



2020
Asset Management Plan
Civil Infrastructure



City of
Norwood
Payneham
& St Peters

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1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Asset Management Plan

Asset management planning is a comprehensive process ensuring the delivery of services from infrastructure is financially sustainable.

This Asset Management Plan (AMP) details information about infrastructure assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The AMP defines the services to be provided, how the services are provided and what funds are required over the ten (10) year planning period. The AMP will link to a Long-Term Financial Plan (LTFP) which typically considers a ten (10) year planning period.

This AMP covers the City's Civil Infrastructure Network.

1.2 Asset Description

The City's Civil Infrastructure Network comprises:

- road pavement and surface (172km / 1,424,840m²);
- kerb and water table (352km);
- footpaths (334km / 572,762m²);
- roundabouts (59);
- traffic control devices (401);
- off road carparks (26); and
- Linear Park Shared Path (6.9km).

The Civil Infrastructure Network has a significant total renewal value estimated at \$261,989,658.

1.3 Levels of Service

The Council's present funding levels are sufficient to continue to provide existing services at current service levels in the medium term.

The main service consequences of the Planned Budget are:

- assets will deteriorate over time and be renewed only at the end of life;
- maintenance of assets will be undertaken to ensure functionality is maintained and asset life maximised; and
- user expectations unlikely to be met in regards to maintained assets appearance.

1.4 Future Demand

The main demands for new services are created by:

- increased customer expectations;
- increased rate of loadings on roads; and
- increased population density resultant from development.

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

- monitoring of asset condition;
- customer expectation surveys; and
- planning for demographic changes over time.

1.5 Life-Cycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AMP includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AMP may be prepared for a range of time periods, it typically informs a long term financial planning period of ten (10) years. Therefore, a summary output from the AMP is the forecast of ten (10) year total outlays, which for the Civil Infrastructure Network is estimated as \$125,255,640 or \$12,525,564 on average per year.

1.6 Financial Summary

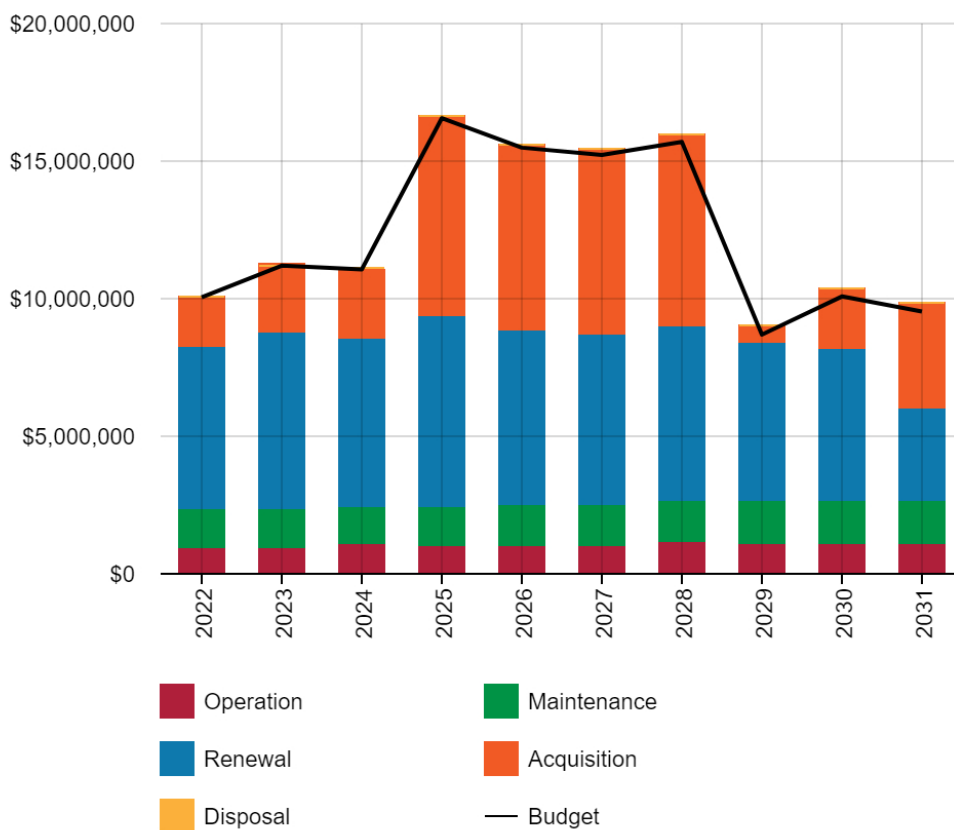
1.6.1 What we will do

Estimated available funding for the ten (10) year period is \$123,593,616 (or \$12,359,361 on average per year) as set out in the LTFP. This is 99% of the cost to sustain the current level of service at the lowest life-cycle cost.

The reality is that only what is funded in the Council’s LTFP can be provided. The informed decision making depends on the AMP emphasising the consequences of Planned Budgets on the service levels which are provided and risks.

The anticipated Planned Budget for the Council’s Civil Infrastructure Network results in a shortfall of \$166,203 average per year of the forecast lifecycle costs required to provide services in the AMP compared with the Planned Budget currently included in the LTFP. This is shown in Figure 1.6.1 below.

Figure 1.6.1: FORECAST LIFECYCLE COSTS AND PLANNED BUDGETS



All figure values are shown in current (2020) dollars.

The Council plans to provide and maintain the Civil Infrastructure Network for the following:

- operation, maintenance, renewal and upgrade of roads, footpaths, kerb & water table, traffic control devices, car parks and the Linear Park Shared Path to meet service levels which are set by annual budgets; and
- major works within the ten (10) year planning period consist of various road reconstruction projects, Linear Park Shared Path upgrades and streetscape upgrade projects as set out in the Council's LTFP.

1.6.2 What we cannot do

The Council currently does not allocate sufficient 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:

- the increased operations and maintenance requirements to new and upgraded assets above the level provided for the existing service standard.

1.6.3 Managing the Risks

The Council's current budget levels are sufficient to continue to manage risks in the medium term.

The main risk consequences are:

- deterioration of asset condition quicker than planned; and
- changes to asset performance requirements due to external factors.

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

- prioritisation of renewal works;
- increase condition inspections; and
- increased reactive maintenance.

1.7 Asset Management Practices

The Council's systems to manage assets include:

- the Council's financial system; and
- the Council's asset management system.

Assets requiring renewal/replacement are identified from either the Council's Asset Register or the Alternative Method. These methods are part of the Life-Cycle Model.

If Asset Register data is used to forecast the renewal costs, the acquisition year and the useful life are utilised.

Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems (such as Pavement Management Systems) and may be supplemented with, or based on, expert knowledge.

The Alternative Method was used to forecast the renewal life-cycle costs for this AMP.

1.8 Monitoring and Improvement Program

The next steps resulting from this AMP to improve asset management practices are:

- renewing and upgrading expenditure prioritisation;
- reviewing risk assessment and management;
- reviewing resilience of critical infrastructure;
- reviewing adaptive technologies to prolong life of assets;
- reviewing specific customer and technical levels of service; and
- assessing adequacy of operations and maintenance budgets.

2.0 Introduction

2.1 Background

This AMP communicates the requirements for the sustainable delivery of services through the management of assets, compliance with regulatory requirements and required funding to provide the appropriate levels of service over the long term planning period.

This AMP is to be read in conjunction with the following key planning documents:

- *CityPlan 2030: Shaping Our Future*
- Long Term Financial Plan
- Annual Business Plan
- City-Wide Cycling Plan
- Kent Town Urban Design Framework and Public Realm Manual
- River Torren Linear Park Strategic Integrated Asset Management Plan
- Private Laneways Policy and Procedure
- Asset Management Policy (2019)
- Community Surveys
- Resilient East - Regional Climate Change Adaptation Plan
- Resilient East - Climate Projections Report

The Council has a strong focus on asset management, with continuous improvements during the revision of the AMP. Integration of renewal and upgrade planning is undergoing continuous improvement to ensure the minimum required investment provides the greatest value outcomes.

The infrastructure assets covered by this AMP include roads, footpaths, kerb & water table, traffic control devices, car parks and the Linear Park Shared Path contained within the City. For a detailed summary of the assets covered in this AMP refer to Table 5.1.1 in Section 5.

The infrastructure assets included in this AMP have a total replacement value of \$261,989,658.

