Roads and Transport

Asset Management Plan

2022-2032

Richmond Valley Council

Contents

Richmond Valley Council recognises the people of the Bundjalung Nation as Custodians and Traditional Owners of this land and we value and appreciate the continuing cultural connection to lands, their living culture and their unique role in the life of this region in the past, present and future.

Executive Summary

Richmond Valley Council (RVC) is custodian of an extensive range of community assets that it provides to facilitate delivery of its services to the community. This includes the roads, bridges and associated infrastructure for which it has responsibility within the Local Government Area (LGA). The purpose of this plan is to provide a structured process of management of Council's road network, documenting the quantity, condition, level of service provided, financial planning, risk management, operation, maintenance and renewal of the assets. The plan takes into consideration the legislative requirements of Council in managing public assets, while balancing the risk and demand for infrastructure with long term financial affordability. The detailed information in this plan provides the framework for responsible asset management of these vital community assets.

The road network is valued at $544,660,288 at 30 June 2022, which consists of:

- 1,065 km of roads;
- 125 Bridges;
- 140 km of kerb and channels;
- 423 Traffic management devices; and
- 5,265 m^2 of car parks.

Road Infrastructure

Asset Group	Asset Type	Quantity of Road Assets m2	Length of Assets (km)	Quantity of Assets No.	Replacement Cost ($)
Aerodrome	Road Seal Surface & Structure	30,900	1.03	1	3,325,555
Bridge	Concrete, Doolan Deck & Timber	22,655		125	108,306,994
Bus Shelter	Brick, Other, Steel & Timber	1,154		121	1,926,858
Carpark	Road Seal Surface and Structure	5,265	0.20	3	635,768
Culvert	Major & Minor Culverts		19.59	2,180	34,508,803
Footpaths & Cycleways	Asphalt, Bitumen, Concrete, Pavers & Stencilled	137,343	63.24		19,049,851
Guard Rail & Terminals			15.57	713	4,932,851
Pavement Unsealed	Unsealed Road Surface	2,308,797	536.80		19,108,265
Road Formation		5,644,202	1,072.55		69,228,822
Road Seal	Asphalt & Bitumen	3,050,326	526.77		48,077,002
Road Seal Structure	Concrete, Gravel & Stabilised	3,466,878	528.16		177,400,298
Roadside Furniture				580	4,275,988
Surface Drainage	Kerb and channels		140.59		47,913,412
Traffic Management	Pedestrian Refuge, Roundabout, Speed Hump, Splitter Island	10,461		423	4,486,711
	Total				544,660,288

Key Issues

A summary of key issues related to the management of Council's road and network infrastructure is identified in the following table:

Key Issues

Asset	Key Issues
Roads	• Road deterioration such as potholes being identified through customer requests before being picked up by operations staff • Narrow roads providing restricted traffic flow and safety issues • Black spots within the road network • Speeding • Heavy vehicle access • Flooded road – restricted access • Funding and cost of renewal/capital works
Bridges	• Wearing surface deterioration • Accident damage/flood effects • Stormwater washouts • Heavy vehicle access / load limits • Alternative route access from flooding events and closures. • Cost of replacement • Availability of contractors to undertake construction works
Bus Shelters	• Vandalism • Litter • Accessibility
Culverts	• Vehicle damage • Stormwater washouts • Blockages
Footpath & Cycleways	• Trip hazards and accessibility
Guard Rail & Terminals	• Accident damage • Vegetation overgrowth • Compliance with AS/NZ
Roadside Furniture (signs, seats etc)	• Natural UV damage to signs and furniture • Vandalism
Surface Drainage (kerb & gutter)	• Tree roots intrusion causing displacement between kerb lengths • Pooling on road from lack of drainage or not enough pits
Traffic Management	• Heavy vehicle access • Speeding and parking issues • School zones

Levels of Service - Performance

Levels of Service help Council meet the community's needs and work towards achieving our strategic goals. They ensure that an asset is fit for purpose, whilst balancing costs and future demands. Service levels of road infrastructure assets is determined through customer expectations, strategic goals and statutory requirements which is divided into two types: community and technical based.

The community targets are a measure of the customers perspective. Past results show an increase in satisfaction for footpaths, carparking, line marking and reduced customer satisfaction with the condition of local roads and drainage.

Technical service levels review quality, function and safety through condition surveys, reliability for access, response times, accidents, and injuries. Measurable technical service levels are in draft format which will be implemented with the revision of Council's Road Management Policy.

Demand - New Infrastructure

Specific government projects that will impact on Council's road network infrastructure include the Regional Jobs Precincts, draft Growth Management Strategy, Casino Place Plans and the Northern Rivers Rail Trail project. The draft Growth Management Strategy[1] identified that the floods of 2022 changed the dynamics of the Northern Rivers with Casino emerging as a strategic centre into the future. This strategy documents planning of growth areas for residential and employment areas throughout the LGA. As the population grows demand for new, and upgrades to existing, essential services including roads will be required.

In May 2022 the NSW Government provided an update to population projection taking into account the COVID-19 pandemic, which resulted in changes to migration patterns to regional NSW. The revised projections model a steady increase with an average population growth of 0.7% per annum. This increase requires planning and consideration for an increase in housing supply and essential public infrastructure including Council's road network.

The Casino Place Plan[2] identifies additional road infrastructure costs of $7.25 million and the active transport network cost of $3.8 million is required to implement the strategic items identified in the plan.

Based on current development applications identified in Table 5-3, the impacts on new road infrastructure such as pavement, surfaces, kerb and channel can be estimated from 2022 to 2037.

Knowing the number of new developments and making assumptions about new infrastructure projections yields the following results.

Future Infrastructure Projections

Asset Type	Existing Assets	New Assets	Total Assets	Forecast Total Replacement Value
Formation	1,073 km	11 km	1,084 km	$65,739,177
Pavement	528 km	11 km	539 km	$168,156,264
Road Seal (Surface)	526 km	11 km	537 km	$44,946,780
Kerb and Channel	145 km	22 km	167 km	$51,663,271
Signs	10,401	461	10,862	$1,431,821
Bus Stops (Route Dependent)	121	15	136	$1,883,678

[1] https://richmondvalley.nsw.gov.au/wp-content/uploads/2022/11/Draft_RV_Growth_Management_Strategy_221124.pdf

[2] https://richmondvalley.nsw.gov.au/wp-content/uploads/2022/11/Draft_Casino_Place_Plan_221123-2.pdf

Demand - Existing Road Infrastructure

Council is undertaking a Road Network Strategy to assist in the planning of road upgrades relevant to changing land use conditions, such as industrial complexes and subdivision developments. The Road Network Strategy will focus on the use and level of service (LoS) supporting priority identification of capital works programming. Council can identify existing roads which carry substantial freight loads which have geometric challenges and will need to be upgraded to cater for this traffic. Most upgrades are in the rural area as transport demands increase.

Flood Recovery

This Roads Asset Management Plan uses baseline condition information from the 2017 revaluation and any capital works and improvements which have been undertaken to date. In February 2022 a catastrophic flood event hit the Northern Rivers Region and had a major effect on the Richmond Valley, with the highest flood levels recorded in history, in some places 2.5m above previous recorded levels. This has had a significant effect on the road network condition. As part of the flood recovery, RVC through the Natural Disaster Recovery Funding process is working to restore the road network to pre-flood condition. As part of the cyclic revaluation of RVC Assets, the road network will be surveyed and re-rated in 2023, and the information compiled from that revaluation survey will then be used in a revision of this plan.

Lifecycle Analysis Road Surfaces

The lifecycle analysis outlined within Section 7 yields the following results in today's dollars.

Asphalt renewal requires a substantial increase in funding to keep the asset condition at a satisfactory level of 2.3 over 25 years. The renewal funding would need to change from current levels of $112,000 per year to $500,000 per year. Equally maintenance funding should be monitored to ensure the current levels of maintenance for asphalt surfaces are effective as well. *Note: This is like for like replacement, where in practice alternative treatments would be explored at a reduced cost.*

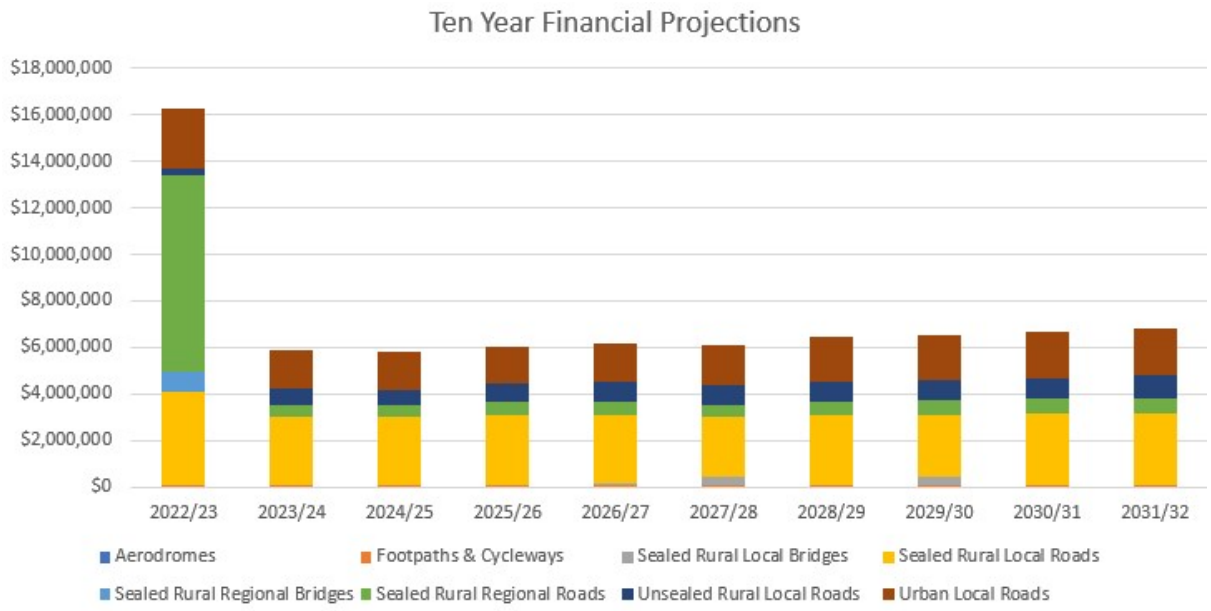
Sealed roads renewal funding is satisfactory with ongoing renewal maintained at the current levels of $1.53M per year for the next five years and $1.79M over the following 20 years. This will ensure the condition remains at 1.9 over the next 25 years. This is largely due to the seal network condition being in a very good condition now.

Unsealed roads funding is satisfactory with ongoing renewal maintained at the current levels of $720,000 per year for the next five years and $530,000 over the following 20 years. The overall condition of the unsealed road network is susceptible to change due to the flood prone nature of the LGA. With current funding and access to Natural Disaster Recover, Council maintains the assets in a good condition.

Ten Year Financial Forecast

The 10-year financial forecast is detailed within ***Appendix G*** for Council's roads including new assets, upgrades, and capital works for each asset group. The 10-year forecasted financial projection (excluding unapproved grant and unapproved disaster funding) is summarised below:

Ten Year Financial Projections



This funding is projected from Council's Long-Term Financial Plan (LTFP). Based upon projected expenditure and asset condition it has been identified that there is a need for:

- Increased drainage budget for rural roads; and
- Increased shoulder grading budget for sealed roads.

Both items above lacking in budget may over time accelerate the deterioration of the road network.

A major issue concerning road infrastructure management is the question of who pays for needed works such as the community through special rates, developer contributions or consumers via recurrent charges.

To overcome this problem there should be available a range of a blended funding options considered:

- General Council rates;
- Special rates or charges schemes;
- Development contributions; and
- Available grants, e.g., special purpose State Government grants.

Council relies on grant income for delivering a range of services to the community of the LGA. Richmond Valley has a relatively small population, with a low socio-economic element which makes deriving funds from rates, fees and charges a challenge. Council has a substantial road network over a large area and funding the renewal and maintenance of this network into the future will remain key.

Over the past five years, Council has received $26.9 million in grant funding for roads, bridges, and footpaths. This includes the untied local roads component of the Financial Assistance Grant.

The current Roads to Recovery Program ends in 2023/2024. There is some uncertainty whether this program will be extended and at what funding levels it will be. Council's Long-Term Financial Plan (LTFP) assumes the program will be extended and funding is budgeted for at the same level as the current annual allocation of $1,002,214 per annum. The amount of grants Council has received for the road network is shown in the table below:

Grant Funding received for Roads

Grant Funding	2017/18 $'000	2018/19 $'000	2019/20 $'000	2020/21 $'000	2021/22 $'000
Financial Assistance Grants (Local Roads)	1,573	1,612	1,650	1,646	2,225
Roads to Recovery	696	705	1,002	1,002	1,002
Regional Roads Block Grant	885	903	920	920	920
Capital Grants	1,366	1,483	1,442	2,345	2,677
Total Grant Funding	4,522	4,703	5,014	5,914	6,825

Asset Management Improvements

The following list of improvements have been extracted from the improvements summarised in Section 9. The list below represents the most important improvements required.

- Continue the capture of data for all road and transport assets and improve condition monitoring.
- Collect the data and complete the valuations for traffic management devices, carparks, and laneways.
- Prepare scope of works for upcoming valuations.
- Implement the criticality framework for the road infrastructure identifying specific critical infrastructure across the LGA with the view to improving the management decisions.
- Complete the identification of the infrastructure risk register for Council's roads, traffic management devices, car parks, kerb and channel, considering current controls, actions and funding required to decrease risk levels.
- Undertake ongoing analysis of future renewal requirements using the condition data.
- Analyse the customer request results to address problem areas and maintain performance.
- Collect and monitor defect histories to identify trends in performance of asset types.
- Increase drainage budget for rural roads.
- Increase budget for shoulder grading for sealed roads.
- Incorporate results of traffic management decision and impacts into this plan.
- Dashboard reporting and analysis on condition data for improved decision making.

1. Introduction

Richmond Valley Council (RVC) is custodian of an extensive range of community infrastructure assets provided to facilitate delivery of services to the residents and community. This includes the roads, bridges, and associated infrastructure for which it has responsibility within the LGA.

Council's "*Register of Public Roads"* provides additional details of each of the roads for which Council is responsible; however, the Register is not an "incorporated document" in this Plan.

This Road Asset Management Plan (RAMP) has been developed to manage Council's road system, taking into consideration the important links provided by the State and Regional road network.

Road assets incorporated within this plan are all public roads owned and maintained by Council. Sealed roads are those that have a bituminous surface to them. Unsealed roads are located predominately within rural areas with a gravel surface. The road network consists of 1,065 km of formed Council public roads with associated infrastructure including:

- 125 bridges;
- 140 km's of kerb and channels;
- 423 traffic management devices; and
- 5,265 m^2 of car parks.

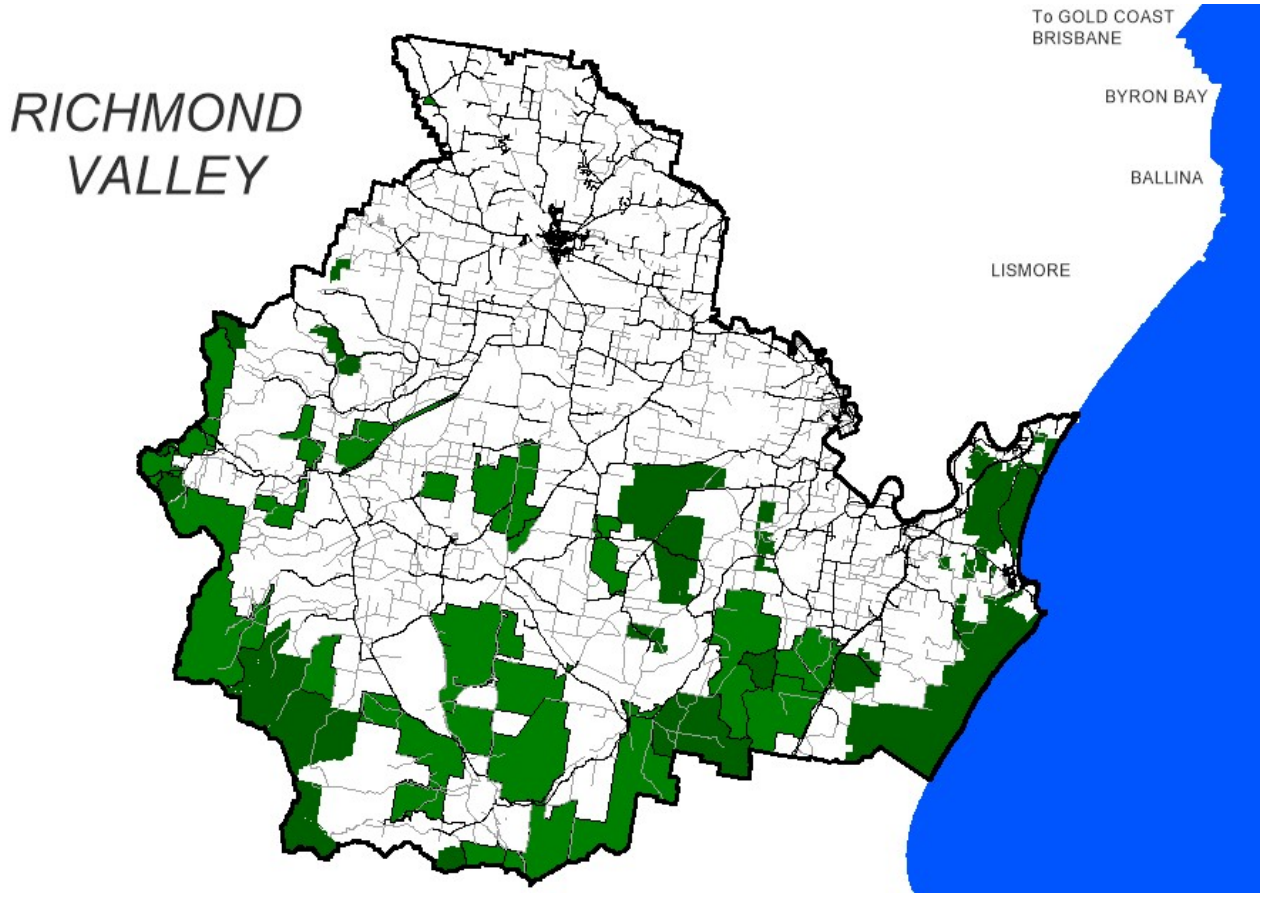


Figure 1-1: Road Network for Richmond Valley Council

1.1 Purpose of this Plan

This RAMP outlines Council's commitments to deliver responsible asset management practices and methodologies which enable the management of the road network and associated infrastructure to an agreed LoS.

In this context the specific objectives of this RAMP are to:

- Demonstrate responsible stewardship;
- Translate Council's strategic goals into road strategies and action plans;
- Determine the services to be provided, the target service standards that Council aims to achieve, and the measures used to monitor the performance of the road network;
- Manage risk of asset failure;
- Achieve savings by optimising whole of life costs; and
- Support long-term financial planning.

This RAMP covers a period of 10 years commencing 1 July 2022. It will be regularly reviewed to ensure its continued relevance and alignment with Council's strategic objectives and reporting frameworks.

1.2 The Asset Management Plan Process

The Asset Management Plan was produced by Odysseus-imc Pty Ltd amended and updated by RVC prior to adoption.

The RAMP translates broad strategic goals and plans into specific goals and objectives directly aligned to the management of Council's Road and Transport infrastructure assets.

The RAMP combines management, financial, engineering, and technical practices to ensure the level of service required by customers is provided at the most economical cost to the community and the environment.

The planning process commences with defining stakeholders needs and Council's legislative obligations, incorporating into Council's Community Strategic Plan. This is reflected in Council's Asset Management Policy, Asset Management Strategy, Asset Management Plans and Operational Delivery Plans which are linked to the LTFP and resourcing strategies.

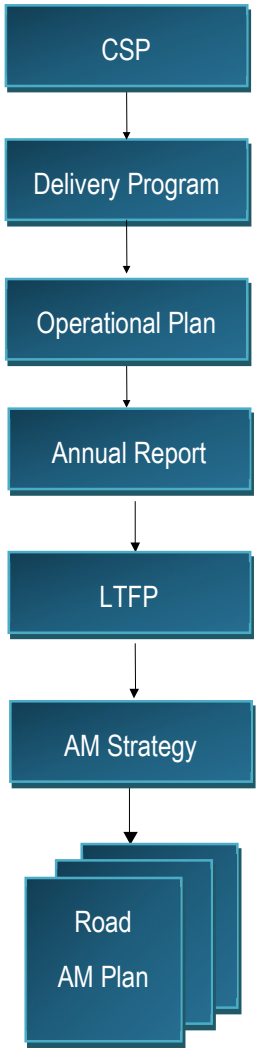
The relationship to corporate planning process is detailed below. The legal framework and relationships to other planning, strategic and documents can be found in Section 1.3 and ***Appendix B***.

1.3 Relationship with the Corporate Planning Process

AM plans are a key component of Council's planning process, linking with the following plans and documents:

Community Strategic Plan: Council's current Community Strategic Plan (CSP) is a three-year recovery plan in response to the 2022 national disaster flooding event. This plan focuses on rebuilding Council's flood affected infrastructure to pre-flood condition. This plan guides Council's strategic direction for the 2022-23 financial year.

A new CSP is proposed to be adopted in 2023 which will identify the community's main priorities and aspirations for the future.



Delivery Program and Operational Plan: The Delivery Program (DP) and Operational Plan (OP) systematically translate the CSP goals into actions. These are the principal activities and individual projects to be undertaken by the Council to implement the strategies established by the CSP within the resources available under the Resourcing Strategy.

The Rebuilding the Richmond Valley Recovery Plan has been adopted as Council's Delivery Program for 2022-23 supported by the 2022-23 Operational Plan.

Annual Report: The Annual Report focuses on the implementation of the DP and OP. The report includes information that is prescribed by the *Local Government Act 1993* and by the Office of Local Government Policy through Integrated Planning and Reporting Framework (IP&R).

Long-Term Financial Plan: The Long-Term Financial Plan (LTFP) is a 10-year rolling plan that informs decision-making and demonstrates how the objectives of the CSP and commitments of the DP and OP will be resourced and funded. The LTFP captures financial implications of asset management and workforce planning.

AM Strategy: The AM Strategy outlines the processes to manage the long-term sustainability of existing and future infrastructure and continuously improve our asset management practices. Council's objective is to allocate resources to provide services at an agreed quality, cost and time by using the optimal asset stock needed to deliver corporate objectives whilst controlling the exposure to risk and loss.

The AM strategy is reviewed every four years in alignment with IP&R planning cycle ensuring a useful and up-to-date management tool and reference document. The current strategy was adopted by Council in September 2022.

The AM strategy aligns with the corporate direction and provides the management direction over the next 10 years.

Richmond Valley Council Policies: The policies are needed to provide direction for the implementation of AM practices. Policies that apply to the management of road assets include the Asset Management Policy, Road Management Policy, Risk Management Policy, Permanent Road Closure Policy, Public Gates and Bypass Policy, Rural Roads Tree Management, and Urban Tree Removal Policy.

