TRANSPORT ASSET MANAGEMENT PLAN 2024-2033

City of Burnside

EXECUTIVE SUMMARY

The objective of infrastructure asset management is to ensure that assets provide their required levels of service in the most cost effective manner to cater for both present and future customers. This Asset Management plan focuses on the management of the City of Burnside's transport assets which include roads (pavement / sub-base and surface), kerbs, footpaths and traffic control devices. This plan specifies the requirements for effective management of this asset group and the corresponding financial implications. The figures (condition and financial data) in this plan are reviewed annually, with a full update completed every 4 years.

Effective asset management of the City of Burnside's transport assets will contribute towards achievement of the following strategic priorities:

COMMUNITY:

- Resilience, wellbeing and recreation
- Facilities, services and programs that meet our community's needs

ENVIRONMENT:

- Adapt and mitigate for climate change
- Use natural resources efficiently and minimise waste

PLACE:

- Attractive streets and neighbourhoods with easy access and movement and encouragement of greener transport
- Character and heritage protected, cherished and celebrated

PRINCIPLES:

- Service Sustainability
- Communication and Engagement
- Improvement and Innovation
- Governing with Integrity

The total current replacement cost of the City of Burnside's transport assets is around $298m. The projected renewal expenditure necessary to meet the service standards for these transport assets averages around $5m per year over the next 10 years. This is the average annual level of spend required to ensure all assets are maintained in accordance with current standards and service levels, and renewed at appropriate times. Actual annual expenditure requirements will differ from year to year as specific assets are due to be renewed.

Community consultation feedback for this Asset Management Plan showed some improvement with feedback received in 2019. While feedback on transport assets was generally positive, ratings for safety and maintenance of footpaths rated lowest overall, with support ratings of 67% and 73% respectively. Recent works done to develop action.burnside to allow residents to quickly log any issues for repair, and introduction of a work order system will help improve effectiveness of footpath maintenance- given the feedback received, this will be supported by a communication campaign.

REVISION HISTORY

REVISION	DESCRIPTION	DATE
0.1	Draft for community consultation	May 2023
1.0	Final for approval	January 2024

TABLE OF CONTENTS

FREQUENTLY ASKED QUESTIONS

What is an asset?

An asset is an item of property owned by the Council regarded as having a financial value. Council's assets range from roads and footpaths to buildings, playgrounds, stormwater infrastructure and street furniture.

What is an asset management plan?

The purpose of an asset management plan is to help an organisation effectively manage their infrastructure and other assets to an agreed standard of service. The plan outlines what needs to be invested in each asset group in order to meet these defined service standards over the next ten years.

What is an asset group?

An asset group refers to a set of assets that have similar characteristics or purpose. For example, 'transport assets' all help to contribute towards enabling transport and movement across the city.

What is a service level?

A service level (or level of service) refers to a defined level of quality against which service performance can be measured. Service levels can relate to quality, quantity, reliability, responsiveness, environmental, acceptability and cost.

How do we determine service levels?

Service levels have been developed based on legislative requirements, customer research and feedback, and strategic goals.

What are the objectives of asset management?

The basic premise of infrastructure asset management is to intervene at strategic points in an asset's life cycle to extend the expected service life, and thereby maintain its performance. Generally speaking, the cost of maintaining an asset decreases with planned maintenance rather than unplanned maintenance, however, excessive planned maintenance increases costs. An objective of asset management is to strategically time infrastructure renewals before unplanned maintenance costs become excessive, but not so soon that assets are renewed before it is really needed.

Council's goal in managing infrastructure assets is to meet the required levels of service in the most cost effective manner for present and future customers.

How do we determine when renewals are required?

Renewals are determined by considering the ability of an asset to meet an agreed standard of service. This is done by regularly reviewing the condition and performance of assets and using that information as a basis to prioritise renewals.

Why does Council need an Asset Management Plan?

Under section 122 of the Local Government Act, the City of Burnside has a legislative requirement to develop Asset Management Plans. In addition to the legislative requirement, there is a need for the Council to ensure effective investment in assets which need it most by having a planned, systematic approach to Asset Management.

How does Council include community feedback into the Plan?

Council includes community feedback into Asset Management Plans in a number of ways:

- Through information provided via our annual community survey
- Through review of common customer requests and complaints in our Customer Request Management (CRM) system, and
- Through a formal community engagement process where the community is invited to provide feedback on draft Asset Management Plans, which is then incorporated into the final documents.

Further information on other terms used within this Asset Management Plan can be found in the glossary section of this document.

The total value of transport assets within the City of Burnside is $298,609,267

TRANSPORT INFRASTRUCTURE SUMMARY

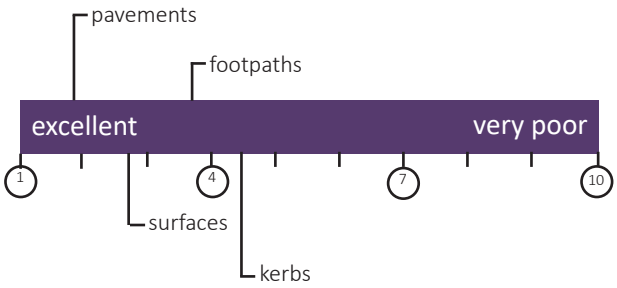
QUANTITY:

- 261 km — roads (pavement and surface)
- 469 km — kerbs
- 369 km — footpaths
- 7 groups — traffic control devices

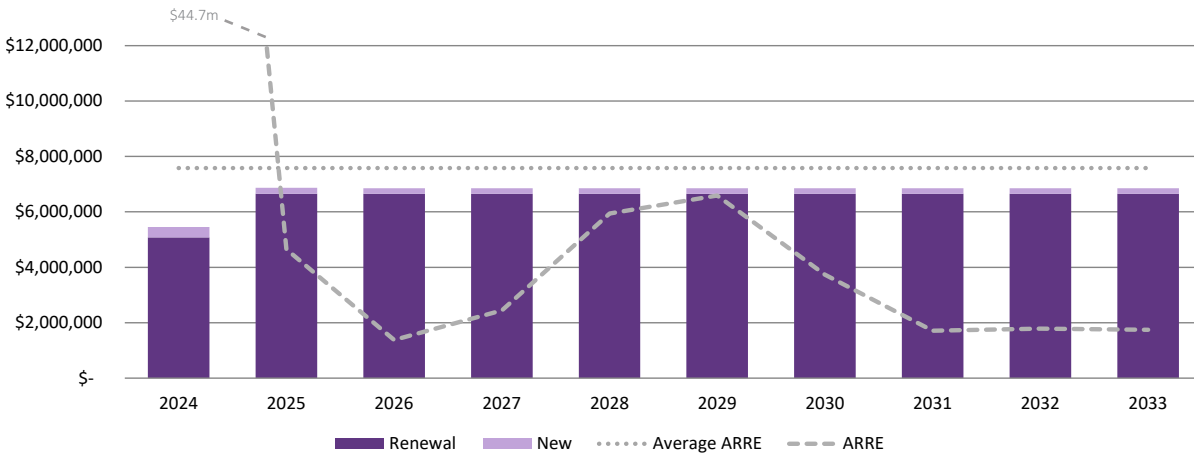
REPLACEMENT COST:

pavements	$112m
surfaces	$33.3m
kerbs	$95.4m
footpaths	$41.5m
traffic control devices	$10.8m
	$298,609,267

AVERAGE CONDITION:



PROJECTED CAPITAL EXPENDITURE:



INTRODUCTION

The City of Burnside's transport assets provide valuable services to the area, and comprise a large number of assets established over a long period of time. These assets have been acquired and developed over several generations and must be properly maintained and developed to continue to provide adequate service and benefits for current and future generations. This plan demonstrates Council's responsive management of transport assets, compliance with regulatory requirements and proposed funding requirements to provide the required levels of service.

This plan demonstrates how Council will achieve this outcome by applying the principles of responsible Asset Management Planning, the object of which is to deliver the required level of service to existing and future customers in the most cost effective way.

The key elements of infrastructure asset management are:

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

The contribution of transport asset services towards the strategic goals and Asset Management objectives will be achieved by:

- Stakeholder consultation to establish and confirm service standards.
- A regular program of inspections and monitoring activities to assess asset condition and performance.
- Application of a systematic analysis to prioritise renewals and establish the most cost effective works programs.
- Continuously reviewing and improving the quality of Asset Management practices.

The Asset Management Plan is to be read in conjunction with the Asset Management Policy, Asset Management Strategy, Long Term Financial Plan, Annual Business Plan and Budget, Burnside 2030 Strategic Community Plan, other Asset Management Plans, Disability Access and Inclusion Plan, Community Land Management Plans and relevant Council Strategies and Policies.

