Moyne Shire Council

Road Infrastructure

2022 Asset Plan

Version control

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Contents

Acknowledgement of country

Moyne Shire Council acknowledges the traditional owners and custodians of the lands, waterways and country we live in.

We recognise and respect their diversity, resilience, and the ongoing place that Aboriginal and Torres Strait Islander people hold in our communities.

We pay our respects to the Elders past, present and emerging, and commit to working together in the spirit of mutual understanding, respect and reconciliation.

1. Introduction

1.1. Purpose

This Road Infrastructure Asset Management Plan (RIAMP) details information about relevant infrastructure assets, with actions required to provide an agreed level of service in the most cost-effective manner whilst managing associated risks.

Covering a 10-year planning period, the RIAMP defines the asset services to be provided, how services are provided, how road infrastructure assets will be managed, and the resources required. The RIAMP will link to Council's Long-Term Financial Plan (LTFP). This also covers a 10-year planning period.

The RIAMP should be read in conjunction with other Moyne Shire asset and strategic planning documents, namely Asset Plan 2022 and Asset Management Policy 2022. Other key documents that should also be referenced include:

- My Moyne, My Future 2040
- 2021-2025 Council Plan
- Long Term Financial Plan
- 2021 Road Management Plan
- Relevant Master Plans, Structure Plans and Precinct Plans
- Asset condition audits and reports
- Asset upgrade or renewal plans

1.2. Corporate framework

1.2.1. Vision and goals

The RIAMP is prepared under the direction of Moyne Shire Council's vision, goals and objectives.

The people of Moyne embrace the region's extraordinary cultural and ecological country. Our fertile volcanic plains and pristine coast are the pride of Victoria's southwest.

From coast to country, our connected and vibrant communities are active stewards, working meaningfully towards the protection and advancement of environment, history, social and economic vitality for present and future generations.

My Moyne, My Future 2040 presents the community aspirations to support this Vision Statement under four pillars: Place, Environment, People and Economy. These aspirations and pillars (Figure 1) are reflected in the 2021-2025 Council Plan. Along with Asset Plan 2022, the RIAMP supports the implementation of these two important strategic documents.

Figure 1 - My Moyne My Future 2040 pillar priorities

1.2.2. Council Plan strategies

Key 2021-2025 Council Plan strategies that the RIAMP responds to include:

- Advocate for the provision of infrastructure and services to enable and support new development.
- Support transport, mobility and connections across the shire through local roads, footpaths, tracks and trails.
- Ensure that urban development enables safe and accessible walking and cycling connections to local facilities and services.
- Continue to invest and advocate for funding the shire's and region's road network and continued investment in upgrades to the Princes Highway.
- Work with developers on provision of road and connecting infrastructure for sub-division projects.
- Continue to create connected and active communities through the design, delivery and upgrades of walking and cycling networks, including the Port Fairy to Warrnambool Rail Trail.

- Advocate for funding to renew the Griffiths Street Bridge, Port Fairy.
- Continue to implement and review Council policies and plans that include proposals for active and connected community and asset projects.
- Advocate and support the recommendations of the Dairy Supply Chain Study for local road improvements.
- Support healthy communities through open space, urban and housing development design and investment that enable active recreation, access to housing and social and physical connections.

2. Goals and objectives for asset ownership

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

- Providing a defined level of service and monitoring performance.
- Managing the impact of growth through demand management and infrastructure investment.
- Taking a lifecycle approach to developing cost-effective management strategies for the long term that meet the defined level of service.
- Identifying, assessing and appropriately managing risks.
- Linking to the LTFP which identifies works required, affordable forecast costs and allocations.

Key elements of the planning framework are:

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

3. Moyne road infrastructure assets

3.1. Summary profile

The RIAMP covers the infrastructure assets that deliver essential travel and transport connections for businesses, residents and visitors to move safely across the shire and region, link key destination points and centres of economic and social activity, and encourage active and accessible mobility.

The road infrastructure network includes:

- Sealed and unsealed roads
- Bridges and roundabouts
- Footpaths, tracks and trails
- Traffic control infrastructure
- Kerb and channel
- Public car parks and parking
- Ancillary assets such as bollards and guard rails, pedestrian crossings, and signage.

3.2. Hierarchy

Asset hierarchies establish the nature, role and function of an asset and its level of importance in terms of use, demand and purpose. The hierarchy is used for asset planning, resourcing, investment and determining the service level that can be expected from a particular asset.

The Register of Public Roads includes all the municipal roads that Council has deemed are reasonably required for general public use, classified as follows under rural roads, urban streets and lanes:

- Sealed
- Gravelled
- Formed and unpaved

Council has adopted a road, bridge and footpath hierarchy to ensure that levels of service such as management, engineering standards and maintenance regimes are applied to these assets based upon their function. This ensures that Council's financial and physical resources are allocated based upon the community's priorities.

The rural road hierarchy is based upon a three tier system of Link, Collector and Access roads, with Link being the highest category. Because of the small size of most townships in the shire, the urban roads, other than arterial roads, have all been classified as Access Roads, with sub-categories of CBD Access Roads, Local Access Streets, or Lanes.

The table below provides the definitions of Link Roads, Collector Roads and Access Roads in both urban and rural situations:

Table 1 - Moyne Shire road hierarchy summary

Rural	**Link**	Part of major truck route and/or passenger vehicle route through the shire, which is not an "arterial" road as defined under the Road Management Act, with traffic volumes generally exceeding 150 vehicles/day		
	Collector	Provides a connection between traffic generators and destinations, or provides a connection between arterial roads, link roads and destinations, with traffic volumes generally exceeding 70 vehicles/day		
	Access	Access to abutting properties is prime purpose.		
		Sealed	A Rural Access road with a sealed surface	
		Gravel Level 1	A gravel surface Rural Access road which is a bus route and/or a milk tanker route and/or carries a high percentage of trucks	
		Gravel Level 2	A gravel surface Rural Access road which carries minor local traffic	
		Formed Unpaved	An unsealed Rural Access Road which is formed but unpaved	
		Unformed/Unpaved Fire Access Track	An unformed track with a prime function of access for fire fighting vehicles or as an escape route during fires	
Urban	**Access**	**CBD Road**	Streets supporting commercial centres of Mortlake, Port Fairy, Koroit and Macarthur	
		Local Street	**Street - Sealed**	Urban streets, (other than the commercial centre roads in Mortlake, Port Fairy, Koroit and Macarthur,) which provide primary access to properties
			Street - Gravel	
			Street Formed & Unpaved	
			Street – Unformed/Unpaved Fire Access Track	
		Lane	**Lane - Sealed**	Lane provides secondary access, and/or rear access to properties
			Lane - Unsealed	
Ancillary Assets	Car park, picnic area, rest area on Arterial, Link, Collector or Access road reserve for which Council is Responsible Authority			