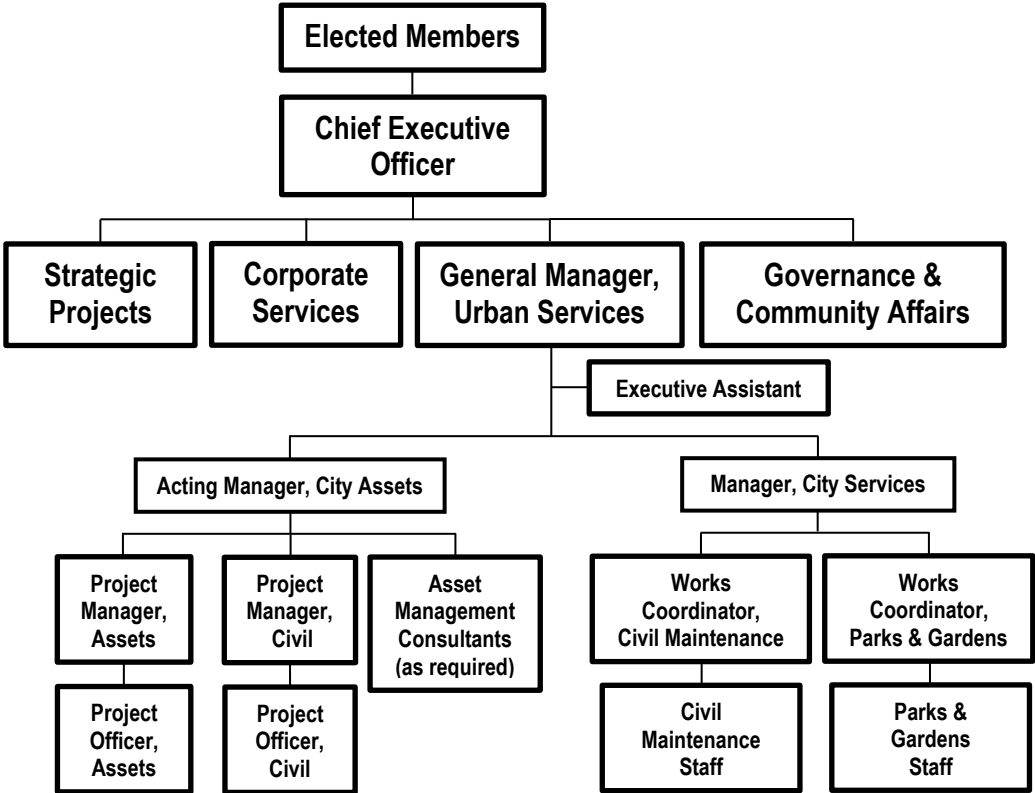
Key stakeholders in the preparation and implementation of this AMP are shown in Table 2.1.

Table 2.1: KEY STAKEHOLDERS IN THE AMP

Key Stakeholder	Role in AMP
Elected Members	Represent needs of community/shareholders, allocate resources to meet planning objectives in providing services while managing risks and ensure services are sustainable.
Chief Executive Officer	Endorse the development of the AMP and provide resources required to complete the task.
General Manager, Urban Services and Acting Manager, City Assets	Set high level priorities for asset management development and support the implementation of actions resulting from this AMP.
Corporate Services	Development of supporting policies such as capitalisations and depreciation. Provision of GIS applications and support.
Asset Management Consultants	Preparation of asset sustainability and financial reports incorporating asset depreciation in compliance with current accounting standards. Host and consolidate asset register including updating valuations, capitalisations and disposals. Provide support for development of the AMP and the implementation of effective asset management principles. Independently endorse asset revaluation methodology.
Project Manager, Assets	Responsible for the overall development of the AMP. Coordinate input of other stakeholder into the AMP. Manage the periodic collection of asset condition data.
City Assets and Strategic Projects	Assist the Project Manager, Assets in the development of the AMP.
City Services	Provide local knowledge level of detail on the Civil Infrastructure Network. Describe the maintenance standards deployed and the ability to meet the technical and Citizen Levels of Service.
Governance & Community Affairs	Manage the acquisition of land for private laneways assets.
External Parties	Local Residents; Local Businesses; Utilities; Developers; and Federal and State Governments.

The Council’s organisational structure for service delivery of infrastructure assets is detailed in Figure 2.1.

Figure 2.1: ORGANISATIONAL STRUCTURE



2.2 Goals and Objectives of Asset Ownership

The Council’s goal in the management of 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 life-cycle 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 the LTFP which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are:

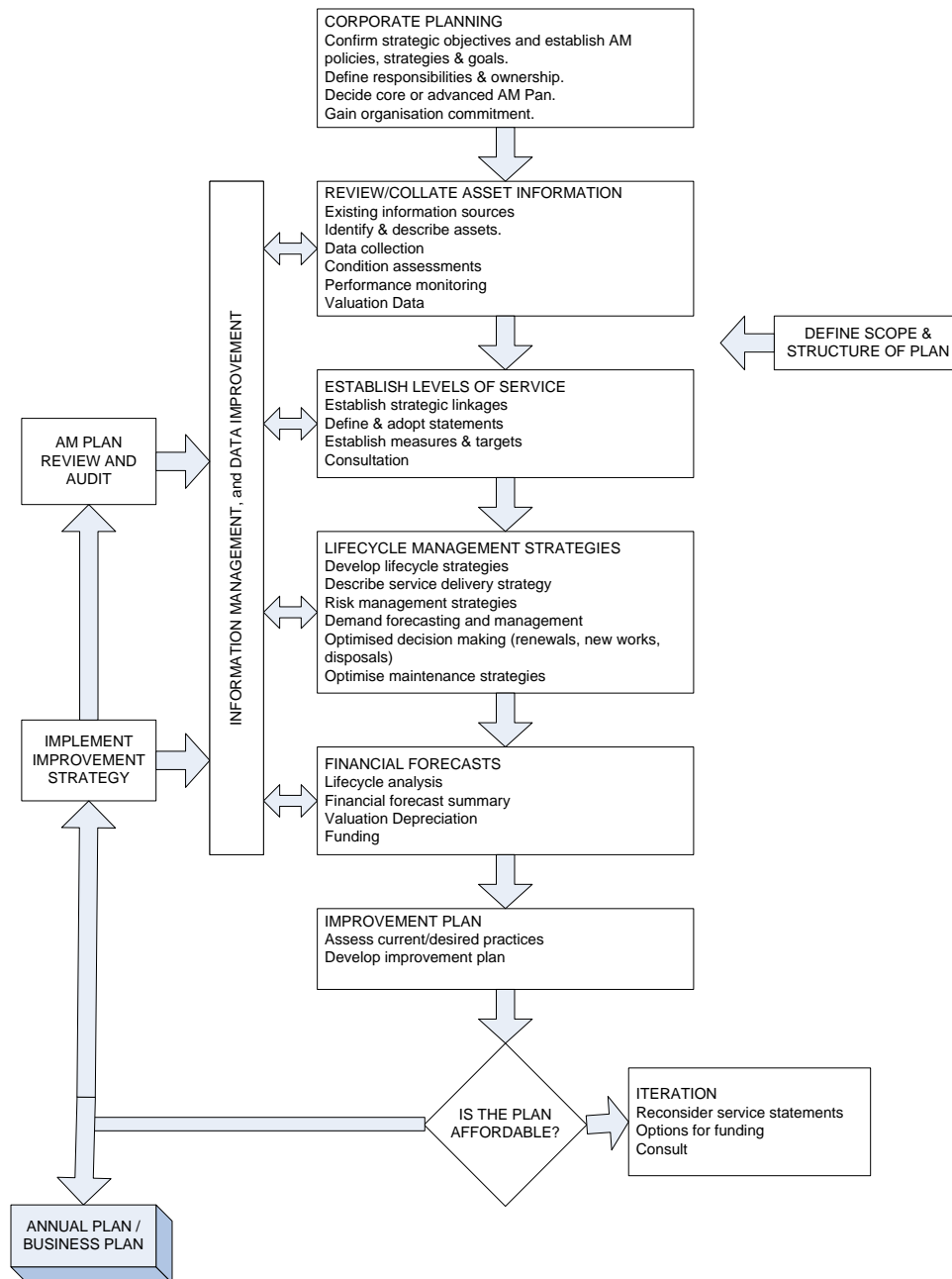
- **levels of service** – specifies the services and levels of service to be provided;
- **future demand** – how this will impact on future service delivery and how this is to be met;
- **life-cycle management** – how to manage its existing and future assets to provide defined levels of service;
- **financial summary** – what funds are required to provide the defined services;
- **asset management practices** – how the Council manages the provision of the services;
- **monitoring** – how the AMP will be monitored to ensure objectives are met; and
- **asset management improvement plan** – how the Council increases asset management maturity.

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

- International Infrastructure Management Manual 2015 ¹; and
- International Organisation for Standardisation (ISO) 55000².

A road map for preparing an AMP is shown in Figure 2.2.

Figure 2.2: ROAD MAP FOR PREPARING AN AMP



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

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

² ISO 55000 Overview, principles and terminology

3.0 LEVELS OF SERVICE

3.1 Community Research and Expectations

The Council conducts Community Surveys at regular intervals to establish how the Council is performing in a number of key indicators. Community Surveys have been conducted in 2009, 2011, 2013 and 2017, with the most recent survey undertaken in 2019. The survey uses a 5-point scale to determine satisfaction, with 1 being very dissatisfied, 5 being very satisfied and a 'don't know' response. The mean score is derived from the five-point satisfaction scale. Table 3.1 summarises the results from the Council's Community Surveys.

Table 3.1: COMMUNITY SATISFACTION SURVEY LEVELS

Performance Measure	Satisfaction Level				
	2019	2017	2013	2011	2009
Overall Infrastructure Satisfaction	3.8	3.8	4.0	4.0	3.6
Providing and Maintaining Roads	3.6	3.6	3.8	3.8	3.6
The Provision and Maintenance of Cycling Pathways	3.6	3.6	3.7	3.7	3.3
Providing and Maintaining Footpaths	3.2	3.2	3.4	3.3	3.1
The Presentation and Cleanliness of the Council Area	4.1	4.1	4.2	4.1	4.0

3.2 Strategic and Corporate Goals

This AMP has been prepared in accordance with the Vision, Mission, Goals And Objectives as set out in the Council's *CityPlan 2030: Shaping Our Future*.

The Council's Vision is:

'A City which values its heritage, cultural diversity, sense of place and natural environment.

A progressive City which is prosperous, sustainable and socially cohesive, with a strong community spirit.'

Strategic goals have been set by the Council and how these are addressed in this AMP is summarised in Table 3.2.

