ADOPTED
6 November 2013

diverse, dynamic, progressive

BLACKTOWN CITY 2030
CITY OF EXCELLENCE

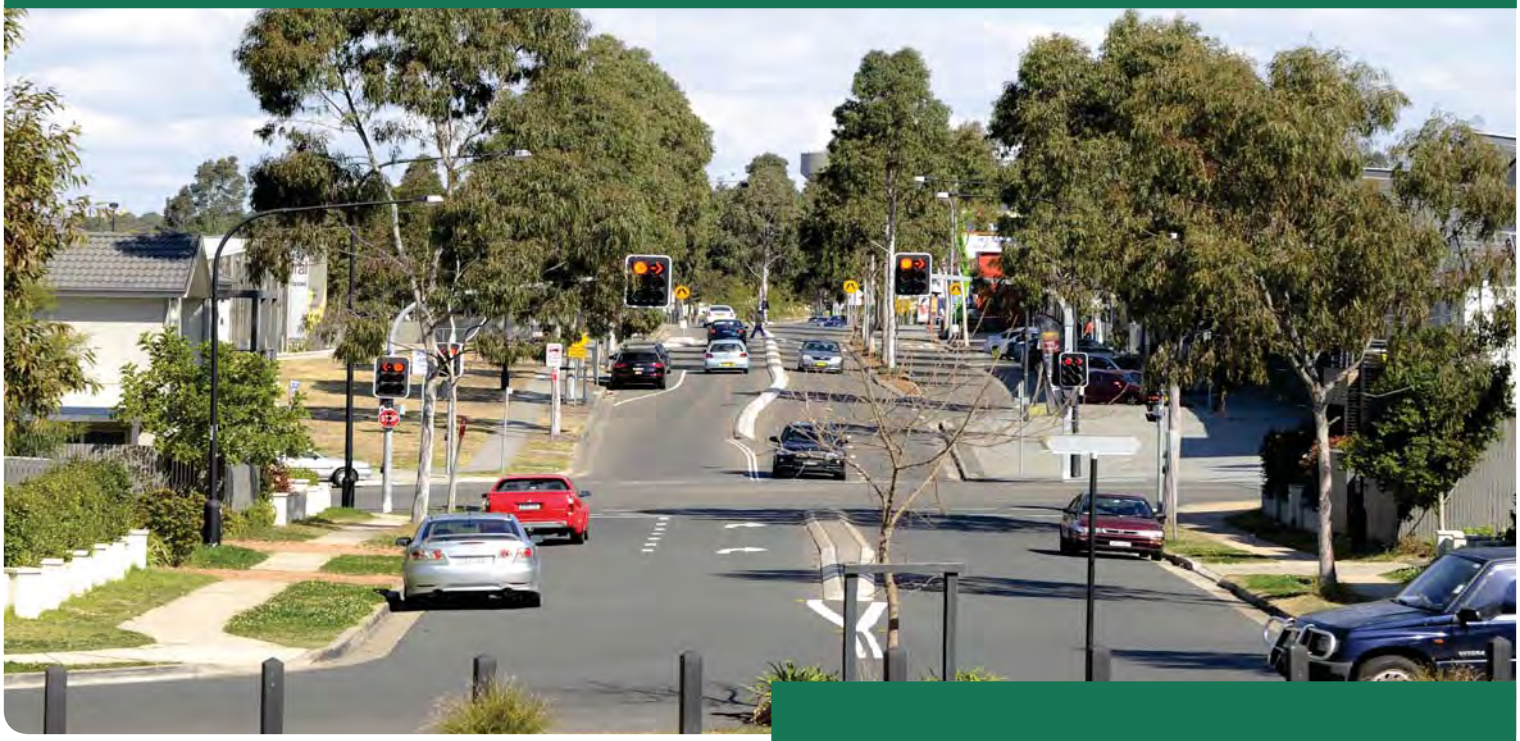
ASSET MANAGEMENT PLANS

TRANSPORT

BUILDINGS

OPEN SPACE

DRAINAGE



2013 - 2023

Blacktown City Council

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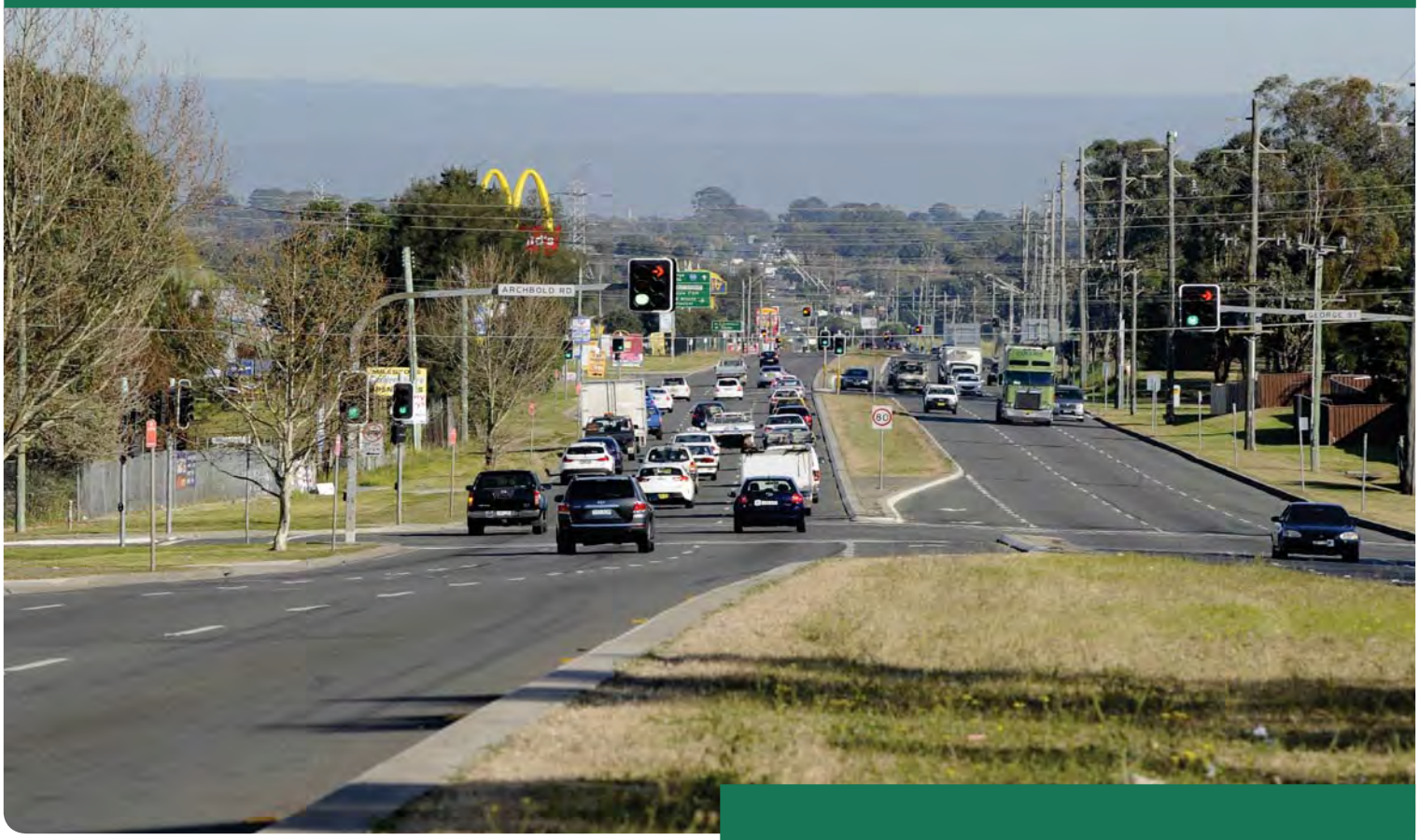

2013 - 2023

Blacktown City Council

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1. EXECUTIVE SUMMARY

WHAT COUNCIL PROVIDES

Council provides transport services in partnership with the Department of Transport, Roads and Maritime Services (RMS), a mix of public and private developers and the community to enable our community to have a safe, efficient and reliable transport network within the city of Blacktown.

Assets included in this plan

- Road network, sealed and unsealed roads
- Safety control devices
- Medians
- Path paving
- Cycleways
- Kerb and guttering
- Linemarking
- Street furniture
- Bridges
- Public car parks
- Public Pathways

WHAT DOES IT COST?

There are two key indicators of cost to provide the transport 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 transport service is estimated at **$38,316,267** per annum. Council's planned life cycle expenditure for year 1 of the Asset Management Plan is **$18,031,718** which gives a life cycle sustainability index of **0.471**

The total maintenance and capital renewal expenditure required to provide the transport service in the next 10 years is estimated at **$223,423,345.** Council's 10 year planned expenditure of the Asset Management Plan is **$218,343,453** which gives a 10 year sustainability index of **0.977**.

Council's maintenance and capital renewal expenditure for year 1 of the Asset Management Plan of **$18,031,718** compared to the average projected expenditure over the 10 year planning period of **$22,342,335** giving a first year sustainability index of **0.807**

PLANS FOR THE FUTURE

Council plans to operate and maintain the Transport network to achieve the following strategic objectives:

1. Ensure the Transport network is maintained at a safe and functional standard as set out in this Asset Management Plan.
2. Decreased traffic congestion on our roads.
3. Well-connected bike paths, footpaths, roads and public transport interchanges throughout the City.
4. Provide a diverse range of public transport options.
5. Increased availability of commuter parking.

MEASURING OUR PERFORMANCE

Quality

Transport assets will be maintained in a reasonably usable condition. Defects found or reported that are outside our service standard will be repaired. See our maintenance response service levels for details of defect prioritisation and response time.

Function

The intent is to maintain an appropriate Transport network in partnership with other levels of government and stakeholders to achieve efficient, affordable and sustainable transport systems into and within the City to ensure Blacktown is a place of choice to live, work and play.

Transport 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:

- Council is committed to the provision and maintenance of a diverse range of quality infrastructure. Council's infrastructure will be provided in a planned and efficient manner to meet the present and future needs of our growing and vibrant City.

Safety

Council inspects all transport assets regularly and prioritises and repairs defects in accordance with inspection schedules to ensure the assets are safe.

THE NEXT STEPS

The actions resulting from this Asset Management Plan are:

- Manage and operate an appropriate mix of sustainable infrastructure at the lowest lifecycle cost that supports services within Blacktown City.
- Provide a consistent and comprehensive approach to asset management planning through the use of renewal modelling and asset management plans.
- Prioritisation of projects funded in the Works Improvement Program based on principles and objectives contained in Council's Asset Management Strategy and this Transport Asset Management Plan.
- Maintain transport facilities in a cost effective and timely manner.
- Implement the actions outlined in the improvement plan.
- Undertake a customer satisfaction survey on regular basis.
- Develop funding strategies to undertake asset renewal and decrease service level gaps.

2. INTRODUCTION

2.1 BACKGROUND

This Asset Management Plan is designed/created/written to demonstrate responsive/responsible management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed for providing the required levels of service.

The Transport Asset Management Plan is intended to be read with the following associated planning documents:

- Community Strategic Plan – *Blacktown City 2030*
- Asset Management Strategy 2013-2023 (including Asset Management Policy)
- Long Term Financial Plan 2013-2023
- Annual Works Improvement Program
- Blacktown City Council Development Control Plan 2006
- Blacktown City Council Community Satisfaction Survey 2011
- Blacktown City Council Risk Management Plan
- Blacktown Climate Change Action and Adaptation Plan (BCCAAP)

Table 2.1 Assets covered by this Plan

Asset category	Quantity	Units	Replacement Value
Access Roads within Parks	92,501	Square Metres	$3,227,931
Bridges	107	Bridges	$52,699,691
Cycleways	95.7	km	$15,568,495
Footpaths	1.5 Million	Square Metres	$129,244,157
Kerb and Gutter	2.2 Million	Lineal Metres	$254,060,720
Medians	212,628	Square Metres	$12,019,121
Pavement Markings	16,221	Various	$2,213,979
Public Car Parks	267	Car Parks	$30,752,541
Public Pathways	149,564	Square Metres	$11,459,960
Public Transport - Bus Shelters	231	Shelters	$1,620,810
Regulatory Signs	15,115	Signs	$2,279,759
Road Pavement	3.3Million	Cubic Metres	$867,079,286
Road Surface	11Million	Square Metres	$145,067,605
Safety Devices	655	Devices	$20,484,414
Street Furniture	36	Items	$38,016
Street Signs	9,042	Items	$1,113,750
TOTAL			**$1,548,930,235**

Key stakeholders in the preparation and implementation of this Asset Management Plan are:

Asset Planning & Support	Prepare and Implement Transport Asset Management Plan, Annual Works Improvement Program, Life Cycle Modelling, undertakes improvement actions, undertake condition assessments, prepare annual financial reports and maintain Council's corporate asset register.
Workforce & Corporate Development	Coordination of Council's strategic planning requirements.
Finance Section	Prepare Long Term Financial Plan and endorse financial reports.
Executive Management	Review and approve the Plan.
Elected Members	Review and endorse the Plan.
Civil & Open Space Maintenance Section	Inspect and maintain and renew existing transport assets. Carry out works identified in the Annual Works Improvement Program.
Asset Construction Section	Carry out works identified in the Annual Works Improvement Program.
Asset Design Section	Design new transport assets and investigate the safety/suitability of existing transport assets.
Traffic	Transport and traffic planning.
Business Assurance and Safety Systems	Risk management planning
Development Services Unit	Monitor and implement development standards for new assets created through subdivision of land.
Community Development	Facilitate customer satisfaction surveys.

Other Asset Owners such as Roads & Traffic Maritimes Services (RMS), RailCorp and property developers those are responsible for constructing, maintaining and funding contributions to transport infrastructure.

2.2 GOALS AND OBJECTIVES OF ASSET MANAGEMENT

The Council exists to provide services to its community. Some of these services are provided by infrastructure assets. Council has acquired infrastructure assets by 'purchase', by contract, construction by council staff 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;[1]

- *Providing a defined level of service and monitoring performance,*
- *Managing the impact of growth through demand management and infrastructure investment,*
- *Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet that defined level of service,*

[1] IIMM 2011 Sec 1.2.1, p 1.7

- *Identifying, assessing and appropriately controlling risks,*
- *Having a long-term financial plan which identifies required expenditure and how it will be funded.*

This Asset Management Plan is prepared under the direction of Council's vision, mission, goals and objectives.

Council's vision is:

City of Excellence- Diverse, Dynamic, Progressive

2.3 PLAN FRAMEWORK

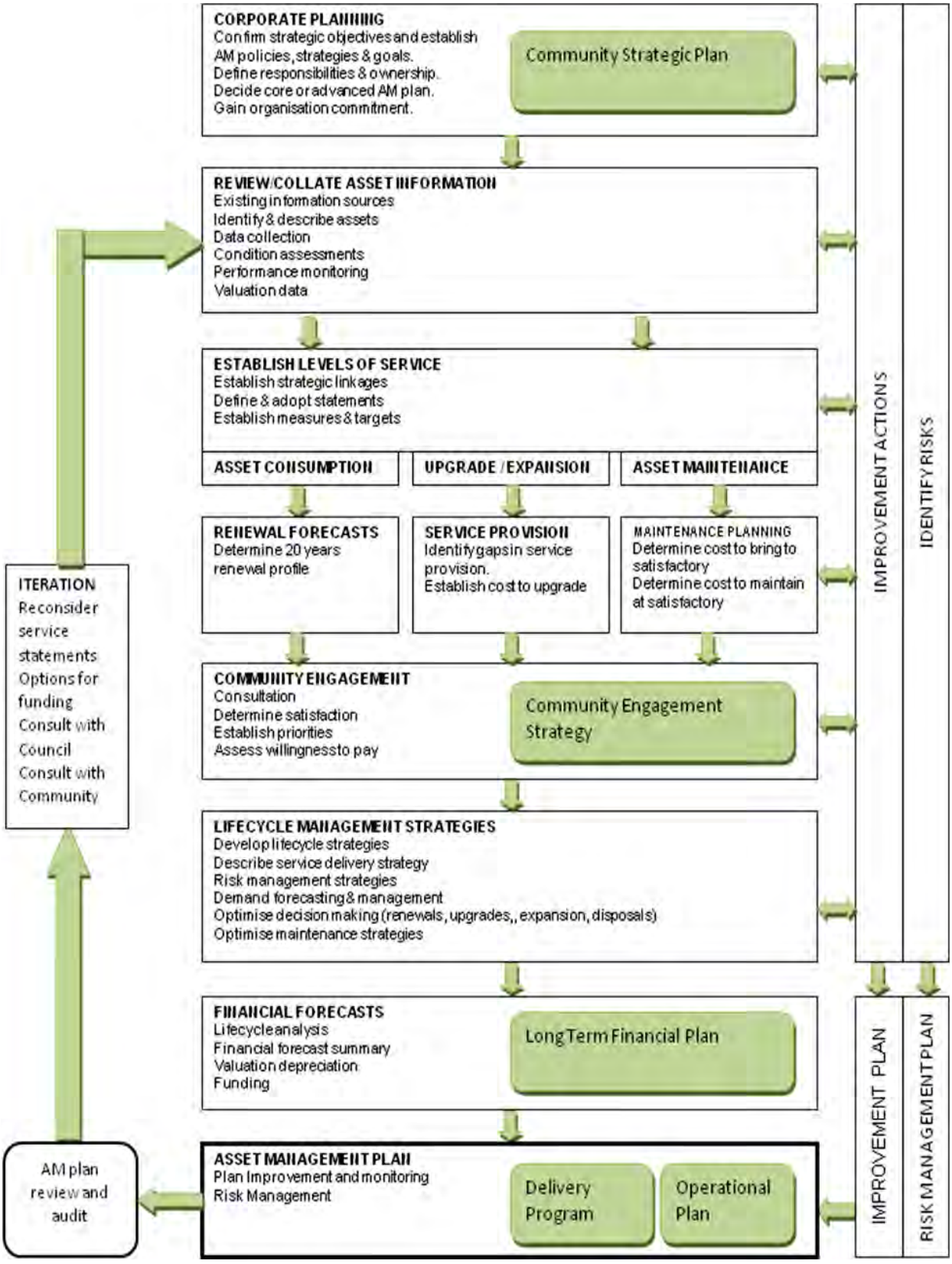
Key elements of the plan are

- 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.

The flow chart below outlines how an Asset Management Plan is prepared.

Flow chart for preparing an Asset Management Plan

Source: IIMM 2006 Fig 1.5.1, p1.11 (Adaptation)



3. LEVELS OF SERVICE

3.1 CUSTOMER RESEARCH AND EXPECTATIONS

Blacktown City Council sought to examine community attitudes and perceptions toward current and future services and facilities provided by Council through its Community Satisfaction Survey conducted in October 2011. The key objectives of the research included:

- To assess and establish the community's priorities and satisfaction in relation to Council activities, services and facilities.
- To identify the community's overall level of satisfaction with Council's performance.
- To identify the community's level of satisfaction with regard to contact they have had with Council staff.

The findings related to this Asset Management Plan are listed below in Table 3.1

Table 3.1 Community Satisfaction Survey Results

Service Area	Combined LGA Satisfaction Benchmark	Blacktown Satisfaction Score	Blacktown Importance Score	Performance Gap
Local Roads	2.8	3.0	4.69	1.69
Availability of Car Parking in City Centres		3.11	4.3	1.19
Footpaths		3.27	4.42	1.15
Access to Public Transport		3.56	4.48	0.92
Traffic Management on Local Roads		3.36	4.27	0.91
Support for People with a Disability	3.3	3.48	4.33	0.91
Access to Cycleway and Footpath Networks		3.46	3.67	0.21
Cycleways	3.6	3.56	3.5	-0.06

The findings of the Community Satisfaction Survey confirm that the services or facilities identified as being important to the community align with Council's commitment and vision to asset management in these areas. The benchmarks and performance gaps derived from the survey confirm that Council is benchmarking well against other local government areas but that significant efforts need to be maintained to satisfy community expectations in some areas. Whilst this is a generally positive outcome for both the community and Council understanding the areas of importance to the community will continue to assist in focusing areas of Asset Management improvement.

3.2 LEGISLATIVE REQUIREMENTS

Council has to meet many legislative requirements in providing transport infrastructure. This includes Federal and State legislation and regulations.

Table 3.2 Legislative Requirements

Legislation	Requirement
NSW Local Government Act 1993	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.
NSW Environmental Planning and Assessment Act 1979	Sets out regulations for the protection of air, water quality and control of pollution, waste, noise and radiation.
Work Health & Safety Act 2011	Sets our roles for the protection of health, safety and welfare of persons at work and others.
NSW Roads Act 1993	Regulates the carrying out of various activities on public roads Sets out the rights of members of the public to access public roads. Regulates road classifications and to distribute authority and function between RTA and Council. Regulates traffic and road events.
State Emergency and Rescue Management Act 1989	Addresses matters relating to the prevention of, preparation for, response to and recovery from emergencies (including the co-ordination of the activities of government and non-government agencies in connection with those matters).
Government Information (Public Access) Act 2009 (GIPA Act)	Facilitates public access to government information.
Protection of the Environment Operations Act 1997	Regulates the protection of the environment.
Disability Discrimination Act 1992	Sets out regulations to eliminate discrimination against persons on the grounds of disability and to promote recognition and acceptance within the community.
NSW Civil Liability Act, 2002	An Act to make provision in relation to the recovery of damages for death or personal injury caused by the fault of a person

3.3 CURRENT LEVELS OF SERVICE

Council has defined service levels in two terms.

Technical Levels of Service - Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the organisation undertakes to best achieve the desired community outcomes and demonstrate effective organisational performance.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as opening hours, cleansing frequency, mowing frequency, etc.
- Maintenance – the activities necessary to retain an assets as near as practicable to an appropriate service condition (e.g. road patching, unsealed road grading, building and structure repairs),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),
- Upgrade – the activities to provide an higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g.. a new library).

Asset managers plan, implement and control technical service levels to influence the customer service levels.[2]

Community Levels of Service

These measure how the community receives the service and whether the organisation is providing community value.

Community levels of service measures used in the asset management plan are:

Quality	How good is the service?
Function	Does it meet users' needs?
Capacity/Utilisation	Is the service over or under used?

Generally Council provides infrastructure to underpin a service to the community. Consequently Council has based service level planning around the infrastructure required to provide a desired service, then the operational requirements required to maintain the service.

By setting desired technical levels of service Council is able to determine the required infrastructure to achieve the service standard. When compared to existing assets Council is able to determine if any repairs/enhancements in infrastructure are required. These enhancements/repairs form the basis of renewal, upgrade and new plans and ultimately individual projects listed for funding consideration in the Works Improvement Program.

During the annual preparation of the Works Improvement Program Community Levels of Service assist in the ranking and prioritisation of individual projects.

In the context of assets, the ongoing provision of a service is contingent on appropriate maintenance management of infrastructure. This is further discussed in Section 5.3.

[2] IPWEA, 2011, IIMM, p 2.22

3.4 DESIRED LEVELS OF SERVICE

Each year Council receives requests from the community and its elected representatives, identifying gaps in desired service level provision. These requests and the identification of enhancements/repairs through Technical Levels of Service form the basis of Council's Works Improvement Program preparation. This annual budget document and associated funding programs represent three decades of community engagement. All requests received by Council are critically assessed against the service levels identified in Tables 3.3 / 3.4 and listed for funding consideration based on detailed selection criteria.

In many instances further studies or effort is required to fully identify and document the gap between current and desired service level provision, these are recorded in the Implementation Plan in Section 8.2, Table 8.1.

Table 3.3 Current Service Levels

Objective	Description	Measure	Actions
Performance Category - Renewal			
Service Level - Condition / Sustainability			
Lowest Life Cycle Cost	To provide infrastructure required to underpin transport services in the most economic and sustainable manner.	Renewal Plan requirements catered for in Council's Long term Financial Plan	Undertake annual review of renewal modelling. Enhance existing modelling for ancillary transport assets.
Performance Category - Maintenance / Operations			
Service Level - Condition / Sustainability			
Lowest Life Cycle Cost	To provide infrastructure required to underpin transport services in the most economic and sustainable manner.	Performance monitoring of maintenance	Preparation of a Transport Maintenance Plan outlining performance measures for planned maintenance, prioritise unplanned maintenance and monitor deferred maintenance.

Table 3.4 Desired Levels of Service

Please note: While the Renewal and Maintenance/Operations performance categories express levels of service which are currently provided, the Upgrade/New performance categories are more complex and aspirational. These service levels reflect appropriate technical standards as well as relevant Council policies, which these services are aiming to achieve over time.

Performance Category - Upgrade / New			
Service Level - Aesthetics			
Public Domain	To provide vibrant places to meet at key interchanges.	Implementation of Central Business District Master Plans	Examine Master Plans and identify service gaps for consideration into Works Improvement Program.
Service Level - Minimum Standard / Social Equity			
City Image	To promote Blacktown's image through provision of high quality transport infrastructure.	Positive media and public comment	Monitor comments made in media and conduct customer satisfaction surveys.

Pedestrian Access	Ensure an appropriate provision of all weather pedestrian access.	Provision in accordance with Path Paving Policy	Undertake city wide audit of path paving assets to determine locations where provision is lacking when compared to Path Paving Policy. List required upgrades for funding consideration into the Works Improvement Program.
Carparks Availability	Ensure standard provision of parking facilities to Council Services and public transport interchanges.	Car Parking Development Control Plan /Engineering Guidelines	Undertake city wide audit of parking assets to determine locations where provision is lacking. List required upgrades for funding consideration into the Works Improvement Program.
Emergency Services	Provision of flood evacuation routes.	Flood proof 100 year ARI	Assess waterway crossings against desired flood protection and identify projects for funding consideration into the Works Improvement Program.
Standard of Urban Roads	To provide urban roads at contemporary standards.	Development Guidelines	Undertake city wide audit of road assets and determine roads that fall below Development Guideline standards for consideration into the Works Improvement Program.
Lines, Signs	Ensure transport network is appropriately signed and marked to control movements safely.	Existing sites /intersections comply with standards	Undertake city wide audit of controlled sites /intersections and determine gaps for inclusion into enhancement program
Rural Roads	To provide rural roads at an appropriate standard.	All weather vehicular access	Undertake city wide audit of rural road assets and determine gaps for consideration into the Works Improvement Program.
Bus Stop hierarchy / Policy	Provide shelters and seating to support public transport users.	Travel distances for public transport users. Ensure targets and standards of disability access are achieved.	Identify locations throughout the City that have increased walking distance to public transport assets and list projects for consideration in the Works Improvement Program. Assess the public transport network in conjunction with external public transport providers and identify locations that require additional bus facilities and list projects in the Works Improvement Program. Undertake a city audit of bus stops to determine enhancements required to achieve targeted provision of disability access.

Service Level - Safety

Pedestrian Safety	To provide safe access to Council's transport network for all pedestrians.	Number of Pedestrian Accidents. Number of successful claims. Number of trip hazard defects.	Annually review accident information and identify solutions to pedestrian blackspots and list projects in the Works Improvement Program. Review, develop and implement pedestrian plans as part of commercial centres improvements. Monitor insurance claims and include results into Risk Management Plan. Undertake Pedestrian Safety Audit of roads surrounding schools. Monitor the number of trip hazards, make safe where funds permit and develop footpath maintenance plan.

Service Level - Accessibility

Cyclist Safety	To provide safe access to Council's transport network for all cyclists.	Number of Cyclist accidents.Number of successful claims.	Annually review accident information to identify blackspots.Monitor insurance claims and include results into Risk Management Plan.Monitor the number of trip hazards, make safe where funds permit and develop cycleway maintenance plan.
Motorist Safety	To provide safe access to Council's transport network for all motorists.	Number / Severity of motorist Accidents. Improve safety for heavy vehicles. Reduce risk behaviours.	Annually review accident information and identify blackspots and include results for consideration into the Works Improvement Program. Seek available external grants funding sources. Monitor insurance claims and include results into Risk Management Plan. Undertake Safety Audits during design stage for new projects.
Path Paving	Provide equity of access to city's path paving network.	Equal access to path paving city wide	Examine existing path paving to determine priority areas to assist prioritisation. Examine existing path paving to determine locations where service is lacking. List projects, prioritise in the Works Improvement Program for funding.

Service Level - Integration

Cycleways	Provide equity of access to the city's Cycleway network.	Provision of cycleways in accordance with Bike Plan.	Adopt cycleway plan. Identify cycleways required to implement and list in the Works Improvement Program for funding.
Carparks	Ensure adequate provision of parking facilities to Council services.	Provision of parking in accordance with Parking Plan	Identify projects required to implement parking plan and list for in the Works Improvement Program for funding.
Road Network Coordination	Provide a transport network allowing goods, people and motorists access to Council services and public transport interchanges.	Provision in accordance with Transport Plan	Examine existing public transport interchanges and factor equity into prioritisation.
Pedestrian / Cycleway Interchanges	Ensure an integrated network of pedestrian and cycle paths to Council services and public transport interchanges.	Efficiency of interchanges	Identify key nodal interchanges and assess them for efficiency. Any required upgrades listed for funding consideration into the Works Improvement Program.
Service Level - Efficiency			
Vehicular Interchanges	Ensure an integrated transport network allowing motorists to access Council services and public transport interchanges.	Efficiency of interchanges	Work with State and Federal Government to identify key nodal interchanges and assess them for efficiency. Determine funding strategies for required upgrades. Plan and provide infrastructure at the right time to support growth.
Road Network and Bridges	To provide transport network that efficiently support transports motorists for a range of trip purposes across the city.	Capacity Vs AM/PM Peak. Number of bridge closures per year.	Continuous monitoring of traffic volumes. Identify changes in the travel patterns. Improve efficiency of emergency procedures for bridge closures.

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. The resulting actions in response to these issues are included in the Implementation Plan contained in Section 8.2.

Table 4.1 Demand Factors, Projections and Impact on Services, Strategic Issues

Demand factor	Present position	Projection	Impact on services	Action
Increased population and new urban areas.	In 2011 – 312,485 North-West sector release planning. Completion of 1980's and Parklea Release areas.	By 2021 – 366,107 Release and development of the North-West Sector. Capping of s94 contributions State Government and increased development standards.	Increase in transport assets and accompanying renewal and operating expenditures. Increased traffic from increased population requiring upgrade to existing transport infrastructure.	Maintain up-to-date asset management systems and undertake regular reviews of Asset Management Plans.
Demographics	2012 0-4 yrs 26,570 8.4% 5-11yrs 33,401 10.5% 12-17yrs 27,343 8.6% 18-24yrs 31,978 10.1% 25-34yrs 50,523 15.9% 35-49yrs 68,068 21.5% 50-59yrs 35,898 11.4% 60-69yrs 24,810 7.8% 70-84yrs 15,560 4.9% 85 + 2,813 0.9% **Total 316,964**	2032 34,955 8.2% 47,387 11.1% 36,172 8.5% 39,174 9.2% 62,480 14.6% 91,341 21.4% 46,594 10.9% 34,136 8.0% 30,031 7.1% 4,204 1.0% **Total 426,474**	Increase demand on services in general. As the demographic of Blacktown changes over time service levels will need to be reviewed to respond to an aging population.	Review service levels and regularly undertake community consultation.
Land Use	Current development based on existing land use planning.	Changes to permissible land use such as in-fill development around commercial centres.	Increased population density around commercial centres will require upgrades of existing services / infrastructure.	Implement and review commercial centre master plans.
Climate change.	Current renewal programs and planning based on existing climatic conditions.	Changes in climatic conditions may increase renewal requirements or standards.	Fluctuations in Planned Capital Renewal and Operating Expenditure.	Review the effect of climate change on Council infrastructure and promote environmentally sensitive solutions.
Increase	Inflation in transport	Annual increases in	Increased cost to	Continually

Demand factor	Present position	Projection	Impact on services	Action
material supply costs and contract rates.	construction prices exceeds annual increases in transport expenditure.	construction costs continue to exceed increases in transport expenditure, effectively reducing 'real expenditure' on transport infrastructure.	maintain and renew and upgrade transport facilities. Reduction in real expenditure will delay treatments, reducing the life cycle of the asset.	review renewal modelling ensuring forecasting is accurate.
Tipping Sites	Tipping of reclaimed pavement materials at private tip sites is becoming increasingly more expensive.	Tipping of reclaimed pavement materials will become cost prohibitive.	Increased tipping cost will subsequently increase construction cost.	Investigate alternate options for the disposal of surplus excavated material.
Rising Community Expectation	Community expectation for standard of transport services rising.	Desired service level provision increased over time.	Adoption of higher service levels provided for transport services will create service level gaps and increase projects in delivery programs.	Review service levels and regularly undertake community consultation.
Increasing Design Standards	Design standards based on State and Federal design standards.	Higher standards adopted over time by other roads authorities resulting in expected standards by Local Government.	New infrastructure may be constructed to higher standard leading to potential retro-fitting of existing infrastructure to conform to higher standard.	Review service levels and ensure incorporation of new standards and requirements on existing infrastructure.
Increasing Environmental Standards	Public awareness of environmental issues and standards are increasing.	Environmental standards increase further supported by Regulations and/or the introduction of new taxes.	The provision of transport infrastructure incorporates environmental management features significantly increasing the cost of provision of transport services. Providing high levels of service in new release areas through development in comparison with existing areas will create inequity. Retrofitting the existing areas with environmental management features may be unachievable.	Review service levels and to ensure incorporation of new environmental standards and requirements on existing infrastructure.

Demand factor	Present position	Projection	Impact on services	Action
Transport Efficiency	Connectivity between local and regional transport systems and interchanges between modes (pedestrian, cycle and vehicular) exist.	As the city grows and consolidates it will result in increased movements between local and regional networks. Reliance on a well connected transport network with efficient model interchanges will also increase.	Upgrades and enhancements to the transport infrastructure will need to respond to growth of transport movements and variations in choice of travel change.	Engage with State and Federal Government to integrate Council's transport network into overall transport network.

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	Action
Pavement reconstruction and recycling techniques.	Road pavement reconstruction using recycled or reused materials reducing tipping and renewal costs.	Continually monitor advances in pavement reconstruction and recycling techniques.
New pavement maintenance and rejuvenation technology.	Potential reduction in whole of life and maintenance cost for pavements.	Continually monitor advances in pavement maintenance technology and methods.
Integration of electronic data management systems internally and with other tiers of Government.	Allow better management and reporting of transport management assets.	Develop a Knowledge Management Strategy.
Expansion of social media and crowd sourcing.	Greater opportunities to inform and obtain feedback from the community.	Continually monitor advances in technology in social media. Capitalise on any efficiencies in communicating with the community gained through this medium.

4.3 DEMAND MANAGEMENT PLAN

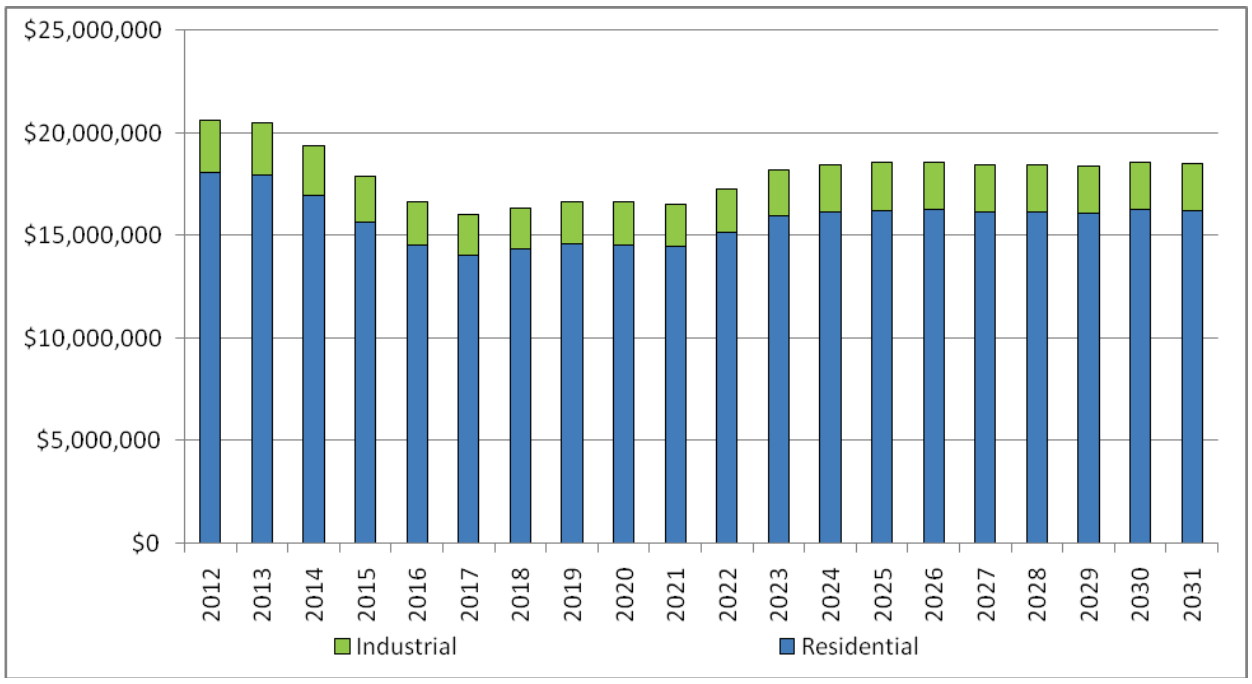
Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Tables 4.1 and 4.2. The resulting actions in response to these issues are included in the Implementation Plan contained in Section 8.2. Further opportunities as they arise will be developed in future revisions of this Asset Management Plan.

