



2022-2031

Asset Management Plan Road Pavement



Randwick City Council
a sense of community

June 2022

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1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

Asset Management planning is a comprehensive process to ensure infrastructure benefits are optimised to meet community needs in a financially sustainable manner.

The Road Pavement Asset Management Plan (Road Pavement AMP) details information about Randwick Council's road pavement assets with 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 funding requirements over the 10-year planning period. The Road Pavement AMP funding model supports the development of the Long-Term Financial Plan and overall Resourcing Strategy of the Integrated Planning and Reporting Framework.

1.2 Asset Description

This plan covers Randwick City Council's road pavement network which comprises the following components:

- Road Surface – 286 KM
- Road Pavement – 302 KM

These road pavement assets have a replacement value estimated at \$470,721,566.

1.3 Levels of Service

This plan aims to deliver a road network with a smooth, safe surface and few localised defects.

The main objectives of the planned funding budget are:

- There is sufficient budget allocated for renewal of assets as they reach the end of life.
- There is sufficient budget for maintenance and operations with minor increases in future years.
- There is sufficient budget to acquire new assets to meet community needs.

The funding allocation in the plan is adequate to maintaining this service level over the 10-year period.

1.4 Future Demand

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

- Constructing road pavements on unformed roads
- New roads to support new subdivisions and development

Within Randwick Council, the road network has adequate capacity to cater for transport needs with very few unformed roads. It is not forecast that new road pavements will be required unless they are required for new subdivision development.

Developments within Randwick Council will be required to support the objective of the NSW Department of Planning, Industry and Environment (DPIE) to increase the population by 23% by 2036. Major developments will deliver new roads that Council will manage in the future.

These demands will be approached using a combination of managing existing assets, upgrading existing assets, accepting road dedications and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions to ensure against risks and avoid failures by:

- Balancing priorities for infrastructure with community needs
- Assess capacity to fund alternate levels of service

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this Road Pavement AMP includes operation, maintenance, renewal, acquisition, upgrade of existing assets and construction of new assets. This AMP has been developed to inform the Long-Term Financial Plan over a period of 10 years. The 10-year forecast total funding required for road pavement assets is estimated as \$71,308,856 or on average \$7,130,886 per year.

Road pavement assets have a combined long life for the pavement and shorter asset life for the wearing course. The age profile of this asset class results in the requirement for only the wearing course requiring renewal work during the planning period.

Overall, our road pavement assets are depreciating at \$7,042,951 annually.

Budget allocation over and above the projected renewals covered by this Asset Management Plan is required to ensure the future sustainability of this asset class beyond the 10-year planning period.

1.6 Financial Summary

1.6.1 What we will do

The forecast funding budget for the 10-year period is \$72,459,664 or an annual average of \$7,245,966 as per the Long-Term Financial plan or Planned Budget. This is 102% of the cost to sustain the current level of service at the lowest lifecycle cost.

To manage infrastructure, we can only manage assets based on what is funded in the long-term financial plan. The Informed decision making depends on the Road Pavement AMP emphasising the consequences of planned funding on the service levels provided and risks.

The planned funding budget for road pavement assets is \$115,081 more, on average, per year of the forecast lifecycle costs required to provide services in the AMP. This is shown in the figure below.

It is proposed that the forecast budget amount be included in the Long-Term Financial Plan for the road pavement asset class.

Forecast Lifecycle Costs and Planned Budgets

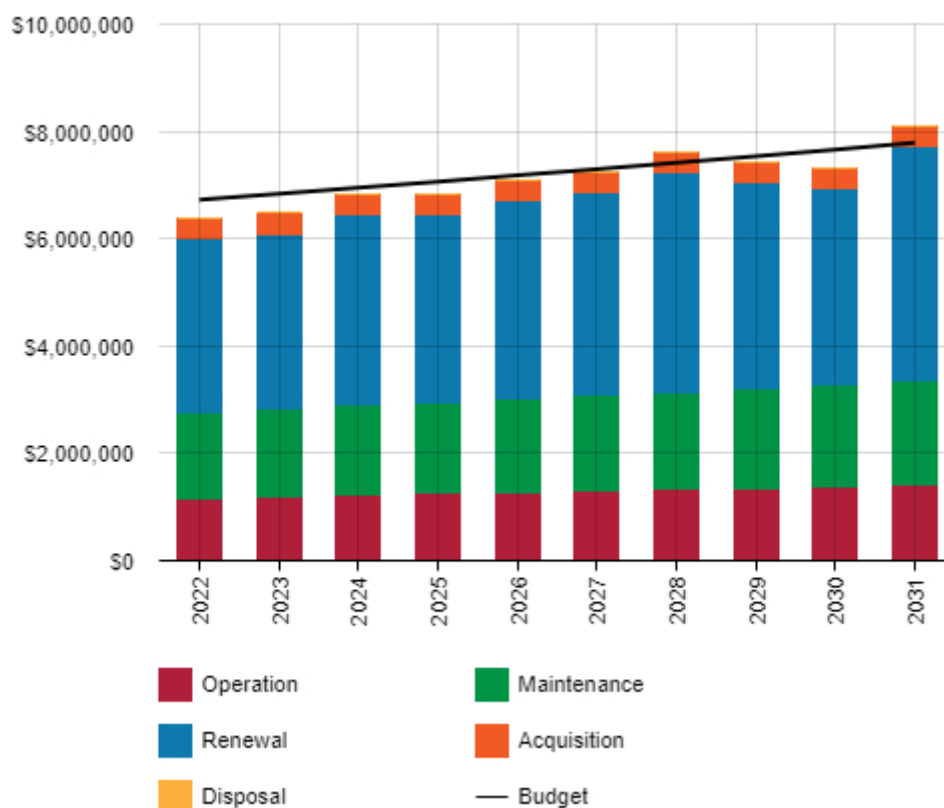


Figure values are in current dollars.

We plan to provide funding for road pavement assets to undertake:

- Operation, maintenance, renewal and acquisition of road assets to meet service levels.
- 3 major town centre upgrades within the 10-year planning period.
- Construct short missing links within the current road network

1.6.2 What we cannot do

We currently do **not** allocate enough budget to sustain these services at the proposed standard or to provide all new services being sought. Works and services that cannot be provided under present funding levels are:

- Expansion of road network faster than the currently planned rate
- An accelerated replacement of concrete roads with asphalt pavements
- Continually undertake reactive maintenance only

1.6.3 Managing the Risks

Our present budget levels are sufficient to continue to manage risks in the medium term. The main risks associated with this asset class are:

- Council staff unable to meet service levels due to inadequate funding
- Dilapidated road assets due to lack of planning
- Reduced safety to road users

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

- Ensuring asset management practice as set-out by this AMP
- Funding requirements are appropriately allocated, and programs developed
- Continual focus on asset data collection and validation.
- Ongoing dialogue and consultation with the community.

1.7 Asset Management Planning Practices

Key assumptions made in this AMP are:

- Asset values and dimensions are correct
- 100% of Council's road assets have been inspected
- The estimates used for current rates of renewal will remain constant
- Assets requiring renewal are identified from the asset register method

The Asset Register was used to forecast the renewal lifecycle costs for this AMP.

This Road Pavement AMP is based on a highly reliable confidence level of information.

1.8 Monitoring and Improvement Program

The next steps to improve asset management practices for the Road Pavement AMP are:

- Improve asset register data confidence.
- Review resilience of service delivery
- Include priority weighting methodology in maintenance and operation of assets. The four categories include: Condition, Functionality, Usage and Criticality
- Improve proactive maintenance planning and reporting mechanisms
- Establish a Strategic Asset Management system
- Improve asset management principles awareness within Council staff

2.0 INTRODUCTION

2.1 Background

This Road Pavement AMP details the requirements for the sustainable delivery of services through management of assets including lifecycle management, risk management, statutory compliance and relevant funding to provide the appropriate levels of service over the 10-year planning period.

The AMP is to be read in conjunction with the Randwick City Council planning documents. This should include the Asset Management Policy and Asset Management Strategy, along with other key planning documents including:

- Randwick City Plan - Community Strategic Plan (CSP)
- Informing Strategies – Arts and Culture, Economic Development, Environment, Housing, Inclusive Randwick, Integrated Transport and Open Space and Recreation
- Randwick Local Environmental Plan
- Randwick Council Resourcing Strategy including the Asset Management Strategy, Long Term Financial Plan, Workforce Management Plan and Digital Strategy
- Delivery Plan and Annual Operational Plans
- Asset Management Plans
- Randwick City Council Community Consultation Principles and Consultation Planning Guide.

The infrastructure assets covered by this AMP include road pavement constructed using two common specifications, namely rigid pavements, and flexible pavements. For a detailed summary of the assets covered in this AMP refer to Section 5.

These assets allow Randwick Council to meet transport demands for various transport modes including public transport, motor vehicles, pedestrians and cyclists.

The road pavement assets have a replacement value estimated at \$470,721,566.

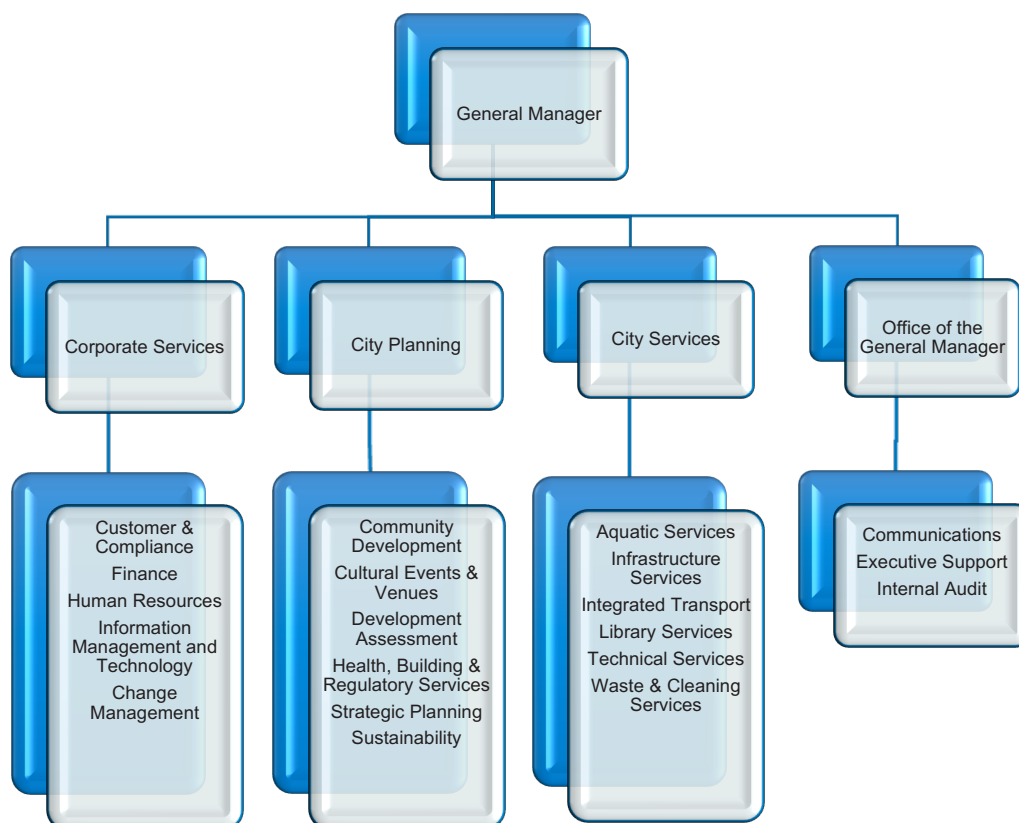
Key stakeholders in the preparation and implementation of this AMP are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AMP

Key Stakeholder	Role in Asset Management Plan
Council Representatives	Represent needs of community/stakeholders. Allocate resources to meet planning objectives in providing services while managing risks. Ensure services are sustainable.
Council Officers	Manage road pavement assets throughout the lifecycle. Ensure level of service provided meets needs of residents and visitors. Implement the components identified in the Road Pavement AMP.
Residents	Core users of road pavement assets.

Key Stakeholder	Role in Asset Management Plan
	Their needs, wants and expectations are conveyed to the Council and should be reflected in desired levels of service.
Visitors	Second largest users of road pavement assets. Their needs, wants and expectations drive the replacement in areas of the highest visitor usage and commercial areas.
Insurers	Insurers have interest in implementation of systems which allow Council to gain better knowledge of the condition of their assets. Systems should be reflected in the number of claims made against each asset group.
Utilities and Other Authorities	Utilise the road reserve to install underground assets. Assist with facilitating traffic control – e.g. traffic signals.

Our organisational structure for service delivery from infrastructure assets is detailed below.



