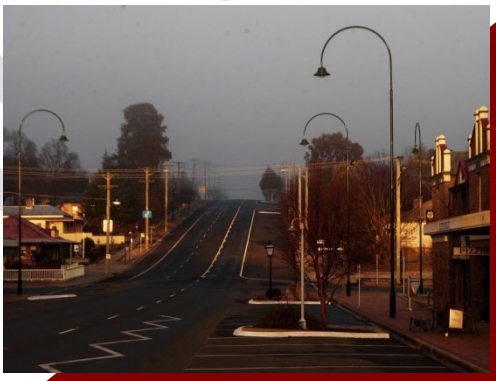
URALLA SHIRE COUNCIL

TRANSPORT

Asset Management Plan

2022

Draft Version 8.2

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1. EXECUTIVE SUMMARY

1.1 Uralla Shire Local Government Area

Uralla Shire is a medium sized NSW rural council with a population of 5,971 people and an area of 3,230 km^2 located approximately 545km northwest of Sydney on the New England Highway. One of the major issues facing the Uralla Shire Council is the provision of adequate funding for roads maintenance, renewals and upgrades to cope with increased traffic volume, population and higher community expectations.

This Transport Asset Management Plan (TAMP) is one of seven asset management plans covering all community assets for which Council is responsible. These fall under the Asset Management Policy and the Asset Management Strategy.

Council's transport assets provide the community with roads, pathways, bridges and other traffic related services. The critical issues facing Council's transport assets have been identified and include:

- Provision of adequate funding to meet both maintenance and renewal costs
- Increasing age of assets
- Community pressure to extend the existing sealed road network

Transport Services.
The transport network comprises:

ROADS	
• Local urban sealed roads	27.6 km
• Local rural sealed roads	294.3 km
• Local unsealed roads	457.4 km
• Regional urban sealed roads	5.6 km
• Regional rural sealed road	126.5 km
• Regional rural unsealed roads	9.8 km
• Other (parking lanes SH9)	1.9 km
• Total unsealed roads (50.6%)	467.1 km
• Total sealed roads (49.4%)	455.9 km
• Bulk earthworks	923.0 km
Total	**2769.1 km**

FOOTPATHS	
• Bundarra concrete footpaths	1618.4m^2
• Bundarra spray sealed footpaths	1720.5m^2
• Uralla concrete footpaths	8924.1m^2
• Uralla spray sealed footpaths	669.0m^2
• Uralla paved footpaths	3022.0m^2
Total	**15,954m^2**

KERB AND GUTTERING	
Concrete kerb and guttering	**29,155 m**

BRIDGES	
• Regional road concrete/steel bridges	30
• Regional road timber bridges	0
• local roads concrete/steel bridges	49
• local roads timber bridges	0
Total	**79**

FOOTBRIDGES	
Pedestrian footbridges	**3**

TRAFFIC FURNITURE	
Items including median strips, refuges, blisters, ramps and speed bumps.	**41**

OTHER STRUCTURES	
Items consisting of a taxi shelter, bicycle paths, community street store, lighting, car parks including motorcycle shelter, and paved footpaths.	**21**

In 2022, these transport infrastructure assets had a gross carrying value of $239,329,572. Further details of the valuation of different asset types is shown in Appendix B on page 38.

Transport assets represent 70% of the total value of Council infrastructure, property, plant and equipment assets of $343,991,000 (values from 30 June 2021 financial statements).

Basic terms used in this TAMP

- **Maintenance** – the activities necessary to retain an assets as near as practicable to its original condition and to provide a satisfactory level of service (e.g. road patching, unsealed road grading),
- **Renewal** – the activities that return the service capability of an asset up to that which it had originally (e.g. frequency of road resurfacing and pavement reconstruction),
- **Upgrade** – upgrading existing assets and providing new assets to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a culvert or bridge with a larger size).

  Note: expanded work category definitions are given in Section 5.1.2.

1.2 What is Council's underlying philosophy in respect to road asset maintenance and renewals?

Uralla Shire Council has budgeted in its 10 year financial plan and proposes to budget annually in its operational plan for a small surplus (including capital grants), thus fully funding its non-cash depreciation expense. The depreciation of transport assets plus some of the small surplus will be utilised in the Transport sector to carry out maintenance of sealed roads, unsealed roads and bridges. In addition, provision is made to reseal between 5% (for local roads) and 6.7% (for regional roads) of the sealed road network, and to gravel resheet between 3.3% (class D roads) and 5% (class B and C roads) of the unsealed road network annually. These annual percentages represent a resealing cycle of between 15 and 20 years and a resheeting cycle of between 20 and 30 years, depending on the road class.

This philosophy is to be implemented concurrently with the outcomes of the 2020 condition assessment by Shepherd Services which identified the timing of required surface treatments (i.e. reseals) and base treatments (i.e. pavement rehabilitation in the case of sealed roads and gravel resheeting in the case of unsealed roads) for the different road types e.g. regional, urban, rural local and unsealed.

So for reseals and resheeting, the long-term average annual allocation will be the amount required to meet the targets outlined above. In some years, depending upon the timing of renewal works resulting from the condition assessment carried out in 2020, the allocation required for these treatments will be higher or lower than the average amount required to meet the adopted cycle times.

Whilst this philosophy will drive the preparation of future budgets, the determination of actual projects to be included in annual operations plans will need to be verified by field inspection to cater for any local changes in traffic volumes or composition and/or unexpected impacts of weather or any other factor which may have led to accelerated deterioration of pavements or seals in particular segments.

When preparing this plan, the priorities for available funding have been allocated firstly for maintenance and secondly for renewals. Upgrade works should only be undertaken with additional external grant funding specifically earmarked for upgrades (e.g. LRCI program).

Any opportunity for upgrading Thunderbolts Way to a State Road should be supported by Council and ensuring the Barraba and Bundarra Road remain Regional Roads.

Funding provision for upgrade works, other than those which have been approved by Council, have not been included in this plan. A list of 12 identified candidate projects has been prepared and ranked using the adopted Roads Assessment Model. These desired but unfunded upgrade works totalling $5.13million are identified in Appendix D. In order to carry out these upgrade works Council will need to obtain further grant funding as the current funding levels are only sufficient to carry out necessary maintenance and scheduled renewal works over the 10 year period of the plan.

As grant funding opportunities arise, Council will submit applications for this funding after considering the latest condition assessment and completing on-site verification inspections.

The final program of works will be determined by an inspection of the current condition of the asset with renewals deferred as late as possible until the components reach the end of their useful life.

An example of condition Level 1 sealed road after rehabilitation is as shown in Figure 1.1 below.

Figure 1.1: Condition Level 1 sealed road - Eastern Avenue, after rehabilitation

This asset management plan supports the goals of the adopted Community Strategic Plan 2022-2032 and in particular strategy 2.3:

"Communities that are well serviced with essential infrastructure."

1.3 What does it cost?

The projected cost to provide the services covered by this asset management plan include $28,371,339 for operations and maintenance (O&M) expenditure on existing assets with a current replacement value of $239,329,572; together with capital renewal of transport assets of $ $29,032,758 over the 10 year planning period. The breakdown of projected costs is set out in table 1.1 below:

Table 1.1: 10 Year Summary – All Transport Assets

Transport asset element	10 Year Projected costs 2022-32		
	Operations and maintenance (O&M) ($)	Capital renewals ($)	Total cost ($)
Bridges and culverts	774,022	-	774,022
Footpaths	778,292	895,161	1,673,453
K&G	303,323	740,837	1,044,160
Local Urban Streets	2,398,979	1,895,976	4,294,955
Unsealed Urban Streets	222,348	-	222,348
Regional Sealed Roads	5,274,104	7,317,420	12,591,524
Regional Unsealed Roads	434,687	248,152	682,839
Rural Sealed Roads	5,683,379	11,277,884	16,961,263
Rural Unsealed Roads	12,442,837	6,657,326	19,100,164
Parking Facilities	59,369	-	59,369
Total cost in $	**28,371,340**	**29,032,756**	**57,404,097**

1.4 What we will do? (Refer Appendices C and D for full details)

Council plans to provide transport services for the following within the 10 year planning period:

- Renew roads, bridges, footpaths, kerb and guttering, and footbridges before assets become unserviceable.
- Extend the shared bike path to the Sports Complex and construct new footpaths in accordance with the priorities contained within the Schedule of Works in the Uralla pedestrian access and mobility plan (PAMP).
- Include consideration for funding footpaths ranked by Bundarra 355 committee
- Construct 210m of new kerb and gutter each year.
- Carry out upgrading works on unsealed roads previously approved by Council subject to external funding for extension of sealed road network – see appendix D. In 2021/22 these works were on Old Gostwyck Road, Hariet Gully Road and Corey Road. In 2020/21 a 2km section of Retreat Road was upgraded from unsealed to sealed. Other items may be added as approved by Council from time to time subject to external funding.

1.5 What we cannot do

Council does not have enough funding to provide all services at the desired service levels and provide for all the new works desired by the community. The works and services that cannot be provided under present funding levels are:

- Complete the sealing of MR132 Barraba Road, particularly the "Barraba Gap" realignment of the road.
- Construct a bridge to replace the causeway over Bakers Creek on Barraba Road.
- Renew pavements on local roads other than those identified in Appendix C or approved by Council from time to time.
- Further extend the sealed road network beyond those sections of road identified in Appendix D or approved by Council from time to time.
- Construct new paved footpaths not identified in the PAMP and kerb and gutter in excess of 210m per year unless developer funding or other grant income is received.

1.6 Managing the risks

The following major risks for transport assets have been identified and addressed in Section 5

1.7 The next steps

The actions resulting from this asset management plan are:

- Engage the community on service delivery and funding issues raised in this plan.
- Seek additional funding for the renewal of sealed roads. As examples, Council was successful in receiving grant funding for Stages 1 and 2 of the reconstruction of Hawthorne Drive in 2020, 2021 and 2022, and funding for the pavement renewal of sections of Gostwyck Road, Kingstown Road and Northeys Road.
- Continually improve asset information, unit cost determination and fair value estimation of Council's road network.
- Payment of 7.11 charges (Uralla Shire Council Section 7.11 Development Contributions Plan 2021 – Heavy Haulage.) for all gravel pits and major projects to cover increased road maintenance costs

1.8 Questions you may have

1.8.1 What is this plan about?

This asset management plan covers the infrastructure transport assets that serve the wider Uralla community. These assets include the roads, bridges, footbridges, footpaths and kerb and guttering throughout the Council area which enable people to move through and within the Uralla local government area to access work, education, businesses and facilities.

1.8.2 What is an asset management plan?

Asset management planning is a comprehensive process to identify and deliver services associated with infrastructure and that it is provided in a financially sustainable manner, within the community's capacity to pay for the service.

Asset management plans detail information about infrastructure assets including actions required to provide an agreed level of service in the most cost effective manner. The Plan defines the services to be provided, how the services are provided and what funds are required to provide the services.

1.8.3 Why is there a funding squeeze?

Significant expenditure is required on regional roads namely Thunderbolts Way, Bundarra Road and Bundarra to Barraba Road that formerly were the responsibility of the State Government. Regional roads maintenance is funded by Transport for NSW to a level determined by formula which may not always deliver the funding necessary to maintain this road at a standard expected by the community. Council's transport network has been constructed from a mixture of government grants and judicious application of fully funded non-cash depreciation. Even so, the cost of ongoing operations, maintenance and replacement exceeds the rate pegging percentages set by the Independent Pricing and Regulatory Tribunal (IPART).

Transport assets deteriorate with the passing of time and require maintenance, resurfacing, rehabilitation or replacement. Over time, the assets' service levels decrease and maintenance costs increase.

Community expectations are also increasing, particularly in the heavy transport sector. Agricultural businesses need the transport cost economies that high mass vehicles can provide. B Doubles and the next generation of high mass vehicle require wider sealed roads to be at their most safe and efficient operation. While the Uralla Shire Council has around 50% of its road network sealed, many of the sealed sections are narrower than required by the higher mass vehicles.

1.8.4 What options do we have?

Resolving the funding squeeze involves several steps:

- Improving asset knowledge so that data accurately records the asset inventory, how assets are performing and when assets are not able to provide the required service levels,
- Establishing the fair value of the road asset and determining the appropriate rate of depreciation of these assets,
- While living within our means, continue to improve our efficiency in operating, maintaining, replacing existing and constructing new assets to optimise life cycle costs,
- Identifying and managing risks associated with providing services from infrastructure,
- Making trade-offs between service levels and costs to ensure that the community receives the best return from infrastructure,
- Identifying assets surplus to needs for disposal to make saving in future operations and maintenance costs
- Consulting with the community to ensure that transport services and costs meet community needs,

- Developing partnership with other bodies, where available to provide services;
- Seeking additional funding from governments and other bodies to better reflect a 'whole of government' funding approach to infrastructure services.

1.8.5 What happens if we don't manage the shortfall?

If the funding squeeze cannot be managed, or new sources of revenue found, then it is possible that Council may have to reduce service levels, in some areas. For transport services, the service level reduction may include converting a sealed road to an unsealed surface, or a decrease in the ride quality of road pavements and seals, and a deterioration of footpaths and kerb and gutter throughout the area. Currently, Council provides service levels (based on governance, risk and compliance (GRC) of the assets) as in Table 1.2 below:

Table 1.2: GRC of the assets service levels

Categories	Current Median Condition Level	Percentage at median or better
Sealed roads - surface	2	56.3%
Sealed roads - base	2	66.5%
Unsealed roads	2	57.2%
Kerb and guttering	3	88.5%
Footpaths	2	77.1%
Bridges – concrete	3	88.2%

1.8.6 What can Council do?

Maintain the current asset service level by renewing assets within funding. Either stop upgrading assets or undertake whole of life cost modelling for new/upgraded assets and consult with the community on the option of a special rate variation to pay for the increased level of service.

1.8.7 What can you do?

Council will be pleased to consider your thoughts on the issues raised in this asset management plan and suggestions on how Council may change or reduce its transport services mix to ensure that the appropriate level of service can be provided to the community within available funding.

The effect of lowering the service level by one condition level is reflected in Figure 1.2 photographs below.

Figure 1.2: Photographs of (A) sealed road – condition 3 and (B) sealed road – condition 4.

1.8.8 Community consultation

This 'core' asset management plan has been prepared to facilitate community consultation initially through feedback on public display of draft asset management plans prior to adoption by Council. Future revisions of the asset management plan will incorporate community consultation on service levels and costs of providing

the service. This will assist Council and the community in matching the level of service needed by the community, service risks and consequences with the community's ability to pay for the service.

The service levels and the community capacity to pay will underline the funding, and therefore, the community contribution required, in the forward estimates within Council's ten year long term financial plan.

2. INTRODUCTION

2.1 Background

This asset management plan demonstrates responsive management of assets (and services provided from assets), compliance with regulatory requirements, and communicates funding needed to provide required levels of service.