4.4 NEW ASSETS FROM GROWTH

The new assets required to meet growth will be acquired from land developments including approximately 5km of local roads per annum and those constructed or upgraded by Council. Projections of asset growth are summarised in Figure 1.

Figure 1. New Assets from Growth



Acquiring these new assets will commit Council to fund ongoing operational and maintenance costs for the period for which 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

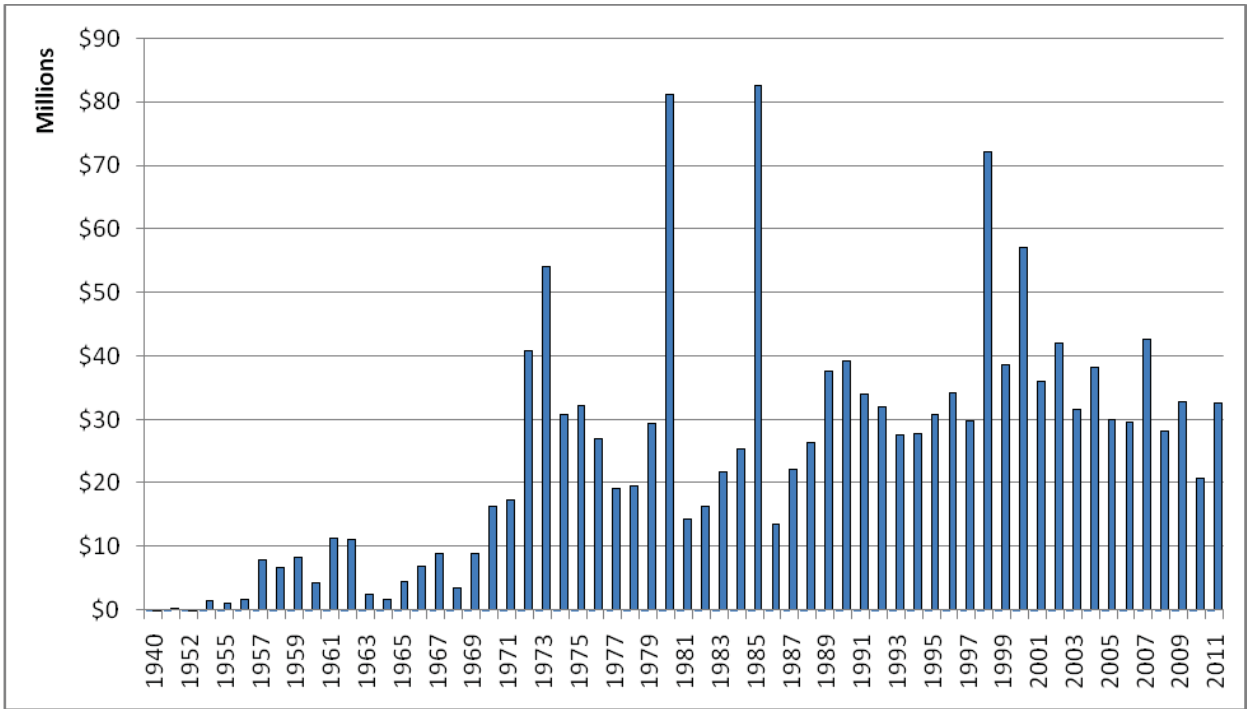
The lifecycle management plan details how Council plans to manage and operate the assets at the agreed levels of service (defined in Section 3) while optimising life cycle costs.

5.1 BACKGROUND DATA

The infrastructure considered in the Asset Management Plan are those required to underpin the movement of and connectivity of people across the City. Primarily transport assets are located on Council road reserves; however also extend to paths and parking facilities through open space and community facilities.

Blacktown has experienced continuous high growth over the past four decades and this is reflected in the age profile of Council's assets shown below. On average $30 million of transport assets are created or renewed per annum.

Figure 2. Asset Age Profile



5.1.2 ASSET CAPACITY AND PERFORMANCE

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

Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

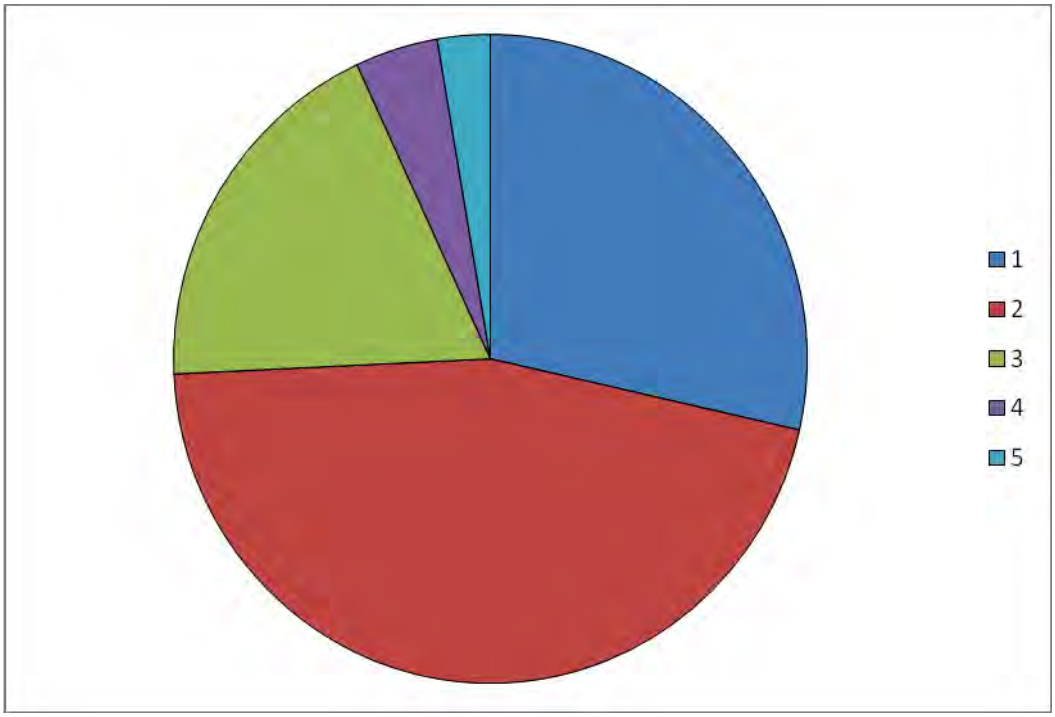
Table 5.1.2 Known Service Performance Deficiencies

Location	Service Deficiency
Path Paving and Cycleway Network	Numbers of defects identified is increasing predominately arising from tree roots.
Sealed Roads Network	Some road sections have pavement distress and require rehabilitation. Numbers of defects identified is increasing. Sealed roads in rural areas do not have sufficient clear zone.
Kerb & Gutter	Kerb and gutters require rehabilitation arising from tree root and heavy vehicle damage.
Traffic Devices	Intersections in industrial areas are not sufficient for long heavy loaded vehicles to turn. Vegetation in central medians is affecting the clear zone.
Bridges	Stony Creek bridge on Stony Creek Road needs to be upgraded or replaced. Some locations require enhance vehicle barriers.
Car Parking	Capacity does not match demand especially near train stations. Some car parks have defects and require maintenance.

5.1.3 ASSET CONDITION

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

Figure 3. Asset Renewal Profile



Condition is measured using a 1 – 5 rating system.

Condition Rating		Description of Condition	Economic Life %
1	Very good:	Only planned maintenance required	80-100
2	Good:	Minor maintenance required plus planned maintenance	50-80
3	Fair:	Significant maintenance required	25-50
4	Poor:	Significant renewal/rehabilitation required.	5-25
5	Very Poor:	physically unsound and/or beyond rehabilitation	0-5

5.1.4 ASSET VALUATIONS

The value of assets as at 30 June 2012 covered by this Asset Management Plan is summarised below.

Current Replacement Cost	$1,548,930,235
Depreciable Amount	$1,548,930,235
Depreciated Replacement Cost	$ 991,305,000
Annual Depreciation Expense	$ 30,060,000

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

Asset Consumption	1.94% (Annual Depreciation Expense/Depreciable amount) x 100

5.2 RISK MANAGEMENT PLAN

An assessment of risks[3] 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
Sealed Road	Accidents, car damage and reduced economic life.	High	Enhance inspection program Make safe and repair as soon as possible Report on risk and funding need Better utilisation of Maintenance budget Provide adequate Public Liability Insurance
Footpaths, Cycleways,	Trip hazards to pedestrian	High	Regular inspections Make safe first and prioritise for repair later

[3] Blacktown City Councils' Infrastructure Risk Management Plan

Pathways and Pram Ramps – Slabs uneven			Introduce planned reconstruction program Introduce tree replanting program
Stony Creek Causeway, Shanes Park and Rous Hill Causeway, Rouse Hill	Road closure during storm events due to inundation creating hazards site.	High	Replace existing old style signs with automated new style warning sings Install automated road closure gates Construct new bridge
Traffic Facilities – Pedestrians	Accidents and injuries	High	Investigate areas with pedestrian problems Design appropriate treatment and implement when funds available.
Cycleways – On road cycleway	Accidents and injuries	High	Investigate a whole cycleway network connection and prepare a priority plan using off road cycleway as preferred option.
Kerb and Gutter	Damage to pavement	High	Regular inspection. Prepare Kerb & Gutter and pavement replacement program, priorities and implement when funds available.

5.3 MAINTENANCE PLAN

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. Council considers maintenance to be planned or unplanned.

5.3.1 PLANNED MAINTENANCE

The following describes Council's approaches to planned maintenance

- **Frequency based maintenance** is maintenance scheduled periodically. It is required to sustain the design life of the asset or to maintain a performance standard. Programmed maintenance is typically undertaken on assets that are not critical, and have low risks associated with failure. Frequency based maintenance has set performance measures and maintenance activities undertaken are recorded to undertake performance monitoring. For example Council services its open space areas at set frequencies based on the hierarchy of the site, records are kept detailing when each site was serviced and when it is scheduled for its next service. These records form the basis of weekly performance monitoring.

- **Preventative maintenance** is maintenance that can be initiated without routine or continuous checking (e.g. using information contained in maintenance manual or manufacturer's recommendations) and is not condition or performance based. The purpose of this maintenance is to undertake sufficient maintenance activities to reduce the risk of unforeseen failure. Preventative maintenance is undertaken on assets that have high risks or unacceptable loss of service associated with failure. For example the failure of a chlorinator at an aquatic centre will potentially lead to the closure of the service.

- **Routine maintenance** is day-to-day operational activities to keep the asset operating (replacement of light bulbs, cleaning of drains, repairing leak etc) and which form part of the annual operating budget.

5.3.2 UNPLANNED MAINTENANCE

- **Corrective maintenance** is a task performed to identify, isolate and rectify a fault so that the failed asset can be returned to a condition in which it can perform its intended function. Council considers corrective maintenance as activity based maintenance and has documented intervention levels, response times (to complete the work from date of issue), work methods and performance measures. These are based on the IPWEA's NATSPEC documentation.

  Depending on how critical the failed asset is and availability of funds, corrective maintenance can be either immediate or deferred corrective maintenance.

  Unplanned maintenance includes unforeseen failure, vandalism, storm and accidental damage and is identified through customer requests, Council's maintenance crews and routine asset condition inspections. The manner that unplanned maintenance arises is irregular and cannot be predicted, for example damage caused by storms and vandalism. It is therefore necessary to monitor unplanned maintenance activities that cannot be undertaken immediately. Over time, by monitoring the trends of the amount of deferred corrective maintenance Council can optimise its investment or resources required to balance the trend.

Maintenance expenditure trends are shown in Table 5.3.2

Table 5.3.2 Maintenance Expenditure Trends

Year	Maintenance Expenditure		
	Planned	Unplanned	
	Frequency/Routine	Corrective	Deferred
2009/10	$4,334,817	$2,028,058	$6,133,081
2010/11	$4,961,687	$2,169,642	$7,355,684
2011/12	$4,633,461	$2,385,539	$10,516,767

Planned maintenance work is approximately 66% of total maintenance expenditure.

The total value of deferred maintenance is approximately $10,516,767 an increase of $3,161,083 from the previous year. Deferred maintenance records have been kept by Council for 8.5 years this indicates an increase of $1,237,267 per annum.

5.3.3 STANDARDS AND SPECIFICATIONS FOR MAINTENANCE

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

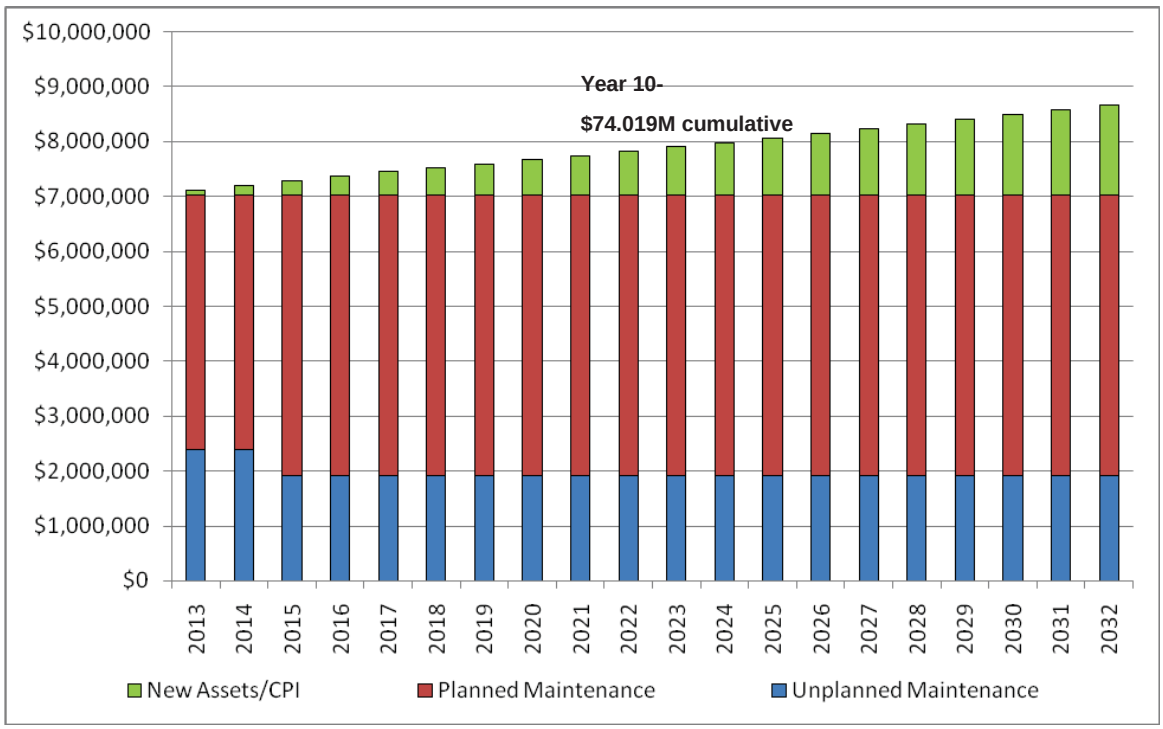
- RTA Maintenance Management Procedure
- Procedure for the Excavation & Restoration of Opening in Public Roads
- Maintenance Services Section Procedures Manual
- RTA Sealed/Unsealed Local Roads Condition Manuals
- NATSPEC Documents

5.3.4 SUMMARY OF FUTURE MAINTENANCE EXPENDITURES

Overall maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in 2011/2012 dollar values. The results of asset condition inspections and

deferred maintenance analysis currently underway will form the basis of refined planned maintenance programs in 2013-14.

Figure 4. Planned Maintenance Expenditure



Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded is 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.

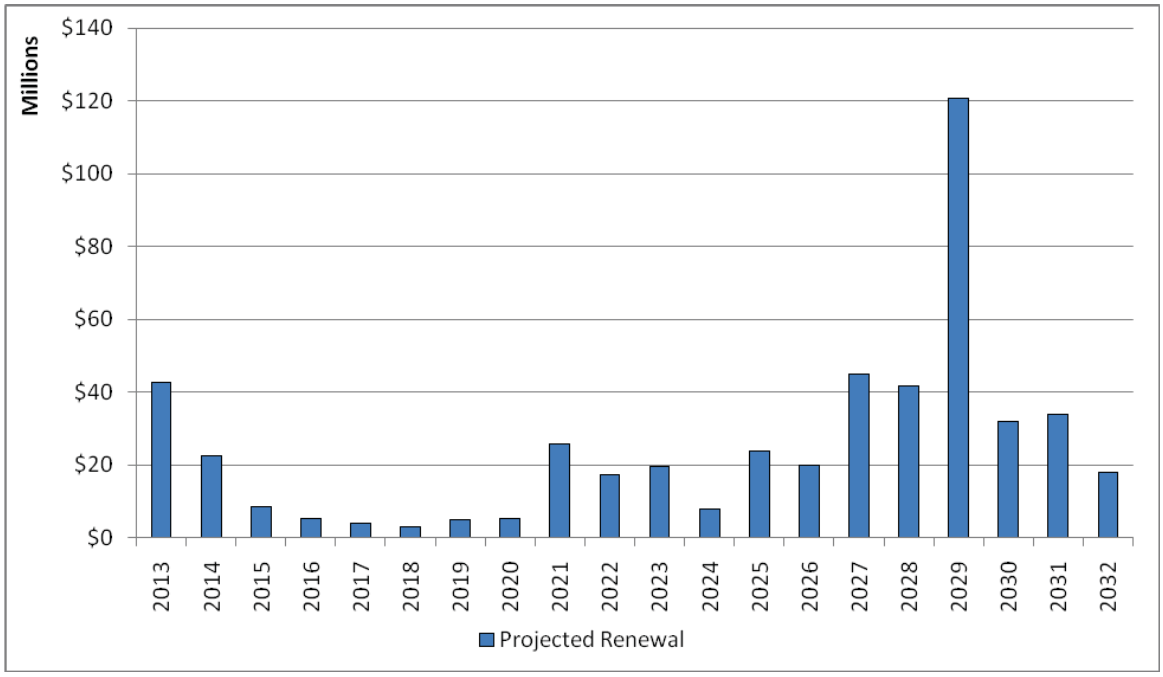
5.4 RENEWAL/REPLACEMENT PLAN

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 DEMAND

The first step of the renewal plan is to forecast the amount of transport renewal work required 20 years into the future. The information required to achieve this is obtained from four yearly condition assessments, customer requests and routine inspections. Renewal estimates (indexed to the scheduled year) 20 years into the future are detailed in Figure 5.

Figure 5. Forecast Renewal Demand



The first year requires significant funds and represents the accumulated renewal backlog or transport assets currently requiring renewal. The challenge for Council is to fund and schedule these works in a uniform annual budget ensuring;

- Uniform resources are maintained
- Budget requirements can be met and
- Delays to renewal treatments do not expose Council to more expensive rehabilitation.

5.4.2 STANDARDS AND SPECIFICATIONS FOR RENEWAL

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

- Blacktown City Council Engineering Guide for Development.
- RMS Maintenance Management Procedure
- Procedure for the Excavation & Restoration of Opening in Public Roads
- Maintenance Services Section Procedures Manual
- RMS Sealed Local Roads Condition Manual
- RMS Unsealed Local Roads Condition Manual

5.4.3 SUMMARY OF FUTURE RENEWAL EXPENDITURE

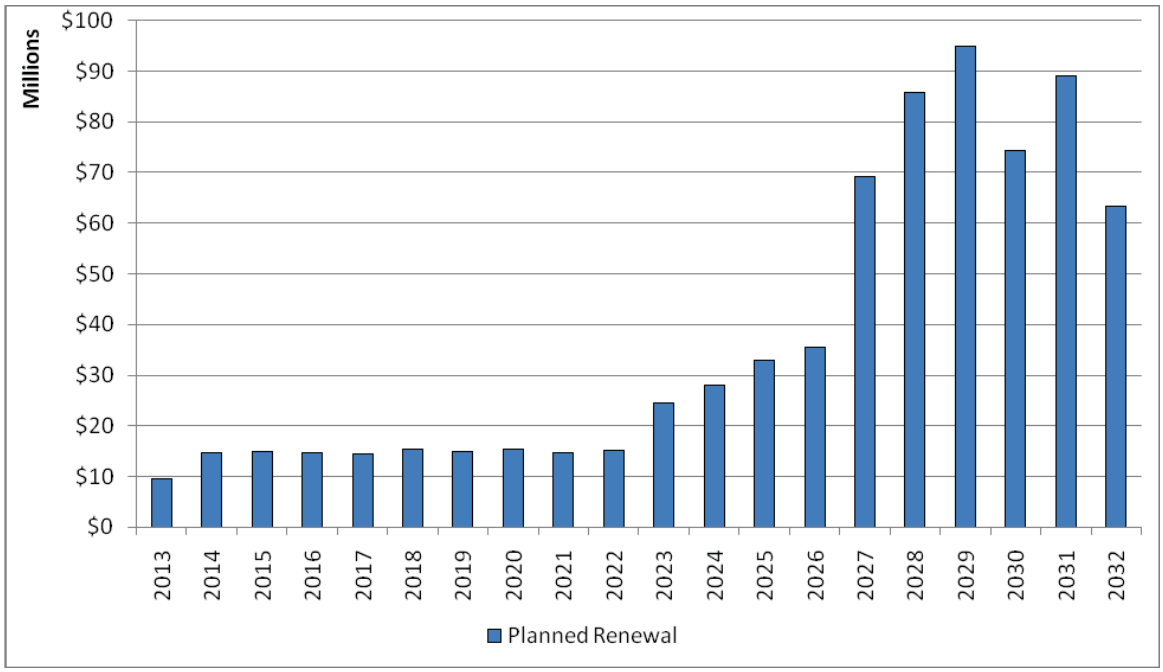
Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The costs are summarised in Figure 6. Note that all costs are shown in current 2011/2012 dollar values.

Wherever possible renewal is prioritised to ensure the lowest life cycle cost possible, for example road pavement works are prioritised in favour of low cost resurfacing work that protects the underlying pavement, that if damaged involves high cost rehabilitation.

Complex modeling is performed to smooth out the renewal profile resulting in the lowest cost solution over a 10 year period that is manageable with current operations. The resulting 10 year renewal program and forecast for the ensuing 10 years is shown in Figure 6. These results are used in Council's Long Term Financial Plan to

model the requirements for asset renewal funding. This modelling identifies a significant gap between the current and optimal funding to address asset renewal. Note that the term "Projected Capital Renewal Expenditure" in Figure 6 refers to the funding which is projected as required in this period for optimal asset management. That level of funding is not currently budgeted for, as explained in the Long Term Financial Plan.

Figure 6. Projected Capital Renewal Expenditure



Through the annual preparation of Council's Works Improvement Program candidate proposals indentified for renewal are inspected to verify accuracy of treatment proposed, renewal estimate and finally rank on a priority basis. There is a number of transport renewal and upgrade programs in the Works Improvement Program, the selection criteria are detailed in Appendix A.

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.

5.5 UPGRADE/EXPANSION PLAN

These 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.

Rising community expectation has driven up desired service levels over time; this can result in disparate service provision across the city. For example, path paving is required to provide all weather access along roads for pedestrians, the minimum provision of path paving has increased over the past few decades leaving provision in some areas of the city developed in 1980's below the current standard detailed in the Path Paving Policy. To achieve a uniform standard across the city Council should:

- Adopt desired service levels.
- Identify gaps in service provision.
- Quantify physical work to achieve desired service levels city wide.
- Determine delivery timeframe through community consultation.
- Prioritise upgrades based on set selection criteria.

- Implement a program of works to retrofit the city.
- Update planned capital upgrade program Figure 7.

Where further effort is required to estimate new/upgrade plans, actions linked to desired service levels (Table 3.3) form part of the Improvement Plan in Section 8.2. Results of these actions will be documented in future revisions of this Asset Management Plan, as such the Planned Capital Upgrade/New Asset Expenditure detailed in Figure 7 only represents infrastructure required to service new release areas.

5.5.1 SELECTION CRITERIA

New assets and upgrade/expansion of existing assets are identified from various sources such as councilor or community requests, proposals identified by strategic plans and release area planning. Candidate proposals represent assets that have characteristics/attributes that inhibit them from performing a desired service level. In some instances existing infrastructure has not been tested against the service levels documented in Section 3.4 and further studies are required to fully identify potential service gaps. Proposals are annually reviewed in Council's Works Improvement Program and ranked by priority. The priority ranking criteria is detailed in Appendix B.

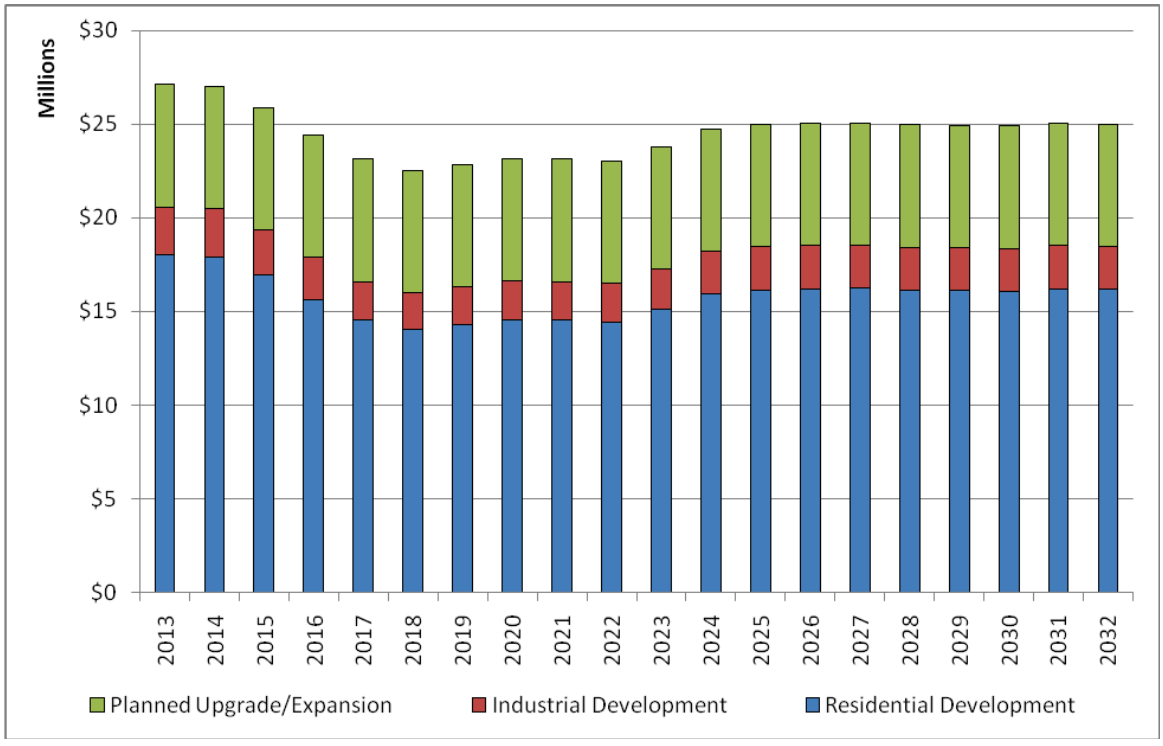
5.5.2 STANDARDS AND SPECIFICATIONS FOR UPGRADE/EXPANSION

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/EXPANSION ASSETS EXPENDITURE

Estimated upgrade/new asset expenditures are summarised in Figure 7. All costs are shown in current 2011/2012 dollar values.

Figure 7. Planned Capital Upgrade/New Asset Expenditure



The forecast upgrade and expansion is based on actual expenditure in the 2011/2012 financial year. Council has undertaken many major road upgrades in this period which has elevated this forecast. The provision of additional and upgraded roads will continue over the next 20 years specifically in the North West Growth Area, which will be predominately funded by developer contributions. The investment into new and upgraded transport assets will be monitored and the above forecast reviewed annually.

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. At this stage no assets are identified for possible decommissioning and disposal. 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.

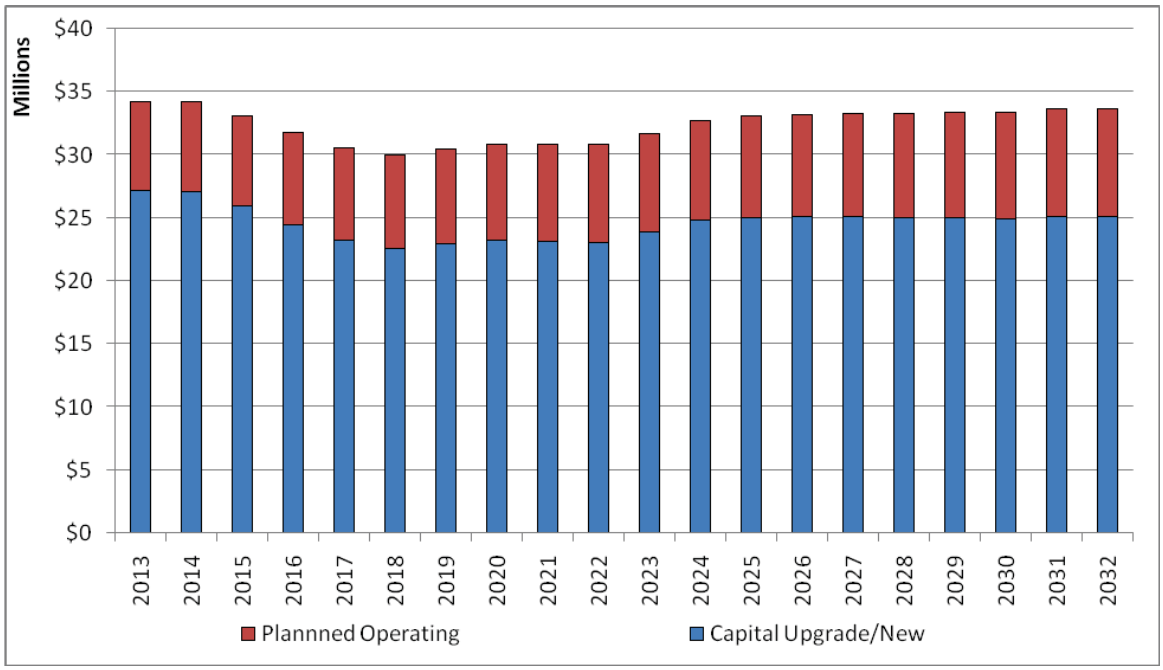
6. FINANCIAL SUMMARY

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 Figure 8 for planned operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets).

Figure 8. Planned Operating and Capital Expenditure



Note that all costs are shown in current 2011/2012 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:

Annual Depreciation (5.1.4)	$30,060,000
Maintenance Expenditure (5.3.2)	$ 7,019,000
Average Annual increase in Deferred Maintenance (5.3.2)	$ 1,237,267
Total	**$38,316,267**

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 **$18,031,718**

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 Transport 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 **$20,284,549** per annum. The life cycle sustainability index is **0.471**.

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.

Figure 9 details the projected asset renewals in the 20 year forecast period and compared to planned renewal expenditure in the capital works program. Table 6.1.1 details the annual and cumulative funding gap (deferred renewal) between projected and planned renewals.

Figure 9. Projected and Planned Renewals and Current Renewal Expenditure

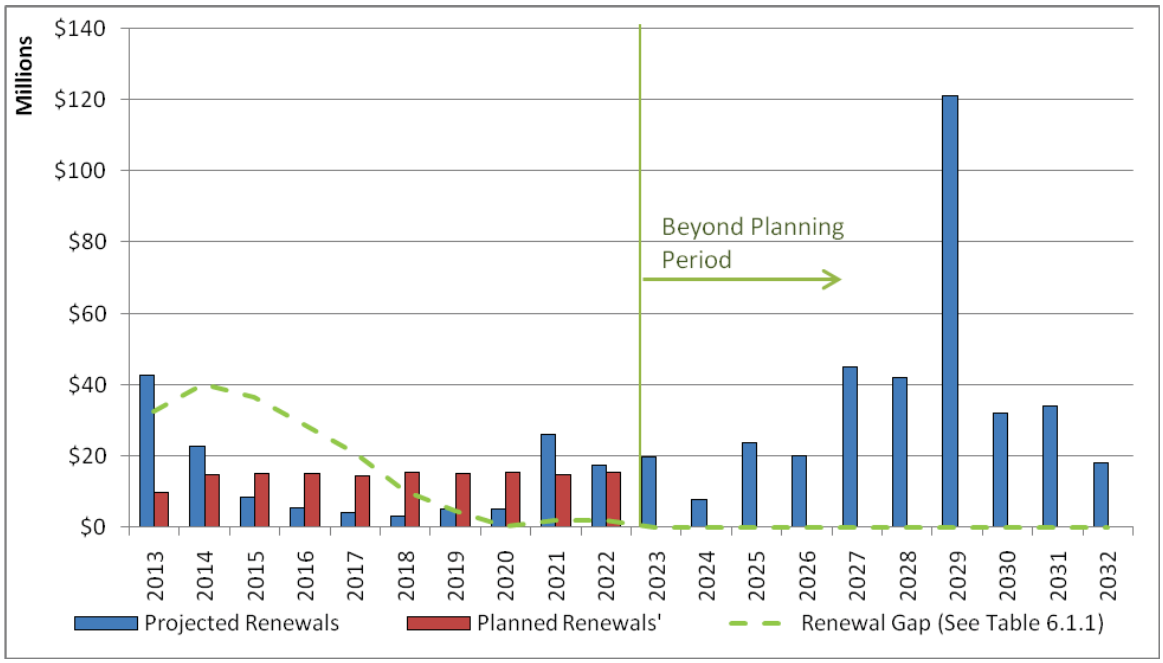


Table 6.1.1 shows the gap between projected and planned renewals.

Table 6.1.1 Projected and Planned Renewals and Expenditure Gap

Year	Projected Renewals	Planned Renewals	Renewal Funding Gap
2013	$42,527,289	$9,682,846	$32,579,052
2014	$22,486,709	$14,794,881	$40,353,774
2015	$8,456,963	$15,008,740	$36,672,037
2016	$5,313,510	$14,815,319	$28,953,136
2017	$4,000,009	$14,440,346	$20,928,707
2018	$3,022,428	$15,412,979	$10,394,847
2019	$4,940,238	$14,845,285	$4,804,443
2020	$5,127,643	$15,307,797	$339,313
2021	$25,832,230	$14,766,488	$2,167,067
2022	$17,180,172	$15,249,385	$2,123,744
Total	**$138,887,191**	**$144,324,066**	

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 and ensure that adequate renewal expenditure is planned, particularly in road surface treatments that are relatively inexpensive compared to pavement renewal arising from water penetration through aged surfaces.

Council's long term financial plan covers the first 10 years of the 20 year planning period. The total maintenance and capital renewal expenditure required over the 10 years is:

10 year Projected Renewal (6.1.1)	$138,887,191
10 year Projected Maintenance Expenditure (5.3.4)	$ 74,019,387
Deferred Maintenance (5.3.2)	$ 10,516,767
Total	**$223,423,345**

The estimated maintenance and capital renewal expenditure in the first 10 years is

10 year Planned Renewal (6.1.1)	$144,324,066
10 year Projected Maintenance Expenditure (5.3.4)	$ 74,019,387
Total	**$218,343,453**

The 10 year sustainability index is **0.977**.

6.2 FUNDING STRATEGY

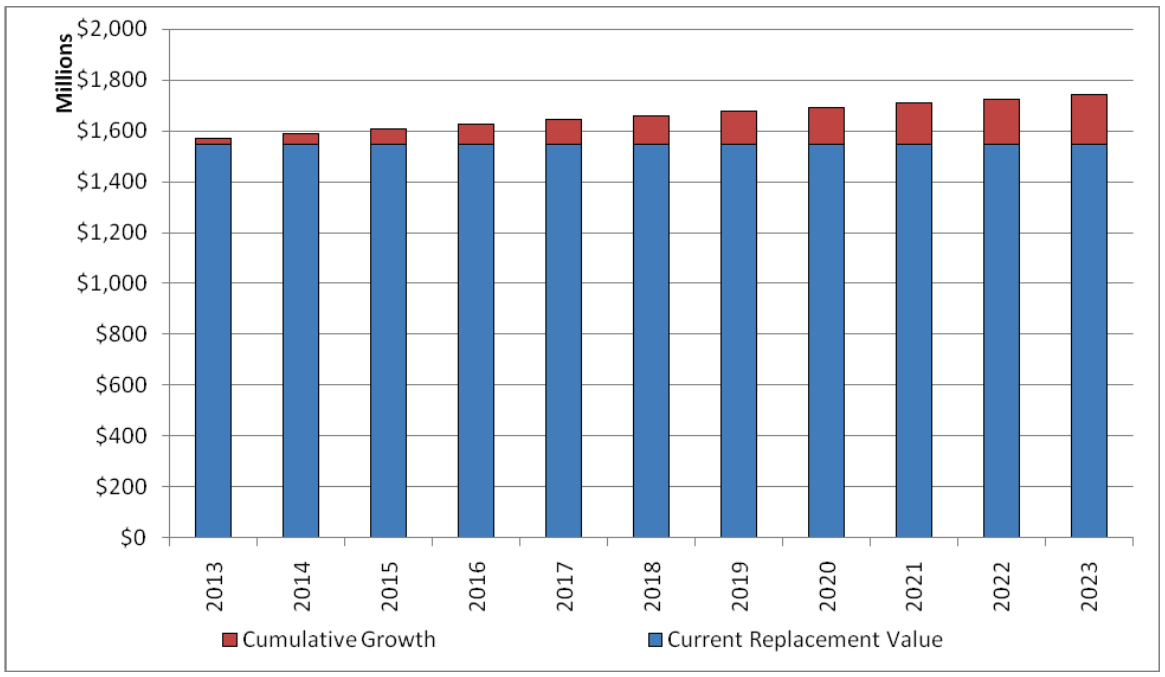
Projected expenditure identified in Section 6.1 is to be funded from Council's operating and capital budgets. The funding strategy is detailed in Council's 10 year long term financial plan.

