Randwick City Council
a sense of community

# Asset Management Plan
# Kerbs and Gutter

2013–32

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# ABBREVIATIONS

| | |
|---|---|
| **AAAC** | Average annual asset consumption |
| **AMP** | Asset management plan |
| **ARI** | Average recurrence interval |
| **BOD** | Biochemical (biological) oxygen demand |
| **CRC** | Current replacement cost |
| **CWMS** | Community wastewater management systems |
| **DA** | Depreciable amount |
| **DoH** | Department of Health |
| **EF** | Earthworks/formation |
| **IRMP** | Infrastructure risk management plan |
| **LCC** | Life Cycle cost |
| **LCE** | Life cycle expenditure |
| **MMS** | Maintenance management system |
| **PCI** | Pavement condition index |
| **RV** | Residual value |
| **SS** | Suspended solids |
| **vph** | Vehicles per hour |

# GLOSSARY

**Annual service cost (ASC)**
An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operating, maintenance, depreciation, finance/ opportunity and disposal costs, less revenue.

**Asset class**
Grouping of assets of a similar nature and use in an entity's operations (AASB 166.37).

**Asset condition assessment**
The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for some preventative or remedial action.

**Asset management**
The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.

**Assets**
Future economic benefits controlled by the entity as a result of past transactions or other past events (AAS27.12).

Property, plant and equipment including infrastructure and other assets (such as furniture and fittings) with benefits expected to last more than 12 month.

**Average annual asset consumption (AAAC)***
The amount of a local government's asset base consumed during a year. This may be calculated by dividing the Depreciable Amount (DA) by the Useful Life and totalled for each and every asset OR by dividing the Fair Value (Depreciated Replacement Cost) by the Remaining Life and totalled for each and every asset in an asset category or class.

**Brownfield asset values****
Asset (re)valuation values based on the cost to replace the asset including demolition and restoration costs.

**Capital expansion expenditure**
Expenditure that extends an existing asset, at the same standard as is currently enjoyed by residents, to a new group of users. It is discretional expenditure, which increases future operating, and maintenance costs, because it increases council's asset base, but may be associated with additional revenue from the new user group, eg. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

**Capital expenditure**
Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

**Capital funding**
Funding to pay for capital expenditure.

**Capital grants**
Monies received generally tied to the specific projects for which they are granted, which are often upgrade and/or expansion or new investment proposals.

**Capital investment expenditure**
See capital expenditure definition

**Capital new expenditure**
Expenditure which creates a new asset providing a new service to the community that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operating and maintenance expenditure.

**Capital renewal expenditure**
Expenditure on an existing asset, which returns the service potential or the life of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it has no impact on revenue, but may reduce future operating and maintenance expenditure if completed at the optimum time, eg. resurfacing or resheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

**Capital upgrade expenditure**
Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretional and often does not result in additional revenue unless direct user charges apply. It will increase operating and maintenance expenditure in the future because of the increase in the council's asset base, eg. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility. Where capital projects involve a combination of renewal, expansion and/or upgrade

expenditures, the total project cost needs to be allocated accordingly.

**Carrying amount**
The amount at which an asset is recognised after deducting any accumulated depreciation / amortisation and accumulated impairment losses thereon.

**Class of assets**
See asset class definition

**Component**
An individual part of an asset which contributes to the composition of the whole and can be separated from or attached to an asset or a system.

**Cost of an asset**
The amount of cash or cash equivalents paid or the fair value of the consideration given to acquire an asset at the time of its acquisition or construction, plus any costs necessary to place the asset into service. This includes one-off design and project management costs.

**Current replacement cost (CRC)**
The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a technologically modern equivalent new asset (not a second hand one) with the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs.

**Current replacement cost "As New" (CRC)**
The current cost of replacing the original service potential of an existing asset, with a similar modern equivalent asset, i.e. the total cost of replacing an existing asset with an as NEW or similar asset expressed in current dollar values.

**Cyclic Maintenance****
Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, cycle, replacement of air conditioning equipment, etc. This work generally falls below the capital/ maintenance threshold and needs to be identified in a specific maintenance budget allocation.

**Depreciable amount**
The cost of an asset, or other amount substituted for its cost, less its residual value (AASB 116.6)

**Depreciated replacement cost (DRC)**
The current replacement cost (CRC) of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset

**Depreciation / amortisation**
The systematic allocation of the depreciable amount (service potential) of an asset over its useful life.

**Economic life**
See useful life definition.

**Expenditure**
The spending of money on goods and services. Expenditure includes recurrent and capital.

**Fair value**
The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arms length transaction.

**Greenfield asset values ****
Asset (re)valuation values based on the cost to initially acquire the asset.

**Heritage asset**
An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture and this purpose is central to the objectives of the entity holding it.

**Impairment Loss**
The amount by which the carrying amount of an asset exceeds its recoverable amount.

**Infrastructure assets**
Physical assets of the entity or of another entity that contribute to meeting the public's need for access to major economic and social facilities and services, eg. roads, drainage, footpaths and cycleways. These are typically large, interconnected networks or portfolios of composite assets The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence the assets have long lives. They are fixed in place and are often have no market value.

**Investment property**
Property held to earn rentals or for capital appreciation or both, rather than for:
(a) use in the production or supply of goods or services or for administrative purposes; or
(b) sale in the ordinary course of business (AASB 140.5)

**Level of service**
The defined service quality for a particular service against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental, acceptability and cost).

**Life Cycle Cost ****
The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises annual maintenance and asset consumption expense, represented by depreciation expense. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

**Life Cycle Expenditure ****
The Life Cycle Expenditure (LCE) is the actual or planned annual maintenance and capital renewal expenditure incurred in providing the service in a particular year. Life Cycle Expenditure may be compared to Life Cycle Cost to give an initial indicator of life cycle sustainability.

**Loans / borrowings**
Loans result in funds being received which are then repaid over a period of time with interest (an additional cost). Their primary benefit is in 'spreading the burden' of capital expenditure over time. Although loans enable works to be completed sooner, they are only ultimately cost effective where the capital works funded (generally renewals) result in operating and maintenance cost savings, which are greater than the cost of the loan (interest and charges).

**Maintenance and renewal gap**
Difference between estimated budgets and projected expenditures for maintenance and renewal of assets, totalled over a defined time (eg 5, 10 and 15 years).

**Maintenance and renewal sustainability index**
Ratio of estimated budget to projected expenditure for maintenance and renewal of assets over a defined time (eg 5, 10 and 15 years).

**Maintenance expenditure**
Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. It is expenditure, which was anticipated in determining the asset's useful life.

**Materiality**
An item is material is its omission or misstatement could influence the economic decisions of users taken on the basis of the financial report. Materiality depends on the size and nature of the omission or misstatement judged in the surrounding circumstances.

**Modern equivalent asset.**
A structure similar to an existing structure and having the equivalent productive capacity, which could be built using modern materials, techniques and design. Replacement cost is the basis used to estimate the cost of constructing a modern equivalent asset.

**Non-revenue generating investments**
Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the Council, eg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

**Operating expenditure**
Recurrent expenditure, which is continuously required excluding maintenance and depreciation, eg power, fuel, staff, plant equipment, on-costs and overheads.

**Pavement management system**
A systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.

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

**PMS Score**
A measure of condition of a road segment determined from a Pavement Management System.

**Rate of annual asset consumption***
A measure of average annual consumption of assets (AAAC) expressed as a percentage of the depreciable amount (AAAC/DA). Depreciation may be used for AAAC.

**Rate of annual asset renewal***
A measure of the rate at which assets are being renewed per annum expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

**Rate of annual asset upgrade***
A measure of the rate at which assets are being upgraded and expanded per annum expressed as a percentage of depreciable amount (capital upgrade/expansion expenditure/DA).

**Reactive maintenance**
Unplanned repair work that carried out in response to service requests and management/supervisory directions.

**Recoverable amount**
The higher of an asset's fair value, less costs to sell and its value in use.

**Recurrent expenditure**
Relatively small (immaterial) expenditure or that which has benefits expected to last less than 12 months. Recurrent expenditure includes operating and maintenance expenditure.

**Recurrent funding**
Funding to pay for recurrent expenditure.

**Rehabilitation**
See capital renewal expenditure definition above.

**Remaining life**
The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining life is economic life.

**Renewal**
See capital renewal expenditure definition above.

**Residual value**
The net amount which an entity expects to obtain for an asset at the end of its useful life after deducting the expected costs of disposal.

**Revenue generating investments**
Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, eg public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.

**Risk management**
The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.

**Section or segment**
A self-contained part or piece of an infrastructure asset.

**Service potential**
The capacity to provide goods and services in accordance with the entity's objectives, whether those objectives are the generation of net cash inflows or the provision of goods and services of a particular volume and quantity to the beneficiaries thereof.

**Service potential remaining***
A measure of the remaining life of assets expressed as a percentage of economic life. It is also a measure of the percentage of the asset's potential to provide services that is still available for use in providing services (DRC/DA).

**Strategic Management Plan (SA)****
Documents Council objectives for a specified period (3-5 yrs), the principle activities to achieve the objectives, the means by which that will be carried out, estimated income and expenditure, measures to assess performance and how rating policy relates to the Council's objectives and activities.

**Sub-component**
Smaller individual parts that make up a component part.

**Useful life**
Either:
(a) the period over which an asset is expected to be available for use by an entity, or
(b) the number of production or similar units expected to be obtained from the asset by the entity.

It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the council. It is the same as the economic life.

**Value in Use**
The present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life. It is deemed to be depreciated replacement cost (DRC) for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate new cash flows, where if deprived of the asset its future economic benefits would be replaced.

Source: DVC 2006, Glossary
Note: Items shown * modified to use DA instead of CRC
Additional glossary items shown **

# 1. EXECUTIVE SUMMARY

## What Council Provides

Randwick City Council has a significant portfolio of road assets under its care and control including 26.4 kilometres of Regional road and 271.1 kilometres of Local road.

The majority of these roads are edged with kerb and gutter.

The primary purpose of kerb and gutter is to collect and control stormwater flows and convey the stormwater to a suitable discharge point such as a stormwater inlet pit.

The Aim of the Randwick City Council Kerb and Gutter Asset Management Plan is to provide a provide a framework to detail and examine existing management practices of kerb and gutter assets on regional and local roads, and form the basis of an improvement program to progressively meet identified deficiencies.

## What does it Cost?

There are two key indicators of cost to provide the kerb and gutter infrastructure service.

- The life cycle cost being the average cost over the life cycle of the asset, and
- The total maintenance and capital renewal expenditure required to deliver existing service levels in the next 10 years covered by Council's long term financial plan.

The life cycle cost to provide the kerb and gutter service is estimated at $123,730.00 per annum. Council's planned life cycle expenditure for year 1 of the asset management plan is $134,900.00 which gives a life cycle sustainability index of 1.13.

The total maintenance and capital renewal expenditure required to provide the Kerb and Gutter service the in the next 10 years is estimated at $1,374,910.00. This is an average of $137,491.00 per annum.

Council's maintenance and capital renewal expenditure for year 1 of the asset management plan of $134,900.00 giving a 10 year sustainability index of 1.15

## Plans for the Future

Council plans to operate and maintain the kerb and gutter infrastructure network to achieve the following strategic objectives.

1. Ensure the kerb and gutter network is maintained at a safe and functional standard as set out in this asset management plan
2. Effectively manage the available funds.
3. Ensure that maintenance and replacement programs are adequately funded to ensure assets remain in a safe and serviceable condition.
4. Predict future issues and needs and establish strategies to overcome identified problems.
5. Consider current costs to provide an acceptable level of service and put in place procedures to achieve the same in the most efficient and effective manner.
6. Provide a level of service of these assets in an acceptable condition.

## Measuring our Performance

**Quality**

Kerb and gutter assets will be maintained in a reasonably usable condition. Defects found or reported that are outside our service standard will be repaired.

**Function**

Our intent is that an appropriate kerb and gutter infrastructure network is maintained in partnership with other levels of government and stakeholders to ensure that an effective and efficient kerb and gutter network is maintained.

Kerb and gutter asset attributes will be maintained at a safe level and associated signage and equipment be provided as needed to ensure public safety. We need to ensure key functional objectives are met:

Manage the utilisation of Councils assets to maximise the benefit to the community.

Prioritise the renewal or upgrading of assets in accordance with Council's limited budget.

Improve the environmental aspects associated with kerb and gutter.

**Safety**

We inspect all kerb and gutter assets regularly and prioritise and repair defects in accordance with our inspection schedule to ensure they are safe.

## The Next Steps

The actions resulting from this asset management plan are: Provide information to Council and Community on resources required to deliver an acceptable level of service.

- Develop management strategies to provide the most effective and efficient delivery of maintenance and replacement.

- Improving the environmental aspects associated with kerb and gutter, Incorporating Water Sensitive Urban Design (WSUD) principles in the design and construction of kerb and gutter.

# 2. INTRODUCTION

## 2.1 Background

The primary purpose of kerb and gutter is to collect and control stormwater flows and convey the stormwater to a suitable discharge point such as a stormwater inlet pit.

The kerb and gutter network is comprised of assets that are owned and managed by Randwick City Council as the Roads Authority. The kerb and gutter network is fully funded by Randwick City Council. Kerb and Gutter on roads under the ownership and control of NSW Department of Housing, Sydney Ports Authority or any other privately owned land is not considered within this plan.

The management of Council's kerb and gutter assets requires the coordination of Council's technical and operational resources.

Council's design and asset management teams administer the asset management systems, determine strategic outcomes, develop operational works programs and produce designs, specifications and standards.

Council's operational teams undertake maintenance activities, some augmentation work and co-ordinate external Contractors to undertake renewal, replacement and other augmentation works.

The aim of the Randwick City Council Kerb & Gutter Asset Management Plan is to provide a framework for the sustainable management of kerb and gutter infrastructure in line with community expectations and Council's Integrated Planning Framework. The asset management plan is to be read with the following associated planning documents:

- The Randwick City Plan
- Management Plan (4-Year Delivery Plan and Operational Plan)
- Asset Management Policy
- Asset Management Strategy
- Long Term Financial Plan
- Workforce Strategy
- Randwick City Council Community Consultation Principles and Consultation Planning Guide.

This asset management plan covers the following infrastructure assets:

### *Table 2.1. Assets covered by this Plan*

| Asset category | Dimension (km) | Replacement Value ($M) |
|---|---|---|
| 150mm Integrated | 235.85 | 19.23 |
| Dish Drain | 8.73 | 0.57 |
| Layback | 7.31 | 0.60 |
| No Kerb and Gutter | 47.74 | 0.00 |
| Other | 0.47 | 0.03 |
| Retained Edge | 21.36 | 1.74 |
| Roll Top | 12.61 | 0.87 |
| Separate Kerb | 7.21 | 0.59 |
| Standard Squared | 237.24 | 19.34 |
| Two Piece Kerb and Gutter | 77.75 | 6.34 |
| **TOTAL** | **656.27** | **49.30** |

Key stakeholders in the preparation and implementation of this asset management plan are:

| | |
|---|---|
| Council Officers | Council officers play a major role in managing kerb and gutter assets to ensure that they provide a level of service that meets the needs of both residents and visitors to the area. Council officers implement the components identified in the kerb and gutter asset management plan. |
| Council Representatives | This stakeholder group includes Councillors and the Mayor for the Council. They are primarily responsible to ensure that their decisions represent and reflect the needs of the wider community. |
| Residents | Residents have a core need for a functional kerb and gutter infrastructure network. Their needs, wants and expectations are conveyed to Council, which should be reflected in the desired levels of service. |
| Insurers | Insurers have an interest to drive the implementation of systems, which allows Council to be in a better position to gain a better knowledge in the condition of our assets. This should be reflected in the number of claims made against each asset group. |

## 2.2 Goals and Objectives of Asset Management

The provision of services by Council includes the provision of infrastructure assets. Council has acquired infrastructure assets by means which include 'purchase', by contract, construction by Council and by donation of assets constructed by developers and others to meet increased levels of service.

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

- Taking a life cycle approach,
- Developing cost-effective management strategies for the long term,
- Providing a defined level of service and monitoring performance,
- Understanding and meeting the demands of growth through demand management and infrastructure investment,
- Managing risks associated with asset failures,
- Sustainable use of physical resources,
- Continuous improvement in asset management practices.[1]

This asset management plan is prepared under the direction of Council's vision, mission, goals and objectives.

