	SCOULLAR ST 926 - 980	0	0	-1000	0	0	0	0
	HILL ST 393 - 494 (Reco?)	0	-5268	0	0	0	0	0
	HILL ST 70 - 392 (Reco?)	0	-15245	0	0	0	0	0
	HILL ST 00 - 70 (Reco?)	0	-4000	0	0	0	0	0
	MCALLISTER ST 216 - 679 (Reco?)	0	-5000	0	0	0	0	0
	TOCUMWAL ST 944 - 1173 (Reco?)	0	-13995	0	0	0	0	0
	WILLIAM ST BER 155 - 321	0	0	0	-5000	0	0	0
	DENISON ST 702 - 937	0	-12000	0	0	0	0	0
	DENISON ST 937 - 1409	0	-17323	0	0	0	0	0
	MURRAY ST 1725 - 2025 (Park Lane)	0	-15000	0	0	0	0	0

BARKER ST 263 - 402	0	0	-6500	0	0	0	0
BURMA RD 00 - 1311	0	0	0	0	0	-21000	0
MURRAY ST 220 - 460	0	-8000	0	0	0	0	0
MURRAY ST 460 - 690	0	-3930	0	0	0	0	0
AMAROO AVE 00 - 216	0	-5500	0	0	0	0	0
AMAROO AVE 216 - 456	0	-5500	0	0	0	0	0
BANKER ST 00 - 124	0	-6000	0	0	0	0	0
BANKER ST 124 - 262	0	-8000	0	0	0	0	0
BARINYA ST 392 - 839	0	-11000	0	0	0	0	0
BARKER ST 00 - 130	0	0	-4000	0	0	0	0
BARKER ST 130 - 187	0	0	-5000	0	0	0	0
BARKER ST 187 - 263	0	0	-5000	0	0	0	0
BERRIGAN RD 00 - 303	0	0	0	-5000	0	0	0
BURTON ST 00 - 88	0	-4500	0	0	0	0	0
CHARLOTTE ST 323 - 463	0	0	-3500	0	0	0	0
DAVIS ST 527 - 668	0	0	-12000	0	0	0	0
DAVIS ST 296 - 527	0	0	-26000	0	0	0	0
DENILIQUIN ST 585 - 823	0	-12000	0	0	0	0	0
DENILIQUIN ST 1302 - 1498	0	0	-7000	0	0	0	0
DENISON ST 1409 - 1619	0	-13000	0	0	0	0	0
DENISON ST BER 217 - 1242	0	0	-5000	0	0	0	0
ENDEAVOUR ST 00 - 391	0	0	-8000	0	0	0	0
HAMPDEN ST 617 - 647	0	0	-2000	0	0	0	0
HILES CRT 00 - 88	0	0	-2500	0	0	0	0
HORSFALL ST 00 - 134	0	-2200	0	0	0	0	0
HORSFALL ST 134 - 277	0	-2300	0	0	0	0	0
LAWSON DRIVE 00 - 129	0	0	-6000	0	0	0	0
MACDONALD CRT 00 - 105	0	0	-3000	0	0	0	0
MCALLISTER ST 679 - 914	0	-8000	0	0	0	0	0
MCFARLAND ST 175 - 405	0	-10000	0	0	0	0	0

MCFARLAND ST 00 - 175	0	-5000	0	0	0	0	0
MURRAY ST 2025 - 2085	0	0	-2000	0	0	0	0
STILLARDS CRT 00 - 186	0	0	-7000	0	0	0	0
TONGS ST 1017 -1152	0	0	-3000	0	0	0	0
WELLS ST 1008 - 1295	0	0	-6000	0	0	0	0
WOLLAMAI ST 00 - 116	0	-8000	0	0	0	0	0
WOLLAMAI ST 116 - 329	0	-11000	0	0	0	0	0
WOLLAMAI ST 329 - 402	0	-20000	0	0	0	0	0
WOLLAMAI ST 402 - 552	0	-16000	0	0	0	0	0
BAROOGA ST 00 - 506	0	0	0	-17000	0	0	0
BRUTON ST 1126 - 1264	0	0	-6000	0	0	0	0
BRUTON ST 1040 - 1126	0	0	-4000	0	0	0	0
BUCHANANS RD 1500 - 1887	0	0	-10000	0	0	0	0
CLOSE ST 00 - 100	0	0	-5000	0	0	0	0
COBRAM ST TOC 516 - 612	0	0	-2500	0	0	0	0
COBRAM ST TOC 275 - 413	0	0	-2500	0	0	0	0
COBRAM ST TOC 413 - 516	0	0	-5000	0	0	0	0
DAWE AVE 253 - 576	0	0	-13000	0	0	0	0
DAWE AVE 00 - 253	0	0	-12000	0	0	0	0
GUNNAMARA ST 121 - 346	0	0	-10000	0	0	0	0
HOYLE ST 00 - 216	0	0	-6000	0	0	0	0
KAMAROOKA ST 475 - 788	0	0	-7000	0	0	0	0
TUPPAL ST 630 - 684	0	0	-4000	0	0	0	0
WISE CRT 00 - 275	0	0	-10000	0	0	0	0
BUCHANANS RD 866 - 900	0	0	-2000	0	0	0	0
BURKE ST 00 - 243	0	0	0	-6000	0	0	0
CLOSE ST 100 - 236	0	0	-5500	0	0	0	0
CORCORAN ST 00 - 382	0	0	-16000	0	0	0	0
COREE ST 00 - 245	0	0	0	-14000	0	0	0
DEAN ST EAST 00 - 190	0	0	-9000	0	0	0	0