2.2 Goals and Objectives of Asset Ownership

Our 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
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are:

- Levels of service – specifies the services and levels of service to be provided,
- Risk Management – utilise Council’s Risk Management Framework to effectively mitigate risks arise,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

Other references to the benefits, fundamentals principles and objectives of asset management are:

- International Infrastructure Management Manual 2015 ¹
- ISO 55000 ²

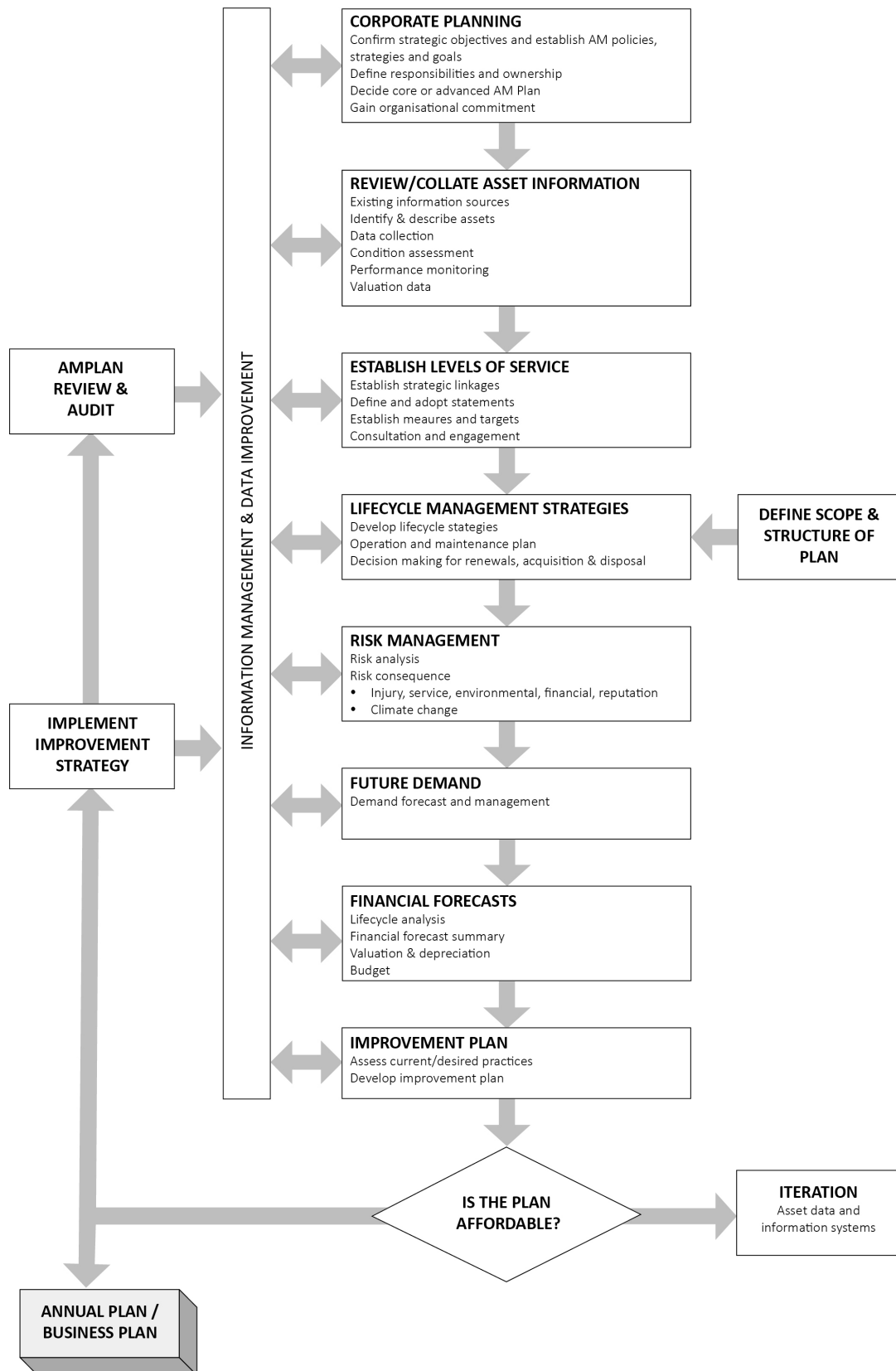
¹ Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13

² ISO 55000 Overview, principles and terminology

A road map for preparing an AMP is shown below.

Road Map for preparing an Asset Management Plan

Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



3.0 LEVELS OF SERVICE

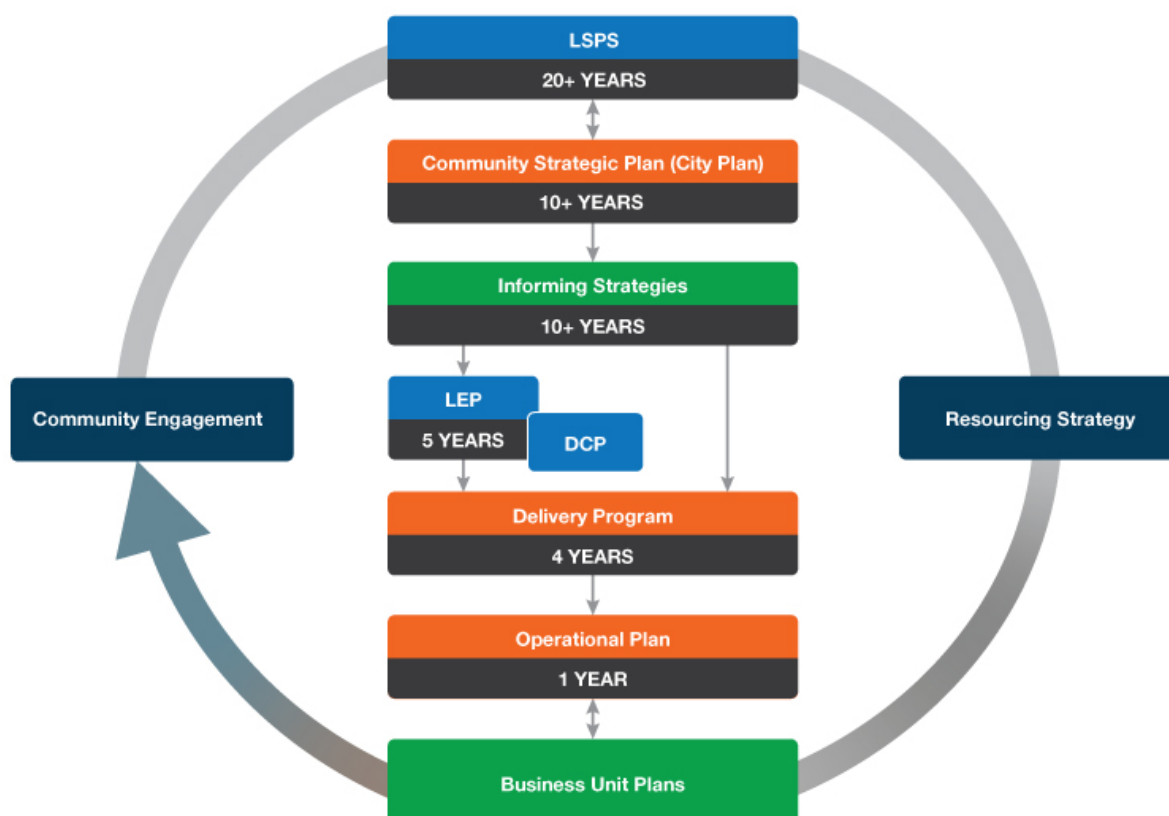
3.1 Customer Research and Expectations

Levels of service should be developed in consultation with the community. Future revisions of the AMP will incorporate customer consultation on service levels and costs of providing the service. This will assist the Councillors and stakeholders in matching the level of service required, service risks and consequences with the customer's ability and willingness to pay for the service.

We currently have historic understanding of customer expectations. Community satisfaction information has been used in developing the 10-year Randwick City Plan and in the allocation of resources in the budget.

3.2 Strategic and Corporate Goals

This AMP is prepared under the direction of the 10-year Community Strategic Plan and Informing Strategies within the Integrated Planning and Reporting (IPR) framework. This AMP forms a part of the Resourcing Strategy.



Strategic goals have been set by the Randwick City Plan (CSP). The relevant goals and objectives and how these are addressed in this AMP are summarised in Table 3.2.

Table 3.2: Goals and how these are addressed in this Plan

Randwick City Plan Outcome	Direction	Objective	How Goal and Objectives are addressed in the AMP
Outcome 1. Leadership in Sustainability	Direction 1a: Council has a long-term vision based on sustainability.	Ensure financial strategies underpin Council's asset management policies and strategic vision.	The Road Pavement Asset Management Plan aligns with Council's Resourcing Strategy, including the Asset Management Strategy, Workforce Plan and Long-Term Financial Plan.
Outcome 6: A Liveable City	Direction 6a: Our public infrastructure and assets are planned, managed, and funded to meet the community expectations and defined levels of service.	Plan asset renewals and construct or accept dedication of new assets in accordance with adopted service levels.	The Road Pavement AMP includes funding for renewal and new assets including provisions for performance monitoring against adopted service levels.
		Implement the strategic asset management system to deliver intergenerational equity and meet the Council's obligations as the custodian of our community's assets.	The implementation of a Strategic Asset Management System is a part of the monitoring and improvement program within this Asset Management Plan.
Outcome 6: A Liveable City	Direction 6c: The safety of our community is paramount and is acknowledged and supported through proactive policies, programs, and strategies.	Conduct programmed and reactive asset maintenance management in accordance with adopted service levels.	<p>Conduct regular condition assessment to plan maintenance</p> <p>Respond to customer requests within service level agreements.</p> <p>Identify High and Extreme risk roads.</p> <p>Planned Inspections for High and Extreme risk roads.</p> <p>Develop an operational and maintenance plan and allocate funding to carry out remediation work as required.</p>

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the Road service are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
NSW Local Government Act 1993	Sets out role, purpose, responsibilities, and powers of local government including the preparation of a long-term financial plan supported by asset management plans for sustainable service delivery.
Roads Act 1993	To provide public access to roads, to classify roads, to act as the local road authority, to carry out certain functions e.g. road works and to regulate activities on public roads.
Civil Liability Act 2002 and Civil Liability Amendment (Personal Responsibility) Act 2002	Protects the Council from civil action by requiring the court to consider the financial resources, the general responsibilities of the authority and the compliance with general practices and applicable standards.
Workplace Health and Safety Act 2011	Protecting workers and other persons against harm to their health, safety and welfare through the elimination or minimisation of risks arising from work.
Australian Accounting Standard AASB116	Reporting on asset condition and consumption to Councillors, management, and the community.
Environmental Planning and Assessment Act 1979	This act aims to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment.
AS 1742 – Manual of uniform traffic control devices	The AS1742 set provides a set of Australian Standards to help regulate, guide and warn drivers about road conditions.
Australian Road Rules	To ensure compliance and uniformity with road rules in the state and elsewhere in Australia.
Protection of the Environment Operations Act 1997	A state legislation to protect, restore and enhance the environment in NSW. They provide both the framework for Council decisions that affect the environment and the means of adopting Australia-wide environment protection measures set by the National Environment Protection Council.

3.4 Customer Values

Service levels are defined in three ways, customer values, customer levels of service and technical levels of service.

Customer Values indicate:

- what aspects of the service is important to the customer?
- whether they see value in what is currently provided, and
- the likely trend over time based on the current budget provision

Table 3.4: Customer Values

Service Objective: Road network that is fit for purpose, maintained in a safe and accessible manner.		
Customer Values	Customer Satisfaction Measure	Expected Trend Based on Planned Budget
A Road that is safe for all road users	Number of claims received	Number of claims is reducing.
A well-connected Road network	Satisfaction survey results	Generally satisfactory for current network
A well-maintained Road	Satisfaction survey results	Increase in satisfaction score

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Condition An overall network condition 3 (scale 1-5) for road assets is the minimum acceptable service level;

Function The Road must be fit for purpose and the intention of Road asset shall be well defined;

Safety The Road network is built to appropriate safety standards;

Capacity/Use The roads should be able to cater for the volume of road users generally;

In Table 3.5 under each of the service measure types (Condition, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

These are measures of fact related to the service delivery outcome (e.g. number of occasions when service is not available or proportion of replacement value by condition %'s) to provide a balance in comparison to the customer perception that may be more subjective.

Table 3.5: Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Service Objective: Provision of safe and efficient road network.				
Condition	Provide roads that are smooth and free from obvious defects.	Respond to CRM's within SLA timeframe.	92% CRM's resolved within SLA time frame for potholes.	Maintain or increase % resolved within SLA time frame.
			86% CRM's resolved within SLA timeframe for road pavement.	Increase % resolved within SLA time frame.