1.4 Asset Management Plan Format

This RAMP contains nine sections, each of which are explained in Table 1-1:

Table 1-1: AM Plan Format

SECTION	SUBJECT MATTER
Introduction	Introduction to AM, outlines the purpose, scope and format of the plan, identifies key stakeholders and legislative requirements, and describes the relationship with other plans.
Asset Network	Outlines Council's network of assets including quantity and value.
Strategic Environment	Identifies the current working environment, the strategic and corporate goals with a summary of the documents that support the environment.
Levels of Service	Outlines the levels of service required based on the research of customer expectations, statutory requirements and strategic and corporate goals. It also contains tables detailing expected and current performance measures.
Demand Forecast	Details the future growth trends, the impact of these trends on infrastructure and demand management strategies to deal with the projected growth.
Risk Management	Outlines Council's risk management framework including risk events with their severity and consequence.
Lifecycle Management Plan	Gives an overview of the whole of life management concerning each asset type. For each type it details (where applicable) its current performance, operations plan, maintenance plan, renewal/replacement plan, upgrade/enhancement plan, creation/new works plan and disposal plan.
Financial Summary	Details the 10-year financial forecast with its associated assumptions and discussion. It contains an asset valuation for each asset type and their associated confidence levels. It also outlines Council's funding strategy.
Improvement and Monitoring	Deals with methods of monitoring performance by detailing AM processes, systems, and data. It outlines a 2-year AM improvement plan. It also details procedures for monitoring and reviewing this AM Plan.

Note: *All Asset Management Plans are based on the framework recommended in the Institute of Public Works Engineering Australia's International Infrastructure Management Manual (Australia / New Zealand Edition).*

2. Asset Network

2.1 Our Road Network

The road network consists of 1,065 km of formed Council public roads with a breakdown of approximately 50% sealed and unsealed. The road network includes associated roads and transport infrastructure supporting and complementing public road use. The definitions for each of the asset types in the asset network are:

- **Aerodrome:** Aerodromes include runway seal structure and road seal.
- **Bridges:** Elevated platforms joining roads over a watercourse. Bridges include both vehicle and pedestrian bridges.
- **Bus Shelters:** A roofed structure for residents and community members waiting for public bus transport.
- **Car Parks:** A designated area where cars or other vehicles are left temporarily.
- **Culverts:** A structure to carry water from a drain or waterway crossing under a road**.**
- **Footpath & Cycleways:** A formed track intended for pedestrian public use and/or combined use for bicycle riders.
- **Guard Rails & Terminals:** Guard rails are a safety protection barrier intended to prevent access of vehicles leaving the roadway. Guard terminals anchor the barrier to absorb and mitigate risk of a vehicle impacting the end of the rail.
- **Pavement Unsealed:** Formed roads without a hard, smooth sealed surface.
- **Road Formation:** The surface of finished earthworks and shaping of a road. This includes basic drainage however excludes any stormwater infrastructure.
- **Road Seal Structure:** Road pavements form the structure which are the base for a sealed surface. Generally, a mixture of crushed rock aggregates that compacted to form a sound structural base.
- **Road Seal:** A mixture of gravel and bitumen finishing surface spread over the road seal structure. A road seal assists in creating grip, texture and provides a waterproof surface intended for safe driving and the ongoing pavement protection.
- **Roadside Furniture:** Furniture located alongside the road such as bins, seats, bollards, public lighting, pedestrian fences, flagpoles and bicycle racks.
- **Signs:** Signage associated with the road such as traffic signs, miscellaneous signs, parking signs and street name signs.
- **Surface Drainage:** Road drainage often known as roadside kerb and guttering, weather barrier, concrete with channel, edge strip, mountable, semi mountable and spoon drain.
- **Traffic Management**: Traffic Management Devices including road humps, roundabouts, slow points, splitter islands, school crossings, pedestrian operated signals and crossings and traffic signals.

The road infrastructure and quantities are summarised in Table 2-1 and further details and breakdown of the asset quantities refer to ***Appendix C***.

Table 2-1: Summary of Road Asset Network

Asset Group	Asset Type	Quantity of Road Assets (m2)	Length of Assets (km)	Number
Aerodrome	Road seal surface & structure	30,900	1.03	1
Bridge	Concrete, doolan deck & timber	22,655		125
Bus Shelter	Brick, other, steel & timber	1,154		121
Carpark	Road seal surface and structure	5,265	0.20	3
Culvert	Major & minor culverts		19.59	2,180
Footpaths & Cycleways	Asphalt, bitumen, concrete, pavers & stencilled	137,343	63.24	
Guard Rail & Terminals	Material and product type		15.57	713
Pavement Unsealed	Unsealed road surface	2,308,797	536.80	
Road Formation	Flat, rolling, or mountainous	5,644,202	1,072.55	
Road Seal	Asphalt & bitumen	3,050,326	526.77	
Road Seal Structure	Concrete, gravel & stabilised	3,466,878	528.16	
Roadside Furniture	Bins, seats, bollards, lighting, fencing, etc			580
Signs	Sign panel & structures			10,401
Surface Drainage	Barrier, kerb, gutters, table drains and channels.		140.59	
Traffic Management	Pedestrian refuge, roundabout, speed hump, splitter island	10,461		423

2.2 Road Functional Hierarchy

The road hierarchy is key in the management of the road assets as the road classification that is assigned to each segment of road is used to determine the inspection frequencies, maintenance regimes and standards for new construction.

The road classifications specify each road or ancillary area by road use function, reflects the perceived risk associated with the vehicle and pedestrian usage of each road type and are used to differentiate service levels and maintenance standards.

Supporting roads and transport assets including bridges, kerb and channel, traffic management devices etc are categorised under the correlating road functional hierarchy driving maintenance, critical risk and budget allocation for capital and maintenance programs.

Council's road network hierarchy is divided into two classifications being the Sealed-Unsealed as well as the Urban-Rural network. This is due to the operational specification difference and the maintenance regime required to manage the different classes of road.

Road construction design is to be in accordance with Northern Rivers Local Government Geometric Design specifications[3].Whilst Council acknowledges that roads within the existing network may not be to the required specification widths, where possible Council aims to adopt the design guideline specifications given current geographical limitations.

Council future hierarchy will be identified in the Road Network Strategy incorporating analysis on future demand, growth areas and determination of hierarchy reclassifications.

[3] https://lismore.nsw.gov.au/files/D01-December-2019---further-update.pdf

Sealed Urban Road Network Hierarchy

The sealed urban road network hierarchy is determined by the traffic volume and the typical construction elements such as pavement width as shown in Table 2-2.

Table 2-2: Sealed Urban Road Network Hierarchy

Class Type	Traffic Volume (vehicles/day)	Typical Descriptors	Maximum Speed
AA Regional Roads State Roads	Criteria determined by Transport for NSW		
A Arterial Roads	3000 +	13m wide carriageway Upright kerb 3.5m verge each side 20m road reserve width Footpath one side	60
B Collector Roads Loop Roads	3000	11m wide carriageway Mountable kerb 3.5m verge each side 15-17m road reserve width Footpath one side	50
C Local Collector Roads	2000	7-9m wide carriageway Mountable kerb 3.5m verge each side 18m road reserve width	50
D Local Access Roads	100	6m wide carriageway Mountable kerb 3m verge each side 14m road reserve width	40

Sealed Rural Road Network Hierarchy

Table 2-3: Sealed Rural Road Network Hierarchy

Class Type	Traffic Volume (vehicles/day)	Typical Descriptors
AA Regional Roads State Roads	Criteria determined by Transport for NSW	
A Arterial Roads	1000	7.5m seal 1.5m shoulder
B Collector Roads Loop Roads	50-1000	7m seal 1m shoulder
	150-500	6m seal 1m shoulder
C Local Collector Roads	150	6m seal 0.5m shoulders
D Local Access Roads	Rural residential road	6m seal 1m shoulders

Some roads hierarchy is based upon usage type, e.g. a lower traffic count but a higher number of heavy vehicles. This will put the Class Type up/down depending on the types of vehicles utilising the road network (e.g., chicken farms, quarries, timber mills).

On sealed roads that services bus routes:

- typical road widths are to include minimum 7m wide travelled way with 2m wide indented parking,
- bus bays defined by kerbed protuberances.

Where bicycle ways can be anticipated, a bicycle lane is required along the kerb.

The length and area of road classifications for the whole Council network are provided in ***Appendix C***.

Unsealed Road Network Hierarchy

The unsealed road network hierarchy is determined by the traffic volume and the typical construction elements such as pavement width. The classes of the unsealed road network hierarchy and existing network length are defined in Table 2-4.

Table 2-4: Unsealed Road Network Hierarchy

Unsealed Road Network			
Class Type	**Traffic Volume (Vehicles per day)**	**Typical Descriptors**	**Network Length (km)**
A Gravel Road	Over 120 vehicles per day (high traffic local gravel road, through route, distributor road)	100mm gravel, 4 to 6% fall, 7m wide pavement	160.76
B Gravel Road	45-120 vehicles per day (moderately trafficked local gravel road, local collector road)	75mm gravel, 4 to 6% fall. 6m wide pavement	205.61
C Gravel Road	Up to 45 vehicles per day (minimum standard to be provided to a residence on a council road)	50mm gravel, 4 to 6% cross fall. 5m wide pavement	159.92
D Gravel Road (Earth formation)	Access to non-residence areas that is also a through route, access to geographical features, state forests, etc.	Nil, 4 to 6% cross fall, 4m wide pavement	10.51
E Unconstructed	Nil	Not Council maintained	
F Formed Not Standard	Private driveway or secondary access to properties	Not Council maintained	
G Crown Roads	Not council's responsibility	Not Council maintained	

Class A - The objective for these roads is to maintain a gravel depth of approximately 100mm for the entire length of the roadway. Class A roads are to be trafficable in all weather conditions with sufficient drainage structures to prevent water from crossing the road in minor storm events. Maintenance frequency will be sufficient to maintain to a high LoS.

Class B - The objective of these roads is to maintain a gravel depth of approximately 75mm for the entire length of the roadway. Class B roads are to be trafficable in most weather conditions however it is possible that the

water may cross the road in a minor storm event. Maintenance frequency will be sufficient to maintain a good LoS.

Class C - The objective of these roads is to maintain a gravel depth of approximately 50mm for the entire length of the roadway. Class C roads are to be trafficable in most conditions however water may cross the road in minor storm events and the maintenance interval between treatments could be less than Class A & B. Class C roads may have slippery areas after rainfall events.

Class D - It is accepted this road may be trafficable in dry weather only, gravelling of causeways and hill slopes may occur in problems areas. Maintenance intervals between treatments could be significantly less than Class A & B. Council would expect the community to avoid these roads in wet weather.

Class E - Unconstructed road reserves exist for future planning or part of an historical road network which has become redundant. The road reserves are classified as a public road however no formation exists. It is anticipated that the road is unable to be traversed nor is accessible. These roads are identified as part of the network however do not form part of the maintenance and management regime for Council.

Class F - Private driveway or secondary access to properties that have been privately constructed within Council's public road reserve are classified as Council non-maintained roads. These roads are identified as part of the network however do not form part of the maintenance and management regime for Council.

Class G - Formed Crown roads are not part of Council's ownership or maintenance responsibility hence are excluded from Council's asset road register and hierarchy. Some residents and properties utilise formed Crown roads as part of the sole legal road network linking to Council's road network. These roads are identified as part of the network however do not form part of the maintenance and management regime for Council.

The length and area of unsealed road classifications for the whole Council network are provided in Table 2-4. Details for Class E, F & G are excluded.

2.3 Asset Performance

Council monitors and models the condition of roads through inspections, revaluation processes and maintenance treatments. Condition information is compiled and kept in Asset Master system. Reporting and extracts of this data contributes to the development of works programs.

Performance monitoring of the road pavement includes:

- Condition assessments;
- Customer requests; and
- Maintenance inspections.

2.3.1 Condition Assessments

Full network condition assessments are conducted every five years through the statutory revaluation process. Limitations exist on reliability of current road condition information for decision making specifically after disaster events across the entire network. The condition assessment of the road network was based upon assessment completed 2017-2018.

Following the February 2022 natural disaster ARRB have been engaged to conduct condition assessment of the whole sealed network in 2023. This information will be utilised as part of the next revaluation and condition assessment of the sealed road network.

Council is trialling 'Go-Pro' devices for video condition assessments of the road network to support future disaster evidence-based data capture. Pending technological advancements with automated technology this information with be condition assessed using efficient programmable technology aiming for more frequent assessments.

Interim condition assessment is planned via a visual inspection and will take into consideration

- Geometry meets the current hierarchy and typical cross section;
- Safety, sight distances and speed design and braking;
- Rideability – surface deflection, potholes, repairs; and
- Drainage – serviceability, turnouts and culvert size.

The following graphs identify the overall road network by condition, and the associated tables identify assets currently identified for renewal via condition rating. Condition scores and evaluation methodology is referenced in ***Appendix D.***

Road Seal

Figure 2-1: Quanity and Condition Sealed Roads by Total Replacement Cost

Table 2-5: Sealed Road Assets Requiring Renewal (as at July 2022)

Condition Rating	Asset Description Road Seal	Replacement Cost
5	Church Lane (4 segments)	$12,478
5	Coraki Ellangowan Rd (2 segments)	$119,774
4.5	Maple Ln (2 segments)	$37,712
4.5	66405 - Hills Rd	$6,222
4.5	Bridge St (2 segments)	$4,818
4.5	66339 - Eversons Ln	$3,120
4.5	67596 – Jabiru Ln	$2,207
4.5	66963 – Mawson St	$1,168
	TOTAL	$187,498

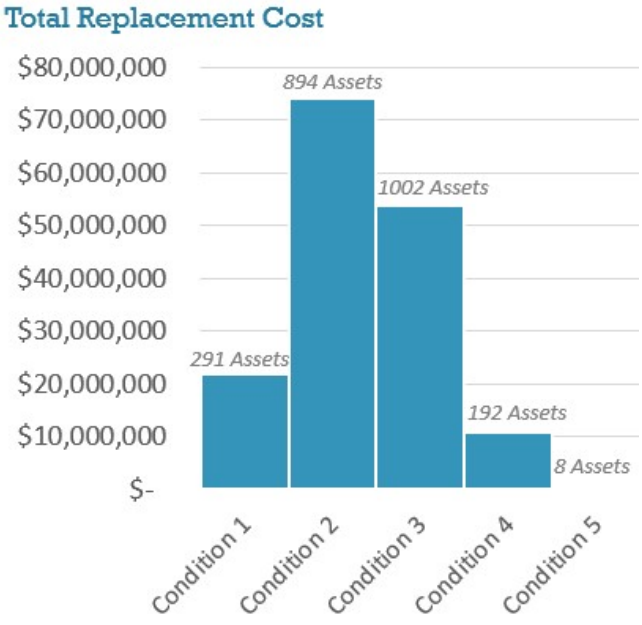


Figure 2-2: Quanity and Condition Road Seal Structure by Total Replacement Cost

Road Seal Structure

Table 2-6: Sealed Road Structure Assets Requiring Renewal

Condition Rating	Asset Description Road Seal Structure	Replacement Cost
5	15812 - Church Lane	$7,188
5	17073 – Church Lane	$19,829
5	17075 – Church Lane	$5,743
5	17076 – Church Lane	$27,871
5	15841 - Coraki Ellangowan Rd	$409,412
5	17383 - Coraki Ellangowan Rd	$91,383
5	17105 - Mcconnell Ln	$12,019
5	17927 – Mcconnell Ln	$6,752
	TOTAL	$580,197

Bridges

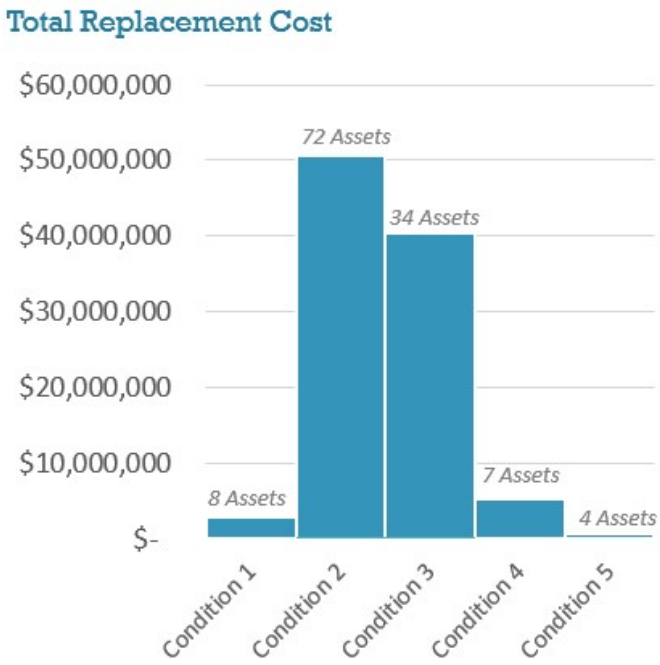


Figure 2-3: Quanity and Condition of Bridges by Total Replacement Cost

Table 2-7: Bridge Assets Requiring Renewal

Condition Rating	Asset Description Road Seal Structure	Replacement Cost
5	* 10005 - Sandy Creek Bridge No. 1	$199,438
5	* 10012 - Unnamed Bridge (Bora Codrington Rd)	$113,021
5	* 10022 - Camira Creek Bridge	$187,799
5	* 10073 - Disputed Plains Bridge	$176,975
4	10004 - Sandy Creek Bridge No. 2	$200,678
4	10088 - Sandy Creek Bridge	$461,662
4	10080 - Deep Creek Bridge	$3,078,553
4	10082 - Spring Gully Bridge	$1,168,019
4	* 10023 - Unnamed Bridge (Elliots Rd)	$149,529
4	* 82525 - J. T. R. Smalls Bridge	$158,465
	TOTAL	$5.89 Mil

* These works are either currently being undertaken or programmed in the imminent capital works program.

Unsealed Roads

The unsealed gravel road network has a fluid condition profile, with weather events and heavy vehicle use affecting the overlaying gravel surface in isolation, and at various rates of deterioration at any given time.

Council has developed a road hierarchy and a rotational grading program which relates to use and strategic locality of individual roads, to address the fluctuating condition of gravel surfaces.

As at the time of this report, condition ratings have not been adjusted for flood damaged assets.

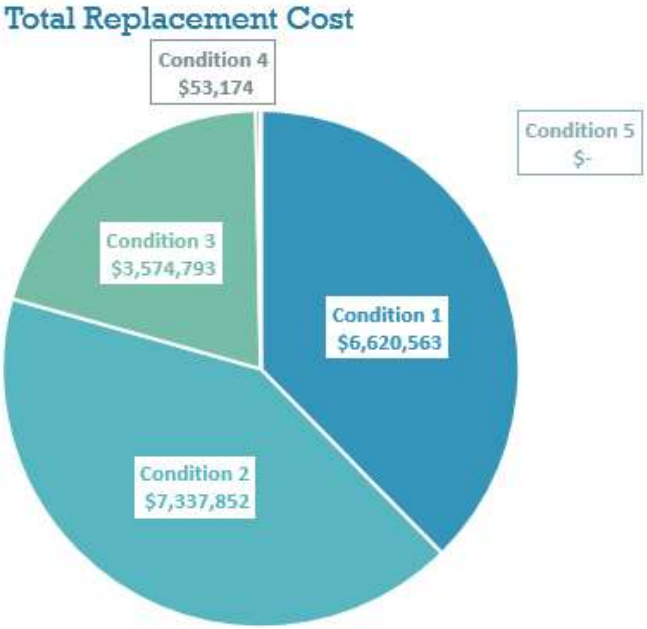


Figure 2-4: Condition of Unsealed Roads by Total Replacement Cost

Footpaths and Cycleways

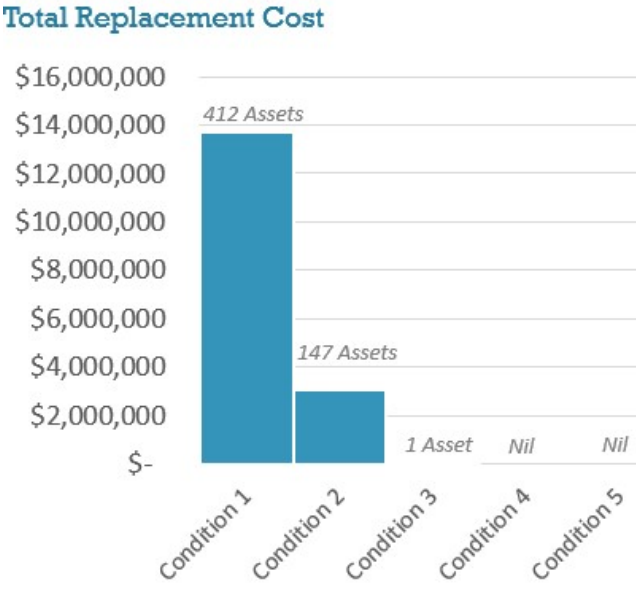


Figure 2-5: Quanity and Condition of Footpaths and Cycleways by Total Replacement Cost

There are currently no footpath/cycleways assets identified as requiring renewal based on recorded condition rating.

The condition score is based on the entirety of an asset, patches and maintenance will continue to be ongoing for faults including minor maintenance as part of the annual inspection program.

2.3.2 Customer Requests

Customer requests are used as a measure of asset performance. Road infrastructure related customer requests received over the past three years are included in the Table 2-8.

Table 2-8: Road Infrastructure Related Customer Requests

Asset Type	Request Type	2018/2019	2019/2020	2020/2021	2021/2022	Total No.	Trends
Roads	Culvert	8	15	14	15	52	↔
	Damage to road surface	181	189	326	788	1484	↑
	Grading	173	306	304	113	896	↘
	Guard rail	1	-	1	0	2	↔
	Line-marking	-	2	0	0	2	↔
	Oil/Spill/obstruction	35	61	24	39	159	↔
	Roadside furniture	76	94	93	116	379	↗
	Street cleaning	9	6	18	4	37	↘
	Street sweeping	16	8	21	7	52	↘
Bridges	Sealed road	11	13	9	11	44	↔
	Unsealed road	2	4	6	1	13	↘
Footpath / Cycleways	Hazard	40	46	59	21	166	↘
	Maintenance	40	45	44	19	148	↘
	Obstruction	6	6	12	3	27	↘
Surface Drainage (Kerb & Gutter)	Maintenance	6	11	7	4	28	↘
Bus Shelters	Improvements	1	4	4	0	9	↘
	Maintenance	10	4	**9**	2	25	↘

Trend Legend:

↑	Consistent increase in customer requests	↔	No real change in customer request levels
↘	Customer requests trending lower	↗	Customer requests trending higher

It can be observed from Table 2-8 that requests have increased for damage to road surface and grading. This can be mainly attributed to the natural disasters (flooding) which has occurred during that timeframe which dramatically affected the road network.

2.3.3 Traffic Accidents

Traffic accidents are considered in the AM Plan as they may be used as a measure of the road performance under certain circumstances e.g., they either directly or indirectly are the cause of the accidents. While the LGA records data about the accidents, the current data is insufficient to determine if the roads or the environment result in the accidents occurring. Figure 2-6: Traffic Accidents State, Regional and Collector Roads 2016 - 2020

Figure 2-6 identifies all the accidents recorded between 2016 – 2020 colour coded based on the type of injury that occurred by Transport for NSW accident classification:

- Fatal (8).
- Injury (192); and
- Non-casualty (57).

