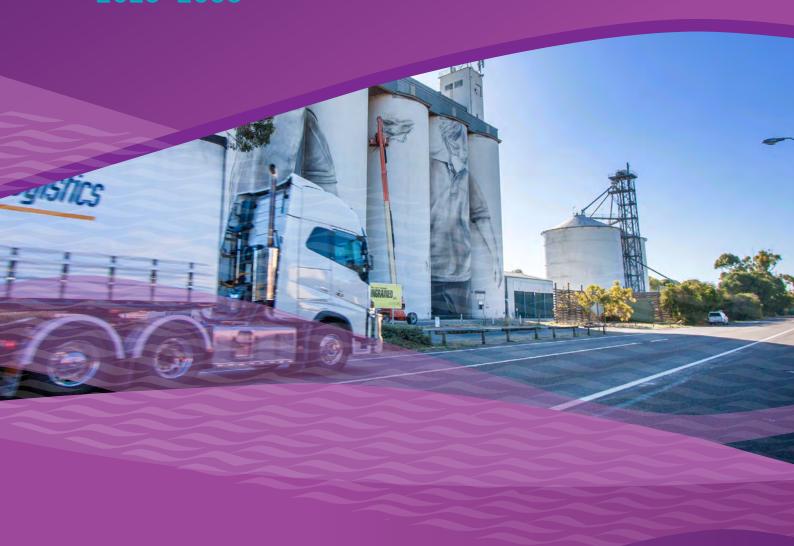
Asset
Management
Plan
Road and
Transport
Infrastructure



2023-2033





Version	Description	Author	Approved	Date
V1.01	Draft prepared in conjunction with Asset/Service Managers and circulated for internal staff comment.			29/12/2011
V1.02	Updates to plan based on staff feedback. Final Draft for comment.			2/03/2012
V2.01	Regular review of document and data. Moved to updated AMP template.			1/11/2016
V3.00	Updated to align with LTFP			12/01/2018
V4.00	Revised AMP to align to Council Community Vision Plan and Level of Service – Endorsed for Community Consultation	MJ	16/05/2023	16/5/2023

CONTENTS

Introduction	1	Sealed Road Network	3	Footpath & Kerbing	9
Asset data	1	Sealed Road Network - Current State	3	Footpath & Kerbing - Current State	9
Asset Details	1	Sealed Road Network -		Footpath - Renewal Strategy	9
Asset Replacement Value and Useful Life		Renewal Strategy	4	Kerbing – Renewal Strategy	9
Asset Capacity and Performance	1	Unsealed Road Network	6	3	
Short Term Performance		Unsealed Road Network - Current State	6	10 Year Funding Forecast Sealed Road –	10
Whole-of Life Performance	1	Unsealed Road Network -		Condition Examples	1
Asset Condition	2	Renewal Strategy	7	Unsealed Road – Condition Examples	3

3





INTRODUCTION

Coorong District Council manages an extensive network of road and transport assets located within public road reserves which are provided to enable safe and efficient movement within and through the Coorong region.



The focus of this plan is to model, forecast and document the physical and financial performance of Council's road and transport assets and provide a robust management framework that feeds into Council's Long Term Financial Plan.

It is the intent of Coorong District Council to align the life cycle management of road and transport assets to the strategic direction detailed within the 2012-25 Community Vision Plan and 2023-33 Coorong Asset Management Strategy (CAMS), in doing so Council's focus will be to provide a level of service that optimises life cycle costs and balances infrastructure spend over consecutive Annual Business Plans to drive generational equity.

Weblinks to AMP's





2023/2033
Asset
Management Plan
Strategy





2023-2033 Buildings and Community Facilities AMP

- IN DEVELOPMENT







2024-2034 Water & Drainage AMP

- IN DEVELOPMENT (due 23/24)







2022-2027
Plant and Fleet
AMP

- ENDORSED BY COUNCIL (review 23/24)





ASSET DETAILS

Road and transport assets are critical to the prosperity of the Coorong District Council as they play a significant role in enabling freight movements and transport from within the region, which directly drives economic development and local employment. These assets also provide the critical pathways and linkages for the community

to access services within our townships, move within, through and between rural locations and travel to connect, socialise and work within the region.