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
	Routinely inspect the road network	20% of the network to be inspected annually	Achieved	Maintain the current position.
	Confidence levels		Medium	High
Function	Ensure that Council roads meet user requirements for travel time and availability.	Customer satisfaction rating (for maintaining local roads).	3.34 satisfaction survey in 2021, up from 3.08 in 2014.	Increase in customer satisfaction survey results.
	Continue to improve the road network to meet community needs	Design and construction of road assets to Council and Australian Standards	Road construction works are designed and funded under the capital works program.	Maintain current approach.
	Confidence levels		Medium	High
Safety	Provide roads free from hazards.	Reduce insurance claims due to road hazards.	18 claims in 2014. 19 claims in 2015. 14 claims in 2016.	Reduce number of claims per annum.
	Confidence levels		Medium	High
Capacity and Use	Utilisation of existing road network to its optimum level with room for expansion.	Customer satisfaction survey results.	3.12 customer satisfaction for traffic management in 2021 up from 2.92 in 2014.	Increase in customer satisfaction survey results.
	Change of use of road network to include other modes of travel such as cycleways	Customer satisfaction survey results.	The Integrated Transport Strategy identifies various priorities to construct cycleways.	This trend will see the conversion of part of the available vehicular road network to include cycleways.
	Confidence levels		Low	Low

3.6 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical

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

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

- **Acquisition** – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).
- **Operation** – the regular activities to provide services (e.g. opening hours, cleansing, mowing grass, energy, inspections, etc).
- **Maintenance** – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. road patching, unsealed road grading, building and structure repairs)
- **Renewal** – the activities that return the service capability of an asset up to that which it had originally provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement)

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.³

Table 3.6 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the forecast activity requirements being recommended in this AMP.

Table 3.6: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Replace concrete road pavements with asphalt road pavements	Ongoing replacement of concrete roads.	Funded by budget	Maintain current approach.
		Budget	\$380,000	\$380,000
Operation	Routine Street Sweeping. Make sure roads are cleaned and free from debris.	Frequency of cleaning	Scheduled street sweeping cleaning program	Maintain Current performance
	Apply a risk management approach to Road inspections	20% to be inspected annually.	20% inspected annually.	Maintain current performance.
		Budget	\$1,285,016	\$1,292,090

³ IPWEA, 2015, IIMM, p 2|28.

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
Maintenance	Pothole patching to avoid extensive damage to the road pavements.	Respond to CRM's within SLA timeframe.	92% CRM's resolved within SLA timeframe for potholes.	Maintain current performance.
	Road Repairs	Respond to CRMs within SLA timeframe.	96% of Service Requests actioned within allocated time frames.	Maintain current performance.
		Budget	\$1,751,089	\$1,760,783
Renewal	Resurfacing of roads - Road surface to be in satisfactory condition.	Surface condition / useful life.	Currently 68.7% of road surface is in average to good condition.	The road surface condition can be improved subject to additional funding.
	Road pavement to be in satisfactory condition.	Pavement condition.	Currently 80.4% of road pavement is in average to good condition.	Council's pavement condition is generally satisfactory.
		Budget	\$3,829,862	\$3,698,013

Note: * Current activities related to Planned Budget.

** Expected performance related to forecast lifecycle costs.

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

4.0 FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented.

4.3 Demand Impact and Demand Management Plan

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 4.3.

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices can include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this AMP.

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population	154,265 (As per Randwick Housing Strategy 2021)	NSW DPIE projects a 23% increase in population by 2036 within the Randwick Local Government Area.	An increase in population will require an increase in community and infrastructure services. Existing services may require amendment to cater for changes in use or increased patronage.	As new major developments are completed, there will also be donated assets to help meet the demand created.
Available modes of alternative transport	Council's Integrated Transport Strategy has identified several high priority routes for on road cycleways	There are an additional 15 km of cycleway planned to be built for the planning period.	Reduced road width, encourages changes in preferred transportation modes.	The majority of cycleways on road are accommodated in the funding of this AMP. Separated cycleways are funded by TfNSW.

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Demographics	Randwick City Council has: 18% over 60 YO 43% in the 20-45 YO group (As of 30 June 2016, ABS)	Greater proportion of 10-20 YO (>35% growth) Greater proportion of over 60 YO (>45% growth) Low proportion of 25-45 YO (<10% growth)	Greater need for aged and disability access. Increase in population will require improvements to public transport infrastructure and accessible recreational infrastructure including beaches.	This AMP allows Council to budget for various connectivity improvement projects. Renewal Priority criteria has built-in mechanisms to ensure that Council's road network is built to Accessibility Standards where practicable.
Technology Changes	Materials used for the road network are typically asphalt and concrete	Use of more environmentally friendly asphalt that provides the same performance is being developed. Concrete incorporates recycled crushed concrete.	Warm asphalt - Reduction in greenhouse gas emissions. Asphalt with recycled crushed glass – recycling of glass bottles. Asphalt with crumbed rubber is being developed. Diversion of old tyres from landfill.	New and emerging technologies should be assessed for both performance and longevity and introduced when suitable subject to reasonable costs.

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated, or constructed. Additional assets are discussed in Section 5.4.

Acquiring new assets will commit Randwick City Council to ongoing operations, maintenance, and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance, and renewal costs for inclusion in the long-term financial plan (Refer to Section 5).

4.5 Climate Change Adaptation

The impacts of climate change may have a significant impact on the assets we manage and the services they provide. 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 we respond and manage those impacts.⁴

⁴ IPWEA Practice Note 12.1 Climate Change Impacts on the Useful Life of Infrastructure

As a minimum we consider how to manage our existing assets given potential climate change impacts for our region.

Risk and opportunities identified to date are shown in Table 4.5.1

Table 4.5.1 Managing the Impact of Climate Change on Assets and Services

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Increased Rainfall Frequency / Intensity	Higher chance of flash flooding.	Significant rain events lead to potholes in roads with moderate surface cracking.	Construction of Road assets with better surface drainage and a wearing course maintained in good condition.
Need to be carbon neutral	Road pavement materials have generally required high carbon emissions to produce.	The need to reduce occurrence in road asset construction activities.	Use of warm mix instead of hot mix to reduce energy consumption. Use of recycled asphalt, recycled glass and recycled rubber in the asphalt mix to help create a circular economy.
Heat island effect	Increase in native tree planting	Longer drought period may make it harder for plants to survive. Greening of Randwick will help reduce the temperature along road reserves.	Choose to plant native and drought tolerant trees in the nature strip of a road reserve. Choose less invasive tree species to help ensure asset integrity.

Additionally, the way in which we construct new assets should recognise that there is 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.

Table 4.5 summarises some asset climate change resilience opportunities.

Table 4.5 Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact These assets?	Build Resilience in New Works
Concrete Road	Salt attack from sea breeze	Inspect every 5 years from construction, assess in accordance with condition rating tables in Section 5.1.3
Flexible Road Pavement	Hot days can melt asphaltic binder	Improve green infrastructure along roadside to create better shade, reducing road surface temperature.

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

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Randwick City Council plans to manage and operate the assets at the agreed levels of service (Refer to Section 3) while managing life cycle costs.

5.1 Background Data

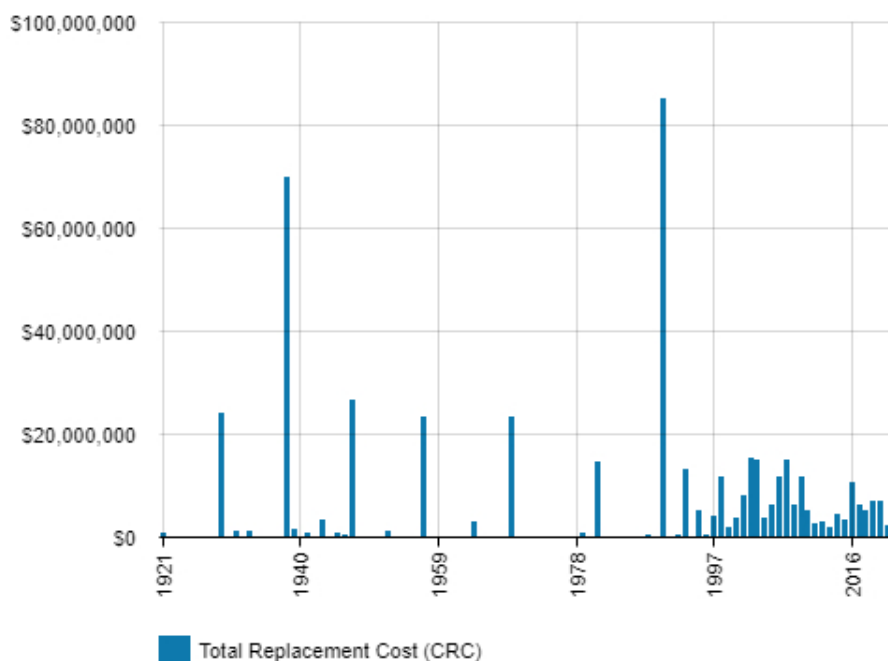
5.1.1 Physical parameters

The assets covered by this AMP are shown in Table 5.1.1. The age profile of the assets included in this AMP are shown in Figure 5.1.1.

Table 5.1.1: Assets covered by this Plan

Asset Components	Dimension (m ²)	Replacement Value
Concrete Road Pavement	156,945	\$ 52,956,256
Flexible Pavement	2,596,843	\$ 309,195,516
Road Surface	2,712,915	\$ 106,038,694
Road Bridge	240	\$ 2,531,100
TOTAL		\$ 470,721,566

Figure 5.1.1: Asset Age Profile



All figure values are shown in current day dollars.

According to Figure 5.1.1, the majority of roads were built around 1939 and 1990. However, the graph also shows a lot of road resurfacing since 1997. The wearing course has a significant bearing on the life of the pavement beneath. Resurfacing works will be the focus of this AMP over the planned period to ensure longevity of our road pavements.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. There are no deficiencies identified from consultation with Engineering Services who actively manage road pavements.

5.1.3 Asset condition

Condition assessment is generally planned for 20 percent of the network every year.

Condition is measured using a 1 – 10 grading system as detailed below. It is important that a consistent approach is used in reporting asset performance enabling effective decision support.

Table 5.1.3.1: Low volume local road surface Condition Grading System

Low volume local road condition ratings		
Condition Grading	Short Description	Description of Condition Assessment
1	New	New surfacing less than 2 years old
2	Very Good	Discoloration. No signs of deterioration.
3	Good	Loss of fines.
4	Average	Minor environmental cracking to less than 10% of the pavement.
5	Satisfactory	Some ravelling with moderate environmental cracking but pavement structurally sound, crocodile cracking <5%.
6	Unsatisfactory	Ravelling with extensive environmental cracking. Isolated crocodile cracking with potholes starting to form.
7	Poor	Moderate crocodile cracking and pothole.
8	Consider Reconstruction	Extensive crocodile cracking and numerous potholes requiring regular and extensive maintenance including some patching.
9	Imminent Failure	Extensive cracking and major surface deformations including rutting and shoving. Potholes form regularly and numerous patches required.
10	Asset Unusable, isolate	Considered failed.

Table 5.1.3.2: High volume road surface Condition Grading System

High volume local road condition ratings		
Condition Grading	Short Description	Description of Condition Assessment
1	New	New surfacing less than 2 years old
2	Very Good	Discoloration. No signs of deterioration.
3	Good	Loss of fines.
4	Average	Minor environmental cracking to less than 10% of the pavement.
5	Satisfactory	Some ravelling with moderate environmental cracking but pavement structurally sound, crocodile cracking <5%.
6	Unsatisfactory	Ravelling with extensive environmental cracking. Isolated crocodile cracking <10% with potholes starting to form.
7	Poor	Moderate <=15% crocodile cracking and/or environmental cracking with pothole.
8	Consider Reconstruction	Extensive crocodile cracking >15% and numerous potholes requiring regular and extensive maintenance including some patching.
9	Imminent Failure	Extensive cracking and major surface deformations including rutting and shoving. Potholes form regularly and numerous patches required.
10	Asset Unusable, isolate	Considered failed.

