NAMBUCCA Valley COUNCIL

Sealed Road

Asset Management Plan

Document Control	Asset Management Plan

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Rev No	Date	Revision Details	Author	Reviewer	Approver
2	28/02/2018	Reviewed as per updated Asset Register and Condition of assets	Nurul Amin	Clint Fitzsummons	Paul Gallagher
3.1	May 2022	Post Revaluation Review	Bhabuk Gajurel	Clint Fitzsummons	

NAMS.PLUS Asset Management Plan Templates

NAMS.Plus offers two Asset Management Plan templates – 'Concise' and 'Comprehensive'.

The Concise template is appropriate for those entities who wish to present their data and information clearly and in as few words as possible whilst complying with the ISO 55000 Standards approach and guidance contained in the International Infrastructure Management Manual.

The Comprehensive template is appropriate for those entities who wish to present their asset management plan and information in a more detailed manner.

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 not currently available).

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

This is the **Concise** Asset Management Plan template.

TABLE OF CONTENTS

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1 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

The Nambucca Valley is comparatively a high rainfall area. It occupies a coastal strip within a series of valleys, each valley representing an individual catchment. This topography can make road construction and maintenance challenging.

Asset management planning is a comprehensive process to ensure delivery of services from infrastructure is provided in a financially sustainable manner.

Nambucca Shire Council has a significant portfolio of road assets under its care and control including 346 kilometres of Local Sealed Roads and 36 kilometres of Regional sealed Road.

This asset management plan details information about Sealed Roads assets including actions required to provide a desired (current) 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 the services over a 20-year planning period.

The specific purpose of this plan:

- To provide a framework to detail and examine existing management practices of sealed pavement infrastructure
- To understand and improve Council's Asset Management Capability
- Support long Term Financial Planning (LTFP) as per projected resource requirement
- Assist Council in determining priorities and setting timeframes for the maintenance, renewal, upgrade or new construction of roads
- Managing impact of growth of road network due to upgrade Pacific Highway

1.2 Asset Description

Nambucca Shire Council's sealed road network comprises:

- Sealed Urban Streets (Urban)
- Sealed Rural Local Roads
- Sealed Regional Roads

Sealed road assets have been broken down into four main components for the purpose of better asset and financial management with these components being

- Earthworks (Formation)
- Sub-Pavement(Upgrade Component)
- Pavement (Gravel base/Concrete) and
- Surface (Bitumen seal/Asphaltic Seal)

Nambucca Shire Council adopted a Road Hierarchy (Class 1 to Class 5) Plan to set down the functional classification or functional class in a hierarchy order to formulate the works program for capital renewal/upgrade or development, Maintenance Management Planning, adopting appropriate standards of construction and meeting all obligations in regard to Risk Management associated with the local network.

Existing Sealed Road network comprises:

Hierarchy	Length(km)	% of network
Class 1	76	20
Class 2	100	26
Class 3	173	45
Class 4	33	9
Class 5	0	0

Note: Based on Asset Function and or Asset Type. Council is planning to adopt a state-wide Roads Hierarchy Classification by IPWEA (Local Government Functional Road Classification - Appendix C).

These infrastructure assets have significant value estimated at 30 June 2021

Component	Replacement Value($000)
Surface	$17,899
Pavement	$ 107,129

Assets not covered in this Plan:

- Roundabouts and Speed bump
- Pedestrian Crossing and School Crossing
- Traffic Signs, Safety Sign ,Road Markings
- Traffic Safety Barriers.
- Road Medians

1.3 Levels of Service

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

The main services consequences are:

- Impact of sudden road network growth (15-17%) due to the old Pacific Highway handover to the Council. Increased Operational, Maintenance and depreciation Cost and funding inability may affect the service level of sealed road network. This may result in an additional liability to Council's ratepayers and the future financial sustainability of the Council.
- Unpredicted Sub-base condition or increased traffic loading that results in capital upgrade (new sub-pavement) which may require an additional $4.1 m over the next 10 years.
- Impracticable pavement useful life (Overestimated/underestimated) considered in this plan may not represents the real service life of a pavement, resulting in a surplus or deficit budget in planning.
- Current service level may be interrupted by the failure of the identified critical assets (Gumma Road, Wellington Drive).
- Accuracy and Currency of asset data to support Maintenance and Capital works planning.

1.4 Future Demand

The main demands for new services are created by:

- Expected 7-8 % increase of sealed road network in 2022 as part of old Pacific Highway handover to Council.
- An average annual increase in asset extent arising from new development
- Demand from customers for Sealing of Rural and Urban Gravel Roads and Lane
- Increasing traffic volumes and heavy vehicles due to population growth.
- An increasing customer expectation for improved road condition
- Technological Changes - Impacts of future automated vehicle technology on the provision and maintenance of road infrastructure, including consideration of both current arrangements, and any new arrangements required to support vehicle connectivity.

Parliament of New South Wales, Joint Standing Committee on Road Safety, Report no 2/56 September 2016

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

- Council uses Asset Register, Road hierarchy and acquisition year to estimate and prioritises the renewal or upgrade of sealed road network.
- In conjunction with the Asset Register, Council also uses condition based remaining useful life for capital and maintenance works planning (to meet the demand and provide current level of service).
- Federal Government, State Government and / or Community funding partnership with Council for the upgrade of unsealed roads to sealed roads.

1.5 Lifecycle Management Plan

What does it Cost?

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal and upgrade of existing assets over the 10-year planning period is

Nambucca SC - Report 1 - Executive Summary AM Plan (Sealed Roads_S3_V1)	
Executive Summary - What does it cost?	($000)
10 year total cost [10 yr Ops, Maint,	**$35,093**
10 Year Average Cost	**$3,509**
10 year total LTFP budget [10 yr Ops, Maint,	**$35,102**
10 year average LTFP budget	**$3,510**
10 year AM financial indicator	**100%**
10 year average shortfall	**-$0**

1.6 Financial Summary

What we will do

Council plans to provide Sealed Road Services from the following-

Operation, Maintenance, Renewal and Upgrade of Local and Regional Sealed Roads to meet current service levels within council's annual budget by:

Ongoing Operation and Maintenance -

- Road Surface Defects (Shoving, potholes and Edge break patching, Crack sealing etc.) Repairing.
- Line marking and signage maintenance.
- Pavement Marking Maintenance (Pedestrian Crossing, School Crossing, Raised Marker, Speed bump etc.).
- Road Safety Barrier and Guide Post Maintenance.
- Visibility Clearance.
- Clearing and maintaining drainage works.
- Maintaining the road environs – litter patrol, removing aggregates, oil spills.

This work will also be prioritised based on road hierarchy, defect type and identified risk. Some work will be as part of routine maintenance or reactive maintenance and some work will be Planned Maintenance. Planned Maintenance will also consider the efficient use of resources so as to minimise establishment costs.

Renewal and upgrade works includes:

- Resealing of spray seals or Asphalt Surfaces.
- Grind and replace Asphaltic Surface.
- Full depth rehabilitation with or without subgrade improvement.
- Heavy patching – localised or isolated pavement reconstruction.

Estimated available funding (Local and Grants) for this period is $3,036,078 on average per year as per the long term financial plan or budget forecast. This is 92.42% 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 emphasis of the Asset Management Plan is to communicate the consequences that this will have on the service provided and risks, so that decision making is "informed".

The allocated funding leaves shortfall of $0 on average per year of the projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long Term Financial Plan.

Projected Operating and Capital Expenditure

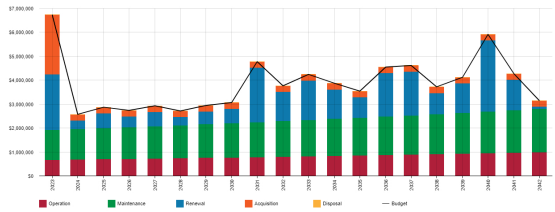


Figure Values are in current (real) dollars.

What we cannot do

We currently do allocate enough funding to sustain these services at the desired standard, but the provision of new services, that are often sought from the community, may quickly erode this sustainability. Works and services that cannot be provided under present funding levels are:

- Constructing new roads
- Stormwater Management in Road Corridor (specially Rural Roads)
- Sealing of roads that are currently unsealed.
- undertaking all asset renewals as and when they are required. Some works may need to be deferred depending on funding availability
- Capital Renewal of anticipated gifted assets by RMS in 2018/2019 are funded by maintenance dairy allocations for the next 10 years. After this period council will need to source funding. Maintenance and operational costs are covered by additional Block Grant funding.
- Allocating funds after major Natural Disaster events
- Managing risk associated with Critical assets.
- Strengthening Pavements to Support increased transport loads.

Managing the Risks
Our present funding levels are sufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Lack of Asset knowledge base and current condition, resulting in possible poor decision making

- Insufficient historical information on original pavements and subgrades
- Insufficient or reduction in levels of grant funding.

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

- Closely Monitoring Road Condition and reviewing the frequency of condition assessments.
- Reviewing and create accurate records of Roads in the Technical Asset Register for critical factors such as useful life, age, physical condition and unit rates used to make decisions for capital works planning.
- Planning of road infrastructure operations - program maintenance and rehabilitation in a financially sustainable manner, which in turn will be aligned with Council's Long Term Financial Plan and field requirements.

1.7 Asset Management Practices

Our systems to manage assets include:

- Road Technical Asset Register.
- Reflect, Maintenance Management System.
- Reflect, Sealed Road Condition Assessment Database.
- Geographical Information System (ArcMAP).
- Authority Financial Management System
- Recover, Natural Disaster Event Management.

Assets requiring renewal/replacement are identified from one of three methods provided in the 'Expenditure Template'.

- Method 1 uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, or
- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as a Pavement Management Systems), or
- Method 3 uses a combination of average network renewals plus defect repairs in the Renewal Plan and Defect Repair Plan worksheets on the 'Expenditure template'.

Method 1 was used for this asset management plan where Council's Road Technical Asset Register valuation data was used to calculate the renewal costs. In this method the acquisition year of an asset is added to the useful life of that asset to estimate the year when renewal is due.

1.8 Monitoring and Improvement Program

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

- Continuing present practice regarding improved asset information such as their value and age to support decision making.
- Review Unit Rates, Useful life and residual value before next AMP update.
- Conducting Periodic Condition Assessment to determine rate of deterioration.
- Continuing Current Maintenance Management Practice to maintain current service until Economic life of an asset or rehabilitation work is feasible
- Considering current data confidence level or quality of data council can adopt more systematic Pavement Management Systems (SMEC, HDM4, ROMAN 2) to predict pavement remaining useful life based on physical parameters such as traffic volume, pavement structure, current defects and condition parameters(Roughness ,Rutting, Cracking, Patching) .
- Developing risk management plans for critical assets identified during the planning phase.

2. INTRODUCTION

2.1 Background

This asset management plan communicates the actions required for the responsive management of assets (and services provided from assets); compliance with regulatory requirements, and funding needed to provide the required levels of service over a 20-year planning period.

The asset management plan is to be read with the Nambucca Shire Council planning documents. This should include the Asset Management Policy and Asset Management Strategy where these have been developed along with other key planning documents:

- Nambucca Shire Council Community Strategic Plan 2023
- Road Technical Asset Register
- Long Term Financial Planning LTFP
- Nambucca Shire Council Maintenance Management Planning
- Road Hierarchy Plan 2009

The infrastructure assets covered by this asset management plan are shown in Table 2.1. Sealed Roads are used to provide access throughout the shire. Description of Sealed Road Hierarchy as follows:

Class	Description
Class 1	Primary Road/Regional Road
Class 2	Secondary Road
Class 3	Minor
Class 4	Access
Class 5	Track

Table 2.1: Assets covered by this Plan

Asset Category	Component	Dimension	Replacement Value($)
Class 1	Surface	75.5 km	5,034,812
	Pavement		22,515,979
Class 2	Surface	100.6 km	4,237,592
	Pavement		28,218,045
Class 3	Surface	179.3 km	7,465,573
	Pavement		49,097,046
Class 4	Surface	32.9 km	1,161,835
	Pavement		7,297,953
		TOTAL	**125,028,835**

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 expenditure and how it will be allocated.

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

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

2.3 Core and Advanced Asset Management

This asset management plan is prepared as a 'core' asset management plan over a 20 year planning period in accordance with the International Infrastructure Management Manual [3]. Core asset management is a 'top down' approach where analysis is applied at the system or network level. An 'advanced' asset management approach uses a 'bottom up' approach for gathering detailed asset information for individual assets.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

This 'core' asset management plan is prepared to facilitate consultation prior to adoption by the Council. Future revisions of the asset management plan will incorporate community consultation on service levels and costs of providing the service. This will assist the Council and stakeholders in matching the level of service required, service risks and consequences with the community's ability and willingness to pay for the service.

Council commissioned a community survey ***by Jetty Research*** to gauge customer satisfaction ***in 2013 and 2016.*** Table below shows customer satisfaction level on sealed road

Table 3.1: Community Satisfaction Survey Levels

Performance Measured	**2016 Survey(Score/5)**				**2021 Survey(Score/5)**			
	Mean Importance	Urban Mean	Rural Mean	Mean	Mean Importance	Urban Mean	Rural Mean	Mean
Sealed Road	4.27	2.69	2.62	2.65	4.51	2.97	2.92	2.94

Key Results:

- Maintaining the sealed road network had the **8th** highest mean importance rating in 2021 (4.06/5)and **2nd** highest mean importance rating(4.27/5) in 2016 survey
- The level of satisfaction for sealed road network **decreased** by **4 %** from 2019 to 2021

Community satisfaction information is used in developing the Strategic Plan and in the allocation of resources in the budget.

3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of the vision, mission, goals and objectives.