Table 2 - Moyne Shire bridge hierarchy

Bridges	**Bridge**	**Long Life**	Concrete, stone or steel construction
		Short Life	Timber construction
	Footbridge	**Long Life**	Concrete, stone or steel construction
		Short Life	Timber construction

Table 2 - Moyne Shire footpath / shared path hierarchy

Footpath type	Function / description
CBD footpath / shared path	CBD, near schools, elderly persons and high use areas of the major towns of Port Fairy, Mortlake, Macarthur and Koroit.
Other footpaths / shared paths	Constructed footpaths and shared pathways on roads in all other locations, including the smaller townships and residential areas and the Port Fairy to Warrnambool Rail Trail.

These hierarchy frameworks will form part of the decision making approach for Council and community for the planning, development, management, investment and / or rationalisation for existing and new road infrastructure assets.

3.3. Road infrastructure asset valuation

The best available valuation estimates for Moyne road infrastructure assets are shown below.

- Replacement cost (current / gross) $635,620,471
- Depreciable amount $633,940,181
- Depreciated replacement cost $439,767,041
- Annual depreciation $9,224,593

New or gifted road infrastructure will add to operations and maintenance needs in the longer term. These assets will require additional funds for maintenance and future renewal, as well as add to depreciation forecasts.

3.4. Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the RIAMP, namely:

- Asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years); and
- Medium-term forecast costs/proposed budget (over 10 years of the planning period).

3.5. Key stakeholders

There are a number of stakeholders and communities involved in the planning, management and investment in Moyne's road infrastructure assets. These include:

- Residents and businesses using or adjoining the road network
- Tourists and visitors to the area (for recreation, sport, leisure and business)
- Emergency agencies (police, fire, ambulance, SES)
- Special interest groups (e.g. dairy industry)
- Pedestrians (including the very young, those with disabilities, and the elderly with somewhat limited mobility)
- Users of a range of miscellaneous smaller, lightweight vehicles such as cyclists, motorised scooters, wheelchairs, prams, etc.
- Vehicle operators using motorised vehicles such as trucks, buses, commercial vehicles, cars and motorcycles
- Construction and maintenance personnel who build and maintain asset components
- Utility agencies that utilise the road reserve for their infrastructure (water, sewerage, gas, electricity, telecommunications)
- Council as the responsible road authority
- State and Federal Government, which periodically provide support funding to assist with management of the network.

3.6. Considerations and influences

People's use and demand for road infrastructure is critical, as it services various commercial industries and connections to destinations such as workplaces, family, recreation, leisure activities, critical services, food, care and emergency response.

Transport plays a vital part of our communities' economic, social and cultural life. With Moyne Shire covering a large geographic area, residents rely on this infrastructure to traverse safely and to stay connected. Understanding growth, economic and transport trends is important for planning and investment in road infrastructure assets to better enable and connect people to other cities, communities and economic hubs.

In support of this aim, the RIAMP and the Road Management Plan adopted by Council in 2021 intends to meet the requirements of the Road Management Act 2004 and minimise safety risk in regard to council controlled roads and infrastructure.

The following summarises key trends:

- The agricultural, food and forestry economic profile of the shire will create further pressure on road infrastructure condition and maintenance regimes, safety and construction design to ensure that larger commercial vehicles can safely and efficiently link markets, supplies and consumers.
- For Moyne Shire, there is increasing pressure to investigate town bypasses to remove large commercial vehicles from busy, multi-use local roads, particularly for Port Fairy and Koroit.
- Regional and rural communities face population, economic and investment challenges. Improving rural transport connections can help to mitigate these challenges and provide new economic and social opportunities. This will include improvements to regional transport connections and transport planning at a regional and local level.
- With increases in personal active transport such as cycling and walking, the capacity of the existing network to safely cater for these activities will need to be considered, with a higher emphasis placed on community engagement with various user groups and the broader community. In addition, the design of new road infrastructure will need to consider these users, which may lead to an increase in design, build and maintenance costs.
- Major energy and economic projects across the region and the shire have and will continue to impact on road condition, improvements and safety management of road users. Project proponents are required to provide road and traffic plans as part of development planning, with road renewal a high concern for residents, Council and general road users. A key issue is that many of these developments are located in more remote areas of the shire – whereby access to main transport routes is difficult – and construction transport frequently uses rural and local roads that have not been constructed to cater for the volume, size and weight of larger transport vehicles.

- Population growth will lead to greater demand for road infrastructure, including improved or new roads, particularly to serve new residential developments.
- Like other shire assets, some road infrastructures are ageing and may be reaching end of life. This particularly applies to bridge infrastructure across the shire. Failure of this asset class present a high risk to users, would significantly disrupt travel and mobility, and are high cost items to repair or replace.
- Emerging and developing transport and vehicle technologies and innovations may influence how road infrastructure is designed and built. Whilst these current technologies have a high focus on reducing carbon emissions, driverless vehicles, more workers in the service economy, and more workers working from home will, over time, change road usage patterns and road infrastructure planning.
- Community expectations to have access to quality road infrastructure is increasing from rural unsealed roads being sealed, new footpaths to link key destinations and quick response times for road repairs. Resourcing to meet these expectations needs to be continually factored into road infrastructure budgets and works planning.
- As an important visitor destination, including domestic and international visitors, road safety is a key planning consideration. Providing clear signage, directional road markings, additional parking facilities at visitor destination points, and safe intersections are increasingly monitored through traffic counts and visitor data.
- Climate change and weather events have significant impacts of road infrastructure design, materials and construction. With rising construction and plant / equipment costs, maintenance budgets will need adjusting to ensure that safe road infrastructure can continue to be provided across the shire. In addition, the investment in kerb, channel and storm water drainage systems will need to be designed to meet higher demand and reduce flooding and asset damage impacts for weather events.
- Climate and weather events also impact on footpath and other path networks. Options for more permeable materials whilst ensuring safe, all access paths will need investigating.
- The cost of building and maintaining road infrastructure is increasing at a rate faster than road-related funding and, coupled with an ageing workforce and skills shortages, resourcing road infrastructure investment will continue to be a challenge.

