



2023 - 2033 ROADS ASSET MANAGEMENT PLAN

Town of Walkerville
Adopted November 2023

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1.0 Introduction

1.1 The Purpose of the Plan

This Asset Management Plan (AMP) details information about infrastructure assets and includes actions required to provide an agreed level of service in the most cost-effective manner, while outlining associated risks. The Plan defines the services to be provided, how the services are provided and what funds are required across the 10-year planning period. The AMP will inform Council's Long Term Financial Plan, which identifies expenditure requirements over a 10-year planning period.

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

- Providing a defined level of service and monitoring performance;
- Managing the impact of growth through demand management and infrastructure investment;
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service;
- Identifying, assessing and appropriately controlling risks; and
- Informing Council's Long Term Financial Plan, which captures AMP expenditure requirements.

1.2 Road Asset Details

1.2.1 Asset Class Summary

This AMP recognises the value of assets from the 30 June 2023 financial valuations (as shown in Table 1).

Table 1: Financial valuations

Asset class	Gross replacement cost	Accumulated depreciation	Fair value	Annual depreciation expense
Roads	\$35,339,952	9,083,871	\$26,256,080	\$608,611
Car parks	\$1,281,390	\$462,269	\$819,120	\$21,583
Kerbs	\$12,048,592	\$4,696,213	\$7,352,379	\$150,607
Traffic management devices	\$249,330	\$72,306	\$177,024	\$10,864
Total	\$48,919,265	\$14,314,661	\$34,604,604	\$791,666

1.2.2 Roads Asset Information

The asset sub-classes covered by this AMP are shown in Table 2.

Table 2: Asset sub-classes

Asset sub-class	Quantity	Asset sub-class	Quantity
Asphalt roads	230 segments – 34.22km	Wombat crossings (TMD)	1
Spray sealed roads	32 segments – 1.66km	Flashing signal crossings (TMD)	2
Block paved roads	15 segments – 427m	School crossings (flagged) (TMD)	4
Asphalt car parks	11	Stone kerb and gutter	6,384m
Blocked paved car parks	8	Concrete spoon drains	117 spoon drains
Concrete kerb (including medians)	4,138m	Concrete kerb and gutter	71,855m

1.2.3 Useful Life Information

The useful life of an asset is an estimate or expected duration between placing the asset into service and removing it from service on the basis of obsolescence or when it ceases to provide the 'minimum benefits' that it was intended to provide. In short, it is the period between which the future economic benefits embodied in that asset are expected to be consumed by the users.

Council's useful lives (in years) have been derived as follows:

1. Reference and bench-marking with the *IPWEA Asset Management and Financial Management Guidelines, Practice Note 12 2017 Useful Life of Infrastructure*.
2. Assessing remaining service potential is derived from visual condition inspections to determine total estimated useful lives.

Table 3: Asset useful life information

Asset type	Asset sub-type	Useful life (year)	Asset type	Asset sub-type	Useful life (years)
Road-asphalt	Road surface - asphalt	30	Car park-paved	Carpark pavement - block paved	80
	Road pavement - sealed road	80	Kerb	Kerb-concrete	80
	Road sub pavement - sealed road	200	Kerb	Kerb & gutter-concrete	80
Road-spray seal	Road surface - spray seal	20	Kerb	Kerb & gutter-stone	80
	Road pavement - sealed Road	80	Kerb	Spoon drain-concrete	80
	Road sub pavement - sealed road	200	Traffic Management Device	TMD-refuge island	50
	Road pavement - block paved	80	Traffic Management Device	TMD-wombat crossing	25
Road-paved	Road- formation		Traffic Management Device	TMD-signals flasher	25
	Car park surface - asphalt	30	Traffic Management Device	TMD-signals activated	25
Car park-asphalt	Car park pavement - sealed car park	80	Traffic Management Device	TMD- emu crossing	50
	Car park sub pavement - sealed carpark	200	Traffic Management Device	TMD-median signs	15