The key elements of the asset management plan are:

- Levels of service
- Future demand
- Asset management practices
- Life cycle management
- Financial management
- Improvement and monitoring

Assets must be properly maintained and developed to continue to provide **service and benefits** for current and future generations

LEVELS OF SERVICE INPUTS

COMMUNITY SURVEY FEEDBACK: [1]

62% satisfaction with provision and maintenance of footpaths

74% satisfaction with provision and maintenance of local roads

Block pavers are the preferred material for footpaths (65%); significantly preferred over asphalt (14%) and concrete (11%)[2]

LEGISLATIVE:

Local Government Act 1999
Road Traffic Act 1961
Civil Liabilities Act 1936
Disability Discrimination Act 1992
Public Health Act 2011

CITY OF BURNSIDE STRATEGIC PLAN:

Priorities:

- Resilience, wellbeing and recreation
- Facilities, services and programs that meet our community's needs
- Adapt and mitigate for climate change
- Use natural resources efficiently and minimise waste
- Attractive streets and neighbourhoods with easy access and movement and encouragement of greener transport
- Character and heritage protected, cherished and celebrated

Principles:

- Service Sustainability
- Communication and Engagement
- Improvement and Innovation
- Governing with Integrity

ASSET MANAGEMENT PLAN COMMUNITY CONSULTATION FEEDBACK:[3]

Q As a pedestrian, I believe footpaths within the City of Burnside are:

	2019	2023
well maintained	71%	73%
clean	84%	88%
accessible	86%	88%
safe	67%	67%

Q I believe the roads within the City of Burnside are:

	2019	2023
well maintained	82%	87%
safe	86%	86%

Community consultation feedback for this Asset Management Plan showed some improvement with feedback received in 2019. While feedback on transport assets was generally positive, ratings for safety and maintenance of footpaths rated lowest overall, with support ratings of 67% and 73% respectively. Recent works done to develop action.burnside to allow residents to quickly log any issues for repair, and introduction of a work order system will help improve effectiveness of footpath maintenance- given the feedback received, this will be supported by a communication campaign.

1 City of Burnside Annual Community Survey 2020
2 City of Burnside Annual Community Survey 2017
3 Asset Management Plan Community Consultation Feedback 2019, 2023

LEVELS OF SERVICE

The levels of service defined in this section will be used to:

- Clarify the level of service that our customers should expect.
- Identify works required to meet these levels of service.
- Identify the costs and benefits of the services offered.
- Enable Council and customers to discuss and assess the suitability, affordability and equality of the existing service level and to determine the impact of increasing or decreasing this level in future.

The adopted levels of service for transport assets are based on legislative requirements, customer research and expectations, and strategic goals.

The primary purpose of the transport network is to provide safe, convenient, all-weather access to properties. The community also desires that the access be clean, comfortable, and aesthetically pleasing.

The following tables define existing community expectations of transport service levels:

TABLE 1: PAVEMENTS, SURFACES AND KERBS LEVELS OF SERVICE

PERFORMANCE CATEGORY	COMMUNITY SERVICE EXPECTATION	PERFORMANCE MEASURE PROCESS	PERFORMANCE TARGET	CURRENT PERFORMANCE
Quality	Smooth ride	Frequency of complaints regarding ride smoothness	Less than 5 valid complaints per year excluding roads programmed for renewal / replacement within 3 years	Met- 0 complaints in last 2 years
Quality	Nice appearance	Extent of road surface and pavement failures	Inspection during revaluation shows no more than 10 locations with more than 20% area coverage of potholes / overlaid failure repairs per block (or 300m)	Met
Quality	Nice appearance	Extent of ponding water	Less than 3 complaints per year where inspections show more than 10% of the length of road with standing water > 20mm deep	Met
Quality	Wide carriageway except where restricted by trees	Carriageway width meets / exceeds road hierarchy guidelines	Road will meet or exceed Road Hierarchy guidelines when reconstructed except where width is restricted by trees	Met
Quality	Responsiveness	Time taken to inspect reported failure	Inspection of routine road failures within 36 hours of a reported fault as measured by councils customer request management system	Met
Function	Trafficable at all times	Reliability of access to properties	Property access except in extreme emergency situations or due to temporary construction works	Met
Safety	No traffic hazards	Potholes	Potholes in wheel paths or on corners, larger than 300 wide and 50mm deep repaired within 2 weeks of notification	Met
Safety	No traffic hazards	Surface failures	Surface failures larger than $2m^2$ repaired within 2 weeks of notification	Met
Safety	Safe driving conditions	Responsiveness in addressing unsafe situations	Signage or other required temporary action within 2 hours of notification	Met

TABLE 2: FOOTPATH LEVELS OF SERVICE

PERFORMANCE CATEGORY	COMMUNITY SERVICE EXPECTATION	PERFORMANCE MEASURE PROCESS	PERFORMANCE TARGET	CURRENT PERFORMANCE
Quality	Minimal impact or positive contribution to, local amenity of existing installations	Number of investigations by staff derived through customer requests	Fewer than 3 isolated valid requests per year for improvement to address local amenity after 6 months of implementation	Met
Quality	Smooth surface	Reported defects outside intervention levels repaired as per program	>25mm high defects repaired- Annually	Met
Function	Compliance with DDA	Compliance requirements	New installations meet Legislative Requirements where practicable. Existing facilities meet DDA requirements when further work is carried out at that location.	Met
Function	Appropriate width	Hard surface, minimum 0.9m wide	New footpaths are a minimum of 0.9m wide, except where not possible due to presence of trees / vegetation	Met

TABLE 3: TRAFFIC CONTROL DEVICES LEVELS OF SERVICE

PERFORMANCE CATEGORY	COMMUNITY SERVICE EXPECTATION	PERFORMANCE MEASURE PROCESS	PERFORMANCE TARGET	CURRENT PERFORMANCE
Quality	Nice appearance	Frequency of complaints regarding appearance of landscaping	Fewer than 4 requests for maintenance of existing landscaping relating to traffic control devices per year (excludes requests for upgrades)	Met
Function	Capable of use by all appropriate vehicles and other road users.	Design and constructed to function correctly	Compliance with emergency services and Passenger Transit Division of DIT requirements	Met
Function	Achieves desired traffic calming results	Post installation investigation results	Fewer than 5 (discrete) complaints per year regarding the installation after the first year.	One unsuccessful installation
Safety	Existing installations fit for purpose	Compliance with relevant standards at time of installation. Unacceptable hazards identified dealt with promptly.	Any hazards identified dealt with in a professional manner and any serious defects addressed within 12 months	Met
Safety	New Installations are safe	Designed and installed according to current legislation	All new installations designed and installed as per current legislation	Met

Indications of desired levels of service are obtained from formal surveys, residents' feedback to Councillors and staff and service requests.

Desired levels of service are informed through formal surveys, community feedback and customer service requests

FUTURE DEMAND

This section of the plan analyses potential factors affecting demand including population growth, social and technology changes. The impact of these trends is examined and strategies recommended as required to modify demand without compromising customer satisfaction.

DEMAND FORECAST[4]

Factors affecting demand include (but are not limited to) population change, changes in demographics, seasonal factors, vehicle ownership, consumer preferences and expectations, economic factors and environmental awareness. The population for the City of Burnside was 46,444 in 2021 and is projected to grow to around 50,888 by 2041, which may realise a small increase in maintenance of our transport assets.

The demand for significant new local government transport infrastructure is unlikely for the foreseeable future. However, there will be the ongoing demand for renewing the existing infrastructure as it completes its useful life.

Burnside contains no more than a few hectares of land zoned or suitable for division and the creation of new public roads and other infrastructure.

Proposed changes to the South Australian development legislation foreshadow greater densification along major arterial roads. This will be monitored; however, it is not expected to noticeably impact the demand for new transport assets.

CHANGES IN TECHNOLOGY

The following discusses at a high level potential changes in technology and their potential impact.

Emerging technologies and influences such as machine learning, the Internet of Things, virtual reality, artificial intelligence, smart technologies, mobility solutions, driverless vehicles and data warehousing all have the ability to affect demand and practices, however it is not anticipated that these will produce a significant impact within the 4 year life of this asset management plan.

Smart Cities technologies will also continue to be further investigated and trialled where appropriate.

Roads | Technology changes are forecast to have little effect on the delivery of road services covered by this Plan.

Minor improvements in remediation of pavements and refinements in resurfacing techniques (for example, improved bitumen binders) may make minor improvements but are not expected to substantially affect the overall condition or life of the network.

Other impacts on demand from technological changes may be brought about by:

- Rehabilitation techniques may replace some current renewal or replacement. Burnside already uses and specifies recycled pavement materials.
- Crude oil shortages may accelerate the

4 forecast.id.com.au (Feb 2023)

development of binder alternatives to bitumen.

• Technological improvements may result in longer term financial efficiencies.