Achieving the financial strategy will require continual monitoring of pavement condition and modeling to forecast required renewal expenditure matched by funds detailed in Council's Long-Term Financial Plan.

6.3 VALUATION FORECASTS

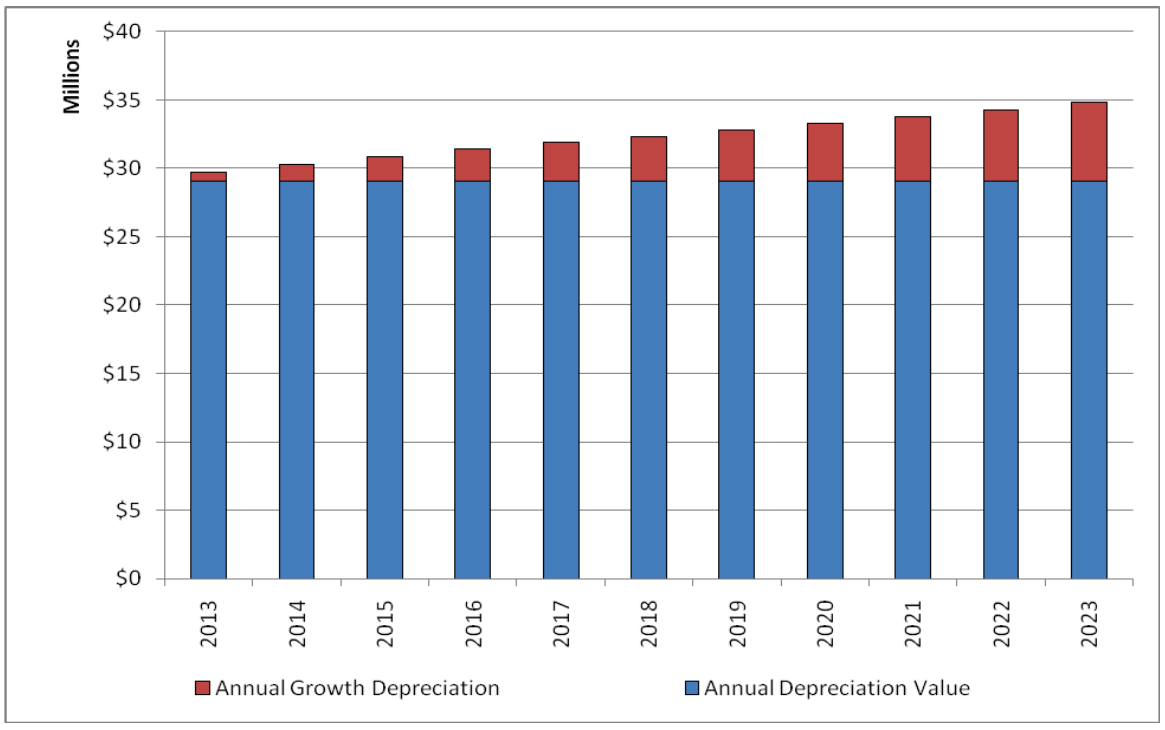
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 10 shows the projected replacement cost asset values over the planning period in current 2011/12 dollar values.

Figure 10.Projected Asset Values



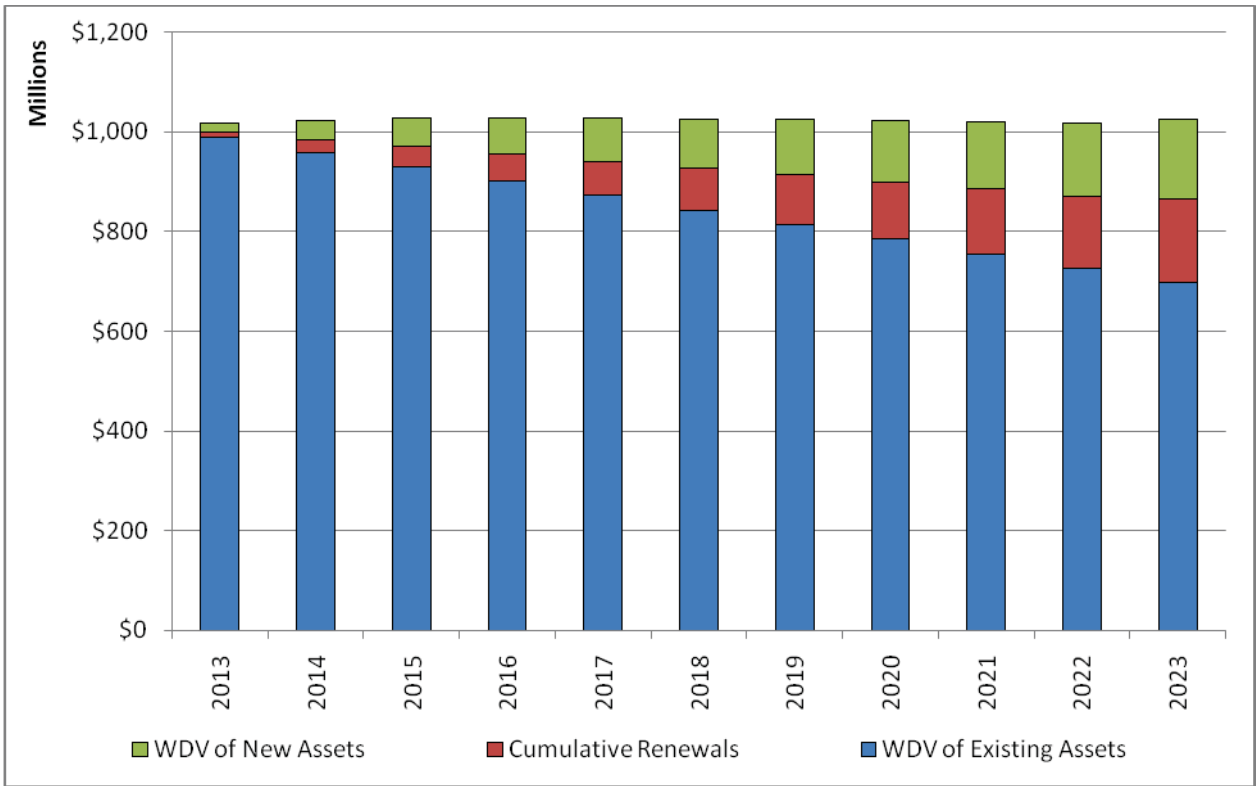
Depreciation expense values are forecast in line with asset values as shown in Figure 11.

Figure 11. 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 Figure 12.

Figure 12. 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:

- Indexation used in modeling results was set at 5% per annum.
- Economic lives of assets are based on asset condition inspections or industry standards.
- For infrastructure covered under Council's materiality threshold, replacement is covered under operational budgets.

Accuracy of future financial forecasts may be improved in future revisions of this Asset Management Plan by the following actions.

- Include the results of service level gaps identified by the actions contained in Table 8.1. Identify the desired time to reduce service level gaps through community consultation and use as the basis of an annual allocation.
- Include results from enhanced modeling for ancillary transport assets.

7. ASSET MANAGEMENT PRACTICES

7.1 ACCOUNTING/FINANCIAL SYSTEMS

Council manages finances in accordance with the following standards, guidelines and regulations:

- Applicable Australian equivalents to International Financial Reporting Standards (AIFRSs)
- Other authoritative pronouncements of the Australian Accounting Standards Board (AASB).
- Urgent Issues Group Interpretations.
- The Local Government Act (1993) and Regulations
- The Local Government Code of Accounting Practice and Financial Reporting.

Australian Accounting Standards include Australian equivalent to International Financial Reporting Standards (IFR's). Because the AASB's are sector neutral, some standards either:

- have local Australian content and prescription that is specific to the not for profit sector (including Local Government) which are not in compliance with IFR's; or
- Specifically exclude application by Not for Profit entities.

Examples of this includes excluding Local Government from AASB 120 (IAS 20) for grant accounting and AASB 118 (IAS 18) for segment reporting. Different requirements apply to Local Government for impairment of assets in AASB 136 (IAS 36) and AASB 116 (IAS 16) regarding accounting for the revaluation of assets.

7.2 ASSET MANAGEMENT SYSTEMS

7.2.1 BLACKTOWN CITY COUNCIL ASSET MANAGEMENT SYSTEM (BCAMS)

Council maintains an asset management system to record asset inventory, manage inspections and risk and fulfill its mandatory planning and reporting requirements. The system utilises Microsoft SQL Server systems to store corporate asset information and manage backup and disaster recovery processes. Access to corporate asset information via various interfaces are managed by role based authenticated accounts.

Asset information obtained through engineering plans from land developments and internal and contracted construction and maintenance work is incorporated into the corporate asset information in an ongoing basis. This core register provides the basis for further related information to be added for the following functions.

1. Asset registers
2. Spatial (GIS) information
3. Asset accounting
4. Risk inspections
5. Maintenance works management
6. Long term renewal forecasting and planning
7. Service level planning

7.2.2 WORKS IMPROVEMENT PROGRAM (WIP)

The implementation of asset management strategies and renewal programs is managed by Council's Works Improvement Program System. The system annually underpins the;

1. Preparation of the Capital Works Program, including prioritisation.
2. Planning and implementation of capital works.
3. Environmental management of adopted programs.

The administration, training and security of the above systems are the responsibility of Council's Asset Planning and Support section, whilst the disaster recovery and backup of corporate information is managed by Information Technology.

7.2.3 INSPECTIONS

Council's transport assets are routinely inspected to identify any existing defects requiring rectification. Proposed works resulting from inspections are recorded and issued on a priority basis established from the assets location (exposure to traffic, pedestrian and cycle movements) and the potential harm or consequence the defect could cause.

The frequency transport assets are inspected are as follows;

- Local Roads and ancillary infrastructure 6 monthly
- Regional Roads and ancillary infrastructure 3 monthly
- Pathways 6 monthly
- Car Parking Areas 6 monthly
- Bridges 6 monthly

7.3 INFORMATION FLOW REQUIREMENTS AND PROCESSES

The key information that 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 that 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, Annual Budget and Departmental Business Plans.

7.4 STANDARDS AND GUIDELINES

- Blacktown City Council Asset Management Policy 2012
- Blacktown City Council Asset Management Strategy 2012
- Australian Accounting Standards (AASB 116)
- IPWEA, 2011, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australia, Sydney
- NATSPEC 2012, Local Government Specification System for Life-Cycle Management of Assets

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 cash flows identified in this Asset Management Plan are incorporated into Council's long term financial plan and Strategic Management Plan;
- The degree to which 1 and 4 year delivery programs provided by this Asset Management Plan are taken into account in the detailed works programs, budgets, business plans and organisational structures.

8.2 IMPROVEMENT PLAN

The asset management improvement plan generated from this Asset Management Plan is shown in Table 8.1.

Table 8.1 Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
Consultation				
1	Undertake community satisfaction survey.	Community Development	Existing staff / Consultants	Periodically
Quality				
2	Annually review renewal modelling.	Asset Planning and Support	Existing staff	Ongoing annually
3	Enhance existing renewal modelling systems for ancillary transport assets.	Asset Planning and Support	Existing staff	Jun-14
4	Performance monitoring of maintenance	Civil Maintenance / Asset Planning and Support	Existing staff	Jun-14
5	Examine commercial centre Master Plans and identify service gaps for consideration into Works Improvement Program.	Strategic Planning / Asset Design Services / Consultants / Asset Planning & Support	Existing staff/Consultants	Ongoing
6	Monitor comments made in media and conduct customer satisfaction surveys			Ongoing
7	Undertake city wide audit of path paving assets to determine locations where provision is lacking when compared to Path Paving Policy. List required upgrades for funding consideration into the Works Improvement Program.	Asset Planning and Support	Existing staff	Complete

8	Undertake city wide audit of parking assets to determine locations where provision is lacking when compared to development standards. List required upgrades for funding consideration into the Works Improvement Program.	Transport and City Projects / Asset Planning and Support	Existing staff	Jul-14
9	Undertake a city audit of bus stops to determine enhancements required to achieve targeted provision of disability access.	Transport and City Projects / Civil Maintenance / Asset Planning and Support	Existing staff	Complete/ Ongoing
10	Assess the protection AEP of waterway crossings against desired protection and identify projects for funding consideration into the Works Improvement Program.	Asset Design Services / Asset Planning and Support		
11	Undertake city wide audit of road assets to determine roads that fall below Development Guideline standards. List required upgrades for consideration into the Works Improvement Program.	Asset Planning and Support / Asset Design Services	Existing staff	Jun-14
12	Undertake city wide audit of controlled intersections and determine gaps for inclusion into maintenance programs.	Transport and City Projects / Civil Maintenance / Asset Planning and Support	Existing staff	Jun-14
13	Undertake city wide audit of rural road assets and determine gaps for consideration into the Works Improvement Program.	Asset Planning and Support / Civil & Open Space Maintenance	Existing staff	Jun-14
14	Identify locations throughout the city that have increased walking distance to public transport assets and list projects for consideration in the Works Improvement Program.	Asset Planning and Support	Existing staff	Jun-14
15	Annually review accident information and identify black spots.	Transport and City Projects	Existing staff	Annually
16	Monitor the number of trip hazards, undertake actions to make safe and develop footpath maintenance plan.	Civil Maintenance / Asset Planning and Support	Existing staff	Jun-14
17	Monitor insurance claims and include results into Risk Management Plan if required.	Business Assurance and Safety / Asset Planning and Support	Existing staff	Ongoing
18	Monitor the number of hazards, undertake actions to make safe and develop cycleway maintenance plan.	Civil Maintenance / Asset Planning and Support	Existing staff	Jun-14

19	Examine existing path paving to determine priority areas to assist prioritisation.	Asset Planning and Support	Existing staff	Jun-14
20	Examine existing cycleways to determine priority areas to assist prioritisation.	Transport and City Projects / Asset Planning and Support	Existing staff	Completed
21	Examine existing car parking to determine priority areas to assist prioritisation.	Asset Planning and Support	Existing staff	Jun-14
22	Examine existing public transport interchanges and factor equity into prioritisation.	Asset Planning and Support	Existing staff	Jun-14
23	Identify key nodal interchanges and assess them for efficiency. Any required upgrades listed for funding consideration into the Works Improvement Program.	Asset Design Services / Consultants / Asset Planning & Support	Existing staff	Jun-14
24	Work with State and Federal Government to identify key nodal interchanges and assess them for efficiency. Determine funding strategies for required upgrades.	Transport and City Projects / Asset Planning and Support	Existing staff	Jun-14
25	Continuous monitoring of traffic volumes. Identify locations that have insufficient capacity.	Transport and City Projects / Asset Planning and Support		Ongoing
26	Improve efficiency of emergency procedures for bridge closures by regular assessment and implementing requirements	Transport and City Projects / Civil Maintenance / Asset Design Services / Planning and Support / Asset Construction	Existing staff	Ongoing
Future Demand				
27	Maintain up-to-date asset management systems and undertake regular reviews of Asset Management Plans.	Asset Planning and Support	Existing staff	Ongoing
28	Review service levels and regularly undertake community consultation.			Ongoing
29	Implement and review commercial centre master plans.	Asset Design Services / Asset Planning & Support		Ongoing
30	Review the effect of climate change on Council infrastructure and promote environmentally sensitive solutions.	Asset Design Services / Asset Planning & Support		Ongoing
31	Continually review renewal modelling ensuring forecasting is accurate.	Asset Planning and Support	Existing staff	Ongoing

32	Investigate alternate options for the disposal of surplus excavated material.			Jun-14
33	Review service levels and regularly undertake community consultation.			Ongoing
34	Review service levels and to ensure incorporation of new standards and requirements on existing infrastructure.	Asset Design Services / Asset Planning & Support		Ongoing
Changes in Technology				
35	Continually monitor advances in pavement reconstruction and recycling techniques.	Asset Design Services / Civil & Open Space Maintenance / Asset Planning & Support		Ongoing
36	Continually monitor advances in pavement maintenance technology and methods.	Asset Design Services / Civil & Open Space Maintenance / Asset Planning & Support		Ongoing
37	Develop a Knowledge Management Strategy.			Jun-14
38	Continually monitor advances in technology in social media. Capitalise on any efficiencies in communicating with the community gained through this medium.		Existing Staff	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.

REFERENCES

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International Infrastructure Management Manual, Institute of Public Works Engineering Australia, Sydney, 2006 & 2011.

NAMS.PLUS Asset Management Template, Institute of Public Works Engineering Australia, Sydney, 2008.

IPWEA, 2009, 'Australian Infrastructure Financial Management Guidelines', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AIFMG.

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APPENDICES

APPENDIX A SELECTION CRITERIA FOR WORKS IMPROVEMENT PROGRAM

RMS Regional Roads – Enhancement Projects

Selection Criteria
Annual Average Daily Traffic (AADT)
Benefit Cost Ratio
Heavy Vehicle Usage
Support Public Transport
Urban Growth

RMS Regional Roads – Rehabilitation Projects

Selection Criteria
Annual Average Daily Traffic (AADT)
Cracking
Heavy Vehicle Usage
Rectify Road Design
Roughness
Rutting
Support Public Transport

Minor Improvements – Bus Shelters & Minor Works

Selection Criteria
Patronage/Potential Usage
Proximity/Potential for Public Claims
Requests Received by Council

Construction and Bitumen Sealing

Selection Criteria
Dwellings Accessed from Road
Existing Surface Condition
Development Potential
Requests Received by Council
Through Road

Roadworks

Selection Criteria
Community Amenity Improvement
Condition of Road
Traffic Volume (Annual Average Daily Traffic)
Development Potential
Requests Received by Council

Reseal

Selection Criteria
Expected Remaining Life
Priority

Failed Pavement

Selection Criteria
Expected Remaining Life
Road Classification
Number of Public Complaints Received
Safety

Path Paving

Selection Criteria
Pedestrian Generator
Community Safety Improvement
Development Potential
Remaining or Incomplete Sections
Road Hierarchy
Requests Received by Council

Traffic Facilities – Bicycle Schemes

Selection Criteria
Staging Order Adopted by Bike Plan

Traffic Facilities – Pedestrian

Selection Criteria
Accident History
Pedestrian Activity and Age
Pedestrian x Vehicle Value
Vehicle Speed
Heavy Vehicle Usage
Traffic Volume

Traffic Facilities – Wombat Crossings

Selection Criteria
Accident History
Pedestrian Activity and Age
Pedestrian x Vehicle Value
Vehicle Speed
Heavy Vehicle Usage
Traffic Volume

Traffic Facilities – LATM Schemes

Selection Criteria
LATM Staging Order for Blacktown LGA

Traffic Facilities – Traffic Calming Schemes

Selection Criteria
Accident History
Vehicle Speed
Heavy Vehicle Usage
Traffic Volume

Traffic Facilities – Guard Rail

Selection Criteria
Accident History
Traffic Volume
Vehicle Speed

Traffic Facilities – General Devices

Selection Criteria
Accident History
Vehicle Speed
Traffic Volume

Traffic Facilities – Road Closures

Selection Criteria
Need for Closure

Traffic Facilities – Public Car Parking

Selection Criteria
Existing Parking in the Area
Type of Parking Required

Traffic Facilities – Sign Posting Schemes

Selection Criteria
Community Access Improvement
Requests Received by Council

Bridges

Selection Criteria
Community Safety Improvement
Community Access Improvement
Requests Received by Council

House Numbering, Street Signs and Street Lighting

Priority Order as Determined

S94 CP No.1 – 1980s Major Roads

Selection Criteria
Annual Average Daily Traffic (AADT)
Percentage of Catchment Developed
Required for Development to Proceed
Community Safety Improvement

Staging Order

S94 CP No.2 – Local Roads

Selection Criteria
Existing Road Condition
Percentage of Contributions Received
Road Classification
Requested Received by Council
Required for Development to Proceed

S94 CP No.5 – Parklea Major Roads

Selection Criteria
Annual Average Daily Traffic (AADT)
Percentage of Catchment Developed
Required for Development to Proceed
Community Safety Improvement
Staging Order

S94 CP No.5 – Parklea Major Roads

Selection Criteria
Percentage of Contribution Area Developed
Community Safety Improvement
Request Received by Council
Sufficient Development for Bicycle Facilities

APPENDIX B - ABBREVIATIONS

AAAC	Average Annual Asset Consumption
AMP	Asset Management Plan
ARI	Average Recurrence Interval
CRC	Current Replacement Cost
DA	Depreciable Amount
IRMP	Infrastructure Risk Management Plan
LCC	Life Cycle Cost
LCE	Life Cycle Expenditure
MMS	Maintenance Management System
RV	Residual Value

APPENDIX C - 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 category

Grouping of like assets classes e.g. Drainage, Transport.

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, and engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.

Asset renewal funding ratio
The ratio of the net present value of asset renewal funding accommodated over a 10 year period in a long term financial plan relative to the net present value of projected capital renewal expenditures identified in an asset management plan for the same period [AIFMG Financial Sustainability Indicator No 8].

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 months.

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, e.g. 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, e.g. 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, e.g. 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.

Crowdsourcing ***

Is the act of outsourcing tasks, traditionally performed by an employee or contractor, to an undefined, large group of people or community (a "crowd"), through an open call.

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.

Delivery Program

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 Council's objectives and activities

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 arm's 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, e.g. 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 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 the 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 (e.g. 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 (e.g. 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 if 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, e.g. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operating expenditure

Recurrent expenditure, which is continuously required excluding maintenance and depreciation, e.g. 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.

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, e.g. public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.

Risk management

The allocation of probability and consequence to an undesirable event and subsequent actions taken to control or mitigate that probability and/or consequence.

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.

Social Media***

Social media are media for social interaction, using highly accessible and scalable communication techniques. Social media is the use of web-based and mobile technologies to turn communication into interactive dialogue.

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 **

Wikipedia ***

ADOPTED
6 November 2013

diverse, dynamic, progressive

BLACKTOWN CITY 2030
CITY OF EXCELLENCE

ASSET MANAGEMENT PLAN BUILDINGS

2013 - 2023

Blacktown City Council

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

1.1 WHAT COUNCIL PROVIDES

Council provides community building assets through a mix of Council funds and developer contributions to enable our community to have a safe, efficient and reliable range of services within the City of Blacktown.

Assets included in this plan

- Community / Neighbourhood Facilities
- Child Care, Preschools & Baby Health Centres
- Libraries
- Amenities & Sporting Facilities
- Rural Fire Stations & SES
- Pools and Leisure Centres
- Council Operational Buildings
- Aged and Disabled Service Facilities
- Scout & Guide Halls
- Commercial Holdings
- Residential Holdings
- Heritage

1.2 WHAT DOES IT COST?

There are two key indicators of cost to provide building infrastructure:

- 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 building service is estimated at **$16,992,150** per annum. Council's planned life cycle expenditure for year 1 of the Asset Management Plan is **$10,395,450** which gives a life cycle sustainability index of **0.612.**

The total maintenance and capital renewal expenditure required to provide the building infrastructure for the next 10 years is estimated at **$117,457,440.** Council's 10 year planned expenditure of the Asset Management Plan is **$117,403,220** which gives a 10 year sustainability index of **1.00**.

Council's maintenance and capital renewal expenditure for year 1 of the Asset Management Plan of **$10,395,450** compared to the average projected expenditure over the 10 year planning period of **$11,745,744** giving a first year sustainability index of **0.885**.

1.3 PLANS FOR THE FUTURE

Council plans to operate and maintain community buildings to achieve the following strategic objectives:

1. Ensure the community buildings are maintained at a safe and functional standard as set out in this Asset Management Plan.
2. Provide a diverse range of community buildings that suit the need of the community.
3. Ensure that infrastructure provides the functionality sought by the community.
4. Increased availability to community buildings.
5. Provide sustainable buildings that Council can afford and meet the communities' expectations.

1.4 MEASURING OUR PERFORMANCE

Quality

Building Infrastructure assets will be maintained in a reasonably usable condition. Defects found or reported that are outside our service standard will be repaired. See our maintenance response service levels for details of defect prioritisation and response time.

Function

The intent is to maintain an appropriate Building Infrastructure network in partnership with other levels of government and stakeholders to achieve functional, affordable and sustainable building infrastructure within the City to ensure Blacktown is a place of choice to live, work and play.

Building Infrastructure 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:

- The Buildings are fit for purpose
- The Building satisfies the communities expectations

Council is committed to the provision and maintenance of a diverse range of quality infrastructure. Council's infrastructure will be provided in a planned and efficient manner to meet the present and future needs of our growing and vibrant City.

Safety

Council inspects all building infrastructure regularly and prioritises and repairs defects in accordance with inspection schedules to ensure the assets are safe.

1.5 THE NEXT STEPS

The actions resulting from this Asset Management Plan are:

- Manage and operate an appropriate mix of sustainable infrastructure at the lowest lifecycle cost that supports services within Blacktown City.
- Provide a consistent and comprehensive approach to asset management planning through the use of renewal modelling and Asset Management Plans.
- Prioritisation of projects funded in the Works Improvement Program based on principles and objectives contained in Council's Asset Management Strategy and this Asset Management Plan.
- Complete the maintenance of building infrastructure in a cost effective and timely manner.
- Implement the actions outlined in the improvement plan.
- Undertake a customer satisfaction survey.
- Develop funding strategies to undertake asset renewal and decrease service level gaps.

2. INTRODUCTION

2.1 BACKGROUND

This Asset Management Plan is designed/created/written to demonstrate responsive/responsible management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed for providing the required levels of service.

The Building Asset Management Plan is to be read with the following associated planning documents:

- Community Strategic Plan – *Blacktown City 2030*
- Asset Management Strategy 2013-2023 (including Asset Management Policy)
- Long Term Financial Plan 2013-2023
- Annual Works Improvement Program
- Blacktown City Council Development Control Plan 2006
- Blacktown City Council Community Satisfaction Survey 2011
- Blacktown City Council Risk Management Plan

Table 2.1. Assets covered by this Plan

Building Type	Number	Replacement Value
Community / Neighbourhood Centres	40	$40,561,580
Child Care, Preschools & Baby Health Centres	37	$35,711,942
Libraries	5	$37,233,732
Amenities & Sporting Facilities	164	$85,962,676
Rural Fire Stations	9	$3,589,544
Pools and Leisure Centres	19	$52,436,307
Council Operational Buildings	27	$67,541,779
Aged and Disabled Service Facilities	5	$5,295,632
Commercial Holdings	18	$12,714,558
Residential Holdings	26	$4,033,044
Heritage	17	$9,881,533
TOTAL	**367**	**$354,962,327**

Key stakeholders in the preparation and implementation of this Asset Management Plan are:

Elected Members	Review and endorse the Plan.
Executive Management	Review and approve the Plan.
Asset Planning & Support	Prepare and Implement Building Asset Management Plan, Annual Works Improvement Program, Life Cycle Modelling, undertake improvement actions, undertake condition assessments and prepare annual financial reports
Workforce & Corporate Development	Coordination of Council's strategic planning requirements.
Finance Section	Prepare Long Term Financial Plan and endorse financial reports.
Building Construction & Maintenance Section	Inspect, maintain and renew existing building assets. Review building designs. Carry out works identified in the Annual Works Improvement Program.
Civil & Open Space Maintenance Section	Maintain external grounds of building assets and carry out works identified in the Annual Works Improvement Program.
Asset Design Section	Design new parking facilities for building assets.
Library Services	Operate Council's Libraries.
Children Services	Operate Council's Child Care Facilities.
Arts & Cultural Development	Operate Council's Art and Cultural Centres.
Blacktown Leisure Centre and Venue Management	Operate and maintain buildings at Blacktown International Sports Park and Stanhope Leisure Centre.
Community Development	Assist in community engagement and demographics.
Business Assurance and Safety Systems	Risk management planning
Development Services Unit	Monitor and implement development standards for new assets created through subdivision of land.
Property Section	Management of Council's commercial and leased properties
Development Policy and Regulation	Compliance checking of Emergency Services, Access, and Food Preparation Facilities
Environmental and Sustainability Unit	Improving Council's Infrastructure through climate change initiatives and environmental solutions

Other Asset Owners such as NSW Land and Housing Corporation, and property developers are responsible for building and maintaining a safe, functional and environmentally sustainable building infrastructure.

2.2 GOALS AND OBJECTIVES OF ASSET MANAGEMENT

The Council exists to provide services to its community. Some of these services are provided by infrastructure assets. Council has acquired infrastructure assets by 'purchase', by contract, construction by council staff 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: [1]

- *Providing a defined level of service and monitoring performance,*
- *Managing the impact of growth through demand management and infrastructure investment,*
- *Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet that defined level of service,*
- *Identifying, assessing and appropriately controlling risks,*
- *Having a long-term financial plan which identifies required expenditure and how it will be funded.*

This Asset Management Plan is prepared under the direction of Council's vision, mission, goals and objectives.

Council's vision is:

City of Excellence - Diverse, Dynamic, Progressive

2.3 PLAN FRAMEWORK

Key elements of the plan are:

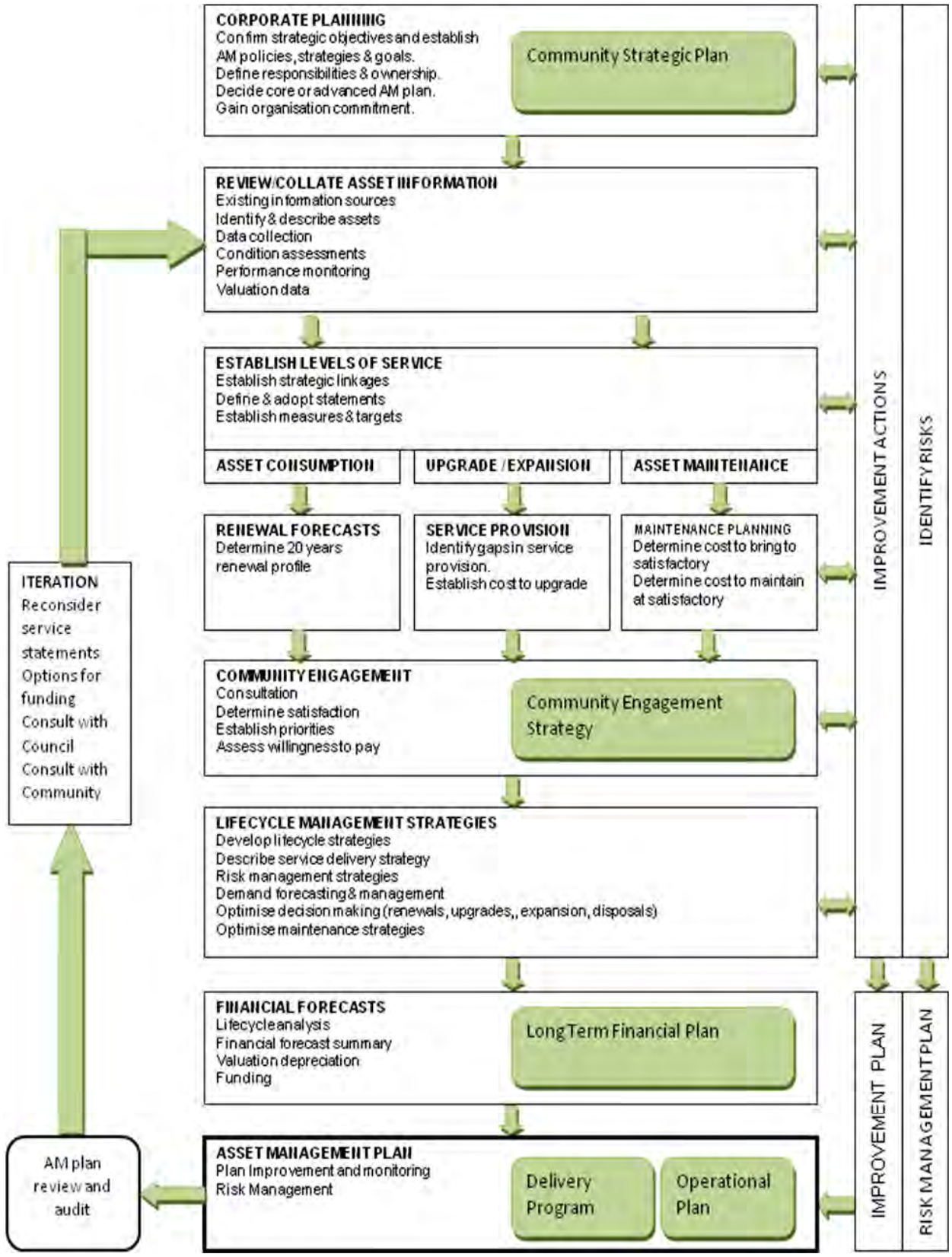
- Levels of service – specifies the services and levels of service to be provided by council.
- Future demand – how this will impact on future service delivery and how this is to be met.
- Life cycle management – how Council will manage its existing and future assets to provide the required services
- 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.

[1] IIMM 2011 **Sec** 1.2.1, p 1.7

The flow chart below outlines how an Asset Management Plan is prepared.

Flow chart for preparing an Asset Management Plan

Source: IIMM Fig 1.5.1, p1.11 2006 (Adaptation)



3. LEVELS OF SERVICE

3.1 CUSTOMER RESEARCH AND EXPECTATIONS

Blacktown City Council sought to examine community attitudes and perceptions toward current and future services and facilities provided by Council through its Community Satisfaction Survey conducted in October 2011. The key objectives of the research included:

- To assess and establish the community's priorities and satisfaction in relation to Council activities, services and facilities.
- To identify the community's overall level of satisfaction with Council's performance.
- To identify the community's level of satisfaction with regard to contact they have had with Council staff.

The findings related to this Asset Management Plan are listed below in Table 3.1

Table 3.1. Community Satisfaction Survey Results

Service Area	Combined LGA Satisfaction Benchmark	Blacktown Satisfaction Score	Blacktown Importance Score	Performance Gap
Public Toilets	2.9	2.64	4.14	1.50
Keeping public places clean		3.34	4.72	1.38
Graffiti Removal		2.75	4.43	1.68
Litter control and rubbish dumping.		3.47	4.66	1.19
Protecting heritage values & buildings	3.5	3.53	4.09	0.56
Water and energy use		3.45	4.54	1.09
Sporting Facilities	3.6	3.86	4.09	0.23
Swimming pools and Leisure centres		3.99	3.94	-0.05
Council owned and operated buildings		3.70	3.62	-0.08
Library services	4.1	4.32	4.08	-0.24
Childcare facilities and services	3.6	3.80	3.46	-.034

The findings of the Community Satisfaction Survey confirm that the services or facilities identified as being important to the community align with Council's commitment and vision to asset management in these areas. The benchmarks and performance gaps derived from the survey confirm that Council is benchmarking well against other local government areas but that significant efforts need to be maintained to satisfy community expectations in some areas. Whilst this is a generally positive outcome for both the community and Council understanding the areas of importance to the community will continue to assist in focusing areas of Asset Management improvement.

3.2 LEGISLATIVE REQUIREMENTS

Council has to meet many legislative requirements in providing buildings infrastructure. This includes Federal and State legislation and regulations. These include;

Table 3.2 Legislative Requirements

Legislation	Requirement
NSW Local Government Act 1993	This 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.
NSW Environmental Planning and Assessment Act 1979.	Sets out regulations for the protection of air, water quality and control of pollution, waste, noise and radiation.
NSW Work Health and Safety Act 2011	Sets our roles for the protection of health, safety and welfare of persons at work and others.
Building Code of Australia, Home Building Act 1989, Building Act 1993 and Building Regulations 2012.	Identifies the minimum standards of health, safety (including structural safety and safety from fire), amenity and sustainability for certain classes of buildings. All Councils building assets are required to meet the minimum standards of this Act.
NSW Civil Liability Act, 2002	An Act to make provision in relation to the recovery of damages for death or personal injury caused by the fault of a person
Dangerous Goods Safety Management Act 2001	This act sets out the safe use, storage and disposal of dangerous goods.
Disability Discriminations Act, 1992	(a) To eliminate, as far as possible, discrimination against persons on the ground of disability. (b) to ensure, as far as practicable, that persons with disabilities have the same rights to equality before the law as the rest of the community; and (c) To promote recognition and acceptance within the community of the principle that persons with disabilities have the same fundamental rights as the rest of the community.
NSW Electrical Safety Act 2004	This act sets out the installation, reporting and safe use with electricity.
Heritage Act, 1977	An Act to conserve the built and cultural heritage of the State. Several properties are listed under the terms of the Act and attract a high level of maintenance cost, approval and monitoring. Conservation Management Plans identify policies that may affect the actions allowed or required by individual buildings and/or places.

Community Services Act 1993, NSW Children Services Act 1994 and Regulation 2004	This act and regulation is to provide for the licensing, operation and regulation of children's services.

3.3 CURRENT LEVELS OF SERVICE

Council has defined service levels in two terms.

Technical Levels of Service - Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the organisation undertakes to best achieve the desired community outcomes and demonstrate effective organisational performance.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as opening hours, cleaning frequency, security frequency, etc.
- Maintenance – the activities necessary to retain an assets as near as practicable to an appropriate service condition (e.g. painting, floor sanding / sealing, building and structure repairs),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. kitchen replacement and building component replacement),
- Upgrade – the activities to provide a higher level of service (e.g. extending the size of the hall, adding an additional rooms or amenities) or a new service that did not exist previously (e.g. a new library or storage room).