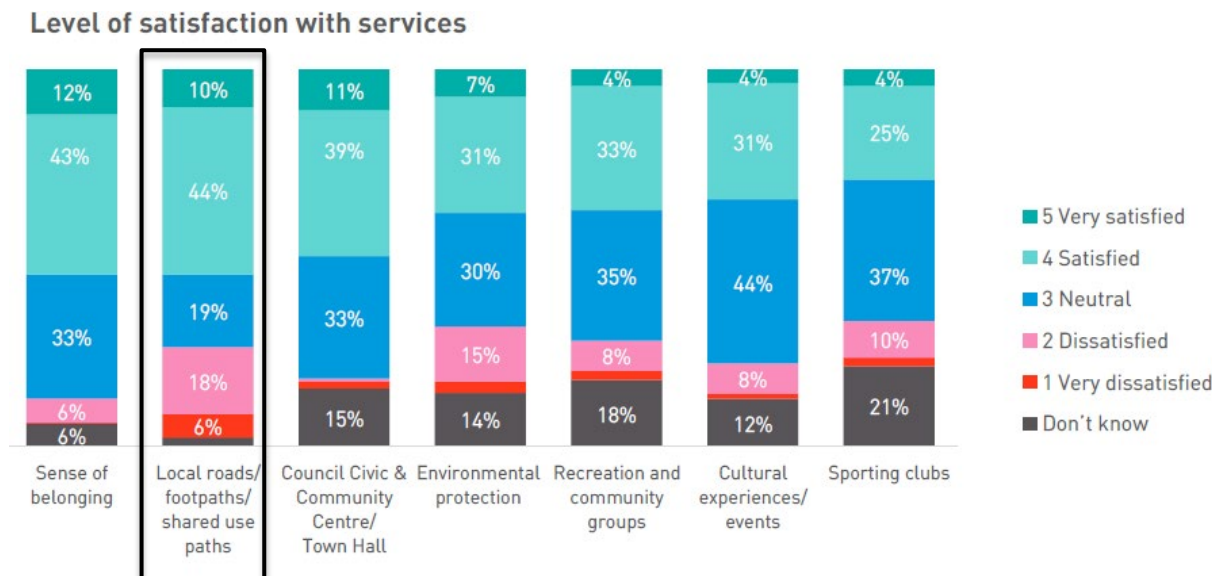
2.0 Levels of Service

2.1 Customer Levels of Service

2.1.1 2023 Community Perceptions & Satisfaction Survey

Council undertook a community survey in 2023 (Graphic 1), where 382 randomly selected Town of Walkerville residents were surveyed. Local roads and footpaths were identified in this survey as a critical service that Council provides. Although Council benchmarks quite well against other councils in roads (as presented in Graphic 2), the community believes there is still some room for improvement, with 6% of all respondents being very dissatisfied and 18% being dissatisfied with local roads and footpaths, however 54% were either satisfied or very satisfied with these services.

Graphic 1: Level of satisfaction – services



Graphic 2: Benchmark of Council services against other Councils

Satisfaction with Services	Walkerville	COUNCIL A	COUNCIL B	COUNCIL C	COUNCIL D	COUNCIL E	COUNCIL E
	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Cultural programs and events	3.3	3.8		3.0	3.5	3.8	
Community centres	3.7				3.8		
Community engagement and consultation	3.8	3.6	2.4	2.9		3.5	
Sense of belonging	3.6						
Customer service	3.8		2.9				
Economic Development	3.3				3.4		
Environmental protection	3.3						
Library services	4.1		3.4	3.4	4.3		4.3
Ovals / sporting facilities	3.4		3.2				
Parks / reserves /playgrounds	3.9	3.9	3.1				3.8
Heritage	3.5	3.3					
Public lighting	3.6		2.8	3.0			
Recreation and community groups	3.4						
Local roads / footpaths/ shared use paths	3.4	3.3	2.3	2.8	3.1	3.4	
Safe and secure area	4.0						
Services for the aged	3.4				3.4		
Sporting clubs	3.2						
Stormwater management	3.7			3.1			
Visual presentation of the area	3.7	3.9	3.0			3.6	
Traffic management (ease of travelling and moving around area)	3.6	3.3		2.5		3.3	3.4
Economic and active area	3.3						
Waste collection / recycling services	4.1	4.2	2.7	3.2	3.8		