Footpaths | Technological changes that may impact on the delivery of footpath services covered by this Plan:

• Upgrading of asphalt footpaths with pavers will continue into the foreseeable future, following strong community feedback for this to occur (and in line with Council's adopted Policy)

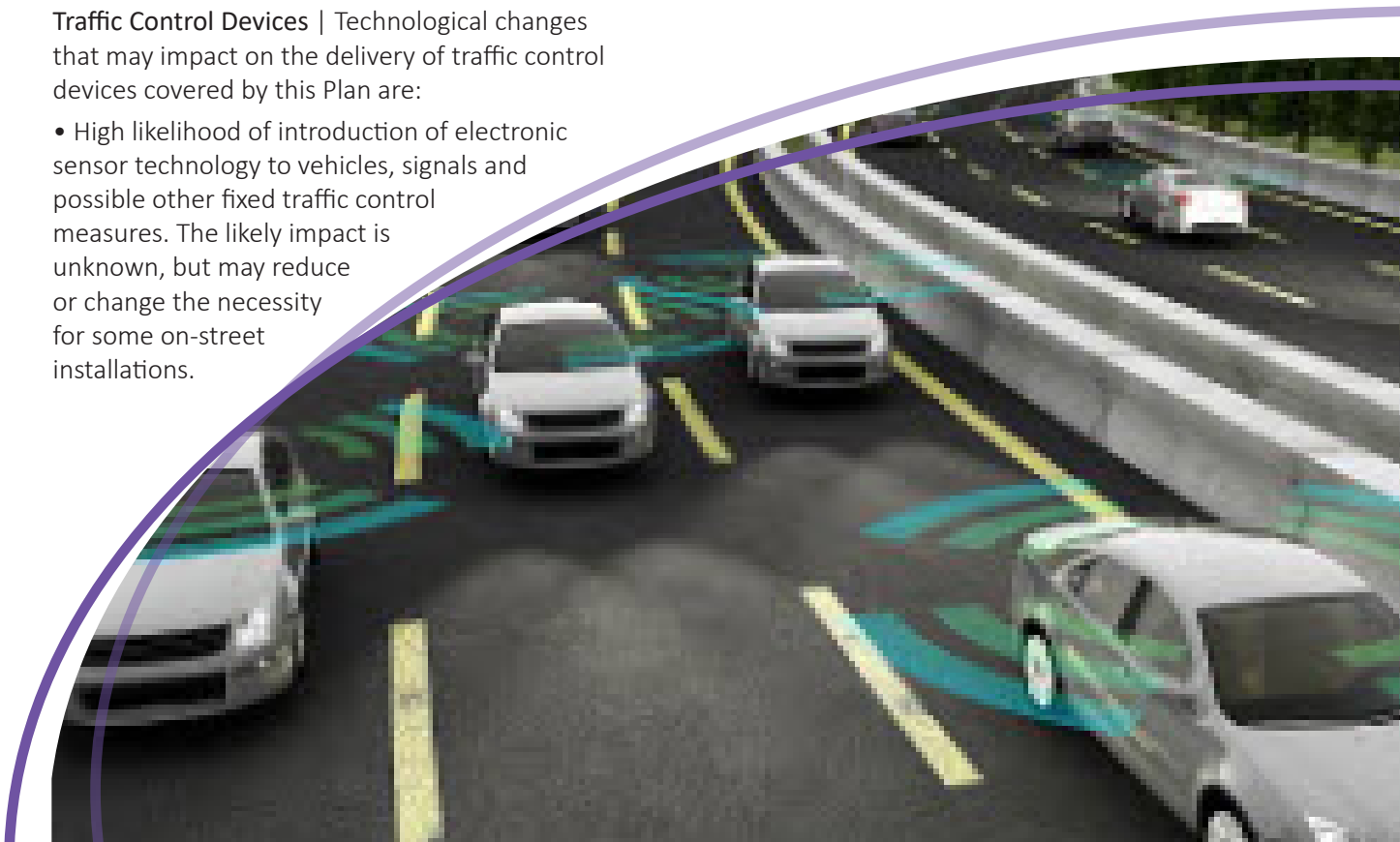
• Technological change, for example mechanised paver laying, may provide some cost efficiencies.

It is not expected that technological changes will significantly affect the financial plan.

Traffic Control Devices | Technological changes that may impact on the delivery of traffic control devices covered by this Plan are:

• High likelihood of introduction of electronic sensor technology to vehicles, signals and possible other fixed traffic control measures. The likely impact is unknown, but may reduce or change the necessity for some on-street installations.

• Introduction of new manufacturing materials and processes that make devices more 'forgiving' to errant vehicles and may simplify component replacement (for example signs that bounce back on impact, or rubberised versions of traffic control devices such as speed humps).



DEMAND MANAGEMENT PLAN

Roads | Demand for increased road services, and hence road assets, will primarily relate to increased efficiencies in the existing network and safer roads. It is envisaged that a small number of new road assets may be created as a result of land divisions and/or 'contributed' to Council by Developer(s).

TABLE 4: ROADS DEMAND MANAGEMENT PLAN SUMMARY

SERVICE ACTIVITY	DEMAND MANAGEMENT PLAN
Road safety	Ensure safety issues are investigated, prioritised, and appropriately addressed as resources allow
Congestion	Work with DIT on promoting public transit and maintaining the efficiency of the arterial road network

Footpaths | Consistent feedback has been received over multiple years through Council's Annual Community Survey, indicating a continued desire for replacement of asphalt paths with paved paths, as well as a desire for improved maintenance with fewer defects in footpaths. In response, Council Administration has implemented a ‘live’ database of defects on mobility devices that enables defects to be recorded and programmed for maintenance, prioritising those which are most severe. This is supported by regular inspection programs to identify and record any footpath defects.

TABLE 5: FOOTPATH DEMAND MANAGEMENT PLAN SUMMARY

SERVICE ACTIVITY	DEMAND MANAGEMENT PLAN
Renewal of footpaths	Continue to renew asphalt footpaths with paved paths, where viable, in keeping with the current policy and expenditure.
Smoothness of paths	Regular inspection program to identify and record defects. Regular maintenance program informed by defect information, with most severe/extensive defects prioritised.

Traffic Control Devices| Residents will continue to require safe and convenient access within and through the City. Safe local streets, free from extraneous traffic continue to be in demand.

TABLE 6: TRAFFIC CONTROL DEVICE DEMAND MANAGEMENT PLAN SUMMARY

SERVICE ACTIVITY	DEMAND MANAGEMENT PLAN
Transportation	Prepare an Integrated Transportation and Movement strategy as a framework for providing or facilitating improvements to all forms of transport- being actioned through City Master Planning process

NEW ASSETS FROM GROWTH

The City of Burnside is principally a fully developed urban area with relatively few new substantial developments.

There will continue to be a small number of new assets associated with development handovers, however the increase is estimated to be minimal and as such will not impact on the service level or the ability/cost to provide the service.

ASSET MANAGEMENT PRACTICES

This section identifies the strategies, practices and guidelines supporting Asset Management at the City of Burnside.

STANDARDS AND GUIDELINES

Asset Management practices and processes are guided by a number of legislative requirements and assisted by developed guidelines and standards.

• Local Government Act 1999 (sets outs Councils Asset Management responsibility and the requirement to develop asset management plans)

• Australian Accounting Standard 27 Financial Reporting by Local Governments 1996 (sets out the asset accounting requirements)

• International Infrastructure Management Manual, NAMS (Provides guidance and direction on asset management policy and plan development)

• AS ISO 55000:2014 Asset Management- Overview, principles and terminology (Provides guidance around frameworks for effective asset management)

ACCOUNTING/FINANCIAL SYSTEMS

Council utilises 'TechnologyOne' software as Council's financial management and accounting system. Incorporated into 'TechnologyOne' are facilities to manage fixed assets across the organisation with extensive functionality and reporting for the full lifecycle of assets providing full transparency from acquisition to disposal. The system also offers a total and comprehensive

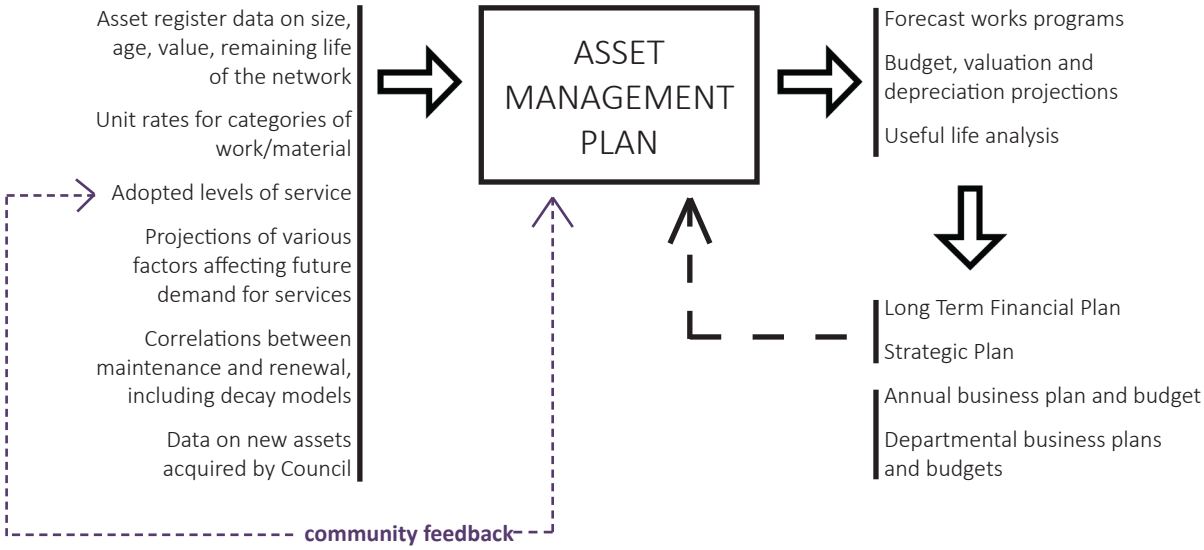


FIGURE 1: ASSET MANAGEMENT INFORMATION FLOWCHART

purchasing solution encompassing controlling, maintaining and streamlining of purchasing activities across the organisation.