Our vision is:

"*Nambucca Valley - living at its best*"

Our mission is:

[1] Community Satisfaction Survey 2013 and 2016

"*The Nambucca Valley will value and protect its natural environment, maintain its assets and infrastructure and develop opportunities for its people*"

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

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

Goal	Objective	How Goal and Objectives are addressed in AM Plan
Managing Public Infrastructures	Providing Transport and Accessibility facilities to meet the required level of service or improve customer satisfaction level	• By improving asset management capacity and information to raise asset knowledge and understanding of the financial risk consequences. • This Sealed Road Asset Management Plan is a formalised and structured way for the Council to communicate and set strategies for the provision to prepare and review the Council's short, medium and long term financial plans.
Reasonable Asset Condition and Community safety through proactive policies, programs and strategies	Maintaining roads as reasonable condition as possible	• Conduct proactive asset maintenance management in accordance with adopted service and intervention levels • Programming for Planned Maintenance activities • Providing reactive maintenance arrangement through Customer Requests
Sustainability	Delivering Services in a way which is sustainable over long term	• Implement strategies to consider the sustainability on a life cycle basis for an asset. The Asset Management Plan in conjunction with Long Term Financial Plan will assesses the long term financial sustainability of council's infrastructure assets.
Customer Service	To be responsive to the customers	• By communicating with customers and stakeholders regarding needs as per council policy
Quality and Cost Balance	Delivering cost effective services which represent good value for money	• An asset inventory is developed and holds condition and performance information to support informed decision making. Major expenditure decisions should be prioritise using a common framework that ensures projects and activities with the highest cost benefit proceed. The decision framework ensures that the lowest lifecycle cost option is selected.
Maturity	A continual improvement approach	• The AM is regularly reviewed and progress reported to the AM team

The Nambucca Shire 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 6.

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. These include:

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act	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.

Roads Act 1997	To provide public access to roads, to classify roads, to act as the local road authority, to carry out certain functions e.g. road works and to regulate activities on public roads.
Australian Accounting Standard AASB116	Reporting on asset condition and consumption to Councillors, management and the community.
Native Vegetation Act	To manage native vegetation, to prevent broad scale clearing, to protect native vegetation, to improve native vegetation and to encourage revegetation of land.
Workplace Health and Safety Act 2011	Protecting workers and other persons against harm to their health, safety and welfare through the elimination or minimisation of risks arising from work.

3.4 Customer Levels of Service

Service levels are defined in two terms, customer levels of service and technical levels of service. These are supplemented by organisational measures.

Customer Levels of Service measure how the customer receives the service and whether value to the customer is provided.

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

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?*

The current and expected customer service levels are detailed in Tables 3.4 and 3.5. Table 3.4 shows the expected levels of service based on resource levels in the current long-term financial plan.

Organisational measures 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.

These Organisational/Organizational measures provide a balance in comparison to the customer perception that may be more subjective.

Table 3.4: Customer Level of Service

	Expectation	**Performance Measure Used**	**Current Performance**	**Expected Position in 10 Years based on the current budget.**
Service Objective: Providing Quality Ride				
Quality	provide a smooth safe road environment	Respond to CRM's and Defects created as part of routine inspection within targeted timeframe in Council's MMS	100% of Customer Request Management (potholes, edge break, cracking and signs) and 87 %(1897 out of 2183) overall within targeted time frame as per Maintenance Management System(Reflect)	95% of overall accomplishment within targeted timeframe.

	Organisational measure (Special Schedule 7)	% of sealed roads in very good/good (condition 1 & 2), Fair (condition 3) and poor/very poor (condition 4 & 5).	42% of sealed roads in very good / good, 48% in fair, and 10% poor/very poor condition.	44% of sealed roads in very good / good, 52% in fair, 4% poor very poor condition.
	Confidence levels		High	Medium to High
Function	Ensure that Council roads meets users need	Customer satisfaction rating	2.94 out of 5 in 2021 which is 4% below than 2019 survey	3.25 out of 5 in 2027 which will be 6% higher than 2021 survey
	Sealed Roads meets hierarchy requirements for traffic volumes, design speed, width, alignment, access	% of sealed roads in very good / good (1,2) and poor / very poor (4,5) functional level	42% of sealed roads in very good / good (1, 2), 48 % in fair (3) and 10% poor/very poor (4, 5) condition.	44% of sealed roads in very good / good (1, 2), 52 % in fair (3), 4% poor (4) and 0% Very Poor(5) condition.
	Confidence levels		Medium	Medium to High
Capacity and Use	Network meets the capacity requirements appropriate to hierarchy	Capacity is matched to need. Current roads may not be capable of carrying higher mass vehicles.	Number of HMV applications rejected.	Not Measured yet
	Organisational measure	Customer service requests related to over or under capacity.	Not Measured yet	Not Measured yet
	Confidence levels		Medium	Medium to High

3.5 Technical Levels of Service

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

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

- Operations – 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 (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),
- Upgrade/New – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.[4]

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

Table 3.5 shows the technical levels of service expected to be provided under this AM Plan. The 'Desired' position in the table documents the position being recommended in this AM Plan.

Table 3.5: Technical Levels of Service

Service Attribute	Service Activity Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **
TECHNICAL LEVELS OF SERVICE				
Operations				
	Servicing and Management	Routine and Reactive Inspections	**Reactive Inspection:** Reactive inspection conducted upon defects repairing requests from the customer. Any damage or defects reported to council should be recorded in Customer Request Management System (**Merit**) or in **TRIM**. Requests then assessed in Reflect by using State-wide defect model to identify response time to rectify that defect. **Routine Inspection:** Class 1 -4 Weeks Class 2 -8 Weeks Class 3 -12 Weeks Class 4 -24 Weeks Class 5 –Upon Request from the customer	Continuing with Present Inspection regime
		Identify condition of assets	Council conducting in house visual assessment of sealed road	Planned to conduct condition assessments every 2-4 years depends on road hierarchy and resources
		Maintenance Management Systems	Reflect used as MMS for roads	
		Budget	$675,686	
Maintenance				
	Repair Sealed Roads Defects within appropriate intervention levels	Respond to Customer Request, Repairing of Defects and Planned Works	87%	95%
		Budget	$1,246,400 (All sealed roads maintenance)	
Renewal				
	Renewal of	Ends of useful life.	95%	100%

Service Attribute	Service Activity Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **
	Surface and Pavement			
		Budget	$2,319,038	
Upgrade/New				
	Capacity Demand			Most of the time pavement of Class 1 and Class 2 Roads fail due to poor subgrade. Council is considering improving subgrade by providing additional Sub-Pavement. Additionally, more capital funding is required for isolated Heavy Patches.
		Budget - Constructed	$2,491,786	Heavy Patching: 250,000/Year

Note: * Current activities and costs (currently funded).
** Desired activities and costs to sustain current service levels and achieve minimum life cycle costs (not currently funded)

It is important to monitor the service levels provided regularly as these will change. The current performance is influences by work efficiencies and technology, and customer priorities will change over time. Review and establishment of the agreed position which achieves the best balance between service, risk and cost is essential.

Recent natural disaster events have generated some accelerated road failures that have been provided with grant funded works for restoration. It is not always apparent whether the projects will be classified as renewal or maintenance as this varies with the scale of the project.

4. 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 were identified and are documented in Table 4.3.

4.3 Demand Impact on Assets

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

Table 4.3: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
Population Growth	Present population is 19,212 (2016 census)	Forecast population by 2025 is in the order of 22,000	An increasing population will required an increase in the length of the road network through the

			development of new subdivisions. Increasing lifestyles rural property may place pressure to upgrade unsealed roads to sealed roads.
Highway Upgrade	The old pacific Highway (now Giinagay Way) maintained by the Roads and Maritime service (RMS)	Old highway will be handed to Council which equates to a 15% increase in the sealed road network	The increased network will require more resources to manage. Council will need to find additional funding after the 10 year maintenance period has elapsed
Environment and Climate Change	It is widely accepted that climate is changing	Weather extremities will have significant impact on the surface and pavement condition of sealed road network	Sealed Road network may be impacted directly by rainfall and flood events. Additional cost may be required to maintain the current level of service
Technological Changes	Vehicles are currently driven by people.	Increasing use of Autonomous vehicles	Impacts of future automated vehicle technology on the provision and maintenance of road infrastructure, including consideration of both current arrangements, and any new arrangements required to support vehicle connectivity

4.4 Demand Management Plan

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

Opportunities identified to date for demand management are shown in Table 4.4. Further opportunities will be developed in future revisions of this asset management plan.

Table 4.4: Demand Management Plan Summary

Demand Driver	Impact on Services	Demand Management Plan
Population Growth	Additional Infrastructure need due to development and population	• Continue to monitor and manage development Controls • Undertaking infrastructure planning in accordance with land use changes
Highway Upgrade	Increase network needed more resources to manage.	• Negotiate the maintenance diary that contains funding for a 10 year period • Negotiate for the Giinagay Way to be classed as a Regional Road. This ensures block grant funding into the future.
Increasing community expectations	Pressure to upgrade unsealed roads to be sealed	• Fund priority works and transfer part of the cost to applicants (applicants often benefit from

		increased property prices when unsealed roads are sealed) • An increase in the sealed road network also results in an increase in maintenance budgets
Safety Improvement Plan	Reduces risk associated with major crash injury	• Upgrades of network to improve road user safety – to be developed further within the next review period.
Technology changes	New technologies can disrupt current services in both a positive and negative was	•

4.5 Asset Programs to meet Demand

The new assets required to meet demand can be acquired, donated or constructed. Additional assets are discussed in Section 5.5. The summary of the cumulative value of additional asset is shown in Figure 1.

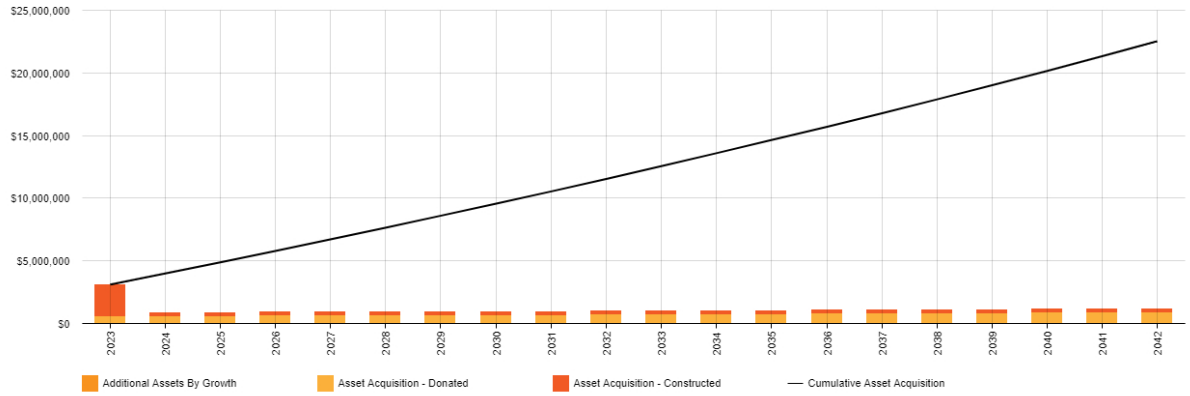


Figure 1: Upgrade and New Assets to meet Demand – (Cumulative)

Figure Values are in current (real) dollars.

Acquiring these new assets will commit 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 further in Section 5. Spike in 2023 is due to construction of road in Valla Growth Urban Area.

5. LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Nambucca Shire Council plans to manage and operate the assets at the agreed levels of service (defined in 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 2.1.

Nambucca Shire Council managing 380 km of Sealed Road network which is componentise as Surface, Pavement and Earthworks. In this plan we consider only Surface and Pavement as Earthworks considered no depreciation.

The age profile of the assets included in this AM Plan are shown in Figure 2.

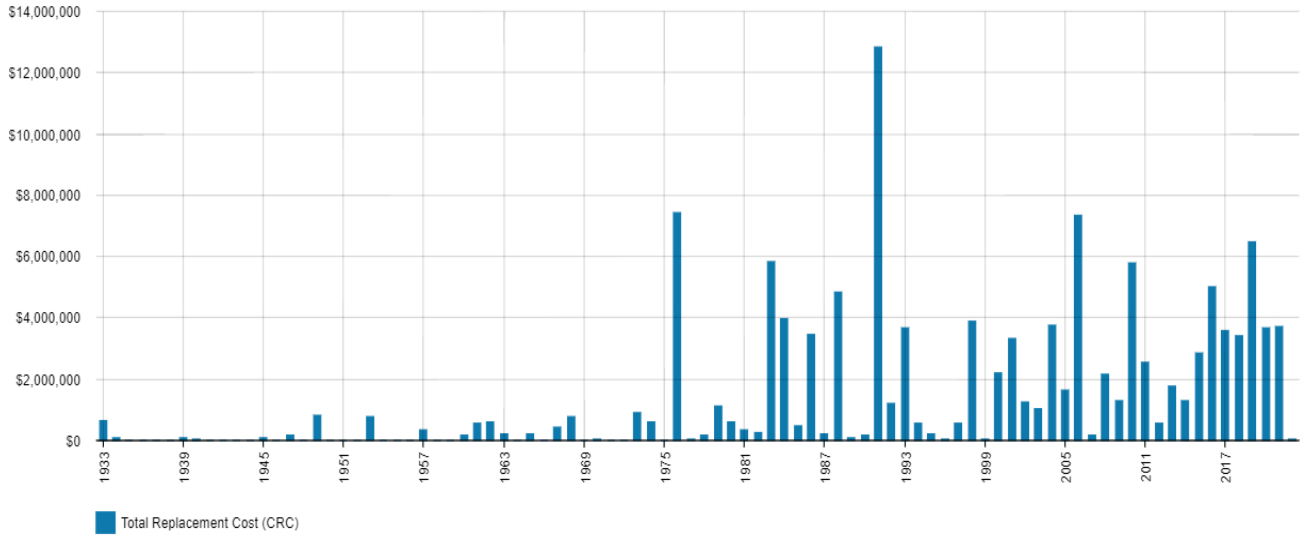


Figure Values are in current (real) dollars.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available.

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
Road Surfacing and Pavement	Lag in expenditure from 2009 has led to a backlog (Approximately $1.66 m) of work which has resulted in a spike in expenditure arising within the next 10 years. Council is now addressing the backlog with an appropriate increase in annual resealing, rehabilitation and planned maintenance funding.

5.1.3 Asset condition

Council Conducted sealed road condition assessment by ARRB in 2013 and 2015 .Currently Council is conducting in house condition assessment which is developed in accordance with the ARRB guidelines and procedures outlined in the International Infrastructure Management Manual (IIMM) 2015.

The condition profile of our assets is shown in Figure 3.