Asset managers plan, implement and control technical service levels to influence the customer service levels.[2]

Community Levels of Service

These measure how the community receives the service and whether the organisation is providing community value.

Community levels of service measures used in the asset management plan are:

Quality	How good is the service?
Function	Does it meet users' needs?
Capacity/Utilisation	Is the service over or under used?

Generally Council provides infrastructure to underpin a service to the community. Consequently Council has based service level planning around the infrastructure required to provide a desired service, then the operational requirements required to maintain the service.

By setting desired technical levels of service Council is able to determine the required infrastructure to achieve the service standard. When compared to existing assets Council is able to determine if any repairs/enhancements in infrastructure are required. These enhancements/repairs form the basis of renewal, upgrade and new plans and ultimately individual projects listed for funding consideration in the Works Improvement Program.

During the annual preparation of the Works Improvement Program Community Levels of Service assist in the ranking and prioritisation of individual projects.

[2] IPWEA, 2011, IIMM, p 2.22

In the context of assets, the ongoing provision of a service is contingent on appropriate maintenance management of the infrastructure, this is further discussed in Section 5.3.

3.4 DESIRED LEVELS OF SERVICE

Each year Council receives requests from the community and its elected representatives, identifying gaps in desired service level provision. These requests and the identification of enhancements/repairs through Technical Levels of Service form the basis of Council's Works Improvement Program preparation. This annual budget document and associated funding programs represent three decades of community engagement. All requests received by Council are critically assessed against the service levels identified in Table 3.3 / 3.4 and listed for funding consideration based on detailed selection criteria.

In many instances further studies or effort is required to fully identify and document the gap between current and desired service level provision, these are recorded in the Implementation Plan in Section 8.2, Table 8.1.

Table 3.3. Current Levels of Service

Objective	Description	Measure	Actions
Performance Category - Renewal			
Service Level – Condition Sustainability			
Lowest Life Cycle Cost	To provide infrastructure required to underpin building services in the most economic and sustainable manner.	Renewal Plan requirements catered for in Council's Long Term Financial Plan	Undertake annual review of renewal modelling.
Performance Category - Maintenance/Operations			
Service Level – Condition Sustainability			
Lowest Life Cycle Cost	To provide infrastructure required to provide community services in the most economic and sustainable manner.	Performance monitoring of maintenance	Preparation of a Building Maintenance Plan outlining performance measures for planned maintenance, prioritise unplanned maintenance and monitor deferred maintenance.

Table 3.4. Desired Levels of Service

Please note: While the Renewal and Maintenance/Operations performance categories express levels of service which are currently provided, the Upgrade/New performance categories are more complex and aspirational. These service levels reflect appropriate technical standards as well as relevant Council policies, which these services are aiming to achieve over time.

Performance Category – Upgrade and New			
Service Level – Aesthetics			
Public Domain	To provide vibrant places to meet at key interchanges.	Implementation of Central Business District Master Plans	Examine Master Plans and identify service gaps for consideration into Works Improvement Program.

City Image	To promote Blacktown's image through provision of high quality building infrastructure	Positive feedback through media, customer surveys and user comments.	Monitor feedback made in media and undertake regular customer satisfaction surveys

Objective	Description	Measure	Actions
Service Level – Minimum Standard / Social Equity			
Childcare Facilities	Ensure an appropriate provision for all childcare centres.	Review Children Services requirements for compliance and Part D- DCP	Undertake quality/compliance audit of childcare centre's to determine locations where new facilities, modifications, extensions and refurbishments are required. List required projects for funding consideration into the Works Improvement Program.
Libraries	Ensure standard provision of library facilities to the community	Library quality is consistent with the building importance levels.	Undertake quality audit of libraries to determine locations where new facilities, modifications, extensions and refurbishments are required. List required upgrades for funding consideration into the Works Improvement Program.
Amenities	Provision of appropriate amenities to open space, community buildings and sporting facilities	Amenities quality and size is consistent with the sites use and the patronage.	Undertake quality audit of Council's amenities buildings to determine locations where new facilities, modifications, extensions and refurbishments are required. List required projects for funding consideration into the Works Improvement Program.
Leisure Centre's	To provide Leisure Centre's at a modern versatile standard.	Leisure centre quality and size is consistent with the sites use and the patronage.	Undertake audit of leisure centres to determine the condition and the locations where new facilities, modifications, extensions and refurbishments are required.

			List required projects for funding consideration into the Works Improvement Program.

Objective	Description	Measure	Actions
Community Centre's	Ensure standard provision of community centre facilities to the community	Community centre quality and size is consistent with the sites use and the patronage.	Undertake audit of Community Centres to determine the condition and locations where new facilities, modifications, extensions and refurbishments are required. List required projects for funding consideration into the Works Improvement Program.
Heritage	The protection of heritage buildings.	Heritage building management meets the requirements of the Heritage Act 1997	Review heritage building audit to assess management against the Heritage Act. List any projects for inclusion into maintenance program.
Arts and Cultural	Provide buildings that support and promote the arts and cultural development opportunities.	Arts and Cultural facilities are consistent with site use and meet community requirements.	Undertake audit of Arts & Cultural Centres to determine the condition and locations where new facilities, modifications, extensions and refurbishments are required. List required projects for funding consideration into the Works Improvement Program.
Operational	Provide functional buildings to support Council's operations.	Buildings are adequate to support Council operation.	Through consultation with operational staff establish proposals where new facilities, modifications, extensions and refurbishments are required. List required projects for funding consideration into the Works Improvement Program.

Objective	Description	Measure	Actions
Service Level – Safety			
Fall protection	To provide safe access to Council's buildings roofs.	All Council buildings have safe working arrangements to areas with difficult access.	Complete existing program to install anti-fall devices to Council buildings and identify projects for consideration into the Works Improvement Program
Emergency Service Fire Services	To provide safe methods of construction	Management of Emergency and Fire Service assets are in accordance with the BCA and Australian Standards.	Continue the existing programs - Fire Service monitoring and maintenance.
Anti-slip flooring	To provide safe access and passage through Council's buildings for the users.	Flooring and anti-slip measures for Council buildings are in accordance with Standards	Continue to undertake anti-slip measure audit of Council buildings and identify projects for consideration into the Works Improvement Program
Service Level – Accessibility			
Access Ramps	Provide equity of access to Council's buildings.	All Council buildings are accessible by all users by covering DDA requirements.	Review existing access audits of Council buildings and continue to implement recommendations
Disabled toilets	Provide equity of access to Council's building facilities	Provision of disabled access toilets to Council buildings in accordance with Disability Discrimination Act requirements.	Review existing access audits of Council buildings and continue to implement recommendations
Accessible Parking	Ensure adequate provision of parking facilities to Council Buildings	Provision of parking complies with Development Control Standards	Examine existing car parking to Council buildings and determine priority areas to assist prioritisation.
Service Level – Adaptability			
Duel function Buildings / Rooms	Ensure designs allow for variety in activities and use of facilities.	Council's buildings support the requirements of the communities changing needs.	Review the use of Council buildings and plan the best types of buildings to service the community.

Objective	Description	Measure	Actions
Service Level – Comfort			
Heating and Cooling	Ensure a comfortable environment through good ventilation and air conditioning.	Council's buildings satisfy the occupants expectations	Review the type of buildings, the use of the building and current facilities
Service Level – Capacity			
Provision of facilities	Buildings are adequately sized to accommodate the community.	Review current use of buildings and model capacity trends.	Continuous monitoring of venue numbers. Identify locations that have insufficient capacity.

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 potential impacts on service delivery are summarised in Table 4.1. The resulting actions in response to these issues are included in the Implementation Plan contained in Section 8.2.

Table 4.1 Demand Factors, Projections and Impact on Services, Strategic Issues

Demand factor	Present position	Projection	Impact on services	Action
Increased population and new urban areas.	In 2011 – 312,485 North-West sector release planning. Completion of 1980's and Parklea Release areas.	By 2021 – 366,107 Release and development of the North-West Sector. Capping of s94 contributions State Government and increased development standards.	Increase in building assets and accompanying renewal and operating expenditures. Increased usage from increased population requiring upgrade to existing building infrastructure.	Maintain up-to-date asset management systems and undertake regular reviews of Asset Management Plans.
Demographics	2012 0-4 yrs 26,570 8.4% 5-11yrs 33,401 10.5% 12-17yrs 27,343 8.6% 18-24yrs 31,978 10.1% 25-34yrs 50,523 15.9% 35-49yrs 68,068 21.5% 50-59yrs 35,898 11.4% 60-69yrs 24,810 7.8% 70-84yrs 15,560 4.9% 85 + 2,813 0.9% **Total 316,964**	2032 34,955 8.2% 47,387 11.1% 36,172 8.5% 39,174 9.2% 62,480 14.6% 91,341 21.4% 46,594 10.9% 34,136 8.0% 30,031 7.1% 4,204 1.0% **Total 426,474**	Increase demand on services in general. As the demographic of Blacktown changes over time service levels will need to be reviewed to respond to an aging population.	Review service levels and regularly undertake community consultation.

Demand factor	Present position	Projection	Impact on services	Action
Land Use	Current development based on existing land use planning.	Changes to permissible land use such as in-fill development around commercial centres.	Increased population density around commercial centres will require upgrades of existing services/infrastructure.	Consider additional or upgraded services resulting from increased density at commercial centres.
Climate change.	Current renewal programs and planning based on existing climatic conditions.	Changes in climatic conditions may increase demand for heating/cooling systems or more efficient energy and water usage.	Fluctuations in Planned Capital Renewal and Operating Expenditure.	Review the effect of climate change on Council infrastructure and promote environmentally sensitive solutions.
Increase material supply costs and contract rates.	Inflation in building construction prices exceeds annual increases in building construction expenditure.	Annual increases in construction costs continue to exceed increases in building expenditure, effectively reducing 'real expenditure' on building infrastructure.	Increased cost to maintain and renew and upgrade building facilities. Reduction in real expenditure will delay maintenance reduce the life cycle of the asset.	Continually review renewal modelling ensuring forecasting is accurate.
Rising Community Expectation.	Community expectation for standard of buildings services rising.	Desired service level provision increased over time.	Adoption of higher service levels provided for building infrastructure will create service level gaps and increase projects in delivery programs.	Review service levels and regularly undertake community consultation.
Increasing Design Standards	Design standards based on State and Federal design standards.	Higher standards adopted over time resulting in higher expected standards by Local Government.	New infrastructure may be designed to a higher standard, leading to potential retro-fitting of existing infrastructure to conform to higher standard.	Review service levels and ensure incorporation of new design standards and requirements on existing infrastructure.
Increasing Environmental Standards	Public awareness of environmental issues and standards are increasing.	Environmental standards increase further supported by Regulations and/or the introduction of new taxes.	The provision of building infrastructure incorporates environmental management features significantly increasing the cost of provision of building services. Providing high levels of	Review service levels and to ensure incorporation of new environmental standards and requirements on existing infrastructure.

Demand factor	Present position	Projection	Impact on services	Action
			service in new release areas through development in comparison with existing areas will create inequity. Retrofitting the existing areas with environmental management features may be unachievable.	
Greater increase in cultural activities and locations	There is an increase interest in places and events of cultural significance. (Melrose Estate)	As these locations become more popular they may require demand management to ensure the longevity.	Increase in development and maintenance costs due to historic importance of the fabric of the place.	Review utilisation and demand for cultural facilities.

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	Action
Demand for environmental and energy efficient materials and products to be implemented.	Increase initial costs with the potential to reduce whole of life cost.	Monitor advances in new technology and recycling techniques
Improved automated and prefabrication techniques.	Potential reduction in construction, whole of life and maintenance costs for buildings.	Continually monitor advances in building construction and maintenance techniques.
New building construction and maintenance technology.	Potential reduction in whole of life and maintenance cost for buildings.	Continually monitor advances in building maintenance technology and methods.
Expansion of social media and crowd sourcing.	Greater opportunities to inform and obtain feedback from the community.	Continually monitor advances in technology in social media. Capitalise on any efficiencies in communicating with the community gained through this medium.

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.

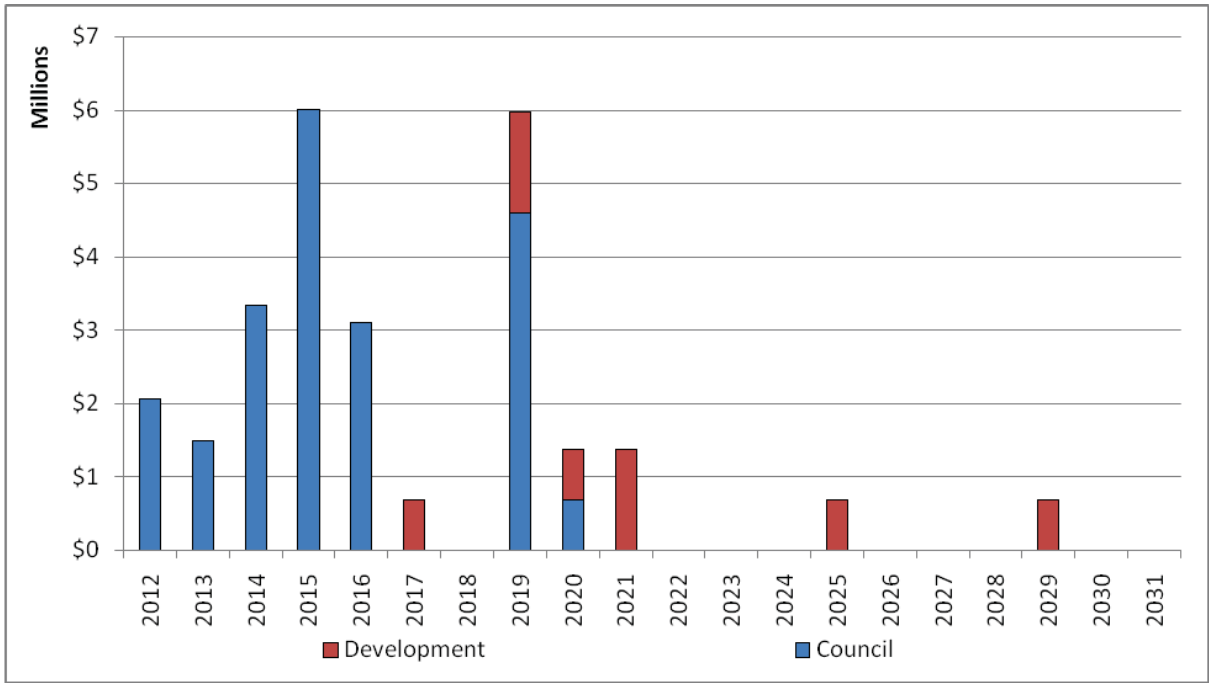
Opportunities identified to date for demand management are shown in Tables 4.1 and 4.2. The resulting actions in response to these issues are included in the Implementation Plan contained in Section 8.2. Further opportunities as they arise will be developed in future revisions of this Asset Management Plan.

4.4 NEW ASSETS FROM GROWTH

The new assets required to meet growth will be acquired from land developments and constructed by Council. These facilities (generally in land release areas), provide new facilities to accommodate the growth in population. The type of building works usually provided include library facilities, community centres and amenities buildings at sporting fields.

These works are predominantly funded from Section 94 Developer Contributions. The delivery of the infrastructure identified in Developer Contribution Plans is based on an assumed rate of development. This infrastructure will actually be delivered as certain thresholds of population are reached. Councils planning for the provision of this new infrastructure are illustrated below. The new asset values are summarised in Figure 1.

Figure 1. New Assets from Growth



Acquiring these new assets will commit Council to fund ongoing operational and maintenance costs for the period for which 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

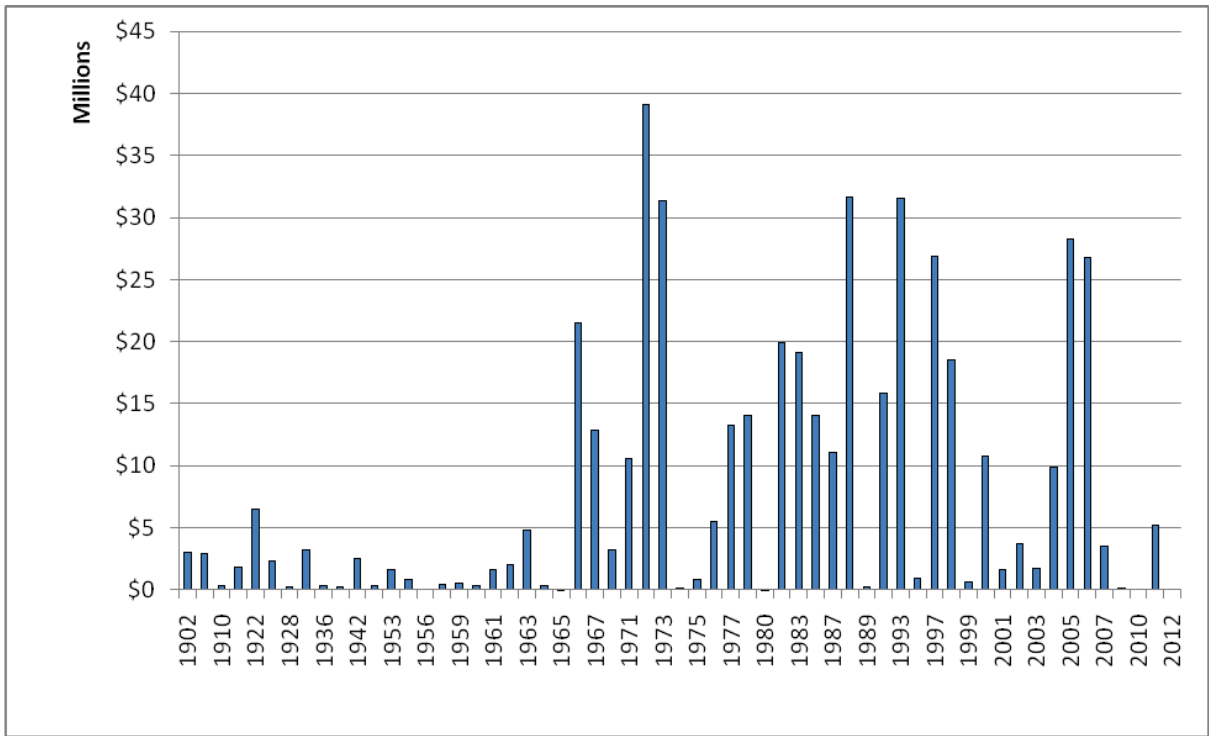
The Lifecycle Management Plan details how Council plans to manage and operate the assets at the agreed levels of service (defined in Section 3) while optimising life cycle costs.

5.1 BACKGROUND DATA

The building infrastructure considered in the Asset Management Plan are those required to cater for the community and its growing population. Building assets are located throughout the City of Blacktown, which extend from residential to commercial areas and amenities for open space.

Blacktown has experienced continuous high growth over the past four decades and this is reflected in the age profile of Council's assets shown below. New building assets are created through specific Council projects or development proceeds through developer contributions.

Figure 2. Asset Age Profile



This graph is based on historical knowledge of our buildings, some of the asset ages were estimated by doing an assessment of the condition of the asset from its expected life.

5.1.2 ASSET CAPACITY AND PERFORMANCE

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

Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

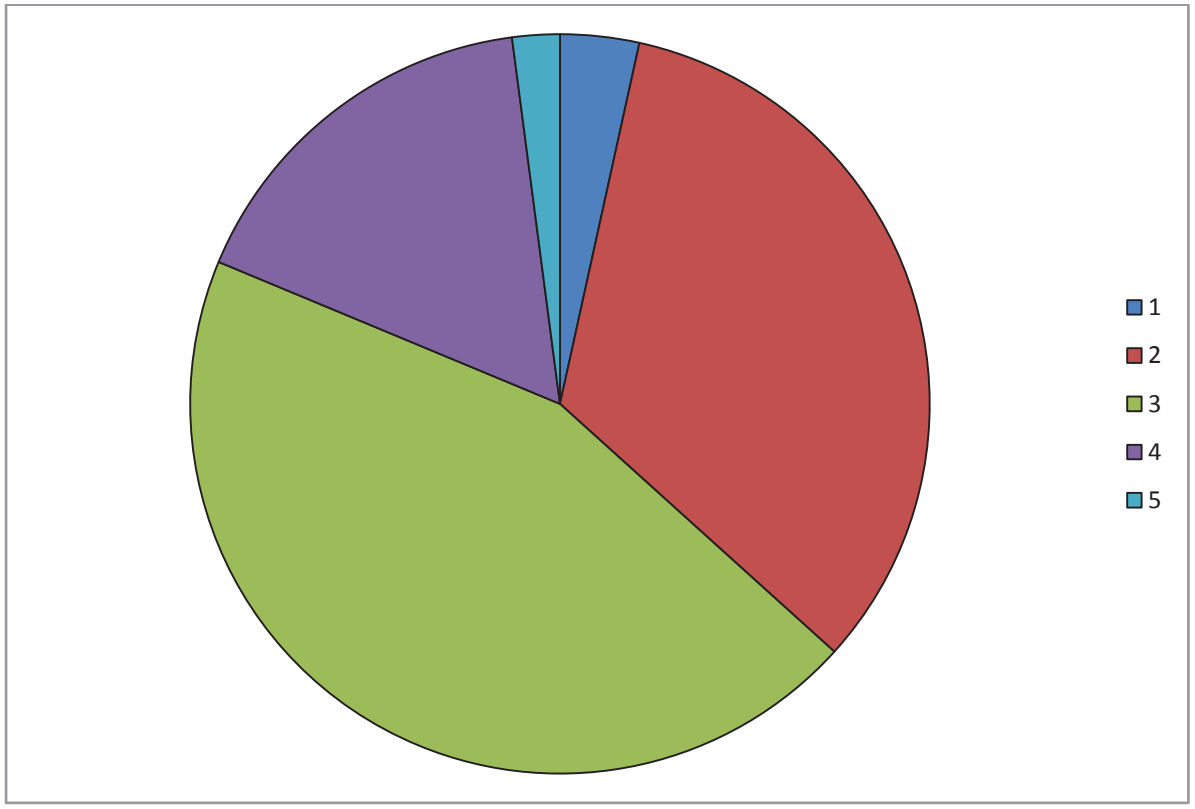
Table 5.1.2 Known Service Performance Deficiencies

Location	Service Deficiency
Various Locations	Energy efficient units need installing to reduce Council's energy consumption and make savings to various buildings across Council.
Roofing	Some structures are coming up for renewal due to excessive corrosion and wear.
Amenities Buildings	Amenities buildings require additional maintenance and cleaning over peak periods and sporting seasons.
Roof Access	Council's buildings have poor roof access. A program is in place to upgrade access.
Graffiti Cleaning	Additional resources are required to meet the growing need.
Vandalism	Vandalism needs to be factored into the design of all Council buildings.

5.1.3 ASSET CONDITION

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

Figure 3. Asset Renewal Profile



Condition is measured using a 1 – 5 rating system.

Rating		Description of Condition	Economic Life %
1	Very good:	Only planned maintenance required.	80-100
2	Good:	Minor maintenance required and planned maintenance.	50-80
3	Fair:	Significant maintenance required.	25-50
4	Poor:	Significant renewal/rehabilitation required.	5-25
5	Very Poor:	Physically unsound and / or beyond rehabilitation	0-5

5.1.4 ASSET VALUATIONS

The value of assets as at 30 June 2012 covered by this Asset Management Plan is summarised below.

Current Replacement Cost	$ 354,962,327[3]
Depreciable Amount	$ 354,962,327
Depreciated Replacement Cost	$ 216,512,695
Annual Depreciation Expense	$ 7,177,000

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

Asset Consumption **2.02%** (Annual Depreciation Expense / Depreciable amount) x 100

The above Asset Renewal Ratio indicates that the consumption of building assets exceeds current renewal expenditure, signifying that overall, building assets are depreciating at a rate faster than they are being renewed. However, this does not mean the amount allocated towards renewal each over the short term is insufficient.

Furthermore when a building such as amenities building cannot continue to perform the service it was commissioned and is due for replacement, a new upgraded facility generally an upgrade of the former facility is constructed in its place. For example, the demolition of the amenities at Kareela Reserve and replacement of a combined upgraded amenities and grandstand was erected in its place.

5.2 RISK MANAGEMENT PLAN

An assessment of risks[4] 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 relating to Buildings are summarised in Table 5.2.

[3] This figure includes Colo Lane car park which is covered under the Transport Asset Management Plan and does not include Scout and Girl Guide Halls.

[4] Blacktown City Councils' Infrastructure Risk Management Plan

Table 5.2 Critical Risks and Treatment Plans

Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan
Building Maintenance	High Electricity cost	Medium	Undertake audit to determine improvements and introduce replacement program.
Childcare Centre's	Buildings are not complying with DOC's	High	Undertake audit program to inspect buildings and check compliance with current standards. Prepare improvement program based on findings.
Amenities Building	Buildings not complying with legislation regarding disabled access	High	Undertake audit program to inspect buildings and check compliance with current standards. Prepare improvement program based on findings.
Amenities Building	Buildings are not maintained.	High	Undertake inspection regime, introduce regular cleaning schedule and ensure all buildings are in a safe working condition.
Community Buildings	Play areas do not comply with DOC's	High	Audit all ground areas for compliance with current regulations. Prepare a program based on the audit
Community Buildings	Injuries and Insurance claims.	Medium	Routine inspections for defects and compliance to Australian Standards

5.3 MAINTENANCE PLAN

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. Council considers maintenance to be planned or unplanned.

5.3.1 PLANNED MAINTENANCE

The following describes Council's approaches to planned maintenance:

- **Frequency based maintenance** is maintenance scheduled periodically. It is required to sustain the design life of the asset or to maintain a performance standard. Programmed maintenance is typically undertaken on assets that are not critical, and have low risks associated with failure. Frequency based maintenance has set performance measures and maintenance activities undertaken are recorded to undertake performance monitoring. For example Council services its open space areas at set frequencies based on the hierarchy of the site, records are kept detailing when each site was serviced and when it is scheduled for its next service. These records form the basis of weekly performance monitoring.

- **Preventative maintenance** is maintenance that can be initiated without routine or continuous checking (e.g. using information contained in maintenance manual or manufacturer's recommendations) and is not condition or performance based. The purpose of this maintenance is to undertake sufficient maintenance activities to reduce the risk of unforeseen failure. Preventative maintenance is undertaken on assets that have high risks or unacceptable loss of service associated

with failure. For example the failure of a water pump at an aquatic centre will potentially lead to the closure of the service.

- **Routine maintenance** is day-to-day operational activities to keep the asset operating (replacement of light bulbs, cleaning of drains, repairing leak etc) and which form part of the annual operating budget.

5.3.2 UNPLANNED MAINTENANCE

- **Corrective maintenance** is a task performed to identify, isolate and rectify a fault so that the failed asset can be returned to a condition in which it can perform its intended function. Council considers corrective maintenance as activity based maintenance and has documented intervention levels, response times (to complete the work from date of issue), work methods and performance measures. These are based on the NATSPEC documentation.

  Depending on how critical the failed asset is and availability of funds, corrective maintenance can be either immediate or deferred corrective maintenance.

  Unplanned maintenance includes unforeseen failure, vandalism, storm and accidental damage and is identified through customer requests, Council's maintenance crews and routine asset condition inspections. The manner that unplanned maintenance arises is irregular and cannot be predicted, for example damage caused by storms and vandalism. It is therefore necessary to monitor unplanned maintenance activities that cannot be undertaken immediately. Over time, by monitoring the trends of the amount of deferred corrective maintenance Council can optimise its investment or resources required to balance the trend.

Maintenance expenditure trends are shown in Table 5.3.1

Table 5.3.1. Maintenance Expenditure Trends

Year	Maintenance Expenditure		
	Planned	Unplanned	
	Frequency/Routine	Corrective	Deferred
2009/10	$7,075,276	$2,200,377	$-
2010/11	$7,088,204	$2,188,007	$-
2011/12	$7,189,165	$2,399,585	$226,400*

Planned maintenance work is approximately 75% of total maintenance expenditure.

*Planned inspections commenced on Council's buildings mid 2012. Deferred maintenance collected to date totals $226,400, however due to the sample size an annual increase cannot be determined. As further inspections are undertaken the amount of deferred maintenance will be determined and reported in future revisions of this Asset Management Plan.

5.3.3 STANDARDS AND SPECIFICATIONS FOR MAINTENANCE

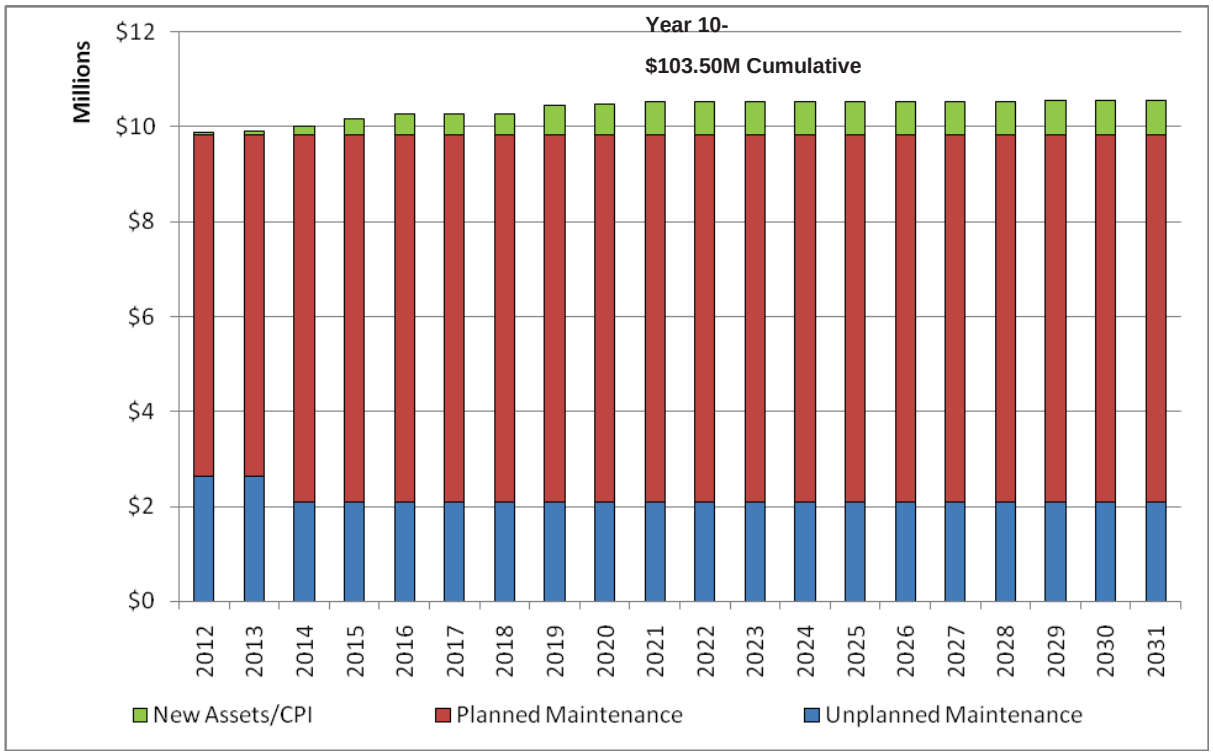
Maintenance work is carried out in accordance with the following Standards and Specifications.

- Council's Engineering Guidelines
- Building Code of Australia
- NATSPEC Documents

5.3.4 SUMMARY OF FUTURE MAINTENANCE EXPENDITURES

Overall maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in 2011/2012 dollar values. The results of asset condition inspections and deferred maintenance analysis currently underway will form the basis of refined planned maintenance programs in 2013 /14.

Figure 4. Planned Maintenance Expenditure



Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded is to be analysed annually and the inherent risks of delaying these repairs will 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.

Currently some minor asset renewal is undertaken through maintenance budgets. Action 1 of the Asset Management Strategy details a requirement that expenditure on asset be categorised with the definitions for Capital Renewal, Capital Expansion, Capital Upgrade and Maintenance detailed in the Glossary of this Asset Management Plan. Further work is to be done on realising this action for buildings expenditure. Future reviews of this Asset Management Plan will incorporate the results of this Action.5.4.

5.4 RENEWAL/REPLACEMENT PLAN

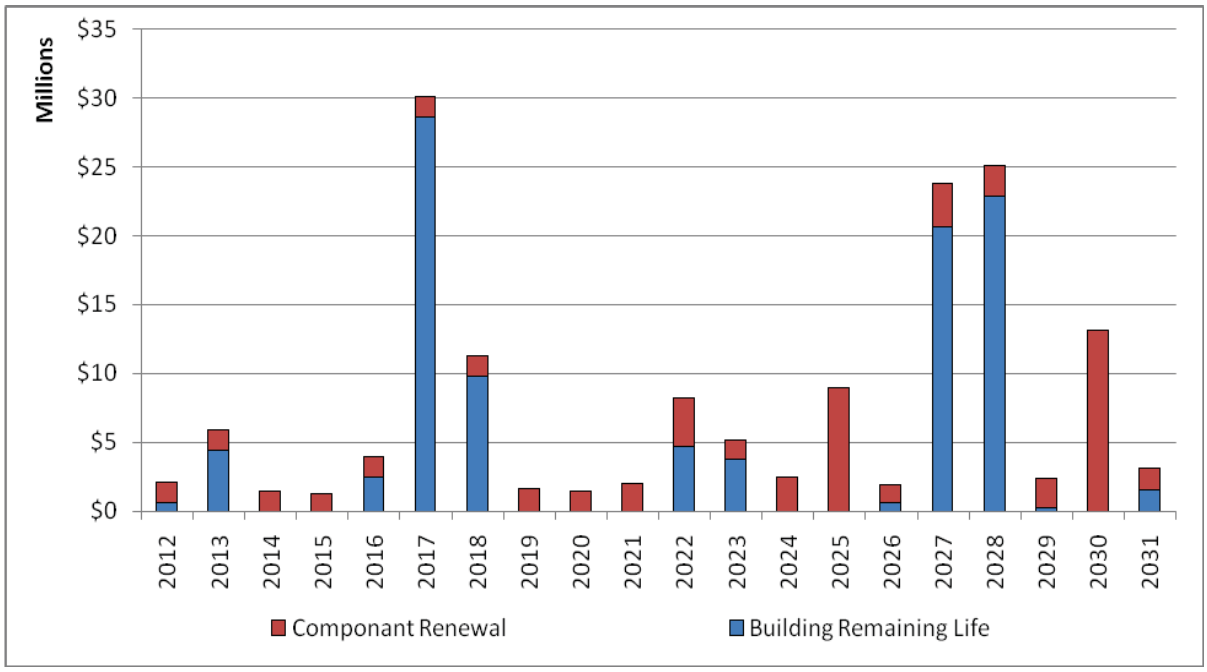
Renewal expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.

5.4.1 RENEWAL DEMAND

The first step of the renewal plan is to forecast the amount of building renewal work required 20 years into the future. The information required to achieve this is obtained from biennial condition assessments, customer requests and routine inspections.

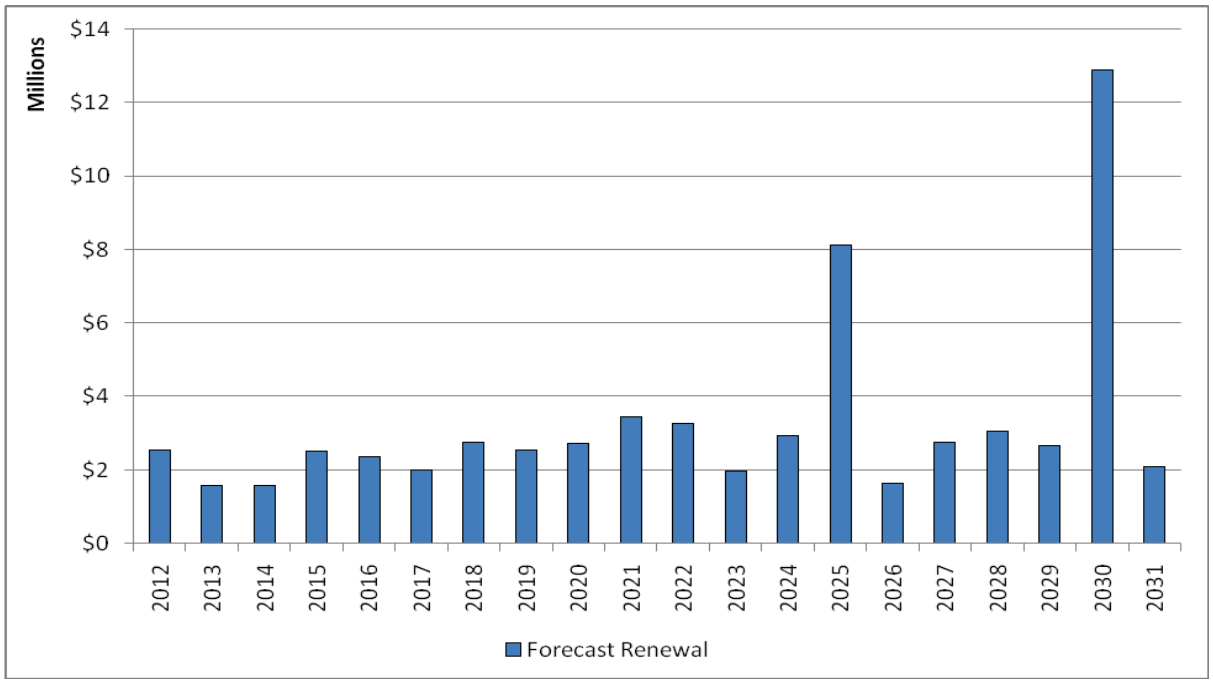
Renewal estimates (indexed to the scheduled year) 20 years into the future are detailed in Figure 5.