ASSET MANAGEMENT SYSTEMS

Council utilises 'TechnologyOne' software as Council's asset management system. This ensures there is full integration between operating and financial functions. Council utilises a combined Financial / Operational Asset register that avoids any reconciliation issues that arise from two separate registers.

TechnologyOne IntraMaps is the corporate GIS. The GIS is predominantly used to show information such as cadastral, topographic, aerial information and asset location. It is a computer mapping system that graphically represents the geographic component of data that is housed within TechnologyOne.

RISK MANAGEMENT

The objective of the risk management process with regards to transport assets is to ensure that:

- All significant operational and organisational risks are understood and identified
- The highest risks that need to be addressed in the short to medium term are identified
- Strategies and treatments to address risks are identified and applied

An assessment of risks associated with service delivery from infrastructure assets has identified the most critical risks to Council. The risk assessment process identifies and assesses risks, develops a risk rating and develops a risk treatment plan for non-acceptable risks.

The key risk management criteria relating to Council's transport assets include:

- Public health and safety
- Service provision
- Environmental and legal compliance
- Security, theft and vandalism
- Business interruption
- Financial risk (escalating costs in deterioration)
- Asset damage through storms, flooding, water damage or events such as accidents.

Owing to increased rainfall and temperatures associated with climate change, there is a risk that assets will fail or need to be maintained earlier than expected. However, it is still unclear as to the exact impact of these changes.

According to the World Bank Group, "asset management, when undertaken according to best practice, is already one of the most significant climate adaptation strategies".

By continuing to ensure that the City of Burnside has the best possible information about its assets, the Council is able to better predict future demand and account for any potential required changes as a result of climate change.

Risk identification for transport assets can be identified from a number of resources such as:

- Routine inspections
- Reports and complaints from general public
- Information obtained from incidents
- Advice from professional bodies
- Past experience.

Risk ratings are determined using the City of Burnside's risk matrix:

TABLE 7: RISK RATING MATRIX

	Consequence				
Likelihood	**Insignificant**	**Minor**	**Moderate**	**Major**	**Severe**
Certain	11 Medium	16 High	20 High	23 Extreme	25 Extreme
Likely	7 Medium	12 Medium	17 High	21 High	24 Extreme
Possible	4 Low	8 Medium	13 Medium	18 High	22 Extreme
Unlikely	2 Low	5 Low	9 Medium	14 Medium	19 High
Rare	1 Low	3 Low	6 Low	10 Medium	15 High

Once risks have been assessed and rated, the most significant risks (those rated as high or extreme) are isolated for treatment/control. Those identified as moderate or low will continue to be monitored and reviewed if circumstances change.

Options to treat risk posed by transportation assets include (but not limited to):

- Risk elimination
- Reduction in the cause or likelihood of the event occurring
- Reduction in the consequence or severity of the event if it were to occur
- Increasing maintenance
- Initiating improvements, which could include amending operating processes or procedures
- sharing risk through insurance or contracts
- accepting the risk as-is

TABLE 8: STRATETGIC RISKS RELATING TO ASSETS

Risk	Risk Rating	Treatments in place
Lack of consideration to long-term environmental outcomes including climate change when delivering major projects that result in a detrimental impact to future generations.	13 Medium	Procurement Policy, Environmental Sustainability Strategy + reporting, circular procurement, renewable energy initiatives, Climate Change Policy
Inefficient and/or inappropriate resource planning and allocation may impact the delivery of key council services and management of assets	9 Medium	Strategic community plan, Annual Business Plan, LTFP, AMPs
Extreme weather events cause significant damage to the natural environment, Council and community assets and infrastructure resulting in unplanned capital renewal, maintenance works, or costs.	19 High	BCPs, Emergency response plan, Crisis management plan, Civic centre and depot have onsite emergency power generation
Ineffective or outdated strategic planning which are not aligned to community expectations and/or demographics leading to a lack of investment or inefficient allocation of resources	17 High	Community Engagement (public consultation) policy, Annual community survey, AMP consultation, Strategic plan consultation, City master planning
Significant injury, disablement, or death of a worker or member of the public due to a failure to adequately protect their health and safety.	15 High	AMPs ensure assets maintained appropriately, audited WHS and risk management system, Routine audit and asset inspection program
Unanticipated changes to State or Federal Government priorities and legislation may impact Council strategic objectives, service delivery, and community expectations.	9 Medium	Involvement in legislative consultation processes, in-house governance, advocacy programs
The Council does not fund and meet the community expectations in regards to asset management.	10 Medium	AMPs integrated with financial planning inc LTFP, consulted with community, reviewed by audit and risk committee, approved by Council
Council doesn't adapt or adopt strategic innovative advances including different technologies which may result in missed opportunities and/or not meeting customer expectations.	9 Medium	AMPs consider technological advances likely to affect long term plans
Supply chain issues related to availability, cost, etc adversely impacting upon Council's strategic workplans and projects.	13 Medium	Procurement policy and practices to address supply chain issues as well as possible

*Risk rating = residual risk rating with treatments in place
Note: risks highlighted above are taken directly from Council's strategic risk register

ROAD RISK MANAGEMENT

Risk management for roads relies on scheduled condition inspections to proactively identify hazards. Augmenting this method of identifying risks, Council receives advice of road asset issues through Council's Customer Request system, and from field staff. Due to the density of population and the expectations of the community, defects are usually quickly reported. This informal inspection process, in addition to Council work crews' inspections as part of their routine works, augments the four-year condition inspection regime to satisfactorily manage road related risks.

As advice is received of defects, safety or otherwise, inspectors assess and prioritise maintenance based on the defect's location (including road hierarchy), type and extent – the actual risk. The resulting response time varies according to the risk.

KERB RISK MANAGEMENT

The main risks associated with kerbs are the potential for flooding of adjoining properties, localised ponding and the inability for the kerb to support the edge of the verge. These risks can generally be mitigated by ensuring that the kerb height is adequate. As such, a higher priority is given to kerbs that have a low kerb height factor as part of their overall condition rating.

A condition rating analysis is undertaken on all kerbs every 4 years. This is supplemented by

community feedback and work crew inspection as part of their routine works. This data informs the Capital Works Program to ensure the kerbs in the worst condition are being replaced first, thus minimising risk.

FOOTPATH RISK MANAGEMENT

Risks for footpaths predominantly arise where footpaths are not adequately maintained. Inspectors assess the priority of footpath issues through the severity and extent of defects. Prioritisation of response time and repair type occurs during the inspection recording process, with response time varying according to the footpath's hierarchy, and the magnitude of the defect or obstruction. The footpath hierarchy has been formulated using a combination of factors including the number and composition of people using the path (calculated by their distance from a pedestrian generator) and census data to identify footpaths used by people with special needs. The footpath hierarchy includes the following categories:

1 – Highest Use

2 – High Use

3 – Medium Use

4 – Low Use

5 – Lowest Use

All footpaths in categories 1 and 2 are formally inspected annually for defects, and all other footpaths are inspected bi-annually. Defects are also recorded and prioritised where raised through community feedback and work crew inspection as part of their routine works.

TRAFFIC CONTROL DEVICE RISK MANAGEMENT

Risk for traffic control devices predominantly occurs where traffic control devices are required but not yet provided. There are also risks involved where devices do not meet current design standards. Council is required to upgrade traffic control devices to meet current standards when work is undertaken on existing assets.

The current adopted inspection regime for Traffic Control Devices is as follows:

Pedestrian Crossings	2 years
Signs	4 years
Guard Railing	
Roundabouts	
Road Closures	
Road Humps	
Traffic Islands	6 years

As advice is received of defects, safety or otherwise, inspectors make an assessment of the severity, risk and priority of the issue.

Prioritisation of response occurs during the inspection recording process. The response time will vary according to the hierarchy category, the location of the defect within the road carriageway, and the severity of the issue.

LIFECYCLE MANAGEMENT PLAN

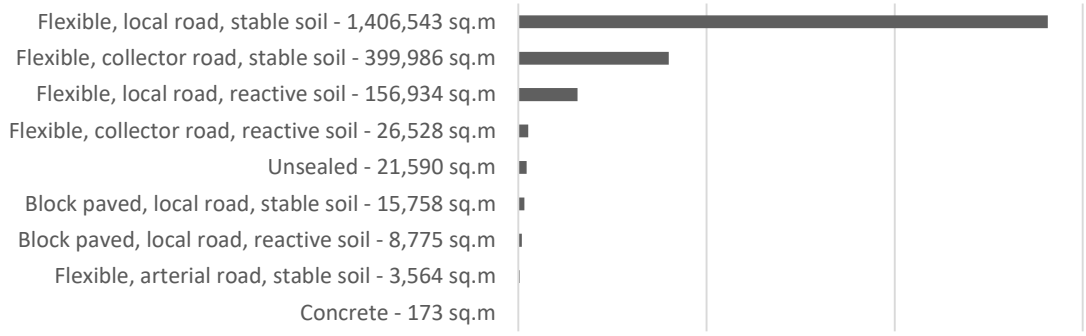
This section outlines asset performance and condition information, and uses Asset Management principles to develop broad strategies and specific work programs to achieve the service standards previously outlined.