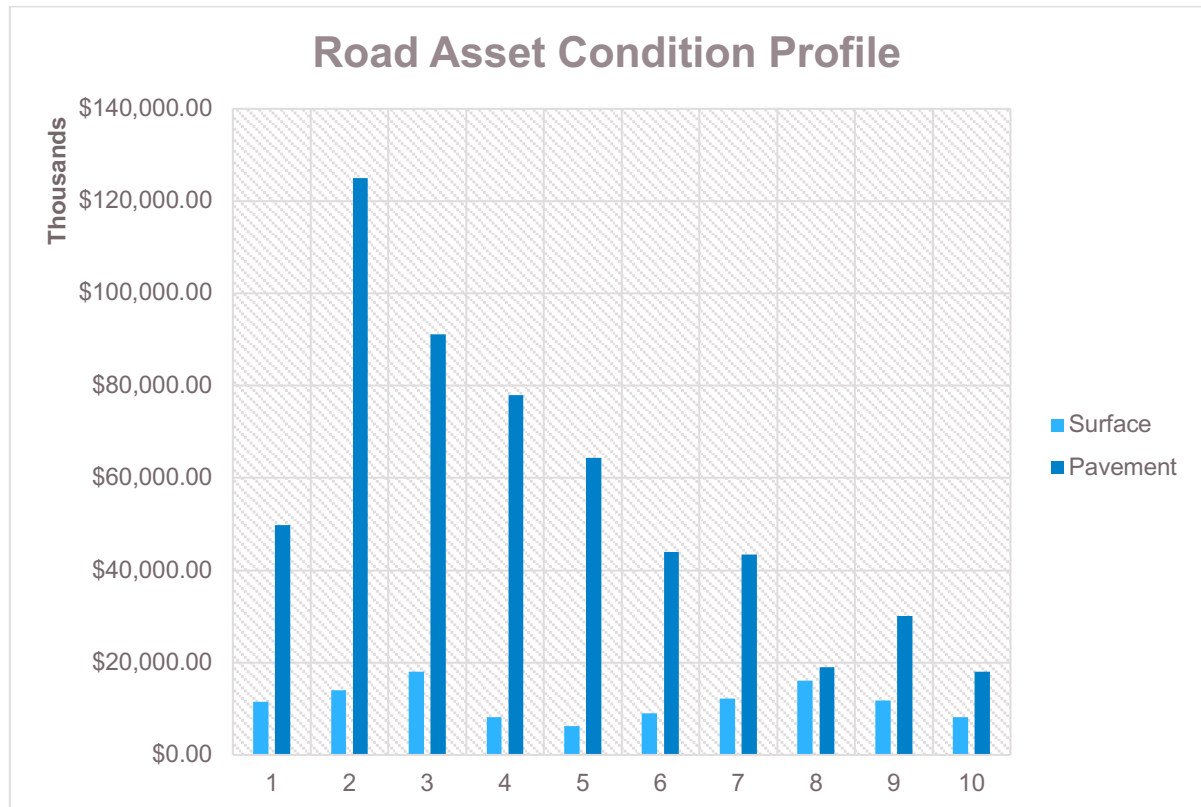
Table 5.1.3.3: Pavement Condition Grading System

Pavement condition ratings		
Condition Grading	Short Description	Description of Condition Assessment
1	New	New surfacing less than 2 years old.
2	Very Good	Discoloration. No signs of deterioration.
3	Good	Loss of fines.
4	Average	Some loss of fines. Evident microscopic cracks to less than 5% of the pavement.
5	Satisfactory	Minor environmental cracking to less than 10% of the pavement.
6	Unsatisfactory	Ravelling with moderate environmental cracking but pavement structurally sound, Isolated crocodile cracking <5%.
7	Poor	Ravelling with extensive environmental cracking. Isolated crocodile cracking with potholes starting to form.
8	Consider Reconstruction	Moderate crocodile cracking and occasional potholes.
9	Imminent Failure	Extensive crocodile cracking and numerous potholes.

Pavement condition ratings		
10	Asset Unusable, isolate	Extensive cracking and major surface deformations including rutting and shoving. Potholes form regularly and numerous patches required. Consider failed.

The condition profile of our assets is shown in Figure 5.1.3.

Figure 5.1.3: Asset Condition Profile



All figure values are shown in current (real) dollars.

The current asset conditions are good with most asset conditions assessed to be generally in good condition. The road surface distribution is well balanced with crests on the ends of the spectrum. The current asset condition is considered to be good as the poor condition assets are manageable under this AMP. This signifies the transition from very old assets to new asset has occurred through past capital works programs.

Should these good assets not be maintained, there will be large spike of renewal requirement in the long term. Management of these assets to extend the lifespan may change the asset renewal timeframe. Other lifecycle methods would be to bring forward or delay some of the renewal times based on a risk assessment approach.

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, street sweeping, asset inspection, and utility costs.

Maintenance includes all actions necessary to keep an asset as near as practicable to an appropriate service condition. These regular actions include ongoing day-to-day work, asphalt patching and potholes rectification.

The trend in maintenance budgets is shown in Table 5.2.1.

Table 5.2.1: Maintenance Budget Trends

Year	Maintenance Budget \$
2020	\$1,560,899
2021	\$1,592,117
2022	\$1,592,117

Maintenance budget levels are adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this AMP, and service risks considered in the Infrastructure Risk Management Plan.

Assessment and priority of reactive maintenance is currently undertaken by staff using experience and sound professional judgement. There is an inherent risk in depending on the staff to use experience, the risk is identified in the Section 6 under Risk Management. The improvement plan in Section 8.2 also indicates an improvement on the prioritisation methodology.

5.2.1 Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

The service hierarchy is shown in Table 5.2.2.

Table 5.2.2: Asset Service Hierarchy

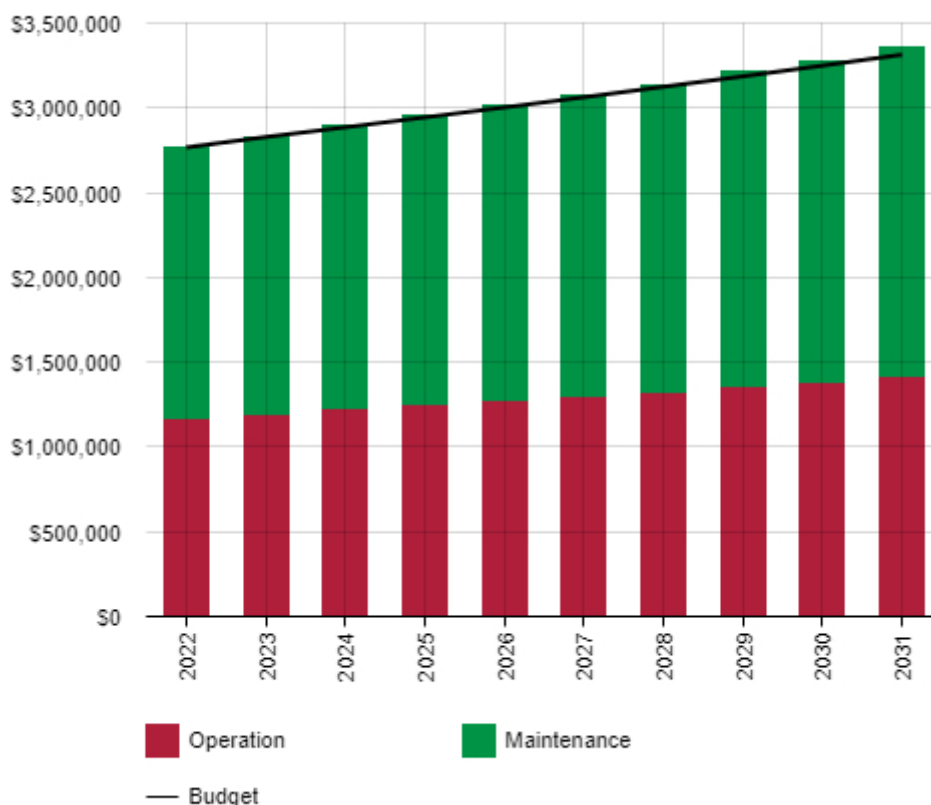
Service Hierarchy	Service Level Objective
Road Surface – Wearing Course	To inspect, assess, make the asset safe within 24 hours of reporting. Plan the rectification to reduce reconstruction costs. Include major works in capital works programs.
Road Pavement	To inspect, assess, make the asset safe within 24 hours of reporting. Plan the rectification to reduce reconstruction costs. Include major works in capital works programs.

5.2.2 Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are

forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

Figure 5.2: Operations and Maintenance Summary



All figure values are shown in current day dollars.

The forecast operations and renewal costs are in line with the proposed operations budget. However, with the growing cost of material, labour, and new acquisitions, it is likely that the budget for future operations and maintenance will require review every 5 years to keep up with the growing cost. The increase in maintenance cost while insignificant, will create deferred maintenance items causing increased deterioration rate and a shorter lifespan of assets.

5.3 Renewal Plan

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

Assets requiring renewal are identified from one of two approaches in the Lifecycle Model.

- The first method uses Asset Register data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year), or
- The second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives were last reviewed on 30 June 2021.⁵

Table 5.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
Concrete Pavement	120 years
Asphalt Road	35 years
Flexible Pavement	100 years
Road Bridge	100 years

The estimates for renewals in this AMP were based on the asset register method.

5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a playground).⁶

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

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.⁷

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.3.1.

Table 5.3.1: Renewal Priority Ranking Criteria

Criteria	Weighting
Community – Function	30%
Community – Quality	5%
Technical – Condition	30%
Technical – Risk of Failure	20%
Technical – Operating/Maintenance and lifecycle costs	10%
Total	100%

⁵ D03483347

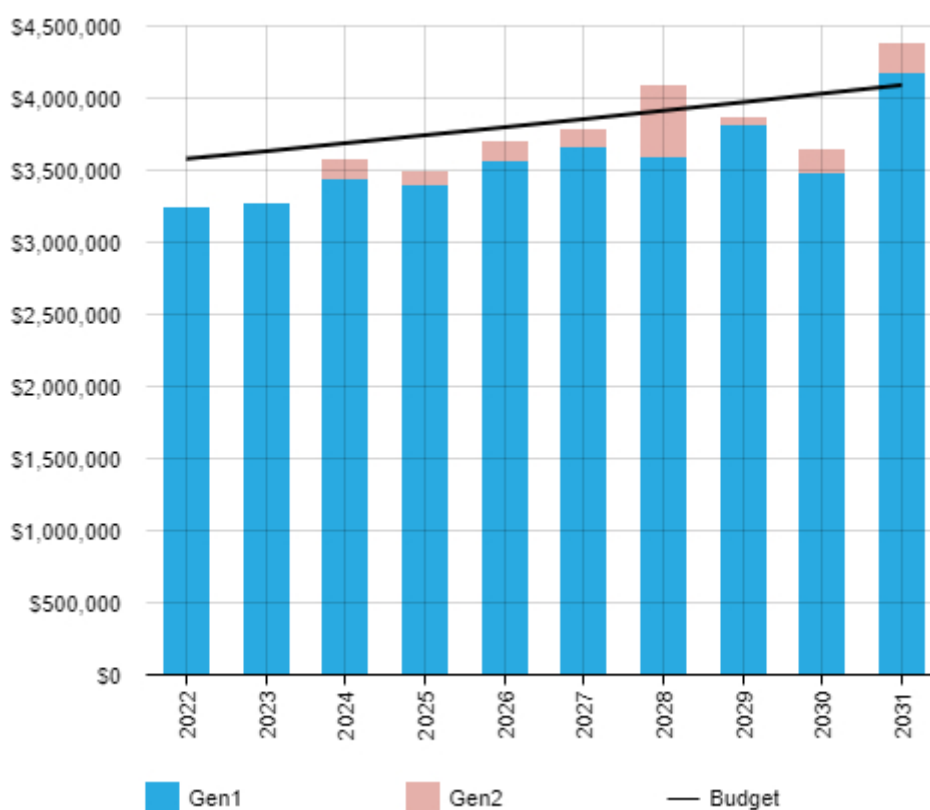
⁶ IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

⁷ Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

5.4 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix D.

Figure 5.4.1: Forecast Renewal Costs



All figure values are shown in current day dollars.

The forecast renewal costs are generally below the proposed renewal budget. As an average, this is an indicator that there is sufficient funding for renewal of assets in the next 10 years. However, the surplus captured under renewal is not sufficient to cater for the proposed town centre upgrade projects in the next 10 years.

5.5 Acquisition Plan

Acquisition is the practice of creating 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. Assets may also be donated / dedicated to the Randwick City Council.

5.5.1 Selection criteria

Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential to the

Entities needs. Proposed upgrade and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority, available funds and scheduled in future works programmes. The priority ranking criteria is detailed in Table 5.5.1.