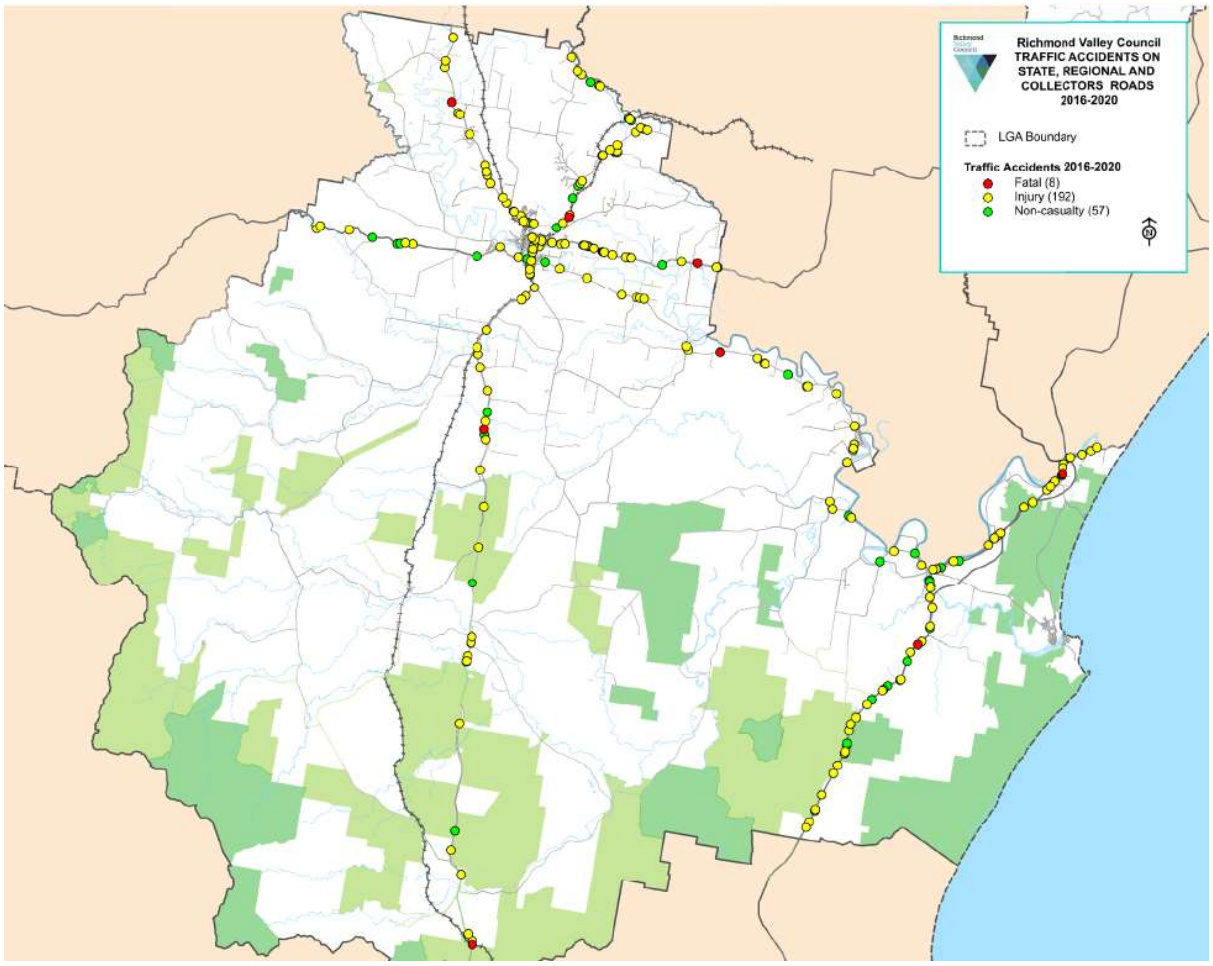


Figure 2-6: Traffic Accidents State, Regional and Collector Roads 2016 - 2020[4]

Further analysis removing all accidents on State and Regional roads provides the following results for Council's local road network as shown in Figure 2-7:

- Fatal (4).
- Injury (96); and

[4] Source – Transport for NSW Traffic Accidents

- Non-casualty (26).

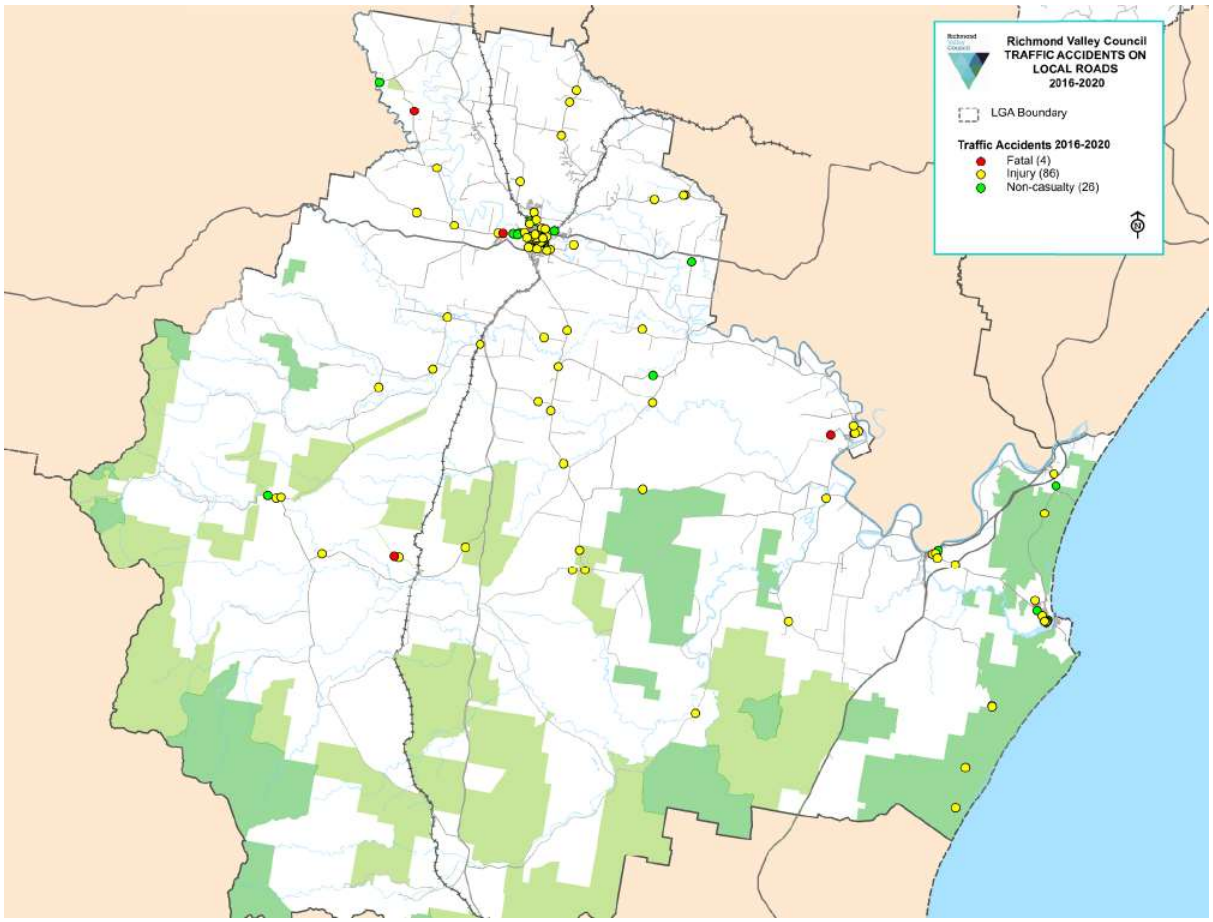


Figure 2-7: Traffic Accidents Local Roads 2016 – 2020[5]

Fatal accidents appear to have occurred in isolated locations around the LGA while most non-casualty accidents are clumped together in and around Casino. Approximately 50% of personal injury accidents are grouped within Casino while the remaining 50% are spread across the LGA.

Council has the capacity for further analysis of the traffic accident data via various parameters which include:

- Time of day.
- Weather conditions.
- Sight distance.
- Gradient of road.
- Condition of road.
- Speed limit.
- Width of road.
- Condition of road shoulder.
- Cross-section grade.

The analysis may assist with network improvements and future planning considerations.

[5] Source – Transport for NSW Traffic Accidents

3. Strategic Environment

It is essential that the AM plan and associated practices align with the strategic direction identified by Council.

3.1 Corporate Vision

The following Vision and Mission are the basis of Council's strategic direction and reflect the input received from the community as part of the Community Strategic Plan processes.

Council's vision is:

A collaborative community working together to advance a resilient and robust economy which reflects a strong sense of community, successful businesses and a healthy environment.

Council's mission is:

To protect and improve the quality of life for our community, and for future generations.

Richmond Valley's three-year recovery plan in response to the 2022 floods focuses on rebuilding Council's flood affected infrastructure to pre-flood condition. Council will target funding through natural disaster funding, government grants, and utilising Council's existing insurance. Part of the rebuilding process includes improving resilience and developing systems and processes to assist in supporting the community should future disasters occur. This will include streamlining Council's processes for grants and claims based upon industry best practice, business needs, reviews of the existing impacts and business processes. This plan will guide Council's strategic direction for the 2022-23 financial year until the revised Community Strategic Plan 2040 is completed.

Asset Management Principles

The following guiding principles (which are regarded as essential elements for good local government) are to be utilised as part of the everyday decision-making processes, actions, and management of RVC:

- good governance (delivers good performance, minimizes risks, ensures transparency and accountability and promotes efficiency and effectiveness).
- representative democracy and community support (Council's direction/activities are to broadly reflect its community demographics and to have community support).
- sound policy (a strong and sustainable LGA requires clear direction via a policy and planning framework).
- sufficient resources (a vibrant LGA needs human and financial resources to implement its decisions and to fulfil statutory obligations).
- meaningful planning (planning is a process to translate community needs and aspirations into Council services. To be meaningful plans must result in actions and outcomes for the community).

- connectivity (a strong local government environment requires a high level of connectivity across all the community).
- strong leadership (effective local government and outcomes can only be achieved via strong community leadership through Councillors and staff).

Values

Council's Community Strategic Plan 2030 developed through various community engagement processes, identified a range of "values" that the community sought to retain into the future; these are summarised in the following:

- Leadership
- Accessibility
- Transparency
- Good Service
- Sustainability
- Innovation

3.2 Strategic and Corporate Goals related to Road Infrastructure

During the 2022 Flood Natural Disaster it was estimated $100 million in damages was caused to local roads and bridges infrastructure and it is anticipated it will take over three years to repair all the damage.

One key core objective of the '*Rebuilding the Richmond Valley Recovery Plan'* is to:

Objective #3 - Restore the Richmond Valley's Road Network

The Objectives of relevance to this AM plan include:

- Develop and deliver three-year capital works, maintenance and inspection program for road, bridge and culvert across road network.
- Rebuild and repair damaged roads, bridges and culverts.
- Advocate for additional road funding from all levels of government.
- Ensure adequate maintenance and renewal of roads, footpaths, and cycleways.
- Advocate for and provide a safe and integrated traffic, bicycle and pedestrian network.
- Partner with the State Government to grow freight links along the Summerland Way and Bruxner Highway.

Progress against these objectives will be measured by community satisfaction, road maintenance, road repairs and traffic management.

3.2.1 Annual Report

Council has a statutory obligation and community interest to present annual reports that communicate performance against targets, outcomes, efficiency and cost effectiveness over time. This includes presenting details on how Council has managed community infrastructure and delivered services to the community. Details of Council's business area and services are provided in Table 3-1.

Table 3-1: Council Plan Priorities and Actions

Business Area	Description of Services Provided
Roads and Drainage	Maintenance, renewal and construction of roads, drainage, kerb and channel, footpaths, bridges, major culverts and roadside furniture.
Infrastructure Services	Survey, design and specification for capital and renewal projects.
Open Space, Facilities and Cemeteries	Street cleaning and tree maintenance.
Asset Planning	Asset information compilation, database management, mapping, condition assessments and works prioritisation and programming, financial reporting, valuations. Grant funding. Road network management, e.g. Heavy vehicle access and pedestrian access mobility planning. Road network safety reviews and representation.
Projects and Performance	Specification, tendering and delivery of major capital works projects

Key initiatives associated with the road network include:

- Further develop an integrated approach to asset management including roads, drains, and footpaths that is consistent with National Asset Management frameworks.
- Deliver the Richmond Valley Recovery Plan (Delivery program).
- Deliver the 2022-2023 Operational Plan.
- Deliver the Roads, Drainage and Footpath Program; and
- Finalise the Road Network Strategy.

A service performance outcome indicator will be the community satisfaction rating out of 100 with how Council has performed on the condition of local roads.

The Annual Report further identifies achievements for the road infrastructure attributed to each department:

- The 2021-2022 Roads, Drainage and Footpath Program was completed and the Capital Works Program achieved an 80 per cent target completion.

3.2.2 Asset Management Policy, 2022

This policy acknowledges that management of the community's several hundred million dollars' worth of infrastructure assets is a core function of the Council and that sound asset management is essential to enable the Council to meet its responsibilities for:

- Delivering high quality services to current and future communities.
- Providing and maintaining community infrastructure.
- Ensuring financial sustainability; and
- Encouraging and supporting the economic and social development of the LGA.

Key objectives of the policy include:

- Provide an appropriate LoS to meet the communities needs and expectations in a financially sustainable manner.
- Undertaking a whole of life approach to asset management, recognising assets must be planned, maintained and renewed so that they continue to meet the service delivery needs of the community within the context of providing best value to the community.
- Ensuring Council has the knowledge and information required for long-term risk management of public infrastructure.
- Ensuring Council is meeting statutory requirements of asset management linking to the Integrated Planning & Reporting Planning framework.
- The implementation and maintenance of an Asset Management system (Asset Master) which supports all Asset Management Practices. It is a combination of processes, data and software applied to provide the essential outputs for effective asset management such as reduced risk and optimum infrastructure investment. The asset management system links to other information systems within Council such as the property system, geographic information system (GIS), finance system, and document management system, integrating asset management with all of Council's operations.

3.2.3 Northern Rivers Local Government Development Design and Construction Guidelines

- Richmond Valley forms part of the Northern Rivers Local Government Council's who jointly developed design and construction guidelines to standardise infrastructure requirements throughout the NSW Northern Rivers. The 'Development and Design Manual' is a regional approach for development standards for infrastructure design and construction for roads, bridges, footpaths, pavement, and drainage which has been incorporated into Council's road and transport assets including road design, hierarchy, and is incorporated into Council's Road Management Policy.

3.3 Key Stakeholders

This plan recognises the following key stakeholders as outlined in Table 3-2.

Table 3-2: Stakeholders

External	Internal
The community, including residents, road users and ratepayers	Councillors
Pedestrians	Executives
Government agencies including Emergency Services	Managers
Developers	Personnel
Contractors/suppliers	Field workers
Utility providers	Assets Department
Insurers	Finance Department
Special interest groups	Operations Department
Tourists and visitors	Customer Service Area

This plan will demonstrate to the various stakeholders that *'Council is managing its road assets responsibility'*. The above list does not exclude the role and interest of other stakeholders.

4. Levels of Service

This section defines the service levels or performance standards of road assets that are required and the basis of the decision behind their selection. The service levels support Council's strategic goals and are based on customer expectations and statutory requirements.

One of the objectives of this AM plan is to match the level of service (LoS) provided by the asset with the expectations of customers. This requires a clear understanding of customers' needs and preferences. The levels of service defined in this Section will be used:

- To inform customers of the characteristics and LoS to be offered.
- As a focus for the AM strategy developed to deliver the required LoS.
- As a measure of the effectiveness of this AM plan.
- To identify the costs and benefits of the services offered; and
- To enable customers to assess suitability, affordability and equity of the services offered.

The adopted LoS for assets are based on staff knowledge and:

- **Customer Research and Expectations**: Information gathered from customers on expected quality and cost of services.
- **Strategic and Corporate Goals**: Provides guidelines for the scope of current and future services offered, the manner of service delivery and define specific LoS which Council wishes to achieve.
- **Statutory Requirements**: Environmental standards, Regulations, Acts and Council Policies that impact on the way assets are managed i.e., road regulations, road safety legislation. These requirements set the minimum LoS that must be provided.

Service levels are divided into two types being Community and Technical based. Setting key performance indicators allows Council to monitor progress and measure performance. Community based service levels relate to the function of the service and needs to be in line with customers' expectations as part of service delivery. Technical based LoS supports the process to meet community expectations.

4.1 Customer Research and Expectations

Understanding customer expectations is key to defining LoS and prioritising works across multiple asset types. This understanding will be balanced against legislative requirements, ability of obtaining funding through grant processes as well as the customers' ability/willingness to pay.

4.1.1 Customer Research

Customer research is carried out through several formal and informal processes within Council. Many opportunities exist for the community to provide valuable feedback on current asset LoS. Either by face-to-face contact or by telephone, letters, or e-mail etc.

In 2021 Council engaged Micromex to conduct the RVC Community research. At an overall level, residents expressed a 'moderate' level of satisfaction with the performance of Council, with 86% of the respondents giving a rating of 'somewhat satisfied' to 'very satisfied'. Only 14% of residents indicated that they were 'not very satisfied' or 'not at all satisfied' with Council's performance. The Micromex Customer Survey report provides some comparisons against the regional benchmark which has been developed across 39 Regional Council's throughout NSW. Compared to an 'All of NSW' measure for Metropolitan and Regional Council's, Richmond Valley Council's performance is in line with Regional Benchmarks. Customer survey results are represented in Table 4-1.

Table 4-1: Community Survey Results

PERFORMANCE MEASURES	Customer Survey Satisfaction Results 2013	Customer Survey Satisfaction Results 2016	Customer Survey Satisfaction Results 2021
Overall satisfaction with performance	82%	94%	86%
Economic development and local employment	2.95	3.37	3.40
Financial management	3.08	3.41	3.28
Long term town planning	3.12	3.26	3.24
Community consultation	3.10	3.17	3.31
Maintaining local roads	2.77	2.81	2.64

Satisfaction Legend:

1.99 or lower	Very Low	2.00-2.49	Low
2.50-2.99	Moderately Low	3.00-3.59	Moderate
3.60-3.89	Moderately High	3.90-4.19	High
4.20-4.49	Very High	4.50 +	Extreme

Key issues related to road infrastructure identified by the community were:

- Maintenance and repairs of sealed local roads.
- Maintaining footpaths.
- Stormwater management.
- Provision of parking facilities.

- **Table 4-2: Level of Service – Trends**

PERFORMANCE INDICATOR	SERVICE LEVEL CHARACTERISTIC	2013	2016	2021	TREND	COMMENTS
Community Customer Satisfaction	Maintaining local roads	2.77	2.81	2.64	↘	This is the most important element to the community within the survey, and the lower result reflects the challenges Council has faced with flood damaged roads.
Community Customer Satisfaction	Maintaining footpaths	3.22	3.32	3.58	↑	The improvement in this score could be attributed to the investment in shared cycleways and footpaths network linkages within townships.
Community Customer Satisfaction	Car parking	3.06	3.43	3.53	↑	This reflects the major investment in carparking and line marking within Casino and Evans Head.
Community Customer Satisfaction	Maintaining guttering and drainage	3.35	3.63	3.10	↘	While there has been substantial works undertaken over the survey period, an increase in storms and flash flooding has influenced this score.
Community Customer Satisfaction	Attractiveness of town centres	3.48	3.40	3.49	↔	Status quo remains; however, Council is looking to improve the appearance and functionality of streetscapes, towns and villages.

Trend Legend:

Performance Measurement - 1 = not at all satisfied, 5 = very satisfied

↑	Consistent improvement	↔	No real change in community satisfaction levels	↘	Initial satisfaction then trending negative

4.1.2 Customer Expectations

The specific community LoS expectations are captured in the CSP and further demonstrated in Council's Recovery Plan. The typical customer expectation considered in determining the LoS are explored within Table 4-3.

Table 4-3: Typical community expectations for roads

Community LOS	Community Expectation
Safety	Roads are safe with appropriate speed limits to minimise injuries and number of accidents.
Quality	Maintenance is undertaken regularly to maintain an appropriate condition. Driver comfort and vehicle wear/tear is considered in pavement condition.
Quantity	Roads have the current service capacity to meet the communities needs with provision for future forecast demands.
Reliability	Access roads are unimpeded with appropriate detours during road closures.
Service Cost	Lifecycle costs are managed to deliver services within budget constraints.
Legislative Compliance	Compliance with all relevant applicable legislation

4.2 Target Customer Levels of Service

Council has not previously pre-defined formal technical LoS for road network infrastructure. The LoS in the Table 4.4 are currently in initial form. Council plans to consistently measure and test these LoS in consultation with the community. Monitoring the LoS for a period enables an assessment of achievable targets and measured performance. Council has developed the following LoS with community expectations in mind which will be reviewed as part of the planning framework schedule.

Table 4-4: Customer Level of Service – Roads

Service Attribute	Service Level Characteristic	Performance Measurement Process	Current Performance	Expected Position in 10 Years based on Current LTFP
QUALITY	Roads with minimal undulation. Extent of pavement failures (potholes/cracks). Footpaths with minimal failures. Guttering and drainage do not pond water. Look well maintained. Responsiveness.	Condition surveys. Community Surveys. Customer requests – Council's CRM system (TechnologyOne) Response time taken to inspect failures.	Road Network assessed through Natural Disaster Recovery Process. Condition survey to be reinspected 2023/2024. To be provided from the Community Survey.	Aim for reduction in requests. At minimum requests received should not increase relative to a percentage of network.
FUNCTION	Provide roads that meet needs for all types of vehicles and other users. Provide access to facilities and public transport. Accessible to all abilities. Water drained by kerb & gutter.	Reliability of access for all types of vehicles and decrease complaints about potholes. Reduce number of roads that fall below condition rating 3. Community Surveys. Customer requests – Council's CRM system (TechnologyOne).	Road network assessed through Natural Disaster Recovery Process. Condition survey to be reinspected 2023/2024. To be provided from the Community Survey.	Aim for reduction in requests. At minimum maintenance requests received should not increase annually.
SAFETY	Footpaths should be free from hazards such as raised edges or severe cracking. Minimise traffic congestion on local roads. No traffic hazards. Safe driving conditions.	Condition surveys. Potholes, surface failure reinstated. Number of injury accidents (Accident History). Response time taken to respond to unsafe issues. Complaints regarding volume and speeding vehicles.	Traffic accident monitoring. Condition survey to be reinspected 2023/2024. To be provided from the Community Survey.	Accidents attributable to footpath condition should be reduced annually. Vehicles travelling on or below speed limit. Aim for reduction in requests. At minimum requests received should not increase relative to a percentage of network.

4.3 Target Technical Levels of Service

The technical LoS support the customer service levels being operational or technical KPIs. The desired position is identified in Table 4-5. The measure relates to allocation of resources to service activities including:

- Operations – Regular activities to provide services (eg inspections).
- Maintenance – Activities necessary to retain asset to an appropriate service condition. Maintenance activities enable an asset to provide service for its planning life (eg patching, grading).
- Renewals – Activities to return service capability of an asset (eg road resurfacing, pavement reconstruction).
- Upgrade/New – Activities to provide a higher LoS (eg widening road, sealing an unsealed road, new road construction).

Table 4-5: Technical Level of Service – Roads

Service Attribute	Service Level Objective	Performance Measurement Process	Current Performance	Expected Position in 10 Years based on Current LTFP
OPERATIONS	Ensure services provided are best value for money.	Number of complaints potholes, footpaths and kerb damage.	Ad hoc based on CRM from community and staff.	Maintenance/renewals implemented optimal times achieving best value for money.
MAINTENANCE	Ensure road infrastructure is well maintained.	Quantity of work (eg number potholes repaired, area of patching)	Ad hoc based on CRM from community and staff. Condition survey (eg footpath).	Formalised program of works for road network assets infrastructure.
RENEWAL	Maintain safe and effective road network for all users.	Delivery annual road renewal program on budget and time.	Determined from road assets condition 3 rating or below.	Intervene when road asset condition declining to an unserviceable state and start to decline in condition.
UPGRADE/NEW	Develop and maintain a safe and sufficient road network. Upgrade only if need arises.	Monitor to determine upgrade requirements.	New roads are inherited or contributed through development or subdivision.	All road assets meet the capacity and safety requirements of the community.