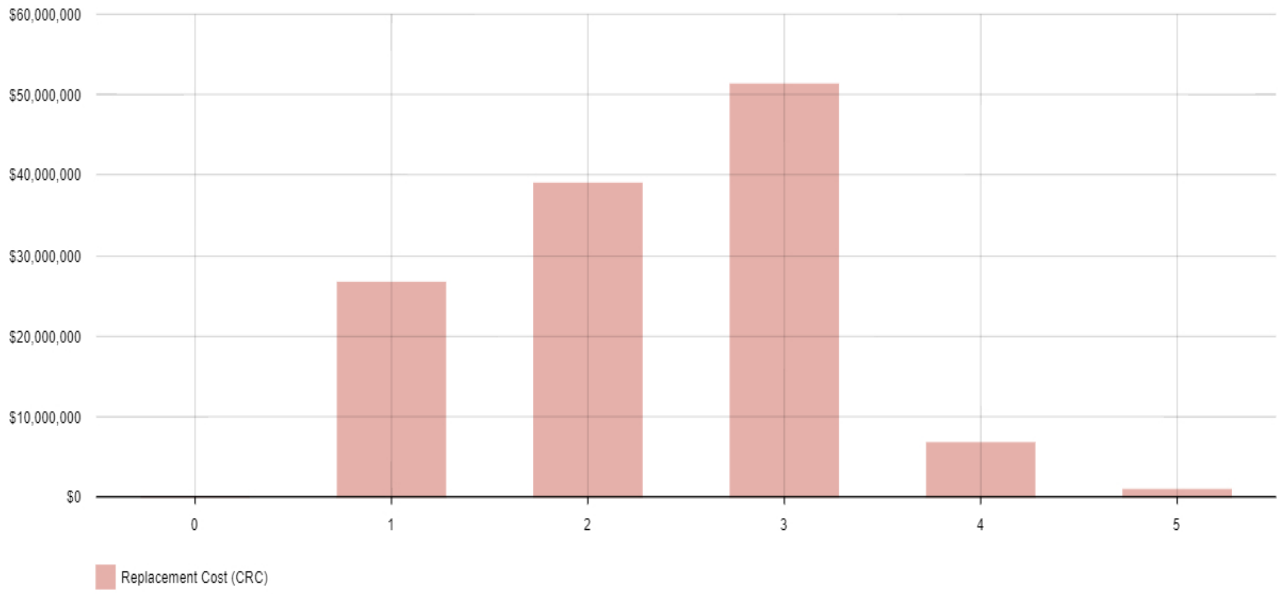


Fig 3: Asset Condition Profile

Figure Values are in current (real) dollars.

Condition is measured using a 1 – 5 grading system[5] as detailed in Table 5.1.3.

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

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, e.g. Cleaning, street sweeping, utilities costs and street lighting.

Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where portions of the asset fail and need immediate repair to make the asset operational again, e.g. road patching.

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

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.

Maintenance expenditure is shown in Table 5.2.1

Table 5.2.1: Maintenance Expenditure Trends

Year	Maintenance Budget $
2023	$1,246,400.00
2024	$1,271,328.00
2025	$1,296,755.00

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

Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current 2018 dollar values (i.e. real values).

Figure 4: Projected Operations and Maintenance Expenditure

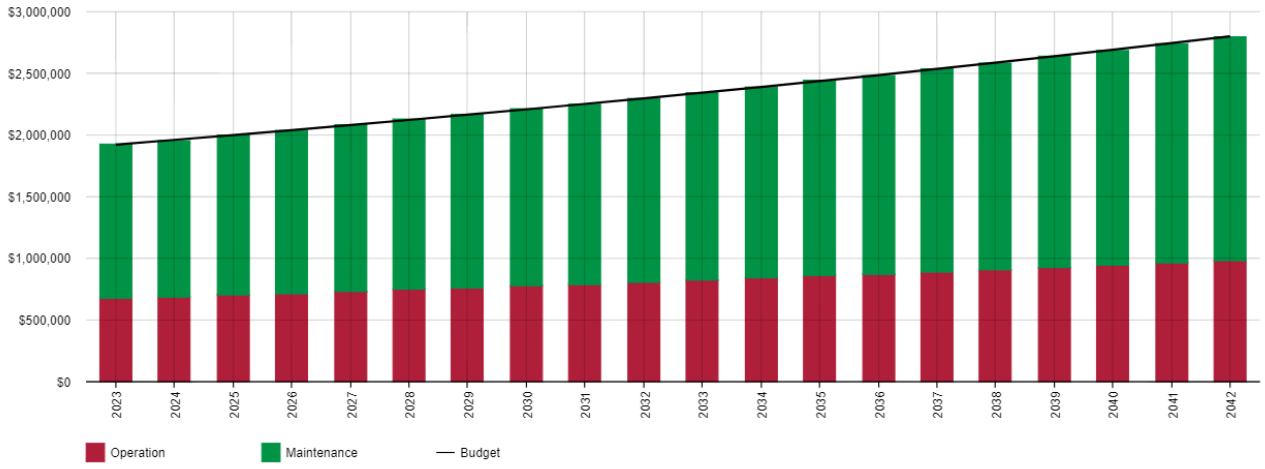


Figure Values are in current (real) dollars.

Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded are to be included in the risk assessment and analysis in the infrastructure risk management plan.

Maintenance is funded from the operating budget where available. This is further discussed in Section 7.

5.3 Renewal/Replacement Plan

Renewal and replacement expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an upgrade/expansion or new work expenditure resulting in additional future operations and maintenance costs.

Assets requiring renewal/replacement are identified from one of three methods provided in the 'Expenditure Template'.

- Method 1 uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, or
- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as Pavement Management Systems), or
- Method 3 uses a combination of average network renewals plus defect repairs in the Renewal Plan and Defect Repair Plan worksheets on the 'Expenditure template'.

Method 1 as used for this asset management plan.

5.3.1 Renewal ranking criteria

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. 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. roughness of a road).[6]

It is possible to get some indication of capital renewal and replacement priorities by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be greatest,
- Have a total value representing the greatest net value,
- Have the highest average age relative to their expected lives,
- Are identified in the AM Plan as key cost factors,
- Have high operational or maintenance costs, and
- Have replacement with a modern equivalent asset that would provide the equivalent service at a savings.[7]

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

Renewal and Replacement Priority Ranking Criteria

Criteria	Weighting
Road Hierarchy and Classification	20%
Condition	70%
Asset Life	10%
Total	**100%**

5.3.2 Summary of future renewal and replacement expenditure

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

Projected future renewal and replacement expenditures are forecast to increase over time when the asset stock increases. The expenditure is required is shown in Fig 5. Note that all amounts are shown in current (real) dollars.

The projected capital renewal and replacement program is shown in Appendix B.

Fig 5: Projected Capital Renewal and Replacement Expenditure

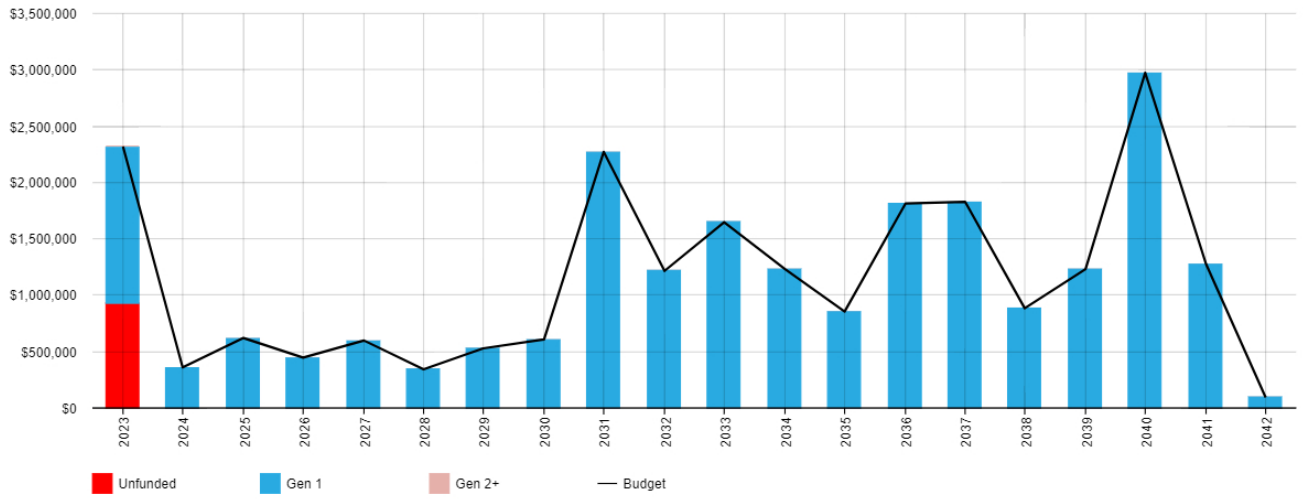


Figure Values are in current (real) dollars.

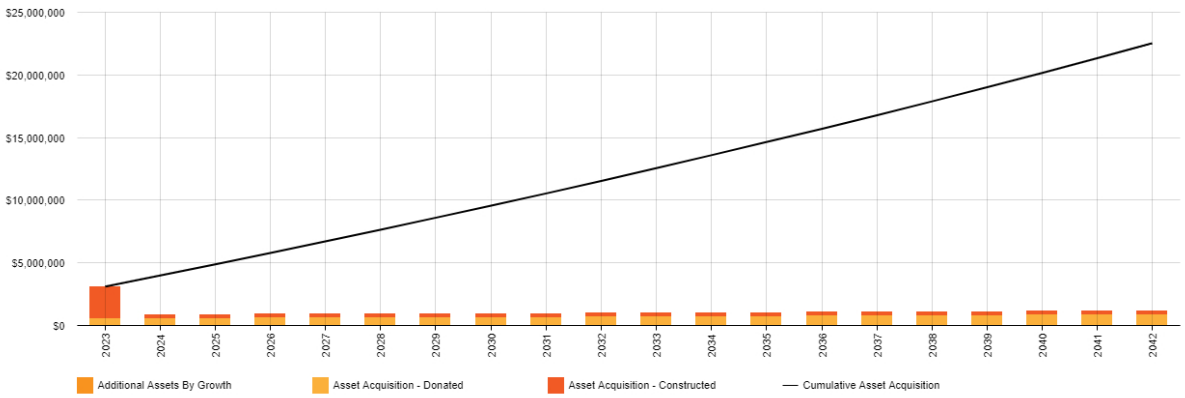
Deferred renewal and replacement, i.e. those assets identified for renewal and/or replacement and not scheduled in capital works programs are to be included in the risk analysis process in the risk management plan.

Renewals and replacement expenditure in the capital works program will be accommodated in the long term financial plan. This is further discussed in Section 7.

The unfunded portion of the graph refers to projects committed in 2022 but appear within this report to be unfunded.

5.4 Creation/Acquisition/Upgrade Plan

New works are those that create a new asset that did not previously exist, or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. . These additional aassets are considered in Section 4.4. Below is the acquisition constructed summary



5.4.1 Summary of asset expenditure requirements

The financial projections from this asset plan are shown in Fig 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in real values.

The bars in the graphs represent the anticipated budget needs required to achieve lowest lifecycle costs, the budget line indicates what is currently available. The gap between these informs the discussion on achieving the balance between services, costs and risk to achieve the best value outcome.

Fig 7: Projected Operating and Capital Expenditure

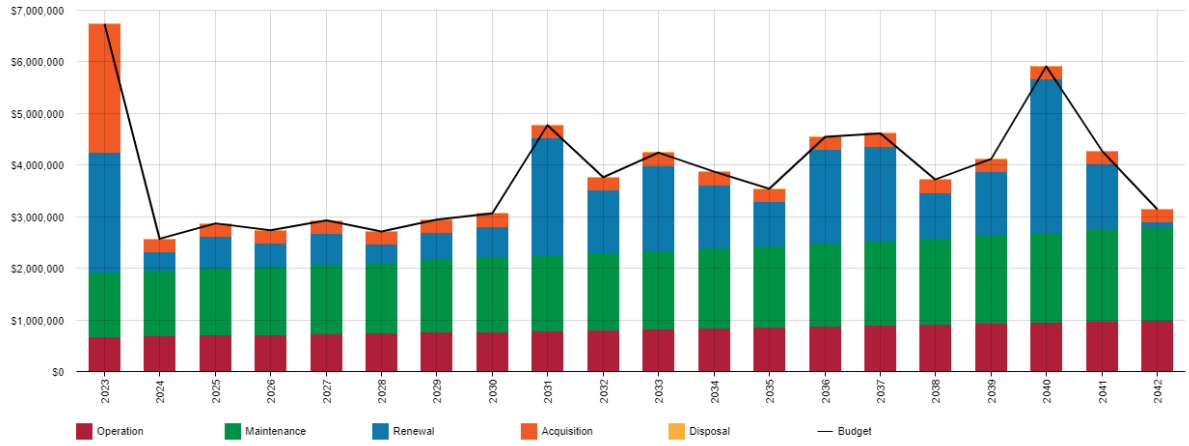


Figure Values are in current (real) dollars.

5.5 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 5.5, together with estimated annual savings from not having to fund operations and maintenance of the assets. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any. Any costs or revenue gained from asset disposals is accommodated in the long term financial plan.

6. RISK MANAGEMENT PLAN

The purpose of infrastructure risk management is to document the results and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2009 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2009 as: 'coordinated activities to direct and control with regard to risk'[8].

An assessment of risks[9] associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a 'financial shock'. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

[8] ISO 31000:2009, p 2

6.1 Critical Assets

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

Critical assets have been identified and their typical failure mode and the impact on service delivery are as follows:

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Gumma Road	Bottom Slip to Nambucca River	The risks associated with the failure of Gumma Road include public access, health and safety, business continuity and emergencies as there is no alternate option open for the residents of Gumma area. With the revision of the current asset management plan further investigation required to identify the possible solution
Wellington Drive from Marine Rescue to White Albatross Caravan Park	Top Slip may be blocked road at Marine Rescue Nambucca Heads	The risks associated with the blockage of Wellington Drive at Marine Rescue Nambucca Heads include public access, health and safety, business continuity and emergencies as there is no alternate option open for the residents of Gumma area. With the revision of the current asset management plan further investigation required to identify the possible solution

By identifying critical assets and failure modes investigative activities, condition inspection programs, maintenance and capital expenditure plans can be targeted at the critical areas.