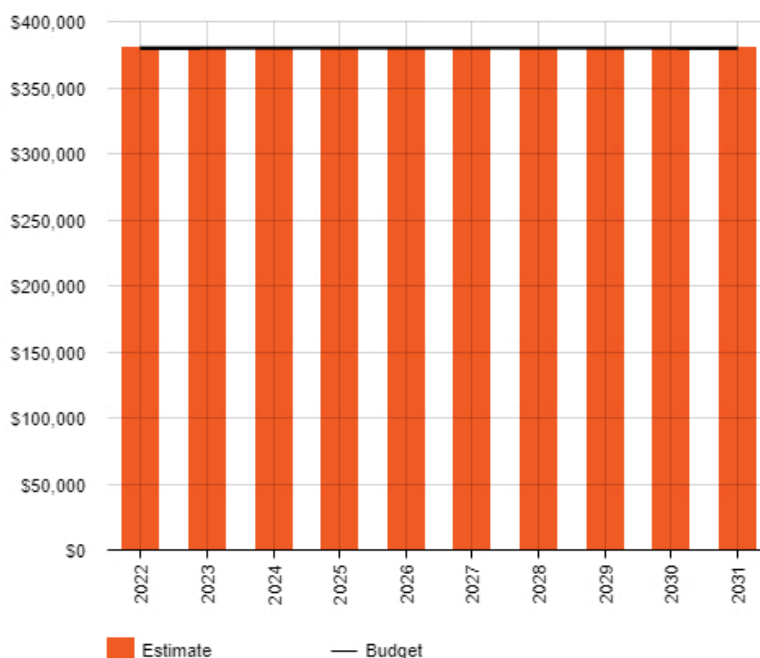
Table 5.5.1: Acquired Assets Priority Ranking Criteria

Criteria	Weighting
Safety	25%
Community Expectation	15%
Lifecycle Cost	25%
Community Benefits (Usage, population, future development)	35%
Total	100%

Summary of future asset acquisition costs

Forecast acquisition asset costs are summarised / summarized in Figure 5.5.1 and shown relative to the proposed acquisition budget. The forecast acquisition capital works program is shown in Appendix A.

Figure 5.5.1: Acquisition (Constructed) Summary

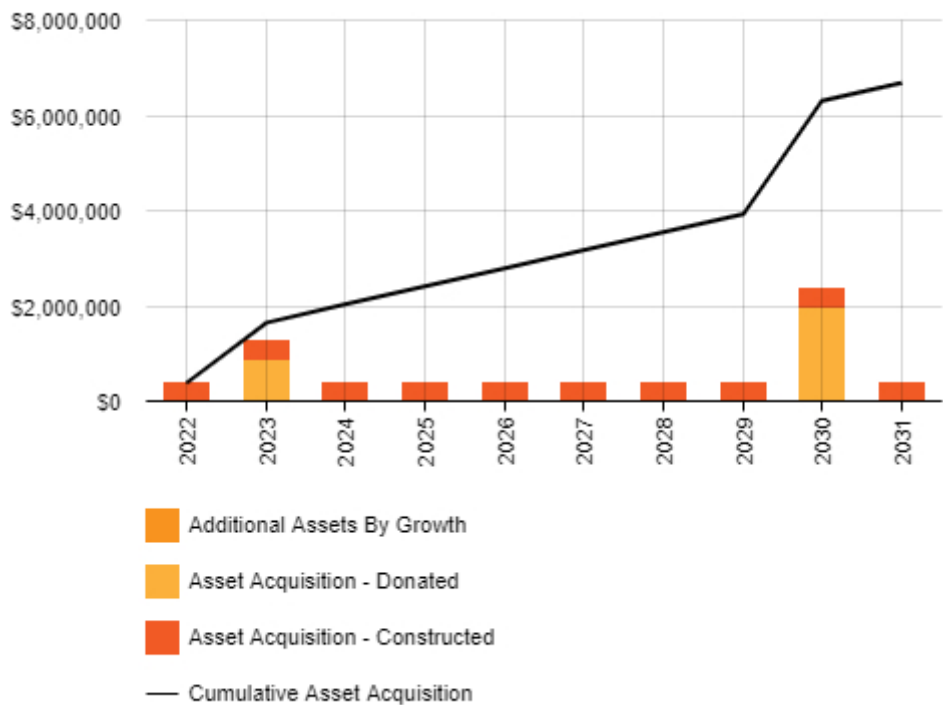


All figure values are shown in current day dollars.

When Council commits to new assets, we must be prepared to fund future operations, maintenance and renewal costs. We must also account for future depreciation when reviewing long term sustainability. When reviewing the long-term impacts of asset acquisition, it is useful to consider

the cumulative value of the acquired assets being taken on by Council. The cumulative value of all acquisition work, including assets that are constructed and contributed shown in Figure 5.5.2.

Figure 5.5.2: Acquisition Summary



All figure values are shown in current dollars.

Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding.

The planned acquisition will be constructed roads from Council's capital works program. There will be some donated / dedicated assets by means of civil works from developments undertaken in the LGA.

The number of donated assets is estimated from data collected following asset handovers from private works / developments in the past. Other potentially significant projects to be donated could be state funded significant projects. The urban setting of Randwick City Council means that these donated assets are treated as renewals of current asset at no capital cost to Council.

5.6 Disposal Plan

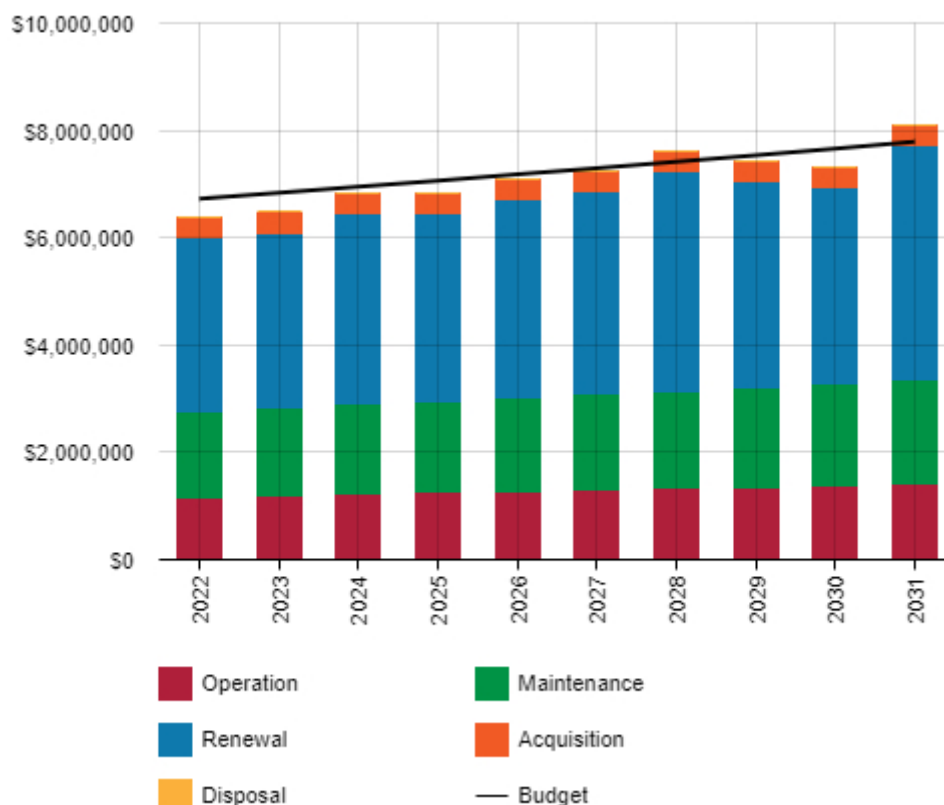
Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition, or relocation. There are currently no assets being identified for possible decommissioning and disposal. Costs incurred from early disposal of assets were not included in this asset management plan. The cost incurred will be the residual values of the assets being renewed prior to the end of life. Depending on the performance of such assets, their values can be fully actualised prior to the end of life.

5.7 Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.7.1. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

The bars in the graphs represent the forecast costs needed to minimise the life cycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

Figure 5.7.1: Lifecycle Summary



All figure values are shown in current day dollars.

The forecast costs of the asset class are generally in line or below the proposed budget. In fact, the proposed budget is currently providing approximately 102% of the forecast costs. The budget seems to be very sustainable with a small surplus. The surplus can be set aside in preparation for transitioning rigid pavements to flexible pavements in local streets in upcoming capital works programs.

6.0 RISK MANAGEMENT PLANNING

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

providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: ‘coordinated activities to direct and control with regard to risk’⁸.

An assessment of risks⁹ associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a ‘financial shock’, reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 6.1. Failure modes may include physical failure, collapse or essential service interruption.

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Road wearing course / pavement	Potholes.	Loss or reduction of service, restricted access, injuries to users or property damage
Road pavement	Edge breaks, rutting/ shoving	Loss or reduction of service, injuries to users or property damage
Road surface	Reduced traction due to flushing or polishing	Injuries / casualties to users or property damage.
Road bridge	Rust, Collapse	casualties to users, property damage, loss, or reduction of service and restricted access.

By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

⁸ ISO 31000:2009, p 2

⁹ D03410905 RCC Enterprise Risk Management Framework

6.2 Risk Assessment

The risk management process used is shown in Figure 6.2 below.

It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of International Standard ISO 31000:2018.

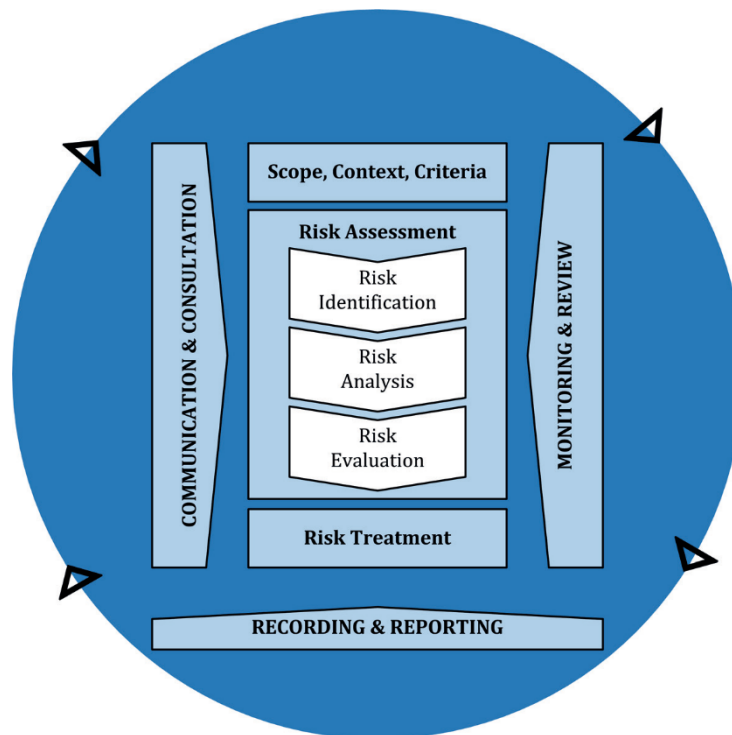


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks¹⁰ associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2.1. It is essential that these critical risks and costs are reported to management and the Council.

¹⁰ D03410905 RCC Enterprise Risk Management Framework

Table 6.2.1: Risks and Treatment Plans

Risk Assessment

Risk Factors	Consequence	Likelihood
<i>Personal Injury</i>		<i>Please note likelihood is based on condition assessment</i>
<i>Financial Implications</i>		
<i>Environmental</i>		
<i>Political</i>		

Consequence	Risk Descriptions
<i>Catastrophic</i>	Death, toxic release off site with detrimental effect, huge financial loss (>\$100,000), sustained comprehensive negative national media coverage with major loss in community trust
<i>Major</i>	Extensive injuries, loss of production capability, off site release with no detrimental effects, major financial loss (>\$50,000 & <\$100,000), Ongoing negative media coverage in local and metro press with minimal community trust
<i>Moderate</i>	Medical treatment required, on-site release contained with outside assistance, high financial loss (>\$10,000 & <\$50,000), Short period negative media coverage with rigorous community discussion
<i>Minor</i>	First aid treatment, on-site release immediately contained, medium financial loss (>\$1000 & <\$10,000), little or no impact on community's perception of Council
<i>Insignificant</i>	No injuries, low financial loss (<\$1000), no effect to normal operations

Note * The residual risk is the risk remaining after the selected risk treatment plan is implemented.

Table 6.2.2: Risks Matrix

	CONSEQUENCE				
LIKELIHOOD	Insignificant (2)	Minor (3)	Moderate (7)	Major (13)	Catastrophic (20) Major (13)
Almost Certain (5)	Medium (10)	High (15)	High (35)	Extreme (65)	Extreme (100)
Likely (4)	Medium (8)	Medium (12)	High (28)	High (52)	Extreme (80)
Possible (3)	Low (6)	Medium (9)	High (21)	High (39)	Extreme (60)
Unlikely (2)	Low (4)	Low (6)	Medium (14)	High (26)	High (40)
Rare (1)	Low (2)	Low (3)	Medium (7)	Medium (13)	High (20)

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to 'withstand a given level of stress or demand', and to respond to possible disruptions to ensure continuity of service.

Resilience recovery planning, financial capacity, climate change risk assessment and crisis leadership.

Our current measure of resilience is shown in Table 6.3 which includes the type of threats and hazards and the current measures that the organisation takes to ensure service delivery resilience.

We do not currently measure our resilience in service delivery for road pavements. This will be included in future iterations of this AMP.

6.4 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.