4.4 Performance Management

Council will be required to improve system, process and technology for ease of measuring and monitoring performance and LoS deliverables. This includes improved links to Council's customer request system which is operating as the maintenance system and/or upgrading systems for recording regular maintenance activities. The current CRM system is very difficult to extract reporting data used for accurate performance measurements. Additional improved KPI and dashboard reporting will aid monitoring performance decision making in managing Council's road network infrastructure into the future.

5. Demand Forecast

Council's fundamental role is to provide services to the community and its road assets are a means to support this. Consequently, future demand for road and associated road assets are tied to the demand for Council's services and this is a more complex consideration than population growth. Issues such as changing demands for services, changing mixes in the balance between public and private service provisions including changing community expectations of service levels.

5.1 Demand Drivers

Demographic factors that may influence the need for new or improved road infrastructure include things such as population, changes to regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer expectations, technology changes, economic factors, agriculture practices, environmental factors and future development.

Specific government projects that will impact on Council's Road network infrastructure in the future include activities such as the Regional Jobs Precincts, draft Growth Management Strategy, and Northern Rivers Rail Trail project implementations. The draft Growth Management Study identified that the floods of 2022 changed the dynamics of the Northern Rivers with Casino emerging as a strategic centre into the future.

5.2 Demand Forecast

In May 2022 the NSW Government provided an update to population projection including the COVID-19 pandemic, which resulted in changes to migration patterns in regional NSW. The revised projections model a steady increase with an average population growth of 0.7% per annum. This increase requires planning and consideration for increase housing supply and essential public infrastructure including Council's road network.

Table 5-1 identifies the projected population changes based upon DPE Population Projects and GYDE Consulting. The areas identified are referenced in the population statistical areas shown in Figure 5-1.

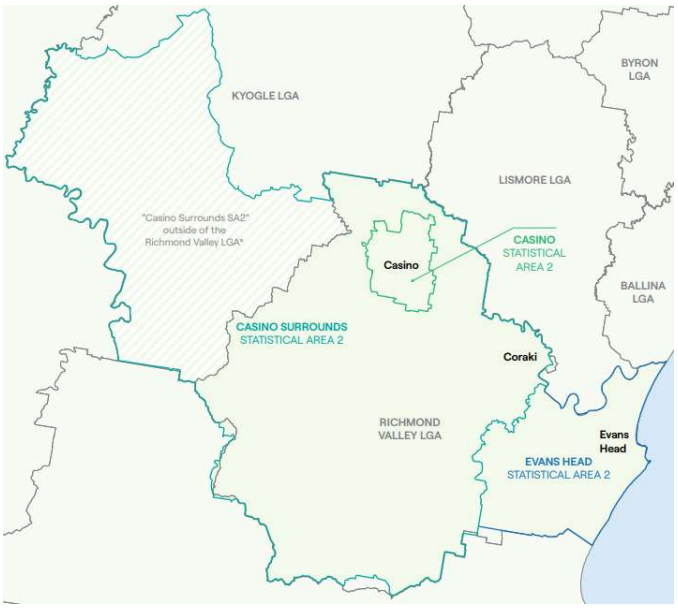


Figure 5-1: Population Statistical Areas

Table 5-1: Population Change 2021– 2031[6]

Area	Population 2021	Population 2031	Population 2041	% Change
Casino (SA2)	12,595	14,400	16,700	1.42%
Evans Head (SA2)	5,560	5,750	5,900	0.3%
Casino Surrounds (SA2)	5,395	5,250	5,050	-0.33%
TOTAL	23,550	25,400	27,650	0.81%

[6] Source: Draft Growth Management Strategy, GYDE Consulting, November 2022.

The Regional Job Precinct (RJP) is the NSW Government initiative identifying Casino for a special activation precinct by fast tracking planning to drive growth, investment and development opportunities. The target is to unlock new industrial lands and create jobs within the region. The RJP areas in alignment with the draft Growth Management Strategy are shown in Figure 5-2.

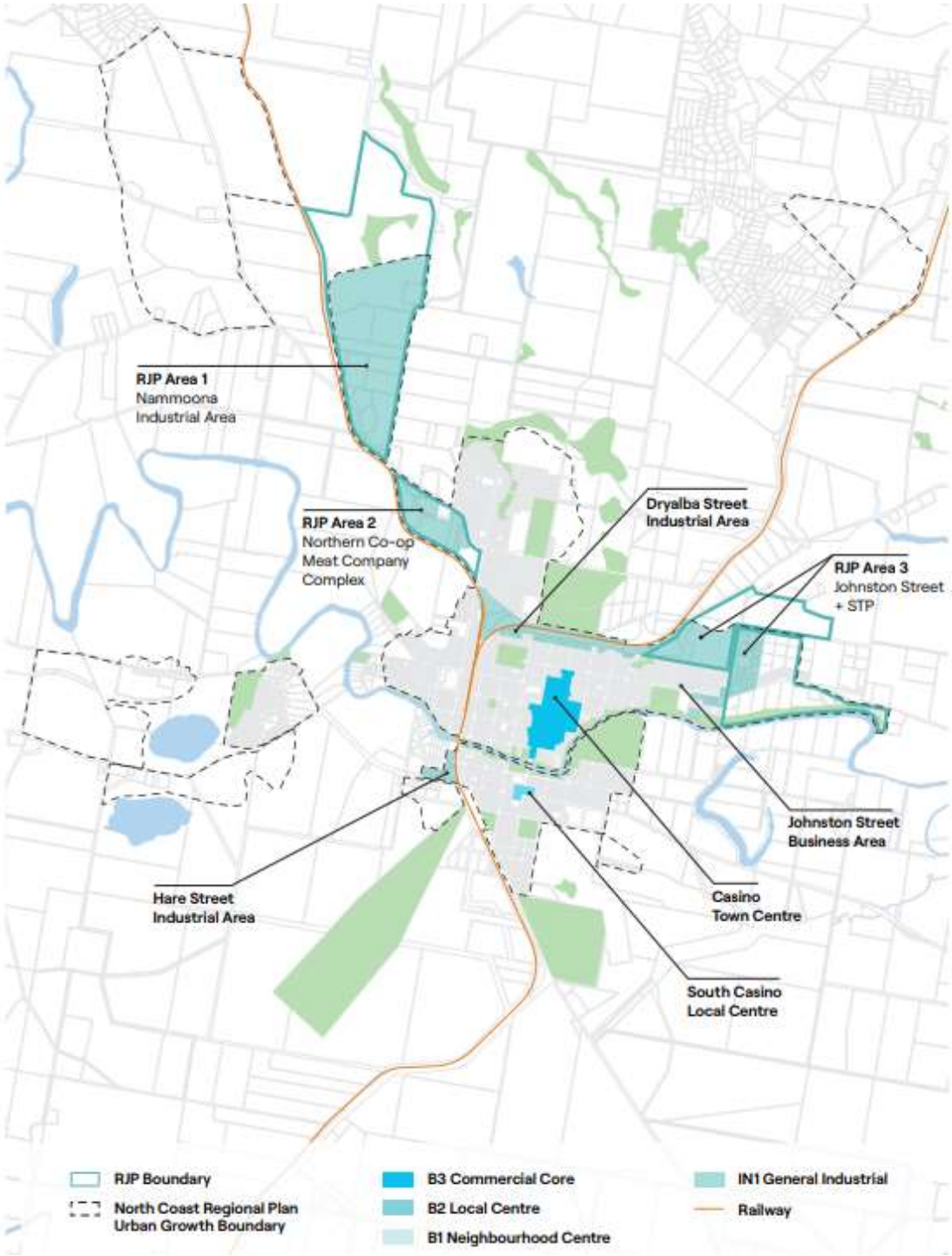


Figure 5-2: Regional Jobs Precinct and Draft Growth Strategy Areas.

The draft Casino Place Plan provides planning towards supporting growth for population, employment and housing. It is recognised than an estimated $7.25 million is required in new road infrastructure to service the residential investigation areas identified from the growth strategy.

The development areas at the time of this plan are identified in Table 5-2: Recent Developments

The areas in conjunction with the status of the development areas are identified in Table 5-3: Status of Existing Developments Using this information, the impacts on existing and new infrastructure can be identified and discussed further in 5.3 Demand Impact on Assets.

Table 5-2: Recent Developments

Development Area	Year Start	Year Finish	Dwellings / Lots	Status type
Eucalypt Drive, Swan Bay	2014	2018	14 lots	Constructed
Casuarina Drive, Swan Bay	2014	2018	8 lots	Constructed
Moonem View Drive, Swan Bay	2014	2018	4 lots	Constructed
Grevillea Place, Swan Bay	2015	2018	5 lots	Constructed
Currajong Street, Evans Head	2011	2018	20 lots	Constructed
Verulam View, North Casino	2018	2020	18 lots	Constructed
Kimberley Place, Casino	2021	2021	4 lots	Constructed
Canning Drive, Casino	2022	2022	28 lots	Constructed
George Street, Broadwater (stage 1)	2019	2022	27 lots	Constructed
Industrial Land, Reynolds Road, Casino	2022	2022	13 lots	Approved / Under construction

Development that will result in the need for new or upgraded roads and related infrastructure are listed in Table 5-3:

Table 5-3: Status of Existing Developments

Development Area	Year Start	Dwellings / Lots	Status type
Iron Gates, Evans Head		178 lots,	Refused, Decision pending appeal.
Reardons Lane, Swan Bay	2017	58 lots	Stage 1 Constructed, Stage 2 Approved / Under construction
Currajong Street, Evans Head	2017	199	Approved / Under construction
George Street, Broadwater – (Stage 2)	2019	42 lots	Stage 1 Constructed, Stage 2 Approved / Under construction
Rail Freight Terminal, Reynolds Road, Casino	2021		Approved
Stapleton Avenue, Casino	2021	1 lot 8 Units	Approved / Under Construction
Lennox Street, Casino		46 Lots	Rezoned, Approved

Table 5-4: Future Potential Development

Development Area	Year Start	Year Finish	Dwellings / Lots	People	Vehicles	Status type
Gregors Road, Spring Grove			19 lots			Rezoned
Hills Road, Rileys Hill			35 lots			Future potential
Casino Industrial estate extension						Future potential
Hotham Street / Light Street, Casino						Future potential
Forest Grove, Fairy Hill						Future potential
Nordenfeldt Street, Broadwater			65 lots			Future potential
Barling Street, Casino						Future potential
Airport Land, Evans Head			50 lots			Future potential / Strategic redevelopment area
Manifold Road Casino, Rural Residential			20 lots			Scoping phase of rezoning
Fairy Hill			1644 lots			Scoping phase of rezoning

5.3 Demand Impact on Assets

Demand will be placed on existing road infrastructure to cope with the increasing traffic generated from all land developments. This impact will be arising from both traffic volumes and increased frequency of freight and construction traffic accessing both industrial and other precincts within the general road network. The consequence of which is reduced remaining life and increased deterioration of road pavements.

5.4 Impact of Trends on Infrastructure

5.4.1 New Infrastructure

Based on the development applications identified in Table 5-3, the impacts on new road infrastructure such as pavement, surfaces and kerb and channel can be estimated from 2022 to 2037. Knowing the number of new developments and making the following assumptions the future growth annually can be projected. The assumptions are:

- Each new property constructed will have a street frontage of 20 metres;
- There will be properties on both sides of the road;
- The length of new kerb and channel is twice that of new roads built;
- There are 20 new road signs per new km of road; and
- There will be a bus stop every 400m of appropriate road.

Using the above assumptions yields the predicted results identified in Table 5-5.

Table 5-5: New Infrastructure

Asset Type	Existing Assets	New Assets	Total Assets	Forecast Total Replacement Value ($)
Formation	1,073 km	11 km	1,084 km	65,739,177
Pavement	528 km	11 km	539 km	168,156,264
Surface	526 km	11 km	537 km	44,946,780
Kerb and Channel	145 km	22 km	167 km	51,663,271
Signs	10,401	461	10,862	1,431,821
Bus Stops (route dependent)	121	15	136	1,883,678

The following figure represents the total forecast value of the asset types created due to demand 2022-2037.

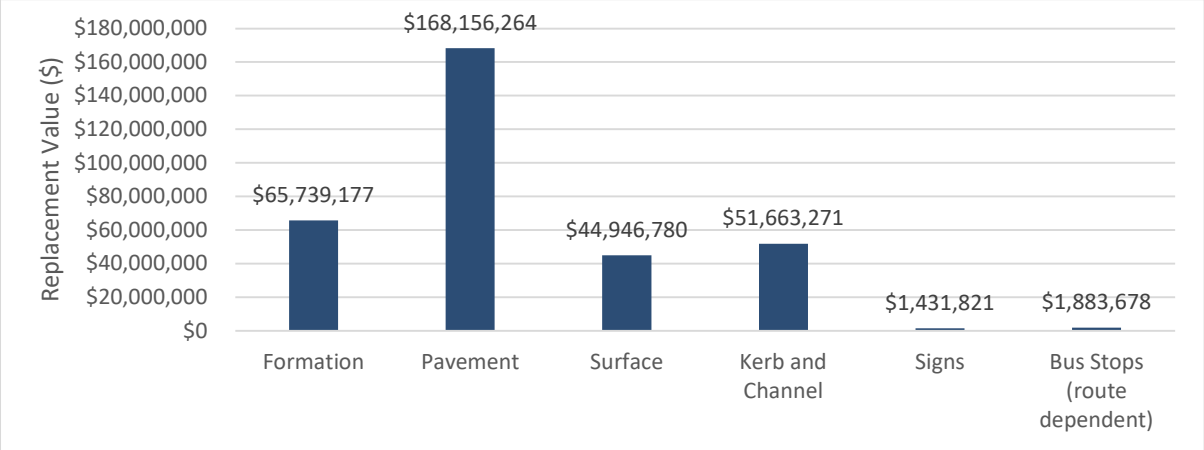


Figure 5-3: Value of Total Assets by Replacement Value

5.4.2 Existing Road Infrastructure

Council is undertaking a Road Network Strategy to assist in the planning of road upgrades relevant to changing land use conditions, such as industrial complexes and subdivision developments. Council can identify existing roads which carry substantial freight loads which have geometric challenges and will need to be upgraded to cater for this traffic. Most upgrades are in the rural area as transport demands increase.

5.4.3 Draft Growth Management Strategy, November 2022

The draft Growth Management Strategy provides guidance to shape the community as an emerging strategic centre within the NSW Northern Rivers. This includes support for both residential and industrial land development ensuring sustainable growth within the Richmond Valley area. The strategy provides clear direction for the location and priorities to manage growth over the next 10-20 years. The plan identifies the need for a coordinated delivery of road and transport infrastructure. Council will be required to investigate potential forward funding for footpaths, cycleways to assist development in the identified locations.

5.4.4 Richmond Valley Regional Jobs Precinct, 2022

The Regional Jobs Precinct (RJP) is designed to create an additional 600+ jobs within Casino and surrounds with a focus on high-value agriculture, food processing, manufacturing, distribution and renewable energy.

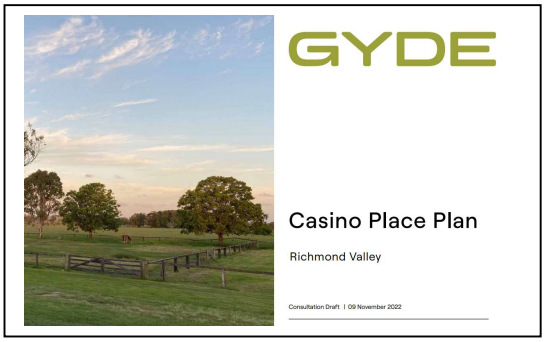
The improved planning pathway aims to attract investment and a diversity of business opportunities to grow the local workforce within Casino and surrounds. This is done through support in simplifying the planning process and reduced delays in development approvals.

5.4.5 Casino Place Plan, 2022

The Casino place plan is a key planning support document to assist with the delivery and impacts of the Regional Jobs Precinct (RJP). Whilst the RJP focus on employment the place plan supports sustainable planning for housing, employment growth and place outcomes.

The plan identifies additional road infrastructure costs of $7.25 million with an additional active transport network cost of $3.8 million required to implement the plan.

The Place Plan identifies that '*As growth occurs, there will be additional pressures on major roads. On a local level, there is a need to build on Council's ongoing work to improve the accessibility of local streets to provide for active transport in comfortable, safe and visually attractive ways to get around. This includes integrating the Northern Rivers Rail Trail with the Casino Town Centre, Richmond River and other key destinations and attractions.'*



5.4.6 Northern Rivers Regional Transport Plan, 2013

The Northern Rivers Regional Transport Plan was developed by the NSW State Government to address the future needs of this region and the impacts of elements within. It was developed to outline the future needs of the community including activity centres and transport infrastructure services.

The plan identifies the transport implications of the regional characteristics being:

- Population growth;
- An aging population;
- Identified social disadvantage;
- Employment clustered in the major centres;
- Integration of the region with South East Queensland;
- The fast-growing Coastal communities;
- Domestic and international tourism; and
- Road Safety.

The Northern Rivers region has a population of around 236,500. It is the fastest growing region in NSW, at about 0.9 percent per year. Significant population growth is expected to continue due to the region's proximity to expected growth and development in South East Queensland.

- Approximately 48 percent of the population is concentrated within the four centres of:
- Tweed Heads – 24 percent of region's population (58,000)
- Lismore – 12 percent of region's population (29,000)
- Ballina – seven percent of region's population (17,000)
- Casino – four percent of region's population (10,000).

The Tweed LGA, as the largest centre of population and employment, will be a focus for growth over the next 20 years. It also provides major connections into South East Queensland.

Outside of these centres, the population is dispersed across many smaller settlements. This results in spread travel patterns, with the majority of travel to the centres coming from a variety of origins.

Residents of smaller towns and villages are reliant on access to health services, education and employment opportunities located in larger centres. The region's population is ageing, and the proportion of the population aged 65 or over is expected to increase from 19 percent in 2011 to 28 percent in 2031. This compares to an increase from 15 percent to 20 percent for NSW.

An ageing population will change travel patterns and require improved transport access to health and aged care services in the region's main centres.

The information contained in the transport plan is important when planning transport infrastructure within Richmond Valley.

5.4.7 Summerland Way Corridor Strategy, 2016

The Summerland Way Corridor Strategy has been prepared by a multidisciplinary project team from Transport for NSW (TfNSW) and Roads and Maritime Services (RMS) with expertise in road safety, traffic, asset management, land use, environment, planning and development. The strategy sets out the Government's long-term plan to manage and guide the development of the road to improve safety, traffic efficiency and sustainability.

Richmond Valley has a section of the Summerland Way running from the southern boundary at Whiporie, through the middle of Casino CBD – Centre Street and out to the north -western boundary on the way to Kyogle. It is a key arterial route for transport through the Richmond Valley.

The purpose of the strategy is to identify:

- Objectives specific to the Summerland Way that support the NSW Long Term Transport Master Plan, Regional Transport Plans and other State and National plans (Chapter 2).
- The concerns, values and issues that are important to the community (Chapter 5).
- The sources of transport demand along the road corridor (Chapter 4)
- The performance of the corridor in meeting specific targets, standards and objectives (Chapter 3). Measures include road safety, traffic and travel, road design and geometry and road pavement condition
- How future transport demands that are likely to be placed on the corridor over the next 20 years can be managed and what improvements are therefore likely to be needed (Chapter 4).
- Current and future challenges in meeting the objectives for the corridor and short-, medium- and long-term priorities and actions to address these challenges on the highway (Chapter 4).

In assessing the performance of the road corridor against performance measures and targets the corridor was segmented into six smaller sections.

The vision for the Summerland Way has been developed to explain what actions should be achieved over the next 20 years in order to improve its performance and meet the specific corridor objectives. The vision for the Summerland Way between Grafton and the Queensland border over the next 20 years is to:

- Become a safer route for all road users with the safe systems approach adopted.
- Cater for the travel needs of all road users between Grafton and the Queensland border as well as within Grafton, Casino and Kyogle, providing an acceptable level of safety, efficiency and ride comfort.
- Support heavy vehicles travelling between southeast Queensland, Darling Downs and Northern NSW.
- Provides high level of reliability by managing the pavement and slope stability issues along the entire corridor particularly between Kyogle and the Queensland border.
- Supports the active transport needs of cyclists, pedestrians, public transport users with appropriate facilities and infrastructure in towns and between centres.

The corridor serves a variety of purposes providing a route for commuters, public transport and heavy freight vehicles between Grafton and Kyogle. Dedicated walking and cycling infrastructure, as with bus services, tends to be focused on the more densely populated areas along the corridor.

5.5 Demand Management Strategies

Demand management strategies provide alternatives to the creation of new assets to meet demand and look at ways of modifying customer demands in order that the utilisation of existing assets is maximised and the need for new assets is deferred or reduced. Non-asset solutions include:

- **Road network strategies:** Council will promote alternative forms of transport and review the road hierarchy and linkages to allow the road network to develop in an efficient manner.
- **Traffic controls:** The increased development of urban areas may create the need to implement traffic control strategies. Traffic control strategies include the installation of traffic treatments that help to control traffic flows within urban areas and the intersections.
- **Traffic bylaws:** Council has not as yet needed to introduce any traffic by laws as a direct result of demand/growth; however, this is a strategy that may be considered in future.

In addition to the development of the road network due to growth, Council will implement the above demand management strategies to modify demand for traffic services and minimise the need for capital road infrastructure improvements.

6. Risk Management

This section outlines how Council's Risk Management System will be applied when managing Council's assets. Council is committed to effectively managing risk within the organisation and the wider community and our Risk Management Policy is based on the expectation that all Council employees, contractors and others in the workplace will take responsibility for risk management.

Council's Risk Management Framework (RMF) has been developed in accordance with Australian Standard ISO31000: 2018 and forms the basis for decision making on Council's strategic planning, resource allocation and operations. The Framework has been designed to implement Council's Risk Management Policy and is supported by Risk Registers and Risk Management Procedures.

6.1 Key Risks and Risk Appetite

Council has identified infrastructure as one of the 10 Key Risk Areas that have potential impacts on our organisation. Ensuring that Council has the right asset base for our community and that assets are well managed and maintained is a top priority. Council uses four levels to describe its organisational risk appetite:

1. **Minimal** – Low tolerance for risk. Always prefer options that eliminate risk or have a low level of residual risk. Safety/security is the key consideration.
2. **Cautious** – Prefer safer options, smaller scale commitments and lower levels of residual risk. Will accept lower returns for greater security.
3. **Open** – Willing to consider a wide range of options if there is a demonstrated benefit for the risk involved.
4. **Adventurous** – Willing to consider all options and try new things. A preference for innovation and entrepreneurship.

Council's risk appetite in relation to infrastructure

RVC acknowledges its responsibility under the *Local Government Act 1993* to act as a faithful steward of community assets and infrastructure. Although Council is open to exploring new technologies, construction techniques and designs, it will also be diligent in ensuring that infrastructure is safe, fit for purpose, sustainable and affordable for our community.

6.2 Risk Management Methodology

Understanding which assets are critical and how they might fail helps focus lifecycle management strategies on what is most important. Critical road and road inventory assets are those that have major consequences or impacts if they fail and a high probability or likelihood of failing.