The asset management plan is to be read in conjunction with Council's Asset Management Policy, Asset Management Strategy and the following associated planning documents:

- Uralla Shire Council Community Strategic Plan 2022-2032
- Uralla Shire Council Draft Long Term Financial Plan 2023- 2032
- Uralla Shire Council Delivery Program 2022-2026
- Uralla Shire Council Operational Plan 2022-2023

This transport asset management plan has a direct relationship with the Integrated Planning and Reporting Framework, as disclosed in the following diagram in Figure 2.1 below.

Figure 2.1 Integrated Planning and Reporting Framework

Details of Council's infrastructure assets covered by this plan are shown in Appendix B on page 38 and the transport assets are categorised in the hierarchy in Figure 2.2 below.

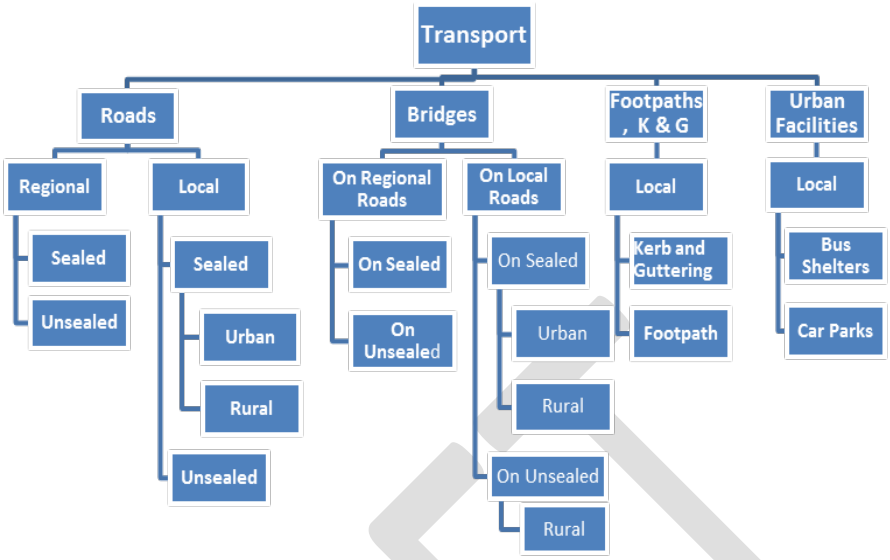

Figure 2.2: The transport asset hierarchy

2.2 Goals and objectives of asset management

Part of the role of Council is to provide services to its community and most of these services are provided by infrastructure assets. Council has acquired infrastructure assets by 'purchase', by contract, construction by council staff and by donation of assets constructed by developers and others to meet increased levels of service.

Council's goal in managing infrastructure assets is to meet the required level of service in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Taking a life cycle approach,
- Developing cost-effective management strategies for the long term,
- Providing a defined affordable level of service and monitoring performance,
- Understanding and meeting the demands of growth through demand management and infrastructure investment,
- Managing risks associated with asset failures,
- Sustainable use of physical resources,
- Continuous improvement in asset management practises.[1]

The goal of this asset management plan is to:

- Document the services/service levels to be provided and the costs of providing the service,
- Communicate the consequences for service levels and risk, where desired funding is not available, and

[1] IPWEA, 2006, *IIMM* Sec 1.1.3, p 1.3.

- Provide information to assist decision makers in trading off service levels, costs and risks to provide services in a financially sustainable manner.

This asset management plan is prepared under the direction of Council's Mission, Strategic Objectives as detailed in Council's adopted Community Strategic Plan.

Council's vision is:

In 2031 the Uralla Shire community will be vibrant with a growing economy supporting a sustainable quality of life that values its heritage.

Council's mission is:

Uralla Shire Council listens to and facilitates the aspirations of the community.

Council's Community Strategic Objectives are

1. We have an accessible, inclusive and sustainable community.
2. We drive the economy to support prosperity.
3. We are good custodians of our environment.
4. We are an independent shire and well-governed community.

Council's adopted Community Strategic Plan 2022-2031 (CSP) and Delivery Program contain relevant strategies and actions which relate to the transport assets covered by this asset management plan. The Plan is consistent with the following strategies and actions in the Community Strategic Plan and Delivery Program.

Transport networks are regarded as the lifeblood of economic and social interaction throughout the country. There is inadequate consistent funding from governments, state and federal, to upgrade the roads into and through the local government area. However, from time to time the federal and state governments have provided some much needed funding to the Uralla, Walcha and Gloucester Councils for improving Thunderbolts Way, the main east-west route through the region.

The Uralla Shire Council's identified actions detailed above together with the target levels of service are outlined below in Table 2.2 and are addressed throughout this TAMP.

Through the guidelines of this plan, assets are inspected, maintained, upgraded and renewed as necessary or as specified in specific works programs to ensure they reach their expected lifecycle, perform to their maximum capability, satisfy community expectations and needs, satisfy budget limitations and meet safety and regulatory requirements

Table 2.2: Target Levels of Service

DP Actions Supported	Target Levels of Service
2.3.1 **2.3.2** **1.2.1** **1.2.2** **1.2.3**	To renew pavements by intervention based on the estimated remaining useful life as determined by the results of the condition assessment of all roads carried out by Shepherd Services in 2020. Similarly, the surface of sealed roads will be resealed based on the remaining useful life of the seal as determined by the condition assessment. To grade all formed unsealed urban roads i.e. 1km, on average once per year. To reseal all urban sealed streets on average once every 15 years, i.e. 1.8km average length per year. To continue to kerb and gutter all urban streets on a progressive basis by constructing an average of 210m of new kerb and gutter each year subject to available funding. To grade un-grassed shoulders of rural regional sealed roads shoulders on average once every two years. To maintain the high quality of the rural sealed road network by adopting a resealing target average of once every 15 years for regional roads and once every 20 years for local roads, i.e. 24.0km average length resealed per year. To grade un-grassed shoulders of rural local sealed roads shoulders on average once every two years. To construct and reconstruct regional roads (Thunderbolts Way, Bundarra Road and Bundarra/Barraba Road) as Transport for NSW or special Federal funding becomes available as part of the sealed road extension by 2031 (local and regional).
2.3.1 **2.3.4**	To maintain the unsealed regional road network at a level that provides reasonable all weather access, subject to extreme weather events. To maintain the rural unsealed road surfaces by applying gravel (re-sheeting) to the unsealed roads on a 15 year cycle for Barraba Road and Class B local roads (average 1.5km per year) , 20 year for Class C roads (i.e. 9.35km per year) and a 20 to 30 year cycle for Class D roads (i.e. 8.9km per year). To maintain the unsealed local road network at a level that provides reasonable all weather access, subject to extreme weather events. Target is to grade approximately 620km per year. To maintain the existing 1km of urban unsealed road surface by applying gravel (re-sheeting) on a 20 year frequency cycle.
2.3.2	To have an all-weather local road network supported by appropriate bridges, major culverts and culverts. To have an all-weather regional road network supported by appropriate bridges, major culverts and culverts. To achieve this goal, the causeway on Barraba Road at Bakers Creek needs to be upgraded to a bridge structure at a cost in excess of $1.5 million. This project is currently being developed to concept design and the cost estimate will be updated accordingly to support a more informed funding application.
2.3.5 **2.3.6**	To provide the urban areas of Uralla and Bundarra with an interconnected and safe footpath and walking/cycling track network. To have cleared and maintained footpath areas in the villages and peri-urban areas. To annually extend the footpath and walking/cycling track network by an average of 200m subject to available funding to provide connectivity and access to historical and scenic areas. To encourage increased patronage of the car park at the rear of the Uralla CBD to lessen the pressure on Bridge Street rear to kerb parking by providing a well maintained and usable parking area. To restrict the occurrences of semi-trailer, B-Double and large trucks parking overnight within urban areas.
2.3.3	To maintain road centreline markings where they are currently used and repaint other surface markings at least once every two years. To have all roads adequately signposted with nameplates and that direction and warning signposting is adequate for the needs of road users. To prevent unnecessary damage to road pavements caused by overloaded vehicles by continued membership of the Mid North Weight of Loads group. To maintain and/or replace street trees within the urban areas of the LGA.

2.3 Plan framework

Key elements of the plan are:

- Levels of service – specifies the services and levels of service to be provided by council.
- Future demand – how this will impact on future service delivery and how this is to be met.
- Life cycle management – how the organisation will manage its existing and future assets to provide the required services
- Financial summary – what funds are required to provide the required services.
- Asset management practices
- Monitoring – how the plan will be monitored to ensure it is meeting the organisation's objectives.
- Asset management improvement plan

2.4 Core and advanced asset management

This asset management plan is prepared as a first cut 'core' asset management plan in accordance with the International Infrastructure Management Manual[2]. It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a 'top down' approach where analysis is applied at the 'system' or 'network' level.

2.5 Community consultation

This 'core' asset management plan has been prepared to facilitate community consultation initially through feedback on public display of draft asset management plans prior to adoption by Council. Future revisions of the asset management plan should incorporate community consultation on service levels and costs of providing the service. This will assist Council and the community in matching the level of service needed by the community, service risks and consequences with the community's ability to pay for the service.

[2] IPWEA, 2015.

3. LEVELS OF SERVICE

3.1 Customer research and expectations

This asset management plan has been developed to assist Council in achieving the goals as set out in the Community Strategic Plan which was adopted following a period of public exhibition and community consultation. Council has not carried out additional research on customer expectations, other than the recording of community requests made periodically to Councillors and staff. It is intended that subject to resourcing formal assessment of community expectations will be investigated for future updates of this asset management plan.

3.2 Legislative requirements

Council has to meet the relevant federal and state legislation and regulations including those shown in Table 3.1 below.

Table 3.1: Key Legislative requirements

Legislation	Requirement
Australian Road Rules	Sets the requirements for vehicles and operators using roads.
Australian Standards	Provides guidance for transport asset managers in use of transport services such as ASS 1742; Manual of Uniform Traffic Control Devices.
Civil Liability Act 2002 and *Civil Liability Amendment (Personal Responsibility) Act 2002*	Protects Council from civil action by requiring that the Courts recognise a level of personal responsibility for the actions of individuals.
Disability Discriminations Act 1992	Provides protection for everyone in Australia against discrimination based on disability. It protects people with a disability from being treated less fairly than people without a disability and promotes the contribution of people with a disability to the workforce and wider community.
Environmental Planning and Assessment Act 1979 (EP&A Act)	Sets out the guidelines used by Council to provide sustainable and environmentally responsible planning, development and land use.
Road Traffic (Administration) Act 2008 , the Road Traffic (Vehicles) Act 2012	Anyone who has control in the transport chain can be held legally accountable if by action, inaction or demand, they cause or contribute to road safety breaches.
Local Government Act 1993	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Biodiversity Conservation Act 2016	Regulates the clearing of native vegetation on land in NSW.
Protection of the Environment Operations Act 1997	Sets environmental standards, goals, protocols and guidelines to reduce pollution and environmental harm.
Public Works Act 1912 No 45	Sets the conditions of proceeding with public works, and acquiring land for the purpose of public works.
Roads Act 1993	Provides authority to Council for administration and development of roads.
Road Transport Act 2005	Sets the requirements for vehicles and operators using roads.
Work Health and Safety Act 2011	Guides employers and employees on their roles and responsibilities to provide and maintain a safe workplace which protects against harm to health, safety and welfare from hazards and risks arising from work as is reasonably practicable.

3.3 Current levels of service

Service levels can be defined in two terms:

(a) Community levels of service

This relates to the service outcomes that the community wants in terms of safety, quality, quantity, reliability, responsiveness, cost effectiveness and legislative compliance. Community levels of service measures used in the asset management plan are:

Quality	How good is the service?
Function	Does it meet user's needs?
Safety	Is the service safe?

(b) Technical levels of service

Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that Council undertakes to best achieve the desired community outcomes. Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as street cleaning frequency, mowing and road grading frequency, etc.
- Maintenance – the activities necessary to retain an asset as near as practicable to its original condition (e.g. sealed roads patching, attention to drainage, 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. frequency and cost of road resurfacing and pavement reconstruction),
- Upgrade – Upgrade existing assets and providing new assets - the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a culvert with a larger size) or a new service that did not exist previously (e.g. construction of a new paved footpath).

3.4 Desired levels of service

At present, indications of desired levels of service are obtained from various sources including residents' feedback to Councillors and staff, service requests and correspondence. More work to quantify desired levels of service will be done in future revisions of this asset management plan. This improvement item has been noted in the Improvement Plan in Sec 8.2. Council's service levels are detailed in Table 3.2 below on this and the following pages.

Table 3.2: Service Levels

(a) Community levels of service

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service
Quality	Roads are reasonably smooth and without serious defects	Customer service complaints relating to roughness	<5 per month	<10 per month -
Function	Access is available at all times – other than necessary closures	Customer service complaints relating to access	<5 per month	<5 per month -
Safety	Roads are safe to drive when driven responsibly and to conditions	Total number of accidents and injuries	<20 per year	20-30 per year -

(b) Technical levels of service

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service
Operations	Roads are adequately serviced and maintained	Annual condition and defects inspection carried out	A reduction in defects and an increase in serviceability	Under review
Accessibility	Provide all weather access to all permanently occupied residences	Level of accessibility	All weather access, all year	Being met
Maintenance of existing assets	Maintain the integrity of sealed road surfaces i.e. no stripping, cracking or potholing. Surface at Condition Level 3 or better across the network	Compliance with adopted intervention levels	At least 90% response to intervention level	Being met
	Unsealed roads are not uncomfortable or unsafe for drivers and are all-weather	Grading frequency	Grade all roads at least once per year, and twice per year for busier Class B roads. Target is 620kms graded per year	Approximately 574km graded in 2021
			Grade Bundarra to Barraba Road 3 times per year	Target met in 2021
		Customer service complaints/enquiries	< 5 complaints per month	Some not met during prolonged wet weather
	Local sealed roads are free of hazards and defects	Frequency of inspections and response time of repairs	Response times for repairs are met.	Being met
		Customer service complaints	< 5 complaints per month	Being met
	Bridges are free of hazards and defects	Inspection and repair program	Inspect bridges once per year and complete identified M&R in the program year.	Being met
		Customer service complaints	<2 complaints per month	Being met
	Footpaths are maintained at Condition Level 3 or better	Footpath maintenance program	Paved and unpaved footpaths inspected and regularly maintained.	Being met
		Customer service complaints	Complaints received on paved surface defects acted upon within 8 hours with barriers if required, and repairs made within 3 working days	Currently being met with some exceptions
	Maintain all kerb and guttering at Condition Level 3 or better	K&G maintenance program	Complaints acted upon within 1 month.	Being met
	Maintain road centreline markings	Program of line markings	Re-mark lines when necessary or at least once every two years	Being met
		Customer service complaints	Less than 3 complaints per year	Being met

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service
	Maintain traffic furniture in good condition	Maintenance program	Replace warning signs on annual basis	Review condition of signs. Inventory required
		Customer service enquiries	< 2 enquiries per month.	Being met
Renewal of deteriorating assets	Reseal all rural sealed roads on average once every 15 years (regional) and 20 years (local)	Frequency of resealing	Reseal the network by completing 6.7% (for Regional roads i.e. 8.4km) and 5% (for local roads i.e. 14.6km) annually.	Subject to road condition assessment. Reduced resealing in lieu of rehabilitation in 21/22
	Renew the pavements of all road types before they reach the end of economic life	Compliance with rehabilitation program	Renew road pavements based on remaining useful life	Works program depends on level of available grant funding
	Improve gravel roads through re-sheeting. Roads at average Condition Level 3 across the network	Compliance with re-sheeting program	Re-sheeting of local Class B and C roads at 5% each year (i.e. 10.5km), Class D at 3.3% per year (i.e. 10.0km) and regional gravel roads at 5% per year (i.e. 0.5km). Total of 21.0km per year	<5% of network re-sheeted annually
Upgrade existing assets and provide new assets.	Provide sealed roads where feasible and affordable	Percentage of network sealed	Only those rural roads approved by Council. Urban Class A, B and C streets sealed by 2040	No recent funding for urban street sealing
	Kerb and guttering is provided to all Class B, C and D street segments which have 6 or more occupied residences with frontages to the segment	Kerb and guttering program	Progressive kerb and guttering of all streets by construction of 210m per year.	Not met
		Customer service enquiries.	<2 enquiries per month	Being met

3.5 Level of service options

Whilst Levels of Service have been adopted in the preparation of this plan, these may be subject to review from time to time. As the adopted level of service has a direct impact on the required funding levels, Council may adopt levels of service which are higher or lower than those in the plan.