2.1.2 Customer Request Data (last four years)

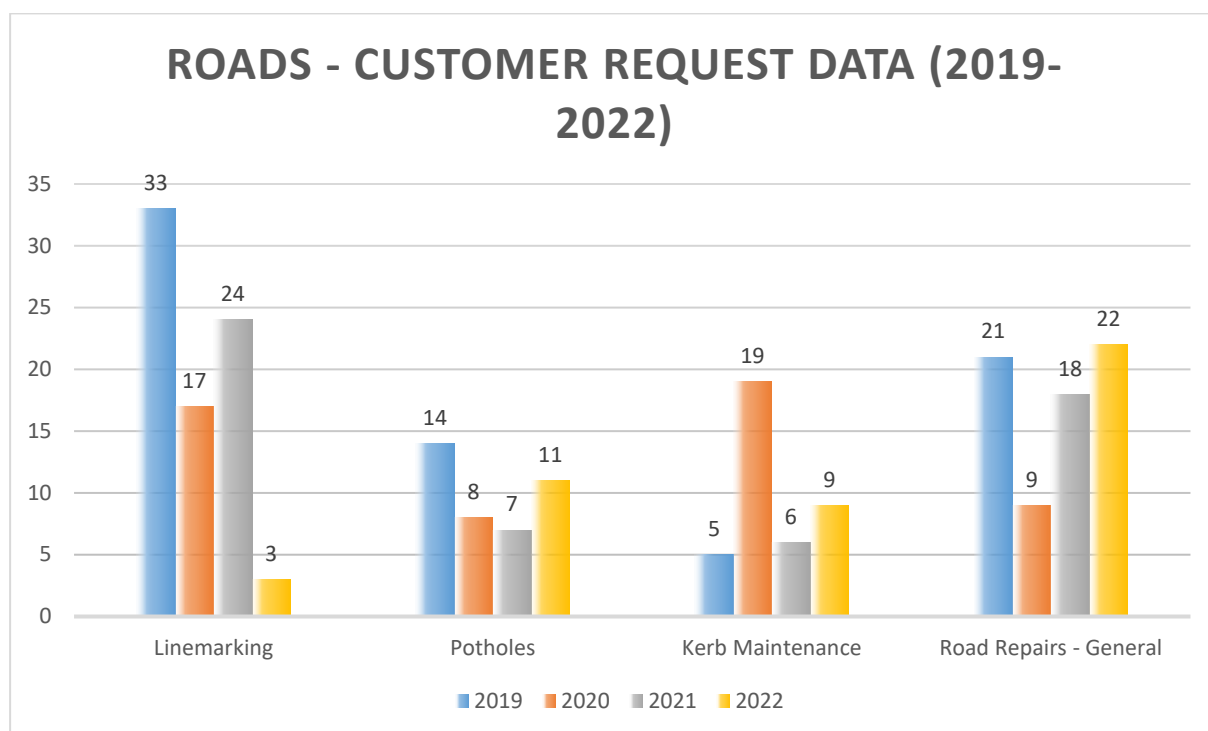
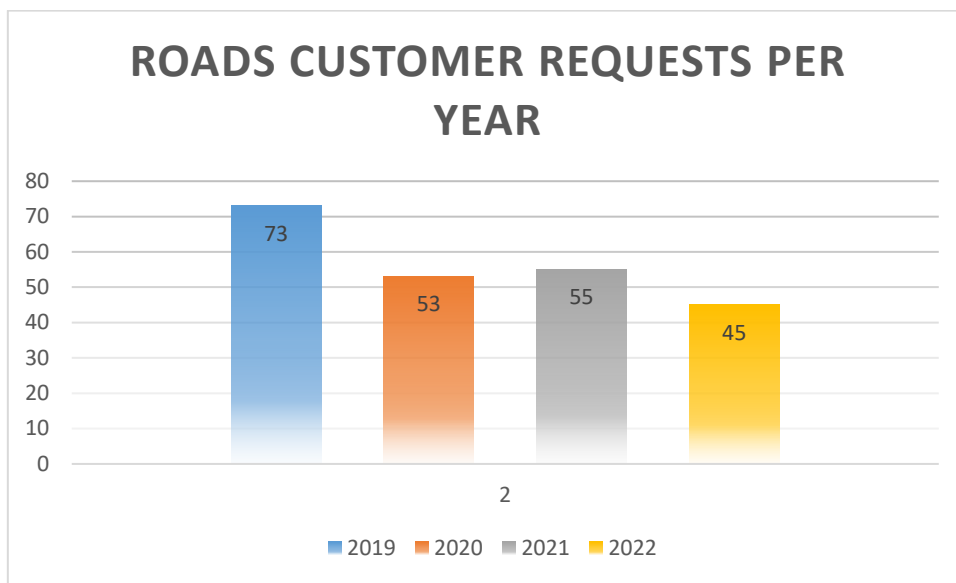
Roads customer requests have been collected in Council’s records management system over the past four calendar years (2019-2022) in the following pre-set categories:

- Line marking – 77 requests
- Pot holes – 40 requests
- Road repairs (General) – 70 requests
- Road – kerb/guttering maintenance – 39 requests

Total – 226 requests

A summary of the total number of customer requests relating to roads each calendar year can be found in Graphic 3 and 4 below. There were on average 56 road maintenance requests in the past four years, with 2022 being 20% below the four-year average.

Graphic 3 & 4: Total number of roads customer requests per year and category



2.2 Technical Levels of Service - Road Condition Profile

Condition is currently monitored on a four yearly audit/revaluation cycle, where the entire road network, including carparks and traffic control devices (TCDs), are condition rated by a suitably qualified independent pavement consultant. This provides a Surface Condition Index (SCI) and a Pavement Condition Index (PCI), which are combined into an overall condition score called an **Overall Service Index (OSI)**.

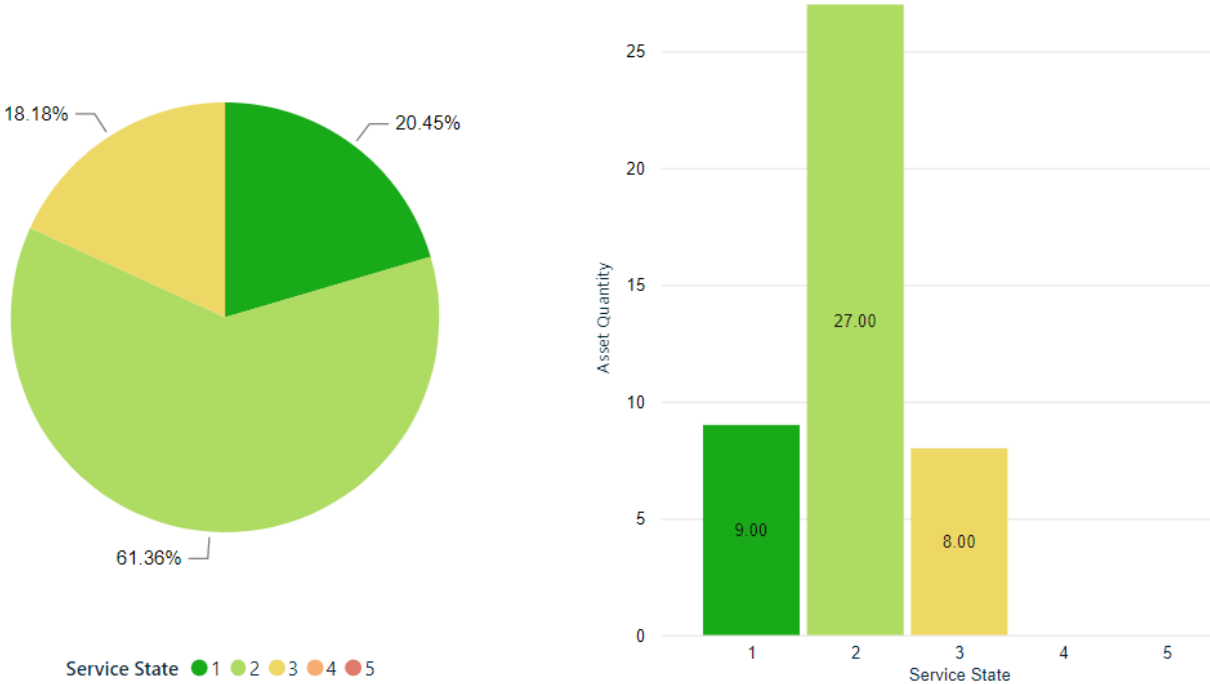
Condition is measured using a 1-5 grading system, as detailed in Table 2.2. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level, however, for reporting in the AMP, results are translated to a 1-5 grading scale for ease of communication.