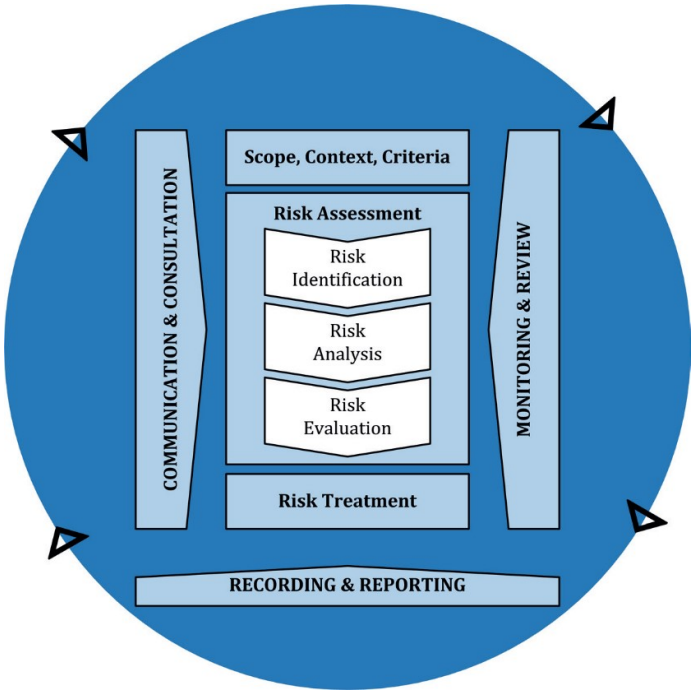
6.2 Risk Assessment

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

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

The process is based on the fundamentals of the ISO risk assessment standard ISO 31000:2018.

Fig 6.2 Risk Management Process – Abridged



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

An assessment of risks[10] associated with service delivery from infrastructure assets has identified the critical risks that will result in significant loss, 'financial shock'or a reduction in service.

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 cost after the selected treatment plan is implemented is shown in Table 6.2. These risks and costs are reported to management and Council.

Table 6.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Gumma Road	The risks associated with the failure of Gumma Road include public access, health and safety, business continuity and emergencies as there is no alternate option open for the residents of Gumma area.	H	Council will need to have in place a Business Continuity Policy and Plans to ensure that in the event of disruption to the services, a strategy is in place to provide for the reinstatement of those services as soon as possible to minimise any disruption to the community.		Not determined yet
Wellington Drive from Marine Rescue to White Albatross Caravan Park	The risks associated with the failure of Wellington Drive at Marine Rescue include public access, health and safety, business continuity and emergencies as there is no alternate option open for the residents of Gumma area	H	Council will need to have in place a Business Continuity Policy and Plans to ensure that in the event of disruption to the services, a strategy is in place to provide for the reinstatement of those services as soon as possible to minimise any disruption to the community.		Not determined yet
North Arm Road	Segment 87574 of North Arm road road has landslips due to March 2021 flood and storm and currently operating as one lane road. The risks associated with the failure of these roads include public access, health and safety, business continuity and emergencies as there is no alternate option open for the residents	H	Council will need to have in place a Business Continuity Policy and Plans to ensure that in the event of disruption to the services, a strategy is in place to provide for the reinstatement of those services as soon as possible to minimise any disruption to the community.		GeoTech Investigation is ongoing. Cost will be estimated after investigation is finished.

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

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to our customers and the services we provide. To adapt to changing conditions and growth over time we need to understand our capacity to respond to possible disruptions and be positioned to absorb disturbance and act effectively in a crisis to ensure continuity of service.

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

Our current measure of resilience is shown in Table 6.4 which includes the type of threats and hazards, resilience assessment and identified improvements and/or interventions.

Table 6.4: Resilience

Threat / Hazard	Resilience LMH	Improvements / Interventions
Discontinuation of Gumma Road due to bottom slip into Nambucca River	High	Council require a Business Continuity Policy and Plans to ensure that in the event of disruption to the services, a strategy is in place to provide for the reinstatement of those services as soon as possible to minimise any disruption to the community.
Discontinuation of Wellington Drive at Marine Rescue due to top side slip on to Road	High	Council require a Business Continuity Policy and Plans to ensure that in the event of disruption to the services, a strategy is in place to provide for the reinstatement of those services as soon as possible to minimise any disruption to the community.

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:

- Constructing new roads
- Sealing of roads that are currently unsealed
- Undertaking all asset renewals as required
- Re-allocating funds after major Natural Disaster events

6.4.2 Service trade-off

Operations and maintenance activities and capital projects that cannot be undertaken will maintain or create service consequences for users. These include:

- Nil

6.4.3 Risk trade-off

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

- Nil

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

7. FINANCIAL SUMMARY

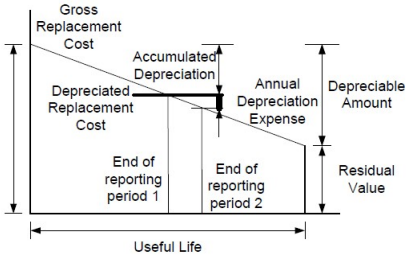
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset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

7.1 Financial 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. Assets are valued at Current Replacement Cost for equivalent asset

Gross Replacement Cost	$124,595,558
Depreciable Amount	$124,595,558
Depreciated Replacement Cost[11]	$78,208,008
Annual Average Asset Consumption	$2,328,810



7.1.1 Sustainability of service delivery

Two key indicators for service delivery sustainability that have been considered in the analysis of the services

provided by this asset category, these being the:

- asset renewal funding ratio, and
- medium term budgeted expenditures/projected expenditure (over 10 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[12] 100%

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

Medium term – 10 year financial planning period

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures 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.

These projected expenditures may be compared to budgeted expenditures in the 10 year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing 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.

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is $3,509,356 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $3,510,256 on average per year giving a 10 year funding excess of $900 per year, the excess is left for any unforeseen urban roads heavy patching. This indicates 100% of the projected expenditures needed to provide the services documented in the asset management plan. This excludes upgrade/new assets.

Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures 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.

7.1.2 Projected expenditures for long term financial plan

Table 7.1.2 shows the projected expenditures for the 10 year long term financial plan.

Expenditure projections are in 2018 real values.

Table 7.1.2: Projected Expenditures for Long Term Financial Plan

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total Budget
2023	2,491,786	675,686	1,246,400	2,319,038	0	6,732,910
2024	250,000	689,200	1,271,328	360,847	0	2,321,375
2025	250,000	702,984	1,296,755	620,805	0	2,620,544
2026	250,000	717,043	1,322,690	447,027	0	2,486,760
2027	250,000	731,384	1,349,143	589,476	0	2,679,003
2028	250,000	746,012	1,376,126	342,848	0	2,464,986
2029	250,000	760,932	1,403,649	528,729	0	2,693,310
2030	250,000	776,151	1,431,722	608,847	0	2,816,720
2031	250,000	791,674	1,460,356	2,271,733	0	4,523,763
2032	250,000	807,507	1,489,563	1,216,120	0	3,513,190
2033	250,000	823,657	1,519,355	1,647,984	0	3,990,996
2034	250,000	840,131	1,549,742	1,231,724	0	3,621,597
2035	250,000	856,933	1,580,737	855,146	0	3,292,816
2036	250,000	874,072	1,612,351	1,813,217	0	4,299,640
2037	250,000	891,553	1,644,598	1,829,272	0	4,365,423
2038	250,000	909,384	1,677,490	884,498	0	3,471,372
2039	250,000	927,572	1,711,040	1,231,867	0	3,870,479
2040	250,000	946,124	1,745,261	2,973,109	0	5,664,494
2041	250,000	965,046	1,780,166	1,277,015	0	4,022,227
2042	250,000	984,347	1,815,769	93,726	0	2,893,842

7.2 Funding Strategy

Funding for assets is provided from the budget and long term financial plan.

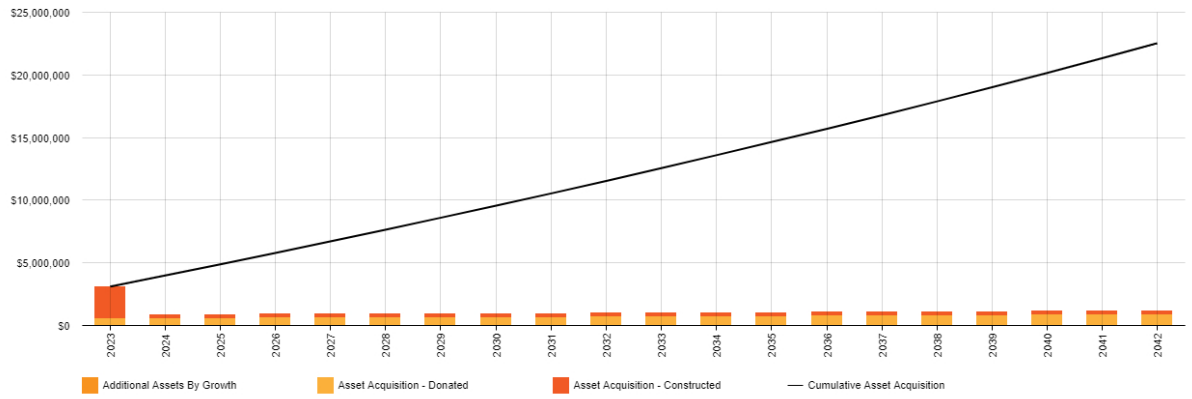
The financial strategy of the entity determines how funding will be provided, whereas the asset management plan communicates how and when this will be spent, along with the service and risk consequences of differing options.

7.3 Valuation Forecasts

Asset values are forecast to increase as part of old highway and local roads.

Additional assets will generally add to the operations and maintenance needs in the longer term, as well as the need for future renewal. Additional assets will also add to future depreciation forecasts.

Fig 9 : Acquisition Summary



7.4 Key Assumptions Made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this asset management plan. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan are shown

No	Assumption
1	All figures are presented in 2020/21 figures and no adjustment for inflation has been applied
2	Regional Roads Grant and R2R funding will remain stable for next 10 years of planning
3	Maintenance Expenses are reflective of current spend not historic trends
4	Use of existing valuations, useful lives, remaining lives ,condition from asset register is correct determined
5	Sealed Road assets will remain in Council's ownership throughout the planning period
6	Capital Upgrade amount for Heavy Patching and Subgrade Improvement approximate which need further attention during the finalisation of projects for every financial year(by consulting with Manager Infrastructure Services and Roads Coordinator)

7.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale[13] in accordance with Table 7.5.

Table 7.5: Data Confidence Grading System

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

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.

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

Data	Confidence Level	Comments
Asset useful lives	B	Should be updated in next revaluation
Asset Inventory	C	Should be updated in next revaluation and before reviewing of next plan
Growth projections	B	Estimated, however further substantiation required for next revision of the AMP
Operations & Maintenance expenditures	B	Direct from budget, breakdown into operations and maintenance expenditure
Condition modelling	B	Conducted by ARRB and in house applications
Network renewals	B	Based on Asset Register and Condition of Assets
Defect repairs	B	Reflect MMS

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

8. PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[14]

8.1.1 Accounting and financial data sources

- Civica Authority Enterprise Management System
- Roads Technical Asset Register

8.1.2 Asset management data sources

- Roads Technical Asset Register
- Arc GIS
- Reflect- Condition Assessment Database
- Reflect -Maintenance Management System

8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 8.1.

Table 8.1: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Update Roads Technical Asset Register by Field Collection for accuracy and currency of asset data	AE	Internal	Continuous
2	Review of condition based remaining useful life with details of renewal requirement for short to medium term	AE	Internal	2023
3	Review of Road Hierarchy	AE	Internal	2023
4	Continuation of adopted Maintenance Management System.	MA & AE	Internal	Continuous
5	Developing action plan for Critical Assets identified in this plan	MA and AE	Internal	2024
6	Review of Rural and Urban sealed road renewal treatment requirement Proposal: • In Urban areas for Class 3 and Class 4 roads, existing Asphaltic Surface may be consider to replace by Spray Sealing during next rehabilitation program.	AGMES & MA	Internal	2024

8.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget planning processes and amended to show any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

The AM Plan will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the long term financial plan.

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

The AM Plan has a life of 4 years and should be revised before 2021. This cycle matches the Council election cycle and IP & R periods

8.4 Performance Measures

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

- The degree to which the required projected expenditures identified in this asset management plan are incorporated into the long term financial plan,
- The degree to which 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 (what we cannot do), risks and residual risks are incorporated into the Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the target of 1.0.

9. REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
- IPWEA, 2015, 2nd edn., 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMM.
- IPWEA, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2012 LTFP Practice Note 6 PN Long Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney

10. APPENDICES

Appendix A	Projected 10 year Capital Renewal and Replacement Works Program
Appendix B	LTFP Budgeted Expenditures Accommodated in AM Plan
Appendix C	Local Government Functional Road Classification