Table 3.2: GOALS AND HOW THESE ARE ADDRESSED IN THIS PLAN

Goal	Objective	How Goal and Objectives are Addressed in the AMP
Social Equity - A connected, accessible and pedestrian friendly community	A people friendly, integrated and sustainable transport and pedestrian network.	Civil Infrastructure assets exist to support and provide services to the community. Planning the long term management of these assets is essential to the sustainability of these services.
Environmental Sustainability – A leader in environmental sustainability	Sustainable and attractive streetscapes and open spaces	Development of service levels provided by the infrastructure and the balancing of this with the available funding and acceptable risk.
Environmental Sustainability – A leader in environmental sustainability	Mitigating and adapting to the impacts of climate change	Planning of long term sustainable infrastructure is important and to enable appropriate resources to be identified and provided.

3.3 Legislative Requirements

There are a number of legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the Civil Infrastructure Network are set out in Table 3.3.

Table 3.3: LEGISLATIVE REQUIREMENTS

Legislation	Requirement
Aboriginal Heritage Act 1988	An Act to provide for the protection and preservation of the Aboriginal heritage, and for other purposes.
Australian Accounting Standards	Standards applied in preparing financial statements, relating to the valuation, revaluation and depreciation of transport assets.
Australian Standards	All of the Council's infrastructure projects are undertaken in accordance with Australian Standards, or in the absence of, best practice techniques.
Building Code of Australia 2007	Sets out minimum standards for construction of new assets. Also provides minimum standards for new properties.
Development Act 1993	An Act to provide for planning and regulate development in the State; to regulate the use and management of land and buildings, and the design and construction of buildings; to make provision for the maintenance and conservation of land and buildings where appropriate; and for other purposes.
Disability Discrimination Act 1992	Provides protection for everyone in Australia against discrimination based on disability. It encourages everyone to be involved in implementing the Act and to share in the overall benefits to the community and the economy that flow from participation by the widest range of people.
Environmental Protection Act 1993	Sets out requirements for any works to comply with, as well as water quality standards.
Highways Act 1926	An Act to provide for the appointment of a Commissioner of Highways, and to make further and better provision for the construction and maintenance of roads and works and for other purposes.
Local Government Act 1999	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long-term financial plan supported by infrastructure and asset management plans for sustainable service delivery.
Manual of Legal Responsibilities and Technical Requirements for Traffic Control Devices – Part 2 – Code of Technical Requirements	Defines legal requirements for the installation of traffic control devices.
Road Traffic Act (1961)	Defines responsibilities pertaining to roadways and standards.
Road Opening & Closing Act (1991)	Allows for the formalisation of roadways status.
Work Health and Safety Act 2012	Provides minimum standards for health and safety of individuals performing works.

3.4 Citizen Values

Service levels are defined in three (3) ways, Citizen Values, Citizen Levels of Service and Technical Levels of Service.

Citizens Values indicate:

- what aspects of a service is important to the citizen;
- whether they see value in what is currently being provided; and
- the likely trend over time based on the current budget provision.

A summary of the satisfaction measure being used, the current feedback and the expected performance based on the current funding level is set out in Table 3.4.

Table 3.4: CITIZEN VALUES

Citizen Values	Citizen Satisfaction Measure	Current Feedback	Expected Trend Based on Planned Budget
Cleanliness and amenability of streetscape	Community Survey & Complaints	Moderate number of complaints related to seasonal leaf drop	Targeted street sweeping and footpath blowing program implemented to current expenditure. Complaints expected to maintain current level due street tree leaf drop.
Roads surface in good condition and smooth to traverse	Community Survey & Complaints	Minimal number of complaints	Complaints expected to increase due to current age profile of road surface infrastructure in the short term and decline in the long term.
Footpaths provide access for all and free of hazards	Community Survey & Complaints	Moderate number of complaints due to point defects and trip hazards	Implementation of a proactive maintenance program continuing and continued reactive maintenance on request. Complaints are expected to decrease with the continuation of proactive maintenance program.
Concrete and asphalt footpaths to be replaced with block pavers	Community Survey & Complaints	Minimal number of complaints	Accelerated block paver renewal program to be implemented over the long term. Minor decline in complaints during implementation.
Street parking availability	Community Survey & Complaints	Moderate number of complaints around retail and high density accommodation precincts.	Complains are expected to increase due to continued higher density developments and no increase in street parking.
Bicycle infrastructure	Community Survey & Complaints	Minimal number of requests for increase cycling facilities.	Targeted streetscape program being implemented to deliver improved cycling and active transport routes. Requests to steadily decline in line with implementation.
Safety and pedestrian/cyclist conflicts on River Torren Linear Park	Community Survey & Complaints	Minimal number of complaints	Planned upgrades to the shared path to widen and realign where possible with the additional of lighting. Decrease in complaints following implementation.

3.5 Citizen Levels of Service

The Citizen Levels of Service are considered in terms of:

- **quality:** How good is the service? What is the condition or quality of the service?
- **function:** Is it suitable for its intended purpose? Is it the right service?
- **capacity:** Is the service over or under used? Does the Council need more or less of these assets?

A summary of the performance measure being used, the current performance and the expected performance based on the current funding level is set out in Table 3.5.

These are measures of fact related to the service delivery outcome (e.g. number of occasions when service is not available, condition %'s of Very Poor, Poor/Average/Good, Very Good) and provide a balance in comparison to the citizen perception that may be more subjective.

Confidence levels of current performance and expected trend are set out in Table 3.5 and are categorised as follows:

- **high:** professional judgement supported by extensive data;
- **medium:** professional judgement supported by data sampling; or
- **low:** professional judgement with no data evidence.

Table 3.5: CITIZEN LEVELS OF SERVICE MEASURES

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Quality	Streets are well maintained	Community survey on the physical quality of the streets for driving, cycling and walking.	Refer to Table 3.1 for Customer Satisfaction Survey results	Improved performance is expected as a result of updated programmed maintenance processes and increased renewal expenditure.
	Confidence levels		High	Medium
Function	Asset to meet service needs – ‘fit for purpose’	Community survey on the physical quality of the streets for driving, cycling and walking.	Refer to Table 3.1 for Customer Satisfaction Survey results	Improved performance is expected as a result of implementation of strategic planning recommendations.
	Confidence levels		High	Medium
Capacity	Capacity of assets to meet demands	Community survey on the physical quality of the streets for driving, cycling and walking.	Refer to Table 3.1 for Customer Satisfaction Survey results	Increased demands on capacity expected.
	Confidence levels		High	Medium

3.6 Technical Levels of Service

To deliver the Citizen Values, and impact the achieved Citizen Levels of Service, operational or technical measures of performance are used. These technical measures relate to the activities and allocation of resources to best achieve the desired community 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. upgraded pavement designed for bus loading) or a new service that did not exist previously (e.g. conversion of a private laneway to a public road);
- **operation:** the regular activities to provide services (e.g. street sweeping);

- **maintenance:** the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. pothole patching);
- **renewal:** the activities that return the service capability of an asset up to that which it had originally provided (e.g. road resurfacing); and
- **disposal:** the activities associated with the disposal of a decommissioned asset including sale, demolition or relocation (e.g. sale of a section of road).

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 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 **
Acquisition	Gifted infrastructure from developers	Incorporate into AMP upon assuming ownership	Occurs on an ad hoc basis dependent on development	Occurs on an ad hoc basis dependent on development
	Upgrade of The Parade streetscape	Budget allocation	Budgeted within the AMP and LTFP	As recommended by The Parade Masterplan
	Upgrade of streetscapes within Kent Town	Budget allocation	Budgeted within the AMP and LTFP	As recommended by the Kent Town Urban Design Framework and Public Realm Manual
	Upgrade of active transport corridor streetscapes	Budget allocation	Budgeted within the AMP and LTFP	As recommended by the City-Wide Cycling Plan
	Acquire ownership of private laneways	Budget allocation	Limited by the existing budget provisions	As recommended by the Private Laneways Policy and Procedure
	Upgrade of Linear Park Shared Path	Budget allocation	Budgeted within the AMP and LTFP	Upgrade of shared path and installation of lighting
			Budget	\$40,875,978 over ten (10) years
Operation	Street Sweeping	Frequency	Conduct street sweeping as per programs	Conduct street sweeping as per programs
	Asset inspections	Frequency	Yearly renewal planning inspections	Yearly renewal and maintenance planning inspections
	Asset Condition Assessment	Frequency	Asset Condition Assessment undertaken once every five years	Asset Condition Assessment undertaken once every four years

³ IPWEA, 2015, IIMM, p 2|28.

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
		Budget	\$10,159,800 over ten (10) years	\$10,864,358 over ten (10) years
Maintenance	Road surface	Maintenance frequency	Reactive to limit of budget to repair surface defects which lead to hazards.	Reactive to limit of budget to repair surface defects which lead to hazards.
	Footpaths	Maintenance frequency	Programmed and reactive to customer requests. Footpath free of defects and hazards greater than 10mm	Programmed and reactive to customer requests. Footpath free of defects and hazards greater than 10mm
	Line Marking	Frequency	Refresh line marking to the City over a 3 year timeframe	Refresh line marking to the City over a 3 year timeframe
	Kerb and water table	Maintenance frequency	Reactive to limit of budget to repair defects which cause hazards by preventing free flow of stormwater	Reactive to limit of budget to repair defects which cause hazards by preventing free flow of stormwater
		Budget	\$13,823,470 over ten (10) years	\$14,780,943 over ten (10) years
Renewal	Road surface	Renewal as per lifecycle model	Current implementation budget smoothed over ten (10) year timeframe	Current implementation budget smoothed over ten (10) year timeframe
	Road surface	Rejuvenation treatment as per lifecycle model	Budget to increase the road surface life	Budget to increase the road surface life
	Granular pavement (road reconstruction)	Renewal as per lifecycle model	Current implementation budget smoothed over ten (10) year timeframe	Current implementation budget smoothed over ten (10) year timeframe
	Kerb and water table	Renewal as per lifecycle model	Renewal program and budget to align with road surface program	Renewal program and budget to align with road surface program
	Footpaths	Renewal as per lifecycle model	Accelerated renewal program to replace asphalt and concrete with block paving	Accelerated renewal program to replace asphalt and concrete with block paving
	Roundabouts	Renewal as per lifecycle model	Budget sufficient on an as needs basis	Budget sufficient on an as needs basis
	Traffic control devices	Renewal as per lifecycle model	Budget sufficient on an as needs basis	Budget sufficient on an as needs basis
	Off road carparks	Renewal as per lifecycle model	Budget sufficient on an as needs basis	Budget sufficient on an as needs basis
	Linear Park Shared Path	Renewal as per lifecycle model	Renewal program and budget undertaken in conjunction with upgrade requirements	Renewal program and budget undertaken in conjunction with upgrade requirements

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
		Budget	\$58,734,368 over ten (10) years	\$58,734,368 over ten (10) years
Disposal	Disposal of assets no longer in use	As identified in the AMP	No assets identified as no longer in use	No assets identified as no longer in use
		Budget	\$0 over ten (10) years	\$0 over ten (10) years

Note: *Current activities related to Planned Budget.