Table 4: Condition Grading System

Condition grading (OSI)	Description of condition
1	Very good: free of defects, only planned and/or routine maintenance required
2	Good: minor defects, increasing maintenance required plus planned maintenance
3	Fair: defects requiring regular and/or significant maintenance to reinstate service
4	Poor: significant defects, higher order cost intervention likely
5	Very poor: physically unsound and/or beyond rehabilitation, immediate action required

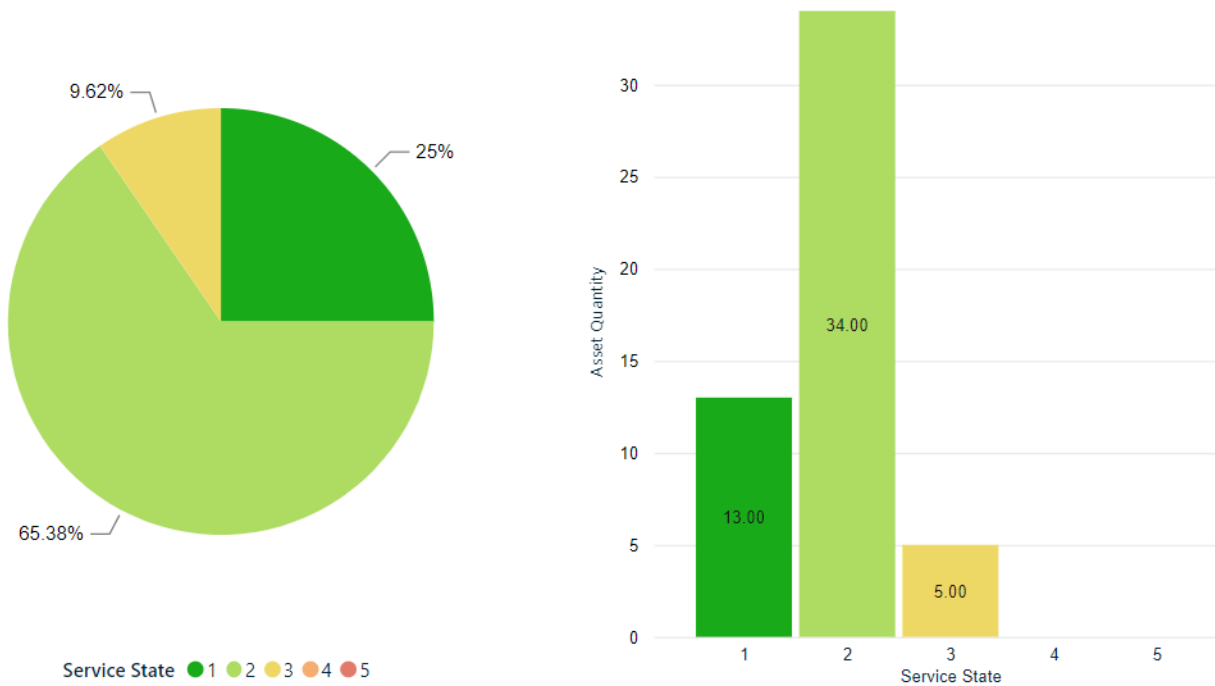
2.2.1 Condition Profile - Gilberton

The road network in Gilberton consists of 44 road segments with an average Overall Service Index (OSI) of **1.98**, made up of eight segments in condition 3, 27 segments in condition 2 and nine segments in condition 1.