Council's vision is:

*'A sense of community'*

Council's mission is:

*'Working together to enhance our environment, celebrate our heritage and to value and serve our diverse community'*

[1] IIMM 2006 Sec 1.1.3, p 1.3

Relevant Council goals and objectives and how these are addressed in this asset management plan are:

***Table 2.2. Council Goals and how these are addressed in this Plan***

| Goal | Objective | How Goal and Objectives are addressed in IAMP |
|---|---|---|
| Council has a long term vision based on sustainability | Ensure financial strategies underpin Council's asset management policies and strategic vision | Prepare and review the Council's short and medium term financial plans for Risk Management, Domestic Waste Management, Plant & Equipment, Information Technology, S94 Plan, Asset Management Plans and cash reserves |
| Council is a leader in the delivery of social, financial, environmental, and operational activities | Ensure good governance and administrative support for the Council and organisation | Prepare and review the Council's short and medium term financial plans for Risk Management, Domestic Waste Management, Plant & Equipment, Information Technology, S94 Plan, Asset Management Plans and cash reserves |
| Our public assets are planned, managed and funded to meet the community expectations and defined levels of service | Conduct programmed asset maintenance management in accordance with adopted service levels | Maintain Road Reserves (road pavements, footpaths, kerbs and gutters, drainage) |
| | Continue to implement Strategic Asset Management plans to deliver intergenerational equity and meet the Council's obligations as the custodian of our community's assets. | Implement SAM to ensure the City's assets are managed and maintained to target service levels |
| | | Implement the K&G program |
| The safety of our community is paramount and is acknowledged and supported through proactive policies, programs and strategies | Conduct minor reactive maintenance management in accordance with adopted service levels. | Respond in a timely manner to community requests for repairs to road reserves, open space and Council owned buildings. |

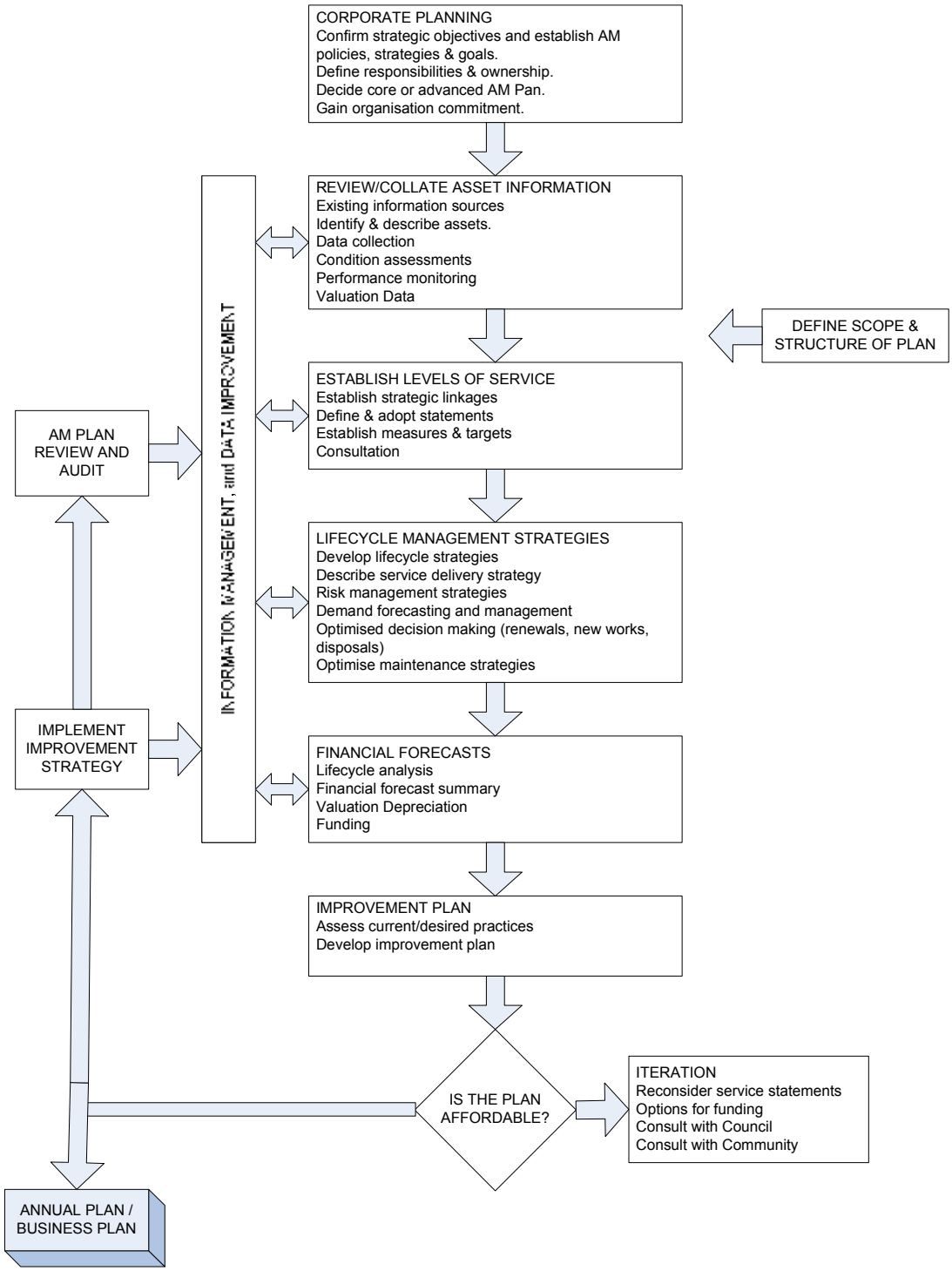
## 2.3 Plan Framework

Key elements of the plan are

- Levels of service – specifies the services and levels of service to be provided by council.
- Future demand – how this will impact on future service delivery and how this is to be met.
- Life cycle management – how Council will manage its existing and future assets to provide the required services
- Financial summary – what funds are required to provide the required services.
- Asset management practices
- Monitoring – how the plan will be monitored to ensure it is meeting Council's objectives.
- Asset management improvement plan

A road map for preparing an asset management plan is shown below.

***Road Map for preparing an Asset Management Plan***
*Source: IIMM Fig 1.5.1, p 1.11*



### 2.4 Core and Advanced Asset Management

This asset management plan is prepared as a 'core' asset management plan in accordance with the International Infrastructure Management Manual. It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a 'top down' approach where analysis is applied at the 'system' or 'network' level.

Future revisions of this asset management plan will move towards 'advanced' asset management using a 'bottom up' approach for gathering asset information for individual assets to support the optimisation of activities and programs to meet agreed service levels.

## 3. LEVELS OF SERVICE

### 3.1 Customer Research and Expectations

In 2012 Council commissioned a community satisfaction survey conducted by Micromex Research. The survey was administered by a computer aided telephone system to a sample of 1000 residents. The most recent customer satisfaction survey reported satisfaction levels for the following services

***Table 3.1. Community Satisfaction Survey Levels***

| **Performance Measure** | **Satisfaction Level** | | | | |
|---|---|---|---|---|---|
| | **Very Satisfied** | **Satisfied** | **Somewhat satisfied** | **Not Very satisfied** | **Not satisfied at all** |
| Overall satisfaction with Council's performance | | √ | | | |
| Maintaining local roads | | | √ | | |
| Town Centre cleaning | | | √ | | |
| Street cleaning | | | √ | | |
| Council's response time to requests for service | | | √ | | |

Council uses this information in developing the Strategic Management Plan and in allocation of resources in the budget.

## 3.2 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and State regulations. These include:

***Table 3.2. Legislative Requirements***

| Legislation | Requirement |
|---|---|
| Local Government Act | Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery. |
| 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. |
| Local Government (General)<br><br>Amendment (Stormwater) Regulation<br><br>2006 under the Local Government Act 1993 | The object of this Regulation is to amend the Local Government (General) Regulation 2005:<br><br>(a) to prescribe the maximum amount that may be charged by a council for the provision of stormwater management services, and<br><br>(b) to provide that certain information regarding stormwater management services is to be included in a council's draft management plan, and<br><br>(c) to provide that a council's annual report includes certain information relating to the provision of stormwater management services.<br><br>This Regulation is made under the Local Government Act 1993, including sections 403 (1), 428 (2) (r), 496A and 748 (the general regulation-making power). |
| Protection of the Environment Administration Act 1991 | The objects of this Act are as follows:<br><br>(a) to constitute the Environment Protection Authority,<br><br>(b) to provide integrated administration for environment protection,<br><br>(c) To require the Authority to perform particular tasks in relation to the quality of the environment, environmental audit and reports on the state of the environment. |

## 3.3 Current Levels of Service

Council has defined service levels in two terms.

Community Levels of Service relate to how the community receives the service in terms of safety, quality, quantity, reliability, responsiveness, cost/efficiency and legislative compliance.

Supporting the community service levels are operational or technical measures of performance developed to ensure that the minimum community levels of service are met. These technical measures relate to service criteria such as:

| Service Criteria | Technical measures may relate to |
|---|---|
| Quality | Smoothness of roads |
| Quantity | Area of parks per resident |
| Availability | Distance from a dwelling to a sealed road |
| Safety | Number of injury accidents |

Council's current service levels are detailed in Table 3.3.

***Table 3.3. Current Service Levels***

| Key Performance Measure | Level of Service | Performance Measure Process | Performance Target | Current Performance |
|---|---|---|---|---|
| COMMUNITY LEVELS OF SERVICE | | | | |
| Function | Collect and dispose of surface water from road pavement, properties and footpath | Respond to CRM's within SLA timeframe | 20 days | 65.6% completed within 20 day response time in 2011-2012 |
| Safety | Separate footpath from vehicle travel path | Construction/Upgrade of new Kerb and Gutter | $200,000 allocated for new kerb and gutter to be constructed in 2012-2013 | $0 allocated for new kerb and gutter to be constructed in 2011-2012 |
| | Provide unbroken and level kerb and gutter | Reduce insurance claims due to kerb and gutter | 0 claims in 2012-2013. | 17 claims in 2011-2012 regarding footpaths and kerb and gutters |
| | | Respond to CRM's within SLA timeframe | 20 days | 65.6% completed within 20 day response time in 2011-2012 |
| TECHNICAL LEVELS OF SERVICE | | | | |
| Condition | Ensure Kerb and Gutter asset free of steps, cracks and depressions | Routinely inspect Kerb and Gutter Network | Inspect 20% of network annually | 20% network inspected in 2011-2012 |
| Function | Kerb and Gutter that directs stormwater from road to stormwater system | Routinely inspect Kerb and Gutter Network | Inspect 20% of network annually | 20% network inspected in 2011-2012 |
| | | Respond to CRM's within SLA timeframe | 20 days | 65.6% completed within 20 day response time in 2011-2012 |
| Cost Effectiveness | Replace segments of Kerb and Gutter as required | Respond to CRM's within SLA timeframe | 20 days | 65.6% completed within 20 day response time in 2011-2012 |

## 3.4 Desired Levels of Service

At present, indications of desired levels of service are obtained from various sources including the 2012 Customer Satisfaction survey, residents' feedback to Councillors and staff, service requests and correspondence. Council has yet to quantify desired levels of service. This will be done in future revisions of this asset management plan.

# 4. FUTURE DEMAND

## 4.1 Demand Forecast

Factors affecting demand include population change, changes in demographics, seasonal factors, vehicle ownership, consumer preferences and expectations, economic factors, agricultural practices, environmental awareness, etc.

Demand factor trends and impacts on service delivery are summarised in Table 4.1.

***Table 4.1. Demand Factors, Projections and Impact on Services***

| Demand factor | Present position | Projection | Impact on services |
|---|---|---|---|
| Population | 128, 989 (As at 21 June 2012, ABS estimated resident population) | Randwick City Council's population has experienced 7.6% growth since last 2006 census. | An increase in population will require an increase in community and infrastructure services. |
| Demographics | In the ABS 2006 census, Sydney's average compared with Randwick City Council had:<br>• A higher proportion of young adults,<br>• A smaller percentage of young children,<br>• A high percentage of renters<br>• A high percentage of people aged 15-24.<br><br>The area also has an ageing population consistent with nationwide trends.<br><br>Randwick is a multicultural area with a significant number of non-English speaking communities. | Number of people per household is expected to decline.<br><br>Percentage of people aged 65 is expected to increase.<br><br>Number of people below the age of 15 is expected to remain the same. | Greater need for aged care facilities and disability access. Increase in population will require improvements to public transport infrastructure. |

Population projection tables and Randwick LGA 2011 Census Quickstat statistics are shown in Appendix D.

## 4.2 Changes in Technology

Technology changes are forecast to affect the delivery of services covered by this plan in the following areas.

***Table 4.2. Changes in Technology and Forecast effect on Service Delivery***

| Technology Change | Effect on Service Delivery |
|---|---|
| Updated Plant & Equipment | Improved service delivery within a more efficient time frame |
| Improved community access to Council through technology | Information technology developments including websites, social media and the like improve the communities access to Council. This is anticipated as Making it easier for the community to communicate expectations with regards to delivery of services. |
| Improved technology for recording and assessing assets. | Data integrity and ability to link data to GIS for improved visualisation and modelling |

## 4.3 Demand Management Plan

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 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 asset management plan.

***Table 4.3. Demand Management Plan Summary***

| Service Activity | Demand Management Plan |
|---|---|
| Council policy in line with the subdivision code to widen former lanes, now roads | Construct new kerb and gutter along the streets identified in the policy to formalise the road |
| Major tourist attractions, for example Coogee Beach, will require the commercial growth of town centres to cater to the local and visitor population | Ensure condition of kerb and gutter in town centres is consistent with other streetscape improvements to assist local businesses and the local community |

## 4.4 New Assets from Growth

The new assets required to meet growth will be acquired from land developments and constructed by Council. The new asset values are summarised in Table 4.4.

***Table 4.4. New Assets from Growth***

| Development / Council | Location | Dimensions |
|---|---|---|
| Development | 1406-1408 Anzac Parade | Kerb and Gutter Length – 5000m<br><br>Estimated value - $600,000 |
| Development | Endeavour House, 88-102 Moverly Road, South Coogee – Subdivision of land | Kerb and Gutter Length – 3000m<br><br>Estimated value - $360,000 |

Acquiring these new assets will commit council to fund ongoing operations and maintenance 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 operating and maintenance costs.

# 5. LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how Council plans to manage and operate the assets at the agreed levels of service (defined in section 3) while optimising life cycle costs.

## 5.1 Background Data

### 5.1.1 Physical parameters

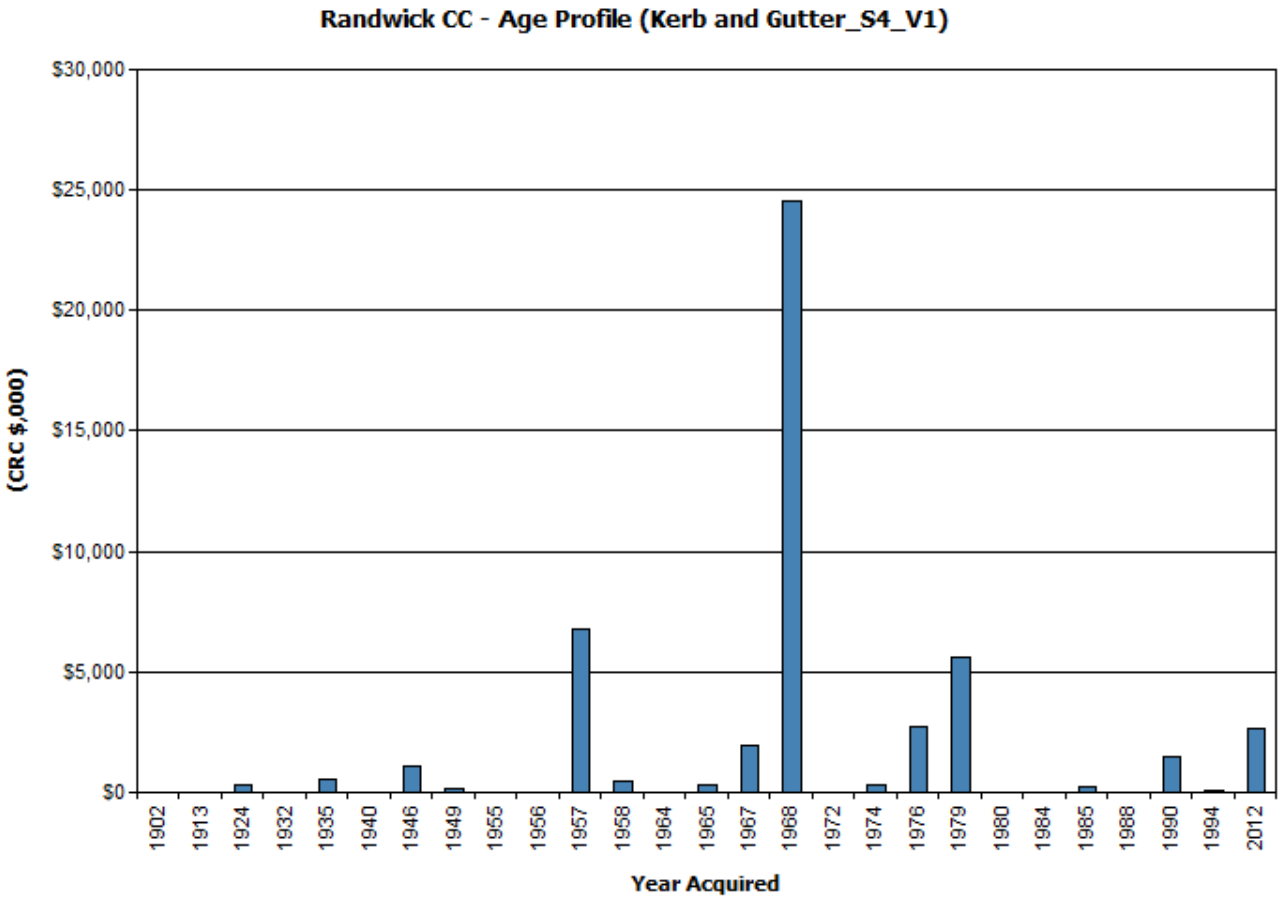
The assets covered by this asset management plan are shown below.

| | | |
|---|---|---|
| 150mm Integrated Kerb and Gutter | Kerb and gutter with 150mm high vertical faced kerb with a standard width gutter (usually 450mm). This is the standard kerb and gutter at Council | 235.85km |
| Dish Drain | Concrete dish drain crossing continues the flow of water across road intersections of along other section of roadway | 8.73km |
| No Kerb and Gutter | Segments of roadway where no kerb and gutter exists. Usually where road surface meets nature strip without any separation nor barrier | 47.74km |
| Other | Including grassed swales or vegetated channels the reduce stormwater runoff volumes through infiltration and improve stormwater quality. | 0.47km |
| Retained Edge | A 150mm wide concrete strip to provide edging to pavements | 21.36km |
| Roll Top | Kerb and Gutter which is 150mm high that has two rounded curves from the invert to the high point. This allows vehicles to easily drive over the kerb | 12.61km |
| Separate Kerb | Kerb with 150mm high vertical faced kerb only. | 14.52km |

Randwick City Council's kerb and gutter assets provide the edging for approximately 26.4 kilometres of Regional Road and 271.8 Kilometres of Local Road.