It will be necessary to develop adaptation responses for assets and infrastructure to address forecast impacts from climate change and build asset resilience. The resilience of our critical road infrastructure is vital to the ongoing provision of services to customers. We need to understand our capacity to “withstand a given level of stress or demand”, and to respond to possible disruptions to ensure continuity of service. We do not currently measure our resilience in service delivery. This will be included in future iterations of the RIAMP.

4. Road infrastructure service levels

An important part of asset management is to connect service levels, demand and risk to focus investment where improvement to asset condition will address these elements.

4.1. Condition

Road infrastructure condition, in particular roads and footpath, is currently monitored through targeted inspections, responses to customer service requests, condition audits, risk audits and maintenance and other works in line with Council's Road Management Plan. Other road infrastructure assets maintenance and renewal generally occurs on an as needs basis – e.g. replacement of a damaged sign or bollard, and pot hole repairs. Condition is measured using a 1 – 5 grading system as detailed in Table 2.

Table 2 - Asset condition and data grading

Condition grading	Description	Data confidence	Description
1	**Very good**. Only planned maintenance required	**A**	**Highly reliable**. Sound data, records and / or audits
2	**Good**. Minor maintenance required plus planned maintenance	**B**	**Reliable**. Sound data, records and / or audits with some shortcomings or gaps.
3	**Fair**. Significant maintenance required with some areas of renewal and upgrades	**C**	**Uncertain**. Data incomplete or, limited in scale
4	**Poor**. Significant maintenance and renewal and / or upgrades required	**D**	**Very uncertain**. Unconfirmed data based on verbal reporting or estimates or out of date data.
5	**Very poor**. Physically unsound or no longer fit for purpose. Beyond reasonable or achievable rehabilitation.		

The current condition grade averaged over all road infrastructure assets across the shire has been assessed as "Good" as shown in Table 3.

Table 3 – Road infrastructure condition profile

Asset class	Condition grade	Data confidence	Comments
Road infrastructure	2 - Good	A – Highly reliable	Supported by Road Management Plan and regular proactive inspections for maintenance and condition assessments.

4.2. Provision and service standards

Council operates a four-year rolling program for municipal road construction projects. Each year the list of roads identified as requiring construction or rehabilitation is reviewed, taking into account:

- Funds available (from internal as well as external grants or developments)
- Reports from Pavement Management System inspections
- Safety issues identified from inspections or service requests
- Sealing histories
- Reports from maintenance crews
- Service requests – Council and community
- Sealed road inspections
- Reports of dust problems.

The first priority in managing the municipal road network is to resurface a fixed percentage of the sealed road network each year. This includes final seals on primerseals, reseals and other resurfacing techniques, and results in roads being resurfaced at appropriate intervals.

To ensure roads scheduled to be resurfaced are in good condition, the first priority for road construction funds is major patching or rehabilitation of these roads.

Council regularly consults with its community regarding the standards of road construction and maintenance, and road rehabilitation priorities. Feedback is regularly received from the Moyne Shire community via a number of mechanisms:

- Annual Department of Victorian Communities community satisfaction surveys
- Council's service request system
- Various public meetings in locations across the shire
- Councillors
- Regular meetings with workers at each of the four Council depots
- Regular meetings of Council's road managers and supervisors.

Standards for new bridges/major culverts, rehabilitation of existing structures and installation of cattle underpasses, guard rail and bus shelters are all in accordance with the relevant Austroads and VicRoads design guidelines and/or Australian Standards.

Bridge and major culvert designs are carried out by Regional Roads Victoria prequalified bridge design engineers or suitably qualified and experienced consultants.

In commercial areas, where footpaths are to be constructed from building line to back of kerb, the generally adopted standard is a sealed surface supported by a crushed rock pavement. In some high profile CBD areas a higher standard with differing materials may be provided.

For all other areas, the general standard is a 1.5m or 2m wide concrete path, supported by a granular pavement.

Bicycle/shared paths are constructed in accordance with Australian Standards and Council's Bicycle Strategy when external funding becomes available.

5. Levels of service for road infrastructure

Service levels are defined in three ways: **customer values, customer levels of service and technical levels of service**. Council has completed an assessment of the levels of service against these three themes to inform future planning, management and funding for road infrastructure assets across the shire. Details of these assessments are presented in Appendix A – Service levels:

The RIAMP will facilitate future consultation on service levels. Future revisions of RIAMP will incorporate customer consultation on service levels and costs of providing the service. This will assist Council and stakeholders to assess the level of service required, service demand, risks and consequences. Decisions for investment will consider Council's and community's capacity and willingness to pay for diverse services across this large asset portfolio.

5.1. Customer values

Customer values, shown in Table 8 in Appendix A – Service levels, indicate:

- The aspects of the service which are important to the community
- Whether there is value in what is currently provided
- The likely trend over time based on the current budget provision.

5.1.1. Customer values summary

- Providing essential transport links for use by the general public and stakeholders
- Maximise road safety principles for road users
- Achieving road improvements in a sustainable manner.

5.2. Customer levels of service

Setting levels of service considers the following three asset features:

- **Condition:** How good is the service? What is the condition or quality of the service?
- **Function:** Is it suitable for its intended purpose? Is it the right service?
- **Capacity / use:** Is the service over or under used? Do we need more or less of these assets?

5.2.1. Customer levels of service summary

- Ensure road planning and investment is compliant with the Road Management Plan and all road infrastructure and engineering standards.
- Resource and investment allocations are sufficient to deliver the Road Management Plan compliance and standards.

5.3. Technical levels of service

Technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

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

- **Acquisition** – the activities to provide a higher level of service (e.g. widening of a road or sealing of an unsealed road) or a new service that did not exist previously (e.g. new roads or footpaths associated with a new residential sub-division).
- **Operation** – the regular activities to provide services (e.g. plant and equipment replacement, staff and contractors, etc.).
- **Maintenance** – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. pothole repairs, unsealed road grading, line marking).
- **Renewal** – the activities that return the service capability of an asset up to that which it had originally provided (e.g. road resurfacing, signage replacement, pavement renewal).