**Forecast required performance related to forecast lifecycle costs.

It is important to regularly monitor the service levels provided by the Council as these will change. The current performance is influenced by work efficiencies and technology, and community 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
Increased population	Renewal and maintenance programs designed for current utilisation	Increased utilisation of assets	Increased deterioration of assets	Increased maintenance and renewal requirements
Increased customer expectation	Upgrade of assets programed with renewal	Upgrade requirements identified through strategic planning	The rate of renewal and upgrade limited to available budget	Increased operations and maintenance
Increased active transport	Strategic corridors identified for upgrade	Increased demand for cycling and age friendly streetscapes	Higher standard of service to be provided	Implement recommendations of strategic plans

4.4 Asset Programs to Meet Demand

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

Acquiring new assets will commit the 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 LTFP (refer to Section 5).

4.5 Climate Change and Adaptation

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

How climate change will impact on assets can vary significantly depending on the location and the type of asset and services provided, as will the way in which the Council responds and manage those impacts.

As a minimum, the should consider both how to manage our existing assets given the potential climate change impacts, and then also how to create resilience to climate change in any new works or acquisitions.

Opportunities identified to date for management of climate change impacts on existing assets are shown in Table 4.5.1.

Table 4.5.1: MANAGING THE IMPACT OF CLIMATE CHANGE ON ASSETS

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Temperature	Higher maximum temperatures	Decreased lifespan of road surface treatments	Maintenance treatments and tree canopy shading
Storm intensity	Increase rainfall intensity during rainfall events	Decrease road pavement performance due to water ingress	Maintenance of road surface to prevent water ingress to pavement
Rainfall	Reduced annual rainfall	Damage to road assets due to tree roots searching for water	Management of water supply to street trees and landscaping through WSUD

The way in which the Council constructs new assets should recognise that there is opportunity to build in resilience to the impacts of climate change. Building resilience has a number of benefits including but not limited to:

- assets will be able to withstand the impacts of climate change;
- services can be sustained; and
- assets that can endure the impacts of climate change may potentially lower the life-cycle cost and reduce their carbon footprint

Table 4.5.2 summarises some asset climate change resilience opportunities.

Table 4.5.2: BUILDING ASSET RESILIENCE TO CLIMATE CHANGE

New Asset Description	Climate Change Impact These Assets?	Build Resilience in New Works
Civil assets	Higher maximum temperatures	All materials to be reviewed to ensure performance is in line with requirements, with recycled products prioritised. Increase in tree canopy cover to provide cooling through shade.
Civil assets	Increase rainfall intensity during rainfall events	All materials to be reviewed to ensure performance is in line with requirements with recycled products prioritised. Upgrades to be sensitive to the ongoing requirement to limit impacts of storm events.
WSUD infrastructure	Reduced annual rainfall	Utilising rainfall for passive irrigation of street trees and landscaping through streetscape WSUD initiatives.

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

5.0 LIFE-CYCLE MANAGEMENT PLAN

The Life-Cycle Management Plan details how the 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.

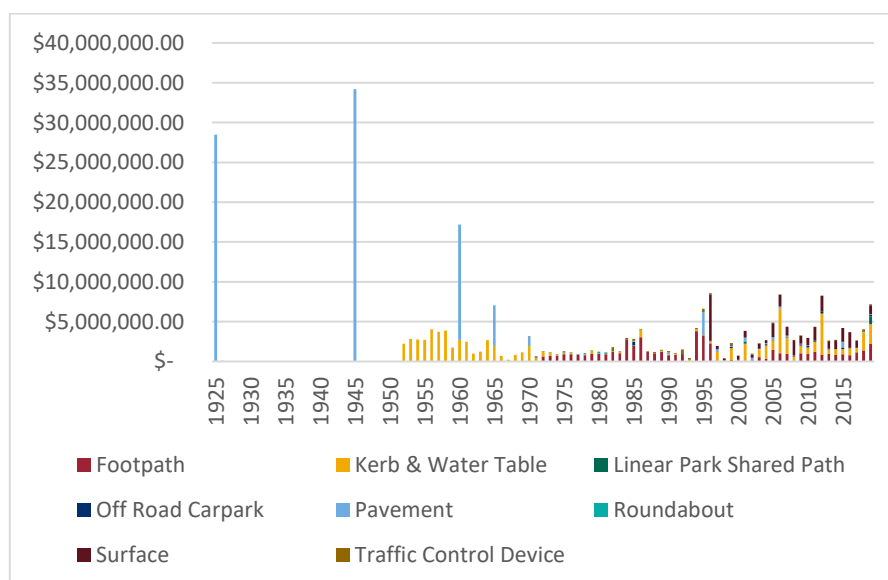
Civil Infrastructure assets includes all the road pavements and surface across the City.

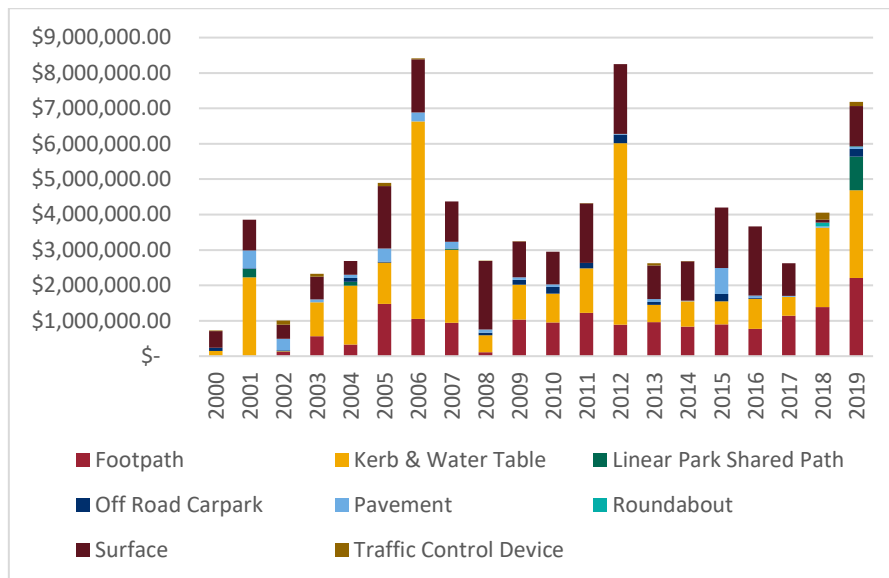
The age profile of the assets included in this AMP are shown in Figure 5.1.2.

Table 5.1.1: ASSETS COVERED BY THIS PLAN

Asset Category	Dimension	Replacement Value
Road pavement	172km / 1,424,840m ²	\$90,252,552
Road surface	172km / 1,424,840m ²	\$31,246,031
Kerb and water table	352km	\$79,791,076
Footpaths	334km / 572,762m ²	\$51,555,221
Roundabouts	59	\$1,250,929
Traffic control devices	401	\$4,303,462
Off road carparks	26	\$2,645,762
Linear Park Shared Path	6.9km	\$944,625
TOTAL		\$261,989,658

Figure 5.1.1: ASSET AGE PROFILE





All figure values are shown in current (2020) dollars.

The majority of assets acquired prior to the mid-1990s are long-life assets such as road pavement, kerb & water table and footpaths. The more recent assets are typically shorter life assets that have been through one or more renewal cycles and require renewal more frequently. Figure 5.1.1 does show that asset renewal requirements are not consistent and the funding required from year to year can vary. The aim of the renewal expenditure of this AMP is to maintain a consistent expenditure to provide financial certainty to the LTFF during a period of large upgrade expenditure.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: KNOWN SERVICE PERFORMANCE DEFICIENCIES

Location	Service Deficiency
Roads on bus routes	Pavement not designed for bus loading resulting in premature failure
Isolated road segments	Surface treatments deteriorating faster than anticipated
Isolated footpath segments	Footpaths and bus stop pads do not meet DDA criteria with respect to obstructions, cross fall and tactile indicators
Various pram ramp road crossings	Pram ramp crossing do not meet current design and DDA criteria

The above service deficiencies were identified from the asset condition assessment completed in the 2018 – 2019 financial year. The identified service deficiencies are addressed systematically through the annual works programs wherever feasible.

5.1.3 Asset condition

The condition of assets is currently monitored by undertaking a complete condition assessment of the Civil Infrastructure assets once every five (5) years (the last being in the 2018 – 2019 financial year). The periodic condition assessments are to occur at a four (4) year interval following the last inspection to more closely monitor change in asset condition and to align with the preparation on AMPs. Yearly inspections of a portion of poorer conditioned assets is completed to inform the following year’s asset renewal program.