Road and transport assets managed by Coorong District Council have a total replacement value of \$163.3M and includes the following:

FIGURE 1 **Road & Transport Asset Valuations SEALED ROADS UNSEALED ROADS** \$61,645,158 1,674km \$89,478,740 403km sealed roads Replacement Value (RV) unsealed road Replacement Value (RV) pavement **FOOTPATHS KERB & WATER** \$3,624,980 \$8,580,090 21.4km 82.2km of constructed Replacement Value (RV) Replacement Value (RV) concrete footpath kerbing \$163,328,968 Total Replacement Value (RV) Roads & Transport

ASSET REPLACEMENT VALUE AND USEFUL LIFE

Council's Road and Transport Asset Management Plan is fundamentally based on the estimated cost of capital renewal (construction cost), the length of time an asset is expected to remain serviceable (useful life), the profile of how that asset will deteriorate over its time in service (degradation/depreciation), and importantly, the level of service the community requires.

Unit rates for all road and transport assets are determined via actual cost, industry standards (benchmarking) or first principal estimations, and applied to measured quantities to determine the asset valuation or replacement cost.

An asset's useful life is determined through known intervention periods, design life calculations and industry standards, and together with replacement cost is used to determine the annual depreciation of an asset.

The degradation profile of road assets can vary depending on the type, structure, and use. In addition, environmental factors, such as extreme wet weather or prolonged dry periods can impact the rate of deterioration. Council have adopted industry standard degradation profiles that will be monitored and adjusted to align as close as

practical to how Council's road and transport asset physically perform.

Figure 2 – Asset Useful Lives and Unit Rates provides details of the unit rates and useful lives applied to Council's road and transport assets used to model and forecast the expected annual renewal investment Council is required to make and ensure a consistent level of service is provided to the community.

To model asset performance as accurately and realistically as possible, an approach to componentise road pavement and seal types has been adopted. Variable useful lives have been applied to each road component and each road classification which is aligned to the roads intended use. Similarly, the replacement values of pavements vary as the depth and makeup of the pavement changes for each road classification.

To manage Council's vast road network consistently, Coorong District Council has adopted the use of the Murraylands and Riverland Local Government Authority Regional Road Hierarchy Plan to classify and manage its road network.

The adoption of this plan to assist Council in managing its road network will drive a level of consistency across the Murraylands and Riverland region with this intent to provide a seamless transition across council boundaries.



Road Type	Sub-base Useful Life	Base Useful Life	Spray Seal Useful Life	Asphalt Useful Life	Spray Seal and Pavement (\$/m²)	Asphalt and Pavement (\$/m²)	Pavement Description	
Sealed Roads								
Sealed Roads 2	120	60	20	35	\$25.62	\$40.02	200mm subbase, 200mm base and 14/7mm spray seal	
Sealed Roads 3	120	60	20	35	\$23.42	\$37.82	200mm subbase, 150mm base and 14/7mm spray seal	
Sealed Roads 4A	150	75	25	35	\$21.23	\$35.63	150mm subbase, 150mm base and	
Sealed Roads 4B	150	75	25	35	\$21.23	\$35.63	14/7mm spray seal	
Sealed Roads 5A	150	75	25	35	\$19.03	\$33.43	100mm subbase, 150mm base and	
Sealed Roads 5B	150	75	25	35	\$19.03	\$33.43	14/7mm spray seal	
Sealed Roads 5C	240	120	40		\$14.64		NO subbase, 150mm base and 14/7mm spray seal	
Unsealed Road	s							
Unsealed Roads 3	40	20	n/a	n/a	\$9.58		Formation with 200mm rubble base, NO seal	
Unsealed Roads 4A	50	25	n/a	n/a	\$7.39			
Unsealed Roads 4B	60	30	n/a	n/a	\$7.39		Formation with 150mm rubble	
Unsealed Roads 5A	80	40	n/a	n/a	\$7.39		base, NO seal	
Unsealed Roads 5B	100	50	n/a	n/a	\$7.39			
Unsealed Roads 5C	100	50	n/a	n/a	\$5.19		Formation with 100mm rubble base, NO seal	
Natural Surface 5D			n/a	n/a	\$0.79		Natural Surface	

ASSET CAPACITY AND PERFORMANCE

The Coorong District Council aims to manage its road and transport assets in a manner that meets engineering design standards, Austroads guidelines and best practice asset management principals, as well and being aligned to the expectations of the community. It is critical to manage road and transport assets from both a short term and whole of life perspective.

Short Term Performance

Short term management focuses on how assets are operating on a day-to-day basis and is generally how the community measures capacity and performance.

Service deficiencies, defects and hazards are identified through customer requests and routine inspections and are critical in understanding how road and transport assets are performing in the short term, but also provide insight into how an asset may perform in the medium to long term.

Short term management of Council's road network and service delivery is undertaken through day-to-day operational maintenance activities and reactive intervention of identified hazards and defects as they arise.

The Level of Service (LoS) being provided to the community by road and transport assets can be measured in terms of:



SAFETY – is the asset safe to use and does it pose any unnecessary risk to the community?