3.6 Condition assessment and service potential – roads

Table 3.3 below shows road classifications have been used in the asset management plan to distinguish road functionality.

Table 3.3: Road Classifications Classes

Rural Road Class	Description of Class
A – Regional Roads	Regional roads form part of the state-wide regional network of roads, providing transport links between major towns and cities. They are roads classified in accordance with the NSW State Government's classification.
B – Primary Rural	Primary rural roads are the highest priority rural local roads and carry higher traffic volumes greater than 75 vehicles per day. Historically continuous school bus routes and roads which carry 50 to 75 vehicles per day and carry greater than 3% heavy vehicles are eligible for classification as primary rural.
C – Secondary Rural	Secondary rural roads are mid priority rural local roads and carry traffic volumes less than 75 vehicles per day but which service more than 10 different property owners and have an average traffic volume greater than 20 vehicles per day. Secondary rural roads may also serve as bus routes.
D – Local Access	Local access roads are the lowest priority local roads servicing less than 10 different property owners or have average traffic volumes of 20 vehicles or less per day.

The urban streets hierarchy has been based on the AUSTROADS publication "Guide to Traffic Engineering Practice" and provides for five classifications of street as detailed in Table 3.4 below.

Table 3.4: Classification of streets

Urban Class	Street Description
A	Arterial
B	Sub-arterial
C	Collector
D	Local access
E	Lanes

Class A – Arterial

Arterial Streets provide principal avenues of communication and links between parts of large cities or between major towns and cities. Within the towns and villages of Uralla Shire, only the New England Highway performs this function. This road is classified as national in accordance with the state government's classification system. Maintenance on the central portion of the road is the responsibility of state and federal governments. However, Council has a maintenance responsibility for the parking lanes, footpaths and road reserve of this road.

Class B – Sub – arterial streets

Sub-arterial streets are those streets which connect arterial streets to areas of development and other major areas of the town or shire. These streets carry high traffic volumes with a broad range of vehicle types. In the towns and villages of Uralla Shire, only the regional roads meet these requirements.

Class C – Collector streets

Collector streets are those streets which provide a link for traffic from the residential street system, some rural areas, industrial areas and other trip generators to other collector streets, sub-arterial or arterial streets.

Class D – Local access streets

Local access streets are streets which principally provide access to and from property. These streets generally carry low traffic volumes and form the bulk of streets within Uralla and Bundarra.

Class E – Lanes

These streets generally provide alternative access to properties. They are narrower than Class D streets and generally have very low traffic volumes.

Useful life

The useful life of an asset is the estimated length of time during which the asset is able to deliver a given level of service. The useful life of an asset is not necessarily equivalent to its physical life or economic life, a number of other factors may result in an assets useful life being reduced, including:

- Obsolescence
- Weather
- Construction techniques
- Overloaded vehicles
- Changes in community expectations
- Increased demand on capacity
- New legal requirements

The Asset Useful Lives Report was prepared by Tonkin Consulting in 2009 for the Local Government Association of South Australia. The full title of the report is "Infrastructure Asset Useful Lives – SA Council's Current Practices" and it collates asset useful life data contributed by 14 South Australian councils. The results were presented as the lowest, highest and median. This data was considered along with the local experience of USC staff and following comparison with useful life adopted by adjoining councils, Table 3.5 below shows useful life of assets as adopted:

Table 3.5:- Summary of adopted surface and pavement life for various classes of roads

Road Type	Class	Surface life (years)	Pavement Life (years)
Regional	A	15	60
Urban	B, C	15	70
	D, E	15	80
Rural	B	15	80
	C	20	80
	D	20	100
Unsealed	B	na	15
	C	na	20
	D	na	30

Consumption curves

Council has adopted the asset condition rankings as set out in the table contained in the Integrated Planning and Reporting (IPR)_ Manual (2013) for local government in NSW with the exception that the description applying to Level 3 has been changed from "average" to "satisfactory". This level has been adopted as the agreed satisfactory service level.

Council's renewal program is determined by the calculated remaining life of the surface and the pavement (base) after validation by an on-site field inspection.

4. FUTURE DEMAND

4.1 Demand forecast

Factors affecting demand include population growth, changes in demographics, seasonal factors, vehicle ownership, consumer preferences and expectations, economic factors, agricultural practices, environmental awareness, etc. Demand factor trends and impacts on service delivery are summarised in Table 4.1 below.

Table 4.1: Demand Factors, Projections and Impact on Services

Demand factor	Present position	Projection	Impact on services
Population	5,971 (2021 Census)	The NSW Department of Planning and Environment has predicted minor annual population decrease of 1.15% over the next 20 years to 5,450 in 2041.	Uralla urban population is expected to remain relatively stable as residents move from rural areas to town. Impact is considered to be marginal.
Demographics	In 2021, the median age of people in Uralla Shire was 47 years. People aged 65 years and over made up 23.2% of the population.	There will be a concentration of older residents in the next two decades.	As the population ages there is greater pressure on Council to provide additional services e.g. pathways suitable for use by mobility scooters.
Environmental awareness	The community and Council are more environmentally aware and responsible.	Council will be required to implement further sustainability measures.	This will require a greater allocation of funds towards improving facilities and services to meet environmental standards and regulations.
Vehicle mass limits	9t single axle limit with some HML routes	Increase of 10% included in axle limits.	Potential increase in damage to pavement. Increased demand for upgraded local roads (wider and stronger) to accept the higher mass vehicles.
Fuel costs	Fuel costs are currently high	Costs are expected to continue to rise.	Council will need to progressively increase budget allocations to cover fuel costs.
	Any future carbon tax or ETS could be added to the cost of diesel.	Diesel costs will continue to rise in line with tax increases.	This will increase the costs of service provision.

4.2 Changes in technology

Technology changes forecast to affect the delivery of services covered by this plan are detailed in Table 4.2 below.

Table 4.2: Changes in Technology and Forecast effect on Service Delivery

Technology Change	Effect on Service Delivery
Material stabilisation for gravel	positive - improved quality and useful life of pavements.
Development of new bitumen products	positive - improved quality, reduced environmental impact.
	negative -increased costs.

4.3 Demand management plan

Council's previous strategic objectives were to have greater than 50% of the road network sealed by 2021 and to have all timber bridges replaced with concrete structures by 2018. As at 2021, all timber bridges have been replaced and sealed roads account for 49.3% of the total road network. The objectives are designed to meet the direction provided during the Community consultation regarding candidate projects for upgrading. The feedback indicated specific roads that were identified for sealing and these are listed in Appendix D on page 41, "Planned upgrade or new Transport Infrastructure in the 10 year Capital Works Program".

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

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

Table 4.3: Demand management plan summary

Service activity	Demand management plan
Maintenance	Conduct routine inspections and repairs to assets according to work plans and community enquiries.
Upgrades	Monitor the condition and lifespan of assets and plan upgrades accordingly.
Customer Service requests	Record all customer service requests relating to transport assets and analyse the data collected to identify shortfalls in assets or services, and implement solutions.

4.4 New assets for growth

Acquiring new assets will commit Council to fund ongoing operations and maintenance costs for the period that the service provided from the assets is required. These future costs need to be identified and considered in developing forecasts of future operations and maintenance costs.

5. LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how Council plans to manage and operate the assets at the agreed levels of service (defined in Section 3 on page 6) while optimising life cycle costs. To understand the management of infrastructure assets, there is a need to understand that the level of service provided primarily depends upon the condition of the asset that provides the service. Condition is a suitable assessment for assets with a direct relation to the long term surface condition to service, such as sealed roads, bridges, kerb and guttering and footpaths. Therefore, these council assets are reviewed from time to time for their condition using a 1 to 5 rating system[3] as detailed in Table 5.1 below.

Table 5.1: IIMM Description of Condition

Condition rating	Description
1	Excellent condition: Only planned maintenance required
2	Very good: Minor maintenance required plus planned maintenance
3	Good: Significant maintenance required
4	Fair: Significant renewal/upgrade required
5	Poor: Unserviceable

Another rating used is the age of the asset or date on which rehabilitation was carried out on that asset. This is most appropriately used where the surface condition of the asset may change over a short period of time, while the underlying asset has a longer maintainable condition.

This is also applicable to unsealed roads. The level of service for unsealed roads is dependent principally upon the grading frequency applied to that asset. Uralla Shire Council historically has had a high frequency of grading over its 467 kilometres of unsealed roads and this plan makes provision for the frequency of grading to be further improved. This will be achieved by maintaining and indexing the allocation for unsealed roads maintenance whilst the length of unsealed roads to be maintained decreases as upgrade works convert unsealed roads to sealed roads.

5.1 Background data

5.1.1 Physical parameters

The breakdown of Council's current road network lengths is shown in Table 5.2 below:

Table 5.2: Road network by surface type

Road type	Type of surface		Total km
	Sealed km	Unsealed km	
Urban Local	27.6	0	27.6
Rural Local	294.3	457.4	751.7
Subtotal Local Roads	**321.9**	**457.4**	**779.3**
Urban Regional	3.0	0.0	3.0
Rural Regional	129.0	9.8	138.8
Other (parking lanes SH9)	1.9	0	1.9
Total All Roads	**455.8**	**467.2**	**923.0**
Percentage	**49.4%**	**50.6%**	**100.0%**

[3] IIMM 2006, Appendix B, p B:1-3 ('cyclic' modified to 'planned', 'average' changed to 'fair'')

5.1.2 Work category definitions

Maintenance

Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. Examples include: repairing a pothole in a road, repairing the decking on a timber bridge, repairing a single pipe in a drainage network, repair work to prevent early failure of an asset.

Capital – renewal

Expenditure on an existing asset or on replacing an existing asset, which returns the service capability of the asset up to that which it had originally. As it reinstates existing service potential, it may reduce future operating and maintenance expenditure if completed at the optimum time. Examples include: pavement rehabilitation on a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resealing an existing sealed road, etc.

Capital – upgrade

Expenditure which enhances an existing asset to provide a higher level of service. Upgrade expenditure is discretionary. It will increase operating and maintenance expenditure in the future because of the increase in the organisation's asset base. Examples include: sealing an existing unsealed road or widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.

Capital – new

Expenditure which creates a new asset providing a new service/output that did not exist beforehand. As it increases service potential it will increase future operating and maintenance. Examples include: extending a drainage or road networks, constructing a new public toilet.

Operating expenditure

For asset management purposes, it is recurrent expenditure which is continuously required to provide a service. Examples include: power, fuel, staff, plant and equipment, on-costs and overheads but excludes depreciation.

Planned regular maintenance, if fully funded and carried out to plan, will preserve our assets. Council has maintained a commitment to fully funding maintenance of its road asset as demonstrated in Table 6.1.

The age profile of the assets included in this asset management plan is described below.

5.1.3 Asset age profile

A sealed road consists of a "surface" layer, with a maximum life of 15 years for regional and urban roads and between 15 and 20 years for rural local roads (depending on the road class) and a "base" layer with a maximum life of 60 years for regional roads, 70 years for urban streets and 80 years for rural local roads. The pavement sub-base layer (i.e. the lower section of the pavement under the base) and "bulk earthworks" have an indefinite life. The surface is the observable bitumen and aggregate coating of a sealed road and the pavement is the compacted gravel base support for the traffic loads. For unsealed roads, the pavement has a life of between 20 and 30 years depending on the road class.

The 2021 replacement values of the transport asset type categories are shown in Appendix B.

The accumulated depreciation in the revaluation, was calculated on the basis of age and condition for sealed roads and bridges and condition for unsealed roads, kerb and guttering and footpaths.

Pie charts showing the condition assessment of assets based on the percentage in each condition level for the two components of the sealed road network are at Figures 5.1 to 5.5 below and for unsealed roads, also at Figure 5.2.

The condition of the road surface is dependent on the remaining life of the seal. Table 5.3 below shows the relationship between remaining seal life and IPR Condition Level for seals with a nominal useful life of 15 years and 20 years.

Table 5.3: Relationship of remaining seal life to IPR Condition Level

health Seal		
Nominal life (years)	**Remaining Life (years)**	**IPR Condition level**
	>=13.5	1
	<13.5	2
15	<11	3
	<4.5	4
	<1	5
	>=18	1
	<18	2
20	<15	3
	<6	4
	<1	5

The condition of unsealed road pavements is dependent on the percentage effective life of the gravel base compared to a default thickness of 100mm. The relationship between remaining effective life and IPR Condition Level is shown below in Table 5.4. It should be noted that whilst some unsealed roads have nil gravel remaining, none were deemed to be “unserviceable”. These are generally Class D roads at the ends of the network which are built on natural subgrade material of sufficient quality to provide all-weather access.

Table 5.4: Relationship between % effective life and IPR Condition Level

Unsealed health	
% Effective life	**IPR condition level**
>75	1
<=75	2
<=50	3
<25	4
0	5

Age profile information is not currently available for all transport assets. An age profile will be developed in future revisions of the asset management plan.

5.1.4 Asset capacity and performance

Council’s services are generally provided to meet design standards where these are available.