It presents an analysis of available asset information and the life cycle management plans covering the three key work activities to manage the transportation network

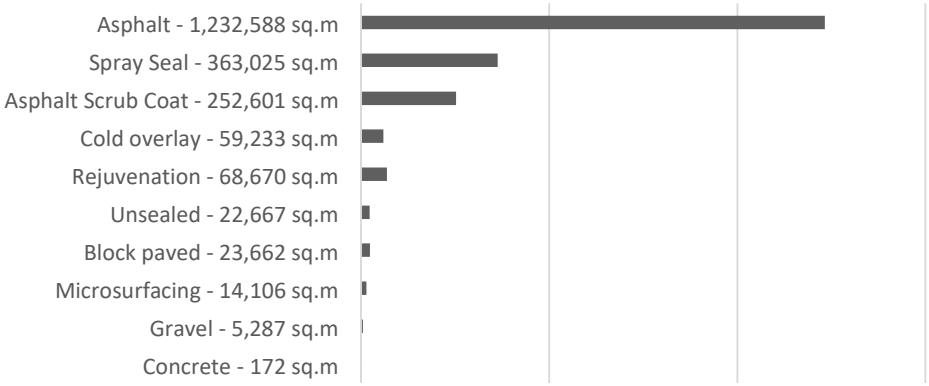
- Maintenance Plan- Activities undertaken to ensure efficient operation and serviceability of the assets. This will ensure that the assets retain their service potential over the course of their useful life.
- Renewal Plan- Provides a program of progressive renewal of individual assets. Deteriorating asset condition primarily drives renewal needs, with increasing maintenance costs also considered.
- Enhancement Plan- Provides a program of works to create new assets or substantially upgrade existing assets. Primarily driven by community, growth, social and/or environmental needs/desires.

PHYSICAL PARAMETERS

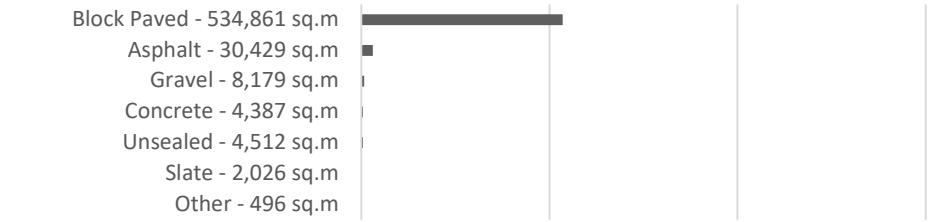
PAVEMENTS:



SURFACES:



FOOTPATHS:



KERBS:

ASSET CAPACITY AND PERFORMANCE

Pavements | Failure of the road surface accelerates (or causes) pavement failure. Failure of the pavement mainly manifests itself via excess rutting, crocodile cracking, localised depressions and/or potholing.

Pavements will exhibit failures rapidly if repeatedly loaded above mass design parameters, however, these pavements may be protected by applying Vehicular Mass Limits or identifying and designing ways to reduce loading on pavements. Maintaining the integrity of surfaces helps to protect the underlying pavement.

Surfaces | Road surface capacity is limited by the underlying pavement. Failure of the surface mainly manifests itself via excess non-crocodile cracking and/or pitting and ravelling of the surface.

Surface factors are directly related to the flexibility of the surface material and will fail more rapidly when the surface bitumen oxidises.

Footpaths | A footpath's prime purpose is to provide a safe all-weather surface for the conveyance of people. Footpath capacity, therefore, can be defined as its ability to provide this safe all-weather surface.

Council aims to provide a minimum width of 0.9m (where physically possible), and endeavours to offer DDA compliant paths where possible.

Kerbs | Kerb deterioration can occur as part of resurfacing works, tree root influence, and soil movement. However, kerbs can continue to function in their primary capacity to provide a road edge and channel water well beyond their aesthetic acceptability. As such, their technical capacity will not likely be exceeded and Burnside will continue to progressively replace this asset group through the current program.

Traffic Control Devices | Traffic management devices range from advisory signage to speed or volume control devices, through to signalised pedestrian crossings. By virtue of their daily use by a wide cross-section of the community, their functionality, capacity and performance is continuously 'tested'. Thus, it is unlikely that the devices will under-perform for any more than a relatively short period of time before replacement or modification takes place.

ASSET CONDITION

Asset condition has been determined for Council's transport assets. Council is committed to regular condition data collection in order to mitigate risk and make informed decisions when formulating forward Capital Works Programs. Asset condition is usually determined through field observations of defect parameters.

All asset conditions are measured using a 1-10 rating system where 1 relates to an asset that is "as new" and 10 relates to an asset that is totally consumed. Below shows the proportional condition of assets within the pavement, surface, footpath and kerb asset groups.

In relation to the charts below, condition has been rated as follows:

Very Good: <2

Good: 2-4

Average: 4-6

Poor: 6-8

Very Poor: >8

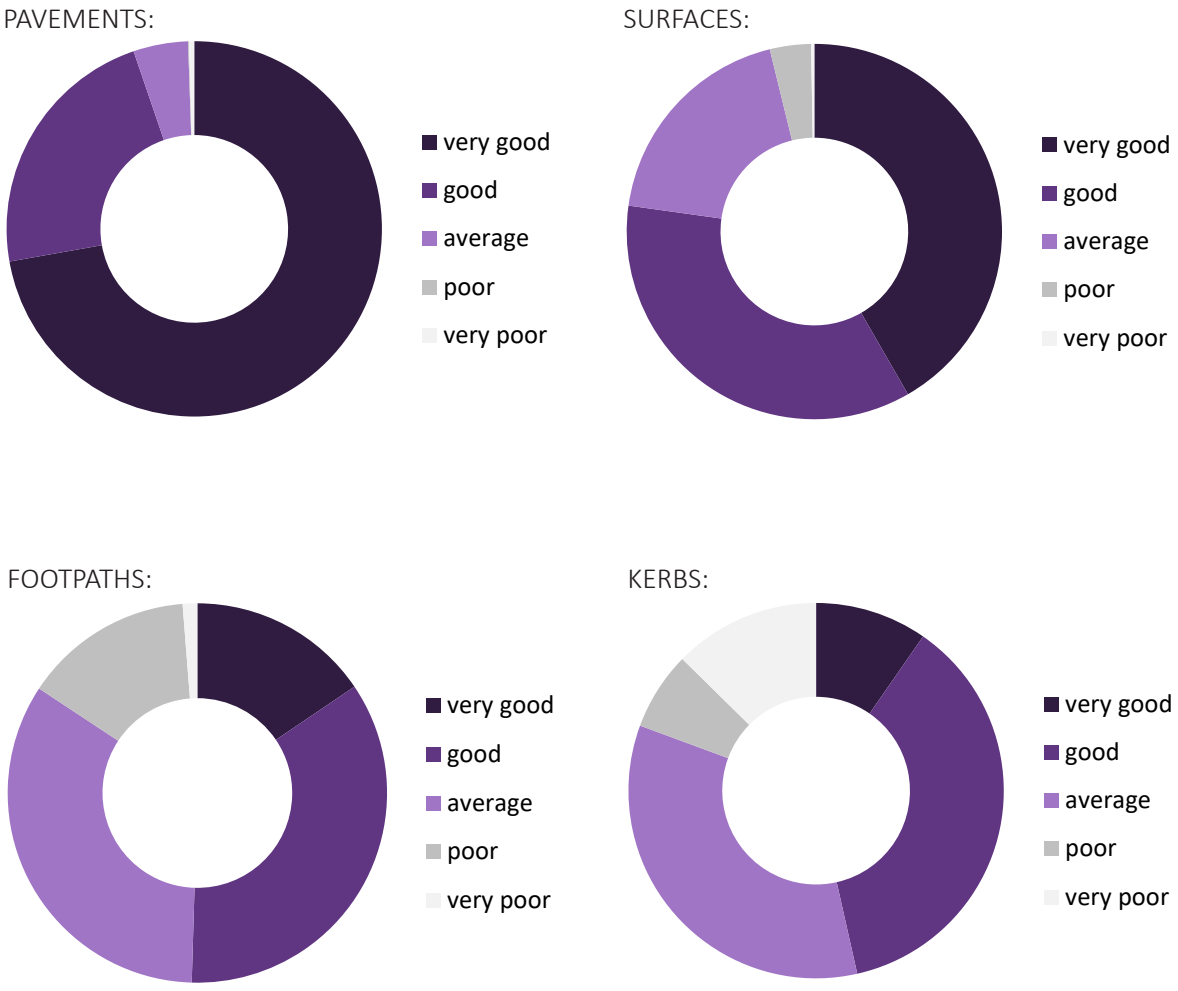


FIGURE 2: RELATIVE ASSET CONDITION

USEFUL LIVES AND UNIT RATES

The useful lives and unit rates for pavements, surfaces, kerbs and footpaths are per the revaluation of non-current assets in accordance with Australian Accounting Standards, as at 1 July 2018 (APV).