QUALITY – has the asset been built and is it being maintained to a standard that is deemed satisfactory based on community and technical levels of service?



QUANTITY – is there enough of a particular asset, or is there too much which indicates over serving and inefficient use of resources?



FIT FOR PURPOSE – is the asset the right one to perform its intended role?



WHOLE-OF LIFE PERFORMANCE

Whole of life management of Council's road network is performed through asset renewal activities, which returns an asset to is original service state which is aligned to Council's road management hierarchy. Works are planned and undertaken with a preventative or proactive approach.

Attributes used to measure Whole-of-Life Capacity and Performance and questions asset management practitioners need to consider in assessing whole-of-life performance include:

Use profile (Criticality)

- → What's is the primary purpose of the road (freight, commuter, tourism)?
- Has the asset met the intent of the original design life?

Strategic linkages

→ Does the road form part of a wider freight network?

Surface type

- Asphalt, spray seal, unsealed or formed.
- () Is the surface type provided suitable for the intended use?
- → Is there a disproportionate amount of maintenance required as a result of the surface type provided?

Pavement structure

- How much pavement material (width and depth) is supporting the vehicle movements?
- → Is the pavement structure sufficient to support the load being imparted by the traffic that uses it?

- → Is there a disproportionate amount of maintenance required as a result of the pavement type/structure provided?
- → Will there be a likely early failure of the pavement?

Replacement Cost

- → What level capital investment will be required to return the asset to an "as new" condition?
- → Is an upgrade or increase in the level of service being provided appropriate or required as part of renewal activities?

Fair Value

What is the current market value of an asset or the amount that the asset could be sold, or a liability settled for?

Future demand

Will the demand on, or the intended use of the asset likely change in the future?

ASSET CONDITION

Road surface and pavements can deteriorate inconsistently depending on design, construction quality, level of use and environmental factors. Regular defect and hazard inspections, carried out by Council Staff, are critical in the management of Road and Transport Infrastructure on a day-to-day basis

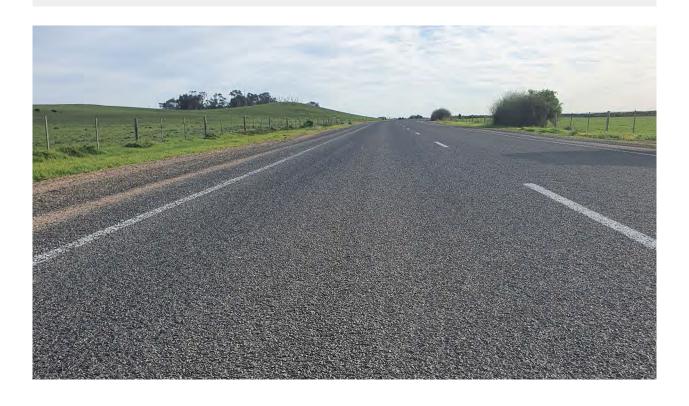
Scheduled Asset Condition Assessments are undertaken every 3-5 years to inform Council of the overall condition index (OCI) of the road network. This is a measures the condition of each individual asset that provides an average condition of the network. This measure enables Council to make informed investment decisions in relation to level of renewal (capital investment) required and formulate a responsible strategy to reduce and/or eliminate backlog.

Backlog is a measure, in terms of capital investment required, to renewal all assets that have reached a condition that falls below the agreed standard, based on criticality, and return them to an acceptable condition.

The condition rating measured against each individual asset during scheduled asset condition assessments provided information to enable Council to develop a targeted renewal program and identify performance patterns within the overall network.

Council's unsealed road network was independently audited during 2020 and the sealed road network in July 2021, as such Council has a high level of confidence regarding the accuracy of the Road and Transport Asset condition data.

An independent condition assessment provides evidence that enables Council to objectively identify and prioritise elements of the network that require intervention to address poor condition.



SEALED ROAD NETWORK

Key points



The current average OCI of Council's sealed road network is 1.7 with 95.6% of the network considered serviceable (condition 0-3) and 44% in an excellent condition.



4.4% of the network is in a poor to very poor condition (PVP%) with 2.1% requiring attention in the short term. This represents an asset renewal backlog of \$1.55M.



Council's Class 2 and 3 roads (key freight routes) **are in a strong position** with 97% of class 2 and 86% of class 3 routes holding a condition rating 2 or better.



6.2% of class 3 routes are considered unserviceable and require immediate attention.