Appendix A - Projected 10 year Capital Renewal and Replacement Works Program

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4100602	Surface	Princess Street-91192	0	34	-1	2022	2023	$2,334.00	25
4300602	Pavement	Princess Street-91192	0	34	-1	2022	2023	$17,634.00	75
4100604	Surface	Princess Street-91048	77	100	-1	2022	2023	$7,560.00	20
4100607	Surface	Princess Street-90985	180	242	-1	2022	2023	$2,128.00	25
4300607	Pavement	Princess Street-90985	180	242	-1	2022	2023	$16,078.00	75
4100605	Surface	Princess Street-90980	100	152	-1	2022	2023	$17,091.00	20
4100603	Surface	Princess Street-90916	34	77	-1	2022	2023	$2,952.00	25
4300603	Pavement	Princess Street-90916	34	77	-1	2022	2023	$22,302.00	75
4500573	Surface	Valla Road-87285	2519	2942	-1	2022	2023	$16,937.00	20
4700573	Pavement	Valla Road-87285	2519	2942	-1	2022	2023	$100,926.00	60
4100837	Surface	Wellington Drive-91714	547	782	-1	2022	2023	$14,786.00	25
4300837	Pavement	Wellington Drive-91714	547	782	-1	2022	2023	$111,724.00	75
4500695	Surface	Wilson Road-300064	10505	10610	-1	2022	2023	$3,904.00	20
4700695	Pavement	Wilson Road-300064	10505	10610	-1	2022	2023	$23,579.00	60
4500491	Surface	Wilson Road-87872	9984	10505	-1	2022	2023	$19,371.00	20
4700491	Pavement	Wilson Road-87872	9984	10505	-1	2022	2023	$116,996.00	60
4500490	Surface	Wilson Road-87869	9964	9984	-1	2022	2023	$744.00	20
4700490	Pavement	Wilson Road-87869	9964	9984	-1	2022	2023	$4,491.00	60
4500489	Surface	Wilson Road-87868	9281	9964	-1	2022	2023	$25,394.00	20
4700489	Pavement	Wilson Road-87868	9281	9964	-1	2022	2023	$153,374.00	60
4500487	Surface	Wilson Road-87867	8945	9261	-1	2022	2023	$12,653.00	20
4700487	Pavement	Wilson Road-87867	8945	9261	-1	2022	2023	$75,396.00	60
4500485	Surface	Wilson Road-87866	8786	8925	-1	2022	2023	$5,168.00	20
4700485	Pavement	Wilson Road-87866	8786	8925	-1	2022	2023	$31,214.00	60
4500483	Surface	Wilson Road-87865	8364	8766	-1	2022	2023	$14,946.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4700483	Pavement	Wilson Road-87865	8364	8766	-1	2022	2023	$90,273.00	60
4500488	Surface	Wilson Road-87858	9261	9281	-1	2022	2023	$858.00	20
4700488	Pavement	Wilson Road-87858	9261	9281	-1	2022	2023	$4,491.00	60
4500482	Surface	Wilson Road-87857	8344	8364	-1	2022	2023	$744.00	20
4700482	Pavement	Wilson Road-87857	8344	8364	-1	2022	2023	$4,491.00	60
4500484	Surface	Wilson Road-87856	8766	8786	-1	2022	2023	$801.00	20
4700484	Pavement	Wilson Road-87856	8766	8786	-1	2022	2023	$4,491.00	60
4500486	Surface	Wilson Road-87855	8925	8945	-1	2022	2023	$744.00	20
4700486	Pavement	Wilson Road-87855	8925	8945	-1	2022	2023	$4,491.00	60
							Total	**$931,066.00**	
4500470	Surface	Wesley Avenue-86176	0	129	0	2023	2023	$4,427.00	22
4700470	Pavement	Wesley Avenue-86176	0	129	0	2023	2023	$25,347.00	66
4100786	Surface	Wallace Street-91085	50	61	0	2023	2023	$3,917.00	20
4300786	Pavement	Wallace Street-91085	50	61	0	2023	2023	$6,180.00	60
4100788	Surface	Wallace Street-91084	131	158	0	2023	2023	$6,656.00	20
4300788	Pavement	Wallace Street-91084	131	158	0	2023	2023	$10,502.00	60
4100785	Surface	Wallace Street-90982	0	50	0	2023	2023	$17,804.00	20
4300785	Pavement	Wallace Street-90982	0	50	0	2023	2023	$28,093.00	60
4100787	Surface	Wallace Street-90981	61	131	0	2023	2023	$24,925.00	20
4300787	Pavement	Wallace Street-90981	61	131	0	2023	2023	$39,330.00	60
4500415	Surface	Taylors Arm Road-86481	40021	40108	0	2023	2023	$1,991.00	22
4100705	Surface	South Pacific Drive-91826	245	285	0	2023	2023	$2,746.00	30
4300705	Pavement	South Pacific Drive-91826	245	285	0	2023	2023	$20,746.00	90
4100703	Surface	South Pacific Drive-91822	190	215	0	2023	2023	$1,716.00	30
4300703	Pavement	South Pacific Drive-91822	190	215	0	2023	2023	$12,966.00	90

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4100704	Surface	South Pacific Drive-91786	215	245	0	2023	2023	$2,059.00	30
4300704	Pavement	South Pacific Drive-91786	215	245	0	2023	2023	$15,559.00	90
4500378	Surface	Tamban Road-86278	0	142	0	2023	2023	$8,935.00	22
4500414	Surface	Taylors Arm Road-272156	34580	34763	0	2023	2023	$5,234.00	22
4101029	Surface	Riverside Drive-300076	0	160	0	2023	2023	$4,576.00	30
4301029	Pavement	Riverside Drive-300076	0	160	0	2023	2023	$34,576.00	90
4500013	Surface	Alexandra Drive-95202	6	720	0	2023	2023	$28,589.00	22
4700013	Pavement	Alexandra Drive-95202	6	720	0	2023	2023	$180,378.00	66
4500014	Surface	Alexandra Drive-95201	720	740	0	2023	2023	$972.00	22
4700014	Pavement	Alexandra Drive-95201	720	740	0	2023	2023	$5,053.00	66
4500015	Surface	Alexandra Drive-95200	740	869	0	2023	2023	$5,534.00	22
4700015	Pavement	Alexandra Drive-95200	740	869	0	2023	2023	$32,589.00	66
4500016	Surface	Alexandra Drive-95199	869	889	0	2023	2023	$972.00	22
4700016	Pavement	Alexandra Drive-95199	869	889	0	2023	2023	$5,053.00	66
4500024	Surface	Allgomera Road-86698	1791	2007	0	2023	2023	$8,649.00	22
4700024	Pavement	Allgomera Road-86698	1791	2007	0	2023	2023	$48,505.00	66
4500076	Surface	Browns Crossing Road-86274	4105	4372	0	2023	2023	$7,636.00	22
4500077	Surface	Browns Crossing Road-86271	4515	4585	0	2023	2023	$2,002.00	22
4100136	Surface	Buchanan Street-	0	192	0	2023	2023	$8,786.00	30

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
		91852							
4300136	Pavement	Buchanan Street-91852	0	192	0	2023	2023	$66,386.00	90
4500084	Surface	Clayholes Road-86353	0	114	0	2023	2023	$4,304.00	22
4100180	Surface	Cohalan Street-90571	0	243	0	2023	2023	$9,730.00	30
4300180	Pavement	Cohalan Street-90571	0	243	0	2023	2023	$73,517.00	90
4100278	Surface	Glenmore Crescent-91041	140	163	0	2023	2023	$1,316.00	30
4300278	Pavement	Glenmore Crescent-91041	140	163	0	2023	2023	$9,941.00	90
4100277	Surface	Glenmore Crescent-90877	0	140	0	2023	2023	$8,008.00	30
4300277	Pavement	Glenmore Crescent-90877	0	140	0	2023	2023	$60,508.00	90
4100307	Surface	Henderson Street-91851	0	87	0	2023	2023	$3,483.00	30
4300307	Pavement	Henderson Street-91851	0	87	0	2023	2023	$26,321.00	90
4100396	Surface	Kuta Avenue-91900	382	415	0	2023	2023	$2,076.00	30
4300396	Pavement	Kuta Avenue-91900	382	415	0	2023	2023	$15,689.00	90
4100394	Surface	Kuta Avenue-91896	243	272	0	2023	2023	$1,991.00	30
4300394	Pavement	Kuta Avenue-91896	243	272	0	2023	2023	$15,041.00	90
4100397	Surface	Kuta Avenue-91886	415	496	0	2023	2023	$5,097.00	30
4300397	Pavement	Kuta Avenue-91886	415	496	0	2023	2023	$38,509.00	90
4100395	Surface	Kuta Avenue-91880	272	382	0	2023	2023	$7,550.00	30
4300395	Pavement	Kuta Avenue-91880	272	382	0	2023	2023	$57,050.00	90
4500739	Surface	Little Tamban Road-301021	0	335	0	2023	2023	$13,413.00	22
4700739	Pavement	Little Tamban Road-301021	0	335	0	2023	2023	$75,228.00	84
4500214	Surface	Main Street-86178	0	278	0	2023	2023	$9,541.00	22
4700214	Pavement	Main Street-86178	0	278	0	2023	2023	$54,624.00	66

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4500215	Surface	Main Street-86177	278	298	0	2023	2023	$686.00	22
4700215	Pavement	Main Street-86177	278	298	0	2023	2023	$3,930.00	66
4100477	Surface	Matilda Street-91191	0	92	0	2023	2023	$6,315.00	30
4300477	Pavement	Matilda Street-91191	0	92	0	2023	2023	$47,715.00	90
4100478	Surface	Matilda Street-90992	112	276	0	2023	2023	$11,257.00	30
4300478	Pavement	Matilda Street-90992	112	276	0	2023	2023	$85,057.00	90
4100537	Surface	Newman Street-95529	0	130	0	2023	2023	$5,949.00	30
4300537	Pavement	Newman Street-95529	0	130	0	2023	2023	$44,949.00	90
4100538	Surface	Newman Street-91540	130	155	0	2023	2023	$1,144.00	30
4300538	Pavement	Newman Street-91540	130	155	0	2023	2023	$8,644.00	90
							Total	**$1,387,972.00**	
4100561	Surface	Palmer Street-91652	938	958	1	2024	2024	$1,258.00	30
4300561	Pavement	Palmer Street-91652	938	958	1	2024	2024	$9,508.00	90
4100438	Surface	Loftus Street-91461	250	276	1	2024	2024	$1,487.00	30
4300438	Pavement	Loftus Street-91461	250	276	1	2024	2024	$11,237.00	90
4500209	Surface	Lower Buckra Bendinni Rd-87435	1665	2257	1	2024	2024	$23,704.00	22
4100439	Surface	Loftus Street-91587	276	292	1	2024	2024	$915.00	30
4300439	Pavement	Loftus Street-91587	276	292	1	2024	2024	$6,915.00	90
4100437	Surface	Loftus Street-91586	226	250	1	2024	2024	$1,373.00	30
4300437	Pavement	Loftus Street-91586	226	250	1	2024	2024	$10,373.00	90
4500588	Surface	Gumma Road-300010	8031	8370	1	2024	2024	$11,634.00	22
4100256	Surface	Forest Road-91277	282	420	1	2024	2024	$3,947.00	30
4500112	Surface	Deep Creek Road-87289	139	1333	1	2024	2024	$50,540.00	20
4100239	Surface	Eichman Street-91446	0	154	1	2024	2024	$5,285.00	30
4500023	Surface	Allgomera Road-271626	1143	1791	1	2024	2024	$25,946.00	22
4500012	Surface	Albert Drive-86162	2030	2087	1	2024	2024	$2,119.00	22
4700012	Pavement	Albert Drive-86162	2030	2087	1	2024	2024	$2,119.00	22

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4500673	Surface	Scotts Head Road-300148	1351	2274	1	2024	2024	$34,317.00	20
4500672	Surface	Scotts Head Road-300147	1261	1351	1	2024	2024	$3,346.00	20
4500671	Surface	Scotts Head Road-300146	845	1261	1	2024	2024	$15,458.00	20
4500523	Surface	Scotts Head Road-272078	11380	11611	1	2024	2024	$9,910.00	20
4500513	Surface	Scotts Head Road-95241	2437	3991	1	2024	2024	$57,778.00	20
4500522	Surface	Scotts Head Road-86386	11360	11380	1	2024	2024	$1,327.00	20
4100721	Surface	Stringer Street-91325	0	92	1	2024	2024	$4,210.00	30
4300721	Pavement	Stringer Street-91325	0	92	1	2024	2024	$31,810.00	90
4100854	Surface	West Street-91730	709	836	1	2024	2024	$5,812.00	20
4300854	Pavement	West Street-91730	709	836	1	2024	2024	$28,519.00	84
							Total	**$360,847.00**	
4500370	Surface	Sullivans Road-87338	5971	6062	2	2025	2025	$3,644.00	20
4500343	Surface	Station St-266756	0	1195	2	2025	2025	$37,595.00	22
4500416	Surface	Taylors Arm Road-272182	56339	56553	2	2025	2025	$4,896.00	22
4500380	Surface	Tamban Road-86283	2498	2518	2	2025	2025	$881.00	22
4100761	Surface	Valla Beach Road-91863	791	1090	2	2025	2025	$98,275.00	20
4500456	Surface	Valla Road-271943	17487	17595	2	2025	2025	$2,162.00	22
4500439	Surface	Valla Road-87381	195	215	2	2025	2025	$835.00	20
4500448	Surface	Valla Road-87274	3012	5435	2	2025	2025	$76,228.00	20
4500453	Surface	Valla Road-87227	7730	7750	2	2025	2025	$572.00	22
4500454	Surface	Valla Road-87226	7750	8270	2	2025	2025	$17,846.00	22
4100779	Surface	Village Lane-273393	0	79	2	2025	2025	$1,356.00	20
4500625	Surface	Sealed access road0	0	0	2	2025	2025	$1,441.00	22
4500578	Surface	Rodeo Drive-87123	6427	6809	2	2025	2025	$15,951.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4500709	Surface	Avocado Road-87351	0	295	2	2025	2025	$8,437.00	22
4500034	Surface	Balance Tank Road-87165	757	906	2	2025	2025	$3,409.00	22
4500038	Surface	Bald Hill Road-86791	757	777	2	2025	2025	$801.00	22
4500055	Surface	Bellingen Road-87470	6214	6549	2	2025	2025	$7,665.00	22
4500054	Surface	Bellingen Road-87469	6194	6214	2	2025	2025	$458.00	22
4500075	Surface	Browns Crossing Road-86254	2136	2199	2	2025	2025	$1,802.00	22
4100864	Surface	Butt Lane-91182	0	149	2	2025	2025	$2,557.00	22
4101033	Surface	East Street-300078	682	760	2	2025	2025	$1,785.00	20
4500102	Surface	Congarinni Road South-86218	7555	7598	2	2025	2025	$1,476.00	22
4500085	Surface	Clayholes Road-267781	282	481	2	2025	2025	$6,488.00	22
4500087	Surface	Cocos Court-95203	0	112	2	2025	2025	$5,445.00	22
4500115	Surface	Eungai Creek Road-86298	0	60	2	2025	2025	$2,746.00	20
4500598	Surface	Greenhills Road-300086	1105	1300	2	2025	2025	$5,577.00	22
4500155	Surface	Grotes Road-271145	0	10	2	2025	2025	$229.00	22
4500196	Surface	Kesbys Road-86319	0	54	2	2025	2025	$1,853.00	22
4500206	Surface	Lower Buckra Bendinni Rd-87429	0	190	2	2025	2025	$7,064.00	22
4500212	Surface	Lumsden Lane-86922	0	76	2	2025	2025	$1,304.00	22
4500216	Surface	Main Street-86179	298	352	2	2025	2025	$1,853.00	22
4101032	Surface	Mann Street(High)-300075	0	215	2	2025	2025	$2,923.00	20
4500177	Surface	Harrimans Lane-271149	242	456	2	2025	2025	$4,896.00	22
4500184	Surface	Ironbark Road-271158	0	183	2	2025	2025	$10,236.00	22
4500185	Surface	Ironbark Road-86981	183	800	2	2025	2025	$14,117.00	22
4101038	Surface	Old Coast Road-300259	21	374	2	2025	2025	$17,978.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4500291	Surface	Old Coast Road-271595	7418	7740	2	2025	2025	$16,537.00	22
4700720	Pavement	Old Coast Road-300981	8667	9543	2	2025	2025	$211,945.00	60
4700721	Pavement	Old Coast Road-300982	9543	9603	2	2025	2025	$15,738.00	60
4500228	Surface	Missabotti Road-87483	1972	2105	2	2025	2025	$3,804.00	20
							Total	**$620,805.00**	
4500223	Surface	Menzies Road-271322	0	17	3	2026	2026	$340.00	22
4100550	Surface	Ocean View Drive-91862	1031	1199	3	2026	2026	$7,688.00	25
4100573	Surface	Parkes Street-91700	45	327	3	2026	2026	$16,130.00	25
4500217	Surface	Main Street-86323	0	1117	3	2026	2026	$38,335.00	22
4500218	Surface	Main Street-86321	1117	1142	3	2026	2026	$930.00	22
4500153	Surface	Grassy Road-87152	340	545	3	2026	2026	$5,863.00	22
4500156	Surface	Gumbayngirr Road-87636	0	726	3	2026	2026	$31,145.00	22
4500104	Surface	Cookies Lane-86363	0	265	3	2026	2026	$7,579.00	22
4500097	Surface	Congarinni Road North-87829	4862	5013	3	2026	2026	$4,750.00	22
4500053	Surface	Bellingen Road-87473	5696	6194	3	2026	2026	$11,394.00	22
4500030	Surface	Bakers Creek Road-267736	2730	3528	3	2026	2026	$27,387.00	22
4700030	Pavement	Bakers Creek Road-267736	2730	3528	3	2026	2026	$179,199.00	66
4500029	Surface	Bakers Creek Road-267766	0	192	3	2026	2026	$7,688.00	22
4500010	Surface	Albert Drive-86163	1629	2010	3	2026	2026	$16,345.00	22
4500011	Surface	Albert Drive-86164	2010	2030	3	2026	2026	$1,030.00	22
4500315	Surface	Siding Road-271724	0	84	3	2026	2026	$2,402.00	22
4500457	Surface	Valla Road-87172	19205	19295	3	2026	2026	$3,604.00	22
4100806	Surface	Wallace Street-90946	1326	1603	3	2026	2026	$17,429.00	25