DENISON ST BER 00 - 217	0	0	-8000	0	0	0	0
DRUITT CRT 00 - 86	0	0	0	-2500	0	0	0
ENDEAVOUR ST 391 - 673	0	0	-8000	0	0	0	0
FORREST CRT 00 - 57	0	0	0	-2000	0	0	0
GORMLEY CRT 00 - 195	0	0	0	-4500	0	0	0
GREGGERYS RD 198 - 396	0	0	-7000	0	0	0	0
GUNNAMARA ST 00 - 121	0	0	-6000	0	0	0	0
JAMES CRT 00 - 196	0	0	0	-6000	0	0	0
KELLY ST 439 - 664	0	0	0	-3000	0	0	0
KELLY ST 664 - 801	0	0	0	-4000	0	0	0
KELLY ST 801 - 948	0	0	0	-2000	0	0	0
KELLY ST 948 - 1030	0	0	0	-2500	0	0	0
LANE NO 840 809 - 1039	0	0	0	-3500	0	0	0
MURRAY ST 690 - 920	0	0	-11000	0	0	0	0
TOCUMWAL ST 372 - 715	0	-23000	0	0	0	0	0
TOCUMWAL ST 242 - 372	0	0	0	0	-9000	0	0
TOCUMWAL ST 00 - 242	0	0	0	-11000	0	0	0
TONGS ST 912 - 1017	0	0	0	-3500	0	0	0
TONGS ST 386 - 912	0	0	0	-19500	0	0	0
TOWN BEACH RD 00 - 110	0	0	0	-2000	0	0	0
TUPPAL ST 684 - 914	0	0	0	-8000	0	0	0
WILLIAM ST 289 - 376	0	0	-2000	0	0	0	0
WILLIAM ST BER 00 - 155	0	0	0	double	0	0	0
WILLIAM ST BER 321 - 399	0	0	-3000	0	0	0	0
WOLLAMAI ST 1497 - 1599	0	0	0	0	-3000	0	0
WOLLAMAI ST 1282 - 1497	0	0	0	0	-11000	0	0
ADAMS ST 70 - 195	0	0	0	0	-7000	0	0
ADAMS ST 00 - 30	0	0	0	0	-2000	0	0
ADAMS ST 30 - 70	0	0	0	0	-3000	0	0
ALEXANDER AVE 00 - 286	0	0	0	-12000	0	0	0

ANTHONY AVE 00 - 151	0	0	0	0	0	-3000	0
BARINYA ST 00 - 392	0	0	0	0	-14000	0	0
BERRIGAN ST 00 - 266	0	0	0	0	0	-7000	0
CARTER ST 00 - 258	0	0	0	-9000	0	0	0
CHANTER ST 341 - 771	0	0	0	0	-8000	0	0
COWLEY ST 00 - 150	0	0	0	0	-4500	0	0
DUFF ST 00 - 104	0	0	0	0	-4500	0	0
HILLSON ST 00 - 88	0	0	0	0	0	-3000	0
ISABEL AVE 00 - 101	0	0	0	0	-3500	0	0
LAWSON DRIVE 129 - 295	0	0	0	0	0	-5000	0
LAWSON DRIVE 295 - 532	0	0	-9000	0	0	0	0
LORELLE CRT 00 - 71	0	0	0	0	0	-1000	0
LORELLE CRT 71 - 136	0	0	0	0	0	-1000	0
MURRAY ST NTH 127 - 1030	0	0	0	0	-19000	0	0
PARKES ST 00 - 234	0	0	0	0	0	-10000	0
RILEY COURT A 265 - 304	0	0	0	0	-1000	0	0
RILEY COURT A 304 - 310	0	0	0	0	-1000	0	0
RILEY CRT 103 - 265	0	0	0	0	-3000	0	0
SCOULLAR ST 256 - 340	0	0	0	0	0	-2000	0
SHORT ST A 00 - 59	0	0	0	0	0	-1000	0
WOLLAMAI ST 552 - 665	0	0	-9000	0	0	0	0
WOLLAMAI ST 728 - 822	0	0	0	0	0	-7000	0
CALAWAY ST 696 - 914	0	0	0	0	-6000	0	0
FINLEY ST 480 - 713	0	0	0	0	-12000	0	0
GOLFCOURSE RD 00 - 150	0	0	0	0	0	-7500	0
HUTSONS RD 00 - 941	0	-20000	0	0	0	0	0
MURRAY GROVE 00 - 285	0	0	0	0	-6000	0	0
PINNUCK ST 00 - 246	0	0	0	0	0	-5000	0
PINNUCK ST 246 - 302	0	0	0	0	0	-3000	0
PINNUCK ST 302 - 732	0	0	0	0	0	-25000	0