The useful lives and unit rates for all traffic control devices were verified as at 1 July 2019 (Assetic).

Revaluation unit rates are derived from actual costs from the Capital Works Program averaged over a 2-year period. Similarly, useful lives are based on the average life of disposed assets over a 2-year period.

ASSET VALUATIONS

The value of Council's Transport assets as at 1 July 2018 is summarised in the table below. The derivation of these figures is described within the Financial Summary section.

TABLE 9: ASSET VALUATION FIGURES

	Current Replacement Cost	Depreciated Amount	Depreciated Replacement Cost	Annual Depreciation
Pavement	$112,026,009	$13,221,412	$98,804,598	$801,016
Formation	$5,646,824	$0	$5,646,824	$28,234
Surface	$33,250,700	$17,255,938	$15,994,762	$1,303,158
Footpath	$41,486,150	$20,107,787	$21,378,363	$807,856
Kerb	$95,428,490	$48,323,532	$47,104,958	$1,151,361
Traffic Control Devices	$10,771,093	$772,944	$9,998,149	$469,292
TOTAL:	**$298,609,267**	**$99,681,613**	**$198,927,654**	**$4,560,917**

Fergusson Square, Toorak Gardens

MAINTENANCE PLAN

Routine maintenance is the regular on-going work necessary to keep assets operating. Maintenance includes reactive and proactive work activities.

Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions. Some examples of this type of maintenance are the 'quick response' tasks to fix a pothole in the road.

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

MAINTENANCE EXPENDITURE

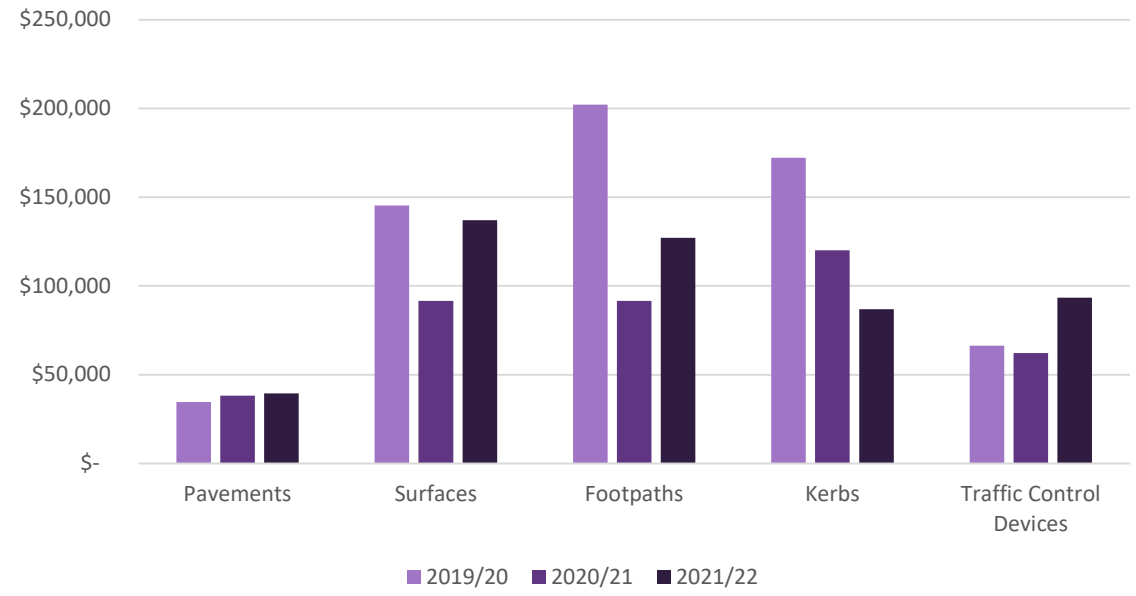


FIGURE 3: MAINTENANCE EXPENDITURE TRENDS

Maintenance expenditure has remained relatively consistent across most areas. For the most part, costs have decreased as older assets have been renewed, however, there were increases seen in 21/22 as a result of inflation rates.

STANDARD AND SPECIFICATIONS

Maintenance work is carried out in accordance with the following Standards and Specifications:

- Contract Document WKS0215
- Australian Standards AS1742, AS2890
- Council's Standard Drawings D4274 1-18
- Council's Specification documents
- Council's Footpath Policy.

FUTURE MAINTENANCE EXPENSES

Future maintenance costs are forecast to trend in line with the type and condition of the asset stock.

RENEWAL PLAN

Renewal expenditure is major work that restores, rehabilitates, replaces or renews an existing asset to its original service potential.

Assets requiring renewal are identified from estimates of remaining life obtained from the asset register. Proposed renewals are inspected to verify accuracy of remaining life estimate and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled into future works programs.

RENEWAL PRIORITISATION

Pavements

- Higher volume roads first.
- Through-roads take precedence over cul-de-sac roads.

Surfaces

- Streets with the worst overall condition score are the highest priority.
- Road Hierarchy

Kerbs and Footpaths | Council has a policy of renewing precast kerbs with in-situ kerb and gutter, however bluestone, median, or already in-situ kerb and gutter are either rehabilitated or renewed like for like.

Council is progressively replacing all asphalt footpaths with block paved footpaths, to ensure footpaths meet current standards and community expectations.

Footpaths are renewed in accordance with the prioritisation criteria outlined in the Footpath Policy, while kerbs are renewed based on the following criteria:

- Condition rating
- Kerb Height
- Flood risk
- Alignment with road / traffic projects

Traffic Control Devices | Traffic control devices are constantly evolving as practitioners and the community seek more effective and sustainable solutions.

The fabric of many older devices is deteriorating and layouts, although constructed according to standards current at the time, do not necessarily meet current standards. Frequently traffic management devices are upgraded due to obsolescence rather than condition, or a failure to provide appropriate levels of service.

RENEWAL STANDARDS

Renewal work is generally carried out to current standards and capacity (or modern equivalent), unless there is solid justification and data to support a change.

REQUIRED RENEWAL EXPENDITURE

Projected future renewal expenditure is forecast to remain relatively stable, with costs summarised below. Note that all costs are shown in current 2022/23 dollar values. The renewal investment is lower than the average ARRE, predominantly as a result of kerbs which have a

significant backlog. In this case, funding has been set to progress addressing backlog while taking into account the limit on capacity to undertake kerb works across the city (both within the market and internal resources).

IMPACT OF DEFERRING RENEWAL WORKS

Renewal works may be deferred if the cost (or aggregate cost) is beyond the current financial ability to fund. This can occur when there are short term renewal profile peaks, or higher priority works are required on other infrastructure asset groups.

When renewal works are deferred, the impact of the deferral on the assets ability to still provide the required level of service will be assessed. Although the deferral of some renewal works may not impact significantly on the short-term operation of the assets, repeated deferral will create a liability (backlog) in the longer term, and this needs to be taken into account before making a decision to defer.

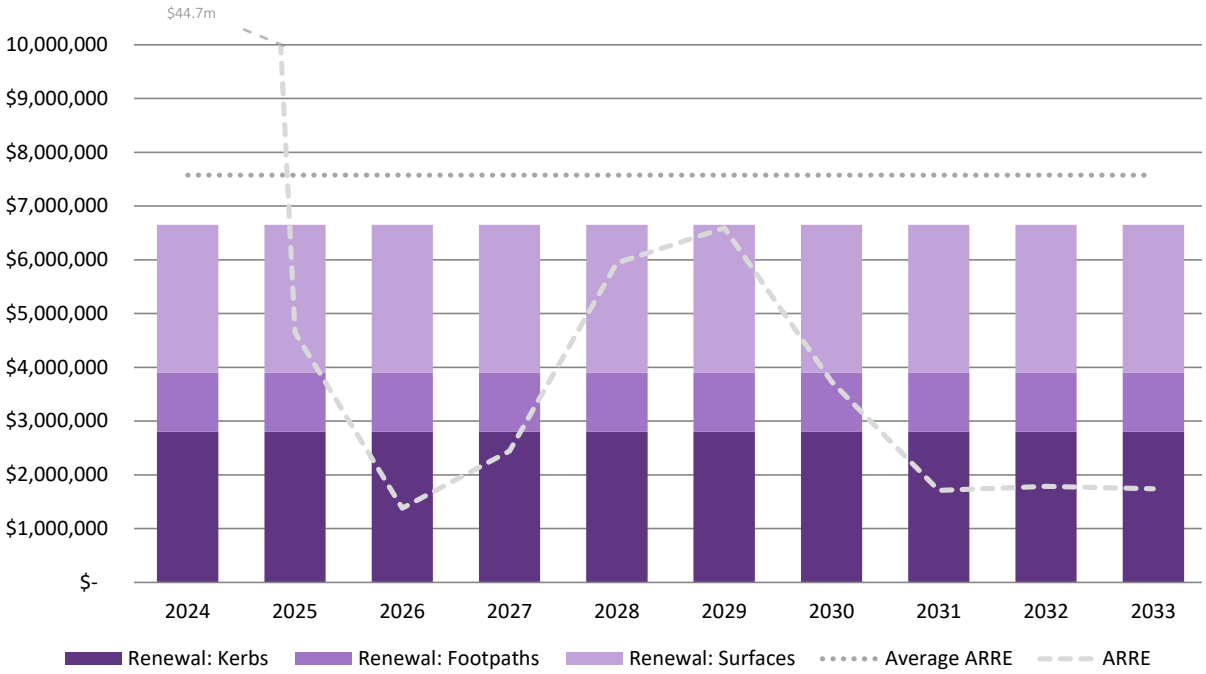


FIGURE 4: FORECAST RENEWAL EXPENDITURE

ENHANCEMENT PLAN

New works are those works that create a new asset that did not previously exist. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to the Council from land development or through 'gifts' provided to the Council.