The age profile of Council's assets is shown below.

***Fig 2. Asset Age Profile***




The asset age profile shown is not indicative of the actual age of the assets. The year of construction/acquisition for kerb and gutter assets is not known to any degree of accuracy for most roads. The year of acquisition was therefore determined by considering the anticipated asset life and current condition on the lifecycle deterioration curve for that asset.

For example if an asset was assessed to be a condition 7 out of 10, based on a straight line depreciation graph it is assumed that 70% of the life of the asset has been consumed. If integrated kerb and gutter has an assumed useful life of 110 years then 77 years of its useful life has been consumed. To determine 'Year of Acquisition' the asset consumption age of 77 is subtracted from the current year, 2012, giving a year of acquisition of 1935.

5.1.2 Asset capacity and performance

Council's services are generally provided to meet design standards where these are available.

A detailed listing of all streets that require kerb and gutter is provided in Appendix A. This list shows that there is a total length of 48km of kerb and guttering that is required at a total cost of $11,747,842.76. The unit rate of $200/m was used to determine the total cost required to complete all work necessary for a kerb and guttering project. This rate includes the provision of a base, the kerb and gutter, and allowance for stormwater drainage, provision of laybacks and connections to existing vehicular crossings, adjacent road pavement alterations, erosion and sedimentation control, traffic control and minor utility alterations. Kerb and gutter replacement often includes changes to road levels, which may significantly increase the cost per linear meter of construction.

Council has a subdivision code, which requires the dedication of land from developing allotments to allow road widening and road construction to be carried out by Council at a later date. The streets listed in the subdivision code in no particular order include:

A. Ferguson Street, Maroubra – between Maroubra Road and Wise Street

B. Ferguson Street, Maroubra – between Wise Street and Fitzgerald Avenue

C. Glanfield Street, Maroubra – between Royal Street and Hannah Street

D. Green Street, Maroubra – between Cooper Street and Garden Street

E. Nevorie Crescent, Maroubra – between Royal Street and Hannan Street

F. Eastmore Place, Maroubra – between Bunnerong Road and Marjorie Crescent

The provision of kerb and gutter for the above streets is a very expensive activity. Kerb and guttering is generally carried out one block at a time. Most streets comprise two to four blocks and generally cost in the order of $350,000 per block to carry out kerb and guttering and road reconstruction.

The subdivision and dedication of land for road widening is incomplete for the majority roads listed above. Council has deferred the construction of the kerb and gutter until the subdivision and dedication of land is completed.

Council has taken Section 94 contributions for all above listed streets with many contributions being taken over the past twenty years. Work has been carried out to some sections of the above streets using section 94 funds.

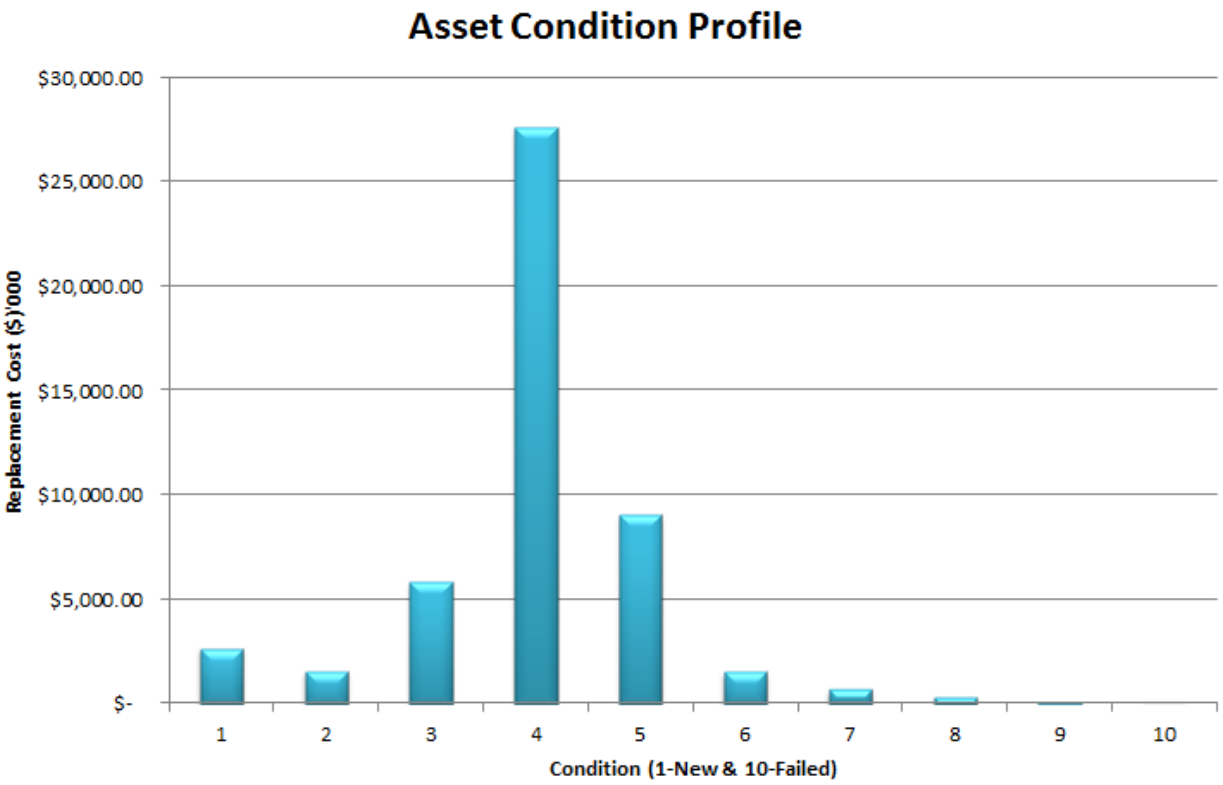
A detailed price listing of all streets that require substantial repair of kerb and gutter is provided in Appendix B.

A detail price listing of all streets that have isolated failed sections of kerb and gutter that require repair is provided in Appendix C. Generally, the listed street may have an isolated failure that may have arisen from tree root damage or builder's damage, whilst the condition of kerb and gutter in the rest of the street may be assessed as being in a reasonable standard. The list shows that a total length of 0.82km of kerb and guttering that requires repair at a total cost of $188,140.

### 5.1.3 Asset condition

The condition profile of Council's assets is shown below.

***Fig 3. Asset Condition Profile***




Condition is measured using a 1 – 10 rating system. The following condition ratings are used for a concrete kerb and gutter.

| Rating | Description of Condition |
|---|---|
| 1 - New | New |
| 2 - Excellent | Discolouration. |
| 3 - Very Good | Evident of small aggregates expose. Minor wear and tear evident on edges. |
| 4 - Good | Exposure of larger aggregates. Superficial cracking, exposure of some aggregates. Some wearing and tearing evident in joints. |
| 5 - Average | Hairline cracking developed. Cracking in joints. |
| 6 - Satisfactory | Displacement between blocks evident <10mm. |
| 7 - Unsatisfactory | Regular cracking of blocks in moderate sections, exposure of moderate number of aggregates, chipping of joints and broken edges. Displacement of <20mm between blocks. Rotation to 10mm between blocks. |
| 8 - Poor | Frequent cracking of blocks in short sections, exposure of significant number of aggregates surface crumbling evident. Displacement between broken blocks evident. Broken of blocks in short sections, moderate crumbling. Displacement and rotation up to 50mm between blocks or broken blocks. |
| 9 - Consider Reconstruction | Extensive damaged and deformations of kerb & gutter shape indicated by significant broken of blocks in short sections. Displacement and rotation more than 50mm between blocks or broken blocks. |
| 10 - Imminent Failure/Failed | Completely crushed or broken off. |

### 5.1.4 Asset valuations

The value of assets as at 30 June 2012 covered by this asset management plan is summarised below. Assets were last revalued in 2010-2011. Assets are valued at Brownfield rates.

| | |
|---|---|
| Current Replacement Cost | $50,052,000 |
| Depreciable Amount | $50,052,000 |
| Depreciated Replacement Cost | $18,142,000 |
| Annual Depreciation Expense | $451,000 |

Council's sustainability reporting reports the rate of annual asset consumption and compares this to asset renewal and asset upgrade and expansion.

| | |
|---|---|
| Asset Consumption | $451,000 |
| Asset renewal | $30,000 |
| Annual Upgrade/expansion | $170,000 |

## 5.2 Risk Management Plan

An assessment of risks associated with service delivery from infrastructure assets has identified critical risks to Council. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

Critical risks, being those assessed as 'Very High' - requiring immediate corrective action and 'High' – requiring prioritised corrective action identified in the infrastructure risk management plan are summarised in Table 5.2.

***Table 5.2. Critical Risks and Treatment Plans***

| Asset at Risk | What can Happen | Risk Rating (VH, H) | Risk Treatment Plan |
|---|---|---|---|
| All | Unreliable asset register results in audit qualification and loss of confidence in asset management plan | High | Asset data improvement programme as part of asset revaluation with compliance monitored by council audit committee. |

## 5.3 Routine Maintenance Plan

Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where portions of the asset fail and need immediate repair to make the asset operational again.

### 5.3.1 Maintenance plan

Maintenance includes reactive, planned and cyclic maintenance work activities.

Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions.

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

Cyclic maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including sweeping, etc. This work generally falls below the capital/maintenance threshold.

Maintenance expenditure trends are shown in Table 5.3.1

***Table 5.3.1. Maintenance Expenditure Trends***

| Year | Maintenance Expenditure | |
|---|---|---|
| | Reactive | Planned |
| 2009/10 | $ 52,767 | $ 211,069 |
| 2010/11 | $ 34,761 | $ 139,043 |
| 2011/12 | $ 42,824 | $ 171,297 |

Planned maintenance work is not identified separately to total maintenance expenditure.

Maintenance expenditure levels are considered to be adequate to meet required service levels. Future revision of this asset management plan will include linking required maintenance expenditures with required service levels.

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

5.3.2 Standards and specifications

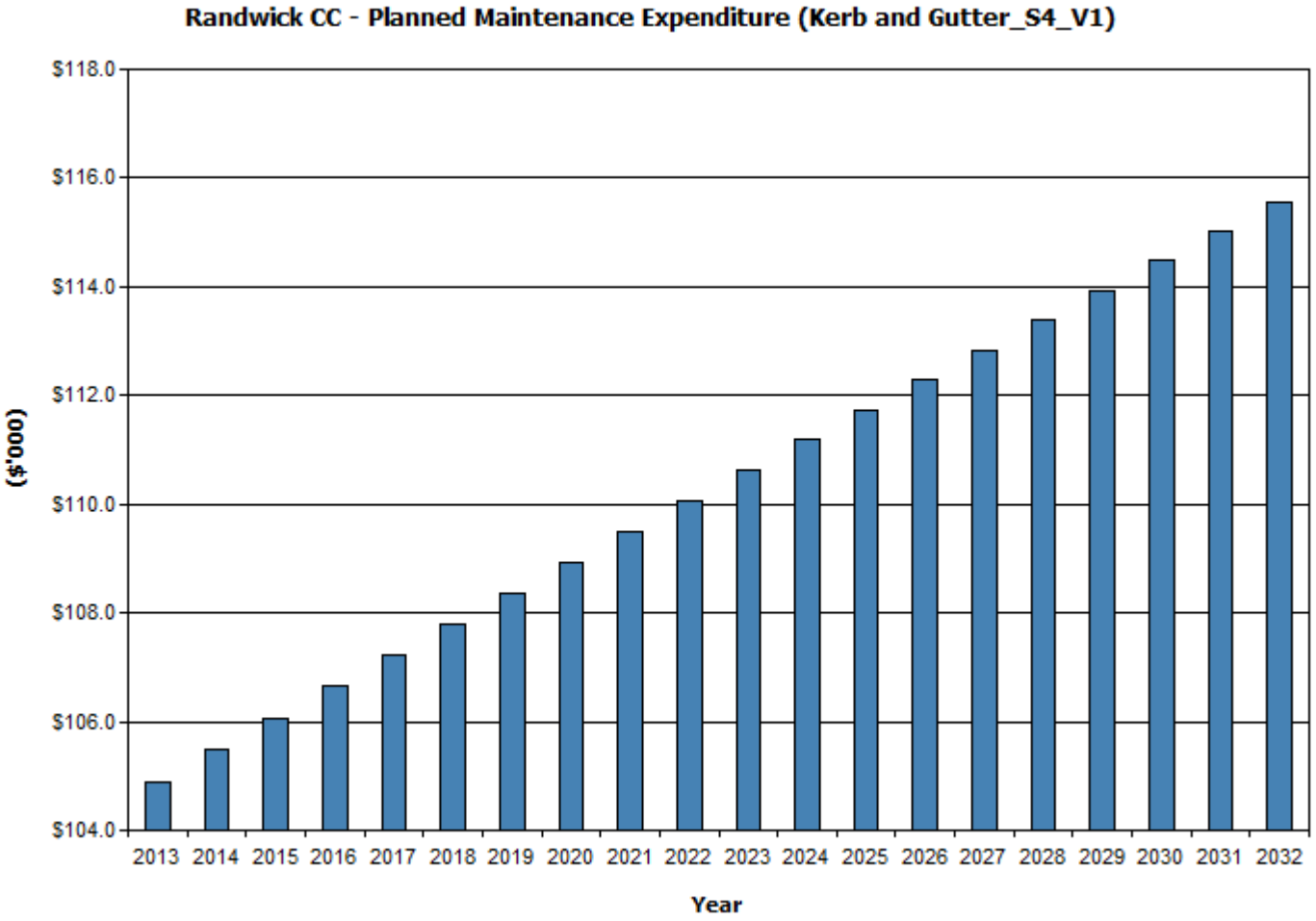
Maintenance work is carried out in accordance with the following Standards and Specifications.

- AUS-SPEC is a joint venture which has published a series of documentation sets which assist Councils in providing competitive services via internal and/or external contracts.
- AUS-SPEC #1 Development and Subdivision of Land and AUS-SPEC #2 Technical Specifications for Roadworks Contracts, provide a basis for design and construction specifications for the construction of new road assets, and the augmentation of existing road assets.
- Council's standard drawing SD2 – Standard Kerbs and Gutters

5.3.3 Summary of future maintenance expenditures

Future maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Fig 4. Note that all costs are shown in current 2012 dollar values.

***Fig 4. Planned Maintenance Expenditure***



Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded are to be included in the risk assessment process in the infrastructure risk management plan.

Maintenance is funded from Council's operating budget and grants where available. This is further discussed in Section 6.2.

## 5.4 Renewal/Replacement Plan

Renewal expenditure is major work which does not increase the asset's design capacity 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 upgrade/expansion or new works expenditure.

### 5.4.1 Renewal plan

Assets requiring renewal are identified from estimates of remaining life obtained from the asset register worksheets or by nomination by staff, the public or other sources. Candidate proposals are inspected to verify accuracy of remaining life estimate and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed in Table 5.4.1.