Asset consumptions provide an insight into the likelihood or probability of assets failing. To determine which assets are critical to the consequence of failure must be assessed and included in the analysis.

To determine risk of exposure of assets, the following simple calculation is applied:

Risk Exposure = Probability of Failure (PoF) x Consequence of Failure (CoF).

The basis of determining relative priority for each asset is the calculation of Business Risk Exposure (BRE) rating index. The BRE is a probability-consequence risk matrix determination using Council's Risk Matrix as shown below.

Table 6-1: Risk Matrix

Probability of Failure		Consequence of failure				
	Likelihood	C5 Major	C4 Serious	C3 Moderate	C2 Minor	C1 Minimal
	P5 Very Likely	Extreme 25	Extreme 20	High 15	High 10	Medium 5
	P4 Likely	Extreme 20	Extreme 16	High 12	Medium 9	Low 4
	P3 Possible	High 15	High 12	Medium 9	Medium 6	Low 3
	P2 Unlikely	High 10	Medium 8	Medium 6	Low 4	Low 2
	P1 Very unlikely	Medium 5	Low 4	Low 3	Low 2	Low 1

6.2.1 Probability of Failure

Probability of failure is derived using asset consumption and likelihood scale as outlined in Table 6-2. Assets that are reaching the end of the estimated life (high consumption) have a higher probability of failure compared to assets at the start of the estimated life (eg low consumption).

Table 6-2: Probability of Failure

% Life Consumed	Level	Probability / Likelihood	Descriptor	Probability of occurrence
0-20%	P1	Very unlikely	May occur in rare circumstances	More than 20 years
21-40%	P2	Unlikely	Could occur at some time	Within 10-20 years
41-60%	P3	Possible	Might occur at some time	Within 3-5 years
61-80%	P4	Likely	Will probably occur at some time	Within 2 years
81-100%	P5	Very Likely	It is expected to occur at most times	Within 1 year

6.2.2 Consequence of Failure

Consequence of failure has been established in draft format applied to road infrastructure assets. Consequence of failure ratings are applied to asset classes and are defined in Table 6-3.

Table 6-3: Consequence of Failure

Consequence	Level	Criticality Factors			
		Operational & Technical	Financial	Social	Environmental
Major	C5	Essential and non-essential services unavailable	Financial loss > $1M	Loss of life Extensive state/national media coverage Unacceptable exposure to litigation	Off-site environmental impacts.
Serious	C4	Wide disruption to essential services Some non-essential services unavailable	Financial loss between $200K and $1M	Extensive (multiple injuries) Some state/national media coverage Major exposure to litigation	Off-site environmental with no detrimental effects.
Moderate	C3	Isolated disruption to essential services Wide disruption to non-essential services	Financial loss between $50k and $200K	Medical treatment required Moderate exposure to litigation Regional media coverage	On site environmental impact contained with outside assistance.
Minor	C2	Isolated disruption to non-essential services	Financial loss between $10K and $50K	First aid treatment Acceptable exposure to litigation Local media coverage	On site environmental impacts immediately contained.
Minimal	C1	None or negligible service disruptions	Financial Loss < $10K	No injuries No litigation exposure No medical interest	None or negligible environmental impacts.

6.2.3 Operational and Technical Risk Analysis

The following section includes risk methodology for applying rating classifications for road and transport infrastructure for the operational and technical impacts as part of the consequence of failure. The current infrastructure risks for road includes flooding, aging bridge infrastructure and road safety issues relevant to industry development. Each class is reviewed based upon different variables relevant to the type of asset and its purpose that are identified in Table 6-4.

Table 6-4: Operational and Technical Critical Factors

Asset Class	Criticality Weightings
Roads	Road Hierarchy Traffic Volume Speed Limit Sight distance Subject to flooding Bus routes Grade Commercial vehicles Accident history Accessibility Location of emergency services
Footpaths	Footpath hierarchy Pedestrian traffic Community impact Subject to damage Construction quality Location Accident history Accessibility Multiple use

Asset Class	Criticality Weightings
Bridges & Culverts	Road Hierarchy Pedestrian Traffic Traffic volume Commercial vehicles Bridge load limit Quality of construction Primary access or other access available Subject to flooding Accident history Accessibility
Bus Shelters, Carparks, Guard Rails and Terminals, Signs, Surface Drainage, Traffic Management	Road Hierarchy Pedestrian Traffic Traffic volume Commercial vehicles Load limit Quality of construction Subject to flooding Accident history Accessibility

6.3 High priority assets

Criticality is used to identify the roads and network assets that carry the most consequences should a failure occur. These assets are currently priorities with capital programs, maintenance schedules or identified for grant/disaster funding.

- Broadwater Bridge crossing the Richmond River at Broadwater.
- Tatham Bridges.
- Evans Head Bridge.
- Irving Bridge Casino – (TfNSW asset but vital connection for the community).
- Casino Woodburn Road and associated bridges.
- Naughtons Gap Road.
- Spring Grove Road.
- Casino Footbridge – connecting Queen Elizabeth Park to McAuliffe Park.

7. Lifecycle Management Plans

This section presents asset condition and performance information and considers the risk management described in Section 6 to develop the broad strategies and specific work programs required to achieve the goals and standards outlined in Section 3 and 4.

7.1 Overview

Council must ensure that it manages all assets on a lifecycle basis, with full knowledge of the social, environmental and financial costs, benefits and risks associated with the asset. The lifecycle model must give proper consideration to each phase of an asset's life from inception through to disposal. This life cycle model is illustrated in the Figure 7-1 below. The asset treatments and work categories for lifecycle plans are defined within Table 7-1.

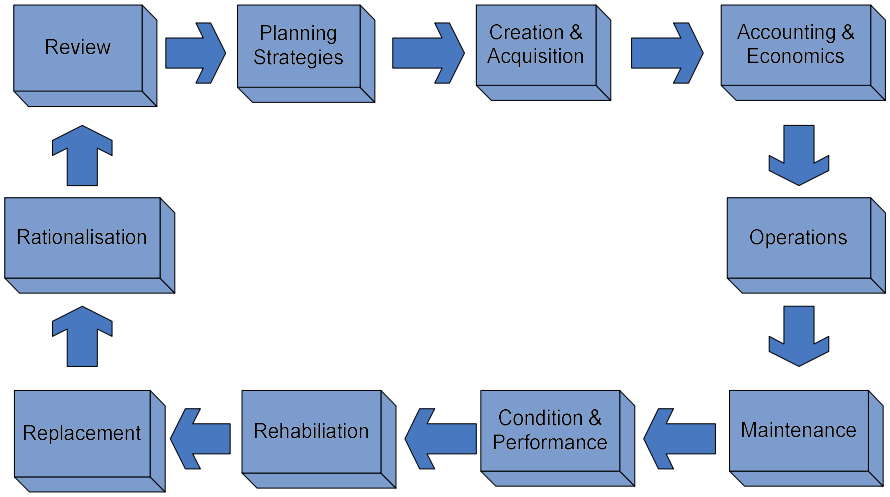


Figure 7-1: Lifecycle for Asset Management

Table 7-1: Asset Treatment Definitions

TREATMENT	DEFINITION
Operations	An activity that has no direct effect on asset condition, consumes resources and is necessary to keep the asset functioning. The operations expenditure can be distinguished from maintenance expenditure in the Council's financial systems. Typical operational activities include path condition surveys, and bridge inspections.
Maintenance	An activity that will retain / maintain the asset's current condition or performance level. Routine maintenance is the day-to-day work required to keep assets operating at required service levels, and falls into two broad categories: • Planned (proactive) Maintenance: Proactive inspection and maintenance works planned to prevent asset failure; and • Unplanned (reactive) Maintenance: Reactive action to correct asset malfunctions and failures on an as required basis (i.e. emergency repairs). Maintenance is defined in each section of the lifecycle plan and includes all repairs and maintenance that are not classified as renewals (see below).

TREATMENT	DEFINITION
	A key element of AM planning is determining the most cost-effective blend of planned and unplanned maintenance.
Renewal Replacement	An activity that replaces an asset with one that meets contemporary functional requirements. These works are defined as being the: • Renewal and rehabilitation of existing assets to their original size and capacity, or, • Replacement of the entire component of the asset with the equivalent size or capacity, or, • Replacement component of the capital works which increase the capacity of the assets (that portion of the work which restores the assets to their original size and capacity). Examples of renewals expenditure include: • Asphalt overlays; or • Road rehabilitation (involving replacement of existing pavement and surfacing with an equivalent structure)
Upgrades	Upgrade work is related to the extension or augmentation of an asset in response to growth or an increase in the defined LoS. Upgrades are defined as assets either being: • Works which improves an asset beyond its original size or capacity; or • Works which increase the capacity of an asset; or • Works designed to produce an improvement in the standard and operation of the asset beyond its original capacity. Upgrade activities may include: • Widening of sealed or unsealed roads; • Converting a spray sealed road to an asphalt surface; • Upgrading shoulders; and • Sealing an unsealed road (may be part of a special charge scheme)..
New Works	Acquisition, purchase or inheritance of an asset. Projects (including land purchase) for the extension or upgrading of assets required to cater for growth or additional LoS including: • Works which create an asset that did not exist in any shape or form, or • Works which improves an asset beyond its original size or capacity, or • Upgrade works which increase the capacity of an asset, or • Works designed to produce an improvement in the standard and operation of the asset beyond its original capacity. New assets required for growth are distinguished from those required for improvements to LoS, because of differences in how these assets can be funded. Growth related works can also be separated into those that are Council funded (including those funded by developer contributions), and those that are vested in the Council as a condition of development.
Disposal	• Sale, removal or decommissioning of an asset. Includes permanent road closures or where total replacements of supporting infrastructure such as bush shelters, culverts, traffic management devices.

7.1.1 Whole of Life Costing

Achieving value for money is a key principle in procurement framework and the sustainability of managing Council's assets. Whole of life (WOL) costing is a methodology used to estimate the total costs of services over the whole of their life. It estimates accumulated costs of acquisition, operation, maintenance support and disposal or decommissioning of the supply (less income or revenue).

The Asset Management Strategy WOL basic principles include:

Do we need it? Can we afford it? Is it the best value for the community?

WOL costing enables informed decision making from the outset leading to a more comprehensive assessment of value for money and should commence at the acquisition planning stage. Prior to the acquisition of new assets, a WOL evaluation must be evaluated to ensure long term sustainability.

Calculating WOL should include:

Acquisition Costs – This includes the initial costs of obtaining the goods, eg purchase price, design, planning, freight, installation, and training.

Operating Costs – The costs incurred during the life of the goods eg energy consumption, quality and safety, condition inspections, valuations, distribution and logistics, supplier staff wages, transport costs, program materials, indexation.

Maintenance and Support Costs – The costs incurred in maintaining the dependability of the goods and services during their life e.g. supplier administration costs, consumables, spare parts, minor repairs, labour, staff refresher training,

Disposal Costs – Costs for removing or disposing of the goods after the economic life has ended, eg costs to transfer ownership, trade-in, re-tender, auction or recycle or transiting/closure of a service.

Excluded costs – Depreciation, corporate overheads, and existing staff members (unless additional staff are engaged to operate goods/service).

7.1.2 Coordination with Other Organisations

There are various assets within the road reserve for which Council is either wholly or partially responsible or not responsible at all in relation to their inspection and maintenance.

Declared Arterial Roads

Transport for NSW is the Roads Authority for Declared Arterial Roads and is responsible for all components and facilities on the through carriageway between back of kerb in urban areas or outside the line of table drains in rural areas including intersections.

Rail

All assets associated with the operation of train services are the responsibility of the relevant rail authority. Where a road crosses a railway line the relevant rail authority is responsible for the road pavement on which the tracks are situated and for 1 metre from the outside tracks.

A Safety Interface Agreement for Level Crossing and Grade Separated Interfaces located within the Richmond Valley LGA has been established between UGL Regional Linx and Council.

Utilities

All infrastructure including manholes, pits, or other fixtures required to deliver utility services such as telecommunications, electricity and street lighting is the responsibility of the relevant company, agency or authority to maintain.

The principal organisations which own utility infrastructure in the Richmond Valley include:

- Electricity/street lighting: Essential Energy
- Telecommunications: Telstra, NBN
- Rous County Council – levee banks, channels and water distribution infrastructure for some of the Mid-Richmond communities.

Roads on Local Government Area Boundaries

There are several roads which form/cross the Council boundary with adjoining Council areas. These roads include:

1. Kyogle Council
    a. Bentley Road MR544
    b. Edenville Road
    c. McDonalds Bridge Road
    d. Sextonville Road
    e. Bulmers Road
    f. Busbys Flat Road
    g. Old Dyraaba Road
    h. Old Lawrence Road
    i. Pine Creek Road
2. Lismore City Council
    a. Bentley Road MR544
    b. Spring Grove Road
    c. Caniaba Road
    d. Tomki-Tatham Road
    e. Hartleys Bridge Road
    f. Bunagbee Road
    g. Bucklands Bridge Road
    h. Fig Tree Lane
    i. Court Street
    j. Swan Bay Road
    k. Dawson Street
    l. Broadwater Bridge Road

7.1.3 Management Structure

Richmond Valley organisational structure is shown in Figure 7-2. This includes the areas that are key to the management and service delivery of the Road network.

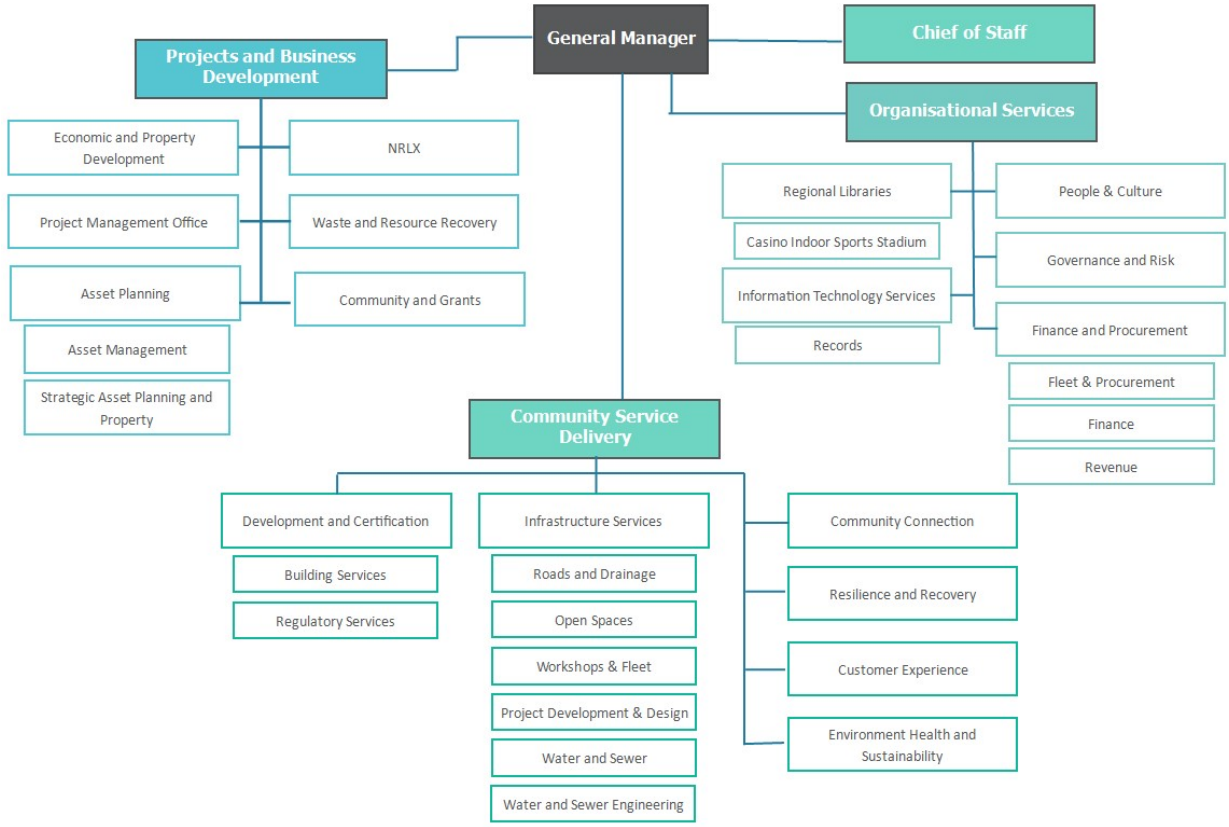


Figure 7-2: Management Structure

7.1.4 Corporate Responsibilities Matrix

The Corporate Asset Management Responsibilities Matrix within Table 7-2 identifies roles of individuals in the organisation against asset management activities and sub-activities. This matrix is a powerful tool that defines the responsibilities of the entire organisation with respect to road asset management. This matrix should be the first reference point for all responsibility issues/problems that arise from day-to-day activities. The matrix clearly defines who plays the lead role for any given activity, against any given road asset group. The individuals involved need to understand their role in asset management and appreciate the holistic role it must play across Council. By everyone working together, asset management practices will thrive.

Table 7-2: Corporate Responsibility Matrix (Roads, Kerb and Channel, Footpaths, Bridges and Major Culverts)

ACTIVITY	SUB-ACTIVITY	Lead	Stakeholder
SERVICE PLANNING	Utilisation Management/Strategic Planning	MAP	COS /DPABD/CSAPP
	Setting Community Levels of Service	MAP	COS /DPABD/CSAPP
	Setting Technical Levels of Service	MAP	MIS/MFS/CSAPP
ASSET PLANNING	Strategic Asset Management	MAP	COS /DPABD/CSAPP
ASSET CREATION	Budget Development	MFS	MAP/MIS
	Design	CPDAD	MAP/MIS
	Construction Management	MIS	MPMO/CAM/CRAD
	Commissioning	DPM	MPMO/CAM/CRAD
	Asset Handover - Sign Off/As built records	DPM	MAP
ASSET OPERATIONS	Budget Development	MIS	MAP/MFS
	Operations Management	MIS	CRAD
ASSET RENEWAL	Renewal Works Program	MAP	CAM/MIS/CRAD/CSAPP
ASSET MAINTENANCE	Maintenance Budget Development	MIS	MAP/MFS/CRAD/CAM/CSAPP
	Maintenance Planning	MAP	CAM/CRAD/CSAPP
	Resource Management	CAM	MIS
	Defect Inspections	CAM	MIS/CRAD/MAP/CSAPP
DISPOSAL	Proposal	MAP	DPABD/DCSD/GM/CSAPP
	Decommission	MAP	MIS/CSAPP

Legend

GM	General Manager	**CSAPP**	Coordinator Strategic Asset Planning and Property
DPABD	Director Projects and Business Development	**CAM**	Coordinator Asset Management
DCSD	Director Community Service delivery	**MPMO**	Manager PMO
COS	Chief of Staff	**MFS**	Manager Finance & Procurement
***MAP**	Manager Asset Planning	**CPDAD**	Coordinator Project Development and Design
MIS	Manager Infrastructure Services	**CRAD**	Coordinator Roads and Drainage
DPM	Designated Project Manager		

* **NOTE:** MAP position currently under structural review.

7.2 Key Issues

The key issues related to the management of road infrastructure are identified in table 7-3.

Table 7-3: Issues related to Road Infrastructure

ASSET	KEY ISSUES
Roads	• Road deterioration such as potholes being identified through customer requests before being picked up by operations staff • Narrow roads providing traffic flow and safety issues • Black spots within the road network • Speeding • Heavy vehicle access • Flooded rad – restricted access • Funding and cost of renewal/capital works
Bridges	• Wearing surface deterioration • Accident damage/flood effects • Stormwater washouts • Heavy vehicle access / load limits • Alternative route access from flooding events & closures. • Cost of replacement • Availability of contractors to undertake construction works
Bus Shelters	• Vandalism • Litter • Accessibility
Culverts	• Vehicle damage • Stormwater washouts • Blockages
Footpath & Cycleways	• Trip hazards and accessibility
Guard Rail & Terminals	• Accident damage • Vegetation overgrowth • Compliance with AS/NZ
Roadside Furniture (signs, seats etc)	• Natural UV damage to signs and furniture • Vandalism
Surface Drainage (Kerb &gutter)	• Tree roots intrusion causing displacement between kerb lengths • Pooling on road from lack of drainage or not enough pits
Traffic Management	• Heavy vehicle access • Speeding and Parking issues • School zones • Safety

7.3 Historical Expenditure

Historical expenditure for the local road network, including pavement base and pavement surface is detailed below. The table illustrates the considerable investment Council makes towards its local road network.

Table 7-4: Roads, Bridges and Footpath Historical Expenditure

Cost Category	2017/2018 ($)	2018/2019 ($)	2019/2020 ($)	2020/2021 ($)	2021/2022 ($)
Operations	2,392,589	2,357,853	2,471,564	2,658,205	2,677,996
Maintenance	1,833,265	1,945,166	1,890,273	1,956,670	3,296,055
Capital Renewal	5,646,729	6,889,248	3,971,921	5,468,352.00	1,838,055
New Assets	1,028,867	866,407	1,333,097	226,747	165,065
TOTALS	10,901,453	12,058,676	9,666,857	10,309,972	7,977,173

The increase in road maintenance expenditure identified for 2021/2022 financial year is due to flood maintenance works conducted over that period. Table 7-4 excludes subdivision dedicated assets. The chart supporting the above table is shown in Figure 7-3 below.

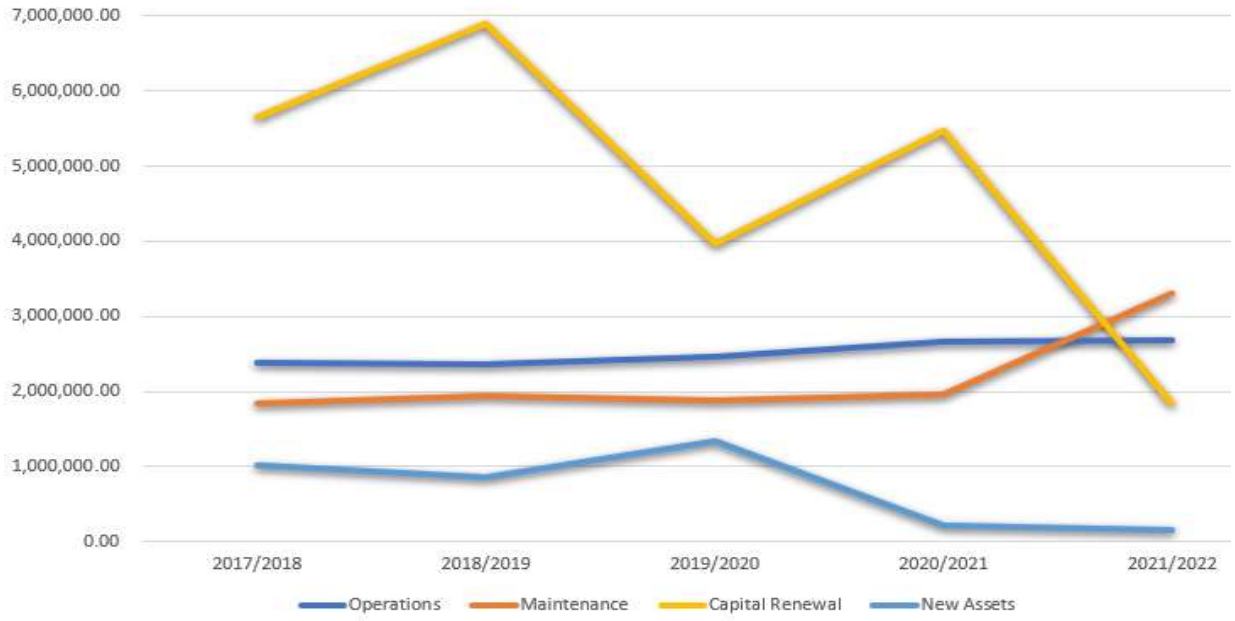


Figure 7-3: Roads, Bridges & Footpaths Expenditure 2017/18 – 2021/22

7.4 Identification for Prioritisation of Operational and Maintenance Works

Road related works are identified by customer requests (reactive) or by the proactive road inspections as undertaken by Operations and Asset Staff.