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4100808	Surface	Wallace Street-91008	1625	1654	3	2026	2026	$1,825.00	25
4100807	Surface	Wallace Street-91060	1603	1625	3	2026	2026	$1,384.00	25
4500379	Surface	Tamban Road-271787	2488	2498	3	2026	2026	$343.00	22
4500341	Surface	South Bank Road-86400	4657	4778	3	2026	2026	$4,153.00	22
4100885	Surface	Woodbell Street-91365	0	143	3	2026	2026	$6,544.00	25
4100896	Surface	Yarrawonga Street-91204	386	762	3	2026	2026	$25,809.00	25
4100899	Surface	Yarrawonga Street-91134	862	901	3	2026	2026	$2,677.00	25
4100897	Surface	Yarrawonga Street-91121	762	792	3	2026	2026	$2,059.00	25
4100900	Surface	Yarrawonga Street-90863	901	1166	3	2026	2026	$18,190.00	25
4100898	Surface	Yarrawonga Street-90856	792	862	3	2026	2026	$4,805.00	25
							Total	**$447,027.00**	
4100878	Surface	Willis Street-91018	0	43	4	2027	2027	$2,706.00	30
4100709	Surface	Star Street-90984	0	143	4	2027	2027	$8,180.00	30
4100708	Surface	Spring Street-91291	0	64	4	2027	2027	$2,563.00	30
4100710	Surface	Station Street-91181	0	95	4	2027	2027	$6,521.00	30
4700370	Pavement	Sullivans Road-87338	5971	6062	4	2027	2027	$20,435.00	60
4700612	Pavement	Scotts Head Road-300049	4424	5919	4	2027	2027	$335,717.00	60
4100626	Surface	Reedy Street-301047	0	127	4	2027	2027	$4,359.00	30
4100628	Surface	Reid Street-273212	0	115	4	2027	2027	$5,262.00	30
4100007	Surface	Adam Street-90577	302	433	4	2027	2027	$4,496.00	30
4100051	Surface	Bellevue Drive-90873	585	970	4	2027	2027	$18,461.00	30
4100040	Surface	Barrie Street-91201	168	314	4	2027	2027	$5,846.00	30
4100098	Surface	Boronia Street-91498	0	147	4	2027	2027	$79,875.00	30
4100181	Surface	Cohalan Street-90700	243	263	4	2027	2027	$801.00	30