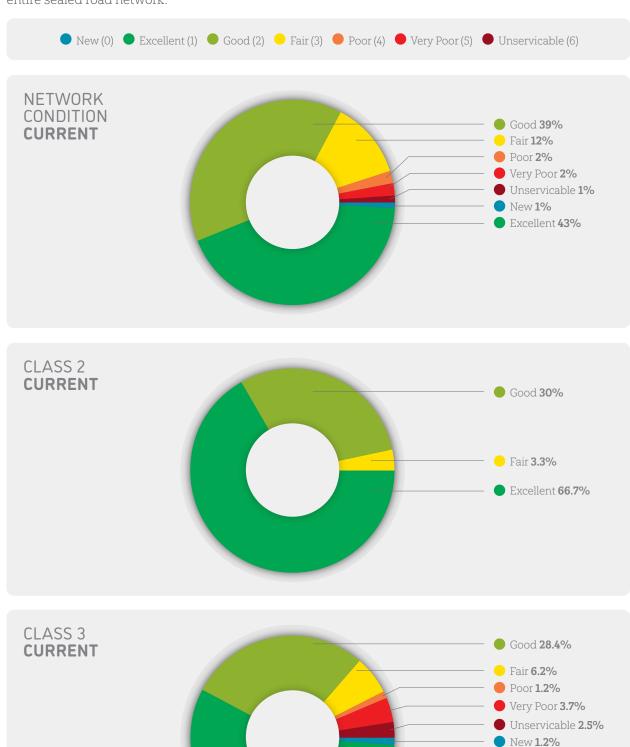




NOTE: This is attributed to an individual road currently being addressed as part of Council 2022/23 renewal program.

SEALED ROAD NETWORK - CURRENT STATE

The following diagram represents the current condition of Council's sealed roads as a percentage of the entire sealed road network.



Excellent 56.8%

SEALED ROAD NETWORK - RENEWAL STRATEGY

Councils sealed road network is currently considered to be in a good to excellent condition with measured condition index (OCI) across the entire network of 1.7.

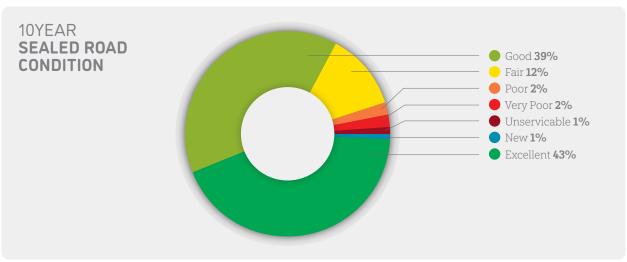
In terms of road classifications, the condition across all road categories is very balanced with Class 2 and 3 roads having an OCI of 1.3 and 1.7 respectively, and Class 5A and 5B both having a measured OCI of 1.9 and 2.1. It is important to note that the volume of class 5C and 5D sealed roads not considered material in terms of network percentage.

To achieve a sustainable level of service across the sealed road network it is proposed to use the following strategic settings over the 10-year life of this plan to provide a balance between affordability and community expectations.

- Freight network (Class 2, 3) roads have condition 2.0 or better at year 10.
- Local distributor and collector roads (Class 4A,
 4B) roads have condition 2.5 or better at year 10.
- Community use (Class 5A, 5B) roads have condition 2.5 or better at year 10.
- Limit asset condition of 5 & 6 to less than 7.5% of the network.
- Achieve an overall network condition index of 2.5 or better, trending towards 2.0 at year 10.

Based on Council's current asset management and renewal settings, to achieve these targets an investment of \$23.8M, or \$2.38M per annum needs to be built into Council's Long Term Financial plan (LTFP) over the next 10 years.

Current	Annual Capital Exp	Current OCI (1.7)
Year 1	\$1,671,920	1.65
Year 2	\$2,592,017	1.6
Year 3	\$2,196,632	1.67
Year 4	\$2,264,565	1.76
Year 5	\$2,332,862	1.84
Year 6	\$2,401,523	1.97
Year 7	\$2,461,471	2.08
Year 8	\$2,546,968	2.18
Year 9	\$2,620,233	2.29
Year 10	\$2,705,392	2.4
Total CAPEX	\$23,793,583	
Average CAPEX	\$2,379,358	





LoS Measure	Current	Year 10
Condition Index (OCI)	1.7	2.4
% Network Cond (0-3)	95.6%	78%
%PVP Cond (4-6)	4.4%	22%
%VP Cond (5-6)	2.1%	5%
Backlog	\$1.55M	\$4.0M