***Table 5.4.1 Renewal Priority Ranking Criteria***

| Criteria | Weighting |
|---|---|
| Community – Function | 30 |
| Community – Quality | 5 |
| Technical – Condition | 10 |
| Technical – Risk of Failure | 40 |
| Technical – Operating/Maintenance and lifecycle costs | 15 |
| Total | 100% |

Renewal will be undertaken using 'low-cost' renewal methods where practical. The aim of 'low-cost' renewals is to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than replacement cost.

Examples of low cost renewal include use of recycled aggregates in concrete.

### 5.4.2 Renewal standards

Renewal work is carried out in carried out in accordance with the following Standards and Specifications.

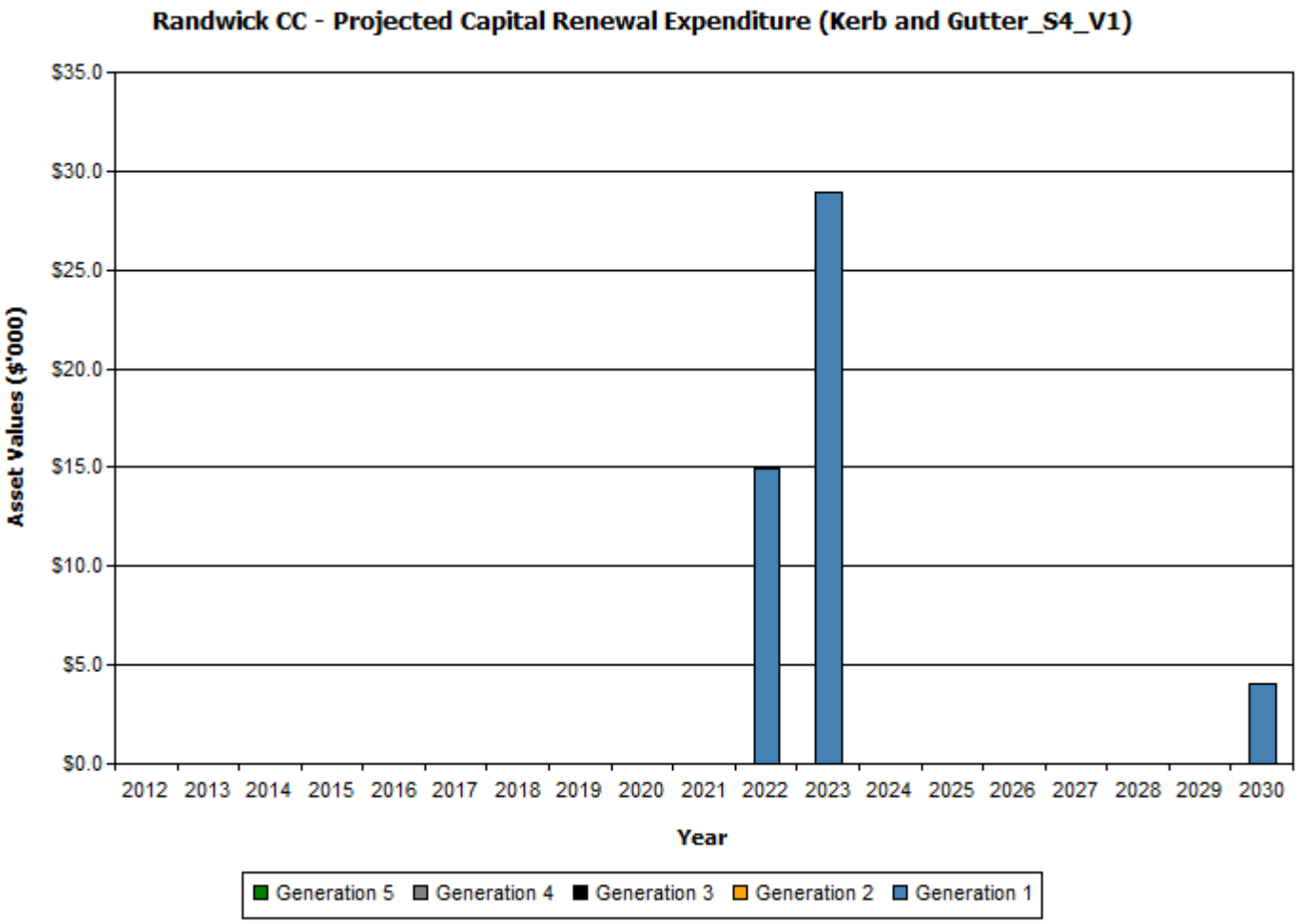
- AUS-SPEC is a joint venture which has published a series of documentation sets which assist Councils in providing competitive services via internal and/or external contracts.
- AUS-SPEC #1 Development and Subdivision of Land and AUS-SPEC #2 Technical Specifications for Roadworks Contracts, provide a basis for design and construction specifications for the construction of new road assets, and the augmentation of existing road assets.
- Council's standard specifications SD2 for Kerb and Gutter

### 5.4.3 Summary of future renewal expenditure

Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The costs are summarised in Fig 5. Note that all costs are shown in current 2012 dollar values.

The projected capital renewal program is shown in Appendix D.

***Fig 5. Projected Capital Renewal Expenditure***




Deferred renewal, i.e. those assets identified for renewal and not scheduled for renewal in capital works programs are to be included in the risk assessment process in the risk management plan.

Renewals are to be funded from Council's capital works program and grants where available. This is further discussed in Section 6.2.

## 5.5 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to the Council from land development. These assets from growth are considered in Section 4.4.

### 5.5.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as Councillor or community requests, proposals identified by strategic plans or partnerships with other organisations. Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed below.

***Table 5.5.1 New Assets Priority Ranking Criteria***

| Criteria | Weighting |
|---|---|
| Requirement to manage the flow of stormwater | 50% |
| Community Expectation | 15% |
| Lifecycle Costs | 25% |
| Community Benefits (Usage, Population, Future Development) | 10% |
| **Total** | **100%** |

### 5.5.2 Standards and specifications

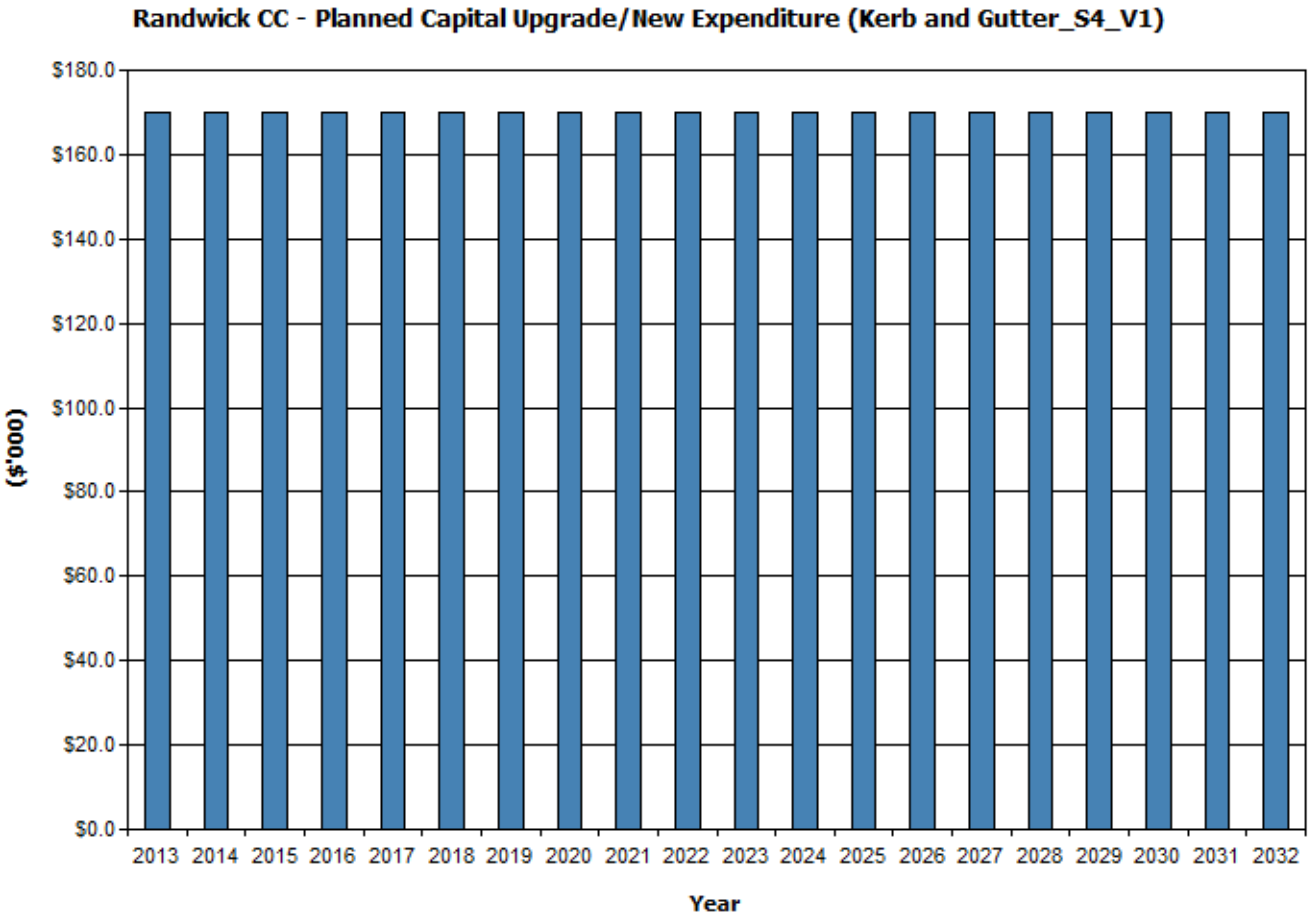
Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in Section 5.4.2.

### 5.5.3 Summary of future upgrade/new assets expenditure

Planned upgrade/new asset expenditures are summarised in Fig 6. The planned upgrade/new capital works program is shown in Appendix A. All costs are shown in current 2012 dollar values.

***Fig 6. Planned Capital Upgrade/New Asset Expenditure***

New assets and services are to be funded from Council's capital works program and grants where




available. This is further discussed in Section 6.2.

## 5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any.

***Table 5.6 Assets identified for Disposal***

| Asset | Reason for Disposal | Timing | Cashflow from disposal |
|---|---|---|---|
| There are no assets identified for disposal at the stage. | | | |

Where cash flow projections from asset disposals are not available, these will be developed in future revisions of this asset management plan.

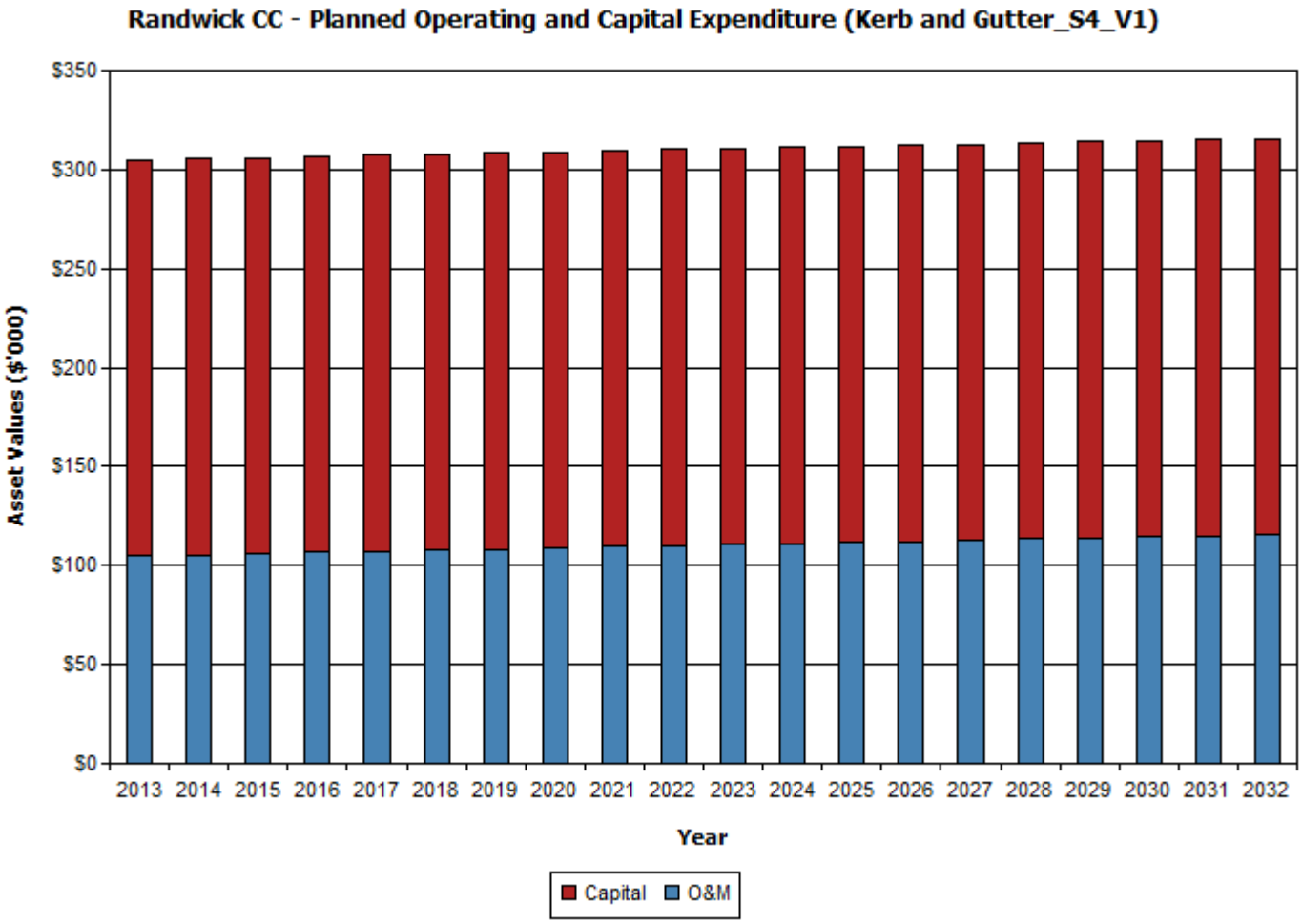
# 6. FINANCIAL SUMMARY

This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset performance.

## 6.1 Financial Statements and Projections

The financial projections are shown in Fig 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets).

***Fig 7. Planned Operating and Capital Expenditure***




Note that all costs are shown in current 2012 dollar values.

### 6.1.1 Sustainability of service delivery

There are two key indicators for financial sustainability that have been considered in the analysis of the services provided by this asset category, these being long term life cycle costs and medium term costs over the 10 year financial planning period.

Long term - Life Cycle Cost

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the longest asset life. Life cycle costs include maintenance and asset consumption (depreciation expense). The annual average life cycle cost for the services covered in this asset management plan is $112,700.

Life cycle costs can be compared to life cycle expenditure to give an indicator of sustainability in service provision. Life cycle expenditure includes maintenance plus capital renewal expenditure. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure at the start of the plan is $134,900.

A gap between life cycle costs and life cycle expenditure gives an indication as to whether present consumers are paying their share of the assets they are consuming each year. The purpose of this Kerb and Gutter asset management plan is to identify levels of service that the community needs and can afford and develop the necessary long term financial plans to provide the service in a sustainable manner.

The life cycle gap for services covered by this asset management plan is $16,570 per annum. The life cycle sustainability index is 1.13.

Medium term – 10 year financial planning period

This asset management plan identifies the estimated maintenance and capital expenditures required to provide an agreed level of service to the community over a 20 year period for input into a 10 year financial plan and funding plan to provide the service in a sustainable manner.

This may be compared to existing or planned expenditures in the 20 year period to identify any gap. In a core asset management plan, a gap is generally due to increasing asset renewals.

Fig 8 shows the projected asset renewals in the 20 year planning period from the asset register. The projected asset renewals are compared to planned renewal expenditure in the capital works program and capital renewal expenditure in year 1 of the planning period as shown in Fig 8. Table 6.1.1 shows the annual and cumulative funding gap between projected and planned renewals.