Service and asset managers plan, implement and control technical service levels to influence the service outcomes. It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged that trends and external influences such as technology and customer priorities will change over time.

5.3.1. Technical service levels summary

- Undertake road widening works on narrow roads where road safety issues are identified, e.g. blind corners and crests.
- Ensure road infrastructure assets acquired by Council from external sources are in accordance with standards.
- Implement a rolling program of road infrastructure condition inspections in order to:
  - Identify road defects to maintain road network to prolong condition
  - Meet RMP compliance and performance
  - Ensure that there are sufficient staff / contractors and the skills required to respond to road network maintenance and construction requirements.

More details on the customer and technical levels of service are presented in Appendix A – Service levels.

5.4. Service levels budget commentary

Table 4 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the forecast activity requirements being recommended in the RIAMP.

Table 4 - Service levels budget summary

Current budget allocations	Recommended budget considerations
Acquisition	
Trigger road condition and road volumes, referencing to road design standard.	One initiative completed each financial year supported by capital budget. Additional initiatives completed with external funding sources.
Operation	
Current budget allows for inspections to meet Road Management Plan compliance and identify other maintenance activities. Data on condition is adequate to make decisions. Budgets are satisfactory to meet Road Management Plan compliance.	Continue to maintenance conduct condition assessments on road assets on a cyclic program to determine on going and long-term renewal programs that inform future budgets.
Maintenance	
Budgets are satisfactory to meet Road Management Plan compliance.	Future budget could be increased to increase public satisfaction for service.
Renewal	
Level of service not to the satisfaction of the community as budget is lower than other comparable councils.	Increase in accordance to available data and funds. Level of service is satisfactory and to be communicated to public. Clarify the difference between arterial roads and local roads.
Rationalisation	
Currently in line with adopted budget	Sufficient for current programming. Rationalisation plan to identify unused roads.

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged changing circumstances such as technology and customer priorities will change over time.

6. Lifecycle management plan

6.1. Financial management

6.1.1. Forecast financial summary

The RIAMP identifies the forecast operations, maintenance and renewal costs required to provide an agreed level of service to the community over a 10-year period. This provides input into a 10 year financial and funding plan aimed at providing the required services in a sustainable manner. This forecast work can be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall.

Table 5 - Summary of financial asset forecasts over the 10-year planning period

Cost item	Current budget	Estimated forecast	Financial gap
Total asset spend	$127.451m	$194.466m	$67.015m
Operations, maintenance and renewal	$127.451m	$194.466m	$67.015m
Acquisition	$0.0m	$0.0m	$0.0m

RIAMP assets have an estimated replacement value of approximately $636 million.

The forecast operations, maintenance and renewal costs over the 10 year planning period is $19,446,560 on average per year. *Note, these calculations exclude acquisition costs.* The current actual budget for operations, maintenance and renewal is $12,745,108 on average per year, giving a 10-year funding shortfall of $6,704,452 per year. This indicates that 65% of the forecast costs needed to provide the services documented in the RIAMP have been allowed for in the current LTFP.

Estimated total available funding for all road infrastructure renewal, upgrade, acquisition, operations and maintenance for the 10-year period is $127,451,108, or $12,745,108 on average per year as per the LTFP. This is 65% of the cost needed to sustain the current level of service at the lowest lifecycle cost.

The anticipated planned budget for all road infrastructure investment leaves a shortfall of $6,701,452 on average per year of the forecast lifecycle costs required to provide services in the Road Infrastructure AMP compared with the planned budget currently included in the LTFP.

The current infrastructure reality is that only what is funded in the long-term financial plan can be provided. Informed decision making depends on the RIAMP providing an understanding of the consequences of planned budgets versus forecast requirements on the service levels desired and strategies to address the renewal and investment gap.

6.1.2. Funding ratios

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 39.78% of the funds required for the optimal renewal of assets.

Table 6 - Forecast costs (outlays) for the LTFP ($Ms)

Year	Acquisition	Operation	Maintenance	Renewal
2022	$0.00	$0.15	$3.493	$18.907
2023	$0.00	$0.05	$3.493	$15.471
2024	$0.00	$0.00	$3.493	$12.996
2025	$0.00	$0.00	$3.493	$14.542
2026	$0.00	$0.15	$3.493	$16.178
2027	$0.00	$0.00	$3.493	$16.178
2028	$0.00	$0.05	$3.493	$16.178
2029	$0.00	$0.00	$3.493	$16.178
2030	$0.00	$0.15	$3.493	$16.178
2031	$0.00	$0.00	$3.493	$16.178
TOTAL	**$0.00**	**$0.550**	**$34.931**	**$158.984**