6.4.1 What we cannot do

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

- We cannot continually undertake reactive maintenance only
- We cannot expand the current road network without consideration of lifecycle cost and financial sustainability

6.4.2 Service trade-off

If there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. These service consequences include:

- Council staff unable to meet service level agreement
- Dilapidated road pavement assets
- Reduced safety to users of the road pavements

6.4.3 Risk trade-off

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences. These risk consequences include:

- Risk of causing harm to motorists, passengers and cyclists from dilapidated road assets e.g. shoving and rutting, low traction roads and inaccessible roads
- Extended time of road assets being out of action causing users to detour and expend more time and fuel.

These actions and expenditures are considered and included in the forecast costs, and where developed, the Risk Management Plan.

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this AMP. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Sustainability and Projections

7.1.1 Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the AMP for this service area. The two indicators are the:

- asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years), and
- medium term forecast costs/proposed budget (over 10 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹¹ 103.6%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years, we expect to have 103.6% of the funds required for the optimal renewal of assets.

The forecast renewal works along with the proposed renewal budget, is illustrated in Appendix D.

Medium term – 10 year financial planning period

This AMP identifies the forecast operations, maintenance and renewal costs required to provide an agreed level of service to the community over a 10-year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

This forecast work can be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall.

The forecast operations, maintenance and renewal costs over the 10-year planning period is \$6,750,886 average per year.

The proposed (budget) operations, maintenance and renewal funding is \$6,865,967 on average per year over the 10-year plan. This indicates that 102% of the forecast costs needed to provide the services documented in this AMP are accommodated in the proposed budget. Note, these calculations exclude acquired assets.

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately 1.0 for the first years of the AMP and ideally over the 10-year life of the Long-Term Financial Plan.

7.1.2 Forecast Costs (outlays) for the long-term financial plan

Table 7.1.2 shows the forecast costs (outlays) required for consideration in the 10-year long-term financial plan.

Providing services in a financially sustainable manner requires a balance between the forecast outlays required to deliver the agreed service levels with the planned budget allocations in the long-term financial plan.

Forecast costs are shown in 2021 dollar values.

¹¹ AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

Table 7.1.2: Forecast Costs (Outlays) for the Long-Term Financial Plan

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2022	\$380,000	\$1,173,560	\$1,592,117	\$3,241,652	0
2023	\$380,000	\$1,198,057	\$1,633,326	\$3,267,523	0
2024	\$380,000	\$1,225,420	\$1,670,654	\$3,562,208	0
2025	\$380,000	\$1,250,866	\$1,705,351	\$3,485,039	0
2026	\$380,000	\$1,276,799	\$1,740,714	\$3,689,971	0
2027	\$380,000	\$1,303,231	\$1,776,756	\$3,773,723	0
2028	\$380,000	\$1,330,171	\$1,813,491	\$4,085,923	0
2029	\$380,000	\$1,357,630	\$1,850,933	\$3,854,897	0
2030	\$380,000	\$1,385,617	\$1,889,095	\$3,649,263	0
2031	\$380,000	\$1,419,543	\$1,935,392	\$4,369,931	0

7.2 Funding Strategy

The proposed funding for assets is outlined in the Entity's budget and Long-Term financial plan.

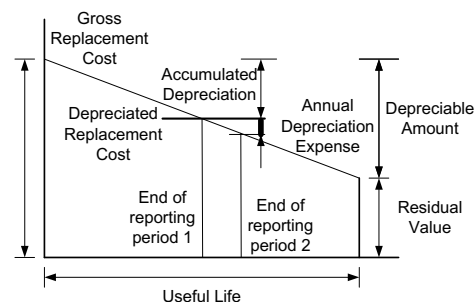
The financial strategy of the entity determines how funding will be provided, whereas the AMP communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimate of the value of assets included in this AMP are shown below. The assets are valued using fair value to determine cost to replace service capacity:

Replacement Cost (Current/Gross)	\$470,721,566
Depreciable Amount	\$1,432,198,653
Depreciated Replacement Cost ¹²	\$259,961,600
Depreciation	\$7,042,951



7.3.2 Valuation forecast

Asset funding costs and values are forecast to increase as additional assets are added to the asset class.

¹² Also reported as Written Down Value, Carrying or Net Book Value.

Changing road asset type from rigid pavement (concrete roads) to flexible pavement (asphalt) type will generally add to the operations and maintenance needs in the longer term. Any additional assets will also add to future depreciation forecasts.

Under the AASB requirements, Council is required to revalue assets at a rate of minimum once every 4 years. This will help align the values of the existing assets with the addition of the acquired assets to a current day value.

7.4 Key Assumptions Made in Financial Forecasts

In compiling this AMP, it was necessary to make some assumptions. This section details the key assumptions made in the development of this AMP and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this AMP are:

- Asset values and dimensions are correct. Changes to asset values and dimensions will have an effect on resources required to operate, maintain and renew the road pavement assets.
- 100% of council's road pavement assets are inspected and the road pavement asset conditions have been updated accordingly. Monitoring of change of condition may show a change in the asset's useful life which may have an impact on funding required to maintain level of service.
- The estimates used for current rates of renewal will remain constant at the current 2021 values for the next 10 years. Any increase to the renewal costs may reduce the amount of work budgeted with possible reduction in the service level of road pavement assets.

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AMP are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale¹³ in accordance with Table 7.5.1.

Table 7.5.1: Data Confidence Grading System

Confidence Grade	Description
A. Very High	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate $\pm 2\%$
B. High	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate $\pm 10\%$
C. Medium	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated $\pm 25\%$

¹³ IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

Confidence Grade	Description
D. Low	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy \pm 40%
E. Very Low	None or very little data held.

The estimated confidence level for and reliability of data used in this AMP is shown in Table 7.5.2.

Table 7.5.2: Data Confidence Assessment for Data used in AMP

Data	Confidence Assessment	Comment
Demand drivers	C. Medium	The demand drivers are based on NSW DPIE forecasts and Council's LSPS.
Growth projections	B. High	Growth from private development.
Acquisition forecast	B. High	Acquisition from private development and state significant development.
Operation forecast	B. High	Based on data over 5 years to establish a trend.
Maintenance forecast	B. High	Based on data over 5 years to establish a trend.
Renewal forecast - Asset values	B. High	The data is based on a recent modelling of asset data after completion of asset condition assessment.
- Asset useful lives	B. High	The data is based on a recent modelling of asset data after completion of asset condition assessment.
- Condition modelling	B. High	The data is based on a recent modelling of asset data after completion of asset condition assessment.

The estimated confidence level for and reliability of data used in this AMP is considered to be High.

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices¹⁴

8.1.1 Accounting and financial data sources

In 2010 Council implemented the financial system, Technology One. This system contains a Works and Assets Module in which works orders or tasks can be raised and costings tracked against a particular asset.

Council's finance system is managed by its Finance section. The system is reported on and audited annually. The audited report is present to Council, who then refers the report onto the Office of Local Government.

Council's Asset Management Services team provides input into the asset registers including condition, useful life, unit rates, capitalisation data and physical attributes.

8.1.2 Asset management data sources

Randwick Council's Asset Register is currently located within the Technology One software package. This dataset contains information to physically describe the asset including its makeup, age, condition, useful life, CRC and other financial data. The register is also linked to other systems including GIS.

The Technology One software used for asset management is currently controlled/managed by Council's Finance section.

Data maintenance is undertaken by Council's Asset Management section who review data/assets on an annual program and advise the Finance section of any updates, new or disposed assets as they arise.

Council is currently reviewing options for a Strategic Asset Management System.

8.2 Improvement Plan

It is important that an entity recognise areas of their AMP and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this AMP is shown in Table 8.2.

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Improve asset register data confidence.	Asset Management Services	Asset Team	Ongoing
2	Establish a strategic asset management system for all infrastructure asset	Asset Management Services	Asset Team	The next AMP
3	Review resilience of service delivery	Asset Management Services	Asset Team	The next AMP

¹⁴ ISO 55000 Refers to this as the Asset Management System

Task	Task	Responsibility	Resources Required	Timeline
3	Include priority weighting methodology in maintenance and operation of assets. The four categories include: Condition, Functionality, Usage and Criticality	Infrastructure Services	Asset Team	The next AMP
4	Improve proactive maintenance planning and reporting mechanism	Infrastructure Services	Asset Team	Ongoing
5	Improve asset management principles awareness within Council staff	Asset Management Services	Asset Team	Ongoing

8.3 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. These forecast costs and proposed budget are incorporated into the Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

The AMP has a maximum life of 4 years and is due for complete revision and updating within 6 months of each Council election.

8.4 Performance Measures

The effectiveness of this AMP can be measured in the following ways:

- The degree to which the required forecast costs identified in this AMP are incorporated into the long-term financial plan,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures consider the 'global' works program trends provided by the AMP,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Planning documents and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 90 – 100%).

9.0 REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
- IPWEA, 2015, 2nd edn., 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMM.
- IPWEA, 2020 'International Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2018, Practice Note 12.1, 'Climate Change Impacts on the Useful Life of Assets', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2012, Practice Note 6 Long-Term Financial Planning, Institute of Public Works Engineering Australasia, Sydney, <https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn6>
- IPWEA, 2014, Practice Note 8 – Levels of Service & Community Engagement, Institute of Public Works Engineering Australasia, Sydney, <https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn8>
- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- Randwick City Plan 2018 – 2028,
- 'Annual Operational Plan and Budget'.
- Randwick City Council, 2021 Enterprise Risk Management Framework

10.0 APPENDICES

Appendix A Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

- The acquisition forecast includes 1.0km p.a. new road pavement to meet increased local demands.
- Three major Town Centre CBD Upgrade projects at Clovelly Road, Maroubra Junction and Matraville Town Centre.
- A new state government administered grant funded cycleway project stretching from Alison Road, Randwick to Kingsford Light Rail Terminal.

A.2 – Acquisition Project Summary

Year	Acquisition Project	Budget	Donated
2023	Roads developed as part of major developments - New Market Site		\$887,500
2029	Roads developed as part of major developments - Little Bay Cove		\$2,000,000

A.3 – Acquisition Forecast Summary

Table A3 - Acquisition Forecast Summary

Year	Constructed	Contributed	Growth
2022	\$380,000	\$0	0
2023	\$380,000	\$887,500	0
2024	\$380,000	\$0	0
2025	\$380,000	\$0	0
2026	\$380,000	\$0	0
2027	\$380,000	\$0	0
2028	\$380,000	\$0	0
2029	\$380,000	\$0	0
2030	\$380,000	\$2,000,000	0
2031	\$380,000	\$0	0

Appendix B Operation Forecast

B.1 – Operation Forecast Assumptions and Source

Operational forecast is assumed to be increasing yearly due to the increase of material and labour cost. Additional operation forecast increase is due to the increase in acquisition forecast.

B.2 – Operation Forecast Summary

Table B2 - Operation Forecast Summary

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2022	\$1,173,560	\$1,026	\$1,173,560
2023	\$1,197,031	\$3,422	\$1,198,057
2024	\$1,220,972	\$1,026	\$1,225,420
2025	\$1,245,391	\$1,026	\$1,250,866
2026	\$1,270,299	\$1,026	\$1,276,799
2027	\$1,295,705	\$1,026	\$1,303,231
2028	\$1,321,619	\$1,026	\$1,330,171
2029	\$1,348,052	\$1,026	\$1,357,630
2030	\$1,375,013	\$6,426	\$1,385,617
2031	\$1,402,513	\$6,426	\$1,419,543

Appendix C Maintenance Forecast

C.1 – Maintenance Forecast Assumptions and Source

Maintenance forecast is assumed to be increasing yearly due to the increase of material and labour cost. Additional maintenance forecast increase is due to the increase in acquisition forecast.

C.2 – Maintenance Forecast Summary

Table C2 - Maintenance Forecast Summary

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2022	\$1,592,117	\$1,406	\$1,592,117
2023	\$1,631,920	\$4,690	\$1,633,326
2024	\$1,664,558	\$1,406	\$1,670,654
2025	\$1,697,850	\$1,406	\$1,705,351
2026	\$1,731,807	\$1,406	\$1,740,714
2027	\$1,766,443	\$1,406	\$1,776,756
2028	\$1,801,772	\$1,406	\$1,813,491
2029	\$1,837,807	\$1,406	\$1,850,933
2030	\$1,874,563	\$8,806	\$1,889,095
2031	\$1,912,054	\$8,806	\$1,935,392

Appendix D Renewal Forecast Summary

D.1 – Renewal Forecast Assumptions and Source

Renewal forecast is based on the asset register, the general assumption of the asset register is that the condition of the assets is assessed appropriately and that the physical data of the asset are correct.