Figure 5. Forecast Renewal Demand



The above graph presents renewal at building component level (individual building items such as carpet, roofing and fittings/fixtures) and entire building replacements (condition based assessment of individual buildings). The buildings identified with little remaining life are typically buildings that have come into Council ownership when acquiring land for open space or future development. For the purposes of this Asset Management Plan the later will be removed from the renewal analysis and a further assessment will be undertaken in future Asset management Plans to determine whether the buildings should be replaced, demolished or amalgamated into a future resource hub. The resultant renewal forecast is detailed in Figure 5.1 below.

Figure 5.1 Forecast Renewal Demand



The first year requires proportionally greater funds for component renewal and represents the accumulated renewal backlog of building components currently requiring renewal. There are also notable peaks in renewal over time generally associated with roof replacement.

5.4.2 STANDARDS AND SPECIFICATIONS FOR RENEWAL

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

- Blacktown City Council Engineering Guide for Development.
- Australian Standards
  AS1670-1997 (Smoke detectors)
  AS2444-2001 (Portable fire extinguishers and fire blankets)
  AS2118-2006 (Automatic Fire Sprinkler Systems)
  AS2220.2-1989 (Emergency Warning and intercommunication systems)
  AS/NZS 2293-1998 (Emergency Evacuation Lighting)
  AS2419-1994 (Fire Hydrant Installations)
  AS2441-1998 (Installation of Fire Hose Reels)
  AS1668.2-1991 (The use of mechanical ventilation and air conditioning)
  AS/NZS 3666.2-2000 (Air handling & water systems – micro biotic control)
  AS4085-1992 (Automatic Doors)
  AS1735.2-2001 (Lifts, Escalators and moving walks-passenger & goods lifts)
  AS1308-1987 (Electric Water Heaters – thermostats and thermal Cut-outs)
  AS/NZS3760 (In service safety inspection and testing of electrical equipment)
  AS2124 General conditions of contract
  AS4000 General conditions of contract
  AS4300 General conditions of contract for design and construct
  AS4122 General conditions of contract for engagement of consultants
- Building Code of Australia
- Contracts AS4000

5.4.3 SUMMARY OF FUTURE RENEWAL EXPENDITURE

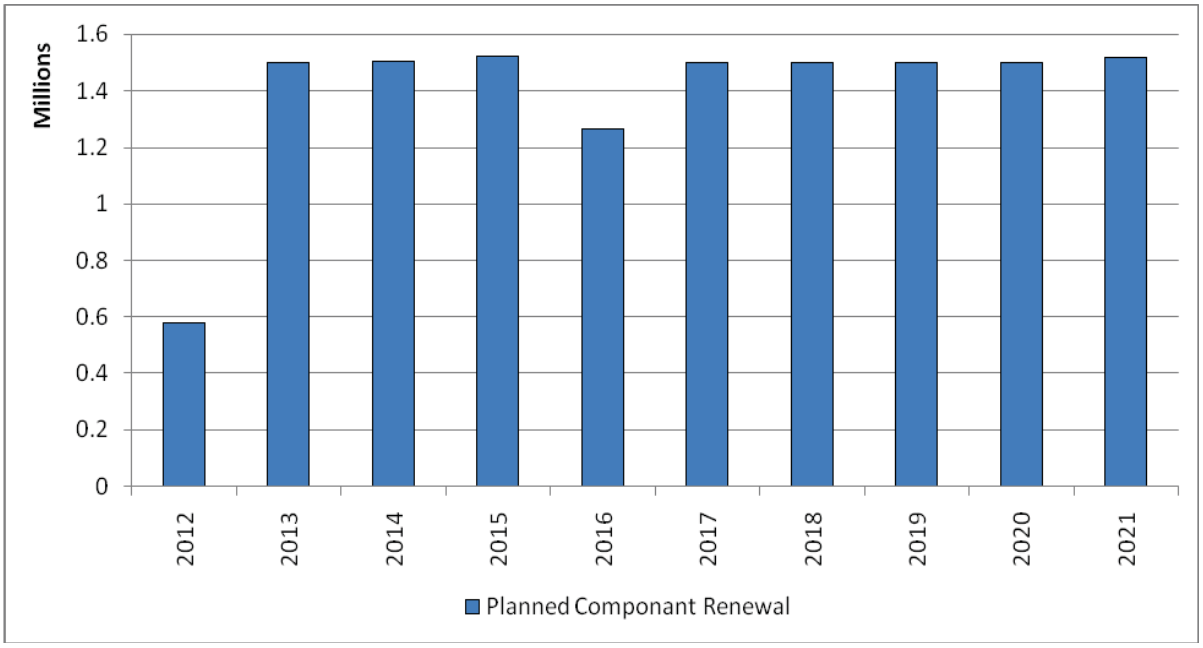
Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The costs are summarised in Figure 6. Note that all costs are shown in current 2011/2012 dollar values.

Wherever possible renewal is prioritised to ensure the lowest life cycle cost possible, for example timber floor resurfacing is prioritised which protects the timber increasing the life of the underlying timber floors.

Complex modelling is performed to smooth out the renewal profile resulting in the lowest cost solution over a 10 year period that is manageable with current operations. The resulting 10 year renewal program and forecast for the ensuing 10 years is shown in Figure 6.

These results are used in Council's Long Term Financial Plan to model the requirements for asset renewal funding. This modelling identifies a significant gap between the current and optimal funding to address asset renewal. Note that the term "Projected Capital Renewal Expenditure" in Figure 6 refers to the funding which is projected as required in this period for optimal asset management. That level of funding is not currently budgeted for, as explained in the Long Term Financial Plan.

Figure 6. Projected Capital Renewal Expenditure



Through the annual preparation of Council's Works Improvement Program candidate proposals indentified for renewal are inspected to verify accuracy of treatment proposed, renewal estimate and finally rank on a priority basis. There is a number of building renewal and upgrade programs in the Works Improvement Program, the selection criteria are detailed in **Appendix A**.

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.

5.5 UPGRADE/EXPANSION PLAN

These are 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.

Rising community expectation has driven up desired service levels over time. This can result in disparate service provision across the city. For example, buildings provided in the 1970's were built without facilities

normally provided in modern equivalents such as kiosks in sport field amenities leaving provision in some areas of the city below current standards. To achieve a uniform standard across the city Council should

- Adopt desired service levels.
- Identify gaps in service provision.
- Quantify physical work to achieve desired service levels city wide.
- Determine delivery timeframe through community consultation.
- Prioritise upgrades based on set selection criteria.
- Implement a program of works to retrofit the city.
- Update planned capital upgrade program Figure 7.

Where further effort is required to estimate new/upgrade plans, actions linked to desired service levels (Table 3.3) form part of the Improvement Plan in Section 8.2. Results of these actions will be documented in future revisions of this Asset Management Plan, as such the Planned Capital Upgrade/New Asset Expenditure detailed in Figure 7 only represents infrastructure required to service new release areas.

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 and release area planning. Candidate proposals represent assets that have characteristics/attributes that inhibit them from performing a desired service level. In some instances existing infrastructure has not been tested against the service levels documented in Section 3.4 and further studies are required to fully identify potential service gaps.

Proposals are annually reviewed in Council's Works Improvement Program and ranked by priority. The selection criteria for the Works Improvement Program are detailed in **Appendix A**.

5.5.2 STANDARDS AND SPECIFICATIONS FOR UPGRADE/EXPANSION

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/EXPANSION ASSETS EXPENDITURE

Estimated upgrade/new asset expenditures are summarised in Figure 7. All costs are shown in current 2011/2012 dollar values.

Figure 7. Planned Capital Upgrade/New Asset Expenditure

Note: the assets created from residential development do not include the acquisition costs for the land. New assets and services are funded from Council's capital Works Improvement Program and grants where available.

The Planned Upgrade/Expansion shown in Figure 7 above includes several major projects that have elevated the estimate. They include buildings such as the AFL Stadium. Indoor Cricket Centre, Sargents Centre, Stanhope Library and the Mount Druitt Community Resource Hub. A correction may occur in future revisions of this Asset Management Plan.

The planned upgrade/new amount is based on actual projects in the Works Improvement Program, Supplementary Works Program and various State and Federal Grants.

5.6 DISPOSAL PLAN

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. At this stage no assets are identified for possible decommissioning and disposal. 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.

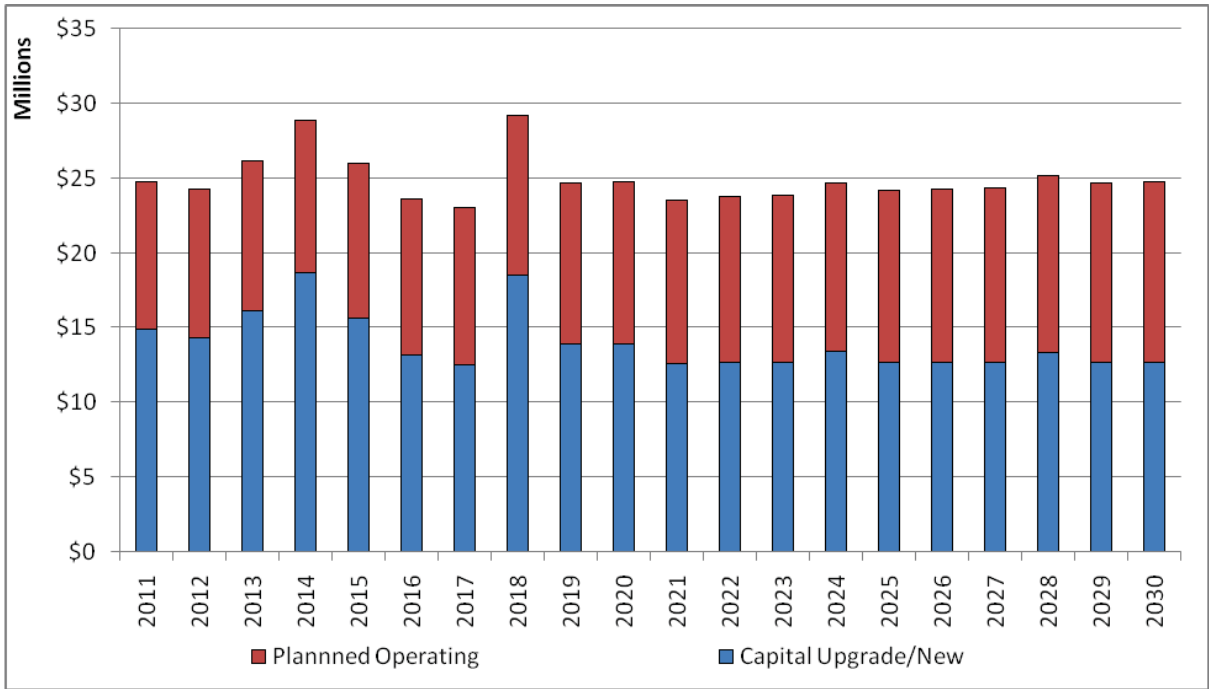
6. FINANCIAL SUMMARY

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 Figure 8 for planned operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets).

Figure 8. Planned Operating and Capital Expenditure



Note that all costs are shown in current 2012/2013 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:

Annual Depreciation (5.1.4)	$ 7,177,000
Maintenance Expenditure (5.3.2)	$ 9,815,150
Average Annual increase in Deferred Maintenance *(see table 5.3.1 for explanation)*	$ -
Total	**$16,992,150**

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 **$10,395,450.**

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 Building 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 **$6,596,700** per annum. The life cycle sustainability index is **0.612.**

Medium term – 10 year financial planning period

This Asset Management Plan identifies the estimated maintenance and capital expenditure 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.

Figure 9 shows the projected asset renewals in the 20 year forecast period and compared to planned renewal expenditure in the capital works program. Table 6.1.1 details the annual and cumulative funding gap (deferred renewal) between projected and planned renewals.

Figure 9. Projected and Planned Renewals and Current Renewal Expenditure

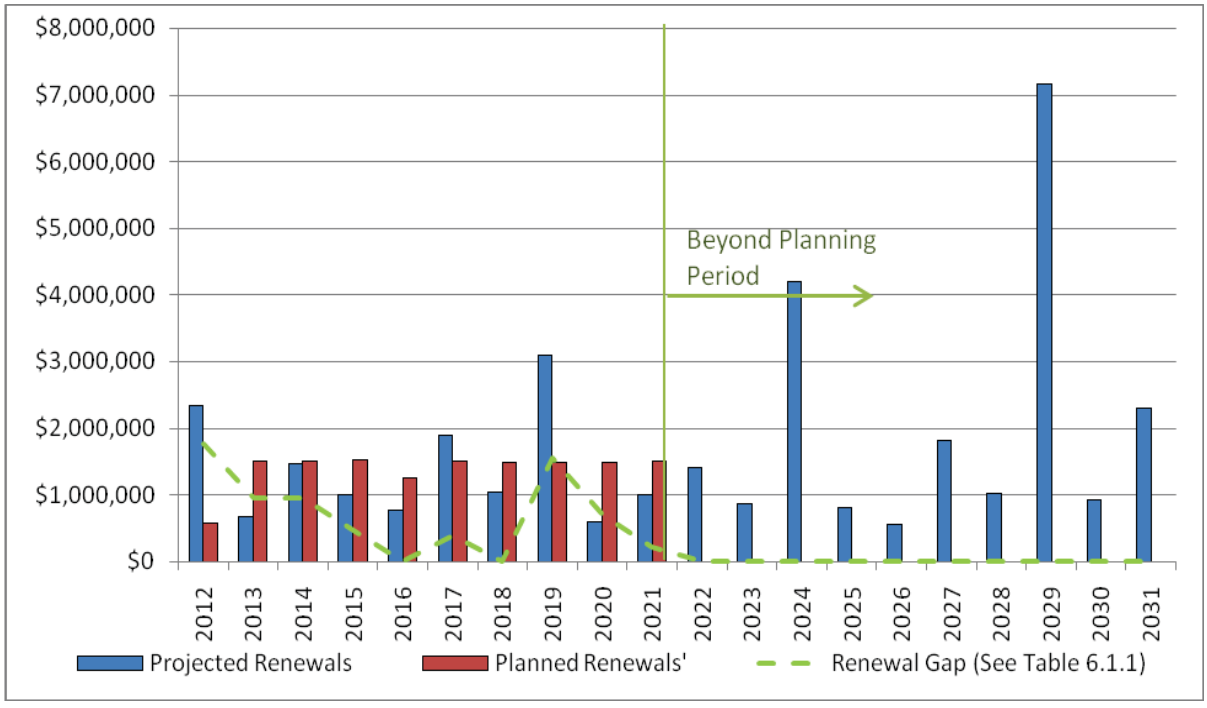


Table 6.1.1 shows the gap between projected and planned renewals.

Table 6.1.1 Projected and Planned Renewals and Expenditure Gap

Year	Projected Renewals	Planned Renewals	Renewal Funding Gap
2012	$2,349,551	$580,300	$1,769,251
2013	$677,396	$1,501,631	$945,016
2014	$1,480,221	$1,505,019	$948,772
2015	$1,015,935	$1,523,685	$470,382
2016	$778,914	$1,265,372	$0
2017	$1,900,690	$1,501,275	$397,389
2018	$1,039,556	$1,500,266	$1,390
2019	$3,099,531	$1,500,566	$1,550,618
2020	$597,833	$1,500,223	$694,323
2021	$1,011,420	$1,518,490	$208,078
Total	$13,951,047.00	$13,896,827.00	

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, and ensure that adequate renewal expenditure is planned, particularly in building roof restoration that are relatively inexpensive compared to roof renewal.

Council's long term financial plan covers the first 10 years of the 20 year planning period. The total maintenance and capital renewal expenditure required over the 10 years is:

10 year Projected Renewal (table 6.1.1)	$ 13,951,047
10 year Projected Maintenance Expenditure (5.3.4)	$103,506,393
Deferred Maintenance (5.3.1)	(See 5.3.1)
Total	**$117,457,440**

The estimated maintenance and capital renewal expenditure in the first 10 years is:

10 year Planned Renewal (table 6.1.1)	$ 13,896,827
10 year Projected Maintenance Expenditure (5.3.4)	$103,506,393
Total	**$117,403,220**

The 10 year sustainability index is **1.00**.

This positive result indicates that Council's operational management of buildings is tracking well, however it should be again reiterated (see 5.4.1 Renewal Demand) that this sustainability index is absent of full building replacement. The process of determining whether a building requires full replacement, demolition or amalgamation into future resource hubs will be determined independently of this Asset Management Plan.

6.2 FUNDING STRATEGY

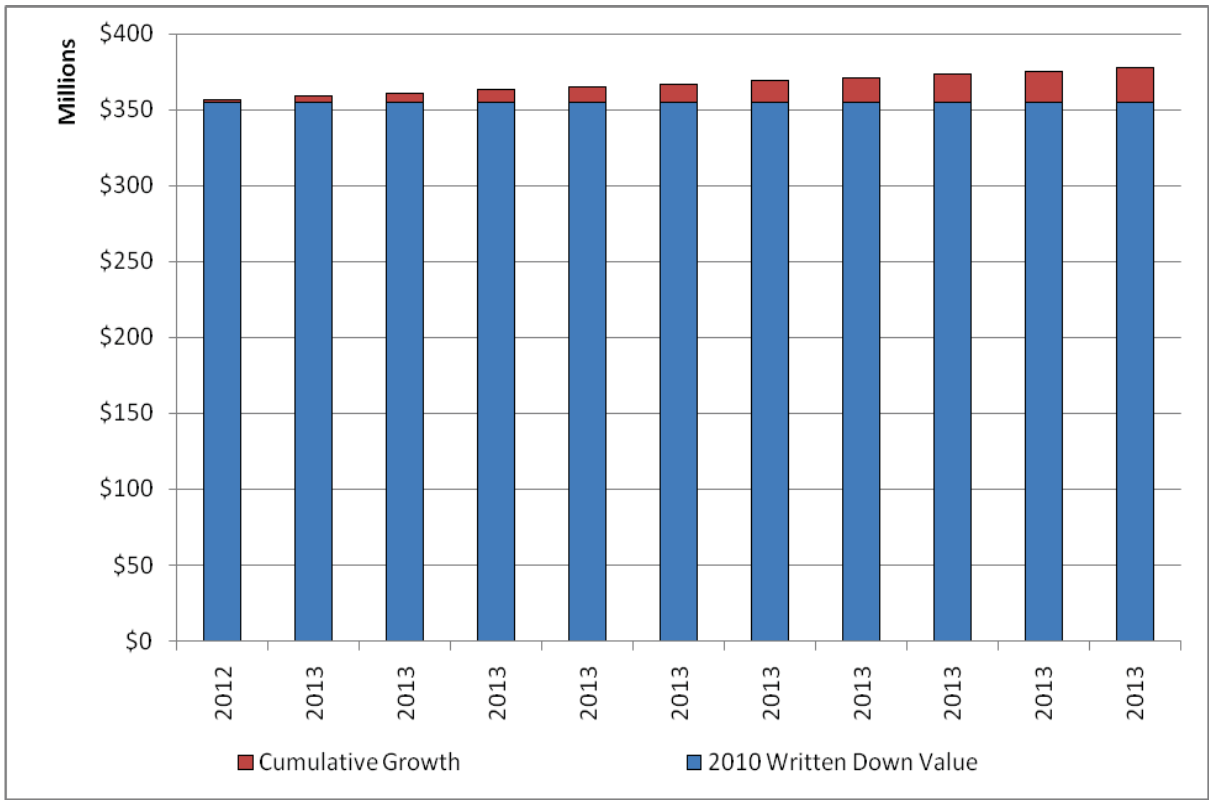
Projected expenditure identified in Section 6.1 is to be funded from Council's operating and capital budgets. The funding strategy is detailed in Council's 10 year long term financial plan.

Achieving the financial strategy will require continual monitoring of building condition and modelling to forecast required renewal expenditure matched by funds detailed in Council's Long-Term Financial Plan.

6.3 VALUATION FORECASTS

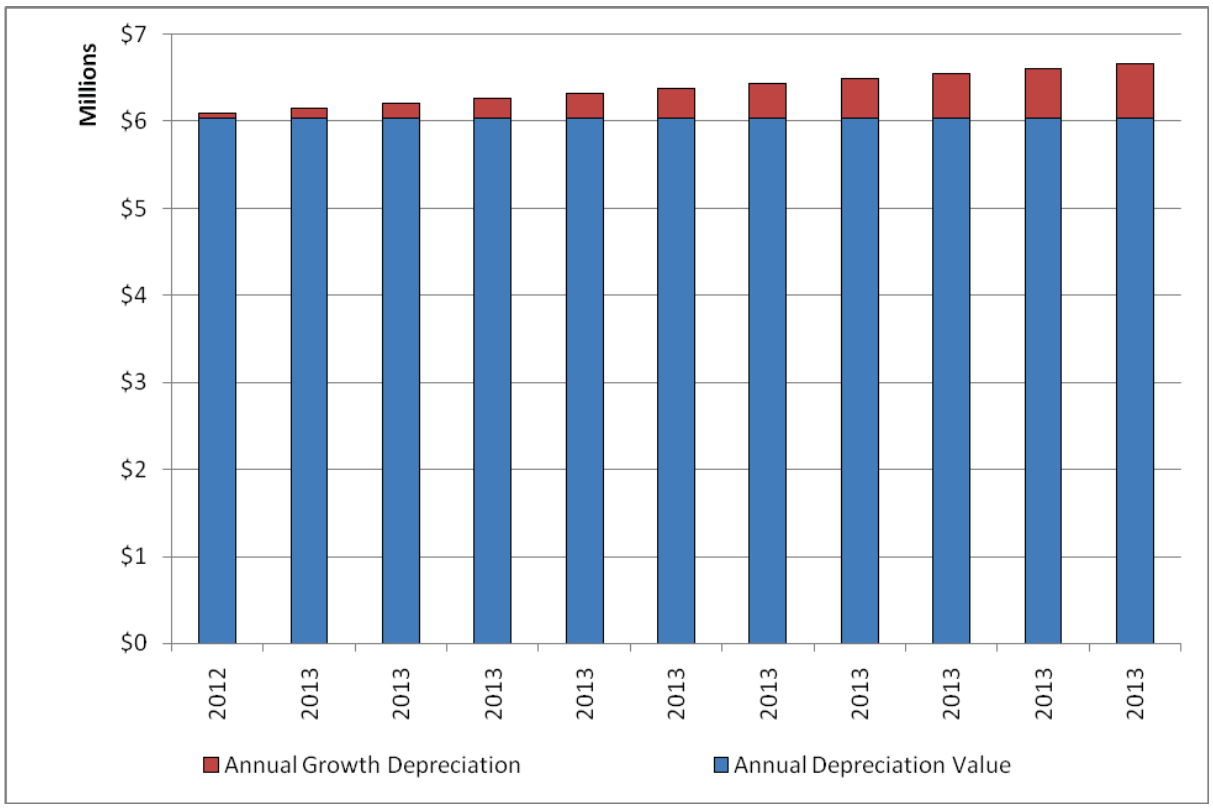
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 10 shows the projected replacement cost asset values over the planning period in current 2011/12 dollar values.

Figure 10. Projected Asset Values



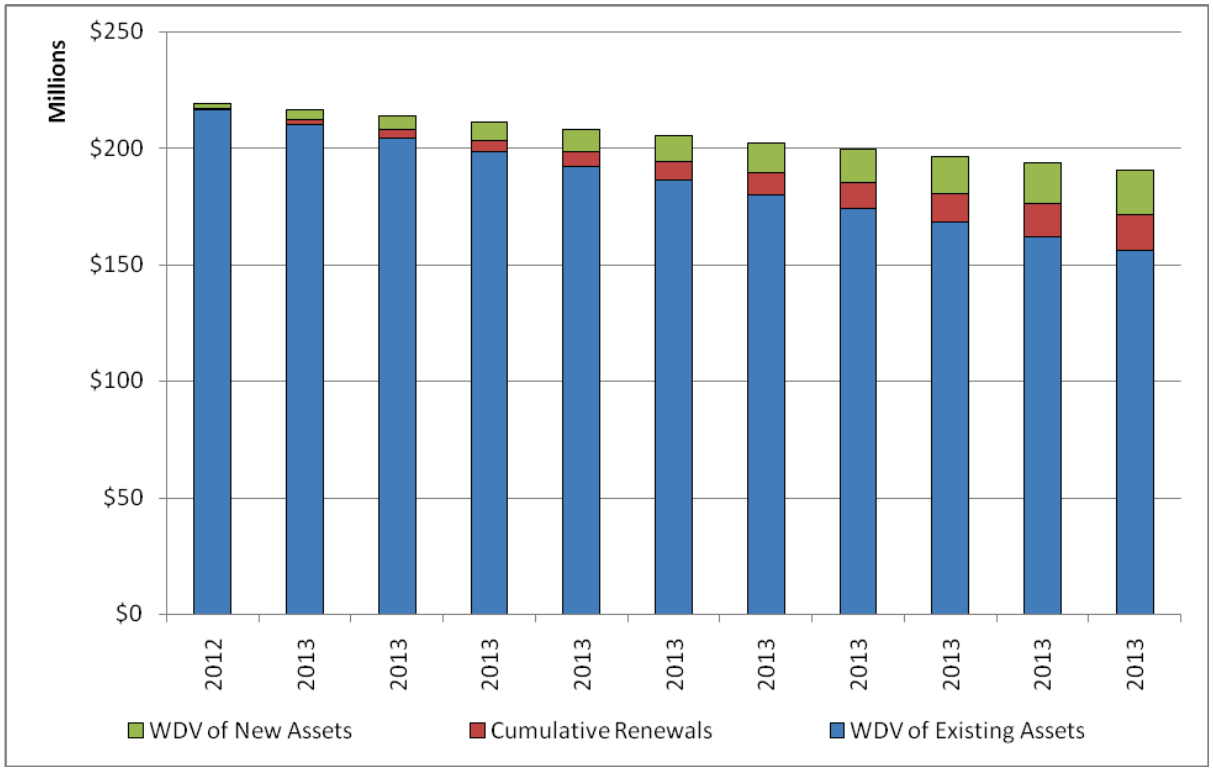
Depreciation expense values are forecast in line with asset values as shown in Figure 11.

Figure 11. 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 Figure 12.

Figure 12. 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:

- Indexation used in modelling results was set at 5% per annum.
- Economic lives of assets are based on asset condition inspections or industry standards.
- For infrastructure covered under Council's materiality threshold, replacement is covered under operational budgets.
- Renewal modelling contained in this Asset Management Plan does not consider renewal of the substructure and superstructure of the building.

Accuracy of future financial forecasts may be improved in future revisions of this Asset Management Plan by the following actions.

- Include the results of service level gaps indentified by the actions contained in Table 8.1. Identify the desired time to reduce service level gaps through community consultation and use as the basis of an annual allocation.
- Include results from enhanced modelling of building assets.

7. ASSET MANAGEMENT PRACTICES

7.1 ACCOUNTING/FINANCIAL SYSTEMS

Council manages finances in accordance with the following standards, guidelines and regulations:

- The Local Government Act 1993 (as amended) and the Regulations made there under.
- The Australian Accounting Standards and professional pronouncements, and
- The Local Government Code of Accounting Practice and Financial Reporting.

7.2 ASSET MANAGEMENT SYSTEMS

7.2.1 BLACKTOWN CITY COUNCIL ASSET MANAGEMENT SYSTEM (BCAMS)

Council maintains an asset management system to record asset inventory, manage inspections and risk and fulfil its mandatory planning and reporting requirements. The system utilises Microsoft SQL Server systems to store corporate asset information and manage backup and disaster recovery processes. Access to corporate asset information via various interfaces are managed by role based authenticated accounts.

Asset information obtained through engineering plans from land developments and internal and contracted construction and maintenance work is incorporated into the corporate asset information in an ongoing basis. This core register provides the basis for further related information to be added for the following functions.

1. Asset registers
2. Spatial (GIS) information
3. Asset accounting
4. Risk inspections
5. Maintenance works management
6. Long term renewal forecasting and planning.
7. Service level planning

7.2.2 WORKS IMPROVEMENT PROGRAM (WIP)

The implementation of asset management strategies and renewal programs is managed by Council's Works Improvement Program System. The system annually underpins the;

1. Preparation of the Capital Works Program, including prioritisation.
2. Planning and implementation of capital works.
3. Environmental management of adopted programs.

The administration, training and security of the above systems are the responsibility of Council's Asset Planning and Support section, whilst the disaster recovery and backup of corporate information is managed by Information Technology.

7.2.3 INSPECTIONS

Council's building assets are routinely inspected to identify any defects requiring rectification. Proposed works resulting from inspections are recorded and issued on a priority basis established from the assets location (type and amount of use by the community or staff) and the potential harm or consequence the defect could cause.

The frequency building assets are inspected are as follows;

- Amenities — Min 12 monthly
- Community — Min 12 monthly
- Heritage — Min 12 monthly
- Major — Min 12 monthly
- Operational — Min 12 monthly
- Recreational — Min 12 monthly
- Rental — Min 12 monthly

7.3 INFORMATION FLOW REQUIREMENTS AND PROCESSES

The key information that 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 that 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

- Blacktown City Council Asset Management Policy 2012
- Blacktown City Council Asset Management Strategy 2012
- Australian Accounting Standards (AASB 116)
- IPWEA, 2011, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australia, Sydney
- NATSPEC 2012. Local Government Specification System for life–cycle management of assets

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 cash flows identified in this Asset Management Plan are incorporated into Council's long term financial plan and Strategic Management Plan;
- The degree to which 1 and 4 year delivery programs provided by this Asset Management Plan are taken into account in the detailed works programs, budgets, business plans and organisational structures.

8.2 IMPROVEMENT PLAN

The asset management improvement plan generated from this Asset Management Plan is shown in Table 8.1.

Table 8.1 Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
Consultation				
1	Review community satisfaction research.	Community Development	Existing Staff / Consultants	Ongoing
2	Review Patron/User group satisfaction research.	Sports and Recreational Services	Existing Staff / Consultants	Ongoing
Quality				
3	Annually review renewal modelling.	Asset Planning and Support	Existing staff	Ongoing annually
4	Monitor feedback made in media and undertake regular customer satisfaction surveys	Public Relations	Existing staff	Ongoing
5	Undertake quality/compliance audit of childcare centre's to determine locations where enhancements are required. List required projects for funding consideration into the Works Improvement Program.	Children Services / Asset Planning & Support	Existing staff/ Consultants	Jul-15
6	Undertake quality audit of libraries to determine locations where enhancements are required and condition. List required upgrades for funding consideration into the Works Improvement Program.	Library Services / Asset Planning & Support	Existing staff/ Consultants	Jul-14

7	Undertake quality audit of Council's amenities buildings to determine locations where enhancements are required and condition. List required projects for funding consideration into the Works Improvement Program.	Sport and Recreation / Asset Planning & Support	Existing staff/ Consultants	Jul-14
8	Undertake audit of leisure centres to determine locations where enhancements are required and condition. List required projects for funding consideration into the Works Improvement Program.	Sport and Recreation / Asset Planning & Support	Existing staff/ Consultants	Jul-14
9	Undertake audit of Community centres to determine locations where enhancements are required and condition. List required projects for funding consideration into the Works Improvement Program.	Sport and Recreation / Asset Planning & Support	Existing staff/ Consultants	Jun-14
10	Review heritage building audit to assess management against the Heritage Act. List any projects for inclusion into the maintenance program.	Property Section / Asset Planning & Support	Existing staff/ Consultants	Jun-14
Safety				
11	Complete existing program to install anti-fall devices to Council buildings and identify projects for consideration into the Works Improvement Program.	Building Construction & Maintenance	Existing staff	Jun-15
12	Continue the existing programs Fire Service monitoring and maintenance.	Building Construction & Maintenance	Existing staff	Ongoing
13	Continue to undertake anti-slip measure audit of Council buildings and identify projects for consideration into the Works Improvement Program.	Building Construction & Maintenance	Existing staff	Ongoing
Function				
14	Review existing DDA compliance surveys of Council buildings and continue to implement recommendations.	Business Assurance and Safety / Asset Planning and Support	Existing staff	Jul-13
15	Examine existing car parking to Council buildings and determine priority areas to assist prioritisation.	Asset Planning and Support / Traffic	Existing staff	Jun-13

16	Review the use of Council buildings and plan the best types of buildings to service the community.	Community Development	Existing Staff / Consultants	Jun-14
Capacity				
17	Continuous monitoring of venue numbers. Identify locations that have insufficient capacity.	Community Development	Existing Staff / Consultants	Ongoing
Demand				
18	Maintain up-to-date asset management systems and undertake regular reviews of Asset Management Plans.	Asset Planning and Support	Existing staff	Ongoing
19	Review service levels and regularly undertake community consultation.	Community Development / Asset Planning and Support	Existing staff	Ongoing
20	Consider additional or upgraded services resulting from increased density at commercial centres.	Asset Planning & Support	Existing staff	Ongoing
21	Review the effect of climate change on Council infrastructure and promote environmentally sensitive solutions.	Environmental Sustainability / Asset Planning & Support/	Existing staff	Ongoing
22	Continually review renewal modelling ensuring forecasting is accurate.	Asset Planning & Support	Existing staff	Ongoing
23	Review service levels and regularly undertake community consultation.	Community Development / Asset Planning & Support	Existing Staff / Consultants	Ongoing
24	Review service levels and ensure incorporation of new design standards and requirements on existing infrastructure.	Building Construction & Maintenance / Asset Planning & Support	Existing staff	Ongoing
25	Review service levels to ensure incorporation of new environmental standards and requirements on existing infrastructure.	Environmental Sustainability / Asset Planning and Support/	Existing staff	Ongoing
26	Review utilisation and demand for cultural facilities.	Community Development	Existing staff	Ongoing
27	Review and Identify under utilised or redundant Buildings for redevelopment to alternate use.	Asset Planning & Support	Existing staff	Ongoing
Technology				

28	Monitor advances in new component technology and recycling techniques.	Building Construction and Maintenance	Existing staff	Ongoing
29	Continually monitor advances in building construction and maintenance techniques.	Building Construction and Maintenance	Existing staff	Ongoing
30	Continually monitor advances in building maintenance technology and methods.	Building Construction and Maintenance	Existing staff	Ongoing
31	Continually monitor advances in technology in social media. Capitalise on any efficiencies in communicating with the community gained through this medium.	Asset Planning & Support	Existing staff	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.

REFERENCES

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iD Forecast

http://forecast2.id.com.au/Default.aspx?id=211&pg=5000

APPENDICES

APPENDIX A - SELECTION CRITERIA FOR WORKS IMPROVEMENT PROGRAM

Building Improvements – Energy Management

Selection Criteria
Economic Benefit
Environmental Contribution
Amenity Improvement

Building Improvements – Mechanical Plant

Selection Criteria
Safety Improvement
Economic Benefit
Environmental Improvement
Amenity Improvement

Buildings – Amenities and Toilets

Selection Criteria
Demand for Usage
Funding for the Project
Request received by Council
Condition of Building
Compliance with Regulatory Requirements

Buildings – Child Care Centre

Selection Criteria
Compliance with Regulatory Requirements
Demand for Usage of Existing Facilities
Requests Received by Council
Condition of Building

Buildings - General

Selection Criteria
Demand for Usage of Existing Facilities
Requests Received by Council
Funding for the Project
Condition of Building
Compliance with Regulatory Requirements

Buildings – Ground Improvements

Selection Criteria
Demand for Usage of Existing Facilities
Compliance with Regulatory Requirements
Funding for the Project
Requests Received by Council
Condition of Grounds

Buildings - Libraries

Selection Criteria
Alignment with State Guidelines
Demand for Usage of Existing Facilities
Requests Received by Council
Condition of Building
Compliance with Regulatory Requirements

Buildings – Neighbourhood Centres and Halls

Selection Criteria
Demand for Usage of Existing Facilities
Requests Received by Council
Compliance with Regulatory Requirements
Condition of Building
Funding for the Project

Buildings - Pools

Selection Criteria
Compliance with Regulatory Requirements
Condition of Facility
Demand for Usage of Existing Facilities
Funding for the Project
Requests Received by Council

Minor Bldg Improvements / Major Bldg Improvements

Selection Criteria
Compliance with Regulatory Requirements
Safety / Structural Improvements
Security Improvements
Amenity Improvements
Requests Received by Council

S94 CP No.1 – 1980s Community Facilities

Selection Criteria
Percentage of Catchment Developed
Outstanding land Acquisition
Amount of S94 Funds Available
Demand Threshold for Facilities Provision
Existing Supply of Facilities and Services
Public Utility Adjustments
Requests Received by Council

S94 CP No.5 – Parklea - Community Facilities

Selection Criteria
Percentage of Catchment Developed
Demand Threshold for Facilities
Existing Supply of Facilities and Services
S94 Funds Available
Requests Received by Council

APPENDIX B - ABBREVIATIONS

AAAC	Average Annual Asset Consumption
AMP	Asset Management Plan
ARI	Average Recurrence Interval
AS	Australian Standard
BCA	Building Code Of Australia
CRC	Current Replacement Cost
DA	Depreciable Amount
DCP	Development Control Plan
DECS	Department Of Education And Communities
IRMP	Infrastructure Risk Management Plan
LCC	Life Cycle Cost
LCE	Life Cycle Expenditure
MMS	Maintenance Management System
RV	Residual Value

APPENDIX C - 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 category

Grouping of like assets classes e.g. Drainage, Transport.