5.1.5 Asset condition – sealed roads surface condition

The condition profile of transport asset surface layers using the results of the 2021 Condition Assessment, are shown in Figure 5.1 below for (A) Regional, (B) Rural and (C) Urban roads.

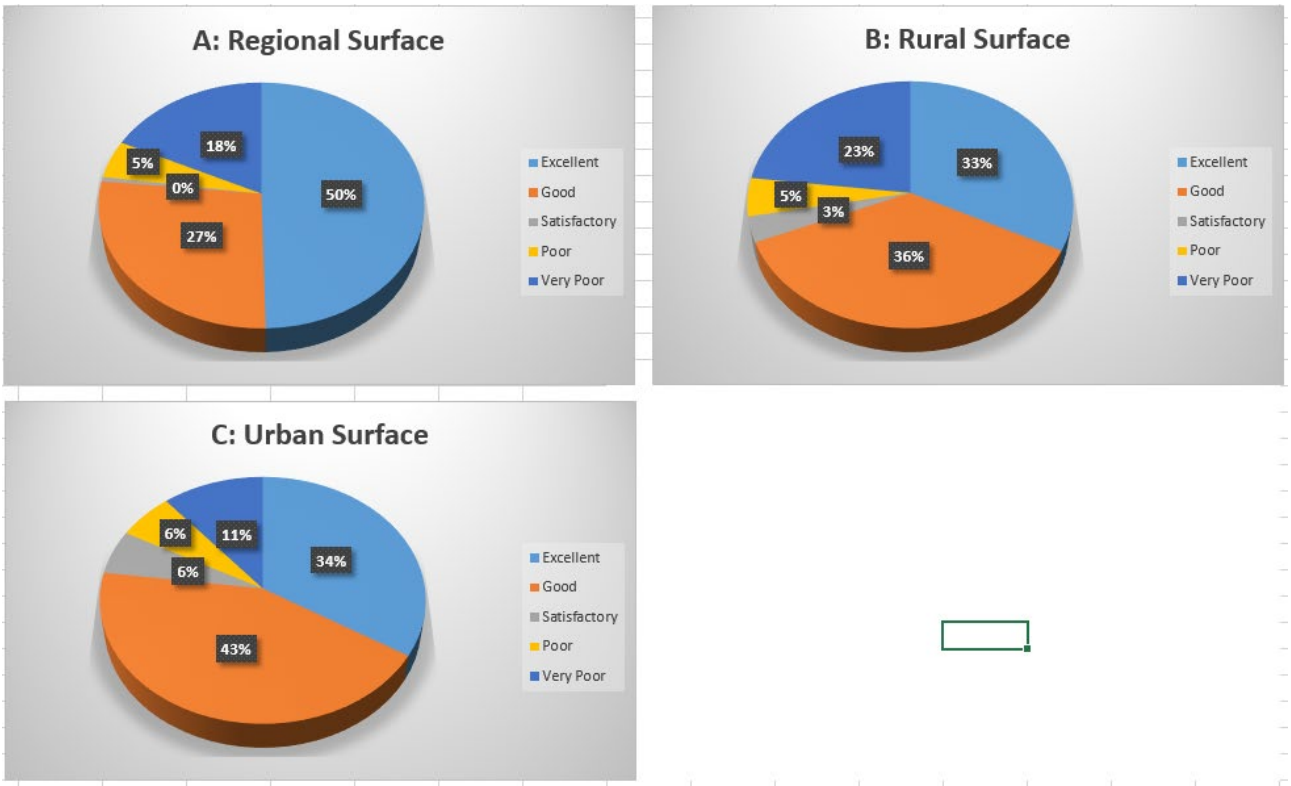

Figure 5.1: Condition profile of transport assets surface layers using the results of the 2021 condition assessment for (A) regional, (B) rural and (C) urban roads.

5.1.6 Asset condition – sealed roads base condition

The condition profile of transport assets base layer using the results of the 2021 condition assessment is shown in Figure 5.2 below.

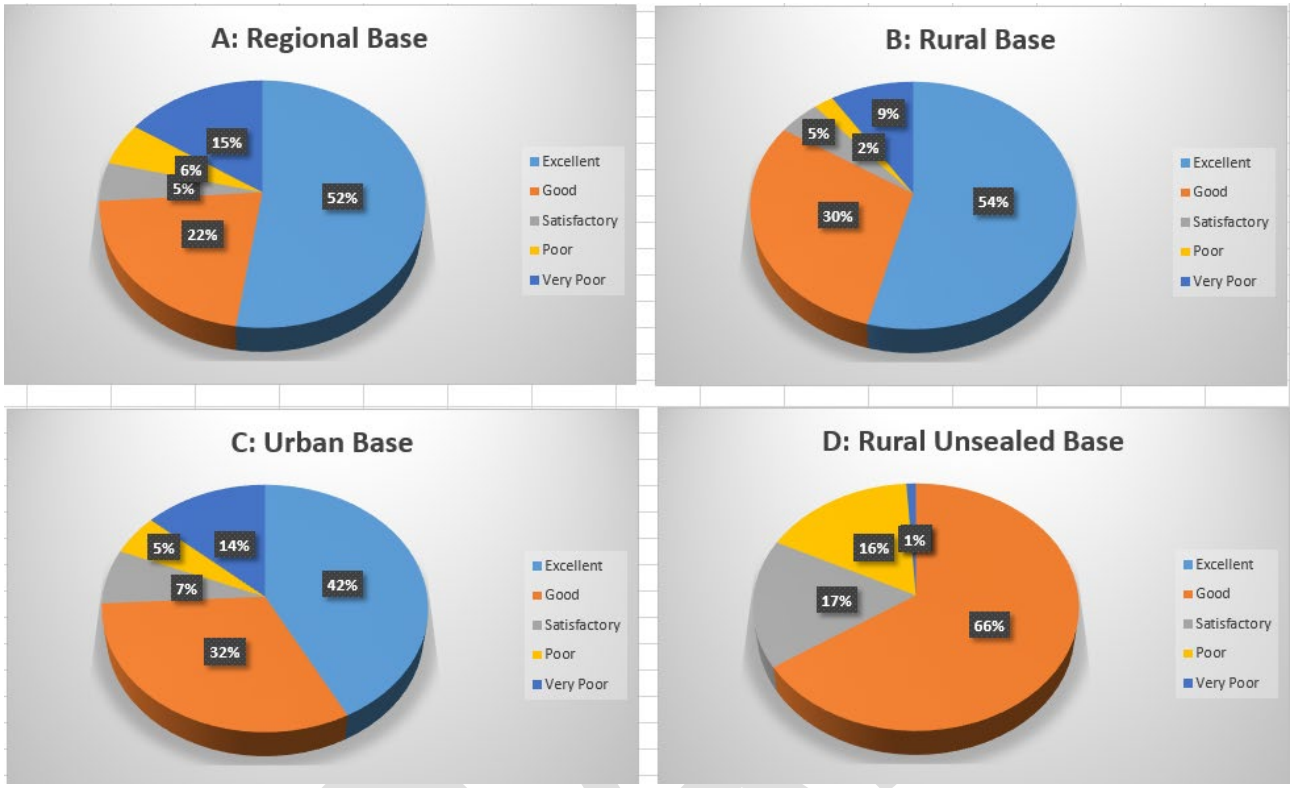

Figure 5.2 Condition profile of transport assets base layer based on the results of the 2021 condition assessment (A) regional, (B) rural, (C) urban and (D) unsealed roads as percentage of road length

Currently, Council is providing the service levels as shown in Table 5.5 below:

Table 5.5: 2021 Road asset type condition

Categories	Current Median Condition Level	Percentage at Median Level or better	Current Condition
Sealed roads – surface	2	56.3%	Good
Sealed roads – base	2	66.5%	Good
Unsealed roads – base	2	57.2%	Good
Bridges – concrete	3	88.2%	Satisfactory
Kerb and guttering	3	88.5%	Satisfactory
Footpaths	2	77.1%	Good

The current asset condition levels are being met or exceeded for sealed roads, unsealed roads, concrete bridges and kerb and guttering.

5.1.6 Asset valuations

The value of assets recorded in the asset register as at 30 June 2022 covered by this asset management plan is shown In Table 5.6 below. Transport assets were last revalued as at 30 June 2020.

Table 5.6: Value of transport assets at 30 June 2022

Asset category	Replacement Cost	Written down value	Annual depreciation expense
Roads, bridges, footpaths and K&G	$176,781,615	$116,681,621	$2,978,775
Bulk earthworks	$62,547,957	$62,547,957	0
Total	$239,329,572	$179,229,578	$2,978,775
Annual capital renewals expenditure	$1,283,251	N/A	N/A
Annual capital upgrades	$2,584,642	N/A	N/A
Annual maintenance cost	$6,424,582	N/A	N/A

Council's sustainability reporting reports the rate of annual asset consumption and compares this to asset renewal and asset upgrade and expansion as follows:

Asset Replacement cost	$239,329,572
Depreciable amount	$239,329,572
Depreciated Replacement cost (written down value)	$179,229,578
Capital renewals expenditure (2022 -2023)	$1,283,251
Capital upgrades (2022 -2023)	$2,584,642
Maintenance cost	$6,424,582
Asset consumption ratio[4]	75% (desired >= 100.00%)
(Depreciated Replacement Cost / Depreciated Replacement cost)	
Annual renewals ratio	2% (desired <= 2%)
(Asset renewal cost / Depreciated Replacement cost)	
Annual transport asset backlog ratio (Asset cost to / Replacement cost	3% (desired <= 2%)
A**nnual Upgrade/New (**Capital upgrade expend/depreciable amount)	1.46%

Council is currently renewing assets at 2 % of the rate they are being consumed and increasing its asset stock by 1.46% each year.

To provide services in a financially sustainable manner, Council will need to ensure that there is sufficient funding to renew assets at the rate they are being consumed over the medium-long term and funding the life cycle costs for all new assets and services in its long term financial plan.

[4] Target Asset consumption ratio is over 75%.

5.1.7 Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery. Council's service hierarchy is shown in Table 5.7 below.

Table 5.7: Asset service hierarchy

Service Hierarchy	Service Level Objective
Sealed Roads	Roughness < 140/ counts per 100m Rutting < 20mm
Unsealed Roads	Bus Routes remain open. Maintain all-weather access to permanently occupied residences
Bridges	No load restrictions. All bridges are at GML load carrying capacity or better
Footpaths	Pedestrian traffic comfort and safety Separation > 25 mm repaired promptly

Priorities also include consideration of school bus routes, traffic volumes, accident history, all-weather access and cost of maintenance level required.

5.2 Risk management plan

An assessment of risks 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' to the organisation. 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. The Council's adopted Risk Matrix is detailed in Table 5.2.1 below:

Table 5.2.1: Uralla Shire Council Risk Matrix

	CONSEQUENCES				
LIKELIHOOD	Minimal	Minor	Moderate	Major	Catastrophic
Almost certain	Medium	Medium	High	Catastrophic	Catastrophic
Likely	Medium	Medium	High	Catastrophic	Catastrophic
Possible	Low	Medium	Medium	High	Catastrophic
Unlikely	Low	Low	Medium	High	High
Rare	Low	Low	Medium	Medium	High

Uralla Shire Council recognizes that risk management is an essential part of best practice in asset management.

The Draft Infrastructure Services Risk Management Procedure (UINT/21/2201), available at Council offices, outlines the process of identifying and managing risks for council's infrastructure assets.

Council staff are assessing risks associated with service delivery by transport assets that will result in loss or reduction in service from physical assets or a 'financial shock' to the organisation. 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.

Critical risks, being those assessed as 'Very High' - requiring immediate corrective action and 'High' – requiring prioritised corrective action identified in the Infrastructure Risk Management Plan are summarised in Table 5.2.2 below:

Table 5.2.2: Critical risks and treatment plans

Service or critical asset at Risk	What can happen	Risk rating (VH, H)	Risk treatment plan	Associated costs (proposed average annual expend)
Local Sealed Roads	Ride quality decreases	M	Programmed resealing on a cyclic basis is completed annually	$344,966 / year
	Costs of treatment to bring back to a satisfactory condition escalate	H	Higher level of inspections required; at least twice per year. Intervention to rehabilitate road pavements occurs as soon as practicable after remaining useful life has been exhausted	$847,922/ year
Regional Roads	Failures which deny or delay access	M	As above	Reseals $156,600 Rehabs $565,824
Unsealed Local Roads and Barraba Road	Roads become untrafficable in wet weather	M	Programmed gravel re-sheeting. Some upgrade works to extend the sealed network	$709,000/ year
Kerb and Guttering	Minor flooding of adjoining properties	L	Annual extension of kerb and guttering with 50% contribution from adjoining owners	$73,028/ year
	Trips and falls	L	Annual preventative maintenance and reactive response to complaints	$29,638/ year
Concrete Footpaths	Trips and falls	M	Annual preventative maintenance and reactive response to complaints	$76,017/ year
Unpaved Footpaths	Unsightly and overgrown	L	Annual preventative maintenance and reactive response to complaints	

5.3 Routine maintenance plan

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.

5.3.1 Maintenance plan

Maintenance includes reactive, planned and specific maintenance work activities. Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions.

Planned maintenance is repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown experience, prioritising, scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

Specific maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including heavy patching, replacing protection fencing with guardrail etc. Reactive maintenance is carried out in accordance with adopted response levels of service.

Council provides funding for operation and maintenance of transport assets in forward budgets. The proposed budget allocations for the next ten years are shown in Table 6.1 in section 6.1.

5.3.2 Standards and specifications

Maintenance work is carried out in accordance with the following standards and specifications.

- Unsealed Roads Maintenance – Guidelines to Good Practice ARRB 1993
- Sealed Local Roads Manual – Guidelines to Good Practice for the Construction, Maintenance and Rehabilitation of Pavements 1995
- Local Roads Bridge Maintenance Manual – Guidelines to Good Practice

5.3.3 Summary of present operations and maintenance expenditures

Future operations and maintenance expenditures are forecast to the proportions with the asset categories as shown in Figure 5.3 below . The proportions are based on budget allocations for the year 2022/23.