D.2 – Renewal Forecast Summary

Table D3 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2022	\$3,241,652	\$3,578,400
2023	\$3,267,523	\$3,632,076
2024	\$3,562,208	\$3,686,557
2025	\$3,485,039	\$3,741,856
2026	\$3,689,971	\$3,797,983
2027	\$3,773,723	\$3,854,953
2028	\$4,085,923	\$3,912,778
2029	\$3,854,897	\$3,971,469
2030	\$3,649,263	\$4,031,041
2031	\$4,369,931	\$4,091,507

D.4 –Renewal Plan

Projected 10 Year Capital Renewal and Replacement Works Program

Asset ID	Street Name	From	To	Sub Category	Renewal Year
RD013293	Tyrwhitt Street	Broome Street	Malabar Road	Surface	2022
RD004214	Clovelly Road	Carrington Road	Fern Street	Surface	2022
RD014033	Woomera Road	Little Bay Road	Bunnerong Road	Surface	2022
RD004656	Cuzco Street	Denning Street	The End	Surface	2022
RD005854	Eucla Crescent	Bilga Crescent	Bilga Crescent	Surface	2022
RD008376	Judge Street	Coogee Bay Road	The End	Surface	2022
RD011432	Park Avenue	Gilderthorpe Avenue	Pine Street	Surface	2022
RD011804	Prince Street	King Street	Cowper Street	Surface	2022
RD012037	Rainbow Street	The End	Wolseley Road	Surface	2022
RD012077	Goora Street	Anzac Parade	The End	Surface	2022
RD012168	Ritchard Avenue	Mount Street	Pauling Avenue	Surface	2022
RD012440	Seaview Street	Douglas Street	The End	Surface	2022
RD012601	Smithfield Avenue	Brook Street	The End	Surface	2022
RD012731	Storey Street	Hannan Street	Anzac Parade	Surface	2022
RD012821	Sturt Street	Bunnerong Road	Anzac Parade	Surface	2022
RD000914	Arden Street	Division Street	Alison Road	Surface	2022
RD004556	Cowper Street	Alison Road	Prince Street	Surface	2022
RD012901	St Luke Street	Coogee Bay Road	Dolphin Street	Surface	2022
RD012991	Tay Street	Alison Road	Anzac Parade	Surface	2022
RD013022	Tedwin Avenue	Inglethorpe Avenue	Tunstall Avenue	Surface	2022
RD013032	The Avenue	Alison Road	Frances Street	Surface	2022
RD013072	The Causeway	First Avenue	Maroubra Road	Surface	2022
RD013252	Truscott Avenue	Romani Parade	Anzac Parade	Surface	2022
RD013364	Victoria Street	Albert Street	Alison Road	Surface	2022
RD013680	Waverly Street	Stanley Street	Sydney Street	Surface	2022
RD013730	White Avenue	Beauchamp Road	Hughes Avenue	Surface	2022
RD013913	Wills Avenue	Macquarie Street	Forrest Street	Surface	2022

Asset ID	Street Name	From	To	Sub Category	Renewal Year
FR000679	Carrington Road	Coogee Street	Alison Road	Pavement	2022
RD013963	Winkurra Street	Dowling Street	Milroy Avenue	Surface	2022
RD013973	Wisdom Street	Alexandria Parade	The End	Surface	2022
FR000679	Carrington Road	Coogee Street	Alison Road	Pavement	2022
RD014053	Wride Street	Duncan Street	Malabar Road	Surface	2022
RD014113	Young Street	Barker Street	The End	Surface	2023
RD014334	Metcalfe Street	Garden Street	Cooper Street	Surface	2023
RD014374	Wyee Place	Bilga Crescent	The End	Surface	2023
RD014547	Murrong Place	Goolagong Place	The End	Surface	2023
RD014557	Goolagong Place	Adina Avenue	The End	Surface	2023
RD011814	Prince Street	Cowper Street	Alison Road	Surface	2023
RD011472	Park Lane	Campbell Street	Northumberland Street	Surface	2023
RD011482	Park Lane	Northumberland Street	Ocean Street	Surface	2023
RD011824	Prince Lane	Prince Street	Church Street	Surface	2023
RD014143	Hay Lane	Hay Street	Barker Street	Surface	2023
RD014204	Wallace Lane	Wallace Street	Rainbow Street	Surface	2023
RD014244	Victoria Lane	Ireton Street	Raglan Street	Surface	2023
RD004194	Clovelly Road	Avoca Street	Frenchmans Road	Surface	2023
RD014457	Norfolk Lane	Franklin Street	Car Park	Surface	2023
RD014577	Carey Lane	Carrington Road	Douglas Lane	Surface	2023
RD014254	Victoria Lane	Raglan Street	Napier Street	Surface	2023
FR011651	Wild Lane	Wild Street	The End	Surface	2023
RD012931	St Marks Lane	Clovelly Road	The End	Surface	2023
RD014153	Aeolia Lane	Aeolia Street	The End	Surface	2023
RD013162	Todman Avenue	Dowling Street	Balfour Road	Surface	2023
RD000894	Arden Street	Boundary Street	Clovelly Road	Surface	2023
RD012841	Sturt Street	Botany Street	Paton Street	Surface	2023
RD003700	Carrington Road	Coogee Bay Road	Dolphin Street	Surface	2023
RD004886	Day Avenue	Eastern Avenue	Cottenham Avenue	Surface	2023

Asset ID	Street Name	From	To	Sub Category	Renewal Year
RD001643	Beauchamp Road	Broome Street	Malabar Road	Surface	2023
RD009450	Malabar Road	Arden Street	Napper Street	Surface	2023
RD009852	Meeks Street	Harbourne Road	Forsyth Street	Surface	2023
RD000386	Allan Avenue	Keith Street	The End	Surface	2023
FR000796	Coogee Bay Road	Carrington Road	Melody Street	Pavement	2023
RD003710	Carrington Road	Dolphin Street	Coogee Street	Surface	2023
RD004345	Coogee Bay Road	Melody Street	Mount Street	Surface	2023
RD004174	Clovelly Road	Darley Road	Earl Street	Surface	2023
FR000679	Carrington Road	Coogee Street	Alison Road	Pavement	2024
RD004566	Cowper Street	Prince Street	Church Street	Surface	2024
RD009480	Malabar Road	Torrington Road	Maroubra Road	Surface	2024
RD009720	Maroubra Road	Anzac Parade	Hannan Street	Surface	2024
RD000924	Arden Street	Alison Road	Arcadia Street	Surface	2024
RD012831	Sturt Street	Anzac Parade	Botany Street	Surface	2024
RD008986	Lenthall Street	McDougall Street	Milroy Avenue	Surface	2024
RD000985	Arden Street	Dudley Street	Oberon Street	Surface	2024
RD000764	Anzac Parade	Nyan Street	Jennifer Street	Surface	2024
RD001433	Barker Street	Anzac Parade	Willis Street	Surface	2024
FR002372	Stark Street	Melody Street	Carrington Road	Pavement	2024
RD013172	Todman Avenue	Balfour Road	Kensington Road	Surface	2024
RD013182	Todman Avenue	Kensington Road	Anzac Parade	Surface	2024
RD000934	Arden Street	Arcadia Street	Bream Street	Surface	2024
RD004806	Darley Road	Avoca Street	Market Street	Surface	2024
RD009690	Maroubra Road	Flower Street	Cooper Street	Surface	2024
RD008976	Lenthall Street	Dowling Street	Mcdougall Street	Surface	2024
RD004204	Clovelly Road	Frenchmans Road	Carrington Road	Surface	2024
RD004224	Clovelly Road	Fern Street	Arden Street	Surface	2024
RD004244	Clovelly Road	Beach Street	Flood Street	Surface	2024
RD013162	Todman Avenue	Dowling Street	Balfour Road	Surface	2025
RD009490	Malabar Road	Maroubra Road	Duncan Street	Surface	2025
RD000764	Anzac Parade	Nyan Street	Jennifer Street	Surface	2025

Asset ID	Street Name	From	To	Sub Category	Renewal Year
RD011093	Oberon Street	Brook Street	Mount Street	Surface	2025
RD011582	Perouse Road	Oberon Street	Howard Street	Surface	2025
RD004896	Day Avenue	Cottenham Avenue	Mooramie Avenue	Surface	2025
RD009500	Malabar Road	Duncan Street	Mons Avenue	Surface	2025
RD009510	Malabar Road	Mons Avenue	Fitzgerald Avenue	Surface	2025
RD012741	Storey Street	Anzac Parade	Loch Maree Street	Surface	2025
RD005924	Eyre Street	Brisbane Street	Dampier Street	Surface	2025
RD004906	Day Avenue	Mooramie Avenue	Doncaster Avenue	Surface	2025
RD007560	High Street	Anzac Parade	AJC Gate	Surface	2025
RD012220	Rodman Avenue	Meagher Avenue	Beauchamp Road	Surface	2025
RD012260	Roper Avenue	Elphinstone Road	The End	Surface	2025
RD012410	Searle Avenue	Frenchmans Road	Clovelly Road	Surface	2025
RD008996	Lenthall Street	Milroy Avenue	Todman Avenue	Surface	2025
RD011103	Oberon Street	Mount Street	Perouse Road	Surface	2025
RD004666	Dacre Street	Raglan Street	Franklin Street	Surface	2025
RD004846	Daunt Avenue	Knowles Avenue	Bunnerong Road	Surface	2025
RD012751	Storey Street	Loch Maree Street	Garrett Street	Surface	2025
RD001473	Barker Street	Jane Street	Avoca Street	Surface	2025
RD009720	Maroubra Road	Anzac Parade	Hannan Street	Surface	2025
RD003740	Carrington Road	Marcel Avenue	Clovelly Road	Surface	2025
RD004335	Coogee Bay Road	Carrington Road	Melody Street	Surface	2025
RD001735	Bega Avenue	Woomera Road	Mirrabooka Crescent	Surface	2025
RD002667	Bream Street	Arden Street	Brook Street	Surface	2025
RD002827	Brook Street	Dolphin Street	Bream Street	Surface	2025
RD005580	Earl Street	Avoca Street	Clovelly Road	Surface	2025
RD003983	Chicago Avenue	Minneapolis Crescent	Portland Crescent	Surface	2026
RD002697	Bream Street	Melody Street	Carrington Road	Surface	2026
RD003993	Chicago Avenue	Portland Crescent	Beauchamp Road	Surface	2026
RD005439	Duncan Street	Mons Avenue	Malabar Road	Surface	2026

Asset ID	Street Name	From	To	Sub Category	Renewal Year
RD000764	Anzac Parade	Nyan Street	Jennifer Street	Surface	2026
RD005590	Earl Street	Clovelly Road	Challis Street	Surface	2026
RD005600	Earl Street	Challis Street	Stephen Street	Surface	2026
RD006025	Fern Street	Clovelly Road	Greville Street	Surface	2026
RD006724	Garden Street	Alma Road	Boyce Road	Surface	2026
FR000199	Austral Street	Anzac Parade	Bilga Crescent	Pavement	2026
RD009136	Little Bay Road	Namatjira Place	Bunnerong Road	Surface	2026
RD009440	Malabar Road	Rainbow Street	Arden Street	Surface	2026
RD000965	Arden Street	Coogee Bay Road	Carr Street	Surface	2026
RD004254	Clovelly Road	Flood Street	Donnellan Circuit	Surface	2026
RD004264	Clovelly Road	Donnellan Circuit	Victory Street	Surface	2026
RD009660	Maroubra Road	Marine Parade	Duncan Street	Surface	2026
RD009670	Maroubra Road	Duncan Street	Malabar Road	Surface	2026
RD005934	Eyre Street	Dampier Street	Forrest Street	Surface	2026
FR000679	Carrington Road	Coogee Street	Alison Road	Pavement	2026
RD010213	Minneapolis Crescent	Yorktown Parade	Lexington Place	Surface	2026
RD010223	Minneapolis Crescent	Lexington Place	Chester Avenue	Surface	2026
RD010484	Mount Street	Dudley Street	Carr Street	Surface	2026
RD012007	Rainbow Street	Hendy Avenue	Mount Street	Surface	2026
RD012671	Stephen Street	Wentworth Street	Chepstow Street	Surface	2026
RD000944	Arden Street	Bream Street	Dolphin Street	Surface	2027
RD000954	Arden Street	Dolphin Street	Coogee Bay Road	Surface	2027
RD000975	Arden Street	Carr Street	Dudley Street	Surface	2027
RD000784	Anzac Parade	Bunnerong Road	The End	Surface	2027
RD013640	Wassell Street	Franklin Street	Burke Street	Surface	2027
RD013650	Wassell Street	Burke Street	The End	Surface	2027
RD000001	Abbey Street	Alison Road	Frances Street	Surface	2027
RD000011	Abbotford Street	Anzac Parade	Doncaster Avenue	Surface	2027
RD000051	Abbot Street	Mount Street	Melody Street	Surface	2027
RD000071	Ada Street	Don Juan Avenue	The End	Surface	2027