PINNUCK ST 732 - 976	0	0	0	0	0	-14000	0
ULUPNA ST 00 - 411	0	0	0	0	0	-33000	0
BRIDGE ST 298 - 436	0	0	0	0	0	0	-3000
COLLIE ST 698 - 915	0	0	0	0	0	-6500	0
FLIGHT PLACE 00 - 202	0	0	0	0	0	-4000	0
HEADFORD ST 452 - 710	0	0	0	0	0	0	-9000
HENNESSY ST 250 - 291	0	0	0	0	0	-1000	0
HENNESSY ST 00 - 250	0	0	0	0	0	-3000	0
HONNIBALL DR 00 - 325	0	0	0	-6000	0	0	0
HONNIBALL DR 325 - 1101	0	0	0	-13000	0	0	0
INGO RENER DR 00 - 257	0	0	0	0	0	-7800	0
JERILDERIE ST 580 - 831	0	0	0	0	0	-8000	0
JERILDERIE ST 831 - 1120	0	0	0	0	-9000	0	0
SCOULLAR ST 748 - 926	0	0	0	0	0	0	-4000
TONGS ST 1152 - 1322	0	0	0	0	0	-9000	0
TOWN BEACH RD 110 - 361	0	0	0	0	0	0	-2000
ANTHONY AVE 151 - 337	0	0	0	0	-4000	0	0
BABS CRT 00 - 311	0	0	0	0	0	-7500	0
BANKER ST 536 - 879	0	0	0	0	0	0	-7000
BRIDGET ST 00 - 300	0	0	0	0	0	0	-13000
BROOKS AVE 00 - 139	0	0	0	0	0	0	-4000
BROOKS AVE 139 - 209	0	0	0	0	0	0	-2000
BROOKS AVE 209 - 376	0	0	0	0	0	0	-5000
BRUNKER ST 344 - 513	0	0	0	0	-4500	0	0
BRUTON ST 1264 - 1440	0	0	0	0	0	0	-9000
BRUTON ST 00 - 591	0	0	0	0	0	0	-23000
CALAWAY ST 356 - 458	0	0	0	0	0	0	-3000
CHARLOTTE ST 00 - 149	0	0	0	0	0	0	-6000
CHARLOTTE ST 146 - 323	0	0	0	0	0	0	-7000
CLAIRE DR 00 - 508	0	0	0	0	0	0	-10000

CORCORAN ST 522 - 723	0	0	0	0	0	0	-7000
COWLEY ST 150 - 220	0	0	0	0	-2500	0	0
CREED ST 00 - 157	0	0	0	0	0	0	-6000
FOUNDRY LANE 1039 - 1274	0	0	0	0	0	0	-3000
GEORGE ST 00 - 122	0	0	0	0	0	-3000	0
GREGGERYS RD 516 - 725	0	0	0	-4500	0	0	0
HAMPDEN ST 250 - 617	0	0	0	0	0	0	-16000
HAMPDEN ST 65 - 250	0	0	0	0	0	0	-10000
HANNAH ST 00 - 287	0	0	0	0	0	0	-12000
JAMES CRT TOC 00 - 228	0	0	0	0	0	-5500	0
LYSAGHT ST 00 - 405	0	0	0	0	-11000	0	0
MOORE ST 00 - 526	0	0	0	0	0	-15000	0
NANGUNIA ST BER 00 - 492	0	0	0	0	0	-11000	0
PINE VIEW DR 00 - 427	0	0	0	0	0	-10500	0
URBAN ROADS - RESEALS EXPENDITURE Total	0	-291761	-308000	-165500	-148500	-240300	-161000
TOWNSCAPE WORKS INCOME							
BAROOGA							
To be determined	0	0	0	0	0		
BAROOGA Total	0	0	0	0	0	0	0
BERRIGAN							
To be determined	0	0	0	0	0		
BERRIGAN Total	0	0	0	0	0	0	0
FINLEY							
To be determined	0	0	0	0	0		
FINLEY Total	0	0	0	0	0	0	0

	TOCUMWAL						
	To be determined	0	0	0	0	0	0	0
	TOCUMWAL Total	0	0	0	0	0	0	0
TOWNSCAPE WORKS INCOME Total		0	0	0	0	0	0	0
TOWNSCAPE WORKS EXPENDITURE								
	BAROOGA							
	Town Entry	0	0	0	0	0		
	BAROOGA Total	0	0	0	0	0	0	0
	BERRIGAN							
	Town Entry	0	0	0	0	0		
	BERRIGAN Total	0	0	0	0	0	0	0
	FINLEY							
	Coree St - Ulupna to Tongs Median Treatment	-50000	0	-50000	-50000	0		
	Denison St - Ulupna to Tongs Median Treatment	0	0	0	0	-50000		
	FINLEY Total	-50000	0	-50000	-50000	-50000	0	0
	TOCUMWAL							
	To be determined	0	0	0	0	0		
	TOCUMWAL Total	0	0	0	0	0	0	0
	UNGROUPED							
	Town Entry	-100000	-50000	-100000	-100000	-100000		
	UNGROUPED Total	-100000	-50000	-100000	-100000	-100000	0	0
TOWNSCAPE WORKS EXPENDITURE Total		-150000	-50000	-150000	-150000	-150000	0	0