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4100182	Surface	Cohalan Street-90574	263	332	4	2027	2027	$2,763.00	30
4100190	Surface	Cook Street-90758	300	572	4	2027	2027	$15,558.00	30
4100194	Surface	Creek Street-91738	126	160	4	2027	2027	$1,945.00	30
4100193	Surface	Creek Street-91515	0	126	4	2027	2027	$7,207.00	30
4100259	Surface	Fred Brain Avenue-91330	0	291	4	2027	2027	$21,639.00	30
4100441	Surface	Lorikeet Place-272660	0	115	4	2027	2027	$3,947.00	30
4100423	Surface	Leonard Street-91265	0	241	4	2027	2027	$16,542.00	30
4100311	Surface	Henderson Street-272451	206	406	4	2027	2027	$12,584.00	30
4100553	Surface	Oxley Street-90879	0	109	4	2027	2027	$6,235.00	30
4100483	Surface	Matthew Street-91761	177	347	4	2027	2027	$5,834.00	30
							Total	**$589,476.00**	
4100336	Surface	High Street-90610	574	623	5	2028	2028	$5,045.00	20
4500107	Surface	Coronation Road-87767	0	3833	5	2028	2028	$120,586.00	20
4500500	Surface	Rodeo Drive-87120	5068	6077	5	2028	2028	$42,132.00	20
4500519	Surface	Scotts Head Road-86365	9061	9231	5	2028	2028	$6,321.00	20
4500438	Surface	Valla Road-87393	86	195	5	2028	2028	$4,551.00	20
4500442	Surface	Valla Road-87397	399	838	5	2028	2028	$20,089.00	20
4500437	Surface	Upper Warrell Creek Road-86220	7675	8302	5	2028	2028	$21,519.00	20
4500595	Surface	Upper Warrell Creek Road-301044	8302	8415	5	2028	2028	$3,878.00	20
4500596	Surface	Upper Warrell Creek Road-301045	8415	9107	5	2028	2028	$23,749.00	20
4500433	Surface	Upper Warrell Creek Road-276601	4979	5665	5	2028	2028	$23,544.00	20
4500608	Surface	Upper Warrell Creek Road-276600	3805	4979	5	2028	2028	$40,292.00	20
4100930	Surface	Waratah Street-91760	340	400	5	2028	2028	$13,147.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4500462	Surface	Warrell Waters Road-300008	0	484	5	2028	2028	$17,995.00	22
							Total	**$342,848.00**	
4100890	Surface	Woods Lane-91735	0	139	6	2029	2029	$4,181.00	40
4700415	Pavement	Taylors Arm Road-86481	40021	40108	6	2029	2029	$14,653.00	84
4700416	Pavement	Taylors Arm Road-272182	56339	56553	6	2029	2029	$30,035.00	84
4500386	Surface	Taylors Arm Road-271793	338	690	6	2029	2029	$17,486.00	20
4700414	Pavement	Taylors Arm Road-272156	34580	34763	6	2029	2029	$35,958.00	84
4500388	Surface	Taylors Arm Road-86688	710	1950	6	2029	2029	$49,650.00	20
4500390	Surface	Taylors Arm Road-86685	1970	3200	6	2029	2029	$52,767.00	20
4101006	Surface	Dudley Street-300096	140	236	6	2029	2029	$3,295.00	40
4100208	Surface	Dudley Street-91209	0	40	6	2029	2029	$1,602.00	40
4100216	Surface	Durkin Street Lane-90999	109	149	6	2029	2029	$915.00	40
4500121	Surface	Eungai Creek Road-86311	1690	3212	6	2029	2029	$78,479.00	20
4100002	Surface	Adam Lane-90604	423	740	6	2029	2029	$6,346.00	40
4100407	Surface	Lane off Creek Street-91258	0	22	6	2029	2029	$807.00	40
4300407	Pavement	Lane off Creek Street-91258	0	47	6	2029	2029	$3,958.00	84
4500243	Surface	Newee Creek Road-86958	0	80	6	2029	2029	$3,203.00	20
4500244	Surface	Newee Creek Road-86954	80	100	6	2029	2029	$801.00	20
4500245	Surface	Newee Creek Road-86964	100	273	6	2029	2029	$6,927.00	20
4500246	Surface	Newee Creek Road-86963	273	293	6	2029	2029	$915.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4700264	Pavement	North Arm Road-271440	23459	23610	6	2029	2029	$21,193.00	84
4500249	Surface	Newee Creek Road-267769	2072	2192	6	2029	2029	$4,118.00	20
4500590	Surface	Newee Creek Road-95229	1359	1831	6	2029	2029	$16,199.00	20
4500247	Surface	Newee Creek Road-86968	293	1359	6	2029	2029	$36,585.00	20
4500273	Surface	North Bank Road-86561	9514	10130	6	2029	2029	$17,618.00	22
4700273	Pavement	North Bank Road-86561	9514	10130	6	2029	2029	$121,038.00	66
							Total	**$528,729.00**	
4500274	Surface	Nursery Road-271419	0	1439	7	2030	2030	$57,618.00	22
4500497	Surface	Old Coast Road-87408	9913	9943	7	2030	2030	$1,287.00	20
4500493	Surface	Old Coast Road-86948	7740	7760	7	2030	2030	$797.00	20
4500290	Surface	Old Coast Road-271594	7398	7418	7	2030	2030	$915.00	22
4500226	Surface	Missabotti Road-87459	0	125	7	2030	2030	$4,290.00	20
4500194	Surface	Kerr Drive-86792	108	128	7	2030	2030	$686.00	22
4500197	Surface	Kimberley Grove-86936	0	240	7	2030	2030	$7,550.00	22
4500201	Surface	Letita Close-271302	170	190	7	2030	2030	$744.00	22
4500204	Surface	Little Tamban Road-86296	335	1281	7	2030	2030	$37,878.00	22
4500208	Surface	Lower Buckra Bendinni Rd-87433	210	1665	7	2030	2030	$54,097.00	22
4500207	Surface	Lower Buckra Bendinni Rd-87424	190	210	7	2030	2030	$744.00	22
4500176	Surface	Harrimans Lane-86780	0	147	7	2030	2030	$5,581.00	22
4500161	Surface	Gumma Road-86848	3515	3664	7	2030	2030	$5,966.00	20
4500159	Surface	Gumma Road-86836	3286	3495	7	2030	2030	$8,966.00	20
4500160	Surface	Gumma Road-86835	3495	3515	7	2030	2030	$801.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4100379	Surface	Ken Howard Cres-91314	0	266	7	2030	2030	$18,258.00	25
4500190	Surface	Kennaicle Creek Road-95281	147	255	7	2030	2030	$3,707.00	22
4500189	Surface	Kennaicle Creek Road-87519	0	45	7	2030	2030	$1,544.00	22
4500195	Surface	Kerr Drive-86794	128	511	7	2030	2030	$13,145.00	22
4500009	Surface	Albert Drive-86165	1609	1629	7	2030	2030	$1,030.00	22
4500008	Surface	Albert Drive-86167	497	1609	7	2030	2030	$47,705.00	22
4500018	Surface	Alexandra Drive-95197	1065	1095	7	2030	2030	$2,631.00	22
4100017	Surface	Aston Lane-90586	0	28	7	2030	2030	$641.00	20
4500708	Surface	Alexandra Drive East-300066	0	22	7	2030	2030	$1,258.00	22
4500707	Surface	Alexandra Drive West-300065	0	22	7	2030	2030	$1,258.00	22
4500036	Surface	Bald Hill Road-86790	582	602	7	2030	2030	$801.00	22
4500043	Surface	Bangalow Drive-95206	173	270	7	2030	2030	$3,606.00	22
4500042	Surface	Bangalow Drive-95205	153	173	7	2030	2030	$801.00	22
4500041	Surface	Bangalow Drive-95204	0	153	7	2030	2030	$5,689.00	22
4500124	Surface	Figtree Road-86830	0	485	7	2030	2030	$18,032.00	22
4500125	Surface	Figtree Road-86826	485	495	7	2030	2030	$286.00	22
4500136	Surface	Foxs Road-87405	0	1068	7	2030	2030	$42,763.00	22
4500147	Surface	Grassy Head Road-86370	250	270	7	2030	2030	$1,058.00	20
4500151	Surface	Grassy Head Road-86380	1360	1380	7	2030	2030	$744.00	22
4500148	Surface	Grassy Head Road-86379	270	870	7	2030	2030	$20,592.00	20
4500149	Surface	Grassy Head Road-86376	870	890	7	2030	2030	$801.00	20
4500146	Surface	Grassy Head Road-86371	0	250	7	2030	2030	$8,866.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4500103	Surface	Connors Crescent-86793	0	130	7	2030	2030	$4,462.00	22
4500083	Surface	Champions Lane-86917	0	20	7	2030	2030	$572.00	22
4500397	Surface	Taylors Arm Road-86650	8380	8400	7	2030	2030	$801.00	20
4500411	Surface	Taylors Arm Road-86550	26401	28637	7	2030	2030	$76,740.00	22
4500412	Surface	Taylors Arm Road-86506	28637	28657	7	2030	2030	$801.00	22
4500349	Surface	Sullivans Road-87295	1663	1683	7	2030	2030	$686.00	20
4500452	Surface	Valla Road-87238	7235	7730	7	2030	2030	$14,157.00	22
4500518	Surface	Scotts Head Road-86362	9041	9061	7	2030	2030	$801.00	20
4500524	Surface	Scotts Head Road-272077	11611	11631	7	2030	2030	$858.00	20
4100999	Surface	Sealed access road-7646	0	0	7	2030	2030	$1,902.00	22
4500309	Surface	Rosewood Road-86156	0	1820	7	2030	2030	$77,392.00	22
4500323	Surface	Sonnys Road-86161	0	180	7	2030	2030	$9,266.00	22
4100690	Surface	Short Street-91462	103	159	7	2030	2030	$3,524.00	25
4100632	Surface	Ridge Street-91473	274	369	7	2030	2030	$6,521.00	25
4500463	Surface	Waterford Drive-86867	0	750	7	2030	2030	$23,595.00	22
4500464	Surface	Waterford Drive-86859	750	770	7	2030	2030	$744.00	22
4500528	Surface	Wirrimbi Road-86985	2008	2028	7	2030	2030	$915.00	20
4500530	Surface	Wirrimbi Road-86973	3121	3141	7	2030	2030	$1,030.00	20
4100866	Surface	West Street Lane-90930	0	55	7	2030	2030	$944.00	22
							Total	**$608,847.00**	
4500532	Surface	Wirrimbi Road-86955	3484	3504	8	2031	2031	$1,030.00	20
4500531	Surface	Wirrimbi Road-86978	3141	3484	8	2031	2031	$13,734.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4500529	Surface	Wirrimbi Road-86990	2028	3121	8	2031	2031	$43,764.00	20
4500753	Surface	Wirrimbi Road-301030	4882	5000	8	2031	2031	$4,725.00	20
4100789	Surface	Wallace Street-90983	158	285	8	2031	2031	$41,742.00	20
4100791	Surface	Wallace Street-90926	309	557	8	2031	2031	$81,513.00	20
4100928	Surface	Waratah Street-91838	240	319	8	2031	2031	$17,310.00	20
4100934	Surface	Waratah Street-91764	484	586	8	2031	2031	$13,969.00	20
4500570	Surface	Rodeo Drive-86906	4907	4983	8	2031	2031	$3,173.00	20
4500567	Surface	Rodeo Drive-86902	3621	3969	8	2031	2031	$14,531.00	20
4500498	Surface	Rodeo Drive-86887	333	689	8	2031	2031	$14,865.00	20
4500499	Surface	Rodeo Drive-86886	4983	5068	8	2031	2031	$3,890.00	20
4500569	Surface	Rodeo Drive-86904	4063	4907	8	2031	2031	$35,242.00	20
4500579	Surface	Rodeo Drive-87124	6809	7801	8	2031	2031	$41,422.00	20
4500502	Surface	Rodeo Drive-87121	7362	10414	8	2031	2031	$127,439.00	20
4500507	Surface	Rodeo Drive-301049	11966	11986	8	2031	2031	$1,030.00	20
4500504	Surface	Rodeo Drive-301050	10434	11003	8	2031	2031	$22,783.00	20
4500505	Surface	Rodeo Drive-87142	11003	11023	8	2031	2031	$801.00	20
4500503	Surface	Rodeo Drive-87137	10414	10434	8	2031	2031	$835.00	20
4100916	Surface	Riverside Drive-91299	524	605	8	2031	2031	$17,749.00	20
4500510	Surface	Rodeo Drive-301044	12273	13103	8	2031	2031	$30,859.00	20
4500508	Surface	Rodeo Drive-301047	11986	12253	8	2031	2031	$10,691.00	20
4500509	Surface	Rodeo Drive-301048	12253	12273	8	2031	2031	$858.00	20
4100915	Surface	Riverside Drive-91752	384	524	8	2031	2031	$30,677.00	20
4100913	Surface	Riverside Drive-91744	113	343	8	2031	2031	$50,398.00	20
4100921	Surface	Riverside Drive-91645	1305	1345	8	2031	2031	$10,956.00	20
4100917	Surface	Riverside Drive-91604	605	627	8	2031	2031	$4,821.00	20
4100912	Surface	Riverside Drive-91543	68	113	8	2031	2031	$9,860.00	20
4100918	Surface	Riverside Drive-91301	627	849	8	2031	2031	$66,886.00	20
4100922	Surface	Riverside Drive-91247	1345	1490	8	2031	2031	$55,602.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4500644	Surface	South Arm Road-300110	4853	4970	8	2031	2031	$4,015.00	20
4500642	Surface	South Arm Road-300108	4453	4621	8	2031	2031	$5,766.00	20
4500336	Surface	South Arm Road-87683	8704	10467	8	2031	2031	$60,506.00	20
4500555	Surface	South Arm Road-87664	4970	5234	8	2031	2031	$9,060.00	20
4500554	Surface	South Arm Road-87663	4265	4350	8	2031	2031	$2,917.00	20
4500332	Surface	South Arm Road-87660	3909	4201	8	2031	2031	$10,021.00	20
4500330	Surface	South Arm Road-87659	3290	3889	8	2031	2031	$20,558.00	20
4500333	Surface	South Arm Road-87656	5234	5254	8	2031	2031	$915.00	20
4500331	Surface	South Arm Road-87654	3889	3909	8	2031	2031	$744.00	20
4500612	Surface	Scotts Head Road-300049	4424	5919	8	2031	2031	$55,584.00	20
4500674	Surface	Scotts Head Road-300149	2274	2437	8	2031	2031	$6,060.00	20
4500520	Surface	Scotts Head Road-86364	9231	9574	8	2031	2031	$15,696.00	20
4500514	Surface	Scotts Head Road-86346	3991	4011	8	2031	2031	$1,602.00	20
4500449	Surface	Valla Road-87248	5435	5455	8	2031	2031	$858.00	20
4500441	Surface	Valla Road-87384	379	399	8	2031	2031	$915.00	20
4500572	Surface	Valla Road-87284	2069	2519	8	2031	2031	$18,018.00	20
4500446	Surface	Valla Road-87280	1533	1767	8	2031	2031	$9,369.00	20
4100798	Surface	Wallace Street-91056	926	943	8	2031	2031	$4,656.00	20
4100800	Surface	Wallace Street-90997	969	1029	8	2031	2031	$16,434.00	20
4100793	Surface	Wallace Street-90988	578	743	8	2031	2031	$54,232.00	20
4100790	Surface	Wallace Street-91083	285	309	8	2031	2031	$7,888.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4100794	Surface	Wallace Street-91078	743	758	8	2031	2031	$4,930.00	20
4100792	Surface	Wallace Street-91075	557	578	8	2031	2031	$6,902.00	20
4100799	Surface	Wallace Street-91107	943	969	8	2031	2031	$7,121.00	20
4500434	Surface	Upper Warrell Creek Road-276602	5665	5685	8	2031	2031	$686.00	20
4100751	Surface	Tuna Street-98171	232	252.5	8	2031	2031	$1,173.00	20
4500436	Surface	Upper Warrell Creek Road-86219	7655	7675	8	2031	2031	$801.00	20
4500440	Surface	Valla Road-87394	215	379	8	2031	2031	$6,848.00	20
4100757	Surface	Valla Beach Road-91865	280	602	8	2031	2031	$107,098.00	20
4100765	Surface	Valla Beach Road-91854	1313	1366	8	2031	2031	$8,565.00	20
4100763	Surface	Valla Beach Road-91914	1113	1293	8	2031	2031	$57,577.00	20
4100764	Surface	Valla Beach Road-91909	1293	1313	8	2031	2031	$5,478.00	20
4100762	Surface	Valla Beach Road-91905	1090	1113	8	2031	2031	$6,300.00	20
4100760	Surface	Valla Beach Road-91897	769	791	8	2031	2031	$6,026.00	20
4100756	Surface	Valla Beach Road-91866	0	67.42	8	2031	2031	$14,773.00	20
4500353	Surface	Sullivans Road-87311	2123	2143	8	2031	2031	$801.00	20
4500356	Surface	Sullivans Road-87325	2515	2897	8	2031	2031	$13,110.00	20
4500357	Surface	Sullivans Road-87322	2897	2917	8	2031	2031	$801.00	20
4500354	Surface	Sullivans Road-87316	2143	2495	8	2031	2031	$12,081.00	20
4500355	Surface	Sullivans Road-87315	2495	2515	8	2031	2031	$686.00	20
4500369	Surface	Sullivans Road-87337	5951	5971	8	2031	2031	$801.00	20
4500365	Surface	Sullivans Road-87335	4423	4443	8	2031	2031	$801.00	20
4500352	Surface	Sullivans Road-276632	2043	2123	8	2031	2031	$2,746.00	20
4500545	Surface	South Arm Road-87642	0	38	8	2031	2031	$1,478.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4500410	Surface	Taylors Arm Road-86540	26381	26401	8	2031	2031	$686.00	20
4500409	Surface	Taylors Arm Road-86549	25815	26381	8	2031	2031	$19,425.00	20
4500408	Surface	Taylors Arm Road-86544	25795	25815	8	2031	2031	$801.00	20
4500395	Surface	Taylors Arm Road-86646	7958	7978	8	2031	2031	$801.00	20
4500401	Surface	Taylors Arm Road-86628	10392	10412	8	2031	2031	$915.00	20
4500403	Surface	Taylors Arm Road-86627	18631	18653	8	2031	2031	$755.00	20
4500404	Surface	Taylors Arm Road-86624	18653	18673	8	2031	2031	$1,030.00	20
4500399	Surface	Taylors Arm Road-86623	9272	9292	8	2031	2031	$1,030.00	20
4500405	Surface	Taylors Arm Road-86605	18673	22296	8	2031	2031	$134,703.00	20
4500393	Surface	Taylors Arm Road-86670	3550	3570	8	2031	2031	$915.00	20
4500389	Surface	Taylors Arm Road-86679	1950	1970	8	2031	2031	$858.00	20
4500371	Surface	Talarm Road-87757	882.28	2583	8	2031	2031	$58,369.00	20
4500372	Surface	Talarm Road-87753	2583	2603	8	2031	2031	$801.00	20
4500374	Surface	Talarm Road-87745	4068	4088	8	2031	2031	$801.00	20
4500632	Surface	Talarm Road-300104	0	772	8	2031	2031	$26,495.00	20
4100202	Surface	Dickson Street-91745	0	214	8	2031	2031	$9,793.00	20
4100200	Surface	Davis Court-91329	0	51	8	2031	2031	$2,275.00	20
4500152	Surface	Grassy Head Road-86385	1380	2122	8	2031	2031	$25,465.00	20
4500150	Surface	Grassy Head Road-86382	890	1360	8	2031	2031	$16,130.00	20
4100907	Surface	Fraser Street-91741	0	181	8	2031	2031	$39,661.00	20
4100251	Surface	Fletcher Street-91732	161	285	8	2031	2031	$2,837.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4500119	Surface	Eungai Creek Road-86310	752	1670	8	2031	2031	$47,339.00	20
4500556	Surface	Bellingen Road-87476	5093	5676	8	2031	2031	$21,676.00	20
4500586	Surface	Bellingen Road-87453	2990	4013	8	2031	2031	$38,035.00	20
4500050	Surface	Bellingen Road-87451	4632	4652	8	2031	2031	$801.00	20
4500007	Surface	Albert Drive-86168	477	497	8	2031	2031	$1,030.00	20
4500003	Surface	Albert Drive-86173	133	153	8	2031	2031	$972.00	20
4500004	Surface	Albert Drive-86172	153	338	8	2031	2031	$7,937.00	20
4500005	Surface	Albert Drive-86169	338	358	8	2031	2031	$972.00	20
4500002	Surface	Albert Drive-86174	0	133	8	2031	2031	$4,945.00	20
4500061	Surface	Boat Harbour Road-86617	4536	4556	8	2031	2031	$1,373.00	20
4500063	Surface	Boat Harbour Road-86610	7066	7086	8	2031	2031	$915.00	20
4500066	Surface	Boat Harbour Road-86609	7885	9181	8	2031	2031	$44,479.00	20
4500065	Surface	Boat Harbour Road-86583	7865	7885	8	2031	2031	$801.00	20
4500068	Surface	Boat Harbour Road-268041	9201	9458	8	2031	2031	$8,820.00	20
4500067	Surface	Boat Harbour Road-268040	9181	9201	8	2031	2031	$801.00	20
4500062	Surface	Boat Harbour Road-86620	4556	7066	8	2031	2031	$86,143.00	20
4100134	Surface	Brunsdon Lane-90933	0	212	8	2031	2031	$3,638.00	20
4100124	Surface	Bowra Street-91541	120	150	8	2031	2031	$20,543.00	20
4100377	Surface	Kane Street-90927	0	81	8	2031	2031	$2,780.00	20
4100338	Surface	High Street-90602	629	675	8	2031	2031	$4,736.00	20
4500158	Surface	Gumma Road-86829	3266	3286	8	2031	2031	$858.00	20
4100302	Surface	Hallidise Street-91561	273	302	8	2031	2031	$1,825.00	20
4500178	Surface	Hawks Road-271151	0	246	8	2031	2031	$4,925.00	20
4100334	Surface	High Street-90606	493	543	8	2031	2031	$3,718.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4100340	Surface	High Street-90605	707	974	8	2031	2031	$27,490.00	20
4100337	Surface	High Street-90709	623	629	8	2031	2031	$618.00	20
4100335	Surface	High Street-90707	543	574	8	2031	2031	$3,192.00	20
4100342	Surface	High Street-90752	1008	1306	8	2031	2031	$18,750.00	20
4100341	Surface	High Street-90729	974	1008	8	2031	2031	$3,306.00	20
4500231	Surface	Missabotti Road-87492	4630	4650	8	2031	2031	$801.00	20
4500233	Surface	Missabotti Road-87507	6840	6860	8	2031	2031	$801.00	20
4100489	Surface	McKay Street-91173	105	212	8	2031	2031	$35,169.00	20
4100488	Surface	McKay Street-91047	84	105	8	2031	2031	$6,902.00	20
4100487	Surface	McKay Street-90919	0	84	8	2031	2031	$27,609.00	20
4500224	Surface	Millers Road-271325	0	25	8	2031	2031	$715.00	20
4500225	Surface	Millers Road-87049	136	326	8	2031	2031	$5,434.00	20
4100520	Surface	Nelson Street-91518	109	124	8	2031	2031	$3,287.00	20
4100519	Surface	Nelson Street-91575	74	109	8	2031	2031	$7,669.00	20
4500254	Surface	North Arm Road-87428	606	1600	8	2031	2031	$41,505.00	20
4500252	Surface	North Arm Road-87427	180	586	8	2031	2031	$16,953.00	20
4500253	Surface	North Arm Road-87422	586	606	8	2031	2031	$835.00	20
4500496	Surface	Old Coast Road-266764	9623	9913	8	2031	2031	$11,580.00	20
4500495	Surface	Old Coast Road-266763	9603	9623	8	2031	2031	$858.00	20
4100910	Surface	Old Coast Road-91610	448	502	8	2031	2031	$17,749.00	20
4500721	Surface	Old Coast Road-300982	9543	9603	8	2031	2031	$2,673.00	20
4500720	Surface	Old Coast Road-300981	8667	9543	8	2031	2031	$35,991.00	20
4500281	Surface	Old Coast Road-86892	395	415	8	2031	2031	$686.00	20