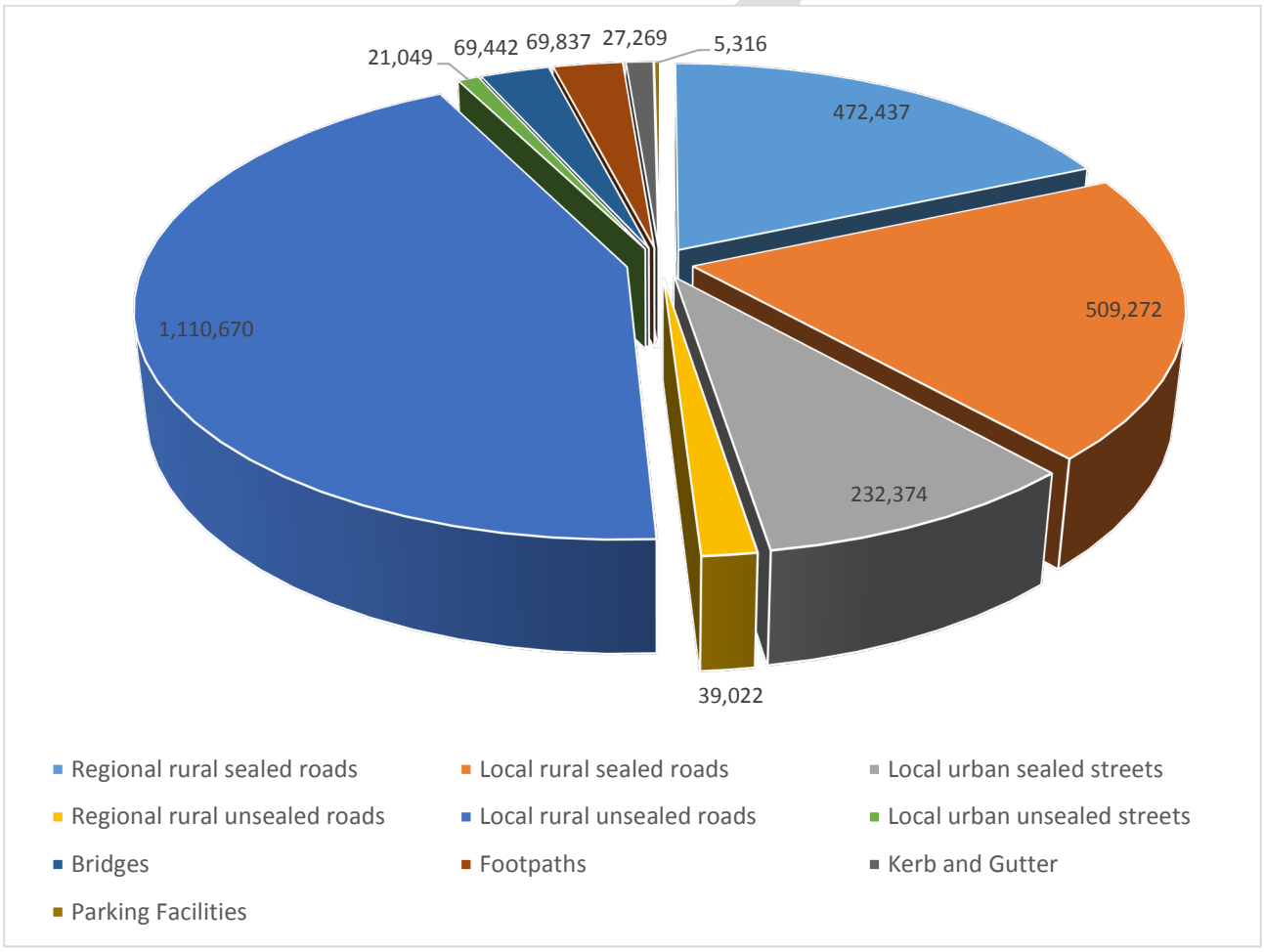

Figure 5.3: Projected operations and maintenance expenditure by category for 2022/23

Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded are to be included in the risk assessment process in the infrastructure risk management plan. Maintenance is funded from the operating budget. This is further discussed in Section 6.2 on page 28.

5.4 Renewal/replacement plan

Renewal 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 upgrade/expansion or new works expenditure.

5.4.1 Renewal plan

Assets requiring renewal are identified from one of three methods:

- Method 1 uses asset register data to project the renewal costs for renewal years using acquisition year and useful life;
- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as pavement management systems or detailed condition assessments);
- Method 3 uses a combination of average network renewals plus defect repairs in the renewal and defect repair plan worksheets on the 'expenditure template'.

Method 2 was used for this asset management plan.

Renewal will be undertaken using 'low-cost' renewal methods where practical. The aim of 'low-cost' renewals is to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than replacement cost.

An example of a low cost renewal is the in-situ rehabilitation of sealed road pavements. This treatment involves removing the existing seal, treating localised failures, strengthening the pavement by the addition of 100 to 150mm of quality road base material then compacting, widening, reshaping and resealing the new pavement up to 7m or 8m (for regional roads) wide with a 2-coat bitumen seal.

5.4.2 Renewal standards

Renewal work is carried out in accordance with the following standards and specifications.

- Roads and Maritime Services
  - Roadwork specifications
  - Bridgeworks specifications
  - Materials specifications
- Austroad publications.
- Engineering Contract Documents

5.4.3 Summary of projected renewal capital expenditure

Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The costs for regional roads, local roads and for all transport assets are summarised in Table 1.1 in summary section page (ii). All costs are shown in 2021/22 dollar values.

The proposed annual capital renewal program allocations for reseals, rehabilitations and re-sheeting are shown in Appendix C (page 39) and below in graphical form in Figures 5.4, 5.5 and 5.6 on pages 24 and 25.

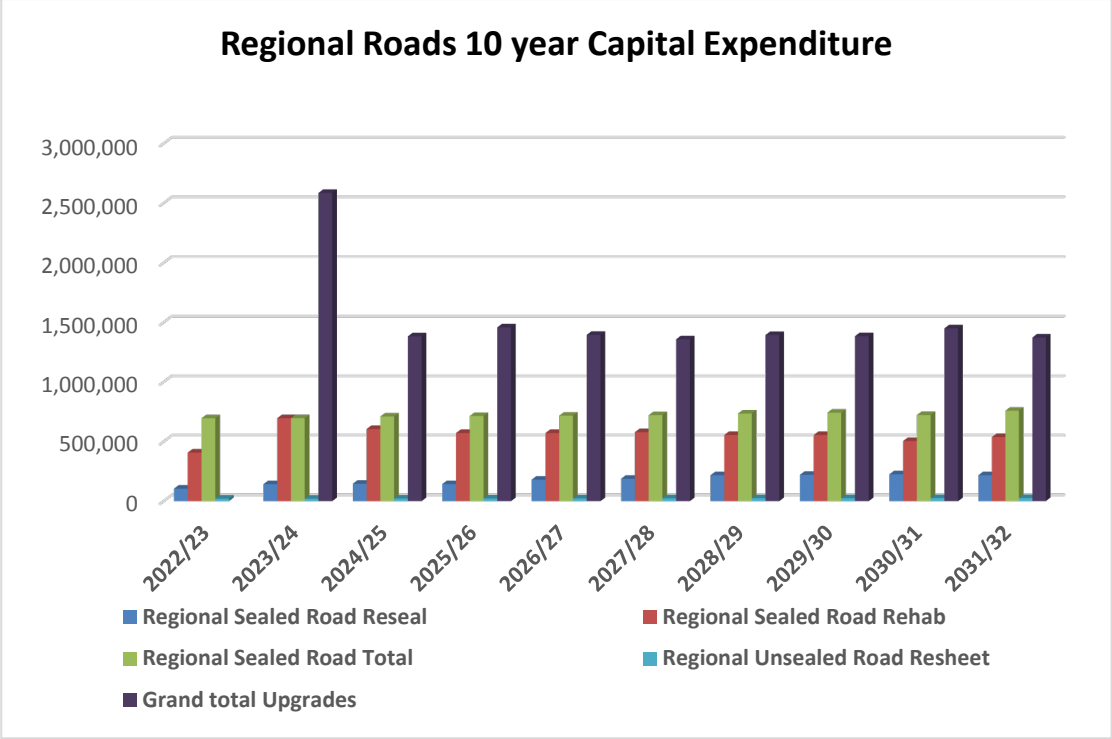

Figure 5.4: Projected capital renewal expenditure - regional roads

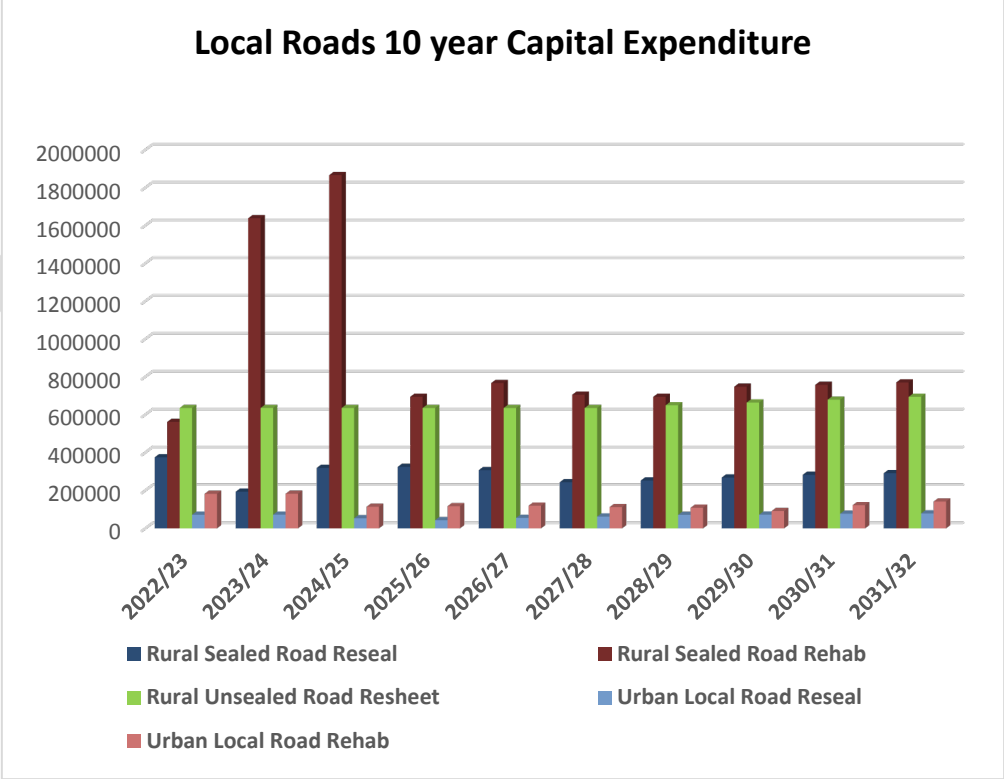

Figure 5.5: Projected capital renewal expenditure - local roads

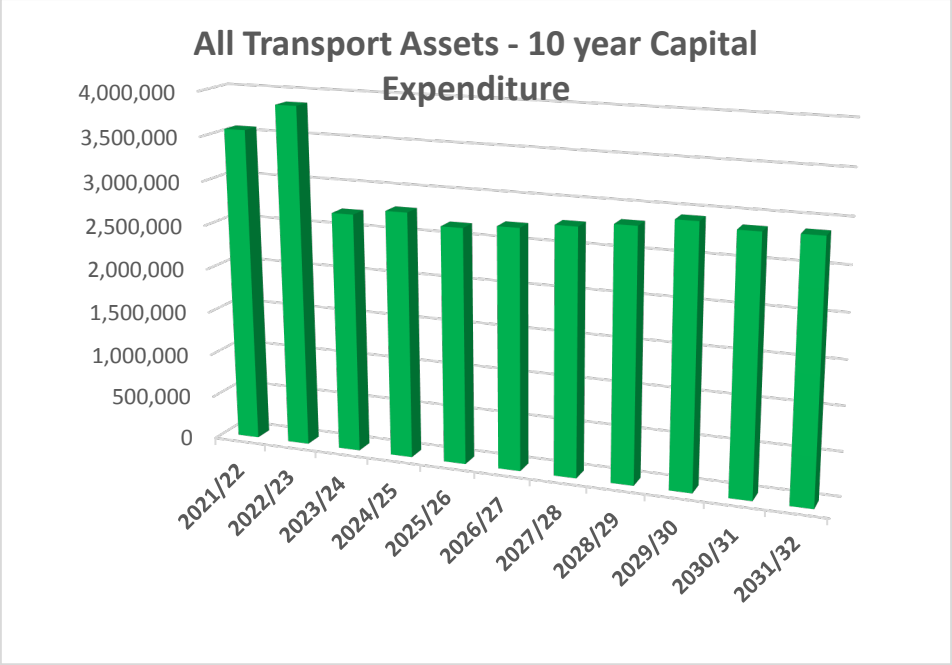

Figure 5.6: Projected depreciation expenditure from 2022/23 to 2031/32

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

Renewals are to be funded from the capital works budget which would take into account any special one-off capital s grants where available. This is further discussed in Section 6.2 (page 30).

5.5 Creation/acquisition/upgrade plan

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to the Council from land development. The growth of this assets is explained in Section 4.4 on page 13.

5.5.1 Selection criteria for upgrade works

New assets and upgrade/expansion of existing assets are identified from various sources such as councillor or community requests, proposals identified by strategic plans or partnerships with other organisations. Candidate proposals are inspected to verify need and to develop a preliminary estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. Candidate projects are assessed by the Roads Assessment Model. The priority ranking criteria and scoring range used by the model to distinguish between like projects is detailed below in Table 5.11.

Table 5.11: Upgrade/new assets priority ranking criteria

Criteria for sealing of roads	Criteria score range
Traffic volumes	0 to 5
Percentage of heavy vehicles	0 to 5
Bus route (yes or no)	0 to 2
Pavement health	5 (if unsealed)
Tourist route (yes or no)	0 to 2
Initial seal (percentage of missing link gap)	0 to 4
Improves road alignment	0 to 5
Maintenance cost savings	2 to 5
Economics (cost of project)	0 to 2
Accident history	0 to 10

5.5.2 Standards and specifications

Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in Section 5.4.2 on page 23.

5.5.3 Summary of projected upgrade/new assets expenditure

The projected upgrade/new capital works program is shown in Appendix C on page 39. All costs are shown in 2021 dollar values.

New assets are acquired through the capital works program. The projects for upgrading of unsealed roads to sealed roads are determined by Council after taking into consideration the priority ranking criteria outlined above in Table 5.11.

6. 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.

6.1 Financial statements and projections

The financial projections for all transport assets (i.e. regional and local roads, bridges, kerb and gutter, footpaths and traffic facilities) are shown in Table 6.1 below for projected operating and maintenance (O&M) and capital renewal expenditure As compared with Long Term Financial Plan 2022-2032. Note that all costs are shown in 2021/22 dollar values.

The forward estimates in the Uralla Shire Council long term financial plan 2022-2032 make funding provision for the projected capital expenditure (renewal, rehabilitation and replacement) in addition to the ongoing level of operations and maintenance required to ensure the assets are fit for purpose.

Council identifies properly funded and managed targeted maintenance as the fundamental principle in preserving the condition of its assets and thereby maintaining the high level of service delivery expected by our community. Ideally, the forward estimates should provide more funds than are projected to be required, so that reasonable unforeseen eventualities can be met. Such eventualities include providing co-contribution funding to projects or programs funded from state and federal governments for road improvements.