TOWNSCAPE WORKS TOTAL	-150000	-50000	-150000	-150000	-150000	0	0
RURAL ROADS UNSEALED - RESHEET INCOME							
UNGROUPED							
To be determined	0	0	0	0	0		
UNGROUPED Total	0	0	0	0	0	0	0
RURAL ROADS UNSEALED - RESHEET INCOME Total	0	0	0	0	0	0	0
RURAL ROADS UNSEALED - RESHEET EXPENDITURE							
UNGROUPED	0	0	0	0	0	0	
Alexanders Rd From End of Bitumen to Old Toc Berrigan Rd	-70000	-70000	0	0	0	0	0
Womboin RdMR363 to Nolans Rd - 3150	0	0	-115083.4	0	0	0	0
Womboin RdMR550 to Kennedy's Rd - 3350	0	0	-121896.92	0	0	0	0
MIECHELS RD0 to 3040 - 3040	0	0	-111335.96	0	0	0	0
Laffeys Rd from Ennals Rd to MIL ent - 980	0	0	-41156.708	0	0	0	0
Laffeys Rd from Ennals Rd to house entrance	-20000	-20000	0	0	0	0	0
Hogans Rd371 to 2459 - 2088	0	0	-78903.609	0	0	0	0
BOXWOOD RD0 to 2753 - 2753	0	0	0	-101559	0	0	0
Miechels Rd from SH17 to 3.1km West	-119000	-119000	0	0	0	0	0
EDNIES RD0 to 2003 - 2003	0	0	0	-76007.9	0	0	0
Winters Rd MR363 to 2.4km - 2400	0	0	0	-89532.7	0	0	0
SHERWINS RD1585 to 5313 - 3728	0	0	0	-134774	0	0	0
Winters Rd from MR363 to 1.5km East	-50000	-50000	0	0	0	0	0
OLD ADCOCKS RD2637 to 6026 - 3389	0	0	0	0	-123226	0	0
EARLS RD0 to 2363 - 2363	0	0	0	0	-88272.2	0	0
EDGECOMBE RD0 to 2134 - 2134	0	0	0	0	-80470.7	0	0
SULLIVANS RD0 to 2660 - 2660	0	0	0	0	-98390.3	0	0
LARKINS RD5417 to 7563 - 2146	0	0	0	0	0	-80879.5	0
MCDONALDS RD2763 to 6300 - 3537	0	0	0	0	0	-128268	0

MILLS RD0 to 4849 - 4849	0	0	0	0	0	-172964	0
MORTONS RD6028 to 6686 - 658	0	0	0	0	0	-30186.9	0
Wiltons Rd3000 to 5300 - 2300	0	0	0	0	0	0	-86125.9
hogans Rd	-180000	-180000	0	0	0	0	0
Daltons Rd0 to 1782 - 1782	0	0	0	0	0	0	-68478.9
Thorburn Rd5113 to 9632 - 4519	0	0	0	0	0	0	-161722
Creed St157 to 407 - 250	0	0	0	0	0	0	-16287.4
cronulla Rd0 to 1495 - 1495	0	0	0	0	0	0	-58701.5
Spring Rd 300 (near Jenkins) - 300	0	0	0	0	0	0	-17990.7
urban lanes / rec	0	0	-50000	-50000	-50000	-50000	-50000
Jenkins Rd0 to 1108 - 1108	0	0	0	0	0	0	0
Back Barooga Rdconfirm location - 2000	0	0	0	0	0	0	0
Lower River Rdconfirm location - 2000	0	0	0	0	0	0	0
Clearview RdYarrawonga Rd to end - 2347	0	0	0	0	0	0	0
Stonebank Rd2020/2021	0	0	0	0	0	0	0
Lawlors Rd from Thorntons Rd to 1.6k Eastfrom Thorntons Rd to 1.6k East - 1600	0	0	0	0	0	0	0
Greggerys Rd725 to 975 - 250	0	0	0	0	0	0	0
Marantells RdRiverina hwt to nth 750m - 750	0	0	0	0	0	0	0
Ruwolts Rdsections not responsible by quarry's - 530	0	0	0	0	0	0	0
Taylors Rd2270 to 6201 - 3931	0	0	0	0	0	0	0
VAGGS RD0 to 2800 - 2800	0	0	0	0	0	0	0
BROOKMANNS RD4500 to 9000 - 4500	0	0	0	0	0	0	0
CAMERONS LANE0 to 500 - 500	0	0	0	0	0	0	0
STOCK ROUTE RD6659 to 11416 - 4757	0	0	0	0	0	0	0
Smithers Rd0 to 3590 - 3590	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
UNGROUPED Total							

RURAL ROADS UNSEALED - RESHEET EXPENDITURE Total	-439000	-439000	-518376.6	-451874	-440359	-462298	-459306
RURAL ROADS SEALED - RESEALS INCOME							
UNGROUPED							
To be determined	0	0	0	0	0		
UNGROUPED Total	0	0	0	0	0	0	0
RURAL ROADS SEALED - RESEALS INCOME Total	0	0	0	0	0	0	0
RURAL ROADS SEALED - RESEALS EXPENDITURE							
HUGHES ST 326 - 463	0	0	0	0	-11000	0	0
HUGHES ST 463 - 623	0	0	0	0	-8000	0	0
GOLFCOURSE RD 150 - 273	0	0	0	0	0	-10000	0
GOLFCOURSE RD 273 - 2063	0	0	0	0	0	-90000	0
GOLFCOURSE RD 2063 - 2955	0	0	0	0	0	-45000	0
COLDWELLS RD 6615 - 6830	0	0	-4000	0	0	0	0
COLDWELLS RD 00 - 3621	0	-63000	0	0	0	0	0
COLDWELLS RD 5395 - 6615	0	0	-18000	0	0	0	0
COLDWELLS RD 6830 - 7052	0	0	-4000	0	0	0	0
RACECOURSE RD 7322 - 7862	0	-15000	0	0	0	0	0
RACECOURSE RD BER - 00 - 1080	0	-22000	0	0	0	0	0
TUPPAL RD 1398 - 1799	0	0	-8000	0	0	0	0
WOOLSHED RD 2562 - 2819	0	0	-4000	0	0	0	0
RACECOURSE RD 4279 - 5669	0	0	-53000	0	0	0	0
LOWER RIVER RD 1902 - 2278	0	0	-8000	0	0	0	0
LOWER RIVER RD 00 - 1902	0	0	0	-38000	0	0	0
COLDWELLS RD 7052 - 8185	0	0	0	-15000	0	0	0
MELROSE RD 00 - 4948	0	0	0	0	-150000	0	0
RACECOURSE RD 00 - 1541	0	0	-20000	0	0	0	0
SOUTH COREE RD 8777 - 10395	0	0	-36000	0	0	0	0