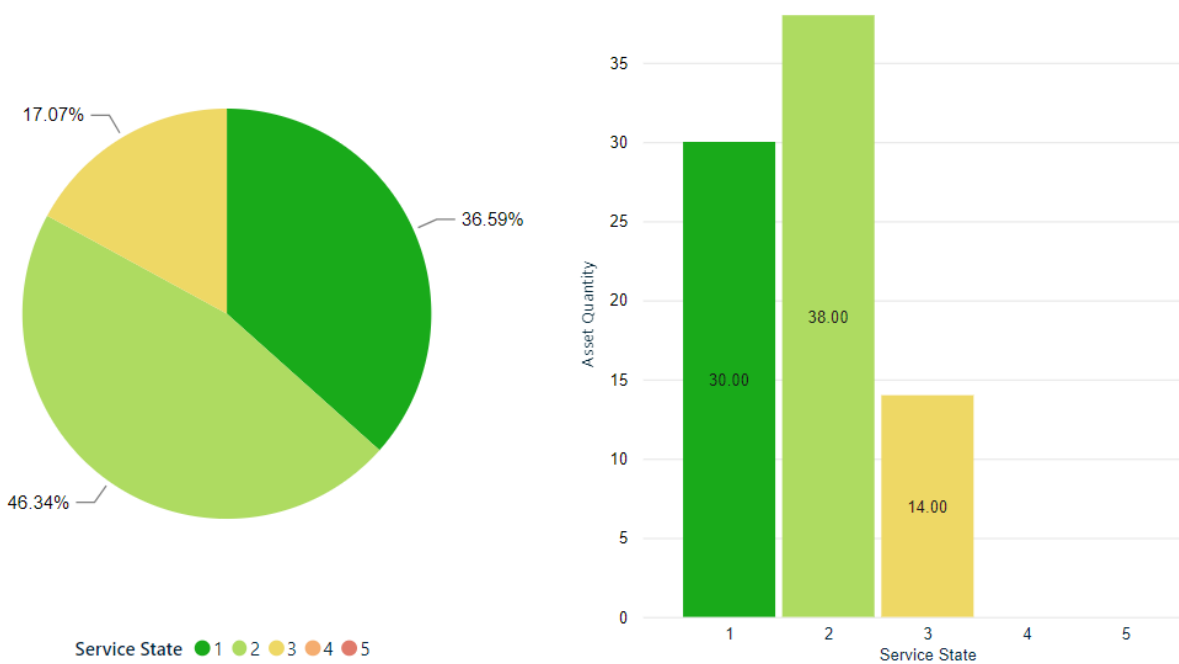
2.2.2 Condition Profile - Medindie

The road network in Medindie consists of 52 road segments with an average Overall Service Index (OSI) of **1.85**, made up of five segments in condition 3, 34 segments in condition 2 and 13 segments in condition 1.



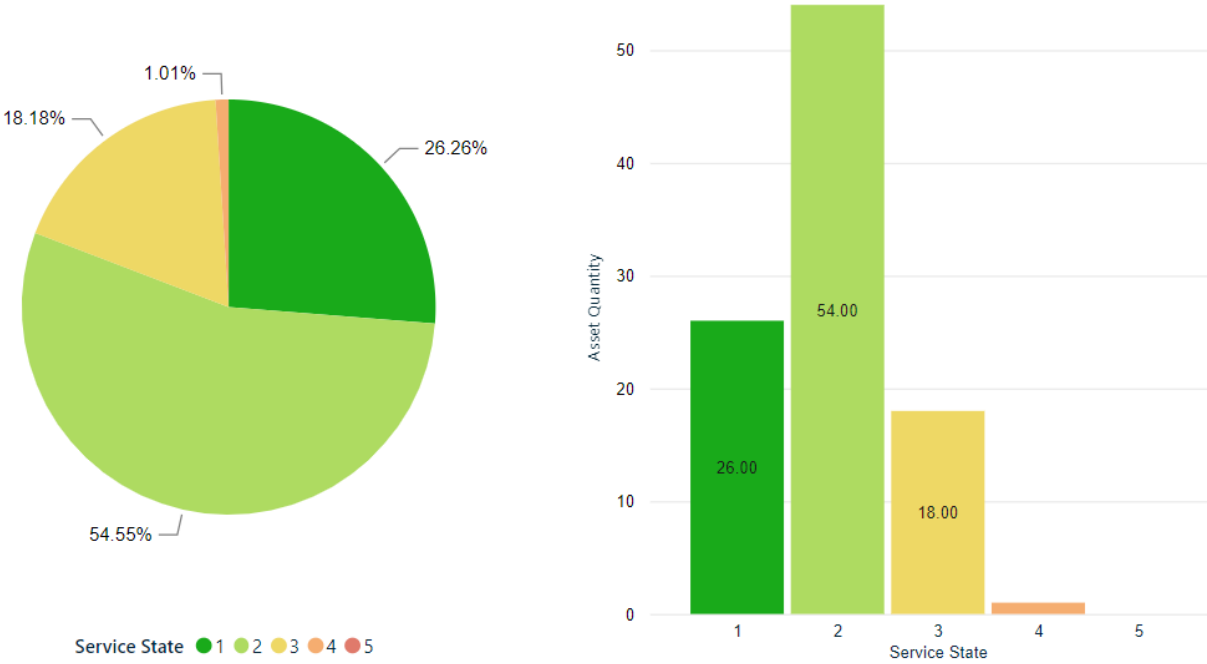
2.2.3 Condition Profile - Vale Park

The road network in Vale Park consists of 82 road segments with an average Overall Service Index (OSI) of **1.80**, made up of 14 segments in condition 3, 38 segments in condition 2 and 30 segments in condition 1.



2.2.4 Condition Profile - Walkerville

The road network in Walkerville consists of 99 road segments with an average Overall Service Index (OSI) of 1.94, made up of one segment in Condition 4, 18 segments in condition 3, 54 segments in condition 2 and 26 segments in condition 1.



2.3 Technical Levels of Service Targets

The technical measures below relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance. Table 5 shows the activities expected to be provided under the current 10-year planned budget allocation, and the forecast activity requirements identified in this AMP.