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.

Asset renewal funding ratio

The ratio of the net present value of asset renewal funding accommodated over a 10 year period in a long term financial plan relative to the net present value of projected capital renewal expenditures identified in an asset management plan for the same period [AIFMG Financial Sustainability Indicator No 8].

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 months.

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 totaled for each and every asset OR by dividing the Fair Value (Depreciated Replacement Cost) by the Remaining Life and totaled 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, e.g. 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, e.g. resurfacing or repainting a material part of a building, 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, e.g. 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.

Crowdsourcing ***

Is the act of outsourcing tasks, traditionally performed by an employee or contractor, to an undefined, large group of people or community (a "crowd"), through an open call.

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.

Delivery Program

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 Council's objectives and activities

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 arm's length transaction.

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 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 the 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.

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 if 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.

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.

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.

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 allocation of probability and consequence to an undesirable event and subsequent actions taken to control or mitigate that probability and/or consequence.

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.

Social Media***

Social media are media for social interaction, using highly accessible and scalable communication techniques. Social media is the use of web-based and mobile technologies to turn communication into interactive dialogue.

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

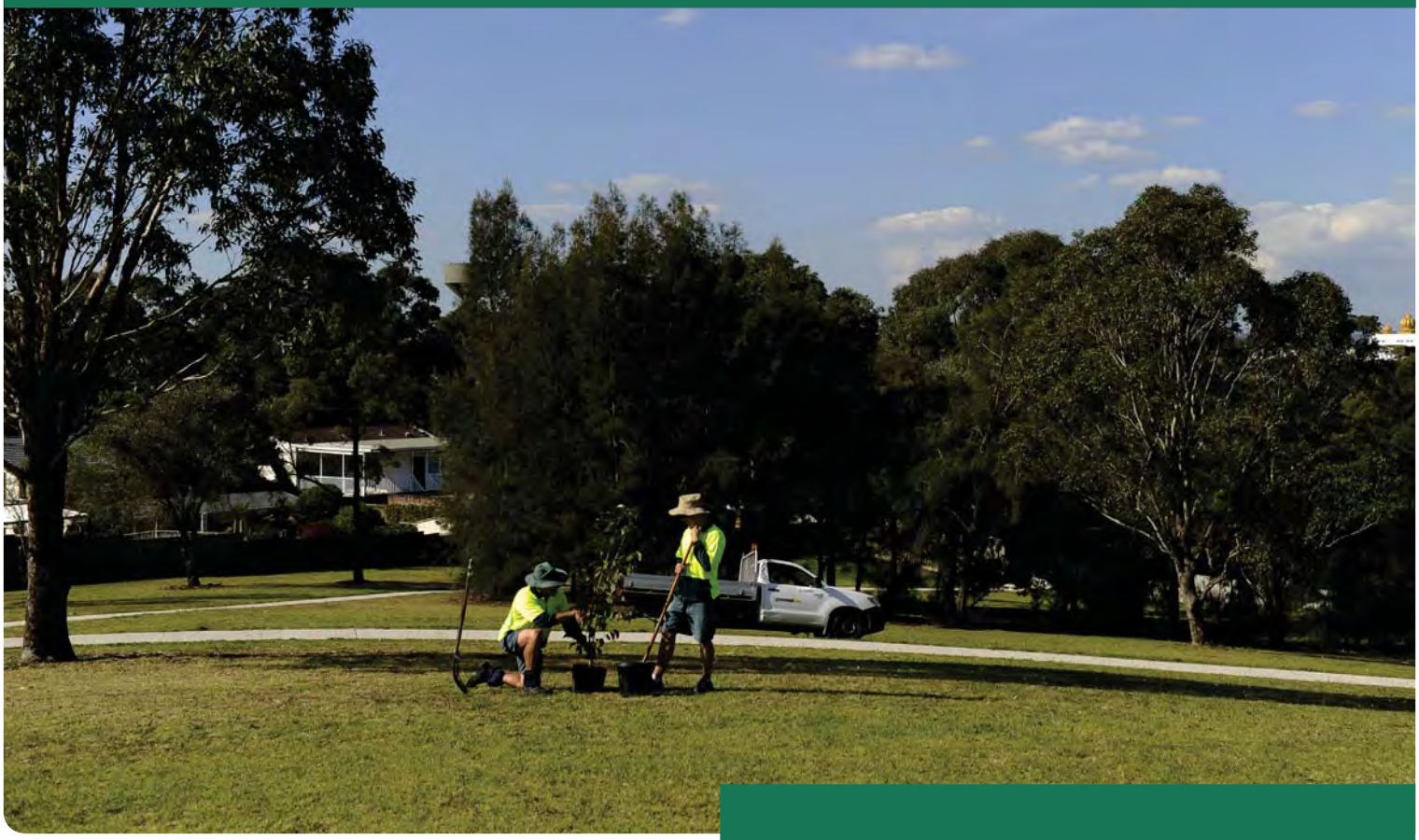
ADOPTED
6 November 2013

diverse, dynamic, progressive

BLACKTOWN CITY 2030
CITY OF EXCELLENCE

ASSET MANAGEMENT PLAN

OPEN SPACE



2013 - 2023

Blacktown City Council

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1. EXECUTIVE SUMMARY

WHAT COUNCIL PROVIDES

Council provides a recreation services in partnership with sporting clubs and association, a mix of public and private developers and the general community to provide safe, efficient and reliable recreational facilities within the city of Blacktown.

Assets included in this plan

- Bridges
- Courts
- Cricket Pitches
- Fencing and Retaining Walls
- Floodlighting
- Gardens
- Hardstand Paved Areas
- Irrigation Systems
- Furniture
- Playgrounds
- Shelters

WHAT DOES IT COST?

There are two key indicators of cost to provide open space services:

- 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 open space services is estimated at **$16,251,982** per annum. Council's planned life cycle expenditure for year 1 of the Asset Management Plan is **$12,831,192** which gives a life cycle sustainability index of **0.790.**

The total maintenance and capital renewal expenditure required to provide the open space services for the next 10 years is estimated at **$147,150,689.** Council's 10 year planned expenditure of the Asset Management Plan is **$146,548,724** which gives a 10 year sustainability index of **0.996**.

Council's maintenance and capital renewal expenditure for year 1 of the Asset Management Plan of **$12,831,192** compared to the average projected expenditure over the 10 year planning period of **$14,715,069** giving a first year sustainability index of **0.872**.

PLANS FOR THE FUTURE

Council plans to operate and maintain recreational facilities to achieve the following strategic objectives:

1. Ensure that Open Space facilities are maintained at a safe and functional standard as set out in this Asset Management Plan.
2. Provide a diverse range of open space opportunities that suit the need of the community.
3. Ensure that open space infrastructure provides the functionality sought by the community.
4. Increased availability to open spaces.
5. Provide sustainable open spaces that council can afford and meet the communities' expectations.

MEASURING OUR PERFORMANCE

Quality

Open space assets will be maintained in a prioritised, programmed maintenance regime. Defects found or reported that are outside our service standard will be identified for repair. See our maintenance response service levels for details of defect prioritisation and response time.

Function

Provide appropriate Open space areas in partnership with other levels of government and stakeholders to achieve efficient, affordable and sustainable open space systems within the City to ensure Blacktown is a place of choice to live, work and play.

Open space asset attributes will be maintained at a safe level and associated signage and equipment be provided as needed to ensure public safety

- Council is committed to the provision and maintenance of a diverse range of quality infrastructure. Council's infrastructure will be provided in a planned and efficient manner to meet the present and future needs of our growing and vibrant City.

Safety

Council inspects all open space assets regularly, prioritises and repairs defects in accordance with inspection schedules to ensure council's open space areas are safe.

THE NEXT STEPS

The actions resulting from this Asset Management Plan are:

- Manage and operate an appropriate mix of sustainable infrastructure at the lowest lifecycle cost that supports services within Blacktown City.
- Provide a consistent and comprehensive approach to asset management planning through the use of renewal modelling and asset management plans.
- Prioritisation of projects funded in the Works Improvement Program based on principles and objectives contained in Council's Asset Management Strategy and this Open Space Asset Management Plan.
- Complete the maintenance of open space facilities in a cost effective and timely manner.
- Implement the actions outlined in this document's improvement plan.
- Undertake a further customer satisfaction and park utilisation surveys.
- Continuous review of current and desired service levels.
- Develop funding strategies to undertake asset renewal and decrease service level gaps.

2. INTRODUCTION

2.1 BACKGROUND

This Asset Management Plan is designed/created/written to demonstrate responsive/responsible management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed for providing the required levels of service.

The Open Space Asset Management Plan is to be read with the following associated planning documents:

- Community Strategic Plan – *Blacktown City 2030*
- Asset Management Strategy 2013-2023 (including Asset Management Policy)
- Long Term Financial Plan 2013-2023
- Annual Works Improvement Program
- Blacktown City Council Development Control Plan 2006
- Blacktown City Council Community Satisfaction Survey 2011
- Blacktown City Council Risk Management Plan
- Blacktown Climate Change Action and Adaptation Plan (BCCAAP)
- Blacktown City Council Plan of Management for Community Land – Natural Area – Bushland.
- Blacktown City Council Plan of Management for Community Land –Sportsgrounds.
- Blacktown City Council Plan of Management for Community Land – Parks.
- Blacktown City Council Landscape Strategy.
- Blacktown City Council Playground Strategy
- Blacktown City Council Biodiversity Strategy

Table 2.1 Assets covered by this Plan

Asset category	Quantity	Units	Replacement Value
Park Pedestrian Bridges	87	Bridges	$3,525,600
Courts	83	Courts	$8,396,900
Cricket Pitches	122	Pitches	$2,450,195
Fences	193	km	$16,488,198
Floodlighting	1361	Poles	$11,612,250
Gardens	23	Hectares	$1,987,187
Hard Stand Areas	36,383	Square Metres	$3,333,975
Irrigated Field	105	Fields	$5,587,449
Irrigation System	228	Items	$3,930,000
Furniture	4,824	Items	$9,732,075
Playground Items	1,237	Items	$5,710,958
Retaining Walls	9,234	Lineal Metres	$2,840,590
Shelters	235	Shelters	$2,339,500
Structures	389	Structures	$16,573,550
TOTAL[1]			**$94,508,427**

[1] Note: car parking, paths, cycleways and access roads on open space are considered in the Transport Asset Management Plan.

Key stakeholders in the preparation and implementation of this Asset Management Plan are:

Asset Planning & Support	Prepare and implement Open Space Asset Management Plan, annual Works Improvement Program, life cycle modelling, undertake improvement actions, undertake condition assessments and prepare annual financial reports.
Workforce & Corporate Development	Coordination of Council's strategic planning requirements.
Finance Section	Prepare Long Term Financial Plan and endorse financial reports.
Executive Management	Review and approve the plan.
Councillors'	Review and endorse the plan.
Civil & Open Space Maintenance Section	Inspect, maintain and renew existing open space assets. Carry out works identified in the annual Works Improvement Program.
Asset Construction Section	Carry out works identified in the annual Works Improvement Program.
Asset Design Section	Design new Open Space assets.
Sport and Recreational Services	Open Space master planning. Strategic assessment of utilisation, current demand, planning for future demand from development and changes in social trends.
Environmental Sustainability	Environmental management and planning.
Business Assurance and Safety Systems	Risk management planning
Development Services Unit	Monitor and implement development standards for new assets created through subdivision of land.
Environmental Sustainability Unit	Consider demands placed on the environment can be met without reducing its capacity.
Community Development	Facilitate customer satisfaction surveys.

2.2 GOALS AND OBJECTIVES OF ASSET MANAGEMENT

The Council exists to provide services to its community. Some of these services are provided by infrastructure assets. Council has acquired infrastructure assets by 'purchase', by contract, construction by council staff 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;[2]

- *Providing a defined level of service and monitoring performance,*
- *Managing the impact of growth through demand management and infrastructure investment,*
- *Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet that defined level of service,*
- *Identifying, assessing and appropriately controlling risks,*
- *Having a long-term financial plan which identifies required expenditure and how it will be funded.*

[2] IIMM 2011 Sec 1.2.1, p 1.7

This Asset Management Plan is prepared under the direction of Council's vision, mission, goals and objectives.

Council's vision is:

City of Excellence- Diverse, Dynamic, Progressive

2.3 PLAN FRAMEWORK

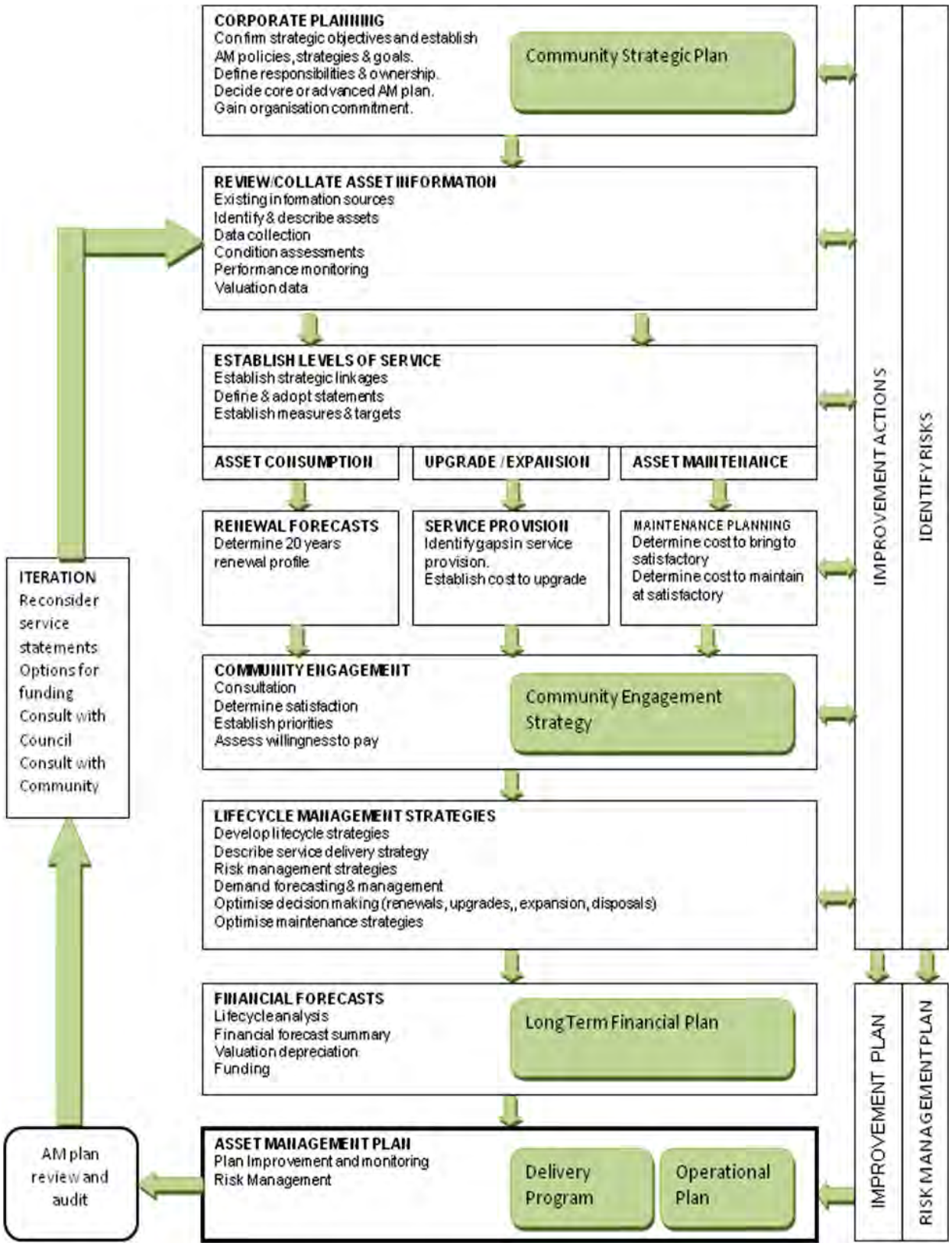
Key elements of the plan are

- 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.

The flow chart below outlines how an Asset Management Plan is prepared.

Flow chart for preparing an Asset Management Plan

Source: IIMM 2006 Fig 1.5.1, p1.11 (Adaptation)



3. LEVELS OF SERVICE

3.1 CUSTOMER RESEARCH AND EXPECTATIONS

Blacktown City Council sought to examine community attitudes and perceptions toward current and future services and facilities provided by Council through its Community Satisfaction Survey conducted in October 2011. The key objectives of the research included:

- To assess and establish the community's priorities and satisfaction in relation to Council activities, services and facilities.
- To identify the community's overall level of satisfaction with Council's performance.
- To identify the community's level of satisfaction with regard to contact they have had with Council staff.

The findings related to this Asset Management Plan are listed below in Table 3.1

Table 3.1 Community Satisfaction Survey Results

Service Area	Combined LGA Satisfaction Benchmark	Blacktown Satisfaction Score	Blacktown Importance Score	Performance Gap
Sporting ovals, grounds and facilities.	3.6	3.86	4.09	0.23
Protection of natural bushland areas.		3.53	4.38	0.85
Playgrounds.	3.6	3.6	3.98	0.43
Public Toilets.	2.9	2.64	4.14	1.50
Maintenance of local parks and gardens.		3.52	4.45	0.93
Water and energy use		3.45	4.54	1.09

The findings of the Community Satisfaction Survey confirm that the services or facilities identified as being important to the community align with Council's commitment and vision to asset management in these areas. The benchmarks and performance gaps derived from the survey confirm that Council is benchmarking well against other local government areas but that significant efforts need to be maintained to satisfy community expectations in some areas. Whilst this is a generally positive outcome for both the community and Council understanding the areas of importance to the community will continue to assist in focusing areas of Asset Management improvement.

3.2 LEGISLATIVE REQUIREMENTS

Council has to meet many legislative requirements in providing open space infrastructure. This includes Federal and State legislation and regulations. These include;

Table 3.2 Legislative Requirements

Legislation	Requirement
NSW Local Government Act 1993	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.
NSW Environmental Planning and Assessment Act 1979	Sets out regulations for the protection of air, water quality and control of pollution, waste, noise and radiation.
NSW Work Health and Safety Act 2011	Sets our roles for the protection of health, safety and welfare of persons at work and others.
NSW Civil Liability Act, 2002	An Act to make provision in relation to the recovery of damages for death or personal injury caused by the fault of a person
NSW Companion Animals Act, 1998	An Act to provide for the identification and registration of companion animals and for the duties and responsibilities of their owners. Under the terms of the Act Council is required to provide and maintain at least one off leash area.
NSW Crown Lands Act, 1989	An Act to provide for the administration and management of Crown land in the Eastern and Central Division of the State of NSW Council has holdings of Crown land under it care, control and management.
Federal, Disability Discriminations Act, 1992	a) To eliminate, as far as possible, discrimination against persons on the ground of disability. (b) to ensure, as far as practicable, that persons with disabilities have the same rights to equality before the law as the rest of the community; and (c) To promote recognition and acceptance within the community of the principle that persons with disabilities have the same fundamental rights as the rest of the community. Council's DDA Plan identifies infrastructure improvements that are required to be provided and maintained.
NSW Heritage Act, 1977	An Act to conserve the environmental heritage of the State. Several properties are listed under the terms of the Act and attract a high level of maintenance cost, approval and monitoring.
Federal, Aboriginal and Torres Strait Islander Heritage Protection Act 1984	Enable the Commonwealth to intervene and, where necessary, preserve and protect areas and objects of particular significance to Australia's Aboriginal or Torres Strait Islander peoples from being desecrated or injured

NSW National Parks and Wildlife Act (1974)	An Act relating to the establishment, preservation and management of national parks, historic sites and certain other areas and the protection of certain fauna, native plants and Aboriginal objects
NSW Roads Act 1993	Regulates the carrying out of various activities on public roads Sets out the rights of members of the public to access public roads Regulates road classifications and to distribute of authority and function between RTA and Council. Regulates traffic and road events
NSW State Emergency and Rescue Management Act 1989	Addresses matters relating to the prevention of, preparation for, response to and recovery from emergencies (including the co-ordination of the activities of government and non-government agencies in connection with those matters).
NSW Water Management Act 2000	The objects of this Act are to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations.
NSW Rural Fires Act, 1997	This act sets out the installation, reporting and safe use with electricity
NSW Government Information (Public Access) Act 2009 (GIPA Act)	Facilitates public access to government information.
NSW Protection of the Environment Operations Act 1997	Regulates the protection of the environment.

3.3 CURRENT LEVELS OF SERVICE

Council has defined service levels in two terms.

Technical Levels of Service - Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the organisation undertakes to best achieve the desired community outcomes and demonstrate effective organisational performance.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as opening hours, cleansing frequency, mowing frequency, etc.
- Maintenance – the activities necessary to retain an assets as near as practicable to an appropriate service condition (e.g. replacing a broken slat on a park bench),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. replacement of an existing playground element such as a spring item),
- Upgrade – the activities to provide an higher level of service (e.g. Replacing pine bark softfall with wet pour rubber) or a new service that did not exist previously (e.g. a new gazebo).

Asset managers plan, implement and control technical service levels to influence the customer service levels.[3]

[3] IPWEA, 2011, IIMM, p 2.22

Community Levels of Service

These measure how the community receives the service and whether the organisation is providing community value.

Community levels of service measures used in the asset management plan are:

Quality	How good is the service?
Function	Does it meet users' needs?
Capacity/Utilisation	Is the service over or under used?

Generally Council provides infrastructure to underpin a service to the community. Consequently Council has based service level planning around the infrastructure required to provide a desired service, then the operational requirements required to maintain the service.

By setting desired technical levels of service Council is able to determine the required infrastructure to achieve the service standard. When compared to existing assets Council is able to determine if any repairs/enhancements in infrastructure are required. These enhancements/repairs form the basis of renewal, upgrade and new plans and ultimately individual projects listed for funding consideration in the Works Improvement Program.

During the annual preparation of the Works Improvement Program Community Levels of Service assist in the ranking and prioritisation of individual projects.

In the context of assets, the ongoing provision of a service is contingent on appropriate maintenance management of infrastructure; this is further discussed in Section 5.3.

3.4 DESIRED LEVELS OF SERVICE

Each year Council receives requests from the community and its elected representatives, identifying gaps in desired service level provision. These requests and the identification of enhancements/repairs through Technical Levels of Service form the basis of Council's Works Improvement Program preparation. This annual budget document and associated funding programs represent three decades of community engagement. All requests received by Council are critically assessed against the service levels identified in Table 3.4 and listed for funding consideration based on detailed selection criteria.

In many instances further studies or effort is required to fully identify and document the gap between current and desired service level provision, these are recorded in the Implementation Plan in Section 8.2, Table 8.1.

Table 3.3 Current Levels of Service

Objective	Description	Measure	Actions
Performance Category - Renewal			
Service Level - Condition / Sustainability			
Lowest Life Cycle Cost	To provide infrastructure required to underpin Open Space services in most economic and sustainable manner.	Renewal requirements catered for in Council's Long term Financial Plan	Revise Asset renewal modelling.
Performance Category - Maintenance/Operations			
Service Level - Condition / Sustainability			
Lowest Life Cycle Cost.	To provide infrastructure required to underpin Open Space services in most economic and sustainable manner.	Performance monitoring of maintenance	Preparation of an Open Space maintenance Plan outlining performance measures for planned maintenance, prioritise unplanned maintenance and monitor deferred maintenance.

Table 3.4 Desired Levels of Service

Please note: While the Renewal and Maintenance/Operations performance categories express levels of service which are currently provided, the Upgrade/New performance categories are more complex and aspirational. These service levels reflect appropriate technical standards as well as relevant Council policies, which these services are aiming to achieve over time.

Performance Category - Upgrade/New			
Service Level - Aesthetics			
Landscaping	To provide landscaped areas that integrate well with the functional elements of the land to develop strong identity and pleasing visual amenity.	Landscaping guidelines.	Prepare program of landscaping works for inclusion into the Works Improvement Program.
City Image	To promote Blacktown's image through provision of high quality open space infrastructure	Customer Satisfaction	Measure City Image through Community Surveys
Service Level - Minimum Standard			
Passive Recreation Areas	Provision of an appropriate hierarchy and variety of open space.	Parks managed in accordance with the Parks Plan of Management 2010.	Progressively complete actions identified in the Parks Plan of Management 2010.
Sportsgrounds	Provision of appropriate hierarchy and variety of sportsgrounds.	Sportsgrounds managed /maintained in accordance with the Sportsgrounds Plan of Management 2010.	Progressively complete actions identified in the Sportsgrounds Plan of Management 2010.

Bushland Areas	Provision of quality bushland areas.	Bushland Areas conservation, rehabilitated in accordance with Bushland Plan of Management 2010.	Progressively complete actions identified in the Bushland Plan of Management 2010.
Facilities	Provision of diverse recreational facilities.	Recreational facilities provided/managed in accordance with the Open Space and Recreation Plan.	Progressively complete actions identified in the Various Plans of Management 2010.
Playgrounds	Provision of a hierarchy of playgrounds.	Playgrounds provided in accordance with Playground Strategy/policy.	Further develop the Playground Strategy. Audit existing provision against target set in Playground Strategy.
Paths and Cycleways	Ensure an appropriate provision of all-weather pedestrian and cycle access.	Access provided in accordance with Australian Standards for accessibility.	Review accessibility audit.
Service Level - Safety			
Secure open space sites	To protect the community and infrastructure from unauthorised vehicle use.	Provision of physical barriers to unauthorised vehicle use whilst maintaining access for service vehicles.	Preparation of fencing and lighting guidelines and standards.
Emergency Services	To provide access for emergency vehicles to Council's open space areas.	All sporting grounds have direct access to playing surfaces for emergency vehicles.	Conduct an audit and document existing emergency services access arrangements. Identify areas for improvement and list on Works Improvement Program.
User Safety	To provide safe access to Council's Open Space network.	Number / Severity of Accidents	Monitor 5 Year rolling average of reported accidents/ insurance claims.
Service Level - Accessibility			
Carparks	Ensure adequate provision of off street parking facilities to Council reserves.	Provision of parking complies with Development Control Standards	Assess current level of provision of parking for Council services, identify gaps and develop improvement program.
Connectivity	Provide pedestrian/cyclist networks that connect open space areas to each other and public transport.	Connectivity between non-vehicular recreational routes and commuter routes.	Audit existing provision of recreational pedestrian/cyclist networks, identify areas of improvement and list for consideration in Works Improvement Program.
Wet Weather Access	Provide open spaces that can be utilised all year round with minimal disruption.	Open space areas are reopened for use as soon as practicable after wet weather.	Identify grounds that tend to take longer to reopen and investigate available solutions. List in WIP for funding consideration.

Service Level - Adaptability

Multi-Purpose Facilities	Wherever possible provide open space facilities that may be adapted for other uses to meet changes in demand.	Maximum utilisation of existing facilities.	Identify facilities that are at capacity and have potential for multiple uses. List improvements for consideration in the Works Improvement Program.

Service Level - Provision

Adequate provision of open space opportunities.	Provision of an appropriate level of passive recreational areas to meet demand.	Benchmark existing provision against other Local Government Areas. Benchmark existing provision against demand /utilisation.	Undertake benchmarking through the Yardstick program. Develop framework to monitor utilisation /demand. Identify redundant capacity and improvement programs.

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. The resulting actions in response to these issues are included in the Implementation Plan contained in Section 8.2.

Table 4.1 Demand Factors, Projections and Impact on Services, Strategic Issues

Demand factor	Present position	Projection	Impact on services	Action
Increased population and new urban areas.	In 2011 – 312,485 North-West sector release planning. Completion of 1980's and Parklea Release areas.	By 2021 – 366,107 Release and development of the North-West Sector. Capping of s94 contributions State Government and increased development standards.	Increase in open space assets and accompanying renewal and operating expenditures. Increased use of public places from increased population requiring upgrade to existing open space infrastructure.	Maintain up-to-date asset management systems and undertake regular reviews of Asset Management Plans.
Demographics	2012 0-4 yrs 26,570 8.4% 5-11yrs 33,401 10.5% 12-17yrs 27,343 8.6% 18-24yrs 31,978 10.1% 25-34yrs 50,523 15.9% 35-49yrs 68,068 21.5% 50-59yrs 35,898 11.4% 60-69yrs 24,810 7.8% 70-84yrs 15,560 4.9% 85 + 2,813 0.9% **Total 316,964**	2032 34,955 8.2% 47,387 11.1% 36,172 8.5% 39,174 9.2% 62,480 14.6% 91,341 21.4% 46,594 10.9% 34,136 8.0% 30,031 7.1% 4,204 1.0% **Total 426,474**	Increase demand on services in general. As the demographic of Blacktown changes over time service levels will need to be reviewed to respond to an aging population.	Review service levels and regularly undertake community consultation.
Land Use	Current development based on existing land use planning.	Changes to permissible land use such as in-fill development around commercial centres.	Increased population density in existing urban areas will increase utilization of existing open space services / infrastructure.	Implement and review Open Space and Recreational plan.
Climate change.	Current renewal programs and planning based on existing climatic conditions.	Changes in climatic conditions may increase renewal requirements or standards. Additional pressure on	Fluctuations in Planned Capital Renewal and Operating Expenditure. Dedication of existing open space areas to provide areas for	Review the effect of climate change on open space infrastructure and promote environmentally sensitive solutions.

Demand factor	Present position	Projection	Impact on services	Action
		Council to undertake more carbon sequestration projects.	reforestation.	
Increase material supply costs and contract rates.	Inflation in open space construction prices exceeds annual increases in expenditure.	Annual increases in construction costs continue to exceed increases in open space expenditure, effectively reducing 'real expenditure' on infrastructure.	Increased cost to maintain and renew and upgrade open space facilities. Reduction in real expenditure will delay treatments reduce the life cycle of the asset.	Continually review renewal modelling ensuring forecasting is accurate.
Rising Community Expectation.	Rising community expectation for provision of open space services.	Desired service level provision increased over time.	Adoption of higher service levels provided for open space services will create service level gaps and increase the number and scope of projects in delivery programs.	Review service levels and regularly undertake community consultation.
Increasing Design Standards	Council design standards based on State, Federal and Australian Standards.	Higher standards adopted over time by other planning authorities resulting in expected standards by Local Government.	New infrastructure will be constructed to the current higher standard leading inequity and safety issues. Minor works carried out on assets built to a prior standard might require upgrade to the current higher standard.	Review service levels and ensure incorporation of new standards and requirements on existing infrastructure.
Increasing Environmental Standards	Public awareness of environmental issues and standards are increasing.	Environmental standards increase further supported by Regulations and/or the introduction of new taxes.	The provision of open space infrastructure incorporates environmental management features significantly increasing the cost of provision of services. Providing high levels of service in new release areas through development in comparison with existing areas will create inequity. Retrofitting the existing areas with environmental management features may be unachievable.	Review service levels and test the incorporation of new standards and requirements on existing infrastructure. Continually benchmark the provision of open space services.

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	Action
Remote and automated field lighting systems.	Increased flexibility in accessing lighting sporting clubs. Increased energy management and closures due to wet weather.	Investigate and determine appropriate automated lighting solution and list recommendation for consideration in Works Improvement Program.
Remote field watering systems.	Optimised water management of irrigation solutions.	Investigate and determine appropriate remote irrigation solution and list recommendation for consideration in Works Improvement Program.
Water recycling and reuse.	Access to water collected for reuse on playing fields.	Investigate the capacity to collect and reuse stormwater and irrigation runoff and list recommendation for consideration in Works Improvement Program.
Expansion of social media and crowd sourcing.	Greater opportunities to inform and obtain feedback from the community.	Continually monitor advances in technology in social media. Capitalise on any efficiencies in communicating with the community gained through this medium.

4.3 DEMAND MANAGEMENT PLAN

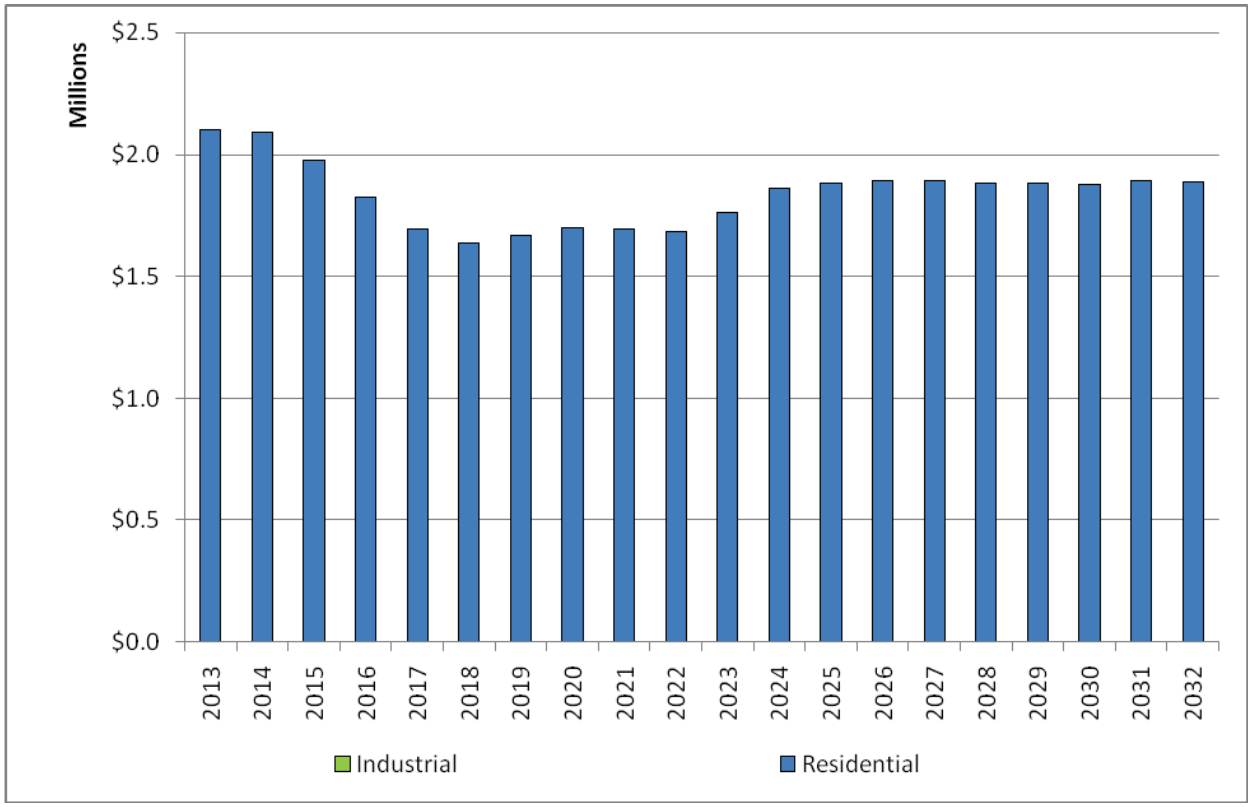
Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand. Demand management practices include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Tables 4.1 and 4.2. The resulting actions in response to these issues are included in the Implementation Plan contained in Section 8.2. Further opportunities as they arise will be developed in future revisions of this Asset Management Plan.

4.4 NEW ASSETS FROM GROWTH

The new assets required to meet growth will be acquired from land developments and those constructed or upgraded by Council. Projections of asset growth are summarised in Figure 1.

Figure 1. New Assets from Growth



Acquiring these new assets will commit Council to fund ongoing operational and maintenance costs for the period for which 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

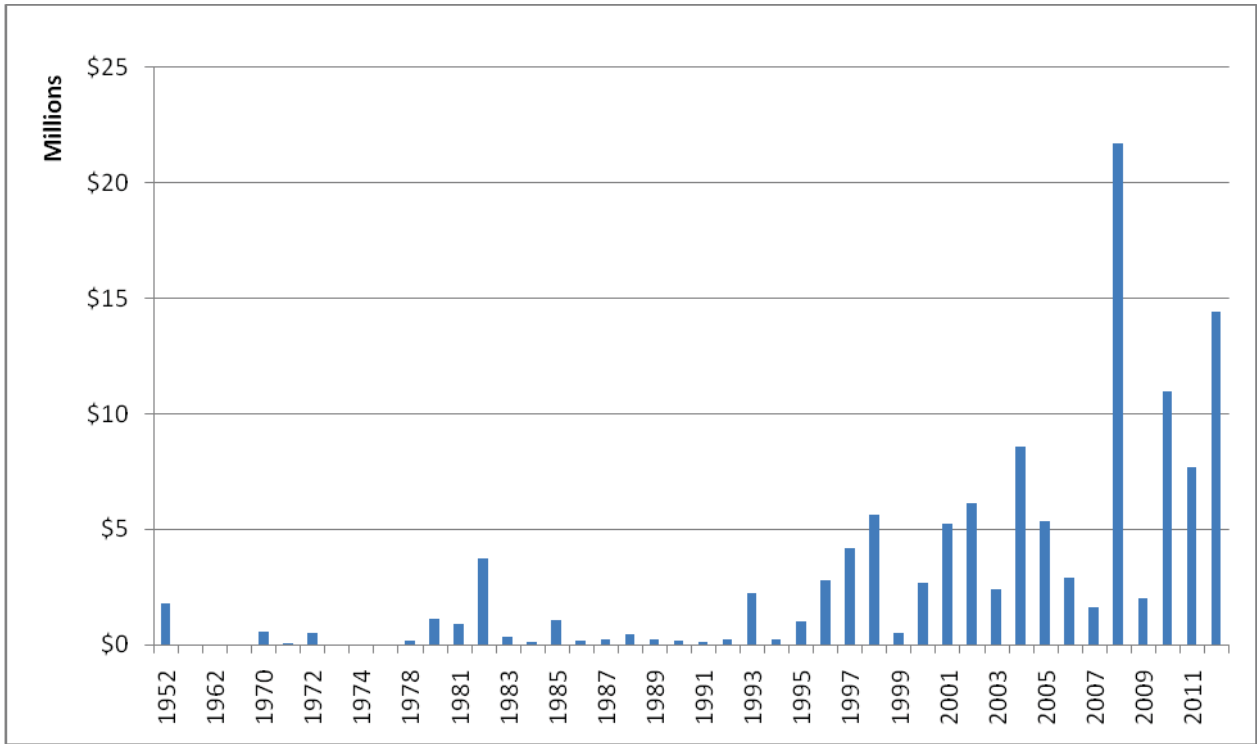
The lifecycle management plan details how Council plans to manage and operate the assets at the agreed levels of service (defined in Section 3) whilst optimising life cycle costs.