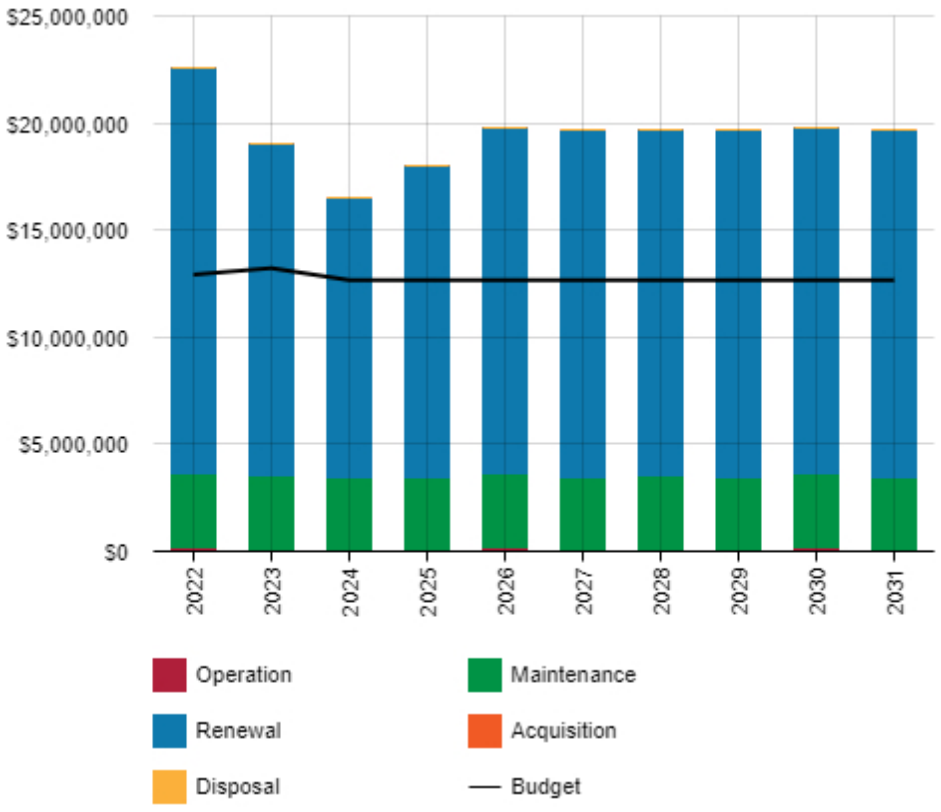

Figure 2 - Forecast lifecycle costs and planned budgets

The key factors that contribute to the lifecycle costs shown on the previous page include:

- Potential large investments that have been identified for key road infrastructure assets include but are not limited to:
  - Koroit streetscape redevelopment including footpath, kerb and channel and other major infrastructure upgrades
  - Renewal of Gipps Street Bridge, Port Fairy
  - Renewal of bridge infrastructure across the shire
  - Rolling program of road infrastructure renewal and upgrades across the shire.
- Consideration of future road use in respect to new or changing industry, land use changes, high density living or larger transport vehicles.
- Very high replacement and maintenance costs for the shire's ageing road network assets due to supply chain shortages and skills shortage. Increasing contractor costs associated with renewal activities in civil construction.
- Provision of construction materials needing to be more environmentally sustainable.
- Increased demand change in vehicle types and load capacity.
- Design of asset renewal to an increased capacity due to design standards meeting future needs and addressing climate change events.
- Investment in accessibility (DDA) and new codes or requirements not previously catered for in road and footpath designs or construction methods.
- Risk mitigation activities to meet the Council adopted RMP interventions.

Compliance will require Council to meet renewal activities with sufficient budget allocations including other road and transport assets not directly linked to the compliance requirements of the Road Management Plan.

Given these considerations and demands, Council does not allocate enough budget to sustain a suitable level of renewals across the entire road infrastructure asset portfolio.

6.2. Demand management

The factors influencing future demand and the impacts they have on service delivery are created by:

- Council and community priorities as detailed in My Moyne, My Future 2040 and the 2021-2025 Council Plan.
- Road hierarchy, intervention levels set in Council's road management plan and defined levels of service to maintain roads in accordance to set interventions levels to reduce risk to Council.
- Change of road use in accordance to land use and changes in farming practices or the introduction of new industry or technology (wind farming changes to logging).
- Demand planning and management based on population and demographic growth and change both across the shire and within individual communities and localities – this also includes seasonal population patterns.
- Direct passage and links to major roads and highways to connect to towns, communities or cities.
- Technology changes in motor vehicles and trucks inclusive of weights and size.
- Council, community and stakeholders will need to plan and manage assets that support the needs and services of residents in areas of greatest need and growth. Asset investment will need to be based on criticality, usage, safety and future demand.
- Connectivity for alternative transport methods such as cycle or pedestrians in local precincts to key destinations or precincts.

Road infrastructure assets will need to be developed that are adaptable and upgraded to meet changing vehicle types and meet climate change challenges. Consideration should be given to road hubs or interchange sites for exchange of goods to remove heavy transports from local roads or roads that are of lower status within the road hierarchy.

Consideration will need to be given to:

- Council's overall asset portfolio, including critical infrastructure needs of communities and the region and funding and budget policies.
- Development of new asset investment and management partnerships (greenfield sites) and upgrading assets that connect to new subdivisions to meet increased usage patterns and higher population.
- Asset rationalisation and consolidation such as unused road reserves.

The historical context of some assets will need to be considered under Council's asset policy setting, and processes put in place to acknowledge and retain the importance of community

assets as their use or retention is determined or changed, such as historic bridges or historic roadside installations such as signs, memorial and historical markers.

Asset design, renewal and development will also need to incorporate features, equipment and materials that reduce the impact of climate and weather.

6.3. Risk management

To manage risks in the medium term, budget levels need to increase. The main risk consequences are:

- Road infrastructure assets not funded to standard / not meeting user requirements.
- Lack of specialised skills to plan, deliver and construct road infrastructure assets requiring specialised equipment and maintain large or complex assets and facilities.
- Ageing infrastructure and assets leading to user risks, higher operating costs and higher maintenance, renewal or upgrade costs.

Despite Council's best efforts to have reasonable road asset inspection systems and proactive maintenance programs, incidents occur on the road network which may not be foreseen, and which may provide a safety risk to road users. Examples of such incidents may include:

- Traffic accident/incident
- Tree over road
- Road flooding or fire events
- Dangerous failure of road pavement
- Structural failure of a bridge or culvert
- Vandalism.

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

- A proactive inspection regime to ensure ongoing compliance to required standards and preventative maintenance is identified for assets at risk of failure or where low use / demand is identified.
- Provision of an after-hours, seven day a week emergency contact details.
- Diversion of use and / or travel if required and dispatch of work crews to the site / issue as soon as practicable.
- Monitoring utilisation and future trends so that user safety requirements are anticipated.

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure.

An assessment of risks associated with service delivery identifies risks that will result in loss or reduction in service, personal injury, environmental impacts, a “financial shock”, reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment includes the development of a risk rating, evaluation of the risks and development of a reduction plan for risks that are deemed to be unacceptable.

6.4. Critical assets

Critical assets are defined as those which have a high consequence of failure causing significant loss, service interruption, and inconvenience to users.

Critical assets have been identified and, along with their typical failure mode, and the impact on service delivery, are detailed in Table 17 in Appendix B – Road infrastructure risk assessment. Failure modes may include physical failure, collapse or essential service interruption.