Road Hierarchy	Condition Current	Condition @ 10yr	Level of Service (LoS)
Class 2	1.34	1.94	Meets benchmark - Excellent LoS
Class 3	1.72	2.58*	* see note
Class 4A	1.67	2.36	Meets benchmark - Good LoS
Class 4B	1.62	2.28	Meets benchmark - Good LoS
Class 5A	1.9	2.48	Meets benchmark - Good LoS
Class 5B	2.06	2.79	Misses benchmark - Fair LoS
Class 5C	2	3	Maintained fit for purpose - Fair LoS
Class 5D	1.88	3.03	Maintained fit for purpose - Fair LoS

LoS – Level of Service in terms of Overall Condition Index (OCI)

*Note: Carcuma Road (12km) and Poltalloch Road (12km) are Class 3 roads and represent 5% of the sealed road network. These roads do not currently meet an appropriate service level and significant renewal works are being completed as part of the 2022/23 Annual Business Plan. This renewal work will be reflected in future reviews of this Asset Management Plan which will result in an adjustment to Class 3 OCI results.



Key points





The unsealed road network has an **overall condition index (OCI) of 2.95**. This falls outside what would be considered an appropriate level of service.

Council should be aiming to hold a network condition index of no more than 2.5, trending towards 2.0 in order to minimise the level of reactive maintenance required to maintain severability.





25% of the unsealed road network is in a **good or excellent conditio**n.





53% of all unsealed roads are considered to be in fair condition and 20% in a poor condition. This indicates that a significant proportion of the network is approaching or requiring renewal.





2% of the network is in a condition that requires **immediate interventions** (Condition 5 & 6)



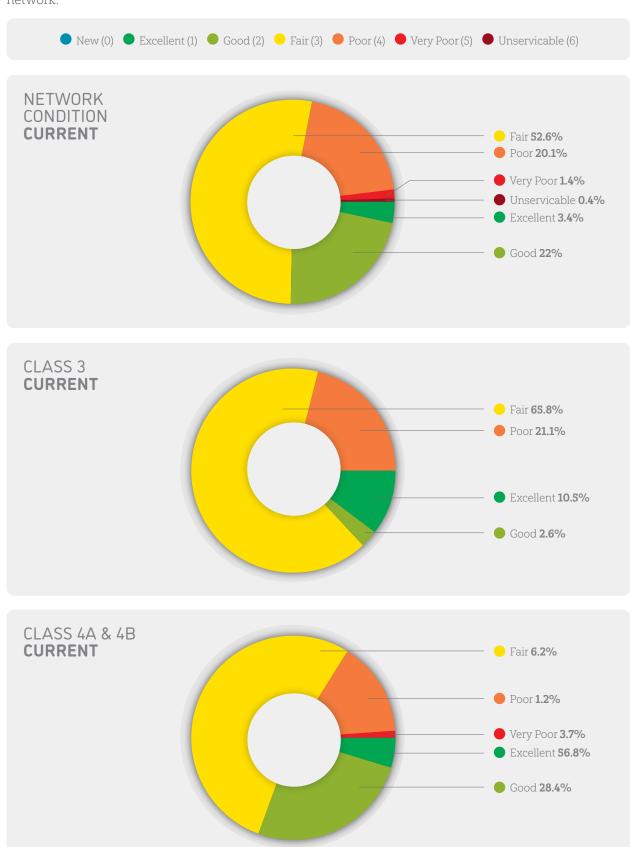




A significant percentage of Class 3, 4A and 4B unsealed roads are in a fair condition or worse.

UNSEALED ROAD NETWORK - CURRENT STATE

The following diagram represents the condition of Council's unsealed roads as a percentage of the entire network.



UNSEALED ROAD NETWORK - RENEWAL STRATEGY

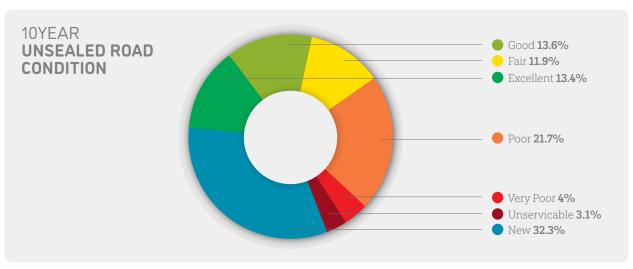
Councils unsealed road network is currently considered to be in a fair condition with measured condition index of 2.95. This average network condition falls below what would be considered an appropriate service level. Council's asset management strategy is to achieve a network OCI of 2.5 as a minimum benchmark with the intent to have a condition rating trending towards an OCI of 2.0 by 2033.