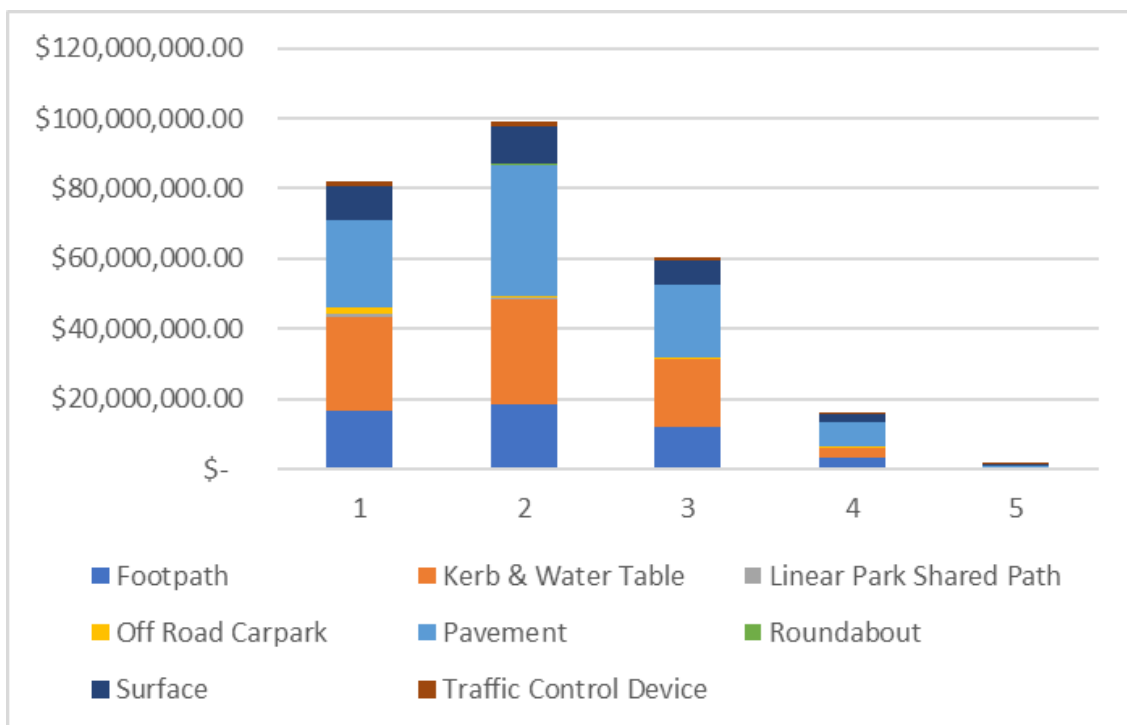
Condition is measured using a 1 – 5 grading system⁴ as detailed in Table 5.1.3. It is important that consistent condition grades be used in reporting various assets across an organisation. This supports effective communication. At the detailed level assets may be measured utilising different condition scales, however, for reporting in the AMP they are all translated to the 1 – 5 grading scale.

Table 5.1.3: SIMPLE CONDITION GRADING MODEL

Condition Grading	Description of Condition
1	Very Good: only planned maintenance required
2	Good: minor maintenance required plus planned maintenance
3	Fair: significant maintenance required
4	Poor: significant renewal/rehabilitation required
5	Very Poor: physically unsound and/or beyond rehabilitation

The Current Replacement Cost (CRC), i.e. the renewal cost, for each condition grading is shown in Figure 5.1.3.

Figure 5.1.3: ASSET CONDITION PROFILE



All figure values are shown in current (2020) dollars.

Overall, 92% of the Civil Infrastructure assets are in condition 3 (fair) or better. The percentage of assets in condition 3 (fair) or better and the average condition for individual asset class is detailed below:

- Road pavement – 91% & 2.1
- Road surface – 92% & 2.1
- Kerb and water table – 96% & 2.0

⁴ IPWEA, 2015, IIMM, Sec 2.5.4, p 2 | 80.

- Footpaths – 93% & 2.0
- Roundabouts – 89% & 2.3
- Traffic control devices – 90% & 2.1
- Off road carparks – 95% & 1.6
- Linear Park Shared Path – 96% & 1.6

The condition data was collected prior to the implementation of the planned footpath maintenance program. It is anticipated that the average condition of the footpaths will improve due to the maintenance program.

The asset class with the largest value of segments of condition 4 or greater is the road pavement. This indicates that there will be a period of increased road reconstruction occurring. This may be due to insufficient pavement strength on high load roads such as bus routes. Given the long life nature of road pavement, it also indicates that increased maintenance and/or renewal is required of the road surface to ensure that it remains impervious to water ingress.

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 for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include pipe repairs, asphalt patching, and equipment repairs.

The trend in maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: OPERATIONS AND MAINTENANCE BUDGET TRENDS

Year	Operations and Maintenance Budget
2019 – 2020	\$2,583,327
2020 – 2021	\$2,583,327
2021 – 2022	\$2,383,327

Maintenance budget levels are considered to be adequate to meet projected service levels, which is equal to current service levels. The reduction in maintenance budget in the 2021 – 2022 financial year is due to the completion of an accelerated footpath maintenance program. It is anticipated that the residual footpath maintenance budget will be sufficient to continue the programmed maintenance as well as reactive maintenance.

Assessment and priority of reactive maintenance is undertaken by staff using experience and judgement.

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.

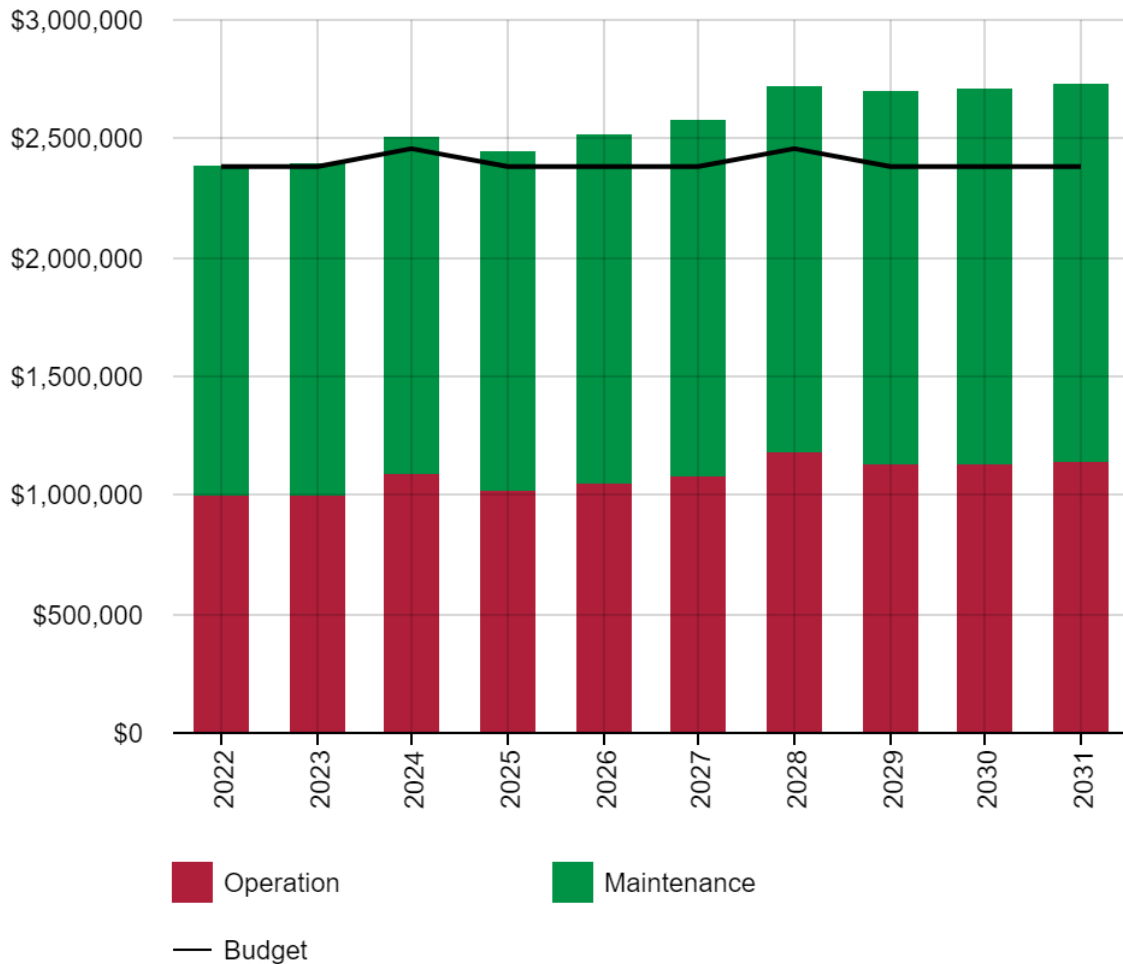
Table 5.2.2: ASSET SERVICE HIERARCHY

Service Hierarchy	Service Level Objective
Roads categorised by traffic volumes	High volume roads to be prioritised
Roads corridors categorised by active transport connections	Strategic active transport corridors to be prioritised
Footpaths categorised by usage	Footpaths connecting to public transport, open space, shopping precincts and age care facilities prioritised

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 (2020) dollars.

The operations and maintenance budgets have been planned to remain steady over the planning period. The operations and maintenance forecast is projected to increase due to the addition of the converted private laneways and the upgrades to The Parade and other strategic streetscapes. At this stage it is not anticipated that forecast increases to the operations and maintenance budgets will be required to maintain the level of service to the new and upgraded assets.