5.1 BACKGROUND DATA

The infrastructure considered in this Asset Management Plan are those required to provide recreational opportunities for people across the City. Primarily Open Space assets are located on Council parks, however also extend to horticultural facilities throughout the road network and community facilities.

Blacktown has experienced continuous high growth over the past four decades and this is reflected in the age profile of Council's assets shown below. On average $5 million of new open space assets are created or renewed per annum.

Figure 2. Asset Age Profile



Note: Although the above graph is consistant with knowledge of existing assets in Open Space the exact age of the majority of individual assets is unknown. In these instances an estimate of age is obtained from recent condition assessments and its estimated life.

5.1.2 ASSET CAPACITY AND PERFORMANCE

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

Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

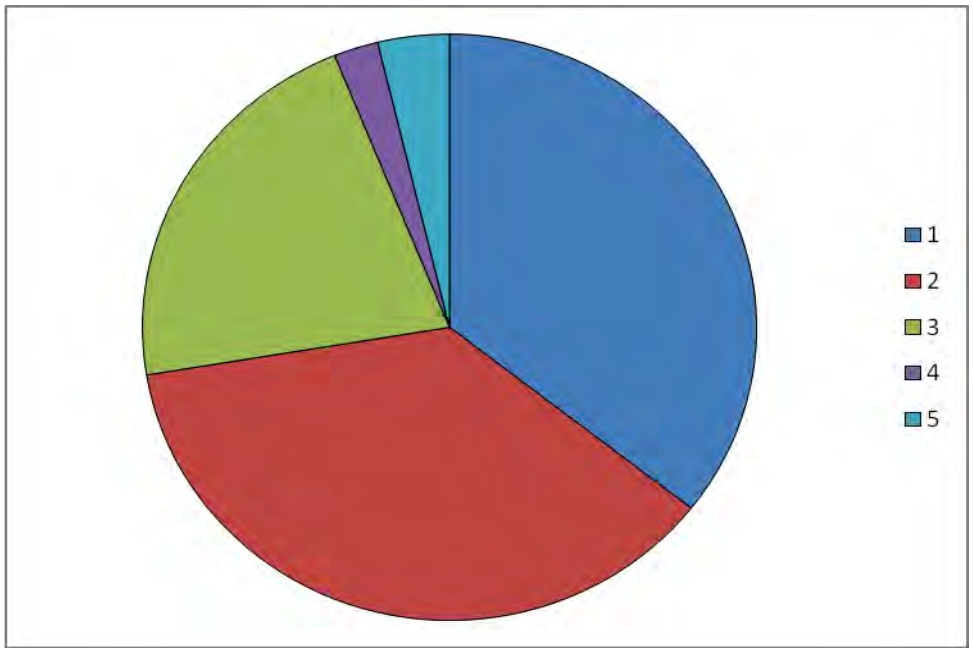
Table 5.1.2 Known Service Performance Deficiencies

Location	Service Deficiency
Playgrounds across the LGA	Damaged playground elements and soft fall.
Fencing across the LGA	Damaged and missing fencing allowing vehicular access and rubbish dumping.
Field drainage (some reserves across the city)	Some reserves experience additional closures or partial closures after excessive rainfall.
Irrigation	Aging irrigation systems. Fields requiring irrigation to be installed.
Parking	Upgrades and additional parking required at sporting fields throughout the city.

5.1.3 ASSET CONDITION

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

Figure 3. Asset Renewal Profile



Condition is measured using a 1 – 5 rating system.

Rating		Description of Condition
1	Very Good:	Only planned maintenance required.
2	Good:	Minor maintenance required plus planned maintenance.
3	Fair:	Significant maintenance required.
4	Poor:	Significant renewal/rehabilitation required.
5	Very Poor:	Physically unsound and/or beyond rehabilitation.

5.1.4 ASSET VALUATIONS

The value of assets as at 30 June 2012 covered by this Asset Management Plan is summarised below. [4]

Current Replacement Cost	$ 94,508,427
Depreciable Amount	$ 94,508,427
Depreciated Replacement Cost	$ 64,665,461
Annual Depreciation Expense	$ 3,978,290

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

Asset Consumption	4.21%	(Depreciation/Depreciable amount) x 100

5.2 RISK MANAGEMENT PLAN

An assessment of risks[5] 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.

Risks identified in the Infrastructure Risk Management Plan relating to Open Space are summarised in Table 5.2.

Table 5.2 Risks and Treatment Plans

Asset at Risk	What can Happen	Risk Rating	Risk Treatment Plan
Fencing	Injuries and insurance claims	Medium	Continually inspect fences and report on high risk fences. Prepare prioritised replacement program. Provide funding program.
Playgrounds	Injuries and insurance claims.	Medium	Routine inspections for defect and compliance with Australian Standards. Prioritised program for Play equipment renewal with play equipment meeting current standards. Prioritise program for soft fall renewal or upgrade.
Field Lighting	Inadequate lighting of night time activities. Impacts on adjoining properties.	Medium	Undertake routine field lighting surveys to determine any replacement / upgrade requirements.
Field Lighting	Structural failure	Low	Regular inspections and repairs.
Sport Facilities	Complaints. Impact on general community.	Medium	Maintain community consultation. Inspection and resolve problems if possible. Provide off street parking. Provide landscape buffer zone.

[4] The Asset Valuations is based on the latest inventory and condition assessment which varies to the 2011/2012 Financial Statements, following adoption of these plans, this valuation methodology will be incorporated in the preparation of future financial statements.

[5] Blacktown City Councils' Infrastructure Risk Management Plan

Sport Facilities	Reduce quality of sport facilities. Delay sport clubs from training and competition.	Medium	Implement inspection system. Design field irrigation systems to use water in an energy efficient and environmentally responsible manner. Provide effective drainage and filter outflows from playing fields.
Courts	Injuries and insurance claims resulting from uneven surfaces.	Medium	Undertake regular inspections and prioritise repairs.
Pathways, Cycleways etc	Injuries and insurance claims.	Medium	Introduce inspection regime. Repair when required and make safe. Prepare replacement program.
Retaining walls	Injuries and insurance claims	Low	Undertake audit report on all retaining walls. Prepare maintenance and repair program based on priority.
Bushland	Damage to bushland habitat.	Medium	Site analysis and design. Community consultation. Education Programs for residents. Implement habitat restoration program. Develop action plan for high priority target species. Undertake weed control.
	Fire – damage to surrounding property / loss of life	Medium	Undertake regular fire safety assessments / management plan to control fuel build up etc.
Car parking facility	Injuries and insurance claims	Low	Inspections and prepare a report on condition of open space car parking facilities. Prepare seal / reseal program based on priority.
Parks and recreational Areas	Loss of contractors	Medium	Review financial capacity as part of the contract assessment process.

5.3 MAINTENANCE PLAN

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. Council considers maintenance to be planned or unplanned.

5.3.1 PLANNED MAINTENANCE

The following describes Council's approaches to planned maintenance

- **Frequency based maintenance** is maintenance scheduled periodically. It is required to sustain the design life of the asset or to maintain a performance standard. Programmed maintenance is typically undertaken on assets that are not critical, and have low risks associated with failure. Frequency based maintenance has set performance measures and maintenance activities undertaken are recorded to undertake performance monitoring. For example Council services its open space areas at set frequencies based on the hierarchy of the site, records are kept detailing when each site was serviced and when it is scheduled for its next service. These records form the basis of weekly performance monitoring.

- **Preventative maintenance** is maintenance that can be initiated without routine or continuous checking (e.g. using information contained in maintenance manual or manufacturer's recommendations) and is not condition or performance based. The purpose of this maintenance is to undertake sufficient maintenance activities to reduce the risk of unforeseen failure. Preventative maintenance is undertaken on assets that

have high risks or unacceptable loss of service associated with failure. For example the failure of an irrigation pump will potentially lead to the closure of the service.

- **Routine maintenance** is day-to-day operational activities to keep the asset operating (replacement of light bulbs, repairing garden edging, repairing leaking shelters etc) and which form part of the annual operating budget.

5.3.2 UNPLANNED MAINTENANCE

- **Corrective maintenance** is a task performed to identify, isolate and rectify a fault so that the failed asset can be returned to a condition in which it can perform its intended function. Council considers corrective maintenance as activity based maintenance and has documented intervention levels, response times (to complete the work from date of issue), work methods and performance measures. These are based on the IPWEA's NATSPEC documentation.

  Depending on how critical the failed asset is and availability of funds, corrective maintenance can be either immediate or deferred corrective maintenance.

  Unplanned maintenance includes unforeseen failure, vandalism, storm and accidental damage and is identified through customer requests, Council's maintenance crews and routine asset condition inspections. The manner that unplanned maintenance arises is irregular and cannot be predicted, for example damage caused by storms and vandalism. It is therefore necessary to monitor unplanned maintenance activities that cannot be undertaken immediately. Over time, by monitoring the trends of the amount of deferred corrective maintenance Council can optimise its investment or resources required to balance the trend.

Maintenance expenditure trends are shown in Table 5.3.2

Table 5.3.2 Maintenance Expenditure Trends

Year	Maintenance Expenditure		
	Planned	Unplanned	
	Frequency/Routine	Corrective	Deferred
2009/10	$12,218,262	$1,620,040	$-
2010/11	$10,346,772	$1,358,559	$78,395
2011/12	$10,519,822	$1,753,870	$540,259

Planned maintenance work is approximately 86% of total maintenance expenditure.

Planned inspections commenced on Council's open space early 2010. Deferred maintenance collected to date totals $540,259, however due to the short duration of inspections an annual increase cannot be determined. As further inspections are undertaken the amount of deferred maintenance will be determined and reported in future revisions of this Asset Management Plan.

5.3.3 STANDARDS AND SPECIFICATIONS FOR MAINTENANCE

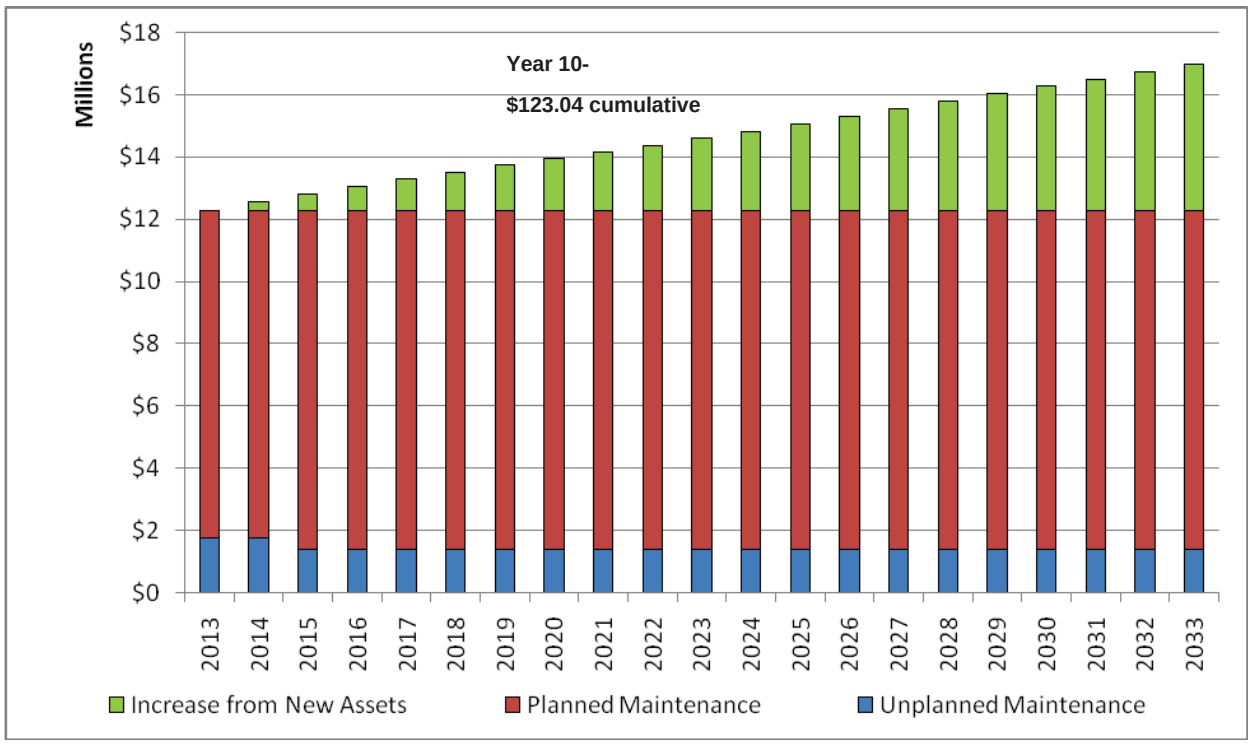
Maintenance work is carried out in accordance with the following Standards and Specifications.

- Council's Engineering Guidelines
- Civil and Open Space Maintenance Services Section Procedures Manual
- NATSPEC

5.3.4 SUMMARY OF FUTURE MAINTENANCE EXPENDITURES

Overall maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current 2011/2012 dollar values. The results of asset condition inspections and deferred maintenance analysis currently underway will form the basis of refined planned maintenance programs in 2013/14.

Figure 4. Planned Maintenance Expenditure



Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded is 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.

Currently some minor asset renewal is undertaken through maintenance budgets. Action 1 of the Asset Management Strategy details a requirement that expenditure on asset be categorised with the definitions for Capital Renewal, Capital Expansion, Capital Upgrade and Maintenance detailed in the Glossary of this Asset management Plan. Further work is to be done on realising this action for Open Space expenditure. Future reviews of this Asset management Plan will incorporate the results of this action.

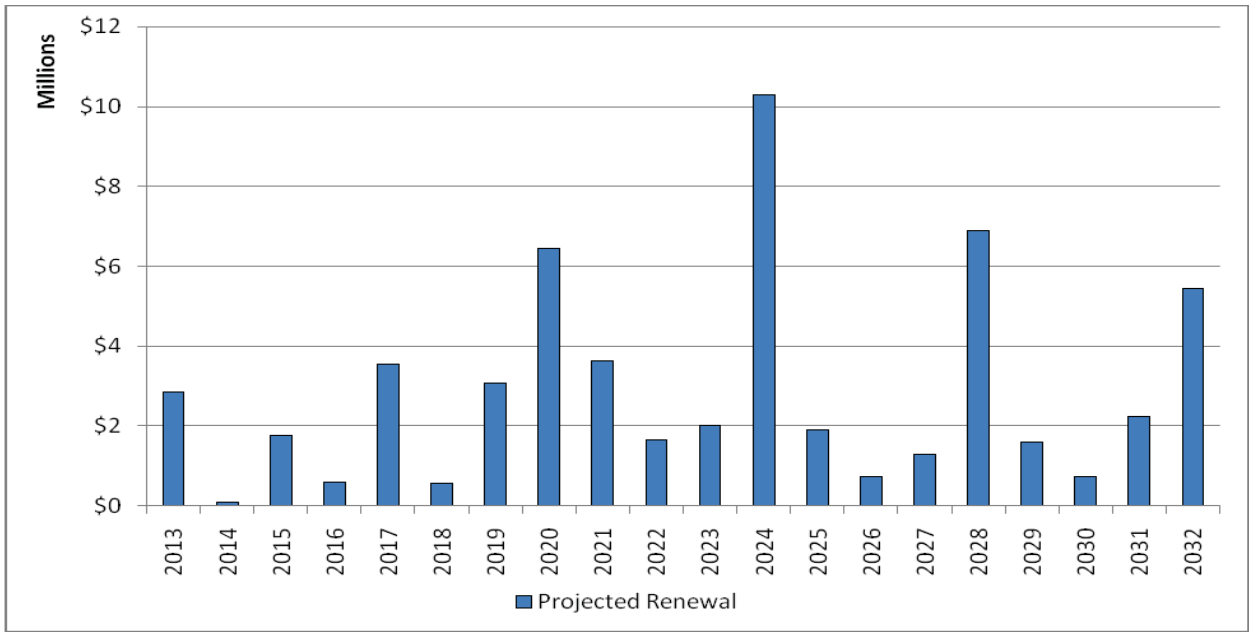
5.4 RENEWAL PLAN

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 DEMAND

The first step of the renewal plan is to forecast the amount of Open Space renewal work required 20 years into the future. The information required to achieve this is obtained through customer requests and routine inspections. Renewal estimates 20 years into the future are detailed in Figure 5.

Figure 5. Forecast Renewal Demand



The first year requires significant funds and represents the accumulated renewal backlog or Open Space assets currently requiring renewal. The challenge for Council is to fund and schedule these works in a uniform annual budget ensuring;

- Uniform resources are maintained
- Budget requirements can be met and
- Delays to renewal treatments do not expose Council to more expensive rehabilitation.

5.4.2 STANDARDS AND SPECIFICATIONSSPECIFICATIONS FOR RENEWAL

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

- AS/NZS 3000:2007 Australian / New Zealand Wiring Rules
- Sydney Water Regulation 2006
- Pesticides Regulation 2009
- AS/NZS 4486.1:1997- Playgrounds and playground equipment. Part 1: Development, Installation, Inspection, Maintenance and Operation.
- AS/NZS 4422:1996- Playground surfacing- Specifications, requirements and test method.
- AS 4685:2004 – Playground Equipment parts 1-6.
- AS 2560.1:2002 - Sporting facilities manual – Part 1: sports lighting
- AS/NZS:4282 - Control of the Obtrusive Effects of Outdoor Lighting
- AS/NZS: 1158.6:2004 - Lighting for roads and public spaces - Luminaries

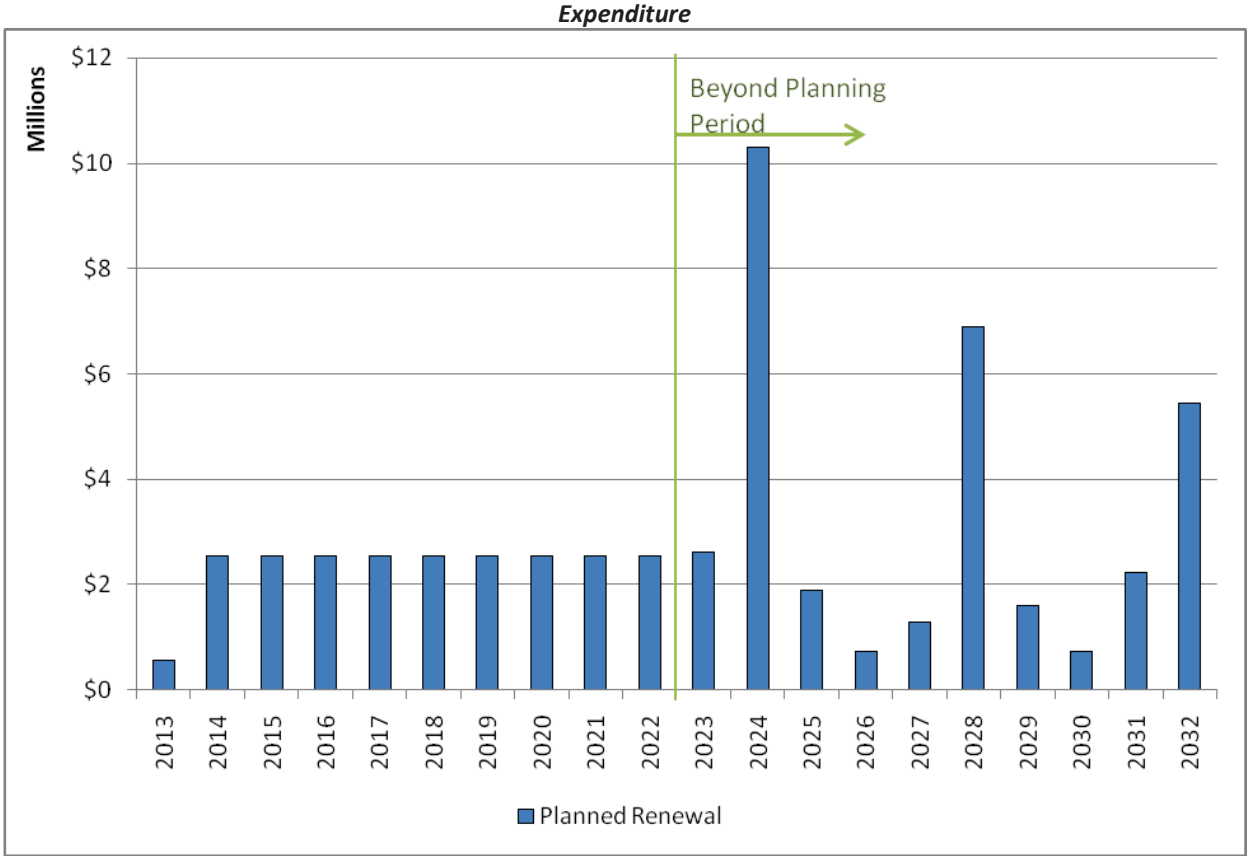
- Council's Engineering Guidelines
- Civil and Open Space Maintenance Services Section Procedures Manual
- AS/NZS 60335.2.78 Household and similar electrical appliances safety
- AS 2658 Liquefied petroleum (LP) gas—Portable and mobile appliances.
- AS 4373 Pruning of amenity trees
- AS 2507 The storage and handling of agricultural and veterinary chemicals.

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 Figure 6. Note that all costs are shown in current 2011/2012 dollar values.

Complex modelling is performed to smooth out the renewal profile resulting in the lowest cost solution over a 10 year period that is manageable with current operations. The resulting 10 year renewal program and forecast for the ensuing 10 years is shown in Figure 6. These results are used in Council's Long Term Financial Planning.

Figure 6. Projected Capital Renewal Expenditure



Through the annual preparation of Council's Works Improvement Program candidate proposals identified for renewal are inspected to verify the accuracy of cost and treatment proposed and finally ranked on a priority basis. There is a number of Open Space renewal and upgrade programs in the Works Improvement Program, the selection criteria used to rank and prioritise these works are detailed in Appendix A.

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.

5.5 UPGRADE/EXPANSION PLAN

These are 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.

Rising community expectation has driven up desired service levels over time. This can result in disparate service provision across the city. For example, playgrounds provided in the 1970's were built with less diverse activities and standards over the past few decades the quality and standards of playground equipment has increased leaving provision in some areas of the city below the contemporary standards. To achieve a uniform standard across the city Council should:

- Adopt desired service levels.
- Identify gaps in service provision.
- Quantify physical work required to achieve desired service levels city wide.
- Determine delivery timeframe through community consultation.
- Prioritise upgrades based on set selection criteria.
- Implement a program of works to retrofit the city.
- Update planned capital upgrade program Figure 7.

Where further effort is required to estimate new/upgrade plans, actions linked to desired service levels (Table 3.3) form part of the Improvement Plan in Section 8.2. Results of these actions will be documented in future revisions of this Asset Management Plan, as such the Planned Capital Upgrade/New Asset Expenditure detailed in Figure 7 only represents infrastructure required to service new release areas.

Masterplans and plans of management play a critical role in the planning and implementation of Open Space expansion and upgrade. They ensure that individual expansion; upgrade and renewal projects are practical, cohesive and reflect the community's desires. They provide a measured and weighted plan for the future of our parks and reserves in both a local and regional context.

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 and release area planning. Candidate proposals represent assets that have characteristics/attributes that inhibit them from performing a desired service level. In some instances existing infrastructure has not been tested against the service levels documented in Section 3.4 and further studies are required to fully identify potential service gaps. Proposals are annually reviewed in Council's Works Improvement Program and ranked by priority. The priority ranking criteria is detailed in Appendix A.

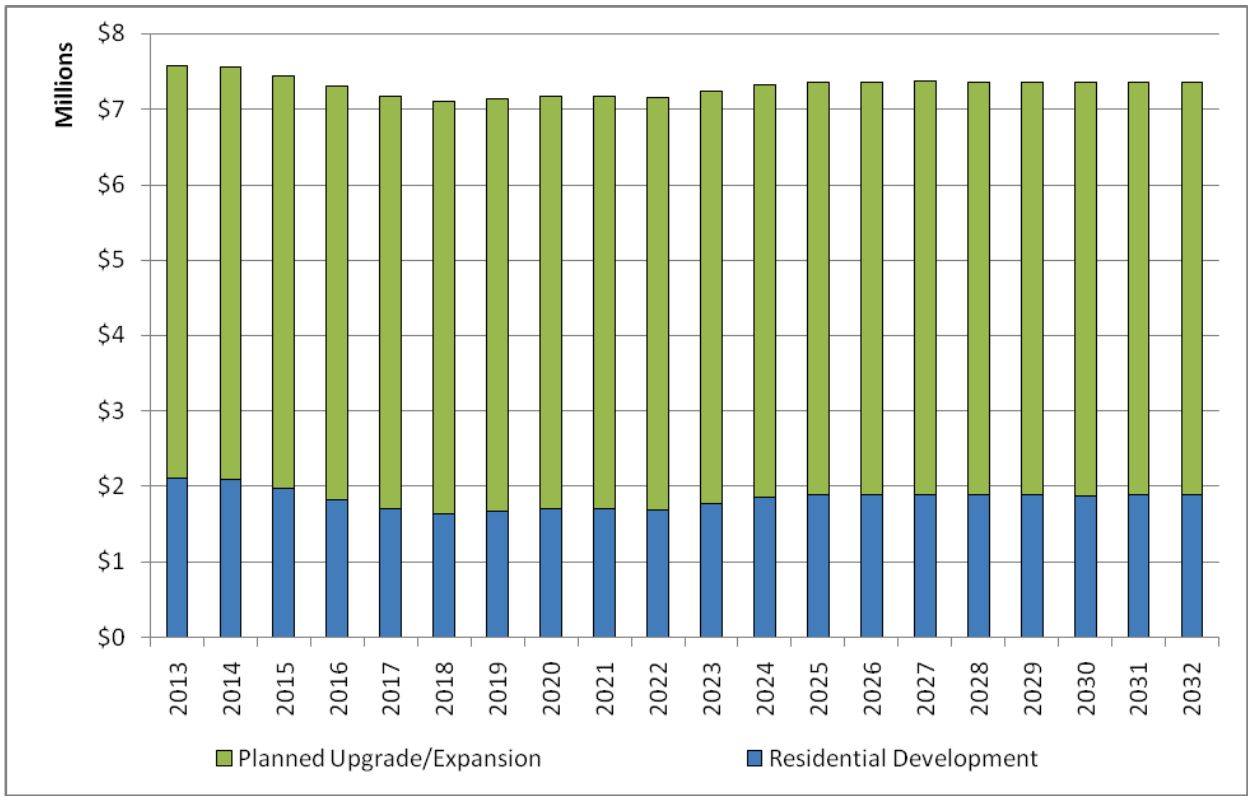
5.5.2 STANDARDS AND SPECIFICATIONS FOR UPGRADE/EXPANSION

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/EXPANSION ASSETS EXPENDITURE

Estimated upgrade/new asset expenditures are summarised in Figure 7. All costs are shown in current 2011/2012 dollar values.

Figure 7. Planned Capital Upgrade/New Asset Expenditure



Note: the assets created from residential development do not include the acquisition costs for the land open space.

The forecast upgrade and expansion is based on actual expenditure in the 2011/2012 financial year funded from Council's Works Improvement Program, Supplementary Works Programs and various State and Federal Grants. The combination of these programs has significantly reduced the backlog of outstanding renewal works for open space. The investment into new and upgraded open space assets will be monitored and the above forecast reviewed annually.

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. At this stage no assets are identified for decommissioning and disposal. The decommissioning of any material assets will be subject to community consultation and form part of future reviews of this asset management plan. 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.

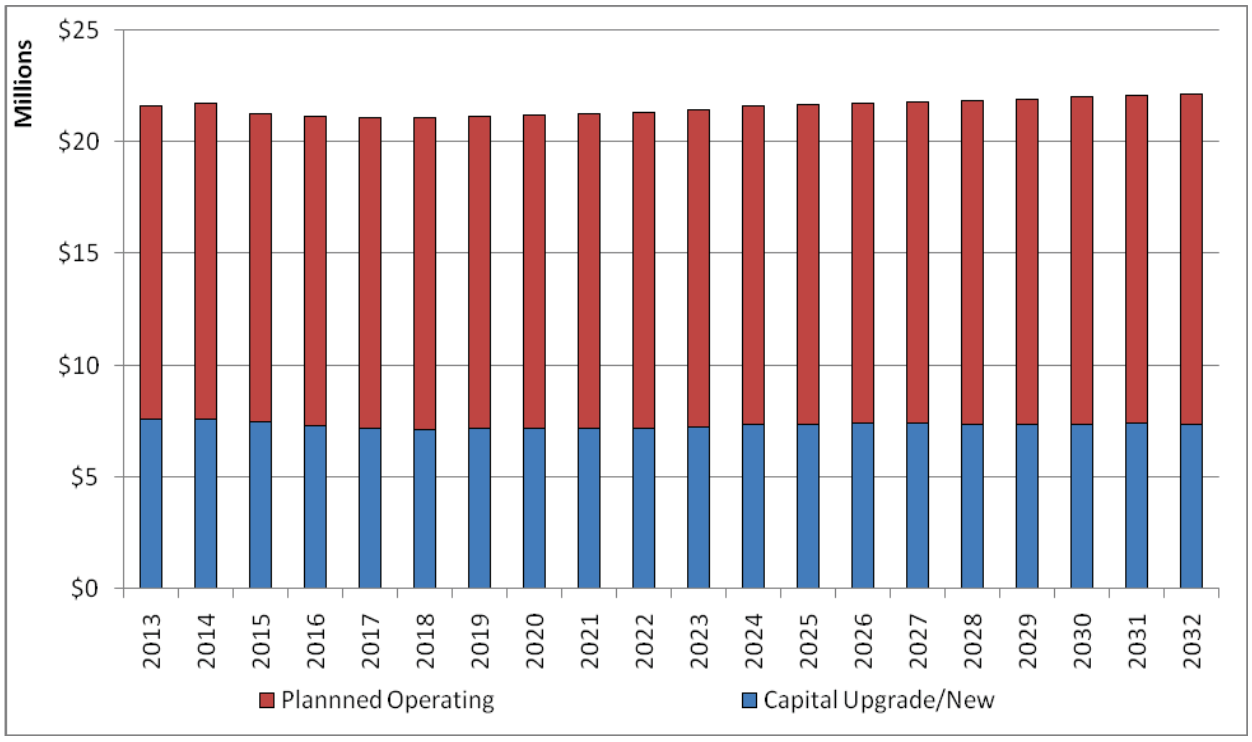
6. FINANCIAL SUMMARY

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 Figure 8 for planned operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets).

Figure 8. Planned Operating and Capital Expenditure



Note that all costs are shown in current 2011/2012 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:

Annual Depreciation (5.1.4)	$ 3,978,290
Maintenance Expenditure (5.3.2)	$ 12,273,692
Average Annual increase in Deferred Maintenance (5.3.2)	$ (See 5.3.2)
Total	**$ 16,251,982**

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 **$12,831,192**

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 Open Space 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 **$3,420,790** per annum. The life cycle sustainability index is **0.790**.

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.

Figure 9 details the projected asset renewals in the 20 year forecast period and compared to planned renewal expenditure in the capital works program. Table 6.1.1 details the annual and cumulative funding gap (deferred renewal) between projected and planned renewals.

Figure 9. Projected and Planned Renewals and Current Renewal Expenditure

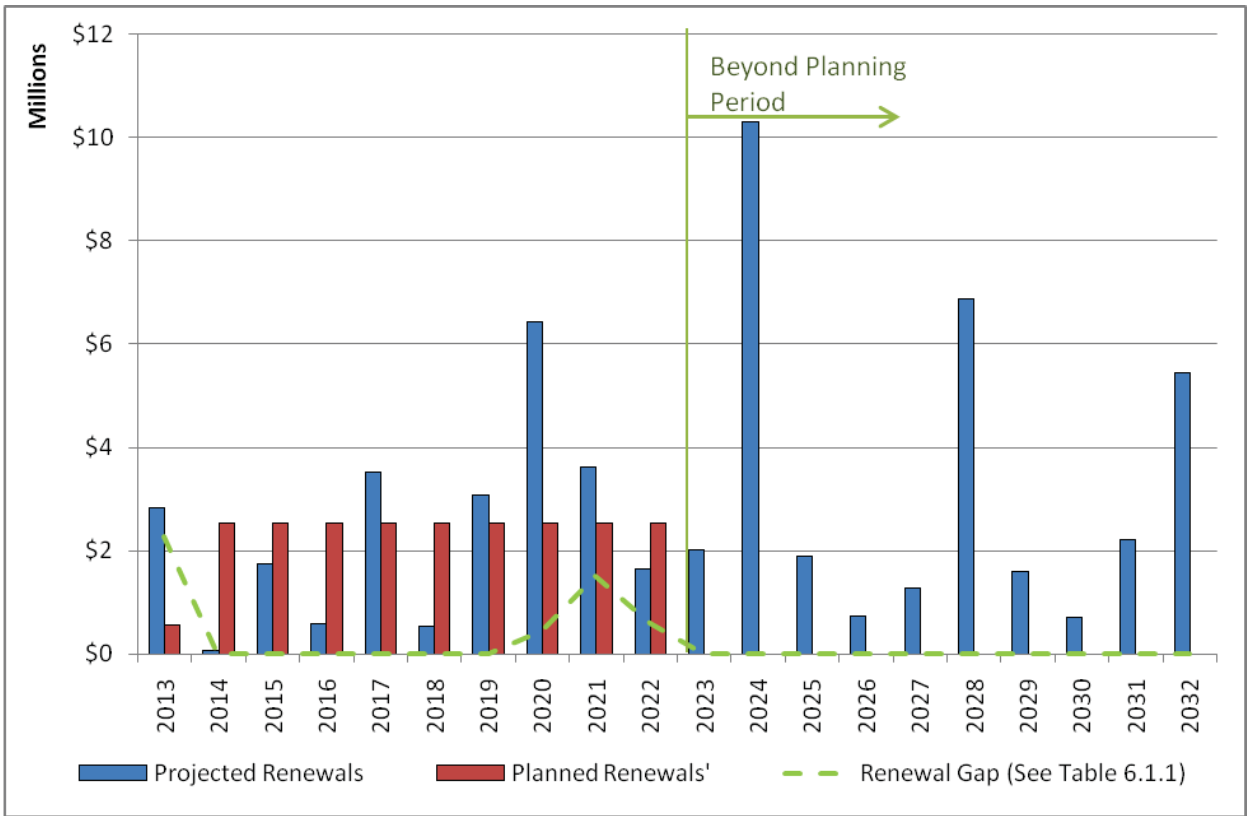


Table 6.1.1 shows the gap between projected and planned renewals.

Table 6.1.1 Projected and Planned Renewals and Expenditure Gap

Year	Projected Renewals	Planned Renewals	Renewal Funding Gap
2013	$2,833,951	$557,500	$2,276,451
2014	$77,471	$2,550,000	$0
2015	$1,747,080	$2,550,000	$0
2016	$587,329	$2,550,000	$0
2017	$3,530,561	$2,550,000	$0
2018	$552,315	$2,550,000	$0
2019	$3,074,293	$2,550,000	$0
2020	$6,441,372	$2,550,000	$436,872
2021	$3,624,504	$2,550,000	$1,511,376
2022	$1,640,589	$2,550,000	$601,965
TOTAL	**$24,109,465**	**$23,507,500**	

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 and ensure that adequate renewal expenditure is planned, particularly in treatments that are relatively inexpensive compared to full replacement.

Council's long term financial plan covers the first 10 years of the 20 year planning period. The total maintenance and capital renewal expenditure required over the 10 years is:

10 year Projected Renewal (6.1.1)	$ 24,109,465
10 year Projected Maintenance Expenditure (5.3.4)	$ 123,041,224
Deferred Maintenance (5.3.2)	$ (See 5.3.2)
Total	**$ 147,150,689**

The estimated maintenance and capital renewal expenditure in the first 10 years is

10 year Planned Renewal (6.1.1)	$ 23,507,500
10 year Projected Maintenance Expenditure (5.3.4)	$ 123,041,224
Total	**$ 146,548,724**

The 10 year sustainability index is **0.996**.