6.4.1. Summary of critical asset risks

- Maintenance costs increasing due to inadequate renewal program
- Bridge failure from structural or functional issues
- Road infrastructure assets not to standard/not meeting user requirements
- Storm and flood damage
- Regulatory non-compliance

Future identification of critical assets and failure modes will enable Moyne Shire Council to ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

6.5. Maintenance and operations

Operations include regular activities to provide services. Examples of typical operational activities include plant and equipment, procurement and contract management.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition, including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include pothole repairs, roadside vegetation clearing, line-marking and signage repairs.

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of, forecast operation and maintenance costs would be expected to decrease.

Figure 3 shows the forecast operations and maintenance costs relative to proposed operations and maintenance planned budget. The current forecast is a flat-line allocation across the LTFP, and on current performance is meeting the interventions presented in the 2020 Road Management Plan.

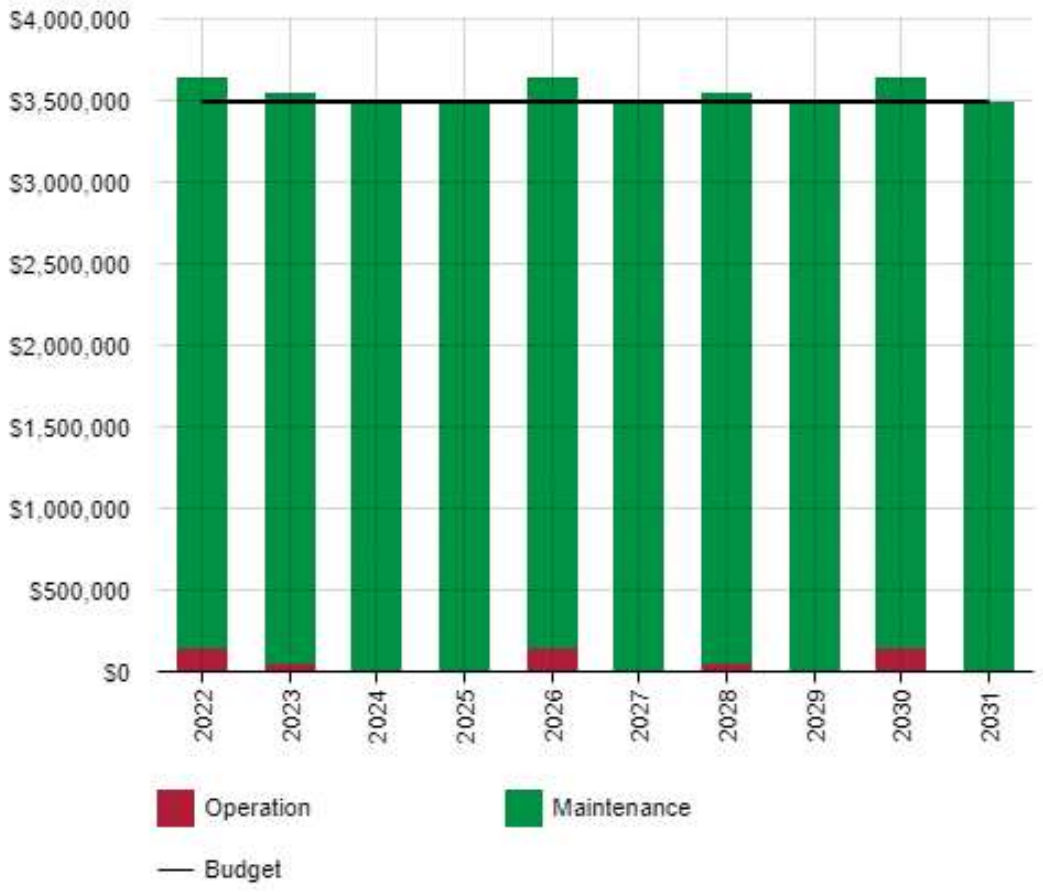

Figure 3 – Road infrastructure operations and maintenance summary

6.6. Renewal management

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

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (structural repairs road and bridges, road surface treatments, footpath works); or
- Ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. footpath material for accessibility, connecting infrastructure to community assets and amenities to allow for universal access).

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

- Road, bridge and footpath hierarchy
- Customer requests, and Council officer inspections and available condition data
- Have a high consequence of failure, have high use and the subsequent impact on the broader community would be significant
- Have higher than expected operational or maintenance costs and have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.

The estimated renewal forecasts for road infrastructure asset that includes renewal, upgrades and / or acquisition are shown in Figure 4, Table 7, and as summarised in section 6.1.

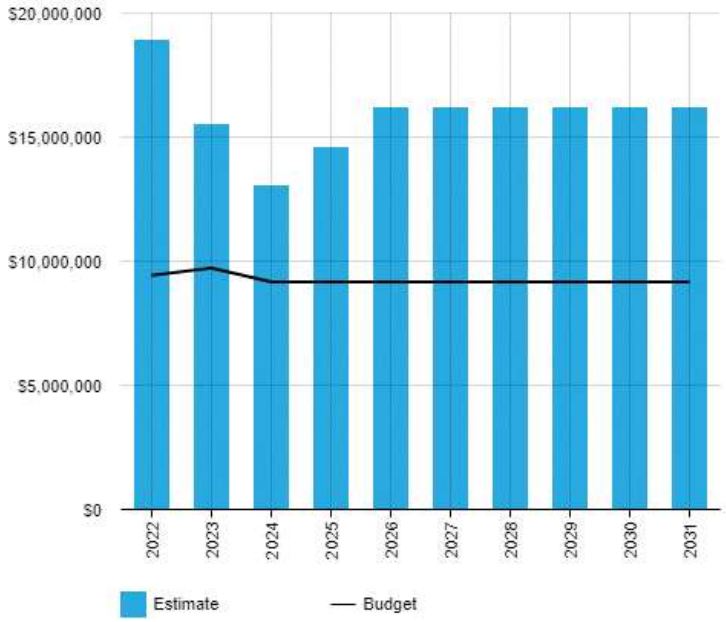

Figure 4 – Future road infrastructure estimated renewal forecasts

Table 7 - Renewal forecast summary

Year	Renewal Forecast	Renewal Budget
2022	$18,907,348	$9,422,018
2023	$15,471,344	$9,721,598
2024	$12,995,854	$9,172,018
2025	$14,542,002	$9,172,018
2026	$16,177,955	$9,172,018
2027	$16,177,955	$9,172,018
2028	$16,177,955	$9,172,018
2029	$16,177,955	$9,172,018
2030	$16,177,955	$9,172,018
2031	$16,177,955	$9,172,018
Total	**$158,984,278**	**$92,519,760**

The forecast estimates show a renewal funding gap of $66.5m over the 10-year period.