5.3 Renewal Plan

Renewal involves 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 either of the following approaches in the Life-Cycle 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 during the 2019 – 2020 financial year.

Table 5.3: USEFUL LIVES OF ASSETS

Asset Category	Useful life
Road Pavement	80 – 300 years
Road Surface	15 – 40 years
Kerb and Water Table	40 – 70 years
Footpath	30 – 50 years
Linear Park Shared Path Pavement	60 years
Linear Park Shared Path Surface	30 years
Roundabouts	50 years
Traffic Control Devices	30 – 60 years

The estimates for renewals in this AMP have been based on the Alternative 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; or
- to ensure the infrastructure is of sufficient quality to meet the service requirements.⁵

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;

⁵ IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

- 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.⁶

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

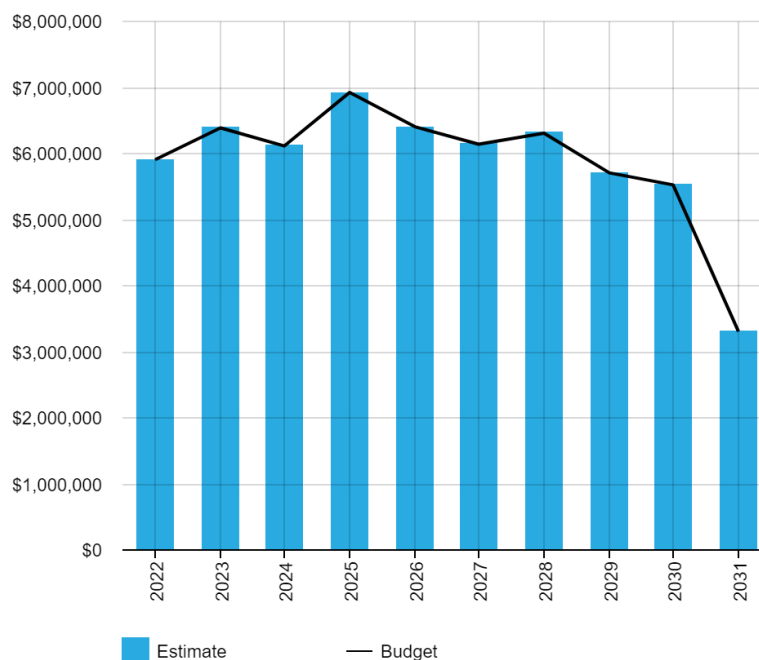
Table 5.3.1: RENEWAL PRIORITY RANKING CRITERIA

Criteria	Weighting
Road surface failure resulting in pavement deterioration	40%
Road hierarchy ranking (public transport corridor)	30%
Road hierarchy ranking (traffic volume)	15%
Change in road surface seal material to reduce life-cycle costs	15%
TOTAL	100%

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. A detailed summary of the forecast renewal costs is shown in Appendix D.

Figure 5.4: FORECAST RENEWAL COSTS



All figure values are shown in current (2020) dollars.

The renewal cost over the ten (10) year planning period have been budgeted for and are reflected in the LTFP.

⁶ Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

5.5 Acquisition Plan

Acquisition reflects 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 to the Council.

5.5.1 Selection criteria

Proposed upgrading of existing assets and constructing new 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 Council’s 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 and 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
Upgrade of The Parade streetscape	40%
Upgrade of Kent Town streetscapes	25%
Upgrade of active transport corridors	25%
Acquisition and upgrade of private laneways	10%
TOTAL	100%

Summary of future asset acquisition costs

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

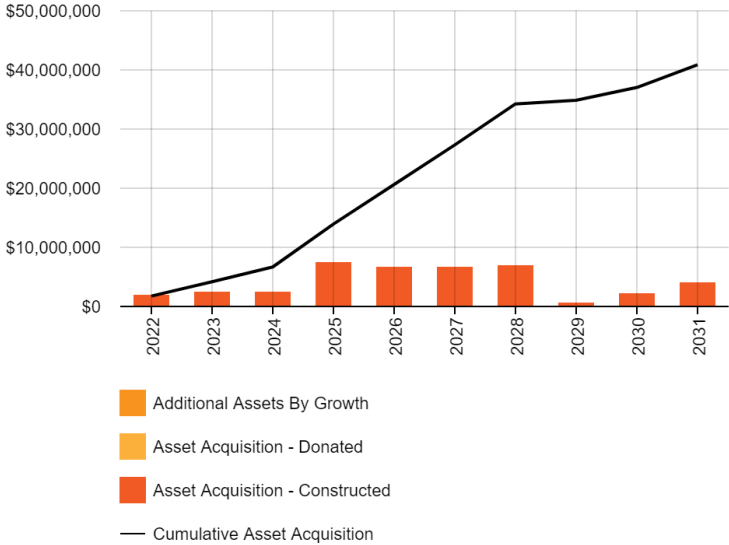
Figure 5.5.1: FORECAST ACQUISITION COSTS



All figure values are shown in current (2020) dollars.

When the Council commits to constructing new assets, the Council will be prepared to fund future operations, maintenance and renewal costs. The Council 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 the 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 (2020) dollars.

Expenditure on new assets and services in the Council’s Capital Works Program will be accommodated in the LTFP, but only to the extent that there is available funding.

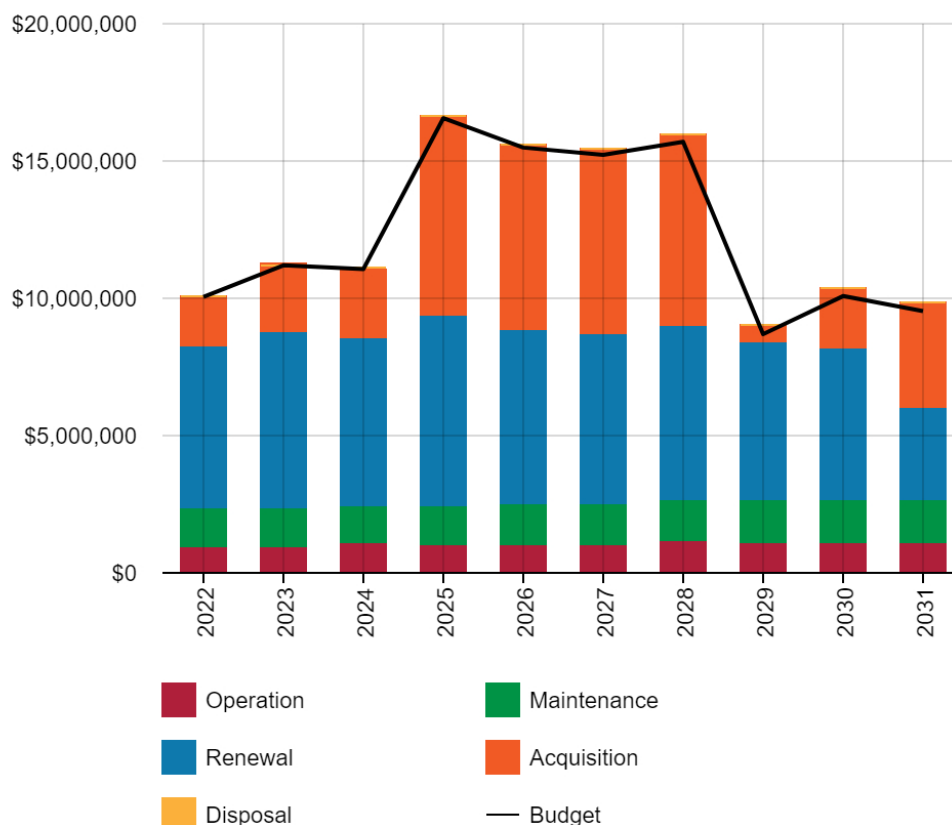
The proposed new and upgraded Civil Infrastructure assets have been programmed to be constructed in conjunction with the requirement for renewal wherever feasible to ensure the full value of existing asset is utilised and that the renewal budget is fully available to assist with the construction of the upgraded asset. Programming of new works and upgrades has been taken into account in the development of the LTFP to ensure that the Council has the financial capacity to afford the proposed new and upgraded assets.

Summary of asset forecast costs

The financial projections based upon this AMP are shown in Figure 5.5.3. 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 5.5.3: SUMMARY OF LIFE-CYCLE COSTS



All figure values are shown in current (2020) dollars.

The life-cycle summary shown in Figure 5.5.3 has been constructed based on the life-cycle requirements of the City’s Civil Infrastructure assets and incorporates new and upgrade projects in line with the Council’s strategic directions. The expenditure requirements have been programmed and budgeted across the ten (10) year planning period in conjunction with the LTFP to ensure the AMP is feasible and affordable.

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 5.6. Any costs or revenue gained from asset disposals is included in the LTFP.

Table 5.6: ASSETS IDENTIFIED FOR DISPOSAL

Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
No disposals have been identified in the plan	Nil	Nil	\$0	\$0

6.0 RISK MANAGEMENT PLANNING

The purpose of risk management associated with infrastructure assets 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’⁷.

An assessment of risks 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 Assets	Failure Mode	Impact
Traffic Control Device	Degradation, third party damage	Service interruption
Footpaths	Degradation, third party damage	Service interruption
Surface seal	Degradation, third party damage resulting in permeability	Failure of pavement

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.