6.1.1 Financial sustainability in service delivery

There are three key indicators for financial sustainability that have been considered in the analysis of the services provided by this asset category, these being long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5 and 10 years of the planning period. The capacity to meet the projected/budgeted expenditures is dependent upon the capacity of the organisation to provide sufficient funding from its own resources to sustain the ongoing maintenance cost. In other words, Council must have a capacity to pay.

Whilst having fully funded capital expenditure for the renewal, rehabilitation of existing assets and/or new roads, streets, bridges, kerb and guttering and footpaths; it is imperative for the long term sustainability of the Council's transport assets for those assets to be fully maintained. The Council firstly, has to be able to afford to fund the maintenance life cycle cost of holding assets. The Uralla Shire Council has a history of fully funding its maintenance program with the application of an appropriate level of maintenance, funded from its own resources.

6.1.2 Long term - life cycle cost

Life cycle costs (or whole of life costs) are the average annual costs that are required to sustain the service levels over the longest asset life. Life cycle costs include the original purchase, operations and maintenance expenditure to hold the asset and the asset consumption (depreciation expense). The sustainability of Council requires fully funding the life cycle cost.

The estimated annual life cycle cost for the services covered in this asset management plan is $6,424,582 for 2022/23 and $5,943,031 for 2031/32 for the operation, maintenance and engineering administration costs plus depreciation expenditure. Life cycle expenditure will vary depending on the timing of asset renewals.

Table 6.1 below shows funding requirements outlined provide Transport services as operation, maintenance, renewal and upgrade (rehabilitations).

Table 6.1: Projected operations and maintenance and capital renewal expenditure for all transport assets

Projected Expenditure $					
Year	Operation and Maintenance (1) ($)	Capital Renewals (2) ($)	Rehabilitation/ upgrades (3) ($)	Total Capital Expenditure (5=2+3) ($)	Total proposed Expenditure ($)
2022-23	2,556,689	1,283,251	2,584,642	3,867,893	6,424,582
2023-24	2,622,415	1,332,031	1,382,145	2,714,176	5,336,592
2024-25	2,686,156	1,326,495	1,457,270	2,783,765	5,469,921
2025-26	2,753,426	1,268,038	1,394,678	2,662,717	5,416,143
2026-27	2,819,740	1,356,066	1,356,987	2,713,053	5,532,793
2027-28	2,890,046	1,382,849	1,393,147	2,775,995	5,666,041
2028-29	2,959,038	1,449,858	1,383,235	2,833,093	5,792,131
2029-30	3,031,692	1,481,142	1,448,784	2,929,925	5,961,617
2030-31	2,988,710	1,500,660	1,371,876	2,872,536	5,861,246
2031-32	3,063,428	1,567,923	1,311,680	2,879,603	5,943,031
10 year=	**28,371,340**	**13,948,313**	**15,084,443**	**29,032,756**	**57,404,097**
5 year=	**13,438,426**	**6,565,881**	**8,175,722**	**14,741,604**	**28,180,031**

Medium term – 10 year financial planning period

The Life Cycle proposed expenditure is $57,404,097for the ten years to 2031/32 and the proposed operational life cycle costs are $28,371,340 and that of proposed capital expenditure is $29,032,756.

Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and long term financial plan. Council's Long Term Financial Plan is a 3,000 line individually calculated interactive spreadsheet that is based upon meeting a small increase in population and expansion of its road network to achieve 50% sealed road proportion within the 10 years to 2031/32.

This asset management plan therefore identifies the projected operations, maintenance and capital renewal expenditures required to provide that level of service to the community over a 10 year period. This plan provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

The projected required expenditures may be compared to budgeted expenditures in the 10 year period. Council's Long Term Financial Plan provides sufficient funds over the short term to meet the life cycle costs of its transport assets but not over the full 10 year period.

Uralla Shire Council's long term practice of relying principally on maintenance of its road network, rather than making adequate provision for scheduled rehabilitation works, may need to be reviewed. In addition, the funding of renewal of a road asset (such as resealing sealed roads within the 15 year life of the surface) is a 'low-cost' renewal method as discussed in Section 5.4.1.

Financial sustainability indicators

Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and funding to achieve a financial sustainability indicator of over 1.0 ideally, over the 10 year life of the asset management plan.

Providing services in a sustainable manner will require matching of projected asset renewals to meet agreed service levels with planned capital works programs and available revenue.

This asset management plan will provide guidance on future service levels and resources required to provide these services, and review future services, service levels and costs with the community. The impact of adopting different levels of service on the available funding has been discussed earlier in Section 3.5.

6.1.2 Expenditure projections for the 10 year term

The Long Term Financial Plan expenditure projections are in current (non-inflated) values. In the normal course of operation Council does not dispose of any road, street, bridge, kerb and guttering or footpath assets.

From time to time there will be an impairment of one of these assets due to natural disaster. These are unforeseen events and not included in forward projections. Additionally, such natural events are generally accompanied by state and federal funding to replace the asset with only a small proportion of the cost to be matched by Council. Consequently such projections are not included in this asset management plan.

Upgrade works, other than those which have been approved by Council are not included in this section. These desired but unfunded upgrade works are detailed in Appendix D.

6.2 Funding strategy

Projected expenditure identified in Section 6.1 is to be funded from future operating and capital budgets. The funding strategy include general council funds and grants such as R2R .

6.3 Valuation forecasts`

Asset values are forecast to increase as additional assets are added to the asset stock principally from construction and acquisition by Council and also from assets constructed by land developers and others donated to Council. Uralla Shire Council annually reviews the replacement cost of its Infrastructure Assets by incremental increases based upon the IPWEA (NSW) Roads and Transport Directorate Road and Bridge Construction Cost Indexes. This index, produced periodically, is also used to project future revaluation percentages for transport assets.

The projected value of the asset and the estimated revaluation increment is calculated in the non-current asset and depreciation spreadsheet (in the statutory form pprojected income, cash flow and financial position statements years 2022/23 to 2031/32) for revaluation increment and depreciation.

The annual incremental increase smooths out the increase flowing from the periodic five year revaluation cycle of Council's assets. The next revaluation and assessment of asset condition of all transport assets is due in the year ended 30 June 2024.

The projected value of non-current transport assets depends also on the projection and funding in the forward estimates of renewals and upgrades expenditure.

The net transport asset values is the net result of the carried/forward net value plus revaluation increments and renewed, rehabilitated and new assets less depreciation and impairment, if any. The above projected depreciated replacement cost (current replacement cost less accumulated depreciation) will steadily increase over the forecast period as Council is planning on increasing the sealed network by upgrading existing unsealed roads to seal when funding permits.

6.4 Key Assumptions made in financial forecasts

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

Key assumptions made in this asset management plan are:

- All costs are in 2021/22 dollars.
- RMS Block Grant funding will continue for regional roads
- Roads to Recovery grant funding will continue for local roads
- Roads and bridges component of the Financial Assistance Grants (FAGs) continuing from the federal government budget.
- The opportunity for windfall funding from grant programs e.g. Local Roads and Community Infrastructure (LRCI), Fixing Country Roads (FCR), Fixing Local Roads (FLR) etc. will continue to be available.

7. ASSET MANAGEMENT PRACTICES

7.1 Accounting/Financial Systems

7.1.1 Accounting and financial systems

The financial system used by the Uralla Shire Council is Authority 6.6, through a managed service provider contract with Civica Australia. The system is managed by Council's Finance Section producing monthly financial reports, for both management and Council and annual financial statements for audit and production to the Uralla Community and other interested parties.

7.1.2 Accountabilities for financial systems

Council's significant accounting policies are set out in the annual financial statements Note C1-7.

7.1.3 Accounting standards and regulations

Council currently complies with the following standards and regulations with respect to asset accounting

- The Australian Accounting Standards and Australian Accounting Interpretations
- The Local Government Code of Accounting Practice and Financial Reporting
- The Local Government Act 1993 and Local Government (General) Regulation 2021

7.1.4 Capital/maintenance threshold

The determination of expenditure as capital or maintenance is a combination of purpose, value and economic life of the asset received from the expenditure. Capital costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to Council and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the income statement during the financial period in which they are incurred.

7.1.5 Required changes to accounting financial systems arising from this asset management plan

Currently infrastructure values, current replacement costs and written down values, are calculated from desktop audits and field condition surveys. With the development and improvement of this asset management plan the infrastructure values will be more accurate and will be reflected in the financial system.

7.2 Asset Management Systems

7.2.1 Asset management system and registers:

A number of systems and registers are used by the Uralla Shire Council for the purpose of this asset management plan:

- MapInfo® (Intramaps® from January 2014) - For the Geographical Information System (GIS). These systems hold the spatial information on the majority of asset groups
- Microsoft® Excel spreadsheets are used to manipulate and interrogate asset data
- Financial system: Civica© "Authority" software – maintains the capital value register and manages depreciation.
- Document management and customer requests system is TRIM (© (HP Software Division)
- Council's current maintenance management system used for transport assets is via field work sheets and using Microsoft® Excel spreadsheets. Council is working, with Statewide Mutual Risk Officers, towards implementing a robust modern system based upon Risk Assessment tools. Other maintenance is undertaken on a reactive basis by Manager Civil Infrastructure under direction from the Executive Director Infrastructure and Development.

7.2.2 Accountabilities for asset management system and data

The responsibility for operating and maintaining the core asset management systems is with the Executive Director Infrastructure and Development delegated to Manager Civil Infrastructure. The development of an annual transport budget allocation within the Council budget is between the Executive Director and the General Manager based upon the Long Term Financial Plan forward estimates.

7.2.3 Linkage from asset management to financial system

Council utilises Civica Authority to link asset management to the financial system by managing the asset values including depreciation and revaluations. However, there are no direct links with operations and maintenance expenses and the individual asset.

7.2.4 Required changes to asset management system arising from this asset management plan

A system which provides a direct linkage between operations and maintenance expenditure and individual assets is required. The ongoing maintenance of this system should then become a core function within Council's operations.

7.3 Information flow requirements and processes

The key information flows *into* this asset management plan are:

- Council strategic and operational plans,
- Service requests from the community,
- Network assets information,
- The unit rates for categories of work/materials,
- Current levels of service, expenditures, service deficiencies and service risks,
- Projections of various factors affecting future demand for services and new assets acquired by Council,
- Future capital works programs,
- Financial asset values.
- The key information flows *from* this asset management plan are:
- The projected Works Program and trends,
- The resulting budget and long term financial plan expenditure projections,
- Financial sustainability indicators.

These will impact the Long Term Financial Plan, annual budget and departmental business plans and budgets.

7.4 Standards and guidelines (to be updated)

Standards, guidelines and policy documents referenced in this asset management plan are:

- Council's Significant Accounting Policy (Note C1-7 to Annual Financial Statements)
- Roads and Maritime Services – Roadworks, Bridgeworks and Materials Specifications
- Unsealed Roads Manual – Guidelines to Good Practice ARRB 1993
- Sealed Local Roads Manual – Guidelines to Good Practice for the Construction, Maintenance and Rehabilitation of Pavements. ARRB 1995
- Local Roads Bridge Maintenance – Guidelines to Good Practice ARRB 2000
- Department of Housing Road Manual 1987 (urban works)

8. PLAN IMPROVEMENT AND MONITORING

8.1 Performance Measures

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

- The degree to which the required cashflows identified in this asset management plan are incorporated into the organisation's long term financial plan and community/strategic planning processes and documents,
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the asset management plan;

8.2 Improvement Plan

The following tasks in Table 8.1 have been identified to be included in future revisions of the asset management plan.

Table 8.1: Improvement plan

Task No	Task	Responsibility	Timeline
1	Customer research and expectations to quantify desired levels of service	Manager Civil Infrastructure	By next revision
2	Develop an Age Profile for all transport assets	Manager Civil Infrastructure	By next revision
3	Develop a formal process for asset assessment	Manager Civil Infrastructure	By next revision
4	Improve financial projections as further information becomes available on desired levels of service.	Manager Civil Infrastructure	After completion of Task 1
5	Inspection regime to be developed and funded	Manager Civil Infrastructure	By end Year 1
6	Use Authority in asset management system	Manager Civil Infrastructure	2025/26

8.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget preparation and amended to recognise any material changes in service levels and/or resources available to provide those services as a result of the budget decision process.

This plan has a life of four years and is due for revision and updating within 12 months of each Council election.

REFERENCES

Uralla Shire Council – Long Term Financial Plan 2022/23 to 2031/32

Uralla Shire Council – 2022/2023 Operational Plan

Department for Victorian Communities (DVC), 2006, *Asset Investment Guidelines*, Glossary, Department for Victorian Communities, Local Government Victoria, Melbourne, http://www.dpcd.vic.gov.au/localgovernment/publications-and-research/asset-management-and-financial.

Institute of Public Works Engineering Australasia (IPWEA), 2006, *International Infrastructure Management Manual*, Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au.

Institute of Public Works Engineering Australasia (IPWEA), 2008, *NAMS.PLUS Asset Management* Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/namsplus.

Institute of Public Works Engineering Australasia (IPWEA), 2009, *Australian Infrastructure Financial Management Guidelines*, Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AIFMG.

Institute of Public Works Engineering Australasia (IPWEA), 2011, *Asset Management for Small, Rural or Remote Communities* Practice Note, Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AM4SRRC.

APPENDICES

Appendix A Examples of Road Conditions; refer Table 5.1IIMM Descriptions of Condition

Appendix B Breakdown of 2021 Transport Asset Valuations by asset type

Appendix C Projected 10 Year Capital Renewal Works Program (reseals and re-sheeting)

Appendix D Planned upgrade, rehabilitation or new transport infrastructure in the 10 year Capital Works Program

Appendix E Glossary

Appendix F Abbreviations

Appendix A – Examples of Road Conditions refer Table 5.1

Appendix A (photographs a to k) illustrates how transport infrastructure condition are assessed as outlined in International Infrastructure Management Manual (IIMM).