TUPPAL RD 13292 - 18491	0	0	0	-120000	0	0	0
TUPPAL RD 8408 - 3290	0	0	0	0	-150000	0	0
TUPPAL RD 2852 - 4800	0	0	0	0	-50000	0	0
TUPPAL RD 4800 - 5558	0	0	0	0	0	-58000	0
YARRAWONGA RD 10495 - 12331	0	0	0	0	-37000	0	0
YARRAWONGA RD13149 - 18728	0	0	0	0	0	-114000	0
CROSBIES RD 00 - 98	0	0	0	0	0	-2000	0
CROSBIES RD 2665 - 3032	0	0	0	0	0	-4000	0
CROSBIES RD 3972 - 4421	0	0	0	0	0	0	-8000
CROSBIES RD 5692 - 5993	0	0	0	0	0	-5000	0
WOOLSHED RD 15180 - 17214	0	0	0	0	-35000	0	0
YARRAWONGA RD 7082 - 10495	0	0	0	0	0	0	-85000
YARRAWONGA RD 6490 - 7082	0	0	0	0	0	-20000	0
YARRAWONGA RD 3592 - 6490	0	0	0	0	0	0	-65000
YARRAWONGA RD2632 - 3592	0	0	0	0	0	0	-21000
YARRAWONGA RD 29403 - 30501	0	0	0	0	0	0	-43000
FULLERS RD 3400 - 6498	0	0	0	0	0	0	-50000
TUPPAL RD 879 - 1398	0	0	0	0	0	0	-9000
YARRAWONGA RD 24662 - 26084	0	0	0	0	0	0	-55000
FULLERS RD 3255 - 3400	0	0	0	0	0	0	-5000
YARRAWONGA RD 26084 - 29403	0	0	0	0	0	0	-129000
SEPPELTS RD 0 - 60	0	-2000	0	0	0	0	0
BACK BAROOGA RD 6558 - 6787	0	0	-3000	0	0	0	0
PINEY RD 4576 -5941 (Shoulder Widening)	0	0	-172500	0	0	0	0
PINEY RD 5941 - 6594	0	0	-11000	0	0	0	0
BURMA RD 00 - 1311	0	-25000	0	0	0	0	0
BARNES RD 2740 - 3462	0	0	0	0	0	0	0
CARAMAR RD 622 - 5876	0	0	0	0	0	-95000	0
LOGIE BRAE RD 2379 - 2726	0	-6000	0	0	0	0	0
LOGIE BRAE RD 2726 - 5466	0	-56000	0	0	0	0	0

MARSHES RD 00 - 1956	0	0	0	0	0	-76000	0
PINEY RD 11377 - 13763	0	-30000	0	0	0	0	0
SHANDS RD 00 - 5718	0	0	0	-72000	0	0	0
ALEXANDERS RD 00 - 65	0	0	-1000	0	0	0	0
ALEXANDERS RD 65 - 1307	0	0	-16000	0	0	0	0
CARAMAR RD 5876 - 6160	0	0	0	-7000	0	0	0
CARAMAR RD 6160 - 6802	0	0	0	-10000	0	0	0
CASEYS RD 4960 - 5948	0	0	-13000	0	0	0	0
CLEARVIEW RD 00 - 310	0	0	-6000	0	0	0	0
DALES RD 00 - 1831	0	-36000	0	0	0	0	0
DALES RD 1871 - 2665	0	-15000	0	0	0	0	0
PINELODGE RD3086.007577.00	0	0	-85000	0	0	0	0
SPRINGFIELD RD3855.004628.00	0	0	-10000	0	0	0	0
BABBINGTONS RD841.001717.00	0	0	0	-18000	0	0	0
BURMA RD1311.002243.00	0	0	0	-18000	0	0	0
BUSHFIELD RD0.004012.00	-22000	0	0	-51000	0	0	0
CASEYS RD5948.006321.00	-29000	0	0	0	-4000	0	0
CASEYS RD6321.007276.00	-72000	0	0	0	-19000	0	0
LAWLORS RD BER0.003572.00	0	0	0	-45000	0	0	0
MCMURRAYS RD0.001110.00	0	0	0	0	0	-19000	0
NARROW PLAINS RD0.001119.00	0	0	0	-60000	0	0	0
PEPPERTREE RD5188.005801.00	0	0	0	-12000	0	0	0
PEPPERTREE RD5801.008004.00	0	0	0	-5000	0	0	0
PEPPERTREE RD8004.008354.00	0	0	0	-42000	0	0	0
PINEY RD6594.008581.00	0	0	0	-25000	0	0	0
SEPPELTS RD60.001484.00	0	-27000	0	0	0	0	0
STOCK ROUTE RD0.002358.00	0	0	-30000	0	0	0	0
STOCK ROUTE RD2358.002707.00	0	0	-7000	0	0	0	0
STOCK ROUTE RD2707.003035.00	0	0	-4000	0	0	0	0
BATTENS RD0.00141.00	0	0	0	-3000	0	0	0