Table 5: Technical levels of service

Lifecycle activity	Purpose of activity	Activity measure	Current performance	Recommended performance
TECHNICAL LEVELS OF SERVICE				
Acquisition	No acquisitions are planned over the course of the plan			
		Budget	\$0	\$0
Operation	Line marking, traffic signal and signage operations	Line marking, traffic signal and signage work being undertaken by contractors	Proactive and reactive operations undertaken against line marking and signage	Maintain existing works against line marking and signage pending review
		Budget	Line marking - \$25,000 Signage and Traffic Signal Operations - \$25,000	\$50,000

Maintenance	Maintain road seal, pavement, kerbing	Seal, pavement and kerb maintenance works being undertaken	Proactive and reactive maintenance undertaken against seal, pavement, and kerbing	Retain existing expenditure and service levels
		Budget	\$54,486 (annual average over 10 years)	\$54,486
Renewal	Resealing of roads	Resealing undertaken as per program, 15% of reseal budget attributed to kerb renewals	Renewals each year prioritised on condition rating, risk and available funding	Maintain an average Overall Service Index OSI score of the road network of 2.0 each financial year.
		Budget	\$747,000 (annual average over 10 years)	\$747,000
Disposal	No disposals are planned over the course of the plan			
		Budget	\$0	\$0

2.4 Acquisition Plan

Acquisitions are new assets 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. The Town of Walkerville's Road network is considered fully developed and accordingly no road acquisitions are expected over the course of this plan. There is also no expected Greenfield developments where roads will be vested to Council during this time.

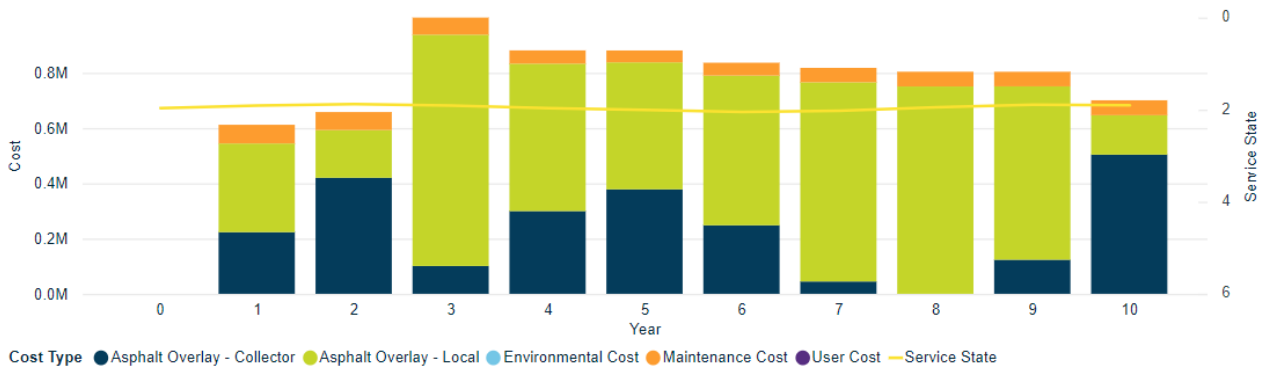
3. Funding Summary

3.1 What Council will do – renewal plan

Estimated available renewal/upgrade funding for the 10-year period is \$7,470,000 or \$747,000 on average. This funding maintains an **Average Overall Service Index Score of 1.95** across the 10 years of the Roads AMP. The following graphs and tables show how the current renewal plan funding impacts OSI for each year of the plan.

Graphic 5: Forecast average Overall Service Index (OSI) and planned renewal budgets

Total Cost and Service State by Year and Cost Type



Graphic 6: Road network service state distribution by year – based on current LTFP funding

Service Level by Year and Service State

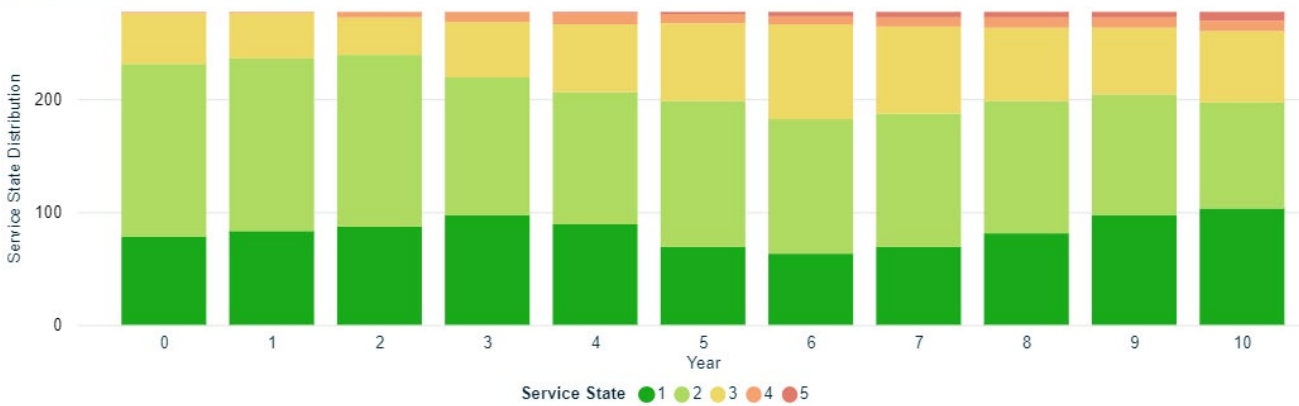


Table 6: Road network service state percentage by year – based on current LTFP funding