6.2 Risk Assessment

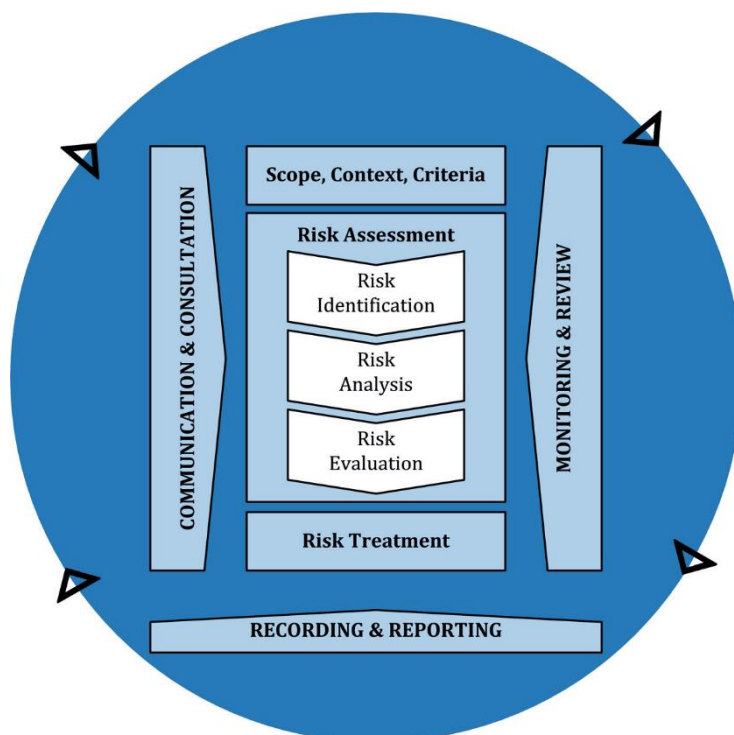
The risk management process used is shown in Figure 6.2.

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.

⁷ ISO 31000:2009, p 2

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 risks 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. It is essential that these critical risks and costs are reported to management and the Council.

Table 6.2: RISKS AND TREATMENT PLANS

Service or Asset at Risk	What Can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Road surface and pavement	Deferred renewals	H	Implement recommendations of AMP	L	Ongoing in AMP lifecycle
Lack of information	Potential for uninformed decision making	H	Update condition data and review renewal program.	L	Ongoing in AMP lifecycle

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

6.3 Infrastructure Resilience Approach

The resilience of the Council's critical infrastructure is vital to the ongoing provision of services to community. To adapt to changing conditions the Council needs to understand its capacity to 'withstand a given level of stress or demand' and to respond to possible disruptions to ensure continuity of service.

Resilience is built on aspects such as response and recovery planning, financial capacity, climate change and crisis leadership.

The Council does not currently measure our resilience in service delivery. This will be included in future iterations of the 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 the Council cannot do

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

- acquire and upgrade all private laneways.

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:

- laneways are not upgraded to the Council's level of service and remain the responsibility of adjacent landowners.

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:

- loss of the City's reputation.

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

7.0 FINANCIAL SUMMARY

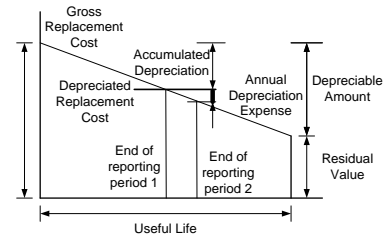
This section contains the financial requirements resulting from the information presented in the previous sections of this AMP. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Statements and Projections

7.1.1 Asset valuations

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

Current (Gross) Replacement Cost	\$261,989,658
Depreciable Amount	\$261,989,658
Depreciated Replacement Cost ⁸	\$160,715,689
Depreciation during 2019 – 2020 Financial Year	\$4,223,581



7.1.2 Sustainability of service delivery

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

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

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio⁹ 100%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next ten (10) years we expect to have 100% of the funds required for the optimal renewal of assets.

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

Medium term – ten (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 ten (10) year period. This provides input into ten (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 ten (10) year period to identify any funding shortfall.

The forecast operations, maintenance and renewal costs over the ten (10) year planning period is \$8,437,967 on average per year.

The proposed (budget) operations, maintenance and renewal funding is \$8,271,764 on average per year giving a ten (10) year funding shortfall or funding excess of \$166,203 per year. This indicates that 98% of the forecast costs needed to provide the services documented in this AMP are accommodated in the proposed budget. This excludes acquired assets.

⁸ Also reported as Written Down Value, Carrying or Net Book Value.

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

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 ten (10) year life of the LTFP.

7.1.3 Forecast Costs (outlays) for the LTFP

Table 7.1.3 shows the forecast costs (outlays) for the ten (10) year LTFP.

Table 7.1.3: FORECAST COSTS (OUTLAYS) FOR THE LTFP

Year	Forecast Acquisition	Forecast Operation	Forecast Maintenance	Forecast Renewal	Forecast Disposal
2022	\$1,757,842	\$1,000,980	\$1,382,347	\$5,907,381	\$0
2023	\$2,427,671	\$1,007,836	\$1,391,664	\$6,388,510	\$0
2024	\$2,491,302	\$1,092,304	\$1,404,530	\$6,115,076	\$0
2025	\$7,250,000	\$1,027,020	\$1,417,734	\$6,924,805	\$0
2026	\$6,700,000	\$1,055,295	\$1,456,159	\$6,406,158	\$0
2027	\$6,700,000	\$1,081,425	\$1,491,669	\$6,141,995	\$0
2028	\$6,931,931	\$1,182,555	\$1,527,179	\$6,309,665	\$0
2029	\$603,262	\$1,134,589	\$1,563,918	\$5,707,907	\$0
2030	\$2,171,868	\$1,136,942	\$1,567,116	\$5,525,844	\$0
2031	\$3,842,102	\$1,145,412	\$1,578,627	\$3,307,027	\$0

All figure values are shown in current (2020) dollars.

7.2 Funding Strategy

The proposed funding for assets is outlined in the Council's Annual Budget and LTFP.

The Council's financial strategy outlines 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

Asset values are forecast to increase as additional assets are added to service.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

7.4 Key Assumptions Made in Financial Forecasts

In compiling this AMP, it has been 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:

- all figure values are shown in current (2020) dollars;
- acquisition costs have been based on professional judgement; and
- current operations and maintenance budget have been used.

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 an A – E level scale¹⁰ in accordance with Table 7.5.1.

Table 7.5.1: DATA CONFIDENCE GRADING SYSTEM

Confidence Grade	Description
A. Highly reliable	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. Reliable	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. Uncertain	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 $\pm 25\%$
D. Very Uncertain	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. Unknown	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	Professional judgement
Growth projections	B	Limited ability for inner city asset growth
Acquisition forecast	C	In line with strategic plans, policy and procedures
Operation forecast	C	In line with previous years
Maintenance forecast	C	In line with previous years
Renewal forecast	B	As per approved methodology
- Asset values	B	Current estimates from asset register
- Asset useful lives	B	Current estimates from asset register
- Condition modelling	B	As per approved methodology
Disposal forecast	NA	NA

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

¹⁰ IPWEA, 2015, IIMM, Table 2.4.6, p 2 | 71.

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices

8.1.1 Accounting and financial data sources

This AMP utilises accounting and financial data. The source of the data is the Council's accounting and financial system.

8.1.2 Asset management data sources

This AMP also utilises asset management data. The source of the data is the Conquest Asset Management system licenced to the Council.

8.2 Improvement Plan

It is important that the Council 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 No.	Task	Responsibility	Resources Required	Timeline
1	Renewal and upgrade of prioritisation of expenditure	Project Manager, Assets	Project Officer, Assets and Finance Section	6 months
2	Further develop risk assessment and management planning	Project Manager, Assets	Project Officer, Assets and Asset Consultants	1 year
3	Review resilience of critical infrastructure	Project Manager, Assets	Project Officer, Assets and Asset Consultants	1 year
4	Develop adaptive technologies to prolong life of assets	Project Manager, Assets	Project Officer, Assets and Asset Consultants	1 year
5	Develop more specific service levels	Acting Manager, City Assets and Manager, City Services	City Assets Section	1 year
6	Assess adequacy of operations and maintenance budget	Manager, City Services	City Assets Section	3 years
7	Continue to develop long term models predicting services level and risks based on varying funding models	Manager, City Assets	City Assets Section and Asset Consultants	4 years
8	Continue the development of integration between strategic plans, AMP and LTFP	Chief Executive Officer and General Manager, Urban Services	City Assets Section and Finance Section	4 years

8.3 Monitoring and Review Procedures

The AMP will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, upgrade/new and asset disposal costs and proposed budgets. These forecast costs and proposed budget are incorporated into the LTFP or will be incorporated into the LTFP once completed.

The AMP has a maximum life of four (4) years and is due for complete revision and updating within two (2) years 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 LTFP;
- the degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures take into account 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 Plan and associated plans; and
- the Asset Renewal Funding Ratio achieving the Organisational Target (this target is often 1.0).

9.0 REFERENCES

- IPWEA, 2006, '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.
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- IPWEA, 2012 LTFP Practice Note 6 PN Long-Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- *CityPlan 2030: Shaping Our Future*
- Long Term Financial Plan
- Annual Business Plan
- City-Wide Cycling Plan
- Kent Town Urban Design Framework and Public Realm Manual
- River Torren Linear Park Strategic Integrated Asset Management Plan
- Private Laneways Policy and Procedure
- Asset Management Policy (2019)
- Community Surveys
- Resilient East - Regional Climate Change Adaptation Plan
- Resilient East - Climate Projections Report

10.0 APPENDICES

Appendix A

Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

The new and upgrade projects contained within this AMP have been derived from the Council’s strategic documents, including the City-Wide Cycling Plan, the Kent Town Urban Design Framework and Public Realm Manual, the River Torrens Linear Park Strategic Integrated Asset Management Plan and Private Laneways Policy and Procedure. All projects have been programmed to occur with the requirement to renew some or all asset classes within a street to ensure value for money is maximised for each project. Due to the substantial investment required for The Parade Streetscape upgrade, no other new or upgrade projects will be programmed during the implementation period.