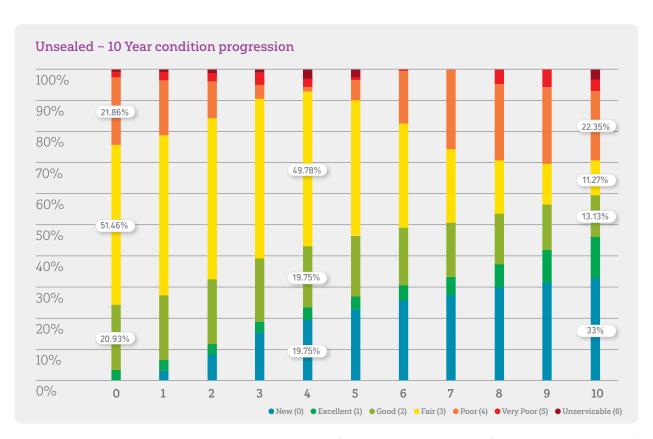
To achieve a sustainable level of service across its unsealed road network it is proposed to use the following strategic settings to provide a balance between affordability and community expectations.

- Maintain network condition index of 2.0 of better at year 10.
- Unsealed freight and secondary freight roads (class 3, 4A, 4B) have and overall condition index of 2.0 or better at year 10.
- Unsealed local roads and laneways (class 5A, 5B) have and overall condition index of 2.5 or better at year 10.
- Minor (Class 5C, 5D) roads are managed on an as needs basis and maintained safe.
- Limit Asset Condition of 5 & 6 to less than 7.5% of the network.

Based on Council's current asset management settings, to achieve these targets Council needs to include in its long term financial plan (LTFP) and invest \$32.9M, or \$3.29M per annum over the next 10 years.

Current	Annual Capital Exp	Current OCI (2.95)
Year 1	\$2,050,585	2.84
Year 2	\$3,214,020	2.65
Year 3	\$4,199,033	2.44
Year 4	\$3,308,721	2.32
Year 5	\$3,409,575	2.21
Year 6	\$2,666,911	2.15
Year 7	\$2,495,209	2.17
Year 8	\$3,727,526	2.14
Year 9	\$3,832,187	2.07
Year 10	\$3,951,512	2.02
Total CAPEX	\$32,855,279	
Average CAPEX	\$3,285,527	





LoS Measure	Current	Year 10
Condition Index (OCI)	2.95	2.02
% Network Cond (0-3)	78.1%	71%
%PVP Cond (4-6)	22.0%	29%
%VP Cond (5-6)	1.8%	7%
Backlog	\$1.47M	\$6.12M

Road Hierarchy	Condition Current	Condition @ 10yr	Level of Service (LoS)
Class 2	NA	NA	NA - no Class 2 unsealed network
Class 3	3.04	1.06	Exceeds benchmark - Excellent LoS
Class 4A	2.72	1.67	Exceeds benchmark - Excellent LoS
Class 4B	2.9	2.04	Meets benchmark - Good LoS
Class 5A	2.99	2.24	Meets benchmark - Good LoS
Class 5B	3.41	2.06	Exceeds benchmark - Excellent LoS
Class 5C	4.27	0.97	Exceeds benchmark - Excellent LoS
Class 5D	3.91	2.12	Meets benchmark - Good LoS

LoS – Level of Service in terms of Overall Condition Index (OCI)



FOOTPATH & KERBING – CURRENT STATE

Council does not currently have detailed condition data of its kerbing, surface drainage and footpath networks. Renewal works are programmed through a combination of Customer Service Requests (CRM's), visual condition inspections, risk, and criticality.

In May 2022, Coorong District Council endorsed its 2022-2027 Footpath Network Expansion Strategy. This strategy is designed to strategically expand the limited footpath network with the region using a set of adopted principles and guidelines.

The funding model adopted as part of the strategy included the provision of and annual capital budget allocations of \$150,000 for the first two years of the strategy and \$100,000 per annum for each year after. This strategy also indicates that the investment in new footpath can occur in lieu of footpath renewal for a short period (no more than five (5) years).

FOOTPATH - RENEWAL STRATEGY

Council's constructed footpath network has a replacement value of \$3.6M and an annual depreciation expense of \$116K.

The level of investment required for expansion of the footpath networks will not form part of this asset management plan, however is detailed as part of Council's Footpath Expansion Strategy.

During the period where Council's focus is on footpath expansion (2022-2027) and due to the relatively small size of the existing Council footpath network, the investment required to renew Council's footpath assets can temporarily reduce and a renewal funding strategy equivalent to 50% of annual depreciation be adopted for the first five (5) years if the plan (30 June 2028).

During this time Council will continue to expand its footpath network aligned to the 2022-2027 Footpath Network Expansion Strategy.