Year	State 1	State 2	State 3	State 4	State 5	State EOL
0	22%	59%	18%	0%	0%	0%
1	25%	60%	16%	0%	0%	0%
2	27%	59%	13%	1%	0%	0%
3	31%	50%	17%	2%	0%	0%
4	31%	45%	21%	3%	0%	0%
5	28%	46%	23%	2%	0%	0%
6	29%	41%	27%	2%	1%	0%
7	31%	40%	26%	2%	1%	0%
8	35%	39%	22%	2%	1%	0%
9	40%	35%	22%	2%	1%	0%
10	43%	29%	23%	2%	2%	0%

Council plans to provide the following road services:

- Operation, maintenance, renewal and acquisition of Roads and Kerbing to meet service levels set by Town of Walkerville.
- Maintain an average Overall Service Index (OSI) to the Town of Walkerville road network of **2.0**.
- Major road renewals within the 10 year planning period will be multiple segments of Walkerville Terrace, which is Council’s busiest collector road.

Table 7: Service criteria value by year

Year	OSI
0	1.96
1	1.91
2	1.88
3	1.91
4	1.97
5	2.01
6	2.05
7	2.02
8	1.95
9	1.89
10	1.90
Average	1.95

3.2 What does it cost?

The forecast lifecycle costs necessary to provide the services covered by this AMP include operation, maintenance, renewal, acquisition and disposal of assets. Although the AMP may be prepared for a range of time periods, it typically informs a long term financial planning period of 10 years. Therefore, a summary output from the AMP is the forecast of 10-year total outlays, which for the roads and kerbing network is estimated as **\$8,514,858 over 10 years** or **\$851,486** on average per year. This includes an estimated \$25,000 per year in line marking renewals and \$25,000 in signage and traffic signal maintenance in the operational costs.

Graphic 7: Budget and cost allocation by year

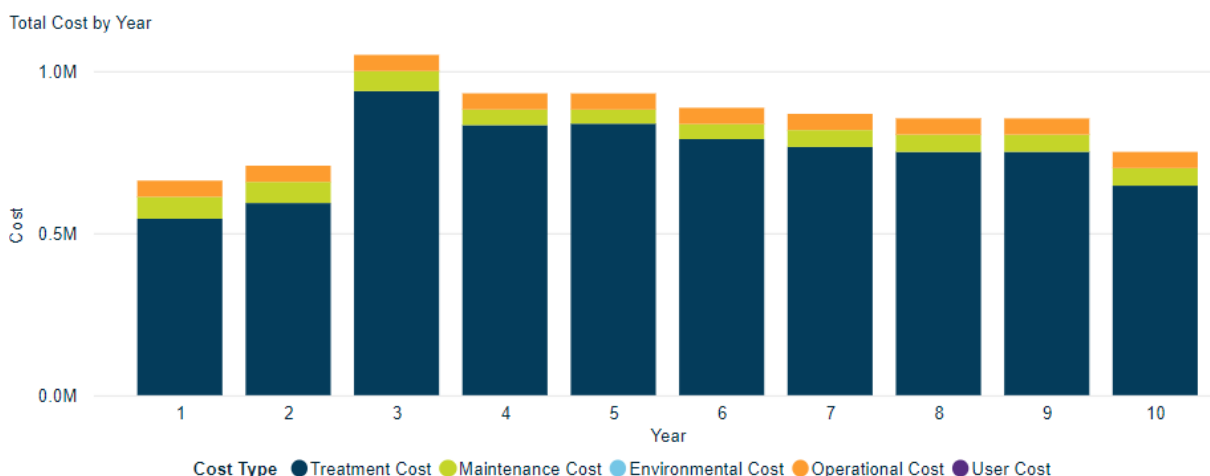


Table 8: Budget allocation and cost by Year

Year	Budget	Maintenance cost	Operational cost	Total annual cost
2023-24	\$545,000	\$67,635	\$50,000	\$662,635
2024-25	\$598,000	\$65,122	\$50,000	\$713,122
2025-26	\$940,000	\$61,897	\$50,000	\$1,051,897
2026-27	\$838,000	\$48,073	\$50,000	\$936,073
2027-28	\$839,000	\$43,026	\$50,000	\$932,026
2028-29	\$790,000	\$46,484	\$50,000	\$886,484
2029-30	\$766,000	\$52,157	\$50,000	\$868,157
2030-31	\$752,000	\$53,395	\$50,000	\$855,395
2031-32	\$752,000	\$52,888	\$50,000	\$854,888
2032-33	\$650,000	\$54,180	\$50,000	\$754,180
Total	\$7,470,000	\$544,858	\$500,000	\$8,514,858

Table 8A – Previous budget allocations and costs (last four financial years)

Year	Renewal Budget	Maintenance Budget	Operating Cost	Total Cost
2019-20	\$ 590,000	\$ 50,000	\$ 50,000	\$690,000
2020-21	\$ 748,000	\$ 50,000	\$ 30,000	\$828,000
2021-22	\$ 429,000	\$ 50,000	\$ 30,000	\$509,000
2022-23	\$ 476,000	\$ 55,000	\$ 45,000	\$576,000

4.0 Managing the Risks

4.1 Risk Assessment

Council’s present budget levels are sufficient to continue to manage risks and maintain current service levels in the medium term.

The main risk consequences are displayed in Table 9.