In order to support decision-making for renewal investment, renewal criteria for road infrastructure will be developed as part of RIAMP implementation.

6.7. Expansion, upgrade, acquisition and new asset management

These actions represent a new asset that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to Council through gifts, development contributions and relinquishing of an asset by another asset owner to Council.

Council currently does not have any allocation for road infrastructure asset expansion, upgrade or acquisition over the LTFP.

This includes assets acquired through construction, growth or gifted through construction projects. There is, therefore, a clear need to better forecast investment through integration of road infrastructure planning for new construction, renewal and upgrade projects and from the outcomes of future audits and strategic planning for road infrastructure.

6.7.1. Selection criteria

Council does not currently have expansion, upgrade or acquisition criteria for road infrastructure assets although associated works and actions are undertaken based on risk and need or as part of asset acquisition from external sources. Criteria will be developed as part of implementation of AP22 and the RIAMP.

6.8. Rationalisation management

Rationalisation includes any activity associated with the consolidation, decommissioning and / or disposal including sale, demolition or relocation.

Assets identified for possible decommissioning and disposal (unused road reserves) will be identified and considered as part of a proposed program of Asset Rationalisation Plans to be commenced in 2022-2023.

Costs or revenue gained from asset disposals will be included in the LTFP under a proposed Asset Rationalisation Policy to be developed as part of the Rationalisation Plan.

7. Financial strategy

The critical basis for the RIAMP funding strategy is to manage and reduce the overall renewal, investment and resourcing gaps identified in section 6. There are a number of mechanisms that Council can apply to support sustainable financial planning and asset funding.

The following strategies will be implemented to support the RIAMP.

- Developer contribution for works adjoining greenfield sites that will enable required upgrades to road and associated infrastructure for future increase in demand or capacity.
- Smooth renewal demand by investing in broadening a proactive renewal program of asset condition audits to better understand existing liabilities.
- Given the scale and costs of some RIAMP renewal projects, opportunities to apply for external funding opportunities will be pursued.
- Prior to new investment or industry, key link roads leading to the greenfield sites should be assessed for condition and negotiate a contribution from developer/investor for any damage caused to the road infrastructure after works have been completed. During the construction period, regular maintenance inspections should take place and any works agreed and paid for by the developer.
- A special charge scheme considered for each new or renewal job for kerb and channel or footpath works with adjoining property owners.

8. Improvement plan

It is important for Council to identify areas of the RIAMP and planning process that require future improvements to ensure effective asset management, informed decision making and continuous improvement for asset management. The next steps summarise RIAMP asset management practices improvements in addition to those contained in Asset Plan 2022.

8.1. Strategic governance

- Review Council asset development plans and strategies including master plans, structure plans and community connection strategies such as the Bicycle Strategy to ensure recommendations are included in budgeting and resourcing for road infrastructure assets.
- Implement the organisation's Asset Project Management Framework to provide the right skills and right resources at the right time for road infrastructure projects.

8.2. Asset management

- Review and update Council's GIS management systems and information, including:
  - Road infrastructure hierarchies
  - Demarcations of roles and responsibilities for road infrastructure across the various agencies
  - Road register
  - Condition data.

8.3. Risk

- Implement a program of condition audits for bridge infrastructure across the shire due to the high risk implications from failure of this asset class.

8.4. Business process and systems

- Complete a road infrastructure asset management system and information flow to provide an integrated approach across the asset lifecycle.
- Continue to roll out a program on in-field information capture and reporting to create greater efficiencies and integration with other technology systems such as GIS.

8.5. Capacity building

- Build organisational knowledge on emerging and transformative technologies and climate mitigation innovations that will influence future road infrastructure planning and design.
- Partner with industry and residential developers on opportunities to leverage and integrate investment in supporting road infrastructure assets taking a broader precinct assessment.

9. Monitoring and review

The RIAMP will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions. Monitoring and review process will include:

- Establishment of an internal Working Group comprising of key asset managers and staff to undertake integrated monitoring and reporting on Asset Plan 2022 and the RIAMP.
- Provision of an annual State of the Assets Report for Councillors, the organisation and community, including reference to the RIAMP.
- Reviewing achievement of RIAMP service level targets or barriers to achieving targets.

Reviews will ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the LTFP or will be incorporated into the LTFP once completed.

Whilst the RIAMP has a 10-year horizon, it has a maximum life of 4 years and is due for complete revision and updating by October following each Council election.

9.1. Performance measures

The effectiveness of the RIAMP can be measured in the following ways:

- The degree to which the required forecast costs identified in the RIAMP are incorporated into the long-term financial plan.
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures consider the “global” works program trends presented in the RIAMP.
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the strategic planning documents and associated plans.
- The asset renewal funding ratio achieving the organisational target.
- Community Satisfaction Survey or similar relating to road infrastructure that is the responsibility of Council.

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11.Appendix A – Service levels

Table 8 - Customer levels of service - Customer values

Customer values	Satisfaction measure	Current feedback	Planned budget trend
Providing essential transport links for use by the general public and stakeholders.	Local Government satisfaction survey Customer service requests	Sealed local roads 43 in 2021, up from 38 in 2020. Unsealed roads 39 in 2021, up from 35 in 2020. Residents in postal code 3284 rate Council higher on both measures than residents in other areas. This suggests that Council should consider improvements in other postcodes first, where perceptions are lower.	Trend to continue based on current funding allocations. Council rates significantly lower than Large Rural group and State-wide averages for councils on both measures (source JWS Research).
Maximise road safety principles for road users.	Local Government satisfaction survey Customer service requests	Residents in postal code 3284 rate Council higher on both measures than residents in other areas. This suggests that Council should consider improvements in other postcodes first, where perceptions are lower.	Trend to continue based on current budget allocations. External funds from specific programs for road safety funding can increase progress on this customer expectation.
Achieving road improvements in a sustainable manner.	Local Government satisfaction survey Customer service requests	Residents in postal code 3284 rate Council higher on both measures than residents in other areas. This suggests that Council should consider improvements in other postcodes first, where perceptions are lower.	Trend to continue based on current level of funds allocated from Council budget allocations.