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
							Total	**$2,271,733.00**	
4500287	Surface	Old Coast Road-271587	7135	7162	9	2032	2032	$927.00	22
4500289	Surface	Old Coast Road-271593	7182	7398	9	2032	2032	$8,649.00	22
4500288	Surface	Old Coast Road-271588	7162	7182	9	2032	2032	$801.00	22
4500270	Surface	North Bank Road-271455	4832	4960	9	2032	2032	$3,661.00	22
4500266	Surface	North Bank Road-271451	1343	1452	9	2032	2032	$2,494.00	22
4500265	Surface	North Bank Road-86584	0	10	9	2032	2032	$343.00	22
4500267	Surface	North Bank Road-86577	1774	1802	9	2032	2032	$641.00	22
4500269	Surface	North Bank Road-86576	1822	1838	9	2032	2032	$366.00	22
4500268	Surface	North Bank Road-86575	1802	1822	9	2032	2032	$515.00	22
4500271	Surface	North Bank Road-86574	8114	8206	9	2032	2032	$2,105.00	22
4500272	Surface	North Bank Road-86568	8749	8870	9	2032	2032	$2,768.00	22
4500294	Surface	Parkins Close-276030	0	175	9	2032	2032	$6,507.00	22
4500295	Surface	Paulownia Place-87182	0	53	9	2032	2032	$4,244.00	22
4500299	Surface	Preston Drive-276704	135	155	9	2032	2032	$801.00	22
4500259	Surface	North Arm Road-271398	12922	13040	9	2032	2032	$4,050.00	22
4500690	Surface	North Arm Road-300091	0	38	9	2032	2032	$1,848.00	22
4500691	Surface	North Arm Road-300090	38	56	9	2032	2032	$875.00	22
4500692	Surface	North Arm Road-300089	56	105	9	2032	2032	$2,382.00	22
4500718	Surface	Newee Creek Road-	3310	3522	9	2032	2032	$7,276.00	22

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
		87090							
4500250	Surface	Newee Creek Road-267773	3946	4046	9	2032	2032	$3,432.00	22
4500222	Surface	McHughs Creek Road-271319	3405	3495	9	2032	2032	$2,317.00	22
4500232	Surface	Missabotti Road-87508	4650	6840	9	2032	2032	$75,161.00	20
4500241	Surface	Mitchells Road-271395	4175	4281	9	2032	2032	$3,032.00	22
4500239	Surface	Mitchells Road-87258	0	666	9	2032	2032	$24,000.00	22
4500240	Surface	Mitchells Road-87255	3766	3868	9	2032	2032	$2,334.00	22
4500700	Surface	Irvines Road-300070	0	51	9	2032	2032	$2,917.00	22
4500186	Surface	Irvines Road-87112	672	1213	9	2032	2032	$15,473.00	22
4500187	Surface	Irvines Road-86957	2137	3650	9	2032	2032	$38,945.00	22
4500616	Surface	Hopewood Crescent-300059	0	25	9	2032	2032	$858.00	22
4500188	Surface	Kelly Close-95252	0	270	9	2032	2032	$8,511.00	22
4500192	Surface	Kennaicle Creek Road-271180	2700	2800	9	2032	2032	$3,432.00	22
4500191	Surface	Kennaicle Creek Road-271176	1550	1950	9	2032	2032	$11,440.00	22
4500219	Surface	Main Street-86325	1142	1702	9	2032	2032	$20,821.00	22
4500220	Surface	Maras Creek Road-86669	0	2195	9	2032	2032	$94,166.00	22
4500078	Surface	Browns Crossing Road-86275	4768	5121	9	2032	2032	$10,096.00	22
4500073	Surface	Browns Crossing Road-86198	0	254	9	2032	2032	$5,812.00	22
4500079	Surface	Brushbox Road-267686	0	40	9	2032	2032	$1,144.00	22
4500056	Surface	Birds Road-87037	0	121	9	2032	2032	$3,115.00	22
4500058	Surface	Birds Road-87036	141	328	9	2032	2032	$3,744.00	22
4500057	Surface	Birds Road-87029	121	141	9	2032	2032	$515.00	22

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
4500020	Surface	Alfred Close-86940	0	448	9	2032	2032	$30,751.00	22
4500031	Surface	Bakers Creek Road-267740	4375	4495	9	2032	2032	$3,432.00	22
4500033	Surface	Bakers Creek Road-267744	6153	6254	9	2032	2032	$2,311.00	22
4500032	Surface	Bakers Creek Road-267742	5325	5498	9	2032	2032	$3,958.00	22
4500128	Surface	Figtree Road-86824	603	627	9	2032	2032	$686.00	22
4500133	Surface	Florence Wilmont Drive-86934	1576	2189	9	2032	2032	$26,298.00	22
4500138	Surface	Garbage Tip Road-87369	0	338	9	2032	2032	$11,600.00	22
4500154	Surface	Greenhills Road-86528	0	488	9	2032	2032	$18,702.00	22
4500140	Surface	Gordons Knob Road-87031	1436	1503	9	2032	2032	$1,725.00	22
4500141	Surface	Gordons Knob Road-87028	1503	1523	9	2032	2032	$572.00	22
4500139	Surface	Gordons Knob Road-86997	0	211	9	2032	2032	$6,035.00	22
4500142	Surface	Goulds Road-87030	0	960	9	2032	2032	$32,947.00	22
4500144	Surface	Graces Road-271127	2244	2381	9	2032	2032	$3,553.00	22
4500145	Surface	Graces Road-87593	10819	10926	9	2032	2032	$2,448.00	22
4500543	Surface	Grandis Glen-271122	0	212	9	2032	2032	$4,244.00	22
4500100	Surface	Congarinni Road South-267883	0	1119	9	2032	2032	$39,568.00	22
4500092	Surface	Congarinni Road North-284773	1455	1470	9	2032	2032	$18,138.00	22
4500096	Surface	Congarinni Road North-87830	3729	3999	9	2032	2032	$10,811.00	22
4500091	Surface	Congarinni Road North-284772	273	1455	9	2032	2032	$8,842.00	22
4500098	Surface	Congarinni Road North-267809	7021	7238	9	2032	2032	$9,333.00	22
4500093	Surface	Congarinni Road	1470	2672	9	2032	2032	$26,840.00	22

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
		North-267799							
4500099	Surface	Congarinni Road North-87848	7860	8250	9	2032	2032	$7,074.00	22
4500394	Surface	Taylors Arm Road-86674	3570	6018	9	2032	2032	$105,019.00	20
4500396	Surface	Taylors Arm Road-86661	7978	8380	9	2032	2032	$14,486.00	20
4500398	Surface	Taylors Arm Road-86658	8400	9272	9	2032	2032	$31,423.00	20
4500413	Surface	Taylors Arm Road-86510	28657	32789	9	2032	2032	$141,810.00	22
4500342	Surface	Spaldings Road-87798	0	153	9	2032	2032	$3,938.00	22
4500348	Surface	Sullivans Road-271773	1615	1663	9	2032	2032	$1,647.00	22
4500444	Surface	Valla Road-87398	858	1513	9	2032	2032	$31,846.00	20
4500420	Surface	Upper Buckrabendinni Road-266705	0	102	9	2032	2032	$3,792.00	22
4500419	Surface	Tewinga Lane-87135	1634	1730	9	2032	2032	$3,844.00	22
4500451	Surface	Valla Road-87234	7215	7235	9	2032	2032	$572.00	22
4500458	Surface	Valley View Road-271867	0	146	9	2032	2032	$4,176.00	22
4500455	Surface	Valla Road-87223	9465	9568	9	2032	2032	$2,357.00	22
4100998	Surface	Sealed access road-7638	0	0	9	2032	2032	$3,552.00	24
4101000	Surface	Sealed access road-7651	0	0	9	2032	2032	$1,802.00	22
4100995	Surface	Sealed access road-8755	0	0	9	2032	2032	$1,570.00	22
4100996	Surface	Sealed access road-7654	0	0	9	2032	2032	$18,138.00	22
4500310	Surface	Royale Court-95207	0	142	9	2032	2032	$9,747.00	22
4500311	Surface	Sanders Road-86424	2066	2168	9	2032	2032	$2,334.00	22
4500654	Surface	South Arm Road-87681	6435	8053	9	2032	2032	$64,785.00	22
4500334	Surface	South Arm Road-	5254	6435	9	2032	2032	$47,287.00	22

Asset ID	Category	Asset Name	From	To	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
		87680							
4500335	Surface	South Arm Road-87672	8684	8704	9	2032	2032	$801.00	22
4500656	Surface	South Arm Road-300106	8449	8684	9	2032	2032	$9,409.00	22
4500319	Surface	Soldier Settlers Road-87069	0	155	9	2032	2032	$4,433.00	22
4500316	Surface	Siding Road-271725	726	755	9	2032	2032	$995.00	22
4500318	Surface	Simpsons Ridge-271731	1242	1305	9	2032	2032	$1,261.00	22
4500559	Surface	Rodeo Drive-86891	977	1496	9	2032	2032	$21,671.00	20
4500304	Surface	Rhones Creek Road-271615	3818	3944	9	2032	2032	$3,604.00	22
4500305	Surface	Rhones Creek Road-271613	5168	5295	9	2032	2032	$3,269.00	22
4500306	Surface	Rhones Creek Road-87748	6280	6350	9	2032	2032	$2,202.00	22
4500300	Surface	Preston Drive-276703	155	490	9	2032	2032	$13,413.00	22
4500298	Surface	Preston Drive-86783	0	135	9	2032	2032	$5,405.00	22
4500472	Surface	Williams Hill Road-271874	1300	1400	9	2032	2032	$3,146.00	22
							Total	**$1,216,120.00**	

Appendix B – LTFP Term Financial Plan Report

Year	Capital Renewal forecast on existing assets	Capital Acquisition forecast	Operation cost of existing assets	Maintenance cost of existing assets	Operation costs of new assets	Maintenance cost of new assets	Disposal of surplus assets
2023	2,319,038	2,491,786	675,686	1,246,400	0	0	0
2024	360,847	250,000	689,200	1,271,328	0	0	0
2025	620,805	250,000	702,984	1,296,755	0	0	0
2026	447,027	250,000	717,043	1,322,690	0	0	0
2027	589,476	250,000	731,384	1,349,143	0	0	0
2028	342,848	250,000	746,012	1,376,126	0	0	0
2029	528,729	250,000	760,932	1,403,649	0	0	0
2030	608,847	250,000	776,151	1,431,722	0	0	0
2031	2,271,733	250,000	791,674	1,460,356	0	0	0
2032	1,216,120	250,000	807,507	1,489,563	0	0	0
2033	1,647,984	250,000	823,657	1,519,355	0	0	0
2034	1,231,724	250,000	840,131	1,549,742	0	0	0
2035	855,146	250,000	856,933	1,580,737	0	0	0
2036	1,813,217	250,000	874,072	1,612,351	0	0	0
2037	1,829,272	250,000	891,553	1,644,598	0	0	0
2038	884,498	250,000	909,384	1,677,490	0	0	0
2039	1,231,867	250,000	927,572	1,711,040	0	0	0
2040	2,973,109	250,000	946,124	1,745,261	0	0	0
2041	1,277,015	250,000	965,046	1,780,166	0	0	0
2042	93,726	250,000	984,347	1,815,769	0	0	0

Appendix C - Local Government Functional Road Classification

IPWEA (NSW)
Roads & Transport
Directorate

Local Government Functional Road Classification

Functional Category	Sealed Network	Unsealed Network	Typical Daily Traffic AADT	Heavy Vehicles	Bus Route (Including School)	Linked Communities population	Connectivity
Arterial	Carry traffic to, from and across council areas. They carry traffic between industrial, commercial and residential areas and carry the highest volumes of traffic. Provide for traffic movements between regions. Provide access to major industrial activities and may provide for public transport.	Carry traffic to, from and across council areas. They carry traffic between industrial, commercial and residential areas and carry the highest volumes of traffic May include heavy vehicle access routes between regional centres.	U: > 15,000 R: > 2,000	> 300	Public Transport Bus Route & School Bus Route	> 10,000	Critical connectivity (there may be no alternative routes)
	Regional Roads Includes roads declared as Regional Roads with funding contribution by RMS	**Regional Roads** Includes roads declared as Regional Roads with funding contribution by RMS					
Primary Collector	Provide the connections between arterial parts of the network and the Local Collector network. May also service industrial areas and local facilities such as shopping centres and freight terminals.	Provide the connections between the arterial network and the Local Collector network. May also service industrial facilities and grain / freight terminals. May also provide school bus routes in many areas.	U: > 5,000 R: > 1,000	> 150	Public Transport Bus Route & School Bus Route	> 5,000	Provides connection between local population and the State road network
Local Collector	Provides access to the Primary Collector network from local access roads. May provide access to individual industrial facilities and links to local shopping centres.	Provides access to the Primary Collector network from local access roads. May provide access to individual larger facilities such as feedlots and local grain silos. May also provide some school bus links.	U: > 1,000 R: > 200	> 25	Local Bus Route & School Bus Route	> 2,000	Provides connectivity within the local community
Local Access	Major function is to provide access to individual properties. May also provide access to local tourist sites.	Major function is to provide access to individual farms and properties. May also provide access to local tourist sites and recreation facilities.	U: < 1,000 R: < 200	< 25	May include local bus routes	< 250	Provides the link for properties and businesses and the local community

Notes:
1. State Roads are not included in this classification as the trafficked lanes are under the care control and management of RMS. Associated facilities (e.g. kerb & gutter, footpath, street furniture etc. which are owned and managed by councils will be included in other asset classes)
2. Classification of a road is based on its function. Absolute assessment against any one of the above criteria alone is to be avoided.
3. The assessment parameters in the above table are to provide guidance only. Assessment of a road should take a holistic view of its function and importance to the local community.
4. Levels of service are not intrinsically linked to the road hierarchy. Levels of service are determined by council following consultation with the local community and may vary across categories.

Mick Savage | Roads and Transport Directorate Manager | IPWEA NSW
p: +61 (02) 8267 3000 | f: +61 (02) 8267 3070 | m: +61 (0)418808085 | w: www.ipwea.org/nsw | e: mick.savage@ipwea.org | t: @ipweansw