(a) Sealed Road – Condition 1 (Eastern Avenue)

(b) Sealed Road – Condition 3 (Fitzroy Street)

(c) Unsealed Road – service level (Big Ridge Road)

(d) Sealed Road – Condition 2 (Torryburn Road))

(e) Sealed Road – Condition 4 (Burtons Lane)

(f) Unsealed Road – grade intervention level (Balala Road)

(g) Kerb and Guttering – condition 1 (Fitzroy Street)

(h) Footpath – Condition 1 (John street)

(i) Concrete Bridge replacing a timber bridge – Enmore Road,

(j) Kerb and Guttering – Condition 3 (Salisbury Street)

(k) Footpath – Condition 3 (Salisbury Street)

Appendix B – breakdown of 2021 Transport Valuations into transport asset type:

Table B Transport Valuations into transport asset type as at 30 June 2021

Asset Type	Valuation as at 30 June 2021
All Roads	$130,086,862
Kerb and Gutter	$3,758,636
Bridges	$40,964,497
Footpaths	$1,971,620
Bulk Earthworks	$62,547,957
Total valuation	**$239,329,572**

Appendix C – Projected 10 year Capital Renewal Works (reseals and re-sheeting)

Table C Proposed expenditure for regional, urban local, rural local, and unsealed roads 2022 to 2032

Year	Unsealed roads ($)		Urban local roads($)		Rural local roads ($)		Regional roads ($)	
	Local ($)	Regional ($)	Reseals ($)	Upgrades/ Rehabilitations) ($)	Reseals ($)	Upgrades/ Rehabilitations) ($)	Reseals ($)	Upgrades/ Rehabilitations) ($)
2022/23	634,769	22,000	53,268	113,880	318,614	1,865,962	105,000	604,800
2023/24	634,769	22,661	43,194	116,983	324,272	693,963	142,500	571,200
2024/25	634,769	23,341	55,200	119,381	306,673	766,690	145,500	571,200
2025/26	634,769	24,041	62,100	111,891	243,128	704,868	142,500	577,920
2026/27	649,051	24,582	71,236	108,624	252,209	693,963	180,000	554,400
2027/28	663,655	25,135	72,229	91,250	267,830	747,497	187,500	554,400
2028/29	678,567	25,701	77,197	121,983	282,210	757,252	217,500	504,000
2029/30	693,855	26,279	78,688	141,401	290,904	769,783	220,500	537,600
2030/31	709,467	26,870	83,407	157,972	307,133	709,904	225,000	504,000
2031/32	723,656	27,542	83,380	132,714	350,465	624,566	217,500	554,400
Total	**6,657,327**	**248,152**	**679,899**	**1,216,079**	**2,943,438**	**8,334,448**	**1,783,500**	**5,533,920**

The proposed expenditure given in Table C is based on estimates of remaining useful life in 2020 by Shepherd Services and is forecasted to be used as follows:

Regional Sealed Roads

The 10 year forward estimates of $1,783,500 will reseal approximately 56.0 kilometres of the 126.5 kilometres of regional rural sealed road over the period of this plan.

Expenditure of $5,533,920 over 10 years for pavement renewal of the base layer (rehabilitation) of regional sealed roads is based on estimates of remaining useful life in 2020 by Shepherd Services and addresses the backlog of renewals which are overdue.

Rural Local Sealed Roads

The 10 year forward estimates of $2,943,438 will re-seal approximately 105.4 kilometres of the 294.3km rural local road network over the period of this plan.

Expenditure of $8,334,448 over 10 years for pavement renewal of the base layer (rehabilitation) of rural local sealed roads is based on estimates of remaining useful life in 2020 by Shepherd Services and addresses the backlog of overdue renewals.

Urban Local Sealed Roads

The 10 year forward estimates of $679,899 will re-seal approximately 22.8 kilometres of the 27.6km urban local road network over the period of this plan.

Expenditure of $1,216,079 over 10 years for pavement renewal of urban local sealed roads is based on estimates of remaining useful life in 2020 by Shepherd Services and addresses the backlog of overdue renewals.

Unsealed Roads gravel resheeting

The ten year forward estimates total of $248,152 will re-sheet 6.5 kilometres of the Bundarra to Barraba Road whilst the proposed expenditure of $6,657,327 over 10 years will maintain the rural local unsealed road network at a satisfactory standard.

Footpaths, Bike Track and Kerb & Gutter

The proposed capital expenditure for footpaths, bike track and K&G over the 10 year period is shown below.

Other Transport Proposed Expenditure		
Year	**Footpaths & Bike Track**	**Kerb & Gutter**
2021/22	$60,256	$70,320
2022/23	$79,000	$70,600
2023/24	$94,035	$70,600
2024/25	$90,412	$70,600
2025/26	$90,900	$70,600
2026/27	$106,800	$72,189
2027/28	$92,686	$73,813
2028/29	$93,209	$75,474
2029/30	$93,744	$77,172
2030/31	$69,875	$78,908
2031/32	$84,500	$80,881
Totals	**$955,417**	**$811,157**

5

Appendix D – Planned transport infrastructure in the 10 year Capital Works Program.

The following transport projects have been identified but are currently unfunded and are not included in the 10 year Capital Works Program unless noted otherwise:

Sealed Roads Renewals

Pavement strengthening and widening of Hawthorne Drive from 00 to 4.9km and 5.3 to 5.55km was identified as a priority for renewal and widening. Funding for Stage 1 (00 to 2.0km) has been received through the Fixing Local Roads Program and work was completed in 2021. Stage 2 (2.0 to 4.8km and 5.3 to 5.55km) has also received funding from the Fixing Local Roads Program and is programmed to be completed in 2022. The grant funding has been included in the 2021/22 capital works program. Sections of Kingstown, Gostwyck and Northeys Roads have also been identified as priorities for pavement renewal and these sections make up the successful application for funding under the Fixing Local Roads Program announced in 2022.

A list of candidate projects for future pavement renewal (after Shepherd) is shown in Table D below:

Table D.1: List of local road candidate projects for future pavement renewal

Proposed Candidate Pavement Renewals (after Shepherd) - combined rural and urban regional roads.
Projects to be included in annual works programs are subject to validation in the field.

Urban or Rural	Road Name	Section	From	To	Cost	Proposed Timing	Notes	USC Proposed budget	Works proposed for 2022/23
Rural	THUNDERBOLTS WAY	625	17750	18500	$252,000	2022/23	Reseal 17.0 to 17.75 program 2022/23		$252,000
Rural	THUNDERBOLTS WAY	625	19000	19750	$252,000	2022/23	Reseal 18.5 to 19.0 program 2022/23		$252,000
Rural	THUNDERBOLTS WAY	625	21750	22000	$33,600	2022/23	Part segment only.		$33,600
Rural	THUNDERBOLTS WAY	625	23500	23750	$67,200	2022/23		$604,800	$67,200
Rural	THUNDERBOLTS WAY	653	21501	21751	$84,000	2023/24	Heavy patch?		
Rural	THUNDERBOLTS WAY	653	24001	25251	$420,000	2023/24			
Rural	THUNDERBOLTS WAY	653	25501	25751	$67,200	2023/24	25251 to 25501 is condition 3(60)	$571,200	
Rural	BUNDARRA ROAD	747	18500	19500	$319,200	2024/25	Part segment only.		
Rural	BUNDARRA ROAD	747	17000	17750	$252,000	2024/25		$571,200	
Rural	THUNDERBOLTS WAY	653	9751	10001	$73,920	2025/26	Check condition of CH10001 to 10251		
Rural	THUNDERBOLTS WAY	653	10251	11251	$336,000	2025/26			
Rural	THUNDERBOLTS WAY	653	28001	28501	$168,000	2025/26		$577,920	
Urban	SALISBURY STREET	653	Maitland St	Bridge St	$68,800	2026/27	Travel lanes only		
Rural	THUNDERBOLTS WAY	653	7501	8251	$252,000	2026/27	Reseal 8.25 to 9.0 program 2023/24		
Rural	THUNDERBOLTS WAY	653	9001	9501	$168,000	2026/27			
Rural	THUNDERBOLTS WAY	653	17501	17751	$67,200	2026/27	Part segment only.		
Rural	THUNDERBOLTS WAY	653	49251	49501	$67,200	2026/27		$623,200	
Urban	HILL STREET	653	Bridge St	Queen St	$73,600	2027/28	Travel lanes only		
Rural	THUNDERBOLTS WAY	653	22001	22251	$50,400	2027/28	Part segment only.		
Rural	THUNDERBOLTS WAY	653	28751	30501	$252,000	2027/28	Part full length only.		
Rural	THUNDERBOLTS WAY	653	37251	38001	$252,000	2027/28		$628,000	
Rural	THUNDERBOLTS WAY	653	13001	13751	$252,000	2028/29			
Rural	THUNDERBOLTS WAY	653	22501	23001	$168,000	2028/29			
Rural	THUNDERBOLTS WAY	653	64751	65001	$84,000	2028/29		$504,000	
Rural	THUNDERBOLTS WAY	653	44251	44751	$168,000	2029/30			

Proposed Candidate Pavement Renewals (after Shepherd) - combined rural and urban regional roads.
Projects to be included in annual works programs are subject to validation in the field.

Urban or Rural	Road Name	Section	From	To	Cost	Proposed Timing	Notes	USC Proposed budget	Works proposed for 2022/23
Rural	THUNDERBOLTS WAY	653	46751	47251	$168,000	2029/30			
Rural	THUNDERBOLTS WAY	653	60751	61501	$134,400	2029/30	Part full length. Laura Creek section.		
Rural	THUNDERBOLTS WAY	653	62751	63251	$67,200	2029/30	Part full length. Laura Creek section.	$537,600	
Rural	THUNDERBOLTS WAY	625	9000	9500	$168,000	2030/31			
Rural	BUNDARRA ROAD	747	14250	14500	$84,000	2030/31			
Rural	BUNDARRA ROAD	747	18000	18250	$84,000	2030/31			
Rural	BUNDARRA ROAD	747	20000	20500	$168,000	2030/31		$504,000	
Rural	THUNDERBOLTS WAY	625	22250	22750	$168,000	2031/32			
Rural	THUNDERBOLTS WAY	653	40251	41001	$252,000	2031/32			
Rural	THUNDERBOLTS WAY	653	64751	65001	$67,200	2031/32			
Rural	THUNDERBOLTS WAY	653	66001	66251	$67,200	2031/32		$554,400	
Rural	BUNDARRA ROAD	747	12750	13000	$84,000	2032/33			
Rural	THUNDERBOLTS WAY	625	11250	11750	$168,000	2032/33			
Rural	THUNDERBOLTS WAY	625	21250	21500	$84,000	2032/33			
Rural	THUNDERBOLTS WAY	653	3001	3251	$67,200	2032/33			
Rural	THUNDERBOLTS WAY	653	41001	41251	$63,000	2032/33			
Rural	THUNDERBOLTS WAY	653	60251	60501	$84,000	2032/33		$550,200	
Grand Total								**$6,226,520**	**$604,800**

Table D.2: List of regional road candidate projects for future pavement renewal.

Proposed Candidate Pavement Renewals (after Shepherd) - combined rural and urban regional roads.
Projects to be included in annual works programs are subject to validation in the field.

Urban or Rural	Road Name	Section	From	To	Cost	Proposed Timing	Notes	USC Proposed budget	Works proposed for 2022/23
Rural	THUNDERBOLTS WAY	625	17750	18500	$252,000	2022/23	Reseal 17.0 to 17.75 program 2022/23		*$252,000*
Rural	THUNDERBOLTS WAY	625	19000	19750	$252,000	2022/23	Reseal 18.5 to 19.0 program 2022/23		*$252,000*
Rural	THUNDERBOLTS WAY	625	21750	22000	$33,600	2022/23	Part segment only.		*$33,600*
Rural	THUNDERBOLTS WAY	625	23500	23750	$67,200	2022/23		*$604,800*	*$67,200*
Rural	THUNDERBOLTS WAY	653	21501	21751	$84,000	2023/24	Heavy patch?		
Rural	THUNDERBOLTS WAY	653	24001	25251	$420,000	2023/24			
Rural	THUNDERBOLTS WAY	653	25501	25751	$67,200	2023/24	25251 to 25501 is condition 3(60)	*$571,200*	
Rural	BUNDARRA ROAD	747	18500	19500	$319,200	2024/25	Part segment only.		
Rural	BUNDARRA ROAD	747	17000	17750	$252,000	2024/25		*$571,200*	
Rural	THUNDERBOLTS WAY	653	9751	10001	$73,920	2025/26	Check condition of CH10001 to 10251		
Rural	THUNDERBOLTS WAY	653	10251	11251	$336,000	2025/26			
Rural	THUNDERBOLTS WAY	653	28001	28501	$168,000	2025/26		*$577,920*	
Urban	SALISBURY STREET	653	Maitland St	Bridge St	$68,800	2026/27	Travel lanes only		
Rural	THUNDERBOLTS WAY	653	7501	8251	$252,000	2026/27	Reseal 8.25 to 9.0 program 2023/24		
Rural	THUNDERBOLTS WAY	653	9001	9501	$168,000	2026/27			
Rural	THUNDERBOLTS WAY	653	17501	17751	$67,200	2026/27	Part segment only.		
Rural	THUNDERBOLTS WAY	653	49251	49501	$67,200	2026/27		*$623,200*	
Urban	HILL STREET	653	Bridge St	Queen St	$73,600	2027/28	Travel lanes only		
Rural	THUNDERBOLTS WAY	653	22001	22251	$50,400	2027/28	Part segment only.		
Rural	THUNDERBOLTS WAY	653	28751	30501	$252,000	2027/28	Part full length only.		
Rural	THUNDERBOLTS WAY	653	37251	38001	$252,000	2027/28		*$628,000*	
Rural	THUNDERBOLTS WAY	653	13001	13751	$252,000	2028/29			
Rural	THUNDERBOLTS WAY	653	22501	23001	$168,000	2028/29			
Rural	THUNDERBOLTS WAY	653	64751	65001	$84,000	2028/29		*$504,000*	
Rural	THUNDERBOLTS WAY	653	44251	44751	$168,000	2029/30			
Rural	THUNDERBOLTS WAY	653	46751	47251	$168,000	2029/30			
Rural	THUNDERBOLTS WAY	653	60751	61501	$134,400	2029/30	Part full length. Laura Creek section.		
Rural	THUNDERBOLTS WAY	653	62751	63251	$67,200	2029/30	Part full length. Laura Creek section.	*$537,600*	
Rural	THUNDERBOLTS WAY	625	9000	9500	$168,000	2030/31			
Rural	BUNDARRA ROAD	747	14250	14500	$84,000	2030/31			
Rural	BUNDARRA ROAD	747	18000	18250	$84,000	2030/31			
Rural	BUNDARRA ROAD	747	20000	20500	$168,000	2030/31		*$504,000*	
Rural	THUNDERBOLTS WAY	625	22250	22750	$168,000	2031/32			
Rural	THUNDERBOLTS WAY	653	40251	41001	$252,000	2031/32			
Rural	THUNDERBOLTS WAY	653	64751	65001	$67,200	2031/32			

Proposed Candidate Pavement Renewals (after Shepherd) - combined rural and urban regional roads. Projects to be included in annual works programs are subject to validation in the field.									
Urban or Rural	**Road Name**	**Section**	**From**	**To**	**Cost**	**Proposed Timing**	**Notes**	**USC Proposed budget**	**Works proposed for 2022/23**
Rural	THUNDERBOLTS WAY	653	66001	66251	$67,200	2031/32		*$554,400*	
Rural	BUNDARRA ROAD	747	12750	13000	$84,000	2032/33			
Rural	THUNDERBOLTS WAY	625	11250	11750	$168,000	2032/33			
Rural	THUNDERBOLTS WAY	625	21250	21500	$84,000	2032/33			
Rural	THUNDERBOLTS WAY	653	3001	3251	$67,200	2032/33			
Rural	THUNDERBOLTS WAY	653	41001	41251	$63,000	2032/33			
Rural	THUNDERBOLTS WAY	653	60251	60501	$84,000	2032/33		*$550,200*	
Grand Total								**$6,226,520**	**$604,800**

Unsealed Roads to be upgraded:

At the Ordinary Meeting held on 25 May 2021, Council approved road upgrades to be funded by Local Roads and Community Infrastructure (LRCI) funding in 2021/22 being Old Gostwyck, Corey and Hariet Gully Roads. Further, Council adopted a prioritised list for subsequent years and placed other candidate roads on public exhibition to invite nominations from the community for further investigation and prioritisation in the future.