A.2 – Acquisition Project Summary

The project titles included in the lifecycle forecast are included here.

Table A2: ACQUISITION PROJECT SUMMARY

Year	Project	Cost
2022 – 2024 & 2029 – 2031	Private Laneways Conversion	\$1,500,000
2022	River Torrens Linear Park Path - Battams Road to Lambert Road (Construction)	\$194,400
2028	River Torrens Linear Park Path - Koolaman Street to Twelve Tree Reserve (Design)	\$220,000
2030 – 2031	River Torrens Linear Park Path - Koolaman Street to Twelve Tree Reserve (Construction)	\$1,980,000
2023 – 2025	St Peters Street Upgrade Stage (Construction)	\$3,000,000
2022	The Parade Streetscape (Design)	\$800,000
2025 – 2028	The Parade Streetscape (Construction)	\$27,100,000
2022 – 2024	Complete Streets - Glynburn Road to Magill Road Stage (Construction)	\$1,134,000
2022 – 2031	Complete Streets - Shipsters Road to Dequetteville Terrace (Design & Construction)	\$802,285
2023 – 2024	Complete Streets - Stephen Terrace to St Peters Street (Design & Construction)	\$261,000
2029 – 2031	Complete Streets - Linear Park to Kensington Road (Design & Construction)	\$982,800
2022 – 2023	Kent Town Streetscape - Little Grenfell Street (Design & Construction)	\$149,146
2022 – 2023	Kent Town Streetscape - Little Angas Street (Design & Construction)	\$125,283
2023 – 2024	Kent Town Streetscape - Little Flinders Street (Design & Construction)	\$127,272
2028 – 2029	Kent Town Streetscape - Little Capper Street (Design & Construction)	\$55,681
2028 – 2029	Kent Town Streetscape - Benda Street (Design & Construction)	\$63,635
2029 – 2030	Kent Town Streetscape - Little King William Street (Design & Construction)	\$314,204
2030 – 2031	Kent Town Streetscape - Fullarton Road (Design & Construction)	\$566,272
2031	Magill Road Streetscape Stage 1	\$1,500,000

A.3 – Acquisition Forecast Summary

Table A3: ACQUISITION FORECAST SUMMARY

Year	Constructed	Donated	Growth
2022	\$1,757,842	\$0	\$0
2023	\$2,427,671	\$0	\$0
2024	\$2,491,302	\$0	\$0
2025	\$7,250,000	\$0	\$0
2026	\$6,700,000	\$0	\$0
2027	\$6,700,000	\$0	\$0
2028	\$6,931,931	\$0	\$0
2029	\$603,262	\$0	\$0
2030	\$2,171,868	\$0	\$0
2031	\$3,842,102	\$0	\$0

Appendix B

Operation Forecast

B.1 – Operation Forecast Assumptions and Source

The operational forecast has been based on previous expenditure for the same service levels with requirements of additional operational expenditure due to new and upgrade projects factored in the year following completion.

B.2 – Operation Forecast Summary

Table B2: OPERATION FORECAST SUMMARY

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2022	\$1,000,980	\$6,856	\$1,000,980
2023	\$1,007,836	\$9,468	\$1,007,836
2024	\$1,092,304	\$9,716	\$1,092,304
2025	\$1,027,020	\$28,275	\$1,027,020
2026	\$1,055,295	\$26,130	\$1,055,295
2027	\$1,081,425	\$26,130	\$1,081,425
2028	\$1,182,555	\$27,035	\$1,182,555
2029	\$1,134,589	\$2,353	\$1,134,589
2030	\$1,136,942	\$8,470	\$1,136,942
2031	\$1,145,412	\$8,470	\$1,145,412

Appendix C

Maintenance Forecast

C.1 – Maintenance Forecast Assumptions and Source

The maintenance forecast has been based on previous expenditure for the same service levels with requirements of additional maintenance expenditure due to new and upgrade projects factored in the year following completion.

C.2 – Maintenance Forecast Summary

Table C2: MAINTENANCE FORECAST SUMMARY

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2022	\$1,382,347	\$9,317	\$1,382,347
2023	\$1,391,664	\$12,867	\$1,391,664
2024	\$1,404,530	\$13,204	\$1,404,530
2025	\$1,417,734	\$38,425	\$1,417,734
2026	\$1,456,159	\$35,510	\$1,456,159
2027	\$1,491,669	\$35,510	\$1,491,669
2028	\$1,527,179	\$36,739	\$1,527,179
2029	\$1,563,918	\$3,197	\$1,563,918
2030	\$1,567,116	\$11,511	\$1,567,116
2031	\$1,578,627	\$11,511	\$1,578,627

Appendix D

Renewal Forecast Summary

D.1 – Renewal Forecast Assumptions and Source

The asset renewal program was derived from asset condition audits and the Council's asset register. Additional factors were all considered for some asset classes as described below.

Road Pavements and Surfaces were modelled using Road Surface Manager to provide a program for optimal intervention times and extent of works required.

Kerb & Water Table were programmed for the asset register and in conjunction with the road resealing program. Works programmed with the road resealing program are not necessarily full reconstructions and can be limited to repair of sections that have incurred external damage.

Traffic Control Devices were programmed for the asset register and in conjunction with the road resealing program. Certain types of traffic control devices such as speed humps will require reconstruction with the reseal of the road and have been programmed accordingly.

Footpaths have been programmed from the asset register. An accelerated program to replace asphalt and concrete footpaths with block pavers has been implemented and is based on observations from the footpath planned maintenance program.

D.2 – Renewal Project Summary

The project titles included in the life-cycle forecast are included here.

Table D2: RENEWAL PROJECT SUMMARY

Year	Road Pavement and Surface	Kerb & Water Table	Footpath	Traffic Control Devices	Off Road Carparks	Linear Park Shared path	Design
2022	\$3,404,845	\$1,206,715	\$920,000	\$48,923	\$37,269	\$94,532	\$195,097
2023	\$3,391,391	\$1,838,332	\$870,000	\$106,430	\$0	\$0	\$132,357
2024	\$3,416,729	\$1,574,237	\$870,000	\$95,751	\$0	\$0	\$158,360
2025	\$3,782,560	\$2,004,288	\$870,000	\$115,729	\$0	\$3,477	\$148,750
2026	\$3,937,301	\$1,290,136	\$870,000	\$181,072	\$3,296	\$0	\$124,353
2027	\$3,832,911	\$1,179,331	\$870,000	\$126,255	\$0	\$0	\$133,498
2028	\$3,797,564	\$1,357,986	\$870,000	\$146,233	\$0	\$3,171	\$134,711
2029	\$3,798,611	\$783,137	\$870,000	\$61,544	\$0	\$0	\$194,615
2030	\$3,548,890	\$768,994	\$870,000	\$185,167	\$5,000	\$0	\$147,793
2031	\$1,644,879	\$597,363	\$870,000	\$108,372	\$0	\$43,220	\$43,193

D.3 – Renewal Forecast Summary

Table D3: RENEWAL FORECAST SUMMARY

Year	Renewal Forecast	Renewal Budget
2022	\$5,907,381	\$5,907,381
2023	\$6,388,510	\$6,388,510
2024	\$6,115,076	\$6,115,076
2025	\$6,924,805	\$6,924,805
2026	\$6,406,158	\$6,406,158
2027	\$6,141,995	\$6,141,995
2028	\$6,309,665	\$6,309,665
2029	\$5,707,907	\$5,707,907
2030	\$5,525,844	\$5,525,844
2031	\$3,307,027	\$3,307,027

Appendix E

Disposal Summary

E.1 – Disposal Forecast Assumptions and Source

No disposals have been forecast over the AMP period.

E.2 – Disposal Project Summary

No disposals have been forecast over the AMP period.

E.3 – Disposal Forecast Summary

Table E3: DISPOSAL ACTIVITY SUMMARY

Year	Disposal Forecast	Disposal Budget
2022	\$0	\$0
2023	\$0	\$0
2024	\$0	\$0
2025	\$0	\$0
2026	\$0	\$0
2027	\$0	\$0
2028	\$0	\$0
2029	\$0	\$0
2030	\$0	\$0
2031	\$0	\$0

Appendix F

Budget Summary by Life-Cycle Activity

The planned budget matches the forecast budget for acquisition and renewal, while the planned budget for operation and maintenance has not incorporated increases due to new and upgrade projects which have been allowed in the forecasts. It is not anticipated that the new and upgraded works will result in the increases forecast.

Table F1: BUDGET SUMMARY BY LIFE-CYCLE ACTIVITY

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2022	\$1,757,842	\$1,000,980	\$1,382,347	\$5,907,381	\$0	\$10,048,550
2023	\$2,427,671	\$1,000,980	\$1,382,347	\$6,388,510	\$0	\$11,199,508
2024	\$2,491,302	\$1,075,980	\$1,382,347	\$6,115,076	\$0	\$11,064,705
2025	\$7,250,000	\$1,000,980	\$1,382,347	\$6,924,805	\$0	\$16,558,132
2026	\$6,700,000	\$1,000,980	\$1,382,347	\$6,406,158	\$0	\$15,489,484
2027	\$6,700,000	\$1,000,980	\$1,382,347	\$6,141,995	\$0	\$15,225,322
2028	\$6,931,931	\$1,075,980	\$1,382,347	\$6,309,665	\$0	\$15,699,923
2029	\$603,262	\$1,000,980	\$1,382,347	\$5,707,907	\$0	\$8,694,496
2030	\$2,171,868	\$1,000,980	\$1,382,347	\$5,525,844	\$0	\$10,081,038
2031	\$3,842,102	\$1,000,980	\$1,382,347	\$3,307,027	\$0	\$9,532,456