***Fig 8. Projected and Planned Renewals and Current Renewal Expenditure***

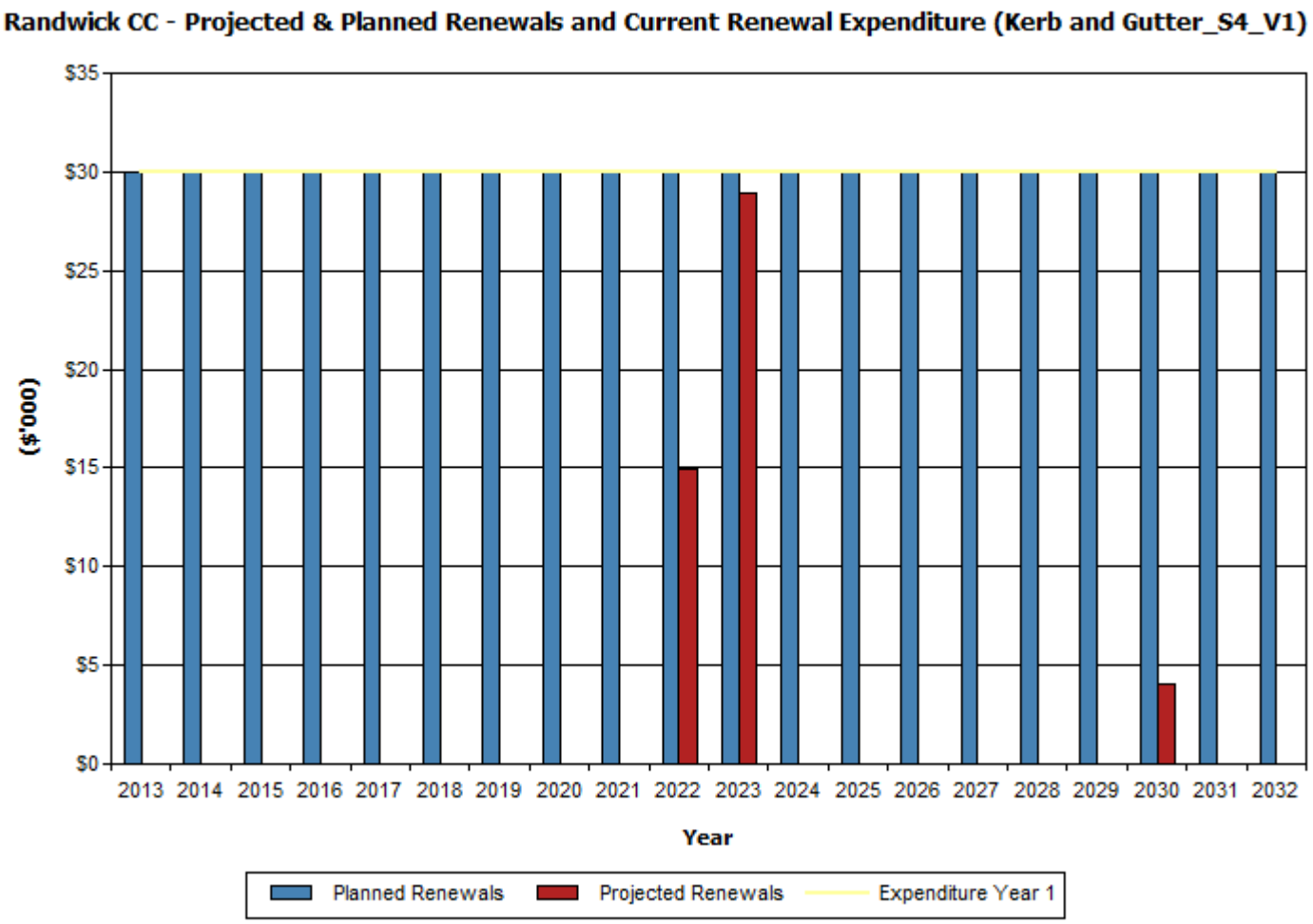



Table 6.1.1 shows the gap between projected and planned renewals.

***Table 6.1.1 Projected and Planned Renewals and Expenditure Gap***

| Year End Jun-30 | Total Operations Expenditure ($'000) | Total Maintenance Expenditure ($'000) | Projected Capital Renewal Expenditure ($'000) | Planned Capital Upgrade/New Expenditure ($'000) | Planned Disposals ($'000) | Planned Capital Renewal Expenditure ($'000) | Shortfall/Surplus in Renewal Expenditure (Projected-Planned) ($'000) | Cumulative Renewal Funding Shortfall ($'000) |
|---|---|---|---|---|---|---|---|---|
| 2013 | $0.00 | $104.90 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$30.00 |
| 2014 | $0.00 | $105.49 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$60.00 |
| 2015 | $0.00 | $106.07 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$90.00 |
| 2016 | $0.00 | $106.65 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$120.00 |
| 2017 | $0.00 | $107.22 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$150.00 |
| 2018 | $0.00 | $107.79 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$180.00 |
| 2019 | $0.00 | $108.36 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$210.00 |
| 2020 | $0.00 | $108.93 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$240.00 |
| 2021 | $0.00 | $109.50 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$270.00 |
| 2022 | $0.00 | $110.06 | $14.94 | $170.00 | $0.00 | $30.00 | -$15.06 | -$285.06 |
| 2023 | $0.00 | $110.62 | $28.97 | $170.00 | $0.00 | $30.00 | -$1.03 | -$286.09 |
| 2024 | $0.00 | $111.18 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$316.09 |
| 2025 | $0.00 | $111.73 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$346.09 |
| 2026 | $0.00 | $112.29 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$376.09 |
| 2027 | $0.00 | $112.84 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$406.09 |
| 2028 | $0.00 | $113.39 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$436.09 |
| 2029 | $0.00 | $113.93 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$466.09 |
| 2030 | $0.00 | $114.48 | $4.08 | $170.00 | $0.00 | $30.00 | -$25.92 | -$492.01 |
| 2031 | $0.00 | $115.02 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$522.01 |
| 2032 | $0.00 | $115.56 | $0.00 | $170.00 | $0.00 | $30.00 | -$30.00 | -$552.01 |

Please note in column 8, “Shortfall/Surplus,” a negative value indicates a surplus and a positive value indicates a shortfall.

Providing services in a sustainable manner will require matching of projected asset renewals to meet agreed service levels with planned capital works programs and available revenue.

A gap between projected asset renewals, planned asset renewals and funding indicates that further work is required to manage required service levels and funding to eliminate any funding gap.

Council will manage the 'gap' by developing this asset management plan to provide guidance on future service levels and resources required to provide these services.

Council's long term financial plan covers the whole 20 year planning period. The total maintenance and capital renewal expenditure required over the 10 years is $1,374,970.

This is an average expenditure of $137,497. Estimated maintenance and capital renewal expenditure in year 1 is $134,900. The 10 year sustainability index is 1.15.

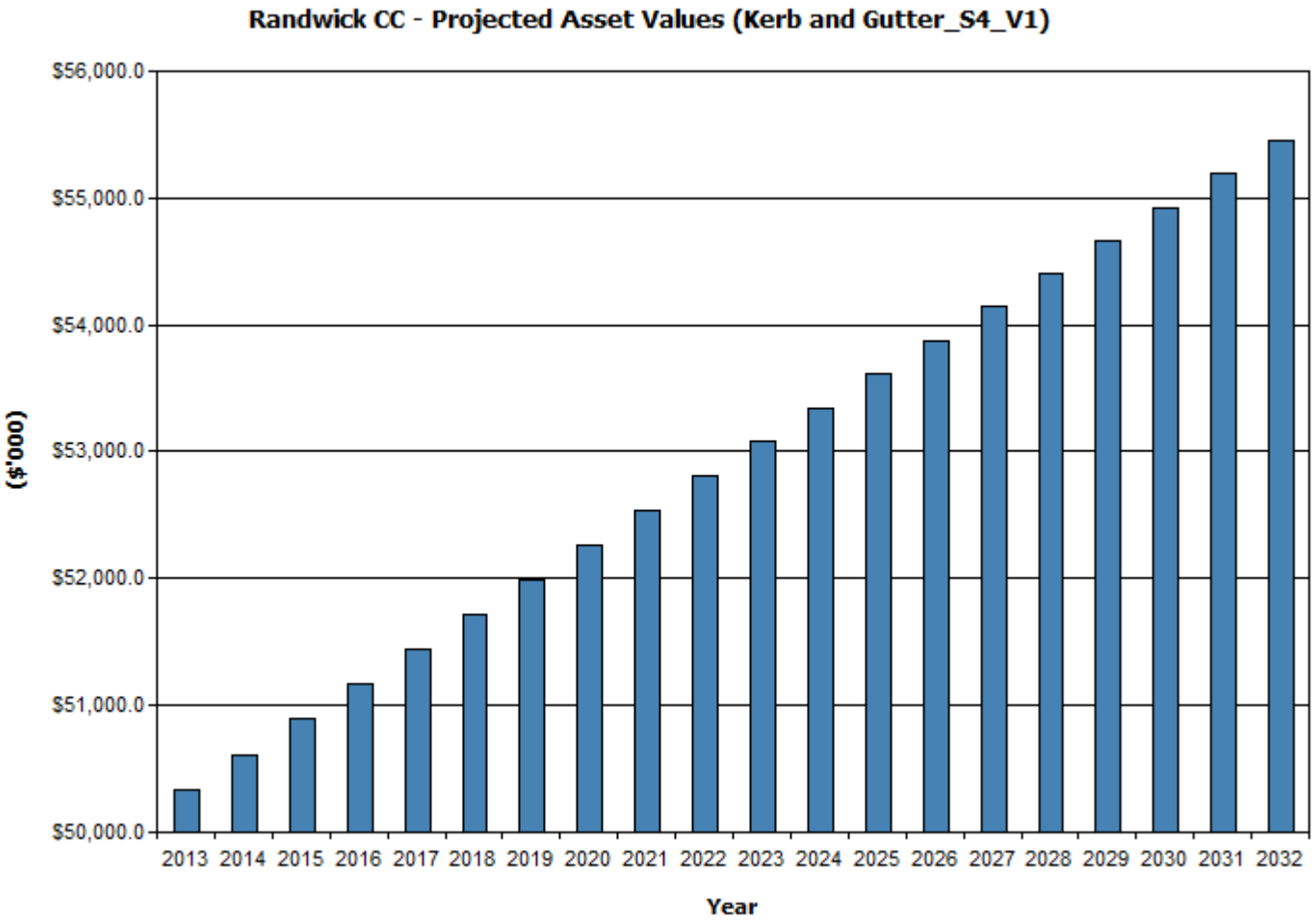
## 6.2 Funding Strategy

Projected expenditure identified in Section 6.1 is to be funded from Council's operating and capital budgets. The funding strategy is detailed in the Council's 10 year long term financial plan.

## 6.3 Valuation Forecasts

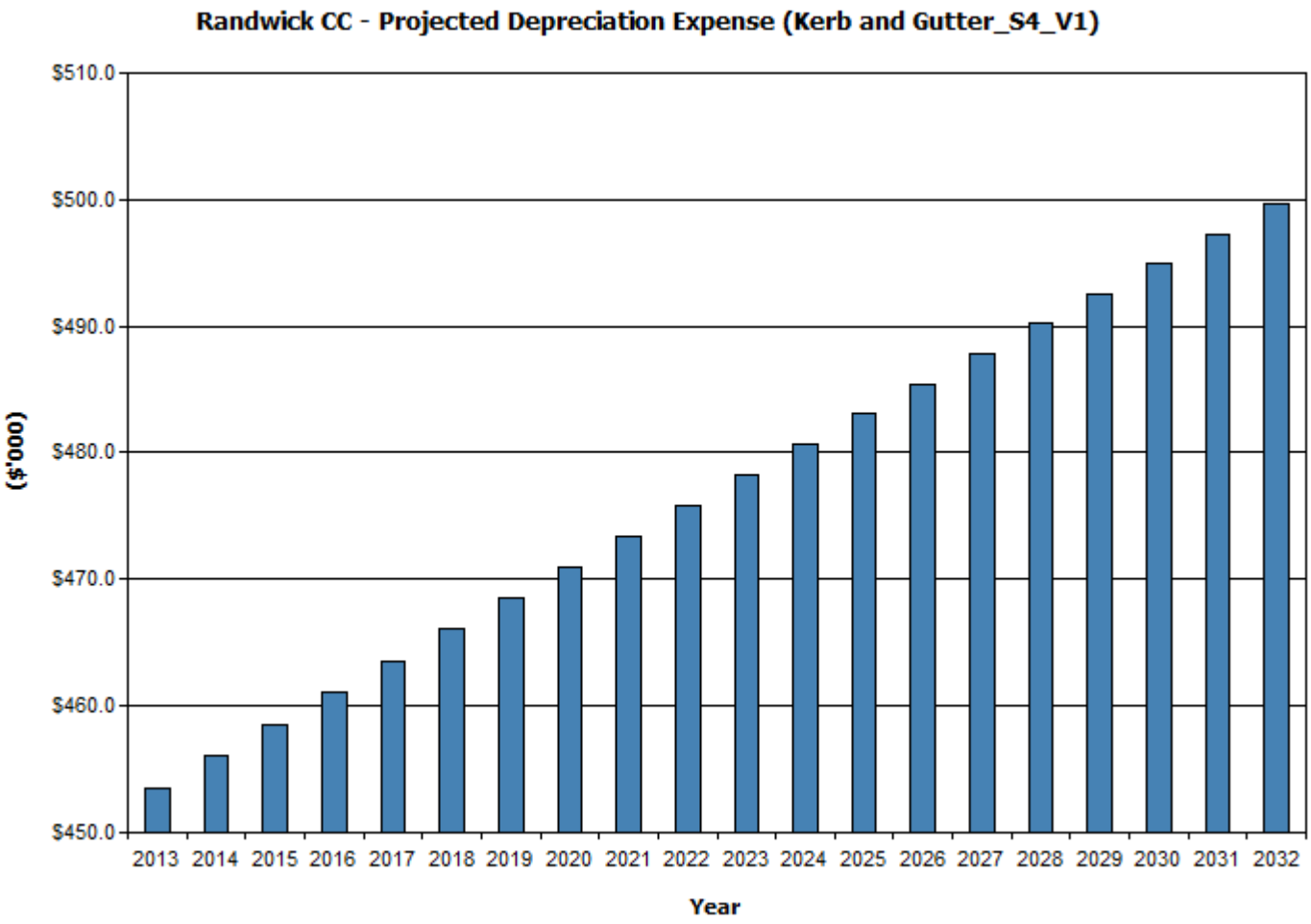
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Fig 9 shows the projected replacement cost asset values over the planning period in current 2012 dollar values.

***Fig 9. Projected Asset Values***



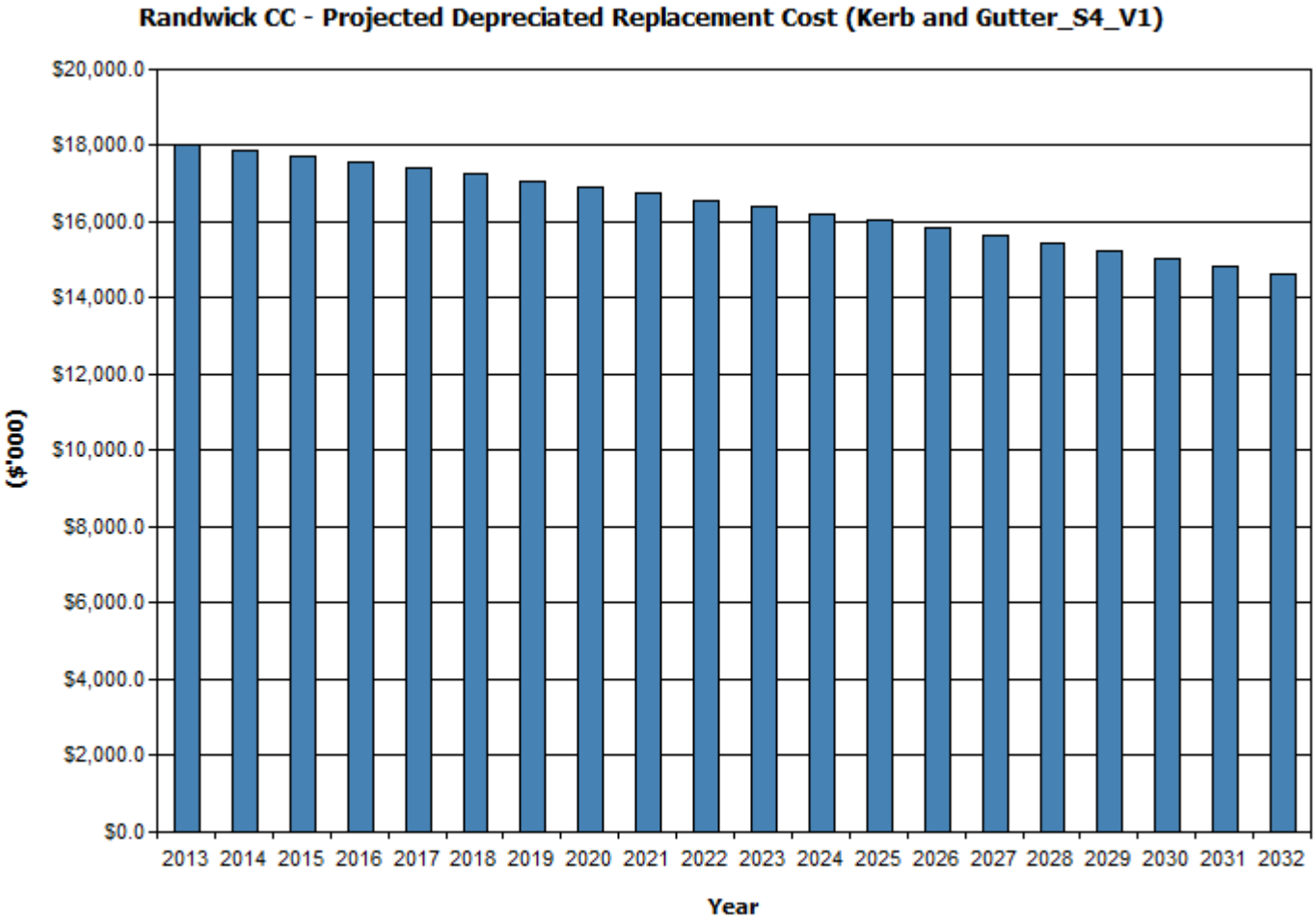
Depreciation expense values are forecast in line with asset values as shown in Fig 10.