Table 7-5: Works Identification and Prioritisation Process

ASSETS	PRIORITISATION PROCESS
Roads	Works are prioritised based on safety i.e. a pothole is immediately programmed for works if deemed unsafe. If the pothole is too large for maintenance works then it is included in the major patching program.
Bridges	Works are prioritised based on safety and is immediately programmed for works if deemed unsafe.
Bus Shelters	Works are prioritised based on safety and the renewal program.
Culverts	Works are prioritised based on safety and the renewal program; accident damaged infrastructure would receive priority.
Footpath / Cycleways	Works are prioritised based on safety i.e., a footpath hazard is immediately programmed for works if deemed unsafe. It the footpath hazard is too large for maintenance works then it is included in the renewal program.
Guard Rail & Terminals	Works are prioritised based on safety and the renewal program; accident damaged infrastructure would receive priority.
Roadside Furniture	Sign and furniture replacements are prioritised through routine inspection and compliance with current standards.

ASSETS	PRIORITISATION PROCESS
Surface Drainage	Kerb and gutter related works are identified by customer requests (reactive) or by the proactive kerb and gutter defect inspections. Works are prioritised based on safety and in line with the road classifications (functional hierarchy) then included in the renewal program.
Traffic Management	Priority scoring for traffic management devices such as speed cushions etc. has been established and is used to identify the traffic management infrastructure requirements in local streets. The parameters used are included below: • Accident history, • Vehicle speed, • Traffic volume, • Heavy vehicle; and • Other factors.

Table 7-6: Maintenance Activities

ASSET TYPE	OBJECTIVES	ACTIVITIES
Roads	• Provide roads that meet user satisfaction and expectations • Retain connectivity between Council and neighbouring road networks	• Major patching • Minor patching • Pavement markings and line-markings • Provide local shape correction • Repair potholes • Repair sealed pavement cracks • Treat minor surface defects • Grade unsealed road surfaces
Bridges	• Provide bridges that meet user satisfaction and expectations • Retain connectivity between Council and neighbouring road networks	• Maintain wearing surface • Assess for load limits • Heavy vehicle access • Routine inspections
Bus Shelters	• Provide Bus Shelters that meet user satisfaction and expectations • Meet service level requirements	• Regular cleaning and inspection • Ensure accessibility
Culverts	• To reduce water impact on road • To allow safe passage along road	• Regular inspection • Upgrade as required
Footpath / Cycleways	• To allow safe access for all pedestrians • Improve accessibility	• Regular inspection • Repair trip hazards • Develop additional routes
Guard Rail & Terminals	• Provide road user safety • Delineate bridge edges	• Routine inspections • Replacement program • Repair accident damage quickly
Roadside Furniture	• Maintain the aesthetics • Rectify defects • Provide community amenity	• Installation of new signs • Maintenance of regulatory, warning and standard signs • Maintenance of fencing and handrails • Maintenance of various street furniture items • Maintenance of various roadside furniture items

ASSET TYPE	OBJECTIVES	ACTIVITIES
Surface Drainage	• Maintain the flow of water during a rain event • Prevent pooling of water • Meet service level requirements • Reduce impact of water on road and footpath assets	• Develop kerb & gutter replacement program • Routine inspection • Street sweeping
Traffic Management	• To provide safe passage of vehicles • To allow access of freight and services • Community safety	• Monitor community safety concerns • Assess access requirements of heavy vehicles • Liaise with TfNSW re traffic issues

7.5 Inspections

Inspections are undertaken on a regular basis to ensure that the road assets are being maintained in a safe manner and that adopted intervention levels are being met. Depending on the type of inspection they may be performed by the following:

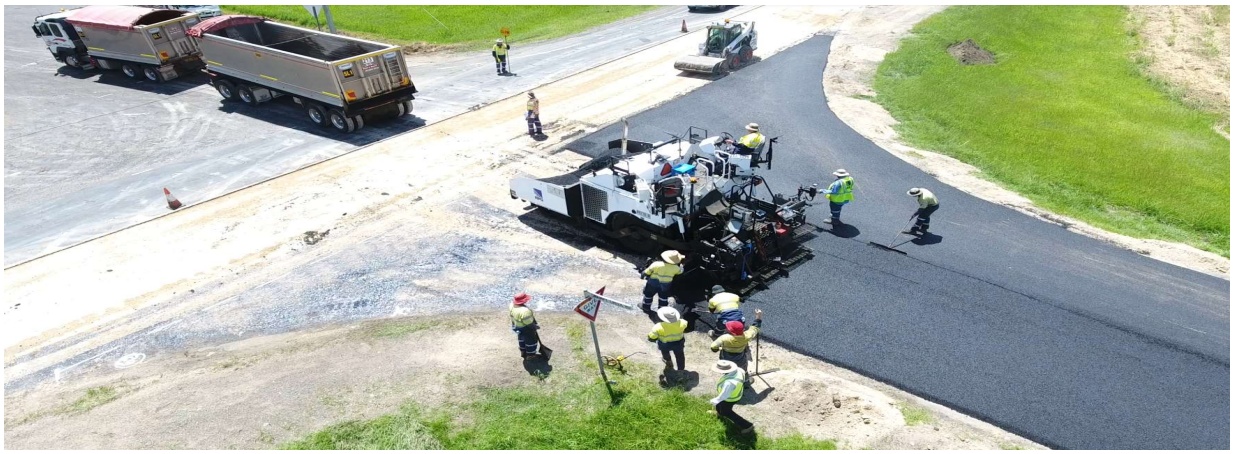
- Project Managers;
- Overseers and Gangers;
- Road Safety Officer;
- Quality Assurance Officer;
- Assets Engineers;
- Engineering Assistants; or
- Contractors.

Inspections are to be performed on a regular frequency and include safety audits, condition assessments, works inspections and quality audits.

Reactive investigative inspections are performed in response to customer requests.

Specialist inspections such as Disability Discrimination Act (DDA) inspections and compliance for footpaths and bridge inspections are also undertaken to a defined frequency. For full details of inspections refer to the following documents:

- Road Management Policy
- Pedestrian Access Management Plan – PAMP



7.6 Renewal Plan

Council utilised a renewal plan model called '*Enigma*' to review the impacts of allocated funding on road network condition. Enigma considers the apportioning the total infrastructure base across the range of condition 1(As New) to 5(Requires Replacement) and providing the outcomes of future capital and maintenance requirements based on the selected level of funding over a 25-year period.

The model takes into consideration the deterioration of the assets over time and the level of capital funding to identify the impacts on the condition of the asset network. The model uses the current spread of annual maintenance expenditure across the condition range to identify the future maintenance requirements over the 25 years as the annual asset network condition changes due to the percentage of network in each condition range. In this way the model links the impacts of capital expenditure to the future maintenance requirements.

The primary output is an understanding of the:

- Impact of the future funding on the asset network's condition over time.
- Comparison of the capital and maintenance funding.
- Capital and maintenance expenditure requirement over the 25-year timeframe.
- Trends in changes in condition every five years; and
- Comparison of the asset network condition against desired key performance indicators.

7.6.1 Impact of planned capital funding on all road surfaces

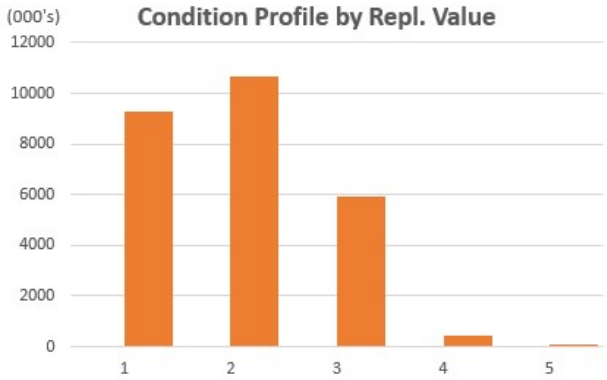
Enigma identified the testing of the asphalt, seal, and unsealed road renewal funding within the model based on the existing condition data and the percentage of roads within the condition ranges.

The current weighted condition profile is said to be "Above Average" for sealed roads. This is based on the condition analysis completed by Council's road managers for each road with an estimated life of 20 years. The spread of the sealed network replacement value against the condition range for roads is identified Table 7-7.

Table 7-7: Sealed Roads Condition Profile by Replacement Value

CONDITION RATING	% EFFECTIVE LIFE	REPLACEMENT VALUE ($)
1	35.16%	$9,297,000
2	40.43%	$10,691,000
3	22.47%	$5,942,000
4	1.66%	$438,000
5	0.28%	$74,000
Total	**100.00%**	**$26,442,000**

Figure 7-4: Condition Profile weighted by Replacement Value



The final road network condition profile for sealed roads is represented in Section 2. It was assumed that roads with an unassigned condition have the same spread of condition as properties with an assigned condition.

Roads tend to deteriorate at the rate of decay as shown in Table 7-8 represented in Figure 7-5. The longer the life of the roads, the longer the period of decay within each condition range. The shape of the decay curve will be the same for the roads regardless of the estimated life.

Table 7-8: Road Decay Profile

CHANGE IN CONDITION	SEALED SURFACE DECAY CURVE (YRS)
1 to 2	10
2 to 3	5
3 to 4	3
4 to 5	2
Asset Life (Yrs.)	**20**

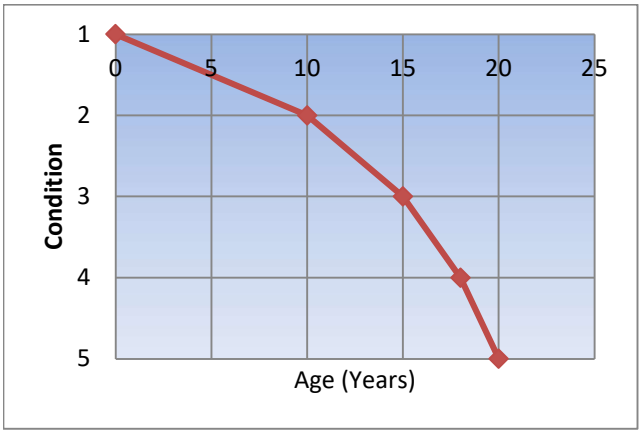


Figure 7-5: Road Decay Curve

The Enigma model identifies the average condition in 2046 (25 Years) with the spread of condition by percentage of replacement value; and whether the results comply with the required indicators after 25 years. Table 7-10 identifies that asphalt roads do not meet performance indicators in the model and require a significant increase in funding.

Table 7-9: KPI Compliance by Road Surface after 25 Years

CONDITION RATING	DESIRED KPI - (% REPL. VALUE)	ASPHALT COMPLIANCE	SEAL COMPLIANCE	UNSEALED COMPLIANCE
1 - 3	>=80%	✗	✓	✓
4 - 5	<=10%	✗	✓	✓

Future Condition

The model indicates that **asphalt** surfaces will deteriorate significantly over time with the current expenditure. In essence it will move from 1.9 to approximately 4.4. By increasing the funding from $2.81M to $12M the predicted condition will be approximately 2.3.

Under current funding levels the **sealed** roads will improve the current condition level from 1.9 to 1.85 after 25 years.

Under current funding levels the **unsealed** roads will maintain the current condition level from 1.83 to approximately 1.85 after 25 years.

Council will need to identify an effective strategy to resolve asphalt maintenance, renewals, and funding issue otherwise it will be an ongoing problem long after the 25 years modelled.

It is important to note, that while the model uses figures relevant to a "like for like" replacement of asphalt, the most probable engineering practice to treat an asphalt pavement wearing surface, if still stable, would be a spray seal which would be at a substantially lower cost. This decision would be made on a case-by-case basis, with the seal option providing best value for money.

Table 7-10: Model Scenario Expenditure and Compliance with Condition Targets after 25 Years

Road Surface	Run No	Asset Life (Years)	Comments	Planned 25 YR. Capital ($)	Req'd 25 YR. Capital ($)	Req'd 25 YR. Maint. ($)	Planned Cap. & Maint. Over 25 Years ($)	Req'd Cap. & Maint. Over 25 Years ($)	2022 Ave. Condition	2046 Ave. Condition (with Cap Investment)	Roads. in Condn. Rating 1 to 3	Roads. in Condn. Rating 4 to 5	Meets Target Condn. Indicators	Model Funding Results
Asphalt	1	35	Capital expenditure of $1,057,000 in first 10 years followed by $1,753,000 in next 15 years	2,810,567	2,810,567	35,339,312	38,149,878	31,119,839	1.91	4.37	88.3%	9.8%	✗	See comments
Asphalt	2	35	$500,000p.a. for first 15 years then $450,000p.a. for next 10 years	12,000,000	12,400,000	12,409,000	47,339,312	24,409,126	1.91	2.31	100.0%	0.0%	✓	Substantial increase in funding over 25 years from $2.811M to $12M
Seal	3	20	$1.533M p.a. for first 5 years and $1.789M p.a. for next 20 years	43,442,411	42,933,177	25,850,745	69,293,156	68,783,922	1.91	1.85	90%	10%	✓	Existing 10 Year Plan extended for Years 11 to 25
Unsealed	4	35	For Rural A and Urban C $287.69K p.a. for first 5 years then $418.44K p.a. for next 20 years	9,807,338	9,571,116	17,142,238	19,429,867	26,713,353	1.83	1.82	90%	10%	✓	Existing Funding as per Comments
Unsealed	5	25	For Rural B. $220,250 p.a. for first 5 years then $320,340 p.a. for next 20 years	7,508,108	7,327,265	11,924,347	14,874,732	19,251,612	1.83	1.91	90%	10%	✓	Existing Funding as per Comments
Unsealed	6	30	For Rural C. $220,250 p.a. for first 5 years then $320,340 p.a. for next 20 years	3,357,284	3,276,419	5,868,193	6,651,303	9,144,613	1.83	1.82	90%	10%	✓	Existing Funding as per Comments

7.6.2 Model Analysis

Lifecycle Costs

Asphalt renewal requires a substantial increase in funding to keep the asset condition at a satisfactory level of 2.3 over 25 years. The renewal funding would need to change from current levels of $112,000 per year to $500,000 per year. Equally maintenance funding should be monitored to ensure the current levels of maintenance for asphalt surfaces are effective as well. *Note: This is like for like replacement, where in practice alternative treatments would be explored at a reduced cost.*

Sealed roads renewal funding is satisfactory with ongoing renewal maintained at the current levels of $1.53M per year for the next five years and $1.79M over the following 20 years. This will ensure the condition remains at 1.9 over the next 25 years. This is largely due to the seal network condition being in a very good condition now.

Unsealed roads funding is satisfactory with ongoing renewal maintained at the current levels of $720,000 per year for the next five years and $530,000 over the following 20 years. This will ensure the condition remains at approximately 1.9 over the next 25 years. The overall condition of the unsealed road network is susceptible to change due to the flood prone nature of the LGA. With current funding and access to Natural Disaster Recovery, Council maintains the assets in a good condition.

Summary Road Renewals

Continuing the current capital and maintenance funding levels will mean improving the average condition significantly over the 25-year period from 3.1 to 1.3 assuming the projected expenditure occurs for roads at the appropriate time. This is largely due to the current road surfaces being in good condition. Current levels of funding for the sealed and unsealed roads are deemed appropriate. The current level of funding for asphalt roads is currently too low and will result in failure of the asphalt and increased maintenance costs within the next 25 years.

It should be noted that the model is examining the current road stock. It does not incorporate future new roads that may be constructed or donated beyond 2021. Also, it is a macro analysis for the road network. It does not accommodate major works that impact on one road as it assumes all expenditure is spread over the condition ranges for all roads.

Recommendations

Based on the outcomes presented above and the desire to achieve the KPI's, the funding strategy for the current works program is suitable and will be applied to the 20-year financial forecast of this asset management plan.

- Continue the analysis should Council wish to vary the funding levels and therefore impacts required to maintain the network at say different service levels with the view to reducing service levels e.g., condition of 2.0 to 3.0 if it is appropriate.
- Undertake further sensitivity analysis. While this will mean more analysis being completed, it will allow Council to understand the impacts of funding using different assumptions on asset lives and funding.
- Council should satisfy itself, that the condition based KPI's are appropriate for comparing the model outcomes against the KPIs in this analysis.
- Future modelling beyond Enigma, which is based on technical analysis should accommodate community needs such as utilisation.

Kerb and Channel

Renewal activities on kerb and channel consist of mainly kerb and channel replacement. These activities often occur in parallel with road refurbishments.

Streetscapes and Traffic Management

Renewal works are undertaken on a reactive basis in response to customer requests and include the replacement of existing street furniture, signage, traffic management devices or traffic controls.

7.7 Upgrade Plan

The key drivers for upgrades to road assets are identified in Table 7-11. Many of the upgrade works planned for the next five years are the result of upgrades to roads carrying freight traffic in association with rural/residential properties.

Table 7-11: Drivers for Upgrade Works for Road Assets

ASSET TYPE	DRIVERS FOR UPGRADE WORKS
Roads	• Demand projections • Traffic management • Subdivision development • Risk and safety issues commonly identified through road safety audits
Bridges	• Demand projections • Traffic management • Risk and safety issues commonly identified through road safety audits
Bus Shelters	• Traffic management • Subdivision development • Risk and safety issues commonly identified through road safety audits
Culverts	• Improvement projects are undertaken in line with road and/or culvert projects
Footpath / Cycleways	• Demand projections • Traffic management • Subdivision development • Risk and safety issues commonly identified through road safety audits
Guard Rail & Terminals	• Traffic management • Road safety audits • Risk and safety issues commonly identified through road safety audits
Roadside Furniture	• Demand projections • Traffic management • Subdivision development
Surface Drainage	• Improvement projects are undertaken in line with road and/or kerb and gutter projects
Traffic Management	• Planning and future development • Traffic management • Road safety audits • Risk and safety issues commonly identified through road safety audits

7.8 New Works Plan

New road assets are commonly identified in response to:

- Growth (demand);
- Risk and safety audits;
- Car park audits; and
- Recommendations identified in planning and strategy documents.

Major development plans are identified in Section 5 – Demand Forecast. Section 7.11 & 7.12 Development Contributions plans are renewed annually which includes funding allocations to PAMP based upon an adopted 4-year program.

New work road and transport infrastructure assets are to undertake a WOL evaluation on all asset acquisitions capped at value greater than $300k.

Kerb and Channel

New kerb and channel assets are commonly identified in response to:

- Growth (demand);
- Risk and safety audits; and
- Condition assessments.

New works plans for kerb and channel form part of the developers work and included in road improvements. Forecast expenditure predictions are included in the financial section of this plan.

Streetscapes and Traffic Management

Currently, there is no long-term plan available for the construction of new street furniture.

7.9 Disposal Plan

Council has resolved for the closure, disposal and sale of part Jabiru Lane, part Myall Creek Road, and Emu Park Road – being formed or past formed road reserves to adjoining landholders.

8. Financial Summary

This section outlines the long-term financial requirements for the operation, maintenance, renewal and development of road assets based on the long-term strategies outlined earlier in the plan. Funding issues are discussed, and key assumptions made in preparing financial forecasts. These forecasts are an indication of funding requirements over the next 10 years and are recommended for inclusion in Council's Long-Term Financial Strategy (LTFS).

8.1 10 Year Financial Forecast

Appendix G summarises the 10-year financial forecast for Council's roads. The reasons for the expenditure are identified for each asset group in Lifecycle Management Plans. Projections are shown in dollar values current at 1 July 2022 including Operations, Maintenance (Programmed and Reactive), Renewals (Rehabilitation and Replacement Works), Upgrade / Expansion works; and New Works by Developers. Table 8-1 summarises the 10-year financial projection.

Table 8-1 : 10 Year Financial Projections

COST CATEGORY	TOTAL FINANCIAL PROJECTIONS	
	1-5 Years ($)	1-10 years ($)
Operations	10,667,198	22,816,330
Maintenance	393,528	393,528
Renewals	15,942,957	33,945,731
Upgrades	27,942,315	55,389,728
New	7,949,745	8,149,745
TOTAL	62,895,743	120,695,062

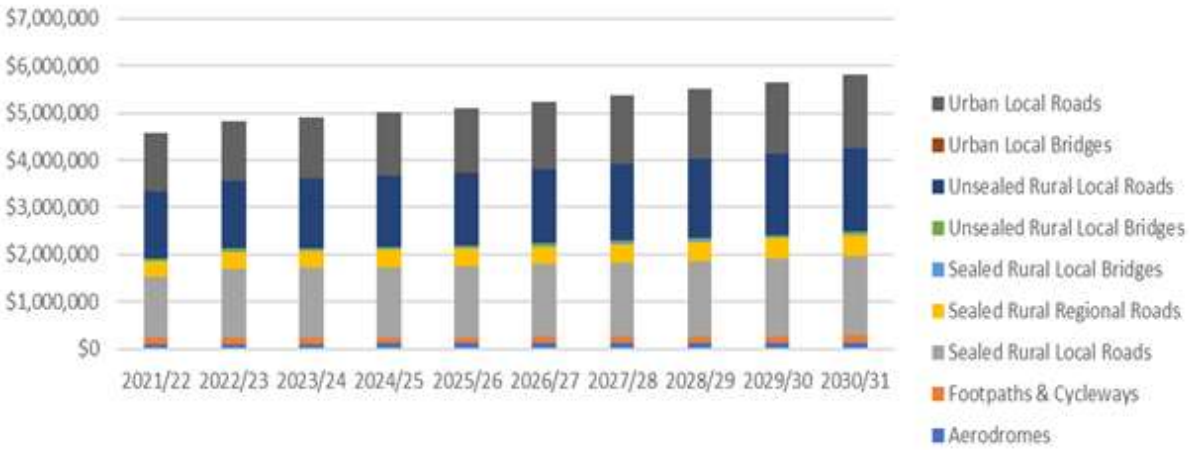


Figure 8-1: Ten Year Financial Projections

Expenditure identified within the financial forecasts was obtained from the LTFP; roads and drainage budget; annual budget for operational & maintenance budgets; and demand forecasting.

8.2 Financial Forecast Assumptions

The basis for the financial forecasts is explained in the lifecycle management plan. The following general assumptions have been made in preparing the 10-year expenditure forecasts:

1. All expenditure is stated in dollar values as at 30 June 2022 with an allowance made for inflation of 2.5% over the 10-year planning period;
2. CPI increase of 2.5% for operations and maintenance costs;
3. 11 km new roads and supporting road infrastructure will be constructed by a mix of Council and developers over the next 10 years, i.e.: an average of 1.1 km per annum;
4. Greenfield unit rate for roads infrastructure (i.e.: pavements, surfaces, kerb and channel, footpaths, street furniture and traffic management devices) have been applied for infrastructure constructed by developers; and
5. Ongoing operations and maintenance costs for new works is assumed to be 0.78% of original capital costs (included under the operations and maintenance cost categories for sake of simplicity).

8.3 Asset Valuation 2022

The accounting asset register for roads indicates a current written down replacement value of approximately $395.1M.