The prioritised list of road projects adopted by Council for upgrading from unsealed to sealed is as follows:

Priority	Road section	Cost
1	Gostwyck Road 14.9 to 16.9km	$490,000
2	Bendemeer Road 0.5 to 2.5km	$490,000
3	Gostwyck Road 16.9 to 19.0km	$515,000
4	Williams Road 0.2 to 2.0km	$441,000
	Total	**$1,936,000**

Other roads (not included above) which have been identified previously and/or suggested through the public exhibition period for upgrading are listed below. The list is not comprehensive and may change from time to time.

- Adina Road
- Andersons Road
- Bakers Creek Road
- Bakers Lane
- Balala Road
- Barloo Road
- Gostwyck Road
- Hillview Road
- Kooda Road
- Lentara Road
- Malapatinti Road
- Mihi Road 0.6 to 1.8 and 2.2 to 4.8km
- Munsies Road
- Nelsons Road
- Retreat Road 10.1 to 17.5km
- Rowbottoms Road

Council has yet to consider which of these roads should be adopted as candidate projects for upgrading.

Regional Roads:

MR132 Barraba Road – complete sealing of remaining unsealed length 9.75km at an estimated cost of $3.8m. Note: 1.86km of sealing works at the western end was funded from the Blackspot program in 2014/15.

Council plans to spend $241,690 over 10 years on gravel resheeting works.

When future opportunities for funding arise from time to time, it is intended to propose the 2km unsealed section remaining on the western end hill section (to the Tamworth Regional Council boundary) for upgrading to a sealed surface.

Regional Bridges

Upgrade causeway on Barraba Road at Bakers Creek to a bridge structure at a cost in excess of $1.5m. This project is currently being developed to concept design stage including cost estimate. The concept design and estimate will support grant funding applications for this unfunded project.

Urban Local:

- Extension of Uralla shared cycleway path in accordance with the PAMP
- Bundarra Footpaths and Bligh Avenue in Uralla

Causeways to be upgraded:

- Kingstown Road near Balala
- Terrible Vale Road
- Maitland Street
- Queen Street
- Gostwyck Road (on gravel Section)

Safety Issues to be addressed:

- Bundarra Road guardrail/ wire barrier at 3 locations on the Pinnacle
- Gwydir River Road – guardrail/ wire barrier on two bridge approaches
- Baldersleigh Road/ Thunderbolts Way intersection upgrade
- Eastern Avenue – realign corner near Wards
- Retreat Road - crest realignment
- Kingstown Road – in the vicinity of the bridge over Rocky River

Footpaths: Renew all sections at Condition Levels 4 and 5 and implement the schedule of works as contained in the Uralla PAMP.

At its Ordinary Meeting of 27th August 2019, Council resolved to adopt the Uralla Pedestrian Access Mobility Plan – August 2019.The 9 year allocation of $575,400 will enable construction of the following priority footpath works contained in the Uralla PAMP Schedule of Works. Projects are yet to be adopted by Council.

1. King Street to rail overpass $73,200
2. Dangar Street, Gostwyck Road to King Street $138,200 (over 2 years)
3. Gostwyck Street to McCrossin Street $84,500
4. East Street, Dumaresq Street to Gostwyck Road $279,500 (over 4 years)

The PAMP also contains an item in the Schedule of Works to complete the shared path cycleway along Plane Avenue to the Sports Complex. An allocation has been made each year for the next 8 years in the proposed capital works program but would depend on successful grant applications under the Active Transport Program. In 2022/23 an application was submitted for a grant under this program of $50,000 towards a total cost of $79,000 for the next stage of the shared path. A total allocation of $235,261 has been included in forward programmes for consideration by Council.

Kerb and Gutter: Renew all sections at Condition level 5 over the next 10 years and extend the network by 210m per year.

The 10 year allocation of $730,276 will enable construction of approximately 2,100 metres of kerb and guttering, thus achieving the target of 210 metres per annum.

Identified kerb and guttering construction works include the following:

- Rowan Avenue, northern side Bridge Street west, 100m
- Queen Street, from East Street 60m both sides north, i.e. 120m
- Bowline Street opposite the Bundarra Central School
- Roman Street, 140m both sides i.e. 280m
- Warwick Street, from McCrossin Street both sides north.

Kerb and gutter projects are yet to be adopted by Council.

Appendix E – Glossary

Annual service cost (ASC)

1) Reporting actual cost
   The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.
2) For investment analysis and budgeting
   An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, finance / opportunity and disposal costs, less revenue.

Asset

A resource controlled by an entity as a result of past events and from which future economic benefits are expected to flow to the entity. Infrastructure assets are a sub-class of property, plant and equipment which are non-current assets with a life greater than 12 months and enable services to be provided.

Asset class

A group of assets having a similar nature or function in the operations of an entity, and which, for purposes of disclosure, is shown as a single item without supplementary disclosure.

Asset condition assessment

The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for some preventative or remedial action.

Asset management (AM)

The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.

Average annual asset consumption (AAAC)*

The amount of an organisation's asset base consumed during a reporting period (generally a year). This may be calculated by dividing the depreciable amount by the useful life (or total future economic benefits/service potential) and totalled for each and every asset OR by dividing the carrying amount (depreciated replacement cost) by the remaining useful life (or remaining future economic benefits/service potential) and totalled for each and every asset in an asset category or class.

Borrowings

A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of time or at a specified point in time, to cover both the initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to finance outlays (typically physical assets) when it has insufficient funds of its own to do so, and for the lending entity to make a financial return, normally in the form of interest revenue, on the funding provided.

Capital expenditure

Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

Capital expenditure - expansion

Expenditure that extends the capacity of an existing asset to provide benefits, at the same standard as is currently enjoyed by existing beneficiaries, to a new group of users. It is discretionary expenditure, which increases future operations and maintenance costs, because it increases the organisation's asset base, but may be associated with additional revenue from the new user group, eg. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

Capital expenditure - new

Expenditure which creates a new asset providing a new service/output that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operations and maintenance expenditure.

Capital expenditure - renewal

Expenditure on an existing asset or on replacing an existing asset, which returns the service capability of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it generally has no impact on revenue, but may reduce future operations and maintenance expenditure if completed at the optimum time, eg. resurfacing or resheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval.

Capital expenditure - upgrade
Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operations and maintenance expenditure in the future because of the increase in the organisation's asset base, eg. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.

Capital funding
Funding to pay for capital expenditure.

Capital grants
Monies received generally tied to the specific projects for which they are granted, which are often upgrade and/or expansion or new investment proposals.

Capital investment expenditure
See capital expenditure definition

Capitalisation threshold
The value of expenditure on non-current assets above which the expenditure is recognised as capital expenditure and below which the expenditure is charged as an expense in the year of acquisition.

Carrying amount
The amount at which an asset is recognised after deducting any accumulated depreciation / amortisation and accumulated impairment losses thereon.

Class of assets
See asset class definition

Component
Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

Cost of an asset
The amount of cash or cash equivalents paid or the fair value of the consideration given to acquire an asset at the time of its acquisition or construction, including any costs necessary to place the asset into service. This includes one-off design and project management costs.

Current replacement cost (CRC)
The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a technologically modern equivalent new asset (not a second hand one) with the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs.

Depreciable amount
The cost of an asset, or other amount substituted for its cost, less its residual value.

Depreciated replacement cost (DRC)
The current replacement cost (CRC) of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.

Depreciation / amortisation
The systematic allocation of the depreciable amount (service potential) of an asset over its useful life.

Economic life
See useful life definition.

Expenditure
The spending of money on goods and services. Expenditure includes recurrent and capital.

Fair value
The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arm's length transaction.

Funding gap
A funding gap exists whenever an entity has insufficient capacity to fund asset renewal and other expenditure necessary to be able to appropriately maintain the range and level of services its existing asset stock was originally designed and intended to deliver. The service capability of the existing asset stock should be determined assuming no additional operating revenue, productivity improvements, or net financial liabilities above levels currently planned or projected. A current funding gap means service levels have already or are currently falling. A projected funding gap if not addressed will result in a future diminution of existing service levels**.**

Heritage asset
An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture and this purpose is central to the objectives of the entity holding it.

Impairment Loss
The amount by which the carrying amount of an asset exceeds its recoverable amount.

Infrastructure assets
Physical assets that contribute to meeting the needs of organisations or the need for access to major economic and social facilities and services, eg. roads, drainage, footpaths and cycleways. These are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence the assets have long lives. They are fixed in place and are often have no separate market value.

Investment property
Property held to earn rentals or for capital appreciation or both, rather than for:
(a) use in the production or supply of goods or services or for administrative purposes; or
(b) sale in the ordinary course of business.

Key performance indicator
A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.

Level of service
The defined service quality for a particular service/activity against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental impact, acceptability and cost.

Life Cycle Cost
1. **Total LCC** The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
2. **Average LCC** The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises annual operations, maintenance and asset consumption expense, represented by depreciation expense. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

Life Cycle Expenditure
The Life Cycle Expenditure (LCE) is the actual or planned annual operations, maintenance and capital renewal expenditure incurred in providing the service in a particular year. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of life cycle sustainability.

Loans / borrowings
See borrowings.

Maintenance
All actions necessary for retaining an asset as near as practicable to its original condition, including regular ongoing day-to-day work necessary to keep assets operating, eg road patching but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life.

- **Planned maintenance**
  Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.
- **Reactive maintenance**
  Unplanned repair work that is carried out in response to service requests and management/supervisory directions.
- **Significant maintenance**
  Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget.
- **Unplanned maintenance**
  Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.

Maintenance and renewal gap
Difference between estimated budgets and projected required expenditures for maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Maintenance and renewal sustainability index
Ratio of estimated budget to projected expenditure for maintenance and renewal of assets over a defined time (eg 5, 10 and 15 years).

Maintenance expenditure
Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. It is expenditure, which was anticipated in determining the asset's useful life.

Materiality
The notion of materiality guides the margin of error acceptable, the degree of precision required and the extent of the disclosure required when preparing general purpose financial reports. Information is material if its omission, misstatement or non-disclosure has the potential, individually or collectively, to influence the economic decisions of users taken on the basis of the financial report or affect the discharge of accountability by the management or governing body of the entity.

Modern equivalent asset
Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing. It allows for technology changes and, improvements and efficiencies in production and installation techniques

Net present value (NPV)
The value to the organisation of the cash flows associated with an asset, liability, activity or event calculated using a discount rate to reflect the time value of money. It is the net amount of discounted total cash inflows after deducting the value of the discounted total cash outflows arising from eg the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.

Non-revenue generating investments
Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the Council, eg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operations expenditure
Recurrent expenditure, which is continuously required to provide a service. In common use the term typically includes, eg power, fuel, staff, plant equipment, on-costs and overheads but excludes maintenance and depreciation. Maintenance and depreciation is on the other hand included in operating expenses.

Operating expense
The gross outflow of economic benefits, being cash and non cash items, during the period arising in the course of ordinary activities of an entity when those outflows result in decreases in equity, other than decreases relating to distributions to equity participants.

Pavement
The layer below the sealed surface which provides the strength to support the traffic loads. Usually made up of two layers: a base and a sub-base.

Pavement management system
A systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.

PMS Score
A measure of condition of a road segment determined from a Pavement Management System.

Rate of annual asset consumption
A measure of average annual consumption of assets (AAAC) expressed as a percentage of the depreciable amount (AAAC/DA). Depreciation may be used for AAAC.

Rate of annual asset renewal
A measure of the rate at which assets are being renewed per annum expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

Rate of annual asset upgrade
A measure of the rate at which assets are being upgraded and expanded per annum expressed as a percentage of depreciable amount (capital upgrade/expansion expenditure/DA).

Recoverable amount
The higher of an asset's fair value, less costs to sell and its value in use.

Recurrent expenditure
Relatively small (immaterial) expenditure or that which has benefits expected to last less than 12 months. Recurrent expenditure includes operations and maintenance expenditure.

Recurrent funding
Funding to pay for recurrent expenditure.

Rehabilitation
See capital renewal expenditure definition above.

Remaining useful life
The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life is useful life.

Renewal
See capital renewal expenditure definition above.

Reseal
A coating of bitumen and aggregate applied over an existing seal to restore the service potential of the road surface.

Resheet
A layer of gravel pavement material applied over an existing unsealed road to restore the service potential of the road surface.

Residual value
The estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

Revenue generating investments
Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, eg public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.

Risk management
The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.

Seal
The surface or uppermost layer of a road. Usually consists of a thin layer of bitumen and crushed aggregate up to 20mm diameter or a thin layer of asphalt.

Section or segment
A self-contained part or piece of an infrastructure asset.

Service potential
The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.

Service potential remaining
A measure of the future economic benefits remaining in assets. It may be expressed in dollar values (Fair Value) or as a percentage of total anticipated future economic benefits. It is also a measure of the percentage of the asset's potential to provide services that are still available for use in providing services (Depreciated Replacement Cost/Depreciable Amount).

Specific Maintenance
Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, cycle, replacement of air conditioning equipment, etc. This work generally falls below the capital/ maintenance threshold and needs to be identified in a specific maintenance budget allocation.

Sub-component
Smaller individual parts that make up a component part.

Useful life
Either:
(a) the period over which an asset is expected to be available for use by an entity, or
(b) the number of production or similar units expected to be obtained from the asset by the entity.

It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the council.

Value in Use
The present value of future cash flows expected to be derived from an asset or cash generating unit. It is deemed to be depreciated replacement cost (DRC) for those assets, whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, where the entity would, if deprived of the asset, replace its remaining future economic benefits.

Source: IPWEA, 2009, Glossary

Appendix F – Abbreviations

AAAC	Average annual asset consumption
AMP	Asset management plan
ARI	Average recurrence interval
CRC	Current replacement cost
CWMS	Community wastewater management systems
DA	Depreciable amount
EF	Earthworks/formation
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
MMS	Maintenance management system
PCI	Pavement condition index
RV	Residual value
SS	Suspended solids
vph	Vehicles per hour

For further information

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