***Fig 10. Projected Depreciation Expense***




The depreciated replacement cost (current replacement cost less accumulated depreciation) will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets' depreciated replacement cost is shown in Fig 11.

***Fig 11. Projected Depreciated Replacement Cost***




## 6.4 Key Assumptions made in Financial Forecasts

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

Key assumptions made in this asset management plan are:

- The estimates used for current rates of renewal and maintenance will remain constant at current 2012 values for the next 20 years.

Accuracy of future financial forecasts may be improved in future revisions of this asset management plan by the following actions.

- Complete an asset revaluation in accordance with Australian Infrastructure Financial Management Guidelines with a review of asset inventory, condition, useful life, remaining life, unit rates, and residual values.
- Run modelling scenarios for different service level outcomes.
- Review expenditure options for maintenance and renewal combinations to reduce overall lifecycle cost without increasing tax.
- Continued condition assessment and update of asset registers.

# 7. ASSET MANAGEMENT PRACTICES

## 7.1 Accounting/Financial Systems

Primary issues in the accounting of infrastructure assets relate to valuation and the change in service potential associated with depreciation and renewals.

These issues have been discussed previously, but financial systems must have the capacity to provide the required statutory and regulatory reporting requirements.

The Local Government Act 1993 requires Council to prepare an annual report as to its achievements with respect to the objectives and performance targets set out in its management plan for that year.

This report provides Council's audited financial statements including the condition of public works under the control of the council as at the end of that year, together with:

A. An estimate (at current values) of the amount of money required to bring the works up to a satisfactory standard, and

B. An estimate (at current values) of the annual expense of maintaining the works at that standard, and

C. The council's program of maintenance for that year in respect of the works.

Australian Accounting Standard AASB116 is applicable to financial reporting by local governments, and provides guidelines for accounting methods and procedures.

In 2010 Council implemented a new financial system, Finance One by Technology One. This system contains a Works and Assets Module in which works orders or tasks can be raised and costing's tracked against a particular asset. Scheduled maintenance work orders are raised through the module which can be directly related to any asset for instance, Kerb and Gutter.

## 7.2 Asset Management Systems

Early this year Council received access to our Strategic Asset Management Software Package, SAM. This system includes an asset register, asset definitions, modelling capabilities and planned work reports.

*"Recently, this has been recognized by the introduction of legislative requirements and state based Asset Management Programs, to support infrastructure managers, such as Local Government Authorities, to forecast and plan for their future asset management funding needs.*

*Strategic Asset Management (SAM) allows organizations to address both these issues by systematically and optimally manage physical assets and their associated performance, risks and expenditure over the assets lifecycle to achieve specified organizational and community service levels."*[2]

Trial data has been prepared for downloading into SAM and Council asset staff are currently awaiting confirmation on software support arrangements to allow data trialling.

Other systems include;

- Revaluation spreadsheets,
- GIS (ESRI ArcGIS) tables

[2] http://assetlifecycle.com.au/wp-content/uploads/Brochure-SAM-v2.7.pdf

- Eview

## 7.3 Information Flow Requirements and Processes

The key information flows *into* this asset management plan are:

- The asset register data on size, age, value, remaining life of the network;
- The unit rates for categories of work/material;
- The adopted service levels;
- Projections of various factors affecting future demand for services;
- Correlations between maintenance and renewal, including decay models;
- Data on new assets acquired by council.

The key information flows *from* this asset management plan are:

- The assumed Works Program and trends;
- The resulting budget, valuation and depreciation projections;
- The useful life analysis.

These will impact the Long Term Financial Plan, Strategic Business Plan, annual budget and departmental business plans and budgets.

## 7.4 Standards and Guidelines

- Australian Infrastructure Financial Management Guidelines 2009, IPWEA Version 1
- International Infrastructure Management Manual 2011, IPWEA
- AASB116 Australian Accounting Standard - Infrastructure, plant, property, and equipment
- DLG - Code of Accounting and Reporting Practice
- DLG - Integrated Planning Guidelines
- AUS-SPEC - a joint venture which has published a series of documentation sets which assist Councils

# 8. PLAN IMPROVEMENT AND MONITORING

## 8.1 Performance Measures

The effectiveness of the asset management plan can be measured in the following ways:

- The degree to which the required cashflows identified in this asset management plan are incorporated into council's long term financial plan and Strategic Management Plan;
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the asset management plan;

## 8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 8.2.

***Table 8.2 Improvement Plan***

| Task No | Task | Responsibility | Resources Required | Timeline |
|---|---|---|---|---|
| 1. | Conduct kerb and gutter revaluation 2012-2013 | Engineering Services | Asset Engineer | 2012/13 |
| 2. | Insert kerb and gutter data into SAM | Engineering Services | Asset Engineer | By 2014/15 |
| 3. | Review and improvement of maintenance practices | Engineering Services | Asset Engineer | Ongoing |
| 4. | Implement Asset Capitalisation and Accounting Policy in line with AIFMG to keep asset register up to date and current with financial capitalisation | Finance and Administration | Finance and Administration | Ongoing |

## 8.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget preparation and amended to recognise any changes in service levels and/or resources available to provide those services as a result of the budget decision process.

The Plan has a life of 4 years with 20 year rolling forecasts and is due for revision and updating within 2 years of each Council election.

# REFERENCES

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# APPENDICES

Appendix A Suburbs that Require Kerb and Gutter

Appendix B Streets that Require Substantial Kerb and Gutter Repair

Appendix C Isolated Failed Sections of Kerb and Gutter

Appendix D Population Projection Details

Appendix E Kerb and Gutter Sustainability Ratios

Appendix F Service Cost Long Term Financial Plan

Appendix A Suburbs that Require Kerb and Gutter

| Suburb | Length (m) | Rate (/m) | Calculated Cost | Cost with 15% Contingency |
|---|---|---|---|---|
| Chifley | 1030.32 | $200.00 | $206,064.54 | $236,974.22 |
| Clovelly | 2337.82 | $200.00 | $707,395.52 | $813,504.85 |
| Coogee | 2200.04 | $200.00 | $440,007.78 | $506,008.95 |
| Kensington | 1277.61 | $200.00 | $255,522.23 | $293,850.56 |
| Kingsford | 5703.84 | $200.00 | $1,252,715.73 | $1,440,623.09 |
| La Perouse | 2758.95 | $200.00 | $551,790.82 | $634,559.45 |
| Little Bay | 5844.73 | $200.00 | $1,168,946.74 | $1,344,288.76 |
| Malabar | 1968.54 | $200.00 | $393,707.74 | $452,763.90 |
| Maroubra | 8407.83 | $200.00 | $1,681,565.50 | $1,933,800.33 |
| Matraville | 1353.96 | $200.00 | $270,792.12 | $311,410.93 |
| Randwick | 11718.47 | $200.00 | $2,343,694.09 | $2,695,248.20 |
| South Coogee | 3752.01 | $200.00 | $750,402.07 | $862,962.38 |
| | | **Totals** | **$10,022,604.88** | **$11,525,995.61** |

Appendix B Streets that Require Substantial Kerb and Gutter Repair

| Street | From | To | Length (m) | Cost | Cost with 15% Contingency |
|---|---|---|---|---|---|
| Abbotford Ln | 34 Abbotford Ln West | 38 Abbotford Ln West | 14.16 | $2,831.58 | $3,256.32 |
| Abbotford Ln | Abbotford Ln East | Abbotford Ln East | 47.93 | $9,585.64 | $11,023.49 |
| Abbott St | Mount St | Melody St | 209.83 | $41,966.36 | $48,261.31 |
| Addison St | Villiers St | 28 Addison St | 43.30 | $8,659.57 | $9,958.51 |
| Albert St | Pitt St | Llanfoyst St | 75.18 | $15,035.13 | $17,290.39 |
| Alison Rd | The Avenue | The Avenue | 8.96 | $1,791.13 | $2,059.80 |
| Alison Rd | Wansey Rd | Doncaster Ave | 14.59 | $2,918.40 | $3,356.16 |
| Anzac Pde | Anzac Pde | Pozieres Ave | 99.31 | $19,861.43 | $22,840.64 |
| Anzac Pde | Darling St | Doncaster Ave | 58.32 | $11,664.21 | $13,413.84 |
| Arden St | Arcadia St | Bream St | 132.21 | $26,441.76 | $30,408.02 |
| Baker St | Propnum 35 | Milroy Ave | 243.99 | $48,797.60 | $56,117.24 |
| Baker St | Milroy Ave | Todman Ave | 97.47 | $19,494.76 | $22,418.98 |
| Barker St | Willis Ln | Willis Ln | 4.41 | $881.85 | $1,014.13 |
| Barker St | Willis Ln | Willis St | 57.66 | $11,531.92 | $13,261.71 |
| Barker St | 4 Barker St | Houston Ln | 22.36 | $4,472.90 | $5,143.83 |
| Barker St | Cottenham Ave | Mooramie Ave | 89.75 | $17,949.13 | $20,641.50 |
| Beach St | Arcadia St | Alison Rd | 112.38 | $22,475.22 | $25,846.50 |
| Beach St | Arcadia St | Moore St | 85.22 | $17,043.74 | $19,600.31 |
| Boronia St | 45 Boronia St | 33 Boronia St | 58.56 | $11,712.62 | $13,469.51 |
| Boronia St | 63 Boronia St | 47 Boronia St | 105.67 | $21,134.14 | $24,304.26 |
| Boundary St | Pacific Ln | Pacific Ln | 6.44 | $1,287.78 | $1,480.95 |
| Byron St | Carr St | Coogee Bay Rd | 105.72 | $21,144.70 | $24,316.41 |
| Cairo St (West Side ) | Garnet St | The End | 56.07 | $11,213.08 | $12,895.05 |
| Carrington Rd | Ravenswood Ln | Ravenswood Ln | 5.80 | $1,160.87 | $1,335.00 |
| Charman Ave | Width Change | Percival St | 144.18 | $28,836.34 | $33,161.79 |
| Charman Ave | Width Change | Percival St | 151.10 | $30,220.50 | $34,753.58 |
| Chatham St | Chatham St | Chatham St | 44.83 | $8,966.78 | $10,311.80 |
| Clift Ln | Knox St | Fewings St | 82.82 | $16,563.33 | $19,047.83 |
| Cooper St | Alma Rd | Boyce Rd | 73.08 | $14,616.46 | $16,808.93 |
| Cooper St | Alma Rd | Boyce Rd | 76.98 | $15,395.96 | $17,705.36 |
| Cowper St | Randwick St | Hodgson St | 146.97 | $29,393.40 | $33,802.41 |
| Dans Ave | Arden St | Clovelly Rd | 255.10 | $51,019.22 | $58,672.10 |
| Darling Ln | Darling St | 159 Darling Ln | 72.87 | $14,573.89 | $16,759.98 |
| Day Ave | Houston Ln | Anzac Pde | 41.32 | $8,263.17 | $9,502.65 |
| Dick St | Carrington Rd | Dick St | 11.27 | $2,253.99 | $2,592.08 |
| Dick St | 14 Dick St | Glebe St | 94.68 | $18,936.17 | $21,776.60 |
| Division St | Brook St | Mount St | 186.67 | $37,333.60 | $42,933.64 |
| Dolphin St | St Luke St | Judge St | 183.25 | $36,649.80 | $42,147.27 |
| Dolphin St | Mount Ln | Mount Ln | 6.68 | $1,336.15 | $1,536.58 |
| Don Juan Ave | Mears Ave | The End | 125.53 | $25,105.98 | $28,871.88 |
| Doncaster Ave | Anzac Pde | Darling St | 41.19 | $8,237.28 | $9,472.88 |
| Doncaster Ave | Anzac Pde | Darling St | 28.64 | $5,727.41 | $6,586.53 |
| Doncaster Ave | Anzac Pde | Darling St | 47.83 | $9,566.80 | $11,001.82 |
| Douglas St | Raby Ln | Raby Ln | 7.14 | $1,427.87 | $1,642.05 |
| Duke St | Todman Ave | Balfour Rd | 121.44 | $24,288.40 | $27,931.66 |
| Duke St | Balfour Rd | Kensington Rd | 99.51 | $19,901.05 | $22,886.21 |
| Duke St | 42 Duke St | Kensington Rd | 23.71 | $4,741.43 | $5,452.64 |
| Dutruc St | Rae St | Chapel St | 249.62 | $49,923.70 | $57,412.26 |
| Earl St | Clove Ln | Clove Ln | 5.07 | $1,014.50 | $1,166.67 |
| Eastern Ave | Day Ave | Tresidder Ave | 544.06 | $108,811.42 | $125,133.13 |

| Street | From | To | Length (m) | Cost | Cost with 15% Contingency |
|---|---|---|---|---|---|
| Fern St | Douglas St | Fern St | 183.95 | $36,789.88 | $42,308.36 |
| Fishermans Rd | Parking Bay | Parking Bay | 76.21 | $15,241.37 | $17,527.58 |
| Frances St | The Avenue | Avoca St | 181.53 | $36,305.66 | $41,751.51 |
| Frances St | The Avenue | 30 Frances St | 80.10 | $16,019.82 | $18,422.80 |
| Garden St | Green St | Green St | 5.95 | $1,190.10 | $1,368.61 |
| Gardeners Rd | Court Ave | Court Ave | 9.02 | $1,803.40 | $2,073.91 |
| Garnet St | Rainbow St | Cairo St | 136.65 | $27,329.06 | $31,428.42 |
| Glebe St | Dick St | Carrington Rd | 75.62 | $15,123.14 | $17,391.61 |
| Goodrich Ave | Tunstall Ave | Shaw Ave | 79.85 | $15,970.25 | $18,365.79 |
| Goodrich Ave | Tunstall Ave | Shaw Ave | 46.37 | $9,273.69 | $10,664.75 |
| Greenstead Ln | Alison Rd | The End | 119.67 | $23,934.18 | $27,524.31 |
| Hannan St | Runic Ln | Runic Ln | 7.48 | $1,495.73 | $1,720.09 |
| Hardiman Ave | St Pauls St | The End | 86.43 | $17,286.70 | $19,879.70 |
| Howard St | Rainbow Ln | Rainbow Ln | 5.83 | $1,165.30 | $1,340.10 |
| Inglethorpe Ave | Tedwin Ave | The End | 88.70 | $17,739.54 | $20,400.48 |
| Inglethorpe Ave | Tedwin Ave | The End | 93.82 | $18,763.09 | $21,577.55 |
| Inglethorpe Ave | Day Ave | Tedwin Ave | 98.58 | $19,716.86 | $22,674.39 |
| Kara St | Avoca Ln | Barker St | 59.43 | $11,886.32 | $13,669.27 |
| Leeton Ave | The End | Alison Rd | 108.01 | $21,601.26 | $24,841.45 |
| Leeton Ave | The End | Alison Rd | 108.13 | $21,626.02 | $24,869.92 |
| Marcel Ave | Carrington Rd | Mount St | 273.56 | $54,712.36 | $62,919.21 |
| Marjorie Cres | The End | Eastmore Pl | 61.73 | $12,346.41 | $14,198.37 |
| Marjorie Cres | Eastmore Pl | Eastmore Pl | 8.24 | $1,647.84 | $1,895.01 |
| Marjorie Cres | Eastmore Pl | Storey St | 87.26 | $17,451.01 | $20,068.66 |
| Marjorie Cres | Eastmore Pl | Storey St | 83.71 | $16,741.77 | $19,253.03 |
| Marjorie Cres | The End | Eastmore Pl | 65.98 | $13,196.23 | $15,175.66 |
| Maroubra Rd | Maroubra Rd | Malabar Rd | 159.22 | $31,843.16 | $36,619.63 |
| Maroubra Rd | The Causeway | Maroubra Rd | 111.55 | $22,310.96 | $25,657.60 |
| Maroubra Rd | Cooper St | Maroubra Rd | 110.29 | $22,058.60 | $25,367.39 |
| Maroubra Rd | Maroubra Rd | Garden St | 89.13 | $17,825.05 | $20,498.81 |
| Maroubra Rd | Flower St | Cooper St | 262.40 | $52,480.30 | $60,352.35 |
| Mcdougall St | Lenthall St | The End | 68.01 | $13,602.15 | $15,642.47 |
| Melody St | Powell Ln | Brighton Rd | 104.41 | $20,881.02 | $24,013.17 |
| Middle Ln | 470 Middle Ln | 450 Middle Ln | 27.62 | $5,524.35 | $6,353.01 |
| Middle St | Botany Ln | Botany Ln | 5.44 | $1,088.75 | $1,252.06 |
| Moorina Ave | Partanna Av | Bunnerong Rd | 196.00 | $39,200.00 | $45,080.00 |
| Moorina Ave | Partanna Av | Bunnerong Rd | 196.00 | $39,200.00 | $45,080.00 |
| Mount St | 12 Mount St | Moira Cres | 145.12 | $29,023.66 | $33,377.21 |
| Mount St | 15 Mount St | Marcel Ave | 105.82 | $21,163.52 | $24,338.05 |
| Norton St | Kennedy Ln | Willis St | 62.28 | $12,455.67 | $14,324.02 |
| Oberon St | Rainbow Ln | Rainbow Ln | 4.46 | $892.36 | $1,026.22 |
| Oberon St | Rainbow Ln | Canberra Ln | 290.00 | $58,000.98 | $66,701.13 |
| Pacific St | Winchester Ln | The End | 73.48 | $14,695.73 | $16,900.08 |
| Pacific St | Winchester Ln | Winchester Ln | 6.34 | $1,267.48 | $1,457.60 |
| Pauling Ave | Ritchard Ave | Alison Rd | 326.52 | $65,304.44 | $75,100.11 |
| Pauling Ave | Ritchard Ave | Alison Rd | 335.51 | $67,101.18 | $77,166.36 |
| Powell St | Dolphin St | Powell Ln | 156.48 | $31,295.72 | $35,990.08 |
| Prince St | 29 Prince St | Frances St | 50.07 | $10,014.04 | $11,516.15 |
| Rae St | Wood St | Wood St | 12.00 | $2,399.72 | $2,759.67 |
| Rainbow St | Marian St | Brook St | 276.07 | $55,213.88 | $63,495.96 |
| Rainbow St | Rainbow St | Arden St | 79.57 | $15,914.62 | $18,301.82 |
| Ritchard Ave | Mount St | Pauling Ave | 327.47 | $65,494.34 | $75,318.49 |