Table 9 - Customer levels of service - Condition

Level of service	Performance measure	Current performance	Trend Based on Planned Budget
Road management plan compliance	Local Government satisfaction survey Inspection data (RMP)	Sealed local roads 43 in 2021, up from 38 in 2020. Unsealed roads 39 in 2021, up from 35 in 2020.	Expected trend to continue based on funding allocations from budget.

Table 10 - Customer levels of service - Function

Level of service	Performance measure	Current performance	Trend based on planned budget
Road management plan compliance Engineering design standards	Inspection data (RMP) Public comment received on RMP consultation	Inspections undertaken in accordance to RMP and above intervention works completed within allowable timeframes.	Expected trend to continue based on funding allocations Next review of RMP in 2025

Table 11 - Customer levels of service - Capacity

Level of service	Performance measure	Current performance	Trend based on planned budget
Sufficient infrastructure and resources to deliver RMP compliance	Local Government satisfaction survey	Sealed local roads 43 in 2021, up from 38 in 2020. Unsealed roads 39 in 2021, up from 35 in 2020.	Expected trend to continue based on budget allocations.

Table 12 - Technical levels of service - Acquisition

Purpose of activity	Activity measure	Current performance	Recommended performance
Road widening works on narrow roads where road safety issues are identified (blind corners).	Customer requests Traffic volumes	Trigger of road condition, road volumes, reference the road design standard.	One initiative completed each financial year supported by capital budget. Additional initiatives completed with external funding sources.
Subdivisions (gifted road assets)	Km of road increased per year	Road assets gifted to Council in accordance to IDM standards.	Road assets gifted to Council in accordance to IDM standards.

Table 13 - Technical levels of service – Operation

Purpose of activity	Activity measure	Current performance	Recommended performance
RMP & asset inspections	Identify road defects to maintain road network to prolong condition and to meet RMP compliance and performance. Minimise risk exposure.	Current budget allows for inspections to meet RMP compliance and identify other maintenance activities. Data on condition is adequate to make decisions.	Continue to conduct condition assessments on road assets on a cyclic program to determine on-going and long-term renewal programs that inform future budgets.
Council operate a 24/7 roster	Staff availability to respond to road network maintenance and construction activities.	Continued LOS based on current available budgets.	Increase EFT numbers to increase proactive maintenance work to improve road safety and overall satisfaction of customers.

Table 14 - Technical levels of service – Maintenance

Purpose of activity	Activity measure	Current performance	Recommended performance
Road patching	Potholes repaired Proactive inspection data for maintenance activities Routine activities based on work cycle	Maintenance conducted to meet RMP compliance. Maintenance completed to satisfy customer requests.	Maintenance conducted to meet RMP compliance. Additional proactive works undertaken from service requests or routine inspections.
Unsealed road grading	Customer requests Driving habits	Maintenance conducted to meet RMP compliance. Maintenance completed to satisfy customer requests.	Continue the rolling program for resheeting based on available data.
Footpaths	Customer requests Annual maintenance inspections	Inspected and maintained in accordance to RMP	Maintenance conducted to meet RMP compliance. Risk minimisation
Bridges	Accessibility Customer service requests Inspection data	Inspected and maintained in accordance to RMP	Maintenance conducted to meet RMP compliance. Additional proactive works undertaken from service requests or routine inspections.

Table 15 - Technical levels of service – Renewal

Purpose of activity	Activity measure	Current performance	Recommended performance
Road resurfacing	Waterproof the road surface to extend road surface life.	Agreed KPI for km of road reseals completed per year within allocated budget Annual Report.	Reseals to be undertaken every 12 -14 years in accordance to traffic volume data or as needed.
Pavement reconstruction	Renewal of pavement to increase the life expectancy of the road asset.	Road reconstruction performed on agreed KPI km of road network.	Increase road reconstruction in accordance to available data and funds.
Major and minor patching	Extend the road pavement life	Agreed KPI $ spent on road patching	Increase in accordance to available data and funds.

Table 16 - Technical levels of service – Rationalisation

Purpose of activity	Activity measure	Current performance	Recommended performance
Rationalisation of road and road related assets at end of lifecycle.	Rationalised assets at end of life versus program of new / upgraded assets in inventory.	In line with adopted budget and construction plan.	In line with available data, the construction program that informs the council approved budget.

12.Appendix B – Road infrastructure risk assessment

Table 17 - Risk assessment summary

Risk	Timing	Possible cause	Controls	Risk treatment
Bridge failure, structural or functional	Anytime in the future	Most timber bridges are at or past their useful life, larger timber bridges are not being replaced due to large capital cost per bridge.	Focus on replacing smaller timber bridges. Monitoring load limits bridge condition inspections.	Planned strategic action required.
Maintenance costs increasing due to inadequate renewal program	Anytime in the future	Underfunding Inadequate information	Reactive maintenance works undertaken when identified.	Prioritised action required
Vandalism	Anytime now	Vandalism	Community feedback. Inspections	Regular condition inspections
Storm and flood damage	Anytime now	Extreme weather events	Natural disaster funding	Inspect road infrastructure assets for suitability against required standards.
Public health/environmental issues	Anytime now	Significant impact on environmental compliance	Inspections	Inspect road infrastructure assets for suitability against required standards.
Regulatory non-compliance	Anytime now	Failure to adhere to legislation	Staff training, access to legal advice, auditing and reporting processes.	Ensure staff are aware of legislative requirements and adhere to them through staff training.
EPA non-compliance	Anytime now	Failure to meet EPA requirements	Staff training, legal advice, policies and procedures	Ensure staff are aware of legislative requirements and adhere to them through staff training.

Risk	Timing	Possible cause	Controls	Risk treatment
Governance issues	Anytime now	Failure to develop and maintain a positive relationship with the community.	Communication policies and procedures, strategic plans, community engagement meetings, surveys.	Increase oversight of community groups
Lack of internal auditing	Anytime now	Not adequately auditing workplaces	Internal audit policy, Workplace Inspection Policy	Training in policies and procedures
Lack of resources	Anytime now	Staff loss	Workforce plan	Identify gaps and risks in workforce plan

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