KERBING - RENEWAL STRATEGY

Council's kerbing has a current replacement value of \$8.6M and an annual depreciation expense of \$100K.

In lieu of asset renewal and the genuine need to expand the kerbing network for drainage performance, localised flooding control and township aesthetics, it is recommended to temporarily adopt a funding strategy equivalent to 50% annual depreciation for the first five (5) years of the plan (30 June 2028) and continue to expand the kerbing network.

This approach will have a minimal impact on the overall lifecycle management of kerbing assets and will improve the overall condition performance of the kerbing network as there will be a higher percentage of brand-new kerbs in the network

10 YEAR FUNDING FORECAST

The 10-Year funding requirements for the renewal of Council's Road and Transport Asset Network are set out in Figure 6.1 - 10 Year Roads & Transport Capital Renewal Funding

The funding requirements are calculated using theoretical base models. Factors outside of Council's control, including but not limited to extreme weather events, increased heavy vehicle traffic and population changes greater than or less than projections may change the required funding needs from time to time.

These factors have not been considered for the purpose of developing a projected 10 year works program, however Council will undertake analysis and check proposed models prior to confirming each annual works program.

Council's level of funding detailed within this Road and Transport Infrastructure Asset Management Plan provides a balance between an acceptable level of service and affordability, however it does fall slightly short form what would be considered and fully funded renewal plan.

A fully funded renewal plan that meets all intervention targets aligned to a premium level of service requires an average annual investment of \$2.9m for sealed roads, \$3.9m for unsealed roads.

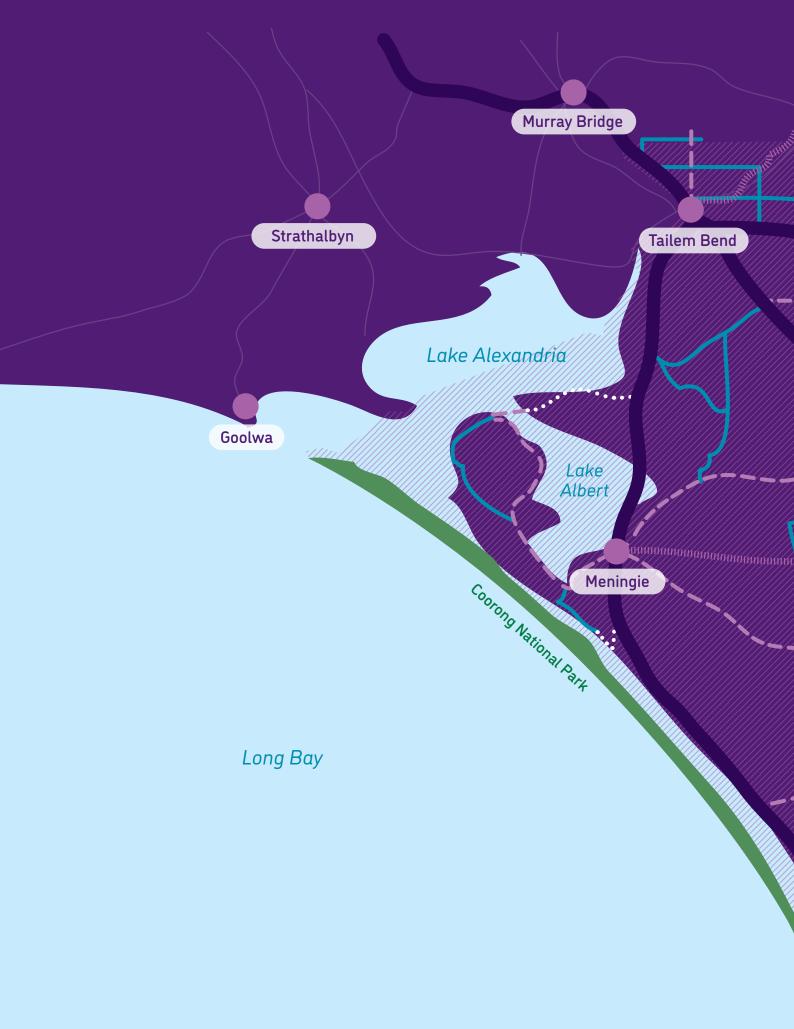
As Council asset management maturity improves and performance models become more accurate, council will adjust its renewal funding so that the gap between the service level delivered and the service level desired is closed.