| Street | From | To | Length (m) | Cost | Cost with 15% Contingency |
|---|---|---|---|---|---|
| Ritchard Ave | Mount St | Pauling Ave | 335.21 | $67,041.28 | $77,097.47 |
| Sackville St | Bellevue St | Bona Vista Ave | 89.49 | $17,898.59 | $20,583.38 |
| St Luke St | Queen St | Chatham St | 78.38 | $15,676.96 | $18,028.51 |
| St Marks Rd | 91 St Marks Rd | Alison Rd | 133.30 | $26,659.82 | $30,658.79 |
| St Marks Rd | Rae St | Chapel St | 226.85 | $45,370.52 | $52,176.10 |
| St Marks Rd | 59 St Marks Rd | 53 St Marks Rd | 30.39 | $6,077.60 | $6,989.24 |
| Tedwin Ave | Inglethorpe Ave | Tunstall Ave | 97.89 | $19,578.69 | $22,515.50 |
| Varna St | Fern St | Douglas St | 229.92 | $45,984.36 | $52,882.01 |
| Varna St | Fern St | Douglas St | 28.38 | $5,675.36 | $6,526.67 |
| Wallace St | Width Change | 7 Wallace St | 170.44 | $34,088.72 | $39,202.03 |
| Wood Ln | Rae St | Wood Ln | 56.21 | $11,241.64 | $12,927.89 |
| Wood Ln | Wood Ln | The End | 35.98 | $7,196.70 | $8,276.21 |
| Wood Ln | Rae St | 46 Wood Ln | 57.02 | $11,404.41 | $13,115.08 |
| Wood St | Wood Ln | Eulalie Ave | 49.20 | $9,839.50 | $11,315.42 |
| Woodland St | Brook St | The End | 101.89 | $20,377.78 | $23,434.45 |
| | | | **Totals** | **$2,430,881** | **$2,795,513** |

Appendix C Isolated Failed Sections of Kerb and Gutter

| Street | From | To | Rep Length (m) | Calculated Cost | Cost with 15% Contingency |
|---|---|---|---|---|---|
| Abbotford Ln | Abbotford Ln East | Abbotford Ln East | 2 | $400.00 | $460.00 |
| Abbotford Ln | 7 Abbotford Ln_ East | 9 Abbotford Ln East | 3 | $600.00 | $690.00 |
| Abbotford St | Carlton Ln | Doncaster Ave | 5 | $1,000.00 | $1,150.00 |
| Abbotford St | Anzac Pde | Abbotford St | 3 | $600.00 | $690.00 |
| Abbott St | Mount St | 8 Abbott St | 3 | $600.00 | $690.00 |
| Ahearn Ave | Alexandria Pde | The End | 2 | $400.00 | $460.00 |
| Ahearn Ave | Alexandria Pde | The End | 2 | $400.00 | $460.00 |
| Alison Ln | Arcadia Ln | The End | 13 | $2,600.00 | $2,990.00 |
| Alison Ln | Arcadia Ln | The End | 11 | $2,200.00 | $2,530.00 |
| Alison Rd | St Marks Rd | Pitt St | 10 | $2,000.00 | $2,300.00 |
| Alison Rd | Darley Rd | Doncaster Ave | 2 | $400.00 | $460.00 |
| Anzac Pde | High St | Barker St | 4 | $800.00 | $920.00 |
| Anzac Pde | Goodwood St | Ascot St | 2 | $400.00 | $460.00 |
| Anzac Pde | Barker St | Harbourne Ln | 2 | $400.00 | $460.00 |
| Anzac Pde | Harbourne Ln | Middle St | 1 | $200.00 | $230.00 |
| Anzac Pde | Mitchell St | Forrest St | 3 | $600.00 | $690.00 |
| Anzac Pde | Apsley Ln | Botany St | 1 | $200.00 | $230.00 |
| Anzac Pde | Turn Off | Anzac Pde | 3 | $600.00 | $690.00 |
| Anzac Pde | 42 Anzac Pde | Abbotford St | 3 | $600.00 | $690.00 |
| Anzac Pde | Tay Ln | Boronia St | 10 | $2,000.00 | $2,300.00 |
| Anzac Pde | Tay Ln | Boronia St | 3 | $600.00 | $690.00 |
| Anzac Pde | Boronia St | Ascot St | 1 | $200.00 | $230.00 |
| Anzac Pde | Boronia St | Ascot St | 1 | $200.00 | $230.00 |
| Anzac Pde | Darling St | Doncaster Ave | 2 | $400.00 | $460.00 |
| Arden St | Arcadia St | Bream St | 3 | $600.00 | $690.00 |
| Arden St | Arcadia St | Bream St | 2 | $400.00 | $460.00 |
| Arden St | Arcadia St | Bream St | 1 | $200.00 | $230.00 |
| Arden St | Dolphin St | Coogee Bay Rd | 3 | $600.00 | $690.00 |
| Argyle Cres | 15 Argyle Cres | Tallow Pl | 1 | $200.00 | $230.00 |
| Ascot St | Anzac Pde | Doncaster Ave | 1 | $200.00 | $230.00 |
| Ascot St | Anzac Pde | Doncaster Ave | 8 | $1,600.00 | $1,840.00 |
| Ascot St | Anzac Pde | 5 Ascot St | 10 | $2,000.00 | $2,300.00 |
| Athol St | Denning St | Malabar Rd | 1 | $200.00 | $230.00 |
| Athol St | Denning St | Malabar Rd | 1 | $200.00 | $230.00 |
| Avoca St | Cuthill St | Soudan St | 1 | $200.00 | $230.00 |
| Baird Ln | Baird Ave | Baird Ln | 2 | $400.00 | $460.00 |
| Baker St | Propnum 35 | Milroy Ave | 10 | $2,000.00 | $2,300.00 |
| Balfour Ln | Balfour Rd | Kensington Rd | 3 | $600.00 | $690.00 |
| Balfour Rd | Salisbury Rd | 32 Balfour Rd | 1 | $200.00 | $230.00 |
| Barker St | Willis Ln | Willis St | 5 | $1,000.00 | $1,150.00 |
| Barker St | Willis Ln | Willis St | 4 | $800.00 | $920.00 |
| Beatty Ln | Beatty St | The End | 2 | $400.00 | $460.00 |
| Beauchamp Rd | Malabar Rd | Chicago Ave | 1 | $200.00 | $230.00 |

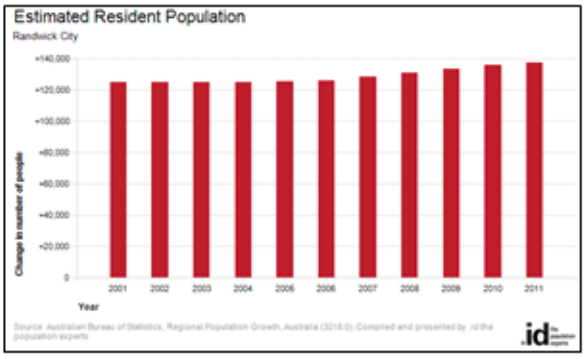
| Street | From | To | Rep Length (m) | Calculated Cost | Cost with 15% Contingency |
|---|---|---|---|---|---|
| Beauchamp Rd | Perry St | Flack Ave | 4 | $800.00 | $920.00 |
| Beauchamp Rd | Perry St | Flack Ave | 3 | $600.00 | $690.00 |
| Bilga Cres | Austral St | Calga Ave | 3 | $600.00 | $690.00 |
| Boronia St | Anzac Pde | Boronia St | 1 | $200.00 | $230.00 |
| Botany St | Sturt St | Mcnair Ave | 8 | $1,600.00 | $1,840.00 |
| Botany St | 59 Botany St | High St | 2 | $400.00 | $460.00 |
| Boundary St East | St Thomas St | Keith St | 4 | $800.00 | $920.00 |
| Bowral St | 4 Bowral St | Doncaster Ave | 1 | $200.00 | $230.00 |
| Bowral St | Bowral St | Bowral St | 1 | $200.00 | $230.00 |
| Boyce Rd | Anzac Pde | Garden St | 2 | $400.00 | $460.00 |
| Bradley Ln | Bradley St | Botany St | 2 | $400.00 | $460.00 |
| Bream St | Brook St | Mount St | 2 | $400.00 | $460.00 |
| Bream St | Melody St | Carrington Rd | 3 | $600.00 | $690.00 |
| Brook St | Rainbow St | Oberon St | 2 | $400.00 | $460.00 |
| Brook St | Coogee Bay Rd | Alfreda St | 2 | $400.00 | $460.00 |
| Broome St | Fitzgerald Ave | Byrne Cres | 2 | $400.00 | $460.00 |
| Bunnerong Rd | Botany Rd | Military Rd | 5 | $1,000.00 | $1,150.00 |
| Bunnerong Rd | Franklin St | Kemp Ave | 2 | $400.00 | $460.00 |
| Byng St | Byng Ln | Mons Ave | 1 | $200.00 | $230.00 |
| Byron St | The End | Dudley St | 10 | $2,000.00 | $2,300.00 |
| Canberra St | Bundock Ln | Rainbow St | 5 | $1,000.00 | $1,150.00 |
| Carnegie Crct | Dampier St | Warburton St | 3 | $600.00 | $690.00 |
| Carrington Rd | Carr St | Mcanally Ln | 6 | $1,200.00 | $1,380.00 |
| Church St | Frances St | Alison Rd | 1 | $200.00 | $230.00 |
| Clovelly Rd | Carrington Rd | 172 Clovelly Rd | 1 | $200.00 | $230.00 |
| Coogee Bay Rd | Dudley St | 7 Coogee Bay Rd Oppst 20 | 6 | $1,200.00 | $1,380.00 |
| Coogee St | Courland St | 28 Coogee St | 1 | $200.00 | $230.00 |
| Cooper St | Alma Rd | Boyce Rd | 1 | $200.00 | $230.00 |
| Cottenham Ave | Borrodale Rd | Edward Ave | 1 | $200.00 | $230.00 |
| Dans Ave | Arden St | Clovelly Rd | 7 | $1,400.00 | $1,610.00 |
| Darley Rd | 2 Darley Rd | Govett St | 9 | $1,800.00 | $2,070.00 |
| Darley Rd | Alison Rd | 2 Darley Rd | 2 | $400.00 | $460.00 |
| Dawes St | Jennifer St | Reservoir St | 3 | $600.00 | $690.00 |
| Day Ave | Tunstall Ave | Eastern Ave | 3 | $600.00 | $690.00 |
| Day Ave | 215 Day Ave | Anzac Pde | 10 | $2,000.00 | $2,300.00 |
| Day Ave | 232 Day Ave | 215 Day Ave | 2 | $400.00 | $460.00 |
| Division St | Arden St | Brook St | 2 | $400.00 | $460.00 |
| Dolphin St | Melody Ln | Melody St | 1 | $200.00 | $230.00 |
| Dolphin St | St Luke St | Judge St | 7 | $1,400.00 | $1,610.00 |
| Dolphin St | St Luke St | Judge St | 4 | $800.00 | $920.00 |
| Dolphin St | St Luke St | Judge St | 2 | $400.00 | $460.00 |
| Dolphin St | 88 Dolphin St | Glenwood Av | 4 | $800.00 | $920.00 |
| Doncaster Ave | Abbotford St | Alison Rd | 1 | $200.00 | $230.00 |
| Doncaster Ave | Barker St | Day Ave | 10 | $2,000.00 | $2,300.00 |
| Doncaster Ave | Barker St | Day Ave | 10 | $2,000.00 | $2,300.00 |

| Street | From | To | Rep Length (m) | Calculated Cost | Cost with 15% Contingency |
|---|---|---|---|---|---|
| Doncaster Ave | Barker St | Day Ave | 10 | $2,000.00 | $2,300.00 |
| Doncaster Ave | Todman Ave | Bowral St | 2 | $400.00 | $460.00 |
| Doncaster Ave | Goodwood St | 33 Doncaster Ave | 4 | $800.00 | $920.00 |
| Doncaster Ave | Day Ave | 165 Doncaster Ave | 1 | $200.00 | $230.00 |
| Doncaster Ave | Doncaster Ave | Doncaster Ave | 2 | $400.00 | $460.00 |
| Dudley St | Byron St | Higgs St | 3 | $600.00 | $690.00 |
| Duke St | Todman Ave | Balfour Rd | 3 | $600.00 | $690.00 |
| Duke St | Todman Ave | Balfour Rd | 2 | $400.00 | $460.00 |
| Duke St | Todman Ave | Balfour Rd | 6 | $1,200.00 | $1,380.00 |
| Duke St | Balfour Rd | 42 Duke St | 5 | $1,000.00 | $1,150.00 |
| Dutruc St | Alison Rd | Rae St | 3 | $600.00 | $690.00 |
| Finucane Cres | Romani Pde | Lawson St | 2 | $400.00 | $460.00 |
| Frances St | Prince St | Frances St | 10 | $2,000.00 | $2,300.00 |
| Franklin St | Victoria St | Dacre St | 1 | $200.00 | $230.00 |
| Frenchmans Rd | Chapel St | Clovelly Rd | 1 | $200.00 | $230.00 |
| Frenchmans Rd | Searle Ave | Gilderthorpe Ave | 2 | $400.00 | $460.00 |
| Gale Rd | Bunnerong Rd | Royal St | 4 | $800.00 | $920.00 |
| Gardeners Ln | Houston Rd | Houston Ln | 2 | $400.00 | $460.00 |
| Gardeners Ln | Houston Rd | Houston Ln | 4 | $800.00 | $920.00 |
| Gardeners Rd | Anzac Pde | Gardeners Rd | 10 | $2,000.00 | $2,300.00 |
| Glebe St | Dick St | Carrington Rd | 2 | $400.00 | $460.00 |
| Goodrich Ave | Tunstall Ave | Shaw Ave | 3 | $600.00 | $690.00 |
| Goodwood St | Anzac Pde | Goodwood St | 1 | $200.00 | $230.00 |
| Goonda Ave | Goolagong Pl | The End | 10 | $2,000.00 | $2,300.00 |
| Goonda Ave | Elaroo Ave | Goolagong Pl | 10 | $2,000.00 | $2,300.00 |
| Greville St | Knox St | Fewings St | 2 | $400.00 | $460.00 |
| Greville St | Fewings St | Arden St | 2 | $400.00 | $460.00 |
| Helena St | Rainbow Ln | Canberra Ln | 2 | $400.00 | $460.00 |
| Henry St | Meymott St | Perouse Rd | 1 | $200.00 | $230.00 |
| Hooper Ln | Pine St | Hooper St | 1 | $200.00 | $230.00 |
| Houston Ln | Borrodale Rd | Gardeners Ln | 3 | $600.00 | $690.00 |
| Houston Rd | Barker St | Barker Ln | 2 | $400.00 | $460.00 |
| Houston Rd | Gardeners Ln | Gardeners Rd | 1 | $200.00 | $230.00 |
| Ivy St | Ivy Ln | Perouse Rd | 3 | $600.00 | $690.00 |
| Ivy St | Nelson St | Perouse Rd | 1 | $200.00 | $230.00 |
| Judge St | Coogee Bay Rd | Dolphin St | 1 | $200.00 | $230.00 |
| Keating St | Garden St | Cooper St | 2 | $400.00 | $460.00 |
| Kennedy St | Middle St | Centre Ln | 2 | $400.00 | $460.00 |
| Kennedy St | Kenneth Ln | Middle St | 3 | $600.00 | $690.00 |
| Kenneth Ln | Kennedy St | Botany Ln | 2 | $400.00 | $460.00 |
| Kensington Rd | Balfour Ln | Duke St | 1 | $200.00 | $230.00 |
| Kensington Rd | 4 Kensington Rd | Cottenham Ave | 3 | $600.00 | $690.00 |
| Lancaster Cres | Botany St | The End | 4 | $800.00 | $920.00 |
| Lomandra Pl | Argyle Cr | The End | 1 | $200.00 | $230.00 |
| Lone Pine Pde | Lone Pine Pde (8) | End | 2 | $400.00 | $460.00 |