Asset ID	Street Name	From	To	Sub Category	Renewal Year
RD000141	Aeolia Street	Perouse Road	Aeolia Lane	Surface	2027
RD000161	Ainslie Street	Paton Street	Avoca Street	Surface	2027
RD000181	Albi Place	Judge Street	The End	Surface	2027
RD000241	Alison Road	Beach Street	Arden Street	Surface	2027
RD002677	Bream Street	Brook Street	Mount Street	Surface	2027
RD000261	Alison Road	Brook Street	Leeton Avenue	Surface	2027
RD000271	Alison Road	Leeton Avenue	Mount Street	Surface	2027
FR000794	Coogee Bay Road	Belmore Road	Carrington Road	Pavement	2027
RD002387	Botany Street	Barker Street	High Street	Surface	2027
RD009720	Maroubra Road	Anzac Parade	Hannan Street	Surface	2027
RD000396	Alma Road	Anzac Parade	Garden Street	Surface	2027
RD000426	Alma Road	Flower Street	Width Change	Surface	2027
RD000456	Brompton Road	Todman Avenue	Brompton Road	Surface	2028
RD000476	Brompton Road	Black Lion Place	The Serpentine	Surface	2028
RD000486	Brompton Road	The Serpentine	York Place	Surface	2028
RD000496	Brompton Road	York Place	Brompton Road	Surface	2028
RD000516	Anderson Street	Bunnerong Road	Hayward Street	Surface	2028
RD000526	Anderson Street	Hayward Street	Apsley Avenue	Surface	2028
RD000536	Andrew Street	Boundary Street	Surfside Avenue	Surface	2028
RD000834	Arcadia Street	Major Street	Beach Street	Surface	2028
RD000844	Arcadia Street	Beach Street	Arden Street	Surface	2028
RD000854	Arcadia Street	Arden Street	Brook Street	Surface	2028
RD000864	Black Lion Place	Brompton Road	The End	Surface	2028
RD000874	Archer Place	Cooper Street	The End	Surface	2028
RD001015	Arthur Street	Wansey Road	Botany Street	Surface	2028
RD009700	Maroubra Road	Cooper Street	Garden Street	Surface	2028
RD009710	Maroubra Road	Garden Street	Anzac Parade	Surface	2028
RD001025	Arthur Street	Botany Street	Belmore Road	Surface	2028
RD001055	Ascot Street	Anzac Parade	Doncaster Avenue	Surface	2028
RD001075	Asher Street	Waltham Street	Havelock Avenue	Surface	2028
RD001115	Athol Street	Denning Street	Malabar Road	Surface	2028

Asset ID	Street Name	From	To	Sub Category	Renewal Year
RD001135	Austral Street	Bilga Crescent	The End	Surface	2028
RD001145	Australia Avenue	Bunnerong Road	McCauley Street	Surface	2028
RD001272	Baden Street	Beach Street	Park Area	Surface	2028
RD001313	Balfour Road	Salisbury Road	Duke Street	Surface	2028
RD001323	Balfour Road	Duke Street	Todman Avenue	Surface	2028
RD001333	Balfour Road	Todman Avenue	Addison Street	Surface	2028
RD001363	Bapaume Parade	Eastern Road	The End	Surface	2028
RD001423	Barker Street	Houston Road	Anzac Parade	Surface	2028
RD001483	Barker Street	Avoca Street	Perouse Road	Surface	2028
RD001513	Barry Street	Clovelly Road	Greville Street	Surface	2028
RD001523	Bass Street	Anzac Parade	Sturt Street	Surface	2028
RD001533	Battery Street	Beach Street	Tower Street	Surface	2028
RD001553	Bay Street	Clifford Street	The End	Surface	2028
RD001563	Beach Street	Oberon Street	Neptune Street	Surface	2028
RD001573	Beach Street	Neptune Street	Carr Street	Surface	2028
RD001593	Beach Street	Arcadia Street	Clovelly Road	Surface	2029
RD001725	Bedford Place	Denning Street	Malabar Road	Surface	2029
RD001837	Bennett Place	White Avenue	The End	Surface	2029
RD001867	Bilga Crescent	Austral Street	Calga Avenue	Surface	2029
RD001887	Binda Crescent	Nurla Avenue	Nurla Avenue	Surface	2029
RD001917	Blaxland Street	Lawson Street	Franklin Street	Surface	2029
RD001937	Bligh Place	Clovelly Road	The End	Surface	2029
RD000281	Alison Road	Mount Street	Carrington Road	Surface	2029
RD001967	Bohemia Street	Austral Street	The End	Surface	2029
RD001997	Bond Street	Marine Parade	Bona Vista Avenue	Surface	2029
RD002037	Borrodale Road	Cottenham Avenue	Houston Road	Surface	2029
RD002099	Southern Cross Close	Houston Road	Howard Lane	Surface	2029
RD002130	Lomandra Place	Argyle Crescent	The End	Surface	2029
RD002161	Unnamed Lane Chifley No 1	Burke Street	The End	Surface	2029

Asset ID	Street Name	From	To	Sub Category	Renewal Year
RD011894	McMaster Place	Meyler Close	The End	Surface	2029
RD002357	Botany Street	Sturt Street	Rainbow Street	Surface	2029
RD002367	Botany Street	Rainbow Street	Middle Street	Surface	2029
RD002497	Boyce Road	Bell Street	Flower Street	Surface	2029
RD002637	Brandon Street	Arden Street	Width Change	Surface	2029
RD002747	Brisbane Street	Eyre Street	Macquarie Street	Surface	2029
RD002767	Broadbent Street	Width Change	Irvine Street	Surface	2029
RD002777	Brook Street	Rainbow Street	Oberon Street	Surface	2029
RD002887	Brown Road	Broome Street	The End	Surface	2029
RD000764	Anzac Parade	Nyan Street	Jennifer Street	Surface	2029
RD002977	Budd Avenue	Dwyer Avenue	Dawes Street	Surface	2029
RD003228	Burke Street	Mitchell Street	Caley Street	Surface	2029
RD003238	Burke Street	Caley Street	Brisbane Street	Surface	2029
RD003248	Burnie Street	Clovelly Road	Arden Street	Surface	2030
RD003358	Byrne Crescent	Broome Street	Ford Road	Surface	2030
RD003378	Byron Street	Dudley Street	Carr Street	Surface	2030
RD003418	Caley Street	Wassell Street	Burke Street	Surface	2030
RD003438	Calga Avenue	Bilga Crescent	Bilga Crescent	Surface	2030
RD003448	Calga Avenue	Bilga Crescent	The End	Surface	2030
RD003580	Carlton Street	Anzac Parade	Doncaster Avenue	Surface	2030
RD003600	Carminya Street	Milroy Avenue	Todman Avenue	Surface	2030
RD003620	Carnegie Circuit - East	Dampier Street	Warburton Street	Surface	2030
RD003813	Castle Street	Stephen Street	Challis Lane	Surface	2030
RD003933	Chelmsford Avenue	Davidson Crescent	Chelmsford Avenue	Surface	2030
RD004014	Church Street	King Street	Cowper Street	Surface	2030
RD004264	Clovelly Road	Donnellan Circuit	Victory Street	Surface	2030
RD004024	Church Street	Cowper Street	Frances Street	Surface	2030
RD004034	Church Street	Frances Street	Alison Road	Surface	2030
RD004114	Clifford Street	The End	Mount Street	Surface	2030
RD004305	Combles Parade	Menin Road	Daunt Avenue	Surface	2030

Asset ID	Street Name	From	To	Sub Category	Renewal Year
RD004496	Cottenham Avenue	Day Avenue	Koorinda Avenue	Surface	2030
RD004506	Cottenham Avenue	Koorinda Avenue	Roma Avenue	Surface	2030
RD004536	Court Avenue	Edward Avenue	Borrodale Road	Surface	2030
RD004546	Court Avenue	Borrodale Road	Gardeners Road	Surface	2030
RD004606	Creer Street	Canberra Street	The End	Surface	2030
RD004616	Cromwell Place	Anzac Parade	Franklin Street	Surface	2030
RD004626	Cunningham Street	Lawson Street	Blaxland Street	Surface	2030
RD004676	Daintrey Crescent	St Pauls Street	St Pauls Street	Surface	2030
RD004756	Dan Avenue	Broome Street	The End	Surface	2030
RD004856	Davidson Crescent	Beauchamp Road	Malabar Road	Surface	2030
RD004966	Denning Street	Rainbow Street	Evelyn Street	Surface	2030
RD004976	Denning Street	Evelyn Street	Garie Place	Surface	2030
RD004986	Denning Street	Garie Place	Malabar Road	Surface	2030
RD004996	Barrett Place	Gilderthorpe Avenue	The End	Surface	2030
RD005066	Division Street	Brook Street	Mount Street	Surface	2030
RD005126	Dolphin Street	Carrington Road	Judge Street	Surface	2030
RD005146	Doncaster Avenue	Barker Street	Day Avenue	Surface	2030
RD005196	Doncaster Avenue	Borrodale Road	Edward Avenue	Surface	2030
RD005309	Cairo Street	Garrett Street	The End	Surface	2030
RD005329	Samuel Terry Avenue	Todman Avenue	The End	Surface	2031
RD005339	Dudley Street	Beach Street	Arden Street	Surface	2031
RD005349	Dudley Street	Arden Street	Brook Street	Surface	2031
RD005359	Dudley Street	Brook Street	Mount Street	Surface	2031
RD005369	Dudley Street	Mount Street	Byron Street	Surface	2031
FR000199	Austral Street	Anzac Parade	Bilga Crescent	Pavement	2031
RD005550	Dwyer Avenue	Jennifer Street	Budd Avenue	Surface	2031
RD005560	Dwyer Avenue	Budd Avenue	Reservoir Street	Surface	2031

Asset ID	Street Name	From	To	Sub Category	Renewal Year
RD005570	Dwyer Avenue	Reservoir Street	Gipps Avenue	Surface	2031
RD005630	Eastbourne Avenue	Ocean Street	Bruce Avenue	Surface	2031
RD005702	Edgecliffe Avenue	Malabar Road	Seaside Parade	Surface	2031
RD005712	Edgecumbe Avenue	Dudley Street	The End	Surface	2031
RD005732	Elaroo Avenue	Anzac Parade	Adina Avenue	Surface	2031
RD005742	Elaroo Avenue	Adina Avenue	Yarra Road	Surface	2031
RD005824	Endeavour Avenue	Anzac Parade	Goorawahl Avenue	Surface	2031
RD005834	Ethel Street	Henry Street	Howard Street	Surface	2031
RD005844	Ethne Avenue	Market Street	The End	Surface	2031
RD005914	Eyre Street	Mitchell Street	Brisbane Street	Surface	2031
RD011997	Rainbow Street	Canberra Street	Hendy Avenue	Surface	2031
RD005944	Farnham Avenue	Alison Road	The End	Surface	2031
RD005954	Farthing Place	White Avenue	The End	Surface	2031
RD006055	Argyle Crescent	Henning Avenue	The End	Surface	2031
RD006075	Fewings Street	Greville Street	Susan Lane	Surface	2031
RD006105	Finucane Crescent	Lawson Street	The End	Surface	2031
RD015388	Finucane Crescent	The End	Menin Road	Surface	2031
RD006239	Flood Street	Clovelly Road	Battery Street	Surface	2031
RD006299	Flower Street	Maroubra Road	Haig Street	Surface	2031
RD006329	Ford Road	Broome Street	The End	Surface	2031
RD006349	Forsyth Street	Barker Street	Middle Street	Surface	2031
RD006359	Forsyth Street	Middle Street	Meeks Street	Surface	2031
RD006469	Franklin Street	Prince Edward Street	The End	Surface	2031
RD006479	Franklin Street	Barwon Crescent	The End	Surface	2031
RD006499	Fraser Street	Clovelly Road	The End	Surface	2031
RD006519	French Street	Mons Avenue	Maroubra Road	Surface	2031

Appendix F Budget Summary by Lifecycle Activity

The planned budget for the relevant lifecycle activities is sufficient. There is no disposal cost considered as the assets will be renewed.

Table F1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2022	\$380,000	\$1,173,560	\$1,592,117	\$3,578,400	\$0	\$6,724,077
2023	\$380,000	\$1,197,031	\$1,631,920	\$3,632,076	\$0	\$6,841,027
2024	\$380,000	\$1,220,972	\$1,664,558	\$3,686,557	\$0	\$6,952,088
2025	\$380,000	\$1,245,391	\$1,697,850	\$3,741,856	\$0	\$7,065,096
2026	\$380,000	\$1,270,299	\$1,731,807	\$3,797,983	\$0	\$7,180,089
2027	\$380,000	\$1,295,705	\$1,766,443	\$3,854,953	\$0	\$7,297,101
2028	\$380,000	\$1,321,619	\$1,801,772	\$3,912,778	\$0	\$7,416,168
2029	\$380,000	\$1,348,052	\$1,837,807	\$3,971,469	\$0	\$7,537,328
2030	\$380,000	\$1,375,013	\$1,874,563	\$4,031,041	\$0	\$7,660,617
2031	\$380,000	\$1,402,513	\$1,912,054	\$4,091,507	\$0	\$7,786,074

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