FORECAST NEW ASSET EXPENDITURE

Planned new asset expenditures is summarised below. All costs are shown in current 2022/23 financial year dollar values. The expenditure shown relates predominantly to traffic control devices, with the exception of 2024 and 2025 where there are some amounts allocated for construction of new footpaths per adopted Master Plans at Bell Yett Reserve and Penfold Park Reserve.

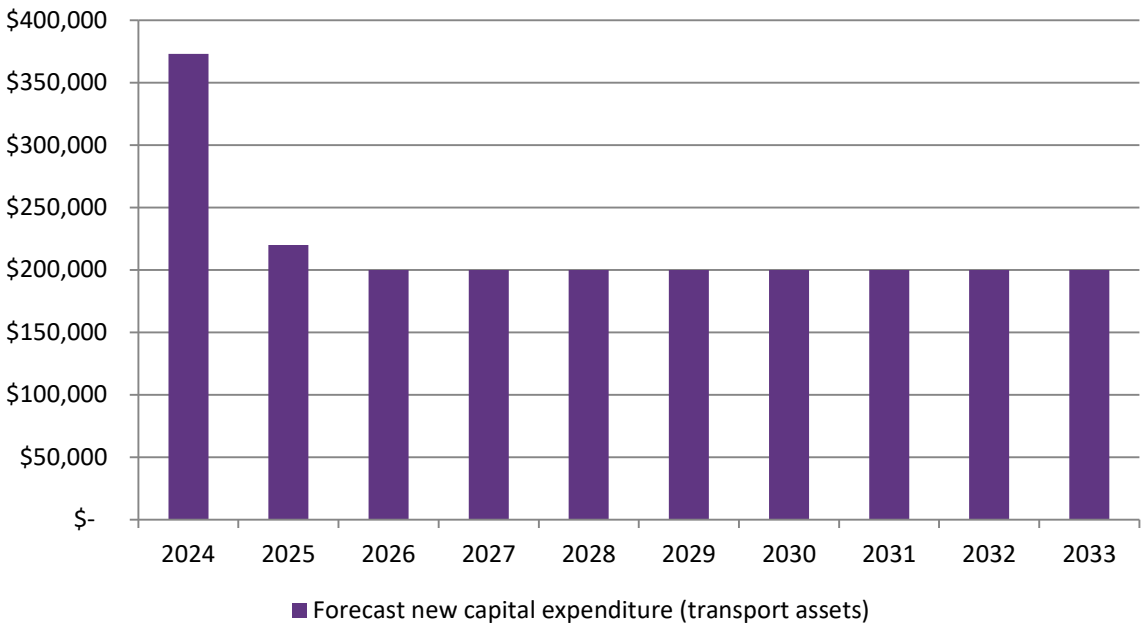


FIGURE 5: FORECAST NEW EXPENDITURE

DISPOSAL OF ASSETS

Council has no transport assets proposed to be decommissioned. As such, there is no funding required or expected from the decommissioning of any assets at this point in time.

There is occasionally some loss on disposal incurred where assets fail earlier than expected. This occurs as useful lives are developed based on the average lifespan for a particular type of asset, and there are occasionally exceptions where individual assets do not last quite as long as anticipated. This loss is minimised by regularly reviewing the actual lifespans of assets and undertaking revaluations to adjust useful lives where required.

Michael Perry Reserve, Stonyfell

FINANCIAL SUMMARY

This section contains the financial requirements resulting from all the information presented in the previous sections of this infrastructure and asset management plan.

FINANCIAL PROJECTIONS

Figure 6 highlights the financial projections for planned operating (maintenance) and capital expenditure (renewal and new) for transport assets. The target is to retain relatively stable levels of operating expenditure for all asset types. The average projected asset renewal requirement over the 10 year planning period is calculated by determining the year of renewal by extrapolating from the current condition to a defined intervention condition.

Projected expenditure is to be funded from Council's maintenance, operating, and capital budgets. The funding allocation is detailed in Council's 10-year Long Term Financial Plan (LTFP).

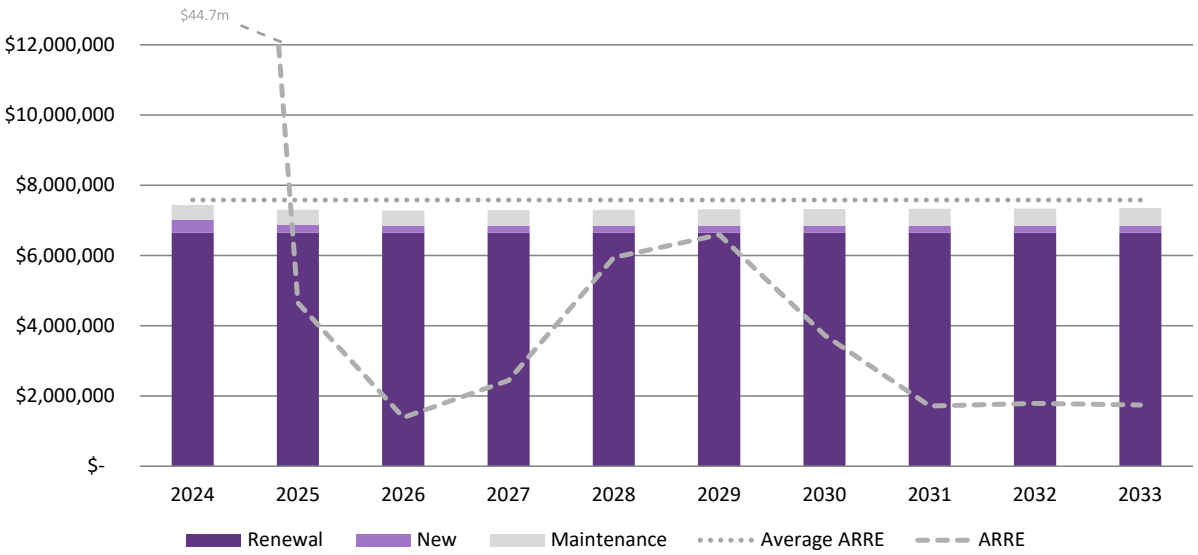


FIGURE 6: TOTAL FORECAST EXPENDITURE - TRANSPORT ASSETS

Figure 6 shows that, over the entire Transport asset category there is a large backlog of infrastructure requiring renewal in 2024. As it is not practical to address this all in the one year, funding has been distributed over the next 10 years to address the backlog and prevent accumulation of any further backlog.

The renewal investment is lower than the average ARRE, predominantly as a result of kerbs which have a significant backlog. In this case, funding has been set so as to allow for resource capacity, and as good value is not able to be obtained through procurement if too much is allocated in a given year (there is a limited market capacity to perform affordable kerb renewal works).

KEY ASSUMPTIONS

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

Key assumptions made in this infrastructure and asset management plan are:

- All costs are shown in 2022/23 financial year dollar values.
- General assumptions have been made in the replacement of assets based on the asset type. For example, scrub coat road surfaces are generally replaced with an asphalt hotmix.
- The required renewal expenditure assumes very general intervention levels that do not take into account the breakdown of the condition score into its discreet components.
- The required renewal expenditure also assumes that the community is content with the current levels of service across the entire asset category, which is confirmed through the consultation process for asset management plans. Should these levels of service be refined through future community consultation, it could have a significant impact on the intervention levels used and funding required.
- The Long Term Financial Plan for Surfaces includes funding for work on Car Parks.
- Replacement works will be valued based on actual costs of work, the brown-field cost.
- Figures have been reviewed to account for the high inflation which has been seen in recent years

PLAN IMPROVEMENT AND MONITORING

MONITORING AND REVIEW PROCEDURES

This figures within this infrastructure and asset management plan will be reviewed annually as part of Council's long term financial plan review process and amended to recognise any changes in service levels, valuations, conditions and/or resources available to provide those services.