BATTENS RD143.00478.00	0	0	0	-5000	0	0	0
BATTENS RD478.00691.00	0	0	0	-3000	0	0	0
BATTENS RD691.001073.00	0	0	0	-5000	0	0	0
BATTENS RD1073.001321.00	0	0	0	-4000	0	0	0
BATTENS RD1321.004404.00	0	0	0	-42000	0	0	0
BRAYBONS RD0.003574.00	0	0	0	0	-46000	0	0
CARAMAR RD0.00622.00	0	0	0	0	-14000	0	0
CARRUTHERS RD0.001660.00	0	0	0	0	-21000	0	0
CASEYS RD7276.008371.00	0	0	0	0	0	-39000	0
HOGANS RD2459.003079.00	0	0	0	0	-12000	0	0
KILLEENS RD2386.002742.00	0	0	0	-9000	0	0	0
MARIAN DR0.00679.00	0	0	0	0	-14000	0	0
MAXWELLS RD0.005100.00	0	0	0	0	0	0	-122000
MAXWELLS RD8368.008454.00	0	0	0	0	0	0	-1000
MCCULLOCHS RD0.003043.00	0	0	0	0	-38000	0	0
NARROW PLAINS RD0.001119.00	0	0	0	-20000	0	0	0
OLD TOC BER RD4306.004932.00	0	0	0	0	-11000	0	0
PINELODGE RD0.003086.00	0	0	0	0	-59000	0	0
PINEY RD3390.004576.00	0	0	0	-25000	0	0	0
QUICKS RD TOC0.001931.00	0	0	0	-39000	0	0	0
QUIRKS RD5017.006644.00	0	0	0	0	-21000	0	0
THORBURNS RD4426.005113.00	0	0	0	0	-9000	0	0
HUESTONS RD292.004845.00	0	0	0	0	0	0	-49000
HUESTONS RD4845.008726.00	0	0	0	0	0	0	-42000
RURAL ROADS SEALED - RESEALS EXPENDITURE Total	-123000	-297000	-513500	-693000	-709000	-577000	-684000
RURAL ROADS CONSTRUCTION INCOME							

	UNGROUPED							
	Fixing Country Roads - Strathvale Rd	0	0	0	0	0		
	UNGROUPED Total	0	0	0	0	0	0	0
RURAL ROADS CONSTRUCTION INCOME Total		0	0	0	0	0	0	0
RURAL ROADS CONSTRUCTION EXPENDITURE								
	UNGROUPED	0	0	0	0	0	0	0
	Barnes Rd - Logie Brae Rd to Maxwells Rd	0	0	0	0	0	0	0
	Barnes Rd - Maxwell Rd to South Coree Rd	0	0	0	-220000	0	0	0
	Battens Rd MR356 to Green Swamp Rd	0	0	0	0	0	0	0
	Caseys Rd 00 to 1.5km	0	0	0	0	0	0	0
	Clearzones	-75000	-50000	-50000	-50000	-50000	-50000	-50000
	Coldwells Rd - 5300 to 6300 east of Berrigan-Barooga Rd	0	0	0	0	0	0	0
	Coldwells Rd - 4965-5395	0	0	-113000	0	0	0	0
	Draytons Rd - Withers Rd to Yarrawnga Rd	0	0	0	0	0	0	0
	Piney Rd - Bends Section	0	0	0	0	0	0	0
	Shands Rd - MR363 to Rockcliffs Rd	0	0	0	0	0	0	0
	To be determined	0	0	0	0	0	0	0
	Burma Rd 00 to 1.3km	0	0	0	0	0	0	0
	Woolshed Rd 2.4 to 2.9 & 3.5 to 4.8	0	0	0	0	0	0	0
	Yarrawonga Rd 2.1 to 6.1	-560000	-140000	-140000	-140000	-140000	0	0
	Yarrawonga Rd 20.1 to 21.7	0	0	-225000	0	0	0	0
	Yarrawonga Rd 00-733	0	0	0	0	0	0	-174000
	Maxwells Rd - 5.7 to 7.4	0	0	0	0	0	0	0
	Piney Rd - 11.8 to 13.8	0	0	0	0	0	-250000	0
	Bushfield Rd 00 to 5km	-355174	-355174	-250000	0	0	0	0
	Yarrawonga Rd 18.7 to 21.7	-100000	-100000	0	0	0	0	0
	Peppertree Rd - to 3.5 to 4.2 from woolshed	0	0	0	0	0	0	0
	Crosbies Rd Bridge Approaches	0	0	0	0	0	0	0