In valuing the road infrastructure assets, the following approach was adopted in accordance with the Australian Accounting Standards for Financial reporting purposes. All assets are rated at the appropriate life for the material and assessed in terms of their quantity applying the 'Fair Value' principle:

- Asset values have been based on asset data currently held in the Asset Register;
- Replacement values have been determined from current contract rates based on the cost of replacing the asset with modern materials that provide the equivalent service in terms of capacity to the user;
- Where the useful life of the asset is extended or reduced, the resultant impact will be on future depreciation rates and charges and will not be retrospective in accordance with appropriate accounting standards; and
- All valuations and asset counts have been fully documented to provide a clear audit trail that is evident through to the accounting entries in the general ledger.

Table 8-2 identifies the June 2022 financial valuation of the road network. Table 8-3 identifies the classification of the road network into detail with financial valuation.

Table 8-2: Asset Network Valuation June 2022

ASSET GROUPS	Quantity	Length (km)	Area (m2)	Repl. Value ($)	Accumulated Depreciation ($)	Written Down Value ($)
Aerodromes	1	1.03	30,900	3,325,555	1,241,386	2,084,169
Bridges	125		22,655	108,306,994	35,841,823	72,465,171
Bus Shelter	121		1,155	1,926,858	496,959	1,429,899
Carparks	3		5,265	635,768	111,208	524,560
Culverts	2,180	19.59		34,508,083	11,945,521	22,562,562
Footpath / Cycleways		63.24	137,343	19,049,851	3,311,999	15,737,852
Guard Rails & Terminals	713	15.57		4,932,851	1,361,120	3,571,731
Road Seal		526.77		48,077,002	12,796,958	35,280,044
Road Seal Structure		528.17		177,400,298	65,589,029	111,811,270
Roadside Furniture	580			4,275,988	1,072,263	3,203,725
Sign Panel and Posts	10,401			1,483,830	942,307	541,522
Surface Drainage		140.59		47,913,412	6,578,271	41,335,142
Traffic Management	423			4,486,711	755,376	3,731,335
Unsealed Roads		536.5		19,108,265	7,460,688	11,647,577
Road Formation		1,072.55	5,644,202	69,228,822	0	69,228,822
			Total	**544,660,288**	**149,504,909**	**395,155,379**

Table 8-3: Road Detail Table

Road Groups	Quantity	Length (km)	Area (m2)	Repl. Value ($)	Accumulated Depreciation ($)	Written Down Value ($)
Road Formation		1,072.55	5,644,202	69,228,822	0	69,228,822
Unsealed Roads – A Rural		160.76		8,904,659	2,437,370	6,467,289
Unsealed Roads – B Rural		205.31		6,941,732	3,476,254	3,465,477
Unsealed Roads – C Rural		159.92		3,098,568	1,442,559	1,656,009
Unsealed Roads – C Urban		10.51		163,306	104,505	58,801
Road Seal - Class A Arterial Roads		46.64		3,115,317	1,082,277	2,033,039
Road Seal - Class AA Regional		69.90		7,617,174	2,471,300	5,145,874
Road Seal - Class B Collector & Loop Roads		133.21		11,192,610	2,823,876	8,368,733
Road Seal - Class C Local Collector Roads		77.91		6,401,072	1,759,050	4,642,022
Road Seal - Class D Local Access Roads		199.16		19,750,830	4,660,455	15,090,375
Road Seal Structure- Class A Arterial Roads		47.48		38,683,820	13,760,445	24,923,375
Road Seal Structure - Class AA Regional		67.49		27,043,302	8,261,972	18,781,329
Road Seal Structure - Class B Collector & Loop Roads		132.95		37,487,304	15,598,516	21,888,788
Road Seal Structure- Class C Local Collector Roads		78.99		21,262,365	8,693,255	12,569,110
Road Seal Structure - Class D Local Access Roads		201.10		52,923,507	19,274,840	33,648,667
			Total	**313,814,388**	**85,846,674**	**399,661,062**

8.4 Funding Strategy

A major issue concerning road infrastructure management is the question of who pays for needed works e.g.:

- The community through special rates;
- The developer through development contributions, or
- The consumer through recurrent charges.

To overcome this problem there should be available a range of funding options including:

- General rates;
- Special rates or charges schemes;
- Development contributions; and
- Available grants, e.g., special purpose State Government grants.

Council relies on grant income for delivering a range of services to the community of the LGA. Richmond Valley has a relatively small population, with a low socio-economic element which makes deriving funds from rates, fees and charges a challenge. Council has a substantial road network over a large area and funding the renewal and maintenance of this network into the future will remain key.

Over the past 5 years, Council has received $53.9 million in grant funding for roads, bridges and footpaths. This includes the untied local roads component of the Financial Assistance Grant. Flood grant funding that has not been assessed or final approval as part of the 2022 natural flood disaster is not contained within Table 8-4.

The current Roads to Recovery Program ends in 2023/2024. There is some uncertainty whether this program will be extended and at what funding levels it will be. Council's Long-Term Financial Plan assumes the program will be extended and funding is budgeted for at the same level as the current annual allocation of $1,002,214.

Table 8-4: Grants received for Roads

Grant Funding	2017/18 $'000	2018/19 $'000	2019/20 $'000	2020/21 $'000	2021/22 $'000
FAGS – Local Roads	1,573	1,612	1,650	1,646	2,225
Roads to Recovery	696	705	1,002	1,002	1,002
Regional Roads Block Grant	885	903	920	920	920
Capital Grants	1,366	1,483	1,442	2,345	2,677
Total Grant Funding	4,522	4,703	5,014	5,914	6,825

9. Improvement and Monitoring

This section provides AM improvement tasks that will be carried out over the next 4 years that will improve the level of confidence in this AM plan. Also included is a program for revising this AM plan.

9.1 Asset Management Improvement Program

The AM tasks identified in the summary program below are the most important to enable Council to meet its asset management objectives. The programme reflects the overall aim of improving asset management practices, which is to deliver the right LoS at lowest long-term cost to Council's customers. The following table identifies the primary improvements identified for asset management processes, systems, and data.

Table 9-1: Improvement Program and Action Plan

AM PROCESS	IMPROVEMENT ACTIVITIES	TIMEFRAME (over 4 Years)
Data Management	Continue the capture of data for all road and transport assets and improve condition monitoring.	Year 1
Asset Valuation	Collect the data and complete the valuations for traffic management devices, carparks, and laneways. Prepare scope of works for upcoming valuations.	Year 2
Risk Register	Complete the identification of the infrastructure risk register for Council's roads, traffic management devices, car parks and kerb and channel, considering current controls, actions and funding required to decrease risk levels.	Year 1
Asset Performance	Undertake ongoing analysis of future renewal requirements using the condition data collected during the period of the second Road AM Plan.	Year 2
Asset Performance	Analyse the customer request results to address problem areas and maintain performance.	Year 1
Asset Performance	Collect and monitor defect histories to identify trends in performance of asset types.	Year 2
Levels of Service	Confirm target service levels, monitor and report outcomes.	Annually
Asset Planning	Use demand projections coupled with other knowledge e.g., risk to develop 10 - year forecast projections of upgrade works and new works.	Years 2 - 3
Asset Planning	Finalisation and implementation of the Roads Network Strategy.	Year 1
Asset Planning	Review of the Road Management Policy including review of service levels.	Year 1
Asset Planning	Improve KPI and dashboard reporting based on analysis of asset register for informed decision making for management of assets.	Year 1
Demand Management	Examine the impacts of government funding on the lifecycle cost requirements over the long term.	Year 2
Financial Planning	Incorporate the findings of the 10-year forecast into the LTFP.	Year 3
Financial Planning	Develop Council reporting templates for WOL costs for future capital works projects.	Year 1
Whole of Life project Costing	Whole of Life costing should be used for the analysis of all major projects allowing analysis of new vs upgrade of existing.	Annually

AM PROCESS	IMPROVEMENT ACTIVITIES	TIMEFRAME (over 4 Years)
Works budget	Increase drainage budget for rural roads.	Year 1
Works budget	Increase budget for shoulder grading for sealed roads.	Year 1
Transport Management	Incorporate results of traffic management decisions and their impacts into the next version of this plan.	Year 4

9.2 Monitoring and Review Procedures

The AM plan is a living document which is relevant and integral to daily AM activity. To ensure the plan remains useful and relevant the following on-going process of AM plan monitoring, and review activity will be undertaken.

- Formal adoption of the plan by Council.
- Identify and formally adopt LoS.
- Revise AM planning every four years to incorporate outcome of service level review and new knowledge resulting from the AM improvement program;
- Audits of AM information to ensure the integrity and cost effectiveness of data collected; and
- Peer review: Annual internal audits to be undertaken to assess the effectiveness with which the AM plan meets corporate objectives. Periodic internal audits to be undertaken to assess the adequacy of AM processes, systems and data and external audits to be undertaken to measure AM performance against 'best practice' e.g., gap analysis.

Appendix A - Glossary of Terms

The following terms and acronyms are used in this AM plan.

Activity	An activity is the work undertaken on an asset or group of assets to achieve a desired outcome.
Advanced Asset Management	Asset management which employs predictive modelling, risk management and optimised renewal decision-making techniques to establish asset lifecycle treatment options and related long term cashflow predictions. (See Basic Asset Management).
Asset	A physical component of a facility which has value, enables services to be provided and has an economic life of greater than 12 months.
Asset Management (AM)	The combination of management, financial, economic, engineering, and other practices applied to physical assets with the objective of providing the required LoS in the most cost-effective manner.
Asset Management Plan (AM Plan)	A plan developed for the management of one or more infrastructure assets that combines multi-disciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost-effective manner to provide a specified LoS. A significant component of the plan is a long term cashflow projection for the activities.
Asset Management Policy	Provides an overall policy framework to guide the strategic management of Council's infrastructure assets.
Asset Management System (AMS)	A system (usually computerised) for collecting, analysing and reporting data on the utilisation, performance, lifecycle management and funding of existing assets.
Asset Register	A record of asset information considered worthy of separate identification including inventory, historical, financial, condition, construction, technical and financial information about each.
Basic Asset Management	Asset management which relies primarily on the use of an asset register, maintenance management systems, job/resource management, inventory control, condition assessment and defined levels of service, to establish alternative treatment options and long term cashflow predictions. Priorities are usually established based on financial return gained by carrying out the work (rather than risk analysis and optimised renewal decision making).
Capital Expenditure (CAPEX)	Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential. CAPEX increases the value of an asset.
Cash Flow	The stream of costs and/or benefits over time resulting from a project investment or ownership of an asset.
Components	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.
Condition Monitoring	Continuous or periodic inspection, assessment, measurement, and interpretation of resulting data, to indicate the condition of a specific component to determine the need for some preventive or remedial action.
Critical Assets	Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.
Current Replacement Cost	The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.

Deferred Maintenance	The shortfall in rehabilitation work required to maintain the service potential of an asset.
Demand Management	The active intervention in the market to influence demand for services and assets with forecast consequences, usually to avoid or defer CAPEX expenditure. Demand management is based on the notion that as needs are satisfied expectations rise automatically and almost every action taken to satisfy demand will stimulate further demand.
Depreciated Replacement Cost (DRC)	The replacement cost of an existing asset after deducting an allowance for wear or consumption to reflect the remaining economic life of the existing asset.
Depreciation	The wearing out, consumption or other loss of value of an asset whether arising from use, passing of time or obsolescence through technological and market changes. It is accounted for by the allocation of the historical cost (or revalued amount) of the asset less its residual value over its useful life.
Design Life	The theoretical life of an asset assumed in its design.
Disposal	Activities necessary to dispose of decommissioned assets.
Economic Life	The period from the acquisition of the asset to the time when the asset, while physically able to provide a service, ceases to be the lowest cost alternative to satisfy a particular LoS. The economic life is at the maximum when equal to the physical life however obsolescence will often ensure that the economic life is less than the physical life.
Geographic Information System (GIS)	Software that provides a means of spatially viewing, searching, manipulating, and analysing an electronic database.
Infrastructure Assets	Stationary systems forming a network and serving whole communities, where the system is intended to be maintained indefinitely at a particular LoS potential by the continued replacement and refurbishment of its components. The network may include normally recognised 'ordinary' assets as components.
Level Of Service (LoS)	The defined service quality for a particular activity or service area (e.g., interior) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, regulatory & environmental acceptability and cost.
Life	A measure of the anticipated life of an asset or component, such as time, number of cycles, distance intervals etc.
Lifecycle	Life cycle has two meanings: (a) The cycle of activities that an asset (or facility) goes through while it retains an identity as a particular asset, i.e., from planning and design to decommissioning or disposal. (b) The period between a selected date and the last year over which the criteria (e.g., costs) relating to a decision or alternative under study will be assessed.
Lifecycle Cost	The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
Maintenance	All actions necessary for retaining an asset as near as practicable to its original condition but excluding rehabilitation or renewal.
Objective	An objective is a general statement of intention relating to a specific output or activity.
Operation	The active process of utilising an asset that will consume resources such as manpower, energy, cleaning products and materials. Operation costs are part of the life cycle costs of an asset.

Optimised Renewal Decision Making (ORDM)	An optimisation process for considering and prioritising all options to rectify performance failures of assets. The process encompasses net present value analysis and risk assessment.
Performance Measure	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.
Performance Monitoring	Continuous or periodic quantitative and qualitative assessments of the actual performance compared with specific objectives, targets or standards.
Physical Life	The actual life of an asset.
Rehabilitation	Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally, involves repairing the asset using available techniques and standards to deliver its original LoS (e.g. Re-roofing, replacing doors etc.) without resorting to significant upgrading or replacement.
Renewal	Works to upgrade, refurbish, rehabilitate, or replace existing facilities with facilities of equivalent capacity or performance capability.
Repair	Action to restore an item to its previous condition after failure or damage.
Replacement	The complete replacement of an asset that has reached the end of its life, so as to provide a similar or agreed alternative, LoS.
Replacement Value	The prevailing market cost of supply and installation of an asset delivering an equivalent service, making no allowance for depreciation of the asset.
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.
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.
Strategic Plan	Strategic planning involves making decisions about the long-term goals and strategies of an organisation. Strategic plans have a strong external focus, cover major portions of the organisation, and identify major targets, actions and resource allocations relating to the long-term survival, value and growth of the organisation.
Scheduled Maintenance	Work carried out to a predetermined schedule (e.g., air cooler service or programmed because of identified needs e.g., repairing a cracked wall).
Unscheduled Maintenance	Work carried out in response to reported problems of defects e.g., cleaning up vandalism.
Upgrading	The replacement of an asset or addition/ replacement of an asset component which materially improves the original service potential of the asset.
User Cost	Cost borne by the public when using the road.
Valuation	Estimated asset value which may depend on the purpose for which the valuation is required, e.g., replacement value for determining lifecycle costing or insurance valuation.

Appendix B – Legislative Framework

Legislative Requirements and Local Laws

The primary legislation that impacts on how roads are managed or used is briefly described below. You can find further information regarding these acts at www.legislation.nsw.gov.au.

Reference	Details
Roads Act 1993	Facilitates the adoption of nationally consistent road rules in NSW, the Australian Road Rules. It also makes provision for safety and traffic management on roads and roads related areas including alcohol and other drug use, speeding and other dangerous driving, traffic control devices and vehicle safety accidents. Provides for the administration and enforcement of road transport legislation. It provides for the review of decisions made under road transport legislation. It makes provision for the use of vehicles on roads and road related areas and also with respect to written off and wrecked vehicles. • Provides Council as the roads authority for public roads within the LGA area, under Council's control. Sets out rights of members of the public to pass along public roads, establishes procedures for opening and closing a public road, and provides for the classification of roads. It also provides for declaration of the TfNSW and other public authorities as roads authorities for both classified and unclassified roads, and confers certain functions (in particular, the function of carrying out roadwork) on the TfNSW and other roads authorities. Finally, it provides for distribution of functions conferred by this Act between the TfNSW and other roads authorities and regulates the carrying out of various activities on public roads.
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. The purposes of this Act are as follows: (a) to provide the legal framework for an effective, efficient, environmentally responsible, and open system of local government in New South Wales, (b) to regulate the relationships between the people and bodies comprising the system of local government in New South Wales, (c) to encourage and assist the effective participation of local communities in the affairs of local government, (d) to give council's: • the ability to provide goods, services, and facilities, and to carry out activities, appropriate to the current and future needs of local communities and of the wider public • the responsibility for administering some regulatory systems under this Act • a role in the management, improvement, and development of the resources of their areas,

Reference	Details
	(e) To require council's, councillors, and council employees to have regard to the principles of ecologically sustainable development in carrying out their responsibilities. Provides guiding principles for Council: • Provide strong and effective representation, leadership, planning and decision making • Carry out functions in a way that provides the best possible value for residents and ratepayers • Plan strategically, using the integrated planning and reporting framework, for the provision of effective and efficient services and regulation to meet the diverse needs of the local community
Environment Protection Act 1997	The legislative framework for the protection of the environment in NSW. Legal requirements in relation to stormwater quality from road and construction work sites.
Work Health and Safety Act 2011	Legal requirements for employers/employees in relation to workplace safety. Requirements on those who design, manufacture, import or supply any plant for use in the workplace.
Australian Human Rights Commission Act 1986	The Australian Human Rights Commission Act 1986 established the Human Rights and Equal Opportunity Commission (now known as the Australian Human Rights Commission) and gives it functions in relation to the following international instruments: • International Covenant on Civil and Political Rights (ICCPR) • Convention Concerning Discrimination in Respect of Employment and Occupation (ILO 111) • Convention on the Rights of Persons with Disabilities • Convention on the Rights of the Child • Declaration of the Rights of the Child • Declaration on the Rights of Disabled Persons • Declaration on the Rights of Mentally Retarded Persons, and • Declaration on the Elimination of All Forms of Intolerance and of Discrimination Based on Religion or Belief.
Austroads Road Design Guidelines	Design guidelines published by the Australasian Association of Road and Traffic Authorities.
Roads Transport Act 2013	Provides legislation to road transport along public roads within Richmond Valley LGA.
Northern Rivers Design Standards 2019	The Northern Rivers Local Government Development Design and Construction Manual has been developed as a resource sharing initiative involving the Lismore City Council, Ballina Shire Council, Kyogle Council, Richmond Valley Council, Clarence Valley Council and Byron Shire Council. The Development and Design Manual is a regional approach to provide uniform development standards via a clear and comprehensive set of requirements for development infrastructure design and construction.

Reference	Details
	Both the community and the development industry now have clear instructions for development infrastructure requirements throughout the Northern Rivers area. The manual has been derived from the Aus-spec Development Specification series and modified to suit the specific needs of our region.
Heavy Vehicle Act 2013	Provides legislation to Heavy Vehicle Road transport along public roads within Richmond Valley LGA.
Local Land Services Act 2013	The relationship between Council and Local Land Services (State Government Entity) for road management and associated road reserve which are controlled and maintained by LLS
Environmental Planning and Assessment Act 1979	An Act to institute a system of environmental planning and assessment for the State of New South Wales. Among other requirements the Act outlines the requirement for the preparation of Local Environmental Plans (LEP), Development Control Plans (DCP), Environmental Impact Assessments (EIA) and Environmental Impact Statements. This legislation outlines requirements for environmental assessment in relation to roads in NSW. Works on existing roadsides are covered under the LEP and no permit is required. Council's have a responsibility to undertake due diligence in relation to managing environmental values, including threatened species, usually by way of an assessment called a Review of Environmental Factors (REF), and are their own consent authority in this regard.
Road Users Handbook 2022	A provision of road rules that are based on the Australian Road Rules to ensure that the road rules applicable in this State are substantially uniform with road rules applicable elsewhere in Australia.
AS 1742	Australian Standard 1742 which refers to a variety of road and traffic issues.
Public Health Act 2010	An Act relating to the maintenance of proper standards of health for the public. Council operations need to be carried out in a manner that protects public health.
Work Health and Safety Act 2011 and Workers Compensation Act 1987	Sets out roles and responsibilities to secure the health, safety, and welfare of persons at work and covering injury management, emphasising rehabilitation of workers particularly for return to work. Council is to provide a safe working environment and supply equipment to ensure safety.
Public Works and Procurement Act 1912	Sets out the role of Council in the planning and construction of new assets.

Appendix C – Asset Quantities

Asset Quantities (at 30 June 2022)

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Aerodrome Sealed Surface	Asphalt	35	1.03 km	1,506,431
Aerodrome Sealed Structure	Gravel	60	1.03 km	1,601,564

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Bridge	Concrete	105	80	84,448,106
Bridge	Doolan Deck	50	38	22,632,462
Bridge	Timber	85	7	1,226,426

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Bus Shelter	Brick	55	12	165,623
Bus Shelter	Other	55	13	32,450
Bus Shelter	Steel	30	57	1,201,199
Bus Shelter	Timber	30	39	527,586

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Carpark Sealed Structure	Gravel	60	3,611.80m2	159,509
Carpark Sealed Structure	Stabilised	60	1,652.98m2	348,532
Carpark Sealed Surface	Asphalt	35	1,652.98m2	91,672
Carpark Sealed Surface	Bitumen	20	3,611.80m2	36,055

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Footpath Cycleways	Asphalt	50	2.24 km	876,185
Footpath Cycleways	Bitumen	25	3.06 km	1,224,409
Footpath Cycleways	Concrete	75	57.53 km	16,218,861
Footpath Cycleways	Pavers	70	0.56 km	336,695
Footpath Cycleways	Stencilled	70	0.42 km	393,702

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Major Culvert	Concrete	100	22	3,563,691
Major Culvert	Steel	80	1	37,882
Minor Culvert	Concrete	100	2153	30,620,427
Minor Culvert	Steel	80	6	281,090
Minor Culvert	uPVC	50	1	4,993

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Pavement Unsealed	Unsealed Roads - A Rural	35	160.76 km	8,904,659
Pavement Unsealed	Unsealed Roads - B Rural	25	205.31 km	6,941,732
Pavement Unsealed	Unsealed Roads - C Rural	30	159.92 km	3,098,568
Pavement Unsealed	Unsealed Roads - C Urban	35	10.51 km	163,306

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Road Formation	Regional	Infinite	67.31 km	5,256,273
Road Formation	Rural	Infinite	865.09 km	48,501,484
Road Formation	Urban	Infinite	140.16 km	10,923,009

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Road Seal	Asphalt 40mm	35	23.51 km	10,680,204
Road Seal	Asphalt 50mm	35	17.15 km	8,552,136
Road Seal	Bitumen	20	486.11 km	28,844,662

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Road Seal Structure	Concrete	110	4.0 km	3,046,093
Road Seal Structure	Gravel	60	440.67 km	143,837,297
Road Seal Structure	Stabilised	60	83.34 km	30,516,909

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Roadside Furniture	Barricade	30	21	96,142
Roadside Furniture	Bicycle Rack	30	11	24,917
Roadside Furniture	Bollard	30	161	276,185
Roadside Furniture	Clock	30	1	3,588
Roadside Furniture	Flagpole	30	9	39,930
Roadside Furniture	Guard Rail	55	11.68 km	3,090,395
Roadside Furniture	Guard Rail Terminal	55	3.89 km	1,842,456
Roadside Furniture	Lighting	50	16	204,009
Roadside Furniture	Line Marking	15	5	132,533
Roadside Furniture	Monument	30	7	114,753
Roadside Furniture	Pedestrian Fence	30	180	549,049
Roadside Furniture	Retaining Wall	30	5	1,523,120
Roadside Furniture	Rockfall Netting	30	1	243,222
Roadside Furniture	Rubbish Bin	30	96	289,162
Roadside Furniture	Seat	30	56	144,583
Roadside Furniture	Shelter	30	11	211,542
Roadside Furniture	Sign Panel	15	6204	943,790
Roadside Furniture	Sign Structure	30	4197	540,039

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Roadside Furniture	Solar Panels	30	4	53,240
Roadside Furniture	Sound Barrier	30	1	23,426
Roadside Furniture	Table	30	5	23,293
Roadside Furniture	Trees - Non-Depreciable	Infinite	4	315,261

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Surface Drainage		100	140.73 km	47,913,412

ASSET GROUP	ASSET TYPE	DESIGN LIFE	QUANTITY	REPLACEMENT COST ($)
Traffic Management	Pedestrian Refuge	20 - 80	171	2,424,486
Traffic Management	Roundabout	20 – 80	9	396,762
Traffic Management	Speed Hump	20 – 80	13	161,658
Traffic Management	Splitter Island	20 - 80	221	1,503,805

Appendix D – Asset Condition

The following table identifies the type of assessment undertaken for each asset type. Financial condition classification is simplified into a 1-5 scoring.