| Street | From | To | Rep Length (m) | Calculated Cost | Cost with 15% Contingency |
|---|---|---|---|---|---|
| Lorne Ave | Roma Ave | The End | 4 | $800.00 | $920.00 |
| Lowe St | Melrose Pde | The End | 1 | $200.00 | $230.00 |
| Lowe St | Melrose Pde | The End | 170 | $34,000.00 | $39,100.00 |
| Macquarie St | Brisbane St | Wells St | 3 | $600.00 | $690.00 |
| Macquarie St | Forrest St | Wills St | 15 | $3,000.00 | $3,450.00 |
| Malabar Rd | Jensen Pl | Gregory St | 2 | $400.00 | $460.00 |
| Manson Pl | Simeon St | Knox St | 1 | $200.00 | $230.00 |
| Marcel Ave | Carrington Rd | Mount St | 9 | $1,800.00 | $2,070.00 |
| Marine Pde | Wilson St | Maroubra Rd | 2 | $400.00 | $460.00 |
| Market St | Ethne Ave | The End | 4 | $800.00 | $920.00 |
| Maroubra Rd | Anzac Pde | Ferguson St | 2 | $400.00 | $460.00 |
| Mckeon St | Hereward St | Duncan St | 2 | $400.00 | $460.00 |
| Mckeon St | Fenton Ave | Duncan St | 1 | $200.00 | $230.00 |
| Meeks St | Willis Ln | Willis St | 1 | $200.00 | $230.00 |
| Mermaid Ave | Malabar Rd | Lurline St | 2 | $400.00 | $460.00 |
| Meymott St | Higgs St | Howard St | 1 | $200.00 | $230.00 |
| Middle St | Kennedy St | Botany Ln | 1 | $200.00 | $230.00 |
| Middle St | Kennedy Ln | Kennedy St | 3 | $600.00 | $690.00 |
| Mirrabooka Cres | Little Bay Rd | Bunnerong Rd | 4 | $800.00 | $920.00 |
| Mitchell St | Burke St | Mitchell St | 5 | $1,000.00 | $1,150.00 |
| Moore St | Gordon Ave | Beach St | 3 | $600.00 | $690.00 |
| Moverly Rd | Anzac Pde | Loch Maree St | 2 | $400.00 | $460.00 |
| Napier St | Prince Edward St | Victoria Ln | 3 | $600.00 | $690.00 |
| Nelson St | Howard St | Ivy St | 1 | $200.00 | $230.00 |
| Nicol Ave | Nicol Ln | French St | 3 | $600.00 | $690.00 |
| Norfolk Ln | Franklin St | The End | 2 | $400.00 | $460.00 |
| Oval Ln | Willis St | Kennedy Ln | 2 | $400.00 | $460.00 |
| Oxley St | Torrens St | Franklin St | 2 | $400.00 | $460.00 |
| Paterson St | Windsor St | Daunt Ave | 2 | $400.00 | $460.00 |
| Pauling Ave | Ritchard Ave | Alison Rd | 2 | $400.00 | $460.00 |
| Pauling Ave | Ritchard Ave | Alison Rd | 2 | $400.00 | $460.00 |
| Perry St | Kelly Ln | Beauchamp Rd | 5 | $1,000.00 | $1,150.00 |
| Pillars Pl | Paterson St | The End | 3 | $600.00 | $690.00 |
| Pine St | Park Ave | Figtree Ave | 2 | $400.00 | $460.00 |
| Portland Cres | Chicago Ave | Osprey Ct | 3 | $600.00 | $690.00 |
| Prince St | King St | Prince Ln | 3 | $600.00 | $690.00 |
| Raglan St | Victoria Ln | Victoria St | 3 | $600.00 | $690.00 |
| Rainbow St | Willis Ln | Willis St | 4 | $800.00 | $920.00 |
| Rainbow St | Forsyth St | Willis Ln | 3 | $600.00 | $690.00 |
| Rainbow St | Mount St | Brook St | 2 | $400.00 | $460.00 |
| Raymond Ave | Mccauley St | Harold St | 3 | $600.00 | $690.00 |
| Ritchard Ave | Mount St | Pauling Ave | 5 | $1,000.00 | $1,150.00 |
| Roberts Ave | Frenchmans Rd | Ravenswood Ln | 2 | $400.00 | $460.00 |
| Royal St | Glanfield St | Boyce Rd | 1 | $200.00 | $230.00 |
| Salisbury Rd | Kensington Rd | Balfour Rd | 10 | $2,000.00 | $2,300.00 |

| Street | From | To | Rep Length (m) | Calculated Cost | Cost with 15% Contingency |
|---|---|---|---|---|---|
| Soudan St | Soudan Ln | Perouse Rd | 6 | $1,200.00 | $1,380.00 |
| St Pauls St | Daintrey Cres | Dudley St | 1 | $200.00 | $230.00 |
| Stanley St | Chepstow St | Monmouth St | 5 | $1,000.00 | $1,150.00 |
| Storey St | Percival St | Hannan St | 4 | $800.00 | $920.00 |
| Surfside Ave | Bruce Ave | Park St | 1 | $200.00 | $230.00 |
| Sydney St | Wentworth St | Waverley St | 1 | $200.00 | $230.00 |
| Sydney St | Waverley St | Sydney St | 4 | $800.00 | $920.00 |
| Thomas St | Byron St | Higgs St | 2 | $400.00 | $460.00 |
| Todman Ave | Carminya St | Baker St | 1 | $200.00 | $230.00 |
| Todman Ave | Propnum 7 | Carminya St | 10 | $2,000.00 | $2,300.00 |
| Todman Ave | 157 Todman Ave | 163 Todman Ave | 3 | $600.00 | $690.00 |
| Todman Ave | Baker St | End Propnum 95 | 1 | $200.00 | $230.00 |
| Wallace Ln | Wallace St | Rainbow St | 1 | $200.00 | $230.00 |
| Warburton St | Brisbane St | Dampier St | 3 | $600.00 | $690.00 |
| Warner Ln | Campbell St | Northumberland Ln | 1 | $200.00 | $230.00 |
| Waterside Ave | Lurline St | The End | 2 | $400.00 | $460.00 |
| Waterside Ave | Lurline St | Waterside Ave | 2 | $400.00 | $460.00 |
| William St | 7 William St | King St | 1 | $200.00 | $230.00 |
| Willis St | Meeks St | 72 Willis St | 1 | $200.00 | $230.00 |
| Woodland St | Brook St | The End | 3 | $600.00 | $690.00 |
| Woodland St | Brook St | The End | 1 | $200.00 | $230.00 |
| Yorktown Pde | New Orleans Cres | Perkins Way | 2 | $400.00 | $460.00 |
| | | | **Totals** | **$163,600.00** | **$188,140.00** |

## Appendix D Population Projection Details



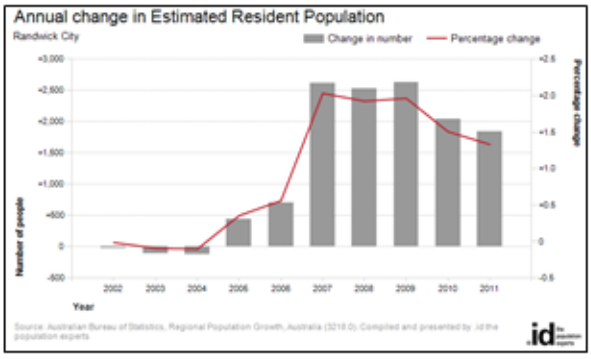
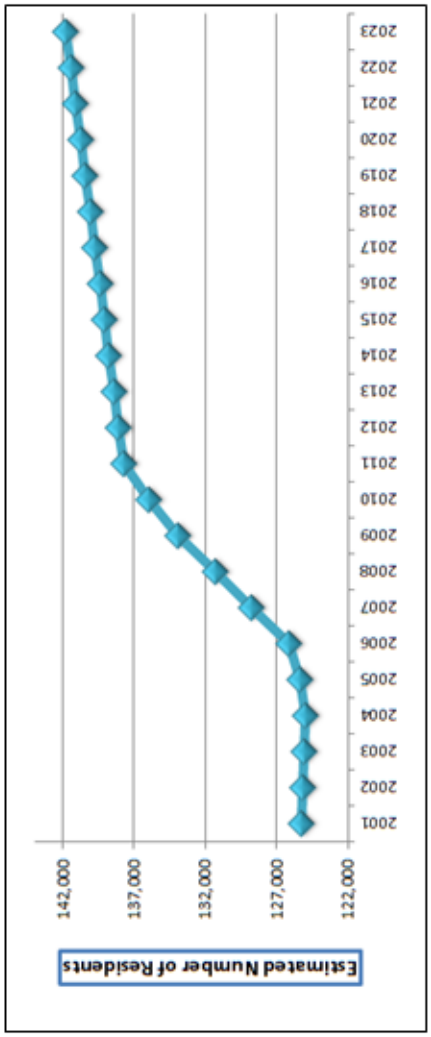




**Table 173.1: The past and projected population of Randwick LGA, 1996-2036**

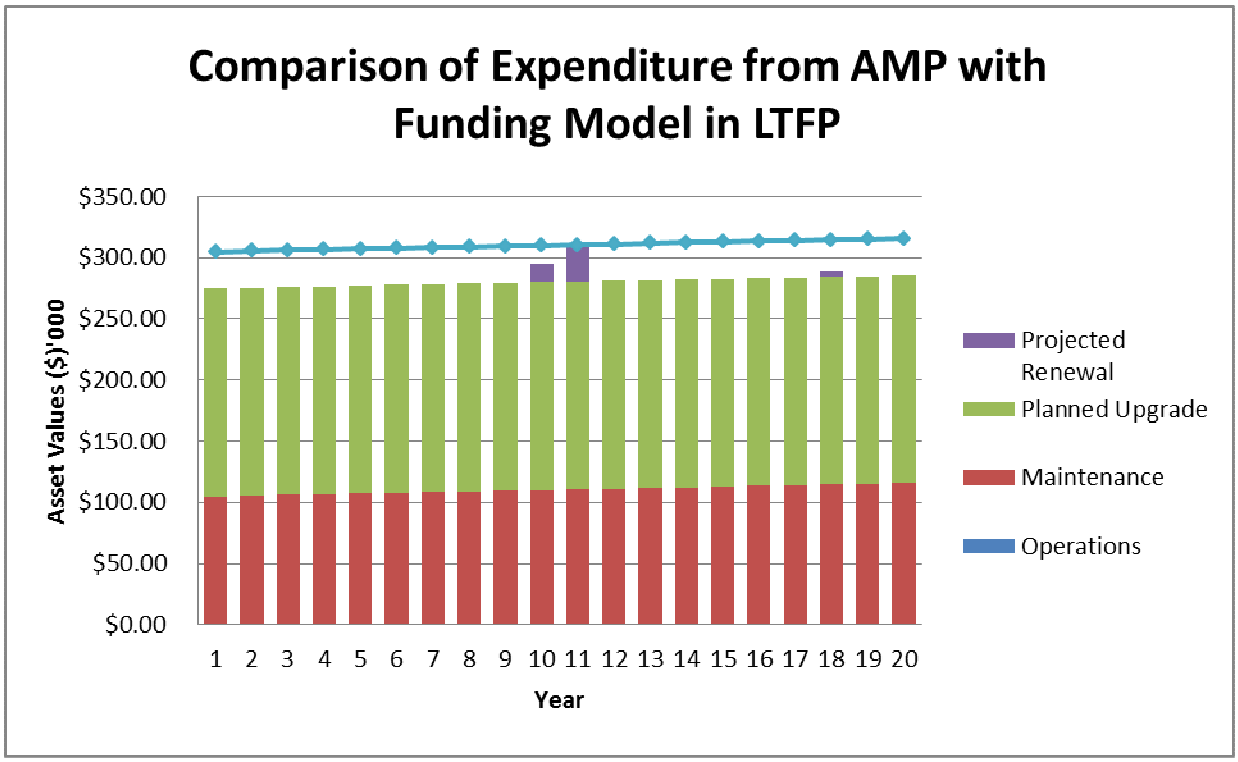
Source: past data - Australian Bureau of Statistics;
Projections – Department of Planning
*New South Wales Statistical Local Area Population Projections, 2006-2036*

| Year (ending June 30) | Number | Change in number | Change in % | |
|---|---|---|---|---|
| 2001 | 125,223 | | | ERP FROM ABS |
| 2002 | 125,204 | -19 | -0.02 | |
| 2003 | 125,088 | -116 | -0.09 | |
| 2004 | 124,959 | -129 | -0.10 | |
| 2005 | 125,404 | +445 | +0.36 | |
| 2006 | 126,108 | +704 | +0.56 | |
| 2007 | 128,723 | +2,615 | +2.07 | |
| 2008 | 131,249 | +2,526 | +1.96 | |
| 2009 | 133,877 | +2,628 | +2.00 | |
| 2010 | 135,923 | +2,046 | +1.53 | |
| 2011 | 137,757 | +1,834 | +1.35 | |
| 2012 | 138,088 | +331 | +0.24 | ERP FORECAST |
| 2013 | 138,419 | +331 | +0.24 | |
| 2014 | 138,751 | +332 | +0.24 | |
| 2015 | 139,085 | +333 | +0.24 | |
| 2016 | 139,418 | +334 | +0.24 | |
| 2017 | 139,753 | +335 | +0.24 | |
| 2018 | 140,089 | +335 | +0.24 | |
| 2019 | 140,425 | +336 | +0.24 | |
| 2020 | 140,762 | +337 | +0.24 | |
| 2021 | 141,100 | +338 | +0.24 | |
| 2022 | 141,439 | +339 | +0.24 | |
| 2023 | 141,778 | +340 | +0.24 | |



# Appendix E Kerb and Gutter Sustainability Ratios

| Scenario 1 | 10 year ratio | |
|---|---|---|
| **Projected 10 Yr** | **Total ($) '000** | **Annual ($)'000** |
| Maintenance | $1,182.40 | $118.24 |
| Renewal | $14.94 | $1.49 |
| | **$1,197.34** | **$119.73** |
| **Planned 10 Yr** | | |
| Maintenance | 10 Year | $1,074.91 |
| Renewal | 10 Year | $300.00 |
| | | **$1,374.91** |
| **Sustainability Ratio** | | |
| Planned | $1,374.91 | |
| Projected | $1,197.34 | |
| **Ratio** | | 1.15 |

| Scenario 2 | 20 Year Ratio | |
|---|---|---|
| **Projected 20 Yr** | **Total ($) '000** | **Annual ($)'000** |
| Maintenance | $2,426.61 | $121.33 |
| Renewal | $47.99 | $2.40 |
| | **$2,474.60** | **$123.73** |
| **Planned 20 Yr** | | |
| Maintenance | 20 Year | $2,206.01 |
| Renewal | 20 Year | $600.00 |
| | | **$2,806.01** |
| **Sustainability Ratio** | | |
| Planned | $2,806.01 | |
| Projected | $2,474.60 | |
| **Ratio** | | 1.13 |

Appendix F Service Cost Long Term Financial Plan