Crosbies Rd from 4.4 to 5.7	0	0	0	0	0	0	0
Heavy Patching	0	0	0	0	0	-250000	-250000
Lower River Rd - 2278-3047	0	0	0	0	0	-133000	0
Lower River Rd - 3480-4836	0	0	0	0	0	-235000	0
Lower River Rd - 5415-6813	0	0	0	0	0	-242000	0
Lower River Rd - 1902-2278	0	0	0	0	0	0	-78000
Lower River Rd - Causeways 2.8 and 3.2	-200000	-200000	0	0	0	-200000	0
Racecourse Rd Toc - 7322-7862	0	0	0	0	-171000	0	0
Racecourse Rd Toc - 4279-5669	0	0	0	0	0	0	-345000
Snell Road 00-1225	0	0	0	0	-260000	0	0
Strathvale Rd	0	0	0	0	0	0	0
South Coree Rd 8320-8777	0	0	-112000	0	0	0	0
South Coree Rd 0-1742	0	0	0	0	-460000	0	0
Tuppal Road 1398-1799	0	0	0	0	-98000	0	0
Woolshed Rd 21.0-22.0	0	0	-90000	-380000	0	0	0
Maxwells Rd - Larkins Rd to Riverina Hwy	0	0	0	0	0	0	0
Melrose Rd - 9637 to 10653	0	0	0	0	0	0	0
Melrose Rd - 8637-9637	0	0	-223000	0	0	0	0
Melrose Rd -7570-8637	0	0	0	-238000	0	0	0
Melrose Rd - 00-4948 (part)	0	0	0	0	-265000	0	0
Coldwells Rd	0	0	0	0	0	0	0
Peppertree Rd - to 2.4 to 3.5 from woolshed	0	0	0	0	0	0	0
Lawlors Rd Berrigan - Heavy Patching	-70000	-70000	0	0	0	0	0
Crosbies Rd - Curves	0	0	0	0	0	0	0
Stock Route Road 0-3032	0	0	-150000	-300000	0	0	0
RURAL ROADS CONSTRUCTION EXPENDITURE Total	-1360174	-915174	-1353000	-1328000	-1444000	-1360000	-897000
RURAL ROADS CONSTRUCTION TOTAL	-1360174	-915174	-1353000	-1328000	-1444000	-1360000	-897000
RMS WORKS INCOME							
UNGROUPED							

	RMS Block	175000	175000	175000	175000	175000	175000	175000
	RMS Repair	175000	175000	175000	175000	175000	175000	175000
	UNGROUPED Total	350000	350000	350000	350000	350000	350000	350000
RMS WORKS INCOME Total		350000	350000	350000	350000	350000	350000	350000
RMS WORKS EXPENDITURE								
	MR363 -12626.00-14786.00						233000	391000
	MR550-17304.00-20569.00							
	MR363-1246-1665		170000					
	MR550-2934-3710					113000	111000	
	MR550-1016-2654				113000	360000		
	MR363-1665-4250		190000	360000	197000			
	MR226-2105-3469		150000	150000	200000	Asphalt overlay		
	MR564-1957-3419							
	MR363-8033-8924							119000
	MR363-4250-4378					37000		
	MR363-168-744						166000	
RMS CONSTRUCTION TOTAL			510000	510000	510000	510000	510000	510000
RMS RESEALING			350000	350000	350000	350000	350000	350000

RMS WORKS EXPENDITURE Total								
R2R GRANT								
	UNGROUPED							
	To be determined	1316290.5	1316290.5	987218	987218	987218	987218	987218
R2R GRANT Total		1316290.5	1316290.5	987218	987218	987218	987218	987218
FOOTPATHS INCOME								
	BAROOGA							
	Nangunia St - Botanical Gardens to Takari St	0	0	0	0	0	0	
	BAROOGA Total	0	0	0	0	0	0	0
	BERRIGAN							
	Jerilderie St - End of concrete path to Stafford St					14000		
	Stafford St - Jerilderie St to FlynnSt					1500		
	Momalong St - Jerilderie St to Davis St			0	5808	0		
	Jerilderie St - Horsfall St to Orr St				22000			
	BERRIGAN Total	0	0	0	27808	15500	0	0
	FINLEY							
	Tongs St - Coree St to Murray St	0	0	0	0	0	0	
	Coree St McNamara to Tongs	23000	23000	0	0	0	0	

	Dawe Ave - Finley Regional Care to Pre-School	0	15000	0	0	0	0	
	Donaldson Street - Schoullar to Dawe	0	6000	0	0	0	0	
	Schoullar St - Donaldson to Finley Regional Care	0	0	0	0	0	0	
	Finley Chamber Walking Track Tongs St	0	0	0	0	0	0	
	FINLEY Total	23000	44000	0	0	0	0	0
	TOCUMWAL							
	Jerilderie St Nth	25000	25000	0	0	0	0	
	SCCF - Extension Path Network	0	0	0	0	0	0	
	Bruton St - Anthony to Hannah	0	0	13500	0	0	0	
	Hannah St - Hennessy to Bruton	0	0	21500	0	0	0	
	Hennessy St - Town Beach Rd to Morris St						7300	
	Charlotte St - Bruton St to Hennessy St				10000			
	Kelly St - Charlotte St to Jerilderie St							7500
	TOCUMWAL Total	25000	25000	35000	10000	0	7300	7500
FOOTPATHS INCOME Total		48000	69000	35000	37808	15500	7300	7500
FOOTPATHS EXPENDITURE								
	BAROOGA							
	Nangunia St - Botanical Gardens to Takari St	0	0	0	0	0	0	
	BAROOGA Total	0	0	0	0	0	0	0
	BERRIGAN							
	Jerilderie St - End of concrete path to Stafford St					-45000		
	Stafford St - Jerilderie St to FlynnSt					-15000		
	Momalong St - Jerilderie St to Davis St			0	-13200	0		
	Jerilderie St - Horsfall St to Orr St				-56400			
	Hayes Park Toilets Footpath	0	0	0	0	0	0	