Condition Rating	Condition Type	Condition Rating Description
0	Excellent	A new asset or an asset recently rehabilitated back to new condition
0.5	Excellent	A near new asset with no visible signs of deterioration often moved to condition 0.5 based upon the time since construction rather than observed condition decline.
1	Excellent	An asset in excellent overall condition. There would be only very slight condition decline, but it would be obvious that the asset was no longer in new condition.
1.5	Excellent	An asset in very good overall condition but with some early stages of deterioration evident, but the deterioration still minor in nature and causing no serviceability problems.
2	Good	An asset in good overall condition but with some obvious deterioration evident, serviceability would be impaired very slightly.
2.5	Good	An asset in fair overall condition. Deterioration in condition would be obvious and there would be some serviceability loss.
3	Average	An asset in fair to average overall condition. The condition deterioration would be obvious. Asset serviceability would now be affected, and maintenance cost would be rising.
3.5	Average	An asset in average to poor overall condition. Deterioration would be quite moderate and would be starting to limit the serviceability of the asset. Maintenance cost would be high.
4	Poor -Significant Renewal	An asset in very poor overall condition with serviceability now being heavily impacted upon by the poor condition. Maintenance cost would be very high, and the asset would at a point where it needed to be rehabilitated.
4.5	Poor - Significant Renewal	An asset in extremely poor condition with severe serviceability problems and needing rehabilitation. Could also be a risk to remain in service.
5	Very Poor - Unserviceable	An asset that is no longer providing an acceptable LoS. If action is not taken, asset will need to be closed or decommissioned.
99	Not Maintained/Not Owned by Council	Condition of the asset is unknown. This is an asset that is not maintained by Council.

Asset Type	Condition Assessment Type	Description
Roads – Sealed	Asset condition is collected for all sealed roads within the LGA via visual inspection	The pavement and seal condition is calculated using a series of parameters as identified below: • Seal texture • Loss of surface aggregate • Surface defects • Surface deformations • Pavement cracking • Pavement edges • Pavement defects • Shoulder distress
Roads – Unsealed	Asset condition is collected for all unsealed roads within the LGA via desktop assessment	The unsealed pavement condition is calculated using a series of parameters as identified below: • Grading schedule • Tonnage applied
Bridges	Asset condition is collected for all bridges within the LGA via visual inspection	The bridge condition is calculated using a series of parameters as identified below: • Surface defects • Substructure defects • Superstructure defects • Deterioration • Public safety
Bus Shelters	Asset condition is collected for all bus shelters within the LGA via visual inspection	The bus shelter condition is calculated using a series of parameters as identified below: • Structure defects • Slab defects • Public safety
Culverts	Asset condition is collected for a percentage of culverts within the LGA via visual inspection and desktop assessment	The culvert condition is calculated using a series of parameters as identified below: • Structure defects • Blockage or obstruction • Misalignment or separation
Footpath & Cycleways	Asset condition is collected for all footpath and cycleways within the LGA via visual inspection	The footpath/cycleway condition is calculated using a series of parameters as identified below: • Cracking defects • Misalignment • Surface structure defects • Public safety

Asset Type	Condition Assessment Type	Description
Guard Rail & Terminals	Asset condition is collected for all guard rail and terminals within the LGA via visual inspection	The guard rail & terminal condition is calculated using a series of parameters as identified below: • Railing defects • Post defects
Roadside Furniture (signs, seats etc.)	Asset condition is collected for all roadside furniture within the LGA via visual inspection	The roadside furniture condition is calculated using a series of parameters as identified below: • Structure defects • Wear & tear defects • Cracking defects • Rust defects • Footings/anchor defects • Public safety
Surface Drainage (K&G)	Asset condition is collected for all surface drainage within the LGA via visual inspection	The kerb and gutter condition is calculated using a series of parameters as identified below: • Cracking defects • Misalignment • Chipping or spalling defects • Ponding • Public safety
Traffic Management	Asset condition is collected for all traffic management within the LGA via visual inspection	The traffic management elements condition is calculated using a series of parameters as identified below: • Cracking defects • Misalignment • Chipping or spalling defects • Ponding or shoving • Public safety

Appendix E – Relevant Council Documents

References and incorporated documents.

- Asset Management Policy (adopted September 2022)
- Asset Management Strategy 2022-2032
- Rebuilding the Richmond Valley Recover Plan Adopted 28 June 2022 (being the Delivery Program)
- Richmond Valley Made 2030 Community Strategic Plan Adopted by Council on 27 June 2017
- Resourcing Strategy 2015-2025
- Operational Plan 2022-2026 Adopted by Council 28 June 2022
- Long-Term Financial Plan 2022-2032 Adopted by Council 28 June 2022
- Road and Traffic Management Asset Management Plan Adopted by Council on 27 June 2017
- 2017-2018 Road and Transport Valuation Documentation
- Capital Works Program 10 Years - Roads - Renewal vs Upgrade
- Historical Expenditure of roads, bridges and footpath assets
- Roads and transport asset data incl. financials
- Roads Budget 10 Years
- Operations and Maintenance Budget last 5 years
- Subdivisions & Dedicated Assets
- Road and Transport Condition Report
- Micromex Reports - Richmond Valley Community Research 2013, 2016, 2021
- Council CRM data relevant to roads and transport assets
- Traffic Accidents Reporting
- Risk Management Framework Adopted 20 April 2021
- Risk Management Policy Adopted 25 June 2019
- Risk Management Procedure (reviewed December 2020)
- Safety Hazard-Risk Register
- Road and Traffic Condition Report
- Richmond Valley Draft Growth Management Strategy, GYDE Consulting, 2022.
- Draft Casino Place Plan, GYDE Consulting, November 2022

Relationships with Other Council Plans and Documents

The strategic goals and key performance indicators that are relevant to the management of road assets are included in the following documents:

Document	Description
Asset Management Policy	The Asset Management Policy supports Council's vision and strategic objectives, sets guidelines for asset management processes to manage infrastructure to provide a LoS to meet the needs of the community in a financially sustainable manner.
Asset Management Strategy	The Asset Management Strategy documents the approaches to be undertaken to achieve the AM Policy directions whilst proving a 'whole of organisation' view of Council's assets. The Strategy objective is to establish a framework to guide planning, construction, maintenance and operation of the infrastructure essential for providing services to the community.
Long-Term Financial Plan	The Long-term financial plan involves projected revenue, expenses and key financial impacts on Council. The direct links with asset management is renewing and managing assets to continue to provide appropriate range and LoS to a growing and changing community whilst maintaining a sound financial position.
Resourcing Strategy	The Resourcing Strategy ensures Council can complete its Delivery Program by addressing asset management, financial and human resourcing requirements. This consists of three components: Long-Term Financial Plan, Organisational Development Plans and Asset Management Plans.
Register of Public Roads	The Register of Public Roads published by the Richmond Valley Council will only contain the names of public roads that are under the care and maintenance of the Richmond Valley Council. Freeways or arterial roads which are the responsibility of TfNSW will not be listed in council's register. This council has produced an electronic register which is available for inspection at the customer service desk.
Northern Rivers Regional Transport Plan 2013	The Northern Rivers Regional Transport Plan was developed by the NSW State Government to address the future needs of this region and the impacts of elements within. It was developed to outline the future needs of the community including activity centres and transport infrastructure services.
Pedestrian Access Mobility Plan 2020	This PAMP has been prepared to create a suggested schedule for future footpaths and cycleways based on existing pedestrian and cyclist needs, future projects and plans for pedestrians of all ages and mobility.

Appendix F – 10 Year Capital Improvement Program

Project	Description	Renewal vs Upgrade	Budget 2022/2023	Budget 2023/2024	Budget 2024/2025	Budget 2025/2026	Budget 2026/2027	Budget 2027/2028	Budget 2028/2029	Budget 2029/2030	Budget 2030/2031	Budget 2031/32
Urban Local Roads & Bridges												
Roads to Recovery Program - Casino												
837950	Adam St - Cope St to Hare St	Renewal	140,000									
837950	Colches St - Richmond St to Barker St	Renewal		130,000								
837950	Lancaster Ave - McElroy St to Division St	Renewal			75,000							
837950	Lancaster Ave - Division to Eccles St	Renewal			75,000							
837950	Stapleton Ave - West St to Diary St (RTR $21,215)	Renewal			168,500							
	Booyong St - Woodburn St to Park Ln	Renewal				200,000						
SRV 14/15 - Casino												
837246	Country Lane Rehab	Upgrade	749,745									
837950	Anderson Ave - Hare St to Light St	Renewal		125,000								
837950	Casino Rds - Short St (South)	Renewal					121,272					
837950	Casino Rds - Gitana St - Canterbury St to Barker St	Renewal					100,000					
837950	Casino Rds - Oak Avenue	Renewal						256,000				
837950	Casino Rds - Shannon Ave - Hare St to Light St	Renewal							130,000			
837950	Casino Rds - Gillette St -Fergusson St to Canterbury St	Renewal							130,000			
837950	Casino Rds - Stapleton Ave - Diary St to Colches St	Renewal							130,000			
	Casino Rds - Diary Street - Canterbury to North	Renewal								100,000		
837214	Casino Rds - Convent Pde - Walker to Centre	Renewal								126,272		

Project	Description	Renewal vs Upgrade	Budget 2022/2023	Budget 2023/2024	Budget 2024/2025	Budget 2025/2026	Budget 2026/2027	Budget 2027/2028	Budget 2028/2029	Budget 2029/2030	Budget 2030/2031	Budget 2031/32
	Urban Rds - TBA	Renewal									426,000	425,000
Laneways												
	Oak Ln Casino	Renewal	75,000									
	Redwood Ln - Cedar St to Duke St (ie not Unsealed Lane)	Renewal				75,000						
	Redwood Ln - Cedar St to Duke St (ie not Unsealed Lane)	Renewal					75,000					
	Unallocated	Renewal		75,000	75,000			75,000	75,000	75,000	75,000	75,000
Evans Head		Renewal										
	Evans Rds - Booyong St - Park Ln to Beech St	Renewal								200,000		
Tree Planting Program												
837451	Town Entries	New	40,000	40,000								
Kerb & Gutter Replacement Program - All Areas												
837500	All Areas	Renewal	156,272	186,500	151,772	200,272	190,000	200,000	200,000	200,000	200,000	200,000
	Evans Hd - Booyong St	New	103,108									
Urban Road Sign Renewals												
837801	Urban Road Sign Renewal - Casino	Renewal	29,500	30,200	31,000	31,620	32,411	33,221	34,051	34,903	35,601	36,313
837802	Urban Road Sign Renewal - Broadwater	Renewal	3,500	3,500	3,600	3,672	3,764	3,858	3,954	4,053	4,134	4,113
837803	Urban Road Sign Renewal - Coraki	Renewal	4,900	5,100	5,200	5,304	5,437	5,573	5,712	5,855	5,972	5,974
837804	Urban Road Sign Renewal - Evans Head	Renewal	9,300	9,500	9,700	9,894	10,141	10,395	10,655	10,921	11,140	11,105
837807	Urban Road Sign Renewal - Woodburn	Renewal	4,900	5,100	5,200	5,304	5,437	5,573	5,712	5,855	5,972	5,974
	All Areas	Renewal	52,100	53,400	54,700	55,794	57,189	58,619	60,084	61,586	62,818	63,479
Urban Reseal Program												
837600	Casino	Renewal	255,871	260,988	266,208	271,532	276,963	282,502	288,152	293,915	299,794	305,790
837605	Broadwater	Renewal	35,849	18,464	18,833	19,210	20,000	21,000	21,420	21,848	22,285	21,889
837610	Coraki	Renewal	59,748	30,773	31,389	32,017	33,000	34,000	34,680	35,374	36,081	36,803
837615	Evans Head	Renewal	96,662	98,595	100,567	102,579	105,000	106,000	108,120	110,282	112,488	114,738
837620	Evans Head	Renewal	47,799	24,619	25,111	25,613	26,000	27,000	27,540	28,091	28,653	27,983

Project	Description	Renewal vs Upgrade	Budget 2022/2023	Budget 2023/2024	Budget 2024/2025	Budget 2025/2026	Budget 2026/2027	Budget 2027/2028	Budget 2028/2029	Budget 2029/2030	Budget 2030/2031	Budget 2031/32
	All Areas	Renewal	495,929	433,440	442,109	450,951	460,963	470,502	479,912	489,511	499,301	507,202
Urban Heavy Patching Program												
837625	Casino	Renewal	35,225	18,276	18,733	19,201	19,681	20,000	20,400	20,808	21,224	20,890
837626	Broadwater	Renewal	7,047	3,656	3,747	3,841	3,937	4,000	4,080	4,162	4,245	4,178
837627	Coraki	Renewal	16,437	8,528	8,741	8,960	9,184	9,200	9,384	9,572	9,763	9,614
837628	Evans Head	Renewal	18,786	9,747	9,991	10,241	10,497	10,500	10,710	10,924	11,143	10,973
837629	Woodburn	Renewal	10,568	5,483	5,620	5,761	5,905	6,000	6,120	6,242	6,367	6,267
	Urban Heavy Patching - All Areas	Renewal	88,063	45,690	46,832	48,004	49,204	49,700	50,694	51,708	52,742	51,921
RMS Active Transport Program												
837730	RMS Active Transport Program	Upgrade	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000
837677	Wombat Crossing Package 1 - Evans Head, Coraki	New	29,428									
837678	Wombat Crossing Package 2 - Casino	New	4,100									
Sealed Rural Local Roads & Bridges												
Roads to Recovery Program												
	Fogwells Rd - CH 8000 to 9000	Renewal	400,000									
	Coraki Ellangowan Rd West 0 to 2570 (RTR $462,215)	Renewal	650,000									
	Springrove Rd - CH 6900 to 7800	Renewal		400,000								
	McDonalds Bridge Road - west of Northfields Rd (RTR $472,215)	Renewal		628,500								
	McDonalds Bridge Road - west of Northfields Rd	Renewal			431,000							
	Benns Rd - CH TBA	Renewal			400,000							
840022	Rappville Rd - CH TBA	Renewal				501,000						
840026	Reynolds Rd - CH TBA (RTR $301,215)	Renewal				400,000						
Sealed Rural Local Roads & Bridges												
	Benns Rd - CH tba	Renewal	1,289,500									

Project	Description	Renewal vs Upgrade	Budget 2022/2023	Budget 2023/2024	Budget 2024/2025	Budget 2025/2026	Budget 2026/2027	Budget 2027/2028	Budget 2028/2029	Budget 2029/2030	Budget 2030/2031	Budget 2031/32
	Reynolds Rd - TBA	Renewal	30,000	231,272	400,000							
	Rappville Rd - CH TBA	Renewal	101,942									
	Naughtons Gap Rd (Fixing Local Roads)	Renewal	484,008									
	Wyan Rd - Clarkes Road Section	Renewal				400,000						
	Fairy Hill Station Rd - CH TBA	Renewal					400,000					
	Rappville Rd - CH TBA	Renewal					450,000					
	Wyan Rd - Clarkes Road Section	Renewal					400,000					
	Bridge Design - TBA	Renewal					40,000					
	Coraki Ellangowan Rd West 1500 to 2200	Renewal						300,000				
	Springrove Rd - CH 10000 to 11000	Renewal						480,000				
	Bridge TBA	Renewal						350,000				
	Springrove Rd - CH 11000 to 12000	Renewal							400,000			
	Sextonville Rd - Elfords Rd west for 1km	Renewal							800,000			
	Stratheden Rd - CH TBA	Renewal								850,000		
	McDonalds Bridge Rd - west of Northfields Rd - CH TBA	Renewal										
	Bridge TBA	Renewal								350,000		
	Stratheden Rd - CH TBA	Renewal									450,000	
	Ellangowan Rd - CH TBC	Renewal									750,000	
	Ellangowan Rd - CH TBC	Renewal										600,000
	Stratheden Rd - CH TBA	Renewal										600,000
Capital Grants Works		Renewal		400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000
839605	Heavy Patching	Renewal	112,925	115,748	118,642	121,608	124,648	127,764	130,958	134,232	137,588	141,028
839200	Rural Roads Drainage	Renewal	38,376	39,144	39,927	40,726	41,541	42,372	43,219	44,083	44,965	45,864
839300	Signage Renewal	Renewal	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
839400	Guardrail Replacement Program	Renewal	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000
839600	Rural Reseal Program	Renewal	824,317	993,703	1,013,474	1,033,669	1,076,281	1,097,807	1,125,252	1,153,383	1,182,218	1,211,773

Project	Description	Renewal vs Upgrade	Budget 2022/2023	Budget 2023/2024	Budget 2024/2025	Budget 2025/2026	Budget 2026/2027	Budget 2027/2028	Budget 2028/2029	Budget 2029/2030	Budget 2030/2031	Budget 2031/32
Sealed Rural Regional Roads & Bridges												
841055	MR145 Woodburn-Coraki Rd Major Upgrade ($10m)	Upgrade	7,000,000									
	MR153 Woodburn-Evans Head Rd CH2.9-3.6 REPAIR	Renewal	346,096									
842002	Willox Bridge (Fixing Country Bridges)	Renewal	815,588									
	Contribution to REPAIR Program	Renewal		180,521	184,131	187,814	191,570	195,401	199,309	203,295	207,361	211,508
841300	Signage Renewal	Renewal	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
841600	Reseal Program	Renewal	108,000	108,000	108,000	108,000	108,000	108,000	108,000	108,000	108,000	108,000
841605	Heavy Patching	Renewal	235,000	240,000	240,000	250,000	250,000	250,000	270,000	290,000	300,000	300,000
Unsealed Rural Local Roads & Bridges												
843020	Gravel Resheets	Renewal		475,850	500,069	664,768	684,960	705,657	726,870	745,042	763,668	782,760
843030	Additional Gravel Resheets	Renewal	248,566	243,033	137,481	139,833	142,900	142,900	142,900	142,900	142,900	242,900
Footpaths												
Casino												
	Hotham Street - Canterbury to Barker (western side)	New			45,000							
	Graham Place - Walker St to Library Entrance	New			25,000							
	Hickey Street - connect existing to Barker St (eastern side)	New				25,000						
Broadwater												
	Broadwater Evans Head road - Pacific Hwy to McDonald St	New	40,000									
Coraki												
	Adams Street - Bridge to Richmond (southern)	New		27,000								
Evans Head												
	Elm Street - Oak Lane to Cedar (western)	New		10,000								
	Elm Street - Cedar to Cherry (western side)	New				25,000						

Project	Description	Renewal vs Upgrade	Budget 2022/2023	Budget 2023/2024	Budget 2024/2025	Budget 2025/2026	Budget 2026/2027	Budget 2027/2028	Budget 2028/2029	Budget 2029/2030	Budget 2030/2031	Budget 2031/32
Woodburn												
	Wagner Street - Cedar to Woodburn (northern)	New	30,000									
	Woodburn Street - Wattle to Booyong (eastern)	New		33,000								
	Cedar Street - River to Richmond (western side)	New				20,000						
Renewals to be allocated												
845199	Casino Footpaths - Renewals to be allocated	Renewal	21,600	22,000	22,500	23,000	93,500	94,000	95,000	96,000	97,500	97,500
845499	Evans Head Footpaths - Renewals to be allocated	Renewal	9,000	9,100	9,300	9,500	10,000	10,250	10,506	11,000	11,500	11,500
Aerodromes - Casino												
846100	Linemark Runway	Renewal			5,000							

Appendix G – Summary 10 Year Financial Forecast

FORECAST EXPENDITURE											
Asset Category	Forecast Expenditure	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2031/2032
Sealed Roads	Operations	2,585,137	2,615,247	2,673,571	2,699,416	2,748,801	2,891,200	2,908,716	2,986,597	303,1153	3,121,753
	Maintenance	869,369	892,697	922,460	948,177	982,712	1,007,378	1,028,904	1,044,660	1,075,994	1,112,928
	Renewal	5,713,528	4,471,918	4,515,087	4,558,838	4,400,396	4,291,165	4,428,429	4,496,798	4,555,993	4,601,775
	Upgrade	7,789,745	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000
	New Assets	73,528	40,000	-	-	-	-	-	-	-	
Unsealed Roads	Operations	379,090	386,464	397,797	404,715	415,108	438,627	446,398	463,934	479,316	504,814
	Maintenance	1,075490	1,102,378	1,129,937	1,159,403	1,189,637	1,220,662	1,252,501	1,285,172	1,318,697	1,353,098
	Renewal	248,566	718,883	637,550	804,601	827,860	848,557	869,770	887,942	906,568	1,025,660
	Upgrade	-	-	-	-	-	-	-	-	-	-
	New Assets	-	-	-	-	-	-	-	-	-	-
Bridges	Operations	38,713	39,682	40,675	41,739	42,835	43,959	45,114	46,297	47,512	48,760
	Maintenance	31,823	32,617	33,435	34,307	35,198	36,114	37,056	38,019	39,007	40,022
	Renewal	815,588	-		-	-	-	-	-	-	-
	Upgrade	-	-	-	-	-	-	-	-	-	-
	New Assets	-	-	-	-	-	-	-	-	-	-
Footpaths	Operations	83,224	84,571	87,324	88,418	90,430	97,042	96,969	99,807	100,757	104,049
	Maintenance	43,256	44,339	45,450	46,641	47,872	49,129	50,423	51,752	53,109	54,507
	Renewal	30,600	31,100	31,800	32,500	103,500	104,250	105,506	107,000	109,000	109,000
	Upgrade	-	-	-	-	-	-	-	-	-	-
	New Assets	70,000	70,000	70,000	70,000	-	-	-	-	-	-

Appendix H – Capital Works Evaluation Module

Council is reviewing a Capital Works Evaluation Module which involves the following workflow:

Initial Concept: The first review is an overarching assessment to determine if the capital works conforms with current management plans and corporate policies. This considers the community current and future needs and identification or corporate supporting criteria.

Justification: The justification phase assesses against Asset Management Plans, Council Strategies, Plans of Management and any financial and timing criteria.

Consequence Evaluation: This phase determines a consequence rating associated with not undertaking the project. This scoring is used with the justification ranking with a matrix assessment applied.

Financial Analysis: This stage determines the financial impacts of a project on Council. For any new assets the WOL evaluation module should be applied. A minimum level analysis on all assessments should include project expenditure and cash flow, finding sources and the project revenue.

Cost Benefit Analysis: Identification of benefits undertaking the project, justifiable expenditure, economic, social and environmental factors.

Project Ranking: The final stages determine an overall project ranking. This is calculated through the justification score x consequence score. Project ranking/weighting scores to identify/compares projects of level of importance.