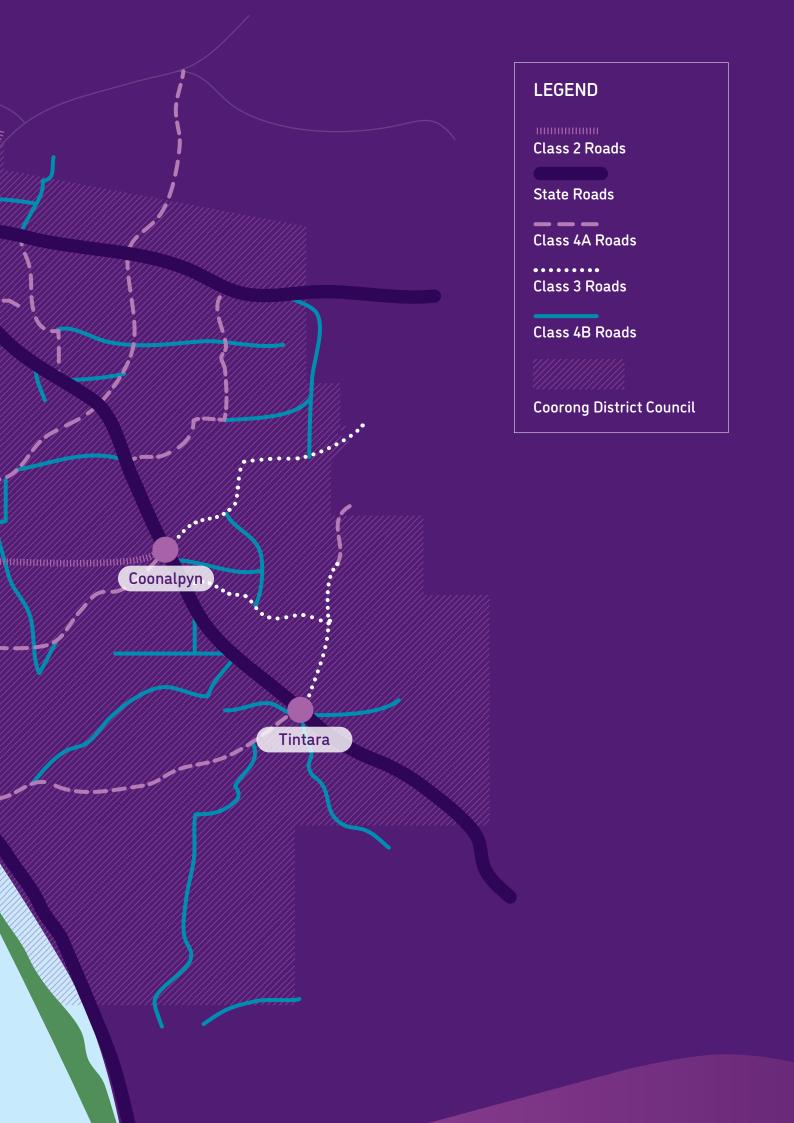
10 Year Roads & Transport Capital Renewal Funding

FIGURE 6.1

Year	Financial Year	Sealed Roads	Unsealed Roads	Footpath	Kerb	Total
Year 1	2023/24	\$1,600,000	\$2,600,000	\$50,000	\$50,000	\$4,300,000
Year 2	2024/25	\$2,592,017	\$3,214,020	\$58,000	\$50,000	\$5,914,037
Year 3	2025/26	\$2,196,632	\$4,199,033	\$58,000	\$50,000	\$6,503,665
Year 4	2026/27	\$2,264,565	\$3,308,721	\$58,000	\$50,000	\$5,681,286
Year 5	2027/28	\$2,332,862	\$3,409,575	\$58,000	\$50,000	\$5,850,437
Year 6	2028/29	\$2,401,523	\$2,666,911	\$116,000	\$100,000	\$5,284,434
Year 7	2029/30	\$2,461,471	\$2,495,209	\$116,000	\$100,000	\$5,172,680
Year 8	2030/31	\$2,546,968	\$3,727,526	\$116,000	\$100,000	\$6,490,494
Year 9	2031/32	\$2,620,233	\$3,832,187	\$116,000	\$100,000	\$6,668,420
Year 10	2032/33	\$2,705,392	\$3,951,512	\$116,000	\$100,000	\$6,872,904
Total		\$23,721,663	\$33,404,694	\$862,000	\$750,000	\$58,738,357
10 year Average		\$2,372,166	\$3,340,469	\$86,200	\$75,000	\$5,873,836

NOTE: All dollar figures are expressed in 2023 terms - no indexing has been included with in the asset management strategy







Coorong District Council

95-101 Railway Terrace, Tailem Bend SA 5260 PO Box 399, Tailem Bend SA 5260

T 1300 785 277

E council@coorong.sa.gov.au

coorong.sa.gov.au