Racecourse Rd - Walking Tr Cobram to Jerilderie	0	0	0	0	0	0	
BERRIGAN Total	0	0	0	-69600	-60000	0	0
FINLEY							
Tong St walking Track	0	0	0	0	0		
Tongs St - Coree St to Murray St	0	0	0	0	0		
Coree St McNamara to Tongs	-48000	-48000	0	0	0	0	
Dawe Ave - Finley Regional Care to Pre-School	0	-40000	0	0	0	0	
Donaldson Street - Schoullar to Dawe	0	-13000	0	0	0	0	
Scoullar St - Donaldson to Finley Regional Care	0	0	0	0	0	0	
Finley St Detention Basin	-20000	-20000	0	0	0	0	
Finley Chamber Walking Track Tongs St	-20000	-20000	0	0	0	0	
FINLEY Total	-88000	-141000	0	0	0	0	0
TOCUMWAL							
Jerilderie St Nth	-60000	-60000	0	0	0	0	
SCCF - Walking track to Quicks Rd / Babingtons / MR550	0	0	0	0	0	0	
Quicks Rd Walking Track	0	0	0	0	0	0	
Bruton St - Anthony to Hannah	0	0	-30000	0	0	0	
Hannah St - Hennessy to Bruton	0	0	-45000	0	0	0	
Hennessy St - Town Beach Rd to Morris St	0	0	0	0	0	-19200	
Charlotte St - Bruton St to Hennessy St				-50000			
Kelly St - Charlotte St to Jerilderie St							-66000
TOCUMWAL Total	-60000	-60000	-75000	-50000	0	-19200	-66000
UNGROUPED							
Street Lighting in Towns	-10000	-10000	-10000	-10000	-10000	-10000	-10000
New Footpaths / replace existing	-10000	-10000	-50000	-20000	-50000	-80000	-50000
UNGROUPED Total	-20000	-20000	-60000	-30000	-60000	-90000	-60000

FOOTPATHS EXPENDITURE Total	-168000	-221000	-135000	-149600	-120000	-109200	-126000
FOOTPATHS NET COST	-120000	-152000	-100000	-111792	-104500	-101900	-118500

Appendix E Disposal Summary

E.1 – Disposal Forecast Assumptions and Source

The only assets identified for disposal during life of this plan are components of the transport infrastructure that replaced prior to reaching their adopted useful life. These assets will have no revenue value and the remaining valuation will be written off the asset register as a book entry.

E.2 – Disposal Forecast Summary

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Table E3 – Disposal Activity Summary

Year	Disposals Forecast	Disposal Budget
2020	0	0
2021	0	0
2022	0	0
2023	0	0
2024	0	0
2025	0	0
2026	0	0
2027	0	0
2028	0	0
2029	0	0
2030	0	0
2031	0	0
2032	0	0
2033	0	0
2034	0	0
2035	0	0
2036	0	0
2037	0	0
2038	0	0
2039	0	0

Appendix F Budget Summary by Lifecycle Activity

Acquisitions will generally be associated with widening of rural roads to adopted service standards or the extension of the kerb and gutter and footpath networks to service the existing residential areas. There will be some donated assets received from property developments, however, there has been no attempt to factor these in as the development rate is unpredictable and they will have only a minor effect on the total asset quantum.

Operational and maintenance costs are expected to increase slightly for the forecast period to service acquisitions and budgets have been prepared to balance expected costs.

The estimates for renewals in this Asset Management Plan were based on the asset register.
The average spend that is budgeted generally allows for renewal of assets as required. There is a significant backlog that should be addressed over the coming five years and then progress with renewal will need to be monitored as the mid term of the budget is approached at 2030 when some significant renewals are forecast. It is possible that these issues can be addressed by deferring renewals if condition ratings are favourable or alternatively the budget may have to be increased for this period.

The only assets identified for disposal during life of this plan are components of the transport infrastructure that replaced prior to reaching their adopted useful life. These assets will have no revenue value and the remaining valuation will be written off the asset register as a book entry.

Table F1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2020	$741,500	$1,223,000	$3,146,007	$2,159,700	0	$7,270,207
2021	$514,200	$1,244,000	$2,619,520	$1,807,300	0	$6,185,020
2022	$718,400	$1,249,117	$2,630,297	$1,784,500	0	$6,382,314
2023	$652,000	$1,253,762	$2,640,078	$1,890,000	0	$6,435,840
2024	$478,200	$1,257,169	$2,647,251	$2,251,000	0	$6,633,620
2025	$496,000	$1,260,702	$2,654,692	$1,742,000	0	$6,153,394
2026	$460,000	$1,263,979	$2,661,592	$1,950,000	0	$6,335,571
2027	$460,000	$1,267,257	$2,668,493	$1,930,000	0	$6,325,750
2028	$460,000	$1,270,534	$2,675,393	$1,930,000	0	$6,335,927
2029	$460,000	$1,273,811	$2,682,294	$1,930,000	0	$6,346,105
2030	$460,000	$1,277,088	$2,689,194	$1,930,000	0	$6,356,282
2031	$460,000	$1,280,365	$2,696,095	$1,980,000	0	$6,416,460
2032	$410,000	$1,283,285	$2,702,245	$1,980,000	0	$6,375,530
2033	$410,000	$1,286,206	$2,708,396	$1,980,000	0	$6,384,602
2034	$410,000	$1,289,127	$2,714,546	$1,980,000	0	$6,393,673
2035	$410,000	$1,292,048	$2,720,697	$1,980,000	0	$6,402,745
2036	$410,000	$1,294,969	$2,726,847	$1,980,000	0	$6,411,816
2037	$410,000	$1,297,890	$2,732,998	$1,980,000	0	$6,420,888
2038	$410,000	$1,300,810	$2,739,148	$1,980,000	0	$6,429,958
2039	$410,000	$1,303,732	$2,745,299	$1,980,000	0	$6,439,031