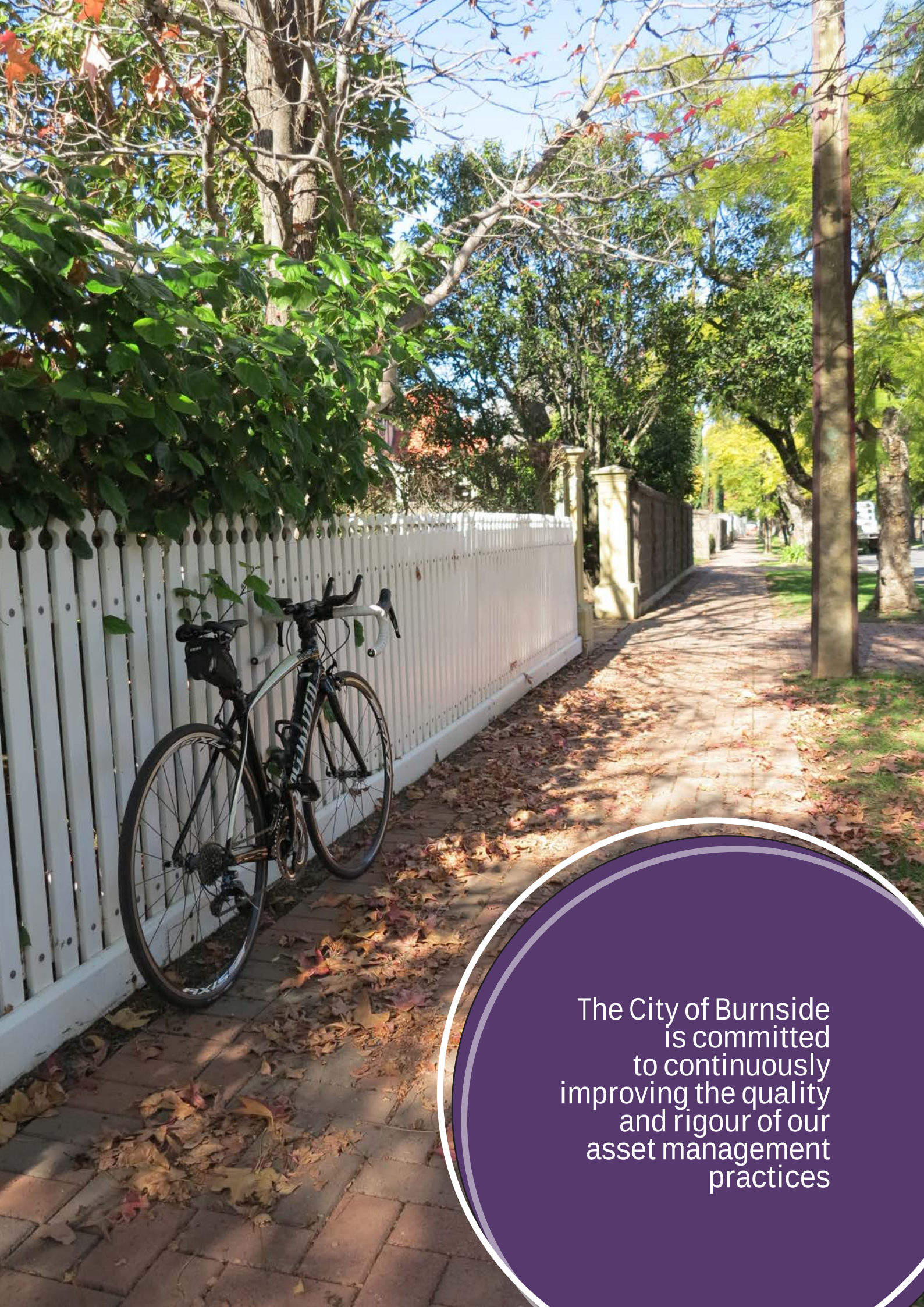
The Plan has a life of 4 years and is due for full revision and updating within 2 years of each Council election.

IMPROVEMENT PLAN

Council is committed to working to continuously improve the quality and rigour of our Asset Management practices. The asset management improvement plan generated from this infrastructure and asset management plan is shown below.

TABLE 10: IMPROVEMENT PLAN

Item	Task	Responsible Department	Target Date	Funded By
1	Maintenance Service Agreement – establish current levels of service, covering maintenance activities and service standards, to reflect the work undertaken with the current budget	Technical Services and Operations	June 2024	Internal Resources
2	Condition Assessment – regularly review condition data in order to ensure the data upon which all funding implications are based is current	Environment & Infrastructure	Ongoing	As per approved operating budget
3	Risk Assessment – examine and assess potential risks associated with the road network	Environment & Infrastructure	Ongoing	Internal Resources
4	Use feedback obtained from annual community survey to confirm and / or update asset management plan	Environment & Infrastructure	Ongoing	Internal Resources



The City of Burnside is committed to continuously improving the quality and rigour of our asset management practices

GLOSSARY

	Term	Definition
A	Annual Required Renewal Expenditure (ARRE)	The amount needed to be spent in a given year to maintain assets to their agreed level of service.
	Annual service cost (ASC)	The Annual Service Cost includes operating, maintenance, depreciation, finance/ opportunity and disposal costs, less revenue
	Asset condition assessment	The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for preventative or remedial action
	Asset group	Grouping of assets of a similar nature and use in an entity's operations (AASB 166.37)
	Asset management	The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.
	Assets	Resources owned by the organisation which have future economic value (AAS27.12).

	Term	Definition
	Average annual asset consumption (AAAC)	The value of asset base consumed during a year. This may be calculated by dividing the Depreciable Amount (DA) by the Useful Life and totalled for each and every asset OR by dividing the Fair Value (Depreciated Replacement Cost) by the Remaining Life and totalled for each and every asset in an asset category or class.
B	Backlog	Refers to renewal work that has not been carried out, which is required to bring the condition of the asset up to a standard that will enable it to meet agreed service levels.
	Brownfield asset values	Asset (re)valuation values based on the cost to replace the asset including demolition and restoration costs.
C	Capital expenditure	Expenditure which contributes to or results in a physical asset. Also referred to as Capital Investment Expenditure.
	Capital grants	Monies received from another party, which are generally tied to the specific projects for which they are granted.
	Capital new expenditure	Expenditure which creates a new asset that is additional to Council's previous asset complement.
	Capital renewal expenditure	Expenditure to replace or rehabilitate an existing asset.
	Component	An individual part of an asset which contributes to the composition of the whole and can be separated from or attached to an asset or a system
	Componentisation	The practice of considering the components of a fixed asset individually, to account for the fact that these components have unique physical and economic lives.
	Cost of an asset	The amount of cash or cash equivalents paid or the fair value given to acquire an asset at the time of its acquisition or construction, plus any costs necessary to place the asset into service. This includes one-off design and project management costs

	Term	Definition
	Current replacement cost (CRC)	The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a technologically modern equivalent new asset with the same economic benefits allowing for any differences in the quantity and quality of output and in operating costs
	Current replacement cost 'as new' (CRC)	The current cost of replacing the original service potential of an existing asset, with a similar modern equivalent asset.
	Cyclic maintenance	Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle.
D	Depreciable amount	The cost of an asset, or other amount substituted for its cost, less its residual value (AASB 116.6)
	Depreciated replacement cost (DRC)	The current replacement cost (CRC) of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset
	Depreciation / amortisation	The systematic allocation of the depreciable amount (service potential) of an asset over its useful life
	DDA	Disability Discrimination Act
E	Economic life	Refer useful life
F	Fair value	The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arms-length transaction
G	Greenfield asset values	Asset (re)valuation values based on the cost to initially acquire the asset
	Group of assets	Refer asset group
H	Heritage asset	An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture and this purpose is central to the objectives of the entity holding it.

	Term	Definition
I	Infrastructure assets	Physical assets of the entity or of another entity that contribute to meeting the public's need for access to major economic and social facilities and services, eg. roads, drainage, footpaths and cycleways. The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence the assets have long lives. They are fixed in place and are often have no market value
L	Level of service	The defined service quality for a particular service from an asset. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental, acceptability and cost.
M	Maintenance and renewal gap	Difference between estimated budgets and projected expenditures for maintenance and renewal of assets, totalled over a defined time (eg 5, 10 and 15 years)
	Maintenance expenditure	Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service.
	Modern equivalent asset	A structure similar to an existing structure and having the equivalent productive capacity, which could be built using modern materials, techniques and design.
N	Non-revenue generating investments	Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the Council, eg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.
O	Operating expenditure	Expenditure which does not result or contribute to a physical asset.
P	Planned maintenance	Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.
R	Rate of annual asset consumption	A measure of average annual consumption of assets (AAAC) expressed as a percentage of the depreciable amount (AAAC/DA).

Term	Definition
Rate of annual asset renewal	A measure of the rate at which assets are being renewed per annum expressed as a percentage of depreciable amount (capital renewal expenditure/DA).
Reactive maintenance	Unplanned repair work that carried out in response to service requests and management/supervisory directions.
Recoverable amount	The higher of an asset's fair value less costs to sell and its value in use
Remaining life	The time remaining until an asset ceases to provide the required service level or economic usefulness.
Renewal	Refer capital renewal expenditure
Residual value	The net amount which an entity expects to obtain for an asset at the end of its useful life after deducting the expected costs of disposal
Revenue generating investments	Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, eg public halls and theatres, childcare centres, sporting and recreation facilities, etc.
Risk management	The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.
S Section or segment	A self-contained part or piece of an infrastructure asset.
Strategic plan	Documents Council objectives and goals for a specified period (3-5 yrs).
U Useful life	Either: (a) the period over which an asset is expected to be available for use by an entity, or (b) the number of production or similar units expected to be obtained from the asset by the entity. It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the council.

City of Burnside