Table 9: Risks and treatment plans

Service or asset at risk	What can happen	Risk rating	Risk treatment plan	Residual risk	Treatment costs
Road Condition Profile	Poor condition data leads to poor service and funding allocations	High	Engage an independent condition audit of the entire road network every 4 years and utilise modelling programs to ensure data is kept up to date	Low	\$40,000 (once every four years)

Spray sealed roads	Spray Sealed Roads have a shorter life expectancy than Asphalt Roads	High	Look into life extension technologies such as liquid roads to extend life of assets	Low	Renewal Funding
Kerbing	Kerbing condition can be significantly impacted by environmental factors such as trees and stormwater	High	Prioritise removal of upright kerbing near trees on re seal projects	Medium	15% of re seal budget is allocated to kerb renewals each year

4.2 Climate Change Adaptation

The impacts of climate change may have a significant impact on the assets that Council manages and the services provided. In the context of the asset management planning process, climate change can be considered as both a future demand and a risk.

How climate change impacts on assets will vary depending on the location and the type of services provided, as will the way in which Council responds to and manages those impacts.

As a minimum, Council considers how to manage its existing assets, given potential climate change impacts for the region.

Risks and opportunities identified to date are shown in Table 10.

Table 10: Managing the impact of climate change on assets and services

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Surface Temperatures and Urban Heat Island Effect	Road surfaces are a significant contributor to surface temperature increases in hotter climate	Roads impact upon pedestrian health and wellbeing	Increase tree canopy in streets and investigate asphalt cooling products/treatments
Greater variations in temperatures and weather patterns	Temperature variations by Climate Change is causing road degradation through soil expansion and shrinkage.	Poorer conditions roads through exposing soils to extreme heat.	Increase tree canopy to keep temperatures cooler and also trial intervention treatments such as liquid seals to reduce expansion and shrinkage.

Additionally, the way in which Council constructs new assets should recognise that there is an opportunity to build in resilience to climate change impacts. Building resilience can have the following benefits:

- Assets will withstand the impacts of climate change;
- Services can be sustained; and
- Assets that can endure, may potentially lower the lifecycle cost and reduce their carbon footprint.

The impact of climate change on assets is a new and complex discussion, and further opportunities will be developed in future revisions of this AMP.

4.3 Service and Risk Trade-Offs

The decisions made in adopting this AMP are based on the objective to achieve the optimum benefits from the available resources.

4.3.1 What Council cannot do

There are some operations, maintenance activities and capital projects that are unable to be undertaken within the next 10 years within this AMP. These include:

- Major intersection upgrades or traffic improvements;
- Major road lighting upgrades; and
- Full kerb renewals in the renewal program – (assume 15% cost of road reseal attributed to the kerb patch repairs).

5.0 Improvement Plan

The improvement plan generated from this AMP is shown in Table 11.

Table 11 – Improvement Plan

Task	Action	Responsibility	Timeframe
1	Complete next condition audit of entire road and kerb network	Assets & Infrastructure	2026
2	Monitor the performance of rejuvenation treatments on the network to measure their efficacy and performance	Assets & Infrastructure	Ongoing
3	Investigate measures to capture additional life to road segments by maintenance activities	Assets & Infrastructure	2023
4	Continue trialing environmental sustainable resurfacing products, and measuring performance against existing treatment materials	Assets & Infrastructure	Ongoing
5	Improve asset condition data quality through continuation of inspections	Assets & Infrastructure	Ongoing
6	Develop customer response targets for customer requests	Asset and Infrastructure, Customer and Library Services	2024

6.0 Monitoring and Review Procedures

This AMP 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. The AMP will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets.

Appendix A – Traffic Control Device Register

Roundabouts

Asset Name	Projected Condition Score (1-5) per year of the plan											
	Year	0	1	2	3	4	5	6	7	8	9	10
	Asset ID											
Church Terrace & Burlington Street R/A	RD000035	2	2	2	2	3	3	3	4	4	4	4
Church Terrace & St Andrews Street R/A	RD000037	3	3	4	4	4	4	4	5	5	5	5
Cluny Avenue & Victoria Terrace R/A	RD000044	2	2	2	3	3	3	3	3	3	1	1
Fife Street & Harris Road R/A	RD000067	1	1	1	1	1	2	2	2	2	2	2
Harris Road - & Angas Avenue R/A	RD000090	2	2	2	2	2	3	3	4	4	4	4
Hawkers Road & Dutton Terrace R/A	RD000092	2	2	2	1	1	1	1	1	1	1	1
Smith Street & Church Terrace R/A -	RD000158	2	2	2	2	2	1	1	1	1	1	1
Victoria Avenue & Dutton Terrace R/A	RD000190	2	2	2	2	3	3	3	3	4	4	4
Walkerville Terrace & Smith Street R/A	RD000203	1	1	1	1	1	2	2	2	2	2	2

Pedestrian Crossings (Electrical)

Asset condition (1-5) at 30 June 2023										
Asset Name	Controller	Earth Stake	Concrete pits lids and surrounds	Loops and or bitumen	Line marking and Stop bar	S/C Post stripe condition	Post and equipment	Lanterns	Fencing	Pram ramps - access
Smith Street PAC	2	2	2	2	2	N/A	2	2	2	2
Hawkers Rd Koala Crossing	1	1	1	3	3	3.5	3.5	1	3	3
Walkerville Terrace Wombat Crossing	2	2	2	2	2	N/A	2	2	2	2