6.2 FUNDING STRATEGY

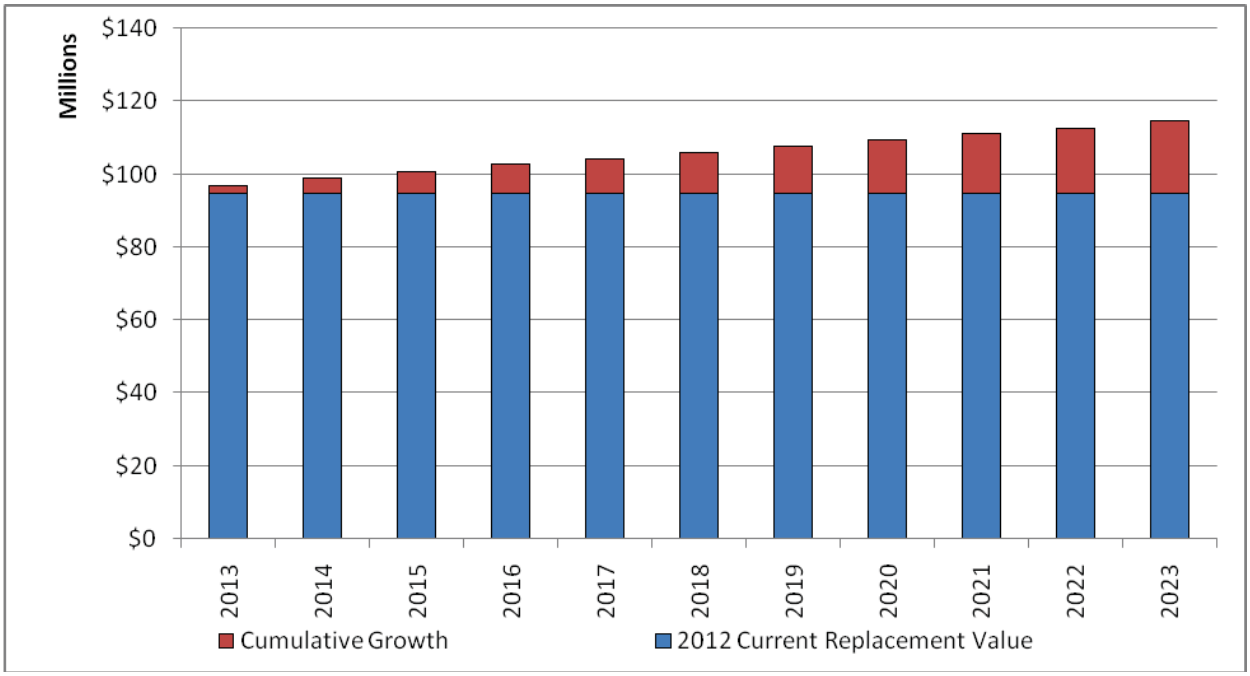
Projected expenditure identified in Section 6.1 is to be funded from Council's operating and capital budgets. The funding strategy is detailed in Council's 10 year long term financial plan.

Achieving the financial strategy will require continual monitoring of asset condition and modelling to forecast required renewal expenditure matched by funds detailed in Council's Long-Term Financial Plan.

6.3 VALUATION FORECASTS

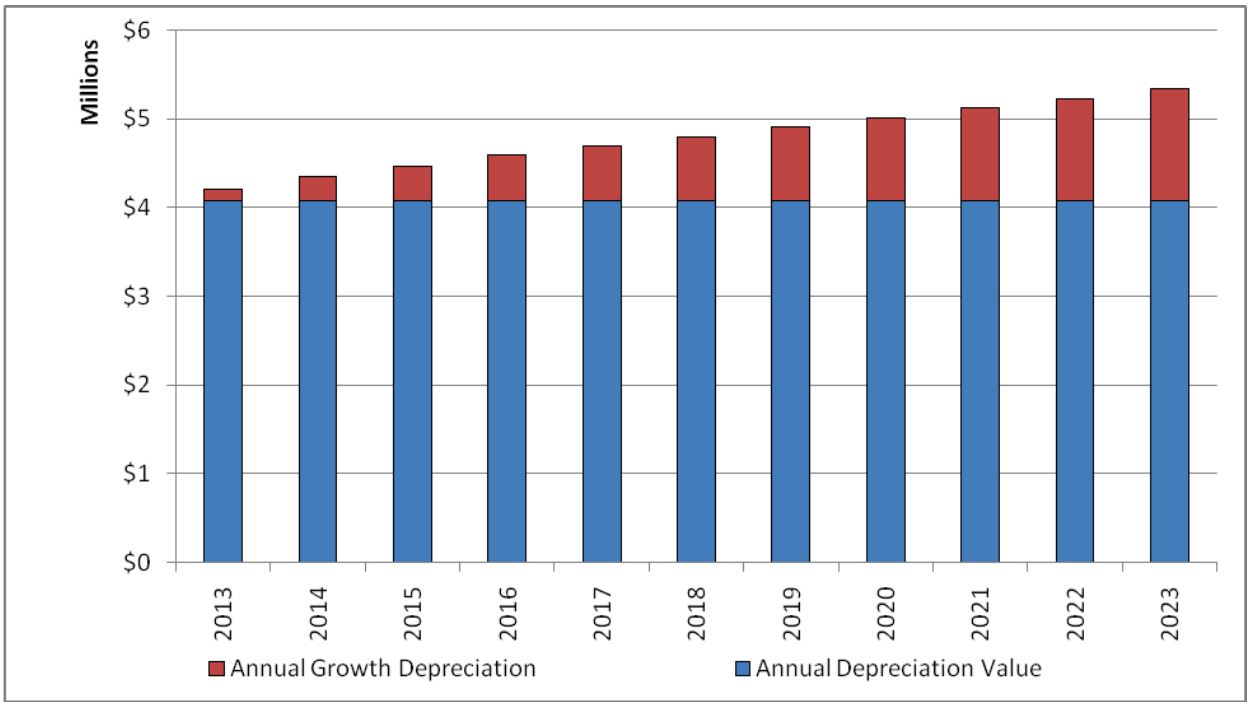
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 10 shows the projected replacement cost asset values over the planning period in current 2011/12 dollar values.

Figure 10. Projected Asset Values



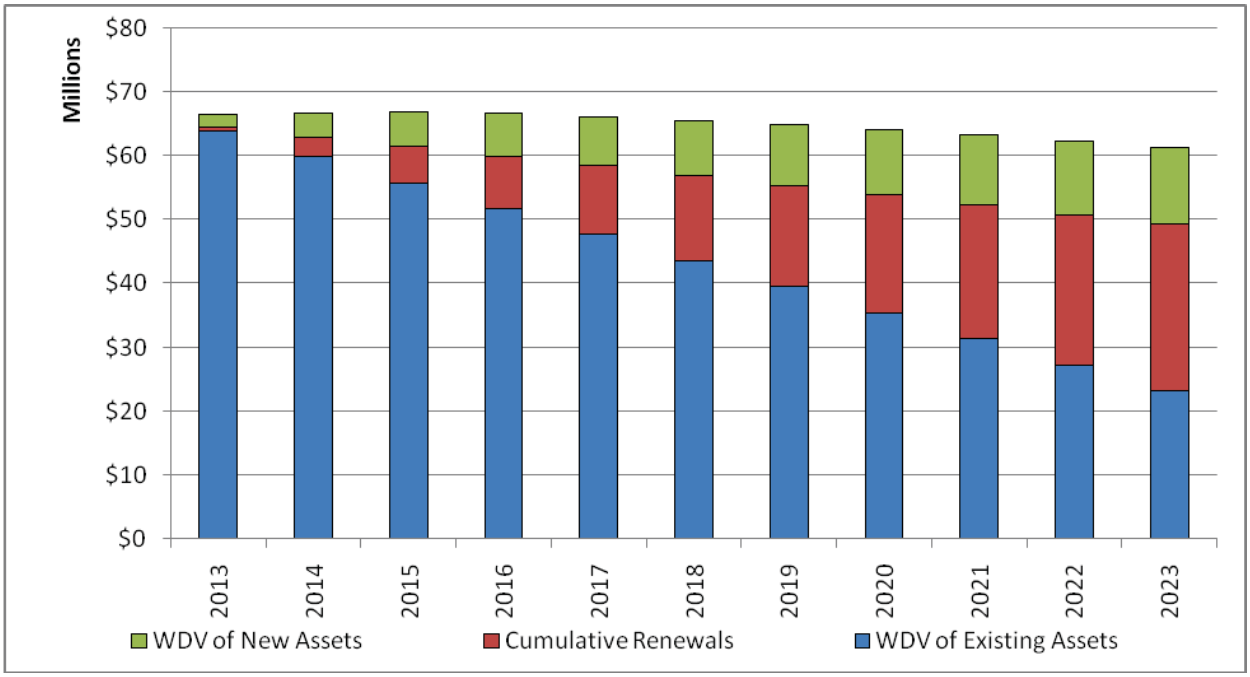
Depreciation expense values are forecast in line with asset values as shown in Figure 11.

Figure 11. 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 Figure 12.

Figure 12 . 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:

- Indexation used in modelling results was set at 5% per annum.
- Economic lives of assets are based on asset condition inspections or industry standards.
- For infrastructure covered under Council's materiality threshold, replacement is covered under operational budgets.
- Industrial land does not generate a need for additional open space infrastructure, hence no additional assets are forecast through from industrial release areas.

Accuracy of future financial forecasts may be improved in future revisions of this Asset Management Plan by the following actions.

- Include the results of service level gaps identified by the actions contained in Table 8.1. Identify the desired time to reduce service level gaps through community consultation and use as the basis of an annual allocation.
- Include results from enhanced modelling of open space assets.

7. ASSET MANAGEMENT PRACTICES

7.1 ACCOUNTING/FINANCIAL SYSTEMS

Council manages finances in accordance with the following standards, guidelines and regulations:

- *The Local Government Act 1993 (as amended) and the Regulations made there under.*
- *The Australian Accounting Standards and professional pronouncements, and*
- *The Local Government Code of Accounting Practice and Financial Reporting.*

7.2 ASSET MANAGEMENT SYSTEMS

7.2.1 BLACKTOWN CITY COUNCIL ASSET MANAGEMENT SYSTEM (BCAMS)

Council maintains an asset management system to record asset inventory, manage inspections and risk and fulfil its mandatory planning and reporting requirements. The system utilises Microsoft SQL Server systems to store corporate asset information and manage backup and disaster recovery processes. Access to corporate asset information via various interfaces is managed by role based authenticated accounts.

Asset information obtained through engineering plans from land developments and internal and contracted construction and maintenance work is incorporated into the corporate asset information in an ongoing basis. This core register provides the basis for further related information to be added for the following functions.

1. Asset registers
2. Spatial (GIS) information
3. Asset accounting
4. Risk inspections
5. Maintenance works management
6. Long term renewal forecasting and planning
7. Service level planning

7.2.2 WORKS IMPROVEMENT PROGRAM (WIP)

The implementation of asset management strategies and renewal programs is managed by Council's Works Improvement Program System. The system annually underpins the;

1. Preparation of the Capital Works Program, including prioritisation.
2. Planning and implementation of capital works.
3. Environmental management of adopted programs.

The administration, training and security of the above systems are the responsibility of Council's Asset Planning and Support section, whilst the disaster recovery and backup of corporate information is managed by Information Technology.

7.2.3 INSPECTIONS

Council's open space assets are routinely inspected to identify any defects requiring rectification. Proposed works resulting from inspections are recorded and issued on a priority basis established from the assets location (exposure to pedestrians and cycle movements) and the potential harm or consequence the defect could cause.

The frequency open space assets are inspected are as follows;

- Open Space areas 6 monthly
- Bushland Areas 6 monthly
- Playgrounds 2 monthly

7.3 INFORMATION FLOW REQUIREMENTS AND PROCESSES

The key information that 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 that 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.

7.4 STANDARDS AND GUIDELINES

- Blacktown City Council Asset Management Policy 2012
- Blacktown City Council Asset Management Strategy 2012
- Australian Accounting Standards (AASB 116)
- IPWEA, 2011, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australia, Sydney
- NATSPEC 2012, Local Government Specification System for Life-Cycle Management of Assets

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 cash flows identified in this Asset Management Plan are incorporated into Council's long term financial plan and Strategic Management Plan;
- The degree to which 1 and 4 year delivery programs provided by this Asset Management Plan are taken into account in the detailed works programs, budgets, business plans and organisational structures.

8.2 IMPROVEMENT PLAN

The asset management improvement plan generated from this Asset Management Plan is shown in Table 8.1.

Table 8.1 Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
Quality				
1	Revise/enhance Asset renewal modelling.	Asset Planning & Support	Existing Staff	Annually
2	Preparation of an Open Space maintenance Plan outlining performance measures for planned maintenance, prioritise unplanned maintenance and monitor deferred maintenance.	Asset Planning & Support	Existing Staff	Jun-15
3	Prepare program of landscaping works for inclusion into the Works Improvement Program.	Asset Planning & Support / Sport and Recreation Services	Existing staff/ Consultants	Jun-15
4	Measure City Image through Community Surveys.	Asset Planning and Support / Community Development	Existing staff / Consultants	Jun-15
5	Progressively complete actions identified in the Parks Plan of Management 2010.	Asset Planning & Support / Sport and Recreation Services	Existing staff / Consultants	Jun-15
6	Progressively complete actions identified in the Sportsgrounds Plan of Management 2010.	Asset Planning & Support / Sport and Recreation Services	Existing staff / Consultants	Jun-15
7	Progressively complete actions identified in the Bushland Plan of Management 2010.	Asset Planning & Support / Sport and Recreation Services	Existing staff / Consultants	Jun-15
8	Progressively complete actions identified in the Various Plans of Management 2010.	Asset Planning & Support / Sport and Recreation Services	Existing staff / Consultants	Jun-15
9	Audit existing playground provision and prioritise acquisitions and disposals.	Asset Planning & Support / Sport and Recreation Services	Existing staff / Consultants	Jun-15
10	Review accessibility audit	Asset Planning & Support / Sport and Recreation Services	Existing staff / Consultants	Jun-15

11	Review technical (Development) levels of service	Asset Planning & Support / Sport and Recreation Services/ Civil and Open Space Maintenance	Existing staff	Jun-14
Safety				
12	Preparation of fencing and lighting guidelines and standards.	Asset Planning & Support / Sport and Recreation Services/ Civil and Open Space Maintenance	Existing staff	Jun-15
13	Conduct an audit and document existing emergency services access arrangements. Identify areas for improvement and list on Works Improvement Program.	Asset Planning and Support	Existing staff	Jun-14
14	Monitor 5 Year rolling average of reported accidents/ insurance claims.	Asset Planning and Support/ Business Insurance and Safety.	Existing staff	June 2013/ Ongoing
Function				
15	Assess current level of provision of parking for Council services, identify gaps and develop improvement program.	Asset Planning & Support / Sport and Recreation Services	Existing staff	Jun-15
16	Audit existing provision of recreational pedestrian/cyclist networks, identify areas of improvement and list for consideration in Works Improvement Program.	Asset Planning & Support / Sport and Recreation Services	Existing staff	Jun-15
17	Identify grounds that tend to take longer to reopen and investigate available solutions. List in WIP for funding consideration.	Asset Planning & Support / Civil and Open Space Maintenance	Existing staff	Jun-15
18	Identify facilities that are at capacity and have potential for multiple uses. List improvements for consideration in the Works Improvement Program.	Asset Planning & Support / Sport and Recreation Services	Existing staff	Jun-15
Capacity				
19	Undertake benchmarking of passive recreational areas through the Yardstick program.	Asset Planning and Support	Existing staff	Jun-14
Demand				
20	Maintain up-to-date asset management systems and undertake regular reviews of Asset Management Plans.	Asset Planning and Support	Existing staff	Ongoing
21	Review service levels and regularly undertake community consultation.	Asset Planning and Support / Community Development	Existing staff/ consultant	Ongoing
22	Implement and review Open Space and Recreational plan.	Asset Planning & Support / Sport and Recreation Services	Existing staff/ consultant	Jun-15

23	Review the effect of climate change on open space infrastructure and promote environmentally sensitive solutions.	Asset Planning & Support/ Environmental Sustainability		Jun-16
24	Continually review renewal modelling ensuring forecasting is accurate.	Asset Planning and Support	Existing staff	Ongoing
25	Review service levels and regularly undertake community consultation.	Asset Planning & Support / Sport and Recreation Services	Existing staff/ consultant	Jun-14
26	Review service levels and ensure incorporation of new standards and requirements on existing infrastructure.	Asset Planning & Support / Sport and Recreation Services	Existing staff	Ongoing
Changes in Technology				
27	Review service levels and test the incorporation of new standards and requirements on existing infrastructure. Continually benchmark the provision of open space services.	Asset Planning & Support / Sport and Recreation Services	Existing staff	Ongoing
28	Investigate and determine appropriate automated lighting solution and list recommendation for consideration in Works Improvement Program.	Asset Planning & Support / Sport and Recreation Services/ Civil and Open Space Maintenance	Existing staff	Ongoing
29	Investigate and determine appropriate remote irrigation solution and list recommendation for consideration in Works Improvement Program.	Asset Planning & Support / Sport and Recreation Services/ Civil and Open Space Maintenance	Existing staff	Ongoing
30	Investigate the capacity to collect and reuse stormwater and irrigation runoff and list recommendation for consideration in Works Improvement Program.	Asset Planning & Support / Sport and Recreation Services/ Civil and Open Space Maintenance	Existing staff	Ongoing
31	Continually monitor advances in technology in social media. Capitalise on any efficiencies in communicating with the community gained through this medium.	Asset Planning & Support / Electronic Business	Existing staff	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.

REFERENCES

DVC, 2006, 'Asset Investment Guidelines', 'Glossary', Department for Victorian Communities, Local Government Victoria, Melbourne, http://www.dvc.vic.gov.au/web20/dvclgv.nsf/allDocs/RWP1C79EC4A7225CD2FCA257170003259F6?OpenDocument

Blacktown City Council 20122010 Asset Management Strategy

International Infrastructure Management Manual, Institute of Public Works Engineering Australia, Sydney, 2006 & 2011.

NAMS.PLUS Asset Management Template, Institute of Public Works Engineering Australia, Sydney, 2008.

IPWEA, 2009, 'Australian Infrastructure Financial Management Guidelines', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AIFMG.

iD Forecast

http://forecast2.id.com.au/Default.aspx?id=211&pg=5000

APPENDICES

APPENDIX A - SELECTION CRITERIA FOR WORKS IMPROVEMENT PROGRAM

Park Improvement – Embellishment – Bushland

Selection Criteria
Value of Bushland
Condition of Grounds
Community demand
Ability to Preserve Embellishment
Requests Received by Council
Funding for the Project

Park Improvement – Embellishment – Fencing

Selection Criteria
Demand for Usage of Existing Facilities
Requests Received by Council
Funding for the Project
Compliance with Regulatory Requirements

Park Improvement - Sportsgrounds - Irrigation

Selection Criteria
Demand for Usage of Existing Facilities
Funding for the Project
Compliance with Regulatory Requirements

Park Improvement - Sportsgrounds - Hard Surfaces

Selection Criteria
Demand for Usage of Existing Facilities
Type of Facility
Requests Received by Council
Funding for the Project
Compliance with Regulatory Requirements

Park Improvement - Sportsgrounds - Floodlighting

Selection Criteria
Demand for Usage of Existing Facilities
Requests Received by Council
Funding for the Project
Compliance with Regulatory Requirements

Park Improvement - Sportsgrounds - Playing Surface

Selection Criteria
Condition of Surface
Demand for Usage of Existing Facilities
Funding for the Project
Requests Received by Council
Compliance with Regulatory Requirements

Park Improvement - Sportsgrounds - Facilities

Selection Criteria
Condition of Existing Facility
Demand for Usage of Existing Facilities
Funding for the Project
Compliance with Regulatory Requirements

Park Improvement - Embellishment - Landscaping

Selection Criteria
Condition of Grounds
Demand for Usage of Existing Facilities
Requests Received by Council
Funding for the Project
Compliance with Regulatory Requirements

Urban Renewal and Landscape Development Project

Selection Criteria
Enhances City Identity
Requests Received by Council
Demand
Funding for the Project
Compliance with Regulatory Requirements

Park Improvement - Tree Planting

Selection Criteria
Current Streetscape/Parkscape Level
Condition of Existing Trees/Gardens
Request Received by Council
Time Frames
Source of Funding

Park Improvement - Nurragingy Reserve

Selection Criteria
Condition of Existing Facilities/Natural Bushland
Significance of the Project
Demand for Facilities/Conservation Values
Request Received by Council
Compliance with Regulatory Requirements

APPENDIX B - ABBREVIATIONS

AAAC	Average annual asset consumption
AMP	Asset management plan
ARI	Average recurrence interval
CRC	Current replacement cost
DA	Depreciable amount
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
MMS	Maintenance management system
RV	Residual value

APPENDIX C - GLOSSARY

Asset category

Grouping of like assets classes e.g. Drainage, Transport.

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.

Asset renewal funding ratio

The ratio of the net present value of asset renewal funding accommodated over a 10 year period in a long term financial plan relative to the net present value of projected capital renewal expenditures identified in an asset management plan for the same period [AIFMG Financial Sustainability Indicator No 8].

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 months.

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, e.g. 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.

Crowdsourcing ***

Is the act of outsourcing tasks, traditionally performed by an employee or contractor, to an undefined, large group of people or community (a "crowd"), through an open call.

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.

Delivery Program

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

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 arm's 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.

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 the 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.

Maintenance and renewal gap

Difference between estimated budgets and projected expenditures for maintenance and renewal of assets, totalled over a defined time (e.g. 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 (e.g. 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 if 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.

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.

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 allocation of probability and consequence to an undesirable event and subsequent actions taken to control or mitigate that probability and/or consequence.

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.

Social Media***

Social media are media for social interaction, using highly accessible and scalable communication techniques. Social media is the use of web-based and mobile technologies to turn communication into interactive dialogue.

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 **

Wikipedia ***

ADOPTED
6 November 2013

BLACKTOWN CITY 2030
CITY OF EXCELLENCE

diverse, dynamic, progressive

ASSET MANAGEMENT PLAN
DRAINAGE

2013 - 2023

Blacktown City Council

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

1.1 WHAT COUNCIL PROVIDES

Council provides drainage infrastructure in partnership with a mix of public and private developers and contractors to enable our community to have a safe, efficient, reliable and environmentally friendly drainage network within the city of Blacktown.

The primary function of Council's drainage network is to convey stormwater away from homes and streets, protecting people and property from flooding. In addition, where practicable, improve the quality of storm water entering and contained in Blacktown's waterways.

Assets Classes included in this plan

- Detention Basins
- Stormwater Drainage Pipe Network
- Pollution Control Devices
- Waterways

1.2 WHAT DOES IT COST?

There are two key indicators of cost to provide the drainage 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 drainage service is estimated at **$8,342,317** per annum. Council's planned life cycle expenditure for year 1 of the Asset Management Plan is **$1,988,401** which gives a life cycle sustainability index of **0.238.**

The total maintenance and capital renewal expenditure required to provide the drainage service in the next 10 years is estimated at **$21,389,882.** Council's 10 year planned expenditure of the Asset Management Plan is **$20,950,582** which gives a 10 year sustainability index of **0.979**.

Council's maintenance and capital renewal expenditure for year 1 of the Asset Management Plan of **$1,988,401** compared to the average projected expenditure over the 10 year planning period of **$2,095,058** giving a first year sustainability index of **0.950**.

1.3 PLANS FOR THE FUTURE

Council plans to operate and maintain the stormwater drainage network to achieve the following strategic objectives.

1. Ensure the stormwater drainage network is maintained at a safe and functional standard as set out in this Asset Management Plan.
2. Ensure the provision and maintenance of stormwater drainage network in a planned and efficient manner to meet the present and future needs of our growing and vibrant City.
3. Effectively manage and maintain stormwater drainage assets to optimise the life cycle of the asset.
4. Ensure critical assets and associated risks are identified and managed accordingly.
5. Ensure that designs contribute to the improvement of water quality and the management of stormwater.

1.4 MEASURING OUR PERFORMANCE

Quality

Stormwater drainage assets will be maintained in a reasonably usable condition. Defects that do not meet the minimum requirements of the service level will be repaired. See Council's maintenance response service levels for details of defect prioritisation and response time.

Function

Our intent is that an appropriate stormwater drainage network is maintained in partnership with other levels of government and stakeholders to achieve efficient, affordable and sustainable drainage systems into and within Blacktown City.

Drainage asset attributes will be maintained at a safe level and associated signage and equipment be provided as needed to ensure public safety. Council needs to ensure key functional objectives are met:

- Council is committed to the provision and maintenance of a diverse range of quality infrastructure. Council's infrastructure will be provided in a planned and efficient manner to meet the present and future needs of our growing and vibrant City.

Safety

Council inspects all drainage assets regularly to prioritise and repair defects in accordance with our inspection schedule to ensure they are safe.

1.5 THE NEXT STEPS

The actions resulting from this Asset Management Plan are:

- Manage and operate an appropriate mix of sustainable infrastructure at the lowest lifecycle cost that supports services within Blacktown City.
- Provide a consistent and comprehensive approach to asset management planning through the use of renewal modelling and asset management plans.
- Prioritisation of projects funded in the Works Improvement Program based on principles and objectives contained in Council's Asset Management Strategy and this Asset Management Plan.
- Complete the maintenance of drainage facilities in a cost effective and timely manner.
- Implement the actions outlined in the improvement plan.
- Undertake a further customer satisfaction surveys.
- Develop funding strategies to undertake asset renewal and decrease service level gaps

2. INTRODUCTION

2.1 BACKGROUND

This Asset Management Plan is designed/created/written to demonstrate responsive/responsible management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed for providing the required levels of service.

This Drainage Asset Management Plan is intended to be read with the following associated planning documents:

1. Community Strategic Plan – *Blacktown City 2030*
2. Asset Management Strategy 2013-2023 (including Asset Management Policy)
3. Long Term Financial Plan 2013-2023
4. Annual Works Improvement Program
5. Stormwater Drainage Maintenance Practice
6. Blacktown City Council Development Control Plan 2006
7. Blacktown City Council State of the Waterways Management Plan
8. Blacktown City Council Community Satisfaction Survey 2011
9. Blacktown City Council Risk Management Plan

This Asset Management Plan covers the following infrastructure assets:

Table 2.1 Assets covered by this Plan

Asset Class	Quantity	Units	Replacement Value	Depreciable Amount
Detention Basins	38	Basins	$17,361,492	$476,100
Underground Pipes	968	km	$455,642,659	$455,642,659
Stormwater Pits	35,088	Pits	$83,428,524	$83,428,525
Pollution Control Devices	220	Devices	$19,499,449	$19,499,449
Waterway Improvements	72	km	$337,300,058	$15,332,821
TOTAL			**$913,232,182**	**$574,379,554**

Key stakeholders in the preparation and implementation of this Asset Management Plan are:

Asset Planning & Support	Prepare and Implement Drainage Asset Management Plan, Annual Works Improvement Program, Life Cycle Modeling, undertakes improvement actions, undertake condition assessments and prepare annual financial reports.
Workforce & Corporate Development	Coordination of Council's strategic planning requirements.
Finance Section	Prepare Long Term Financial Plan and endorse financial reports.
Executive Management	Review and approve the Plan.
Elected Members	Review and endorse the Plan.
Civil & Open Space Maintenance Section	Inspect, maintain and renew existing drainage assets. Carry out works identified in the Annual Works Improvement Program.
Asset Construction Section	Carry out works identified in the Annual Works Improvement Program.
Asset Design Section	Design new drainage assets and investigate the safety/suitability of existing drainage assets and undertake improvement actions.
Business Assurance and Safety Systems	Risk management planning
Development Services Unit	Monitor and implement development standards for new assets created through subdivision of land.
Environmental Sustainability Unit	Consider demands placed on the environment can be met without reducing its capacity.
Community Development	Facilitate customer satisfaction surveys.

Other asset owners such as Sydney Water, property developers and private land owners are responsible for building and maintaining a safe, functional and environmentally sensitive stormwater drainage network in partnership with Council and relevant neighbouring local government authorities.

Office of Environment and Heritage (OEH)

NSW Office of Environment and Heritage

Dam Safety Committee, NSW monitor and control dam risks and safety in partnership with Council.

2.2 GOALS AND OBJECTIVES OF ASSET MANAGEMENT

The Council exists to provide services to its community. Some of these services are provided by infrastructure assets. Council has acquired infrastructure assets by 'purchase', by contract, construction by council staff 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: [1]

- *Providing a defined level of service and monitoring performance,*
- *Managing the impact of growth through demand management and infrastructure investment,*
- *Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet that defined level of service,*
- *Identifying, assessing and appropriately controlling risks,*
- *Having a long-term financial plan which identifies required expenditure and how it will be funded.*

This Asset Management Plan is prepared under the direction of Council's vision, mission, goals and objectives.

Council's vision is:

City of Excellence- Diverse, Dynamic, Progressive

2.3 PLAN FRAMEWORK

Key elements of the plan are:

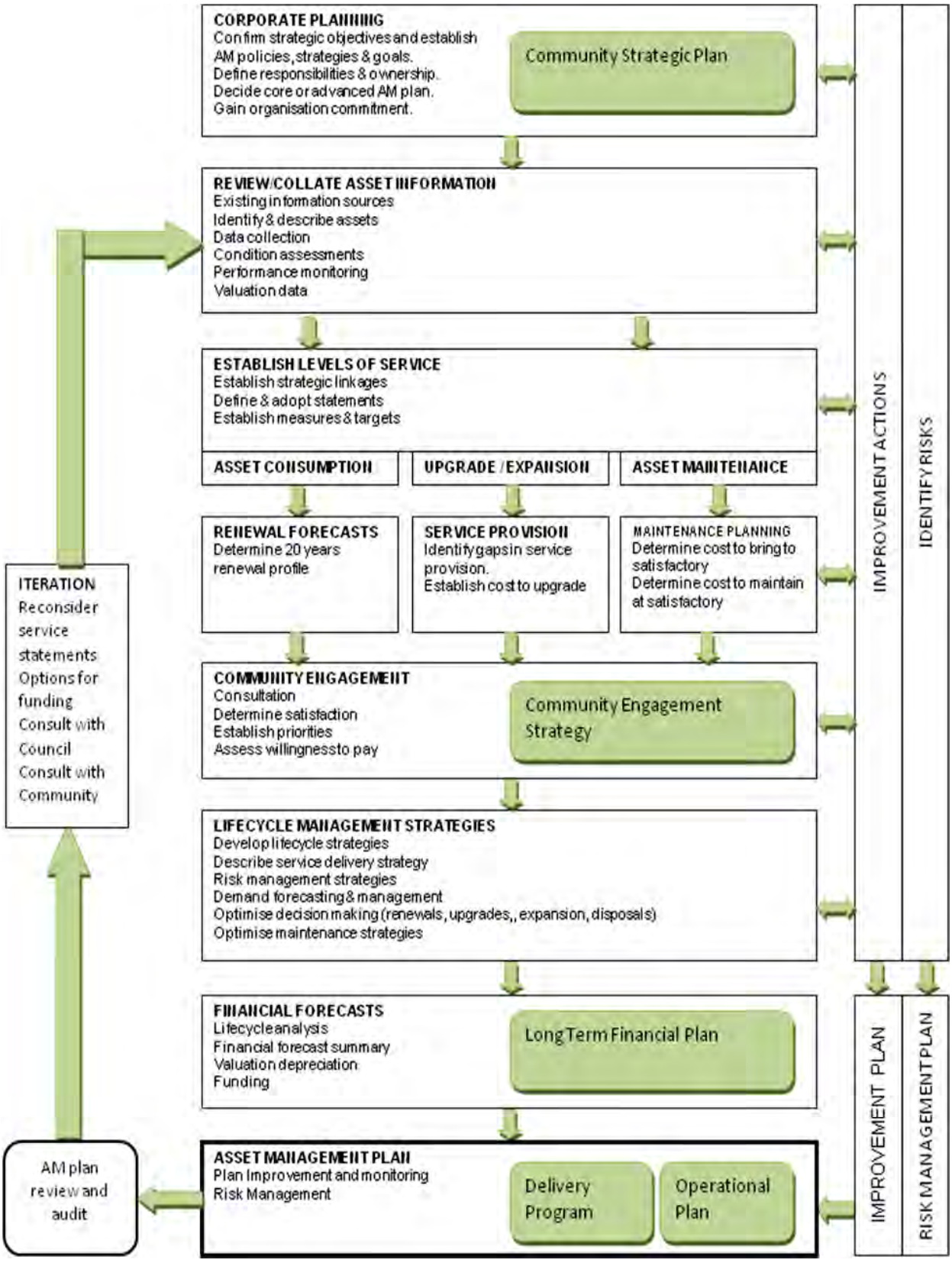
- Levels of service – specifies the services and levels of service to be provided by Council.
- Future demand – how this will impact on future service delivery and how this is to be met.
- Life cycle management – how Council will manage its existing and future assets to provide the required services.
- 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.

[1] IIMM 2011 Sec 1.2.1, p 1.7

A flow chart for preparing an asset management plan is shown below.

Flow Chart for preparing an Asset Management Plan

Source: IIMM 2006 Figure 1.5.1, p1.11 (Adaptation)



3. LEVELS OF SERVICE

3.1 CUSTOMER RESEARCH AND EXPECTATIONS

Blacktown City Council sought to examine community attitudes and perceptions toward current and future services and facilities provided by Council through its Community Satisfaction Survey conducted in October 2011. The key objectives of the research included:

- To assess and establish the community's priorities and satisfaction in relation to Council activities, services and facilities.
- To identify the community's overall level of satisfaction with Council's performance.
- To identify the community's level of satisfaction with regard to contact they have had with Council staff.

The findings related to this Asset Management Plan are listed below in Table 3.1

Table 3.1 Community Satisfaction Survey Levels

Service Area	Combined LGA Satisfaction Benchmark	Blacktown Satisfaction Score	Blacktown Importance Score	Performance Gap
Healthy natural Waterways		3.53	4.56	1.03
Stormwater drain management (Flood prevention)		3.50	4.28	0.78

The findings of the Community Satisfaction Survey confirm that the services or facilities identified as being important to the community align with Council's commitment and vision to asset management in these areas. The benchmarks and performance gaps derived from the survey confirm that Council is benchmarking well against other local government areas but that significant efforts need to be maintained to satisfy community expectations in some areas. Whilst this is a generally positive outcome for both the community and Council understanding the areas of importance to the community will continue to assist in focusing areas of Asset Management improvement.

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
NSW Local Government Act, 1993	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.
NSW Environmental Planning and	Sets out regulations for the protection of air, water quality and

Assessment Act 1979	control of pollution, waste, noise and radiation.
NSW Work Health and Safety Act 2011	Sets our roles for the protection of health, safety and welfare of persons at work and others.
NSW Civil Liability Act, 2002	An Act to make provision in relation to the recovery of damages for death or personal injury caused by the fault of a person
State Emergency and Rescue Management Act 1989	Addresses matters relating to the prevention of, preparation for, response to and recovery from emergencies (including the co-ordination of the activities of government and non-government agencies in connection with those matters).
Government Information (Public Access) Act 2009 (GIPA Act)	Facilitates public access to government information.
Protection of the Environment Operations Act 1997	Regulates the protection of the environment.
NSW Noxious Weed Act 1993	The Noxious Weeds Act defines the roles of government, councils, private landholders and public authorities in the management of noxious weeds. The Act sets up categorization and control actions for noxious weeds. It also imposes penalties for various offences.
NSW Dams Safety Act 1978	Mandatory implementation of policy, procedures, inspection and reporting on Council's dams for effective dam safety management to protect life, property and the environment from dam failures.
NSW Native Vegetation Act 2003	The Act is to provide for, encourage and promote the management of native vegetation on a regional basis in the social, economic and environmental interests of the State, and to prevent broad scale cleaning unless it improves or maintains environmental outcomes.
National Resources Management Act 2004	An Act to promote sustainable and integrated management of the State's natural resources; to make provision for the protection of the State's natural resources; to repeal the *Animal and Plant Control (Agricultural Protection and Other Purposes) Act 1986*, the *Soil Conservation and Land Care Act 1989* and the *Water Resources Act 1997*; and for other purposes.
Water Management Act 2000	An Act for the sustainable and integrated management of the water sources of the state for the benefit of both present and future generations.
Threatened Species Act 1995	An Act to conserve threatened species, populations and ecological communities of animals and plants. Under the terms of this Act Council is required to ensure the long term survival of the species identified.
Rural Fires Act, 1997	An Act to establish the NSW Rural Fire Service and define its

	functions; to make provision for the prevention, mitigation and suppression of rural fires. Under the terms of this Act, Council is required to mitigate any fire that emanate from bush land.

3.3 CURRENT LEVELS OF SERVICE

Council has defined service levels in two terms.

Technical Levels of Service - Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the organisation undertakes to best achieve the desired community outcomes and demonstrate effective organisational performance.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as cleansing frequency etc.
- Maintenance – the activities necessary to retain assets as near as practicable to an appropriate service condition (e.g. unblocking drains, cleaning and clearing of basins and waterways),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. re-establishing grass cover on basins embankment, and pipeline replacement)
- Upgrade – the activities to provide an higher level of service (e.g. replacing a pipeline with a larger size pipe system)

Asset managers plan, implement and control technical service levels to influence the customer service levels.[2]

Community Levels of Service

These measure how the community receives the service and whether the organisation is providing community value.

Community levels of service measures used in the asset management plan are:

Quality	How good is the service?
Function	Does it meet users' needs?
Capacity/Utilisation	Is the service over or under used?

Generally Council provides infrastructure to underpin a service to the community. Consequently Council has based service level planning around the infrastructure required to provide a desired service, then the operational requirements required to maintain the service.

By setting desired technical levels of service Council is able to determine the required infrastructure to achieve the service standard. When compared to existing assets Council is able to determine if any repairs/enhancements in infrastructure are required. These enhancements/repairs form the basis of renewal, upgrade and new plans and ultimately individual projects listed for funding consideration in the Works Improvement Program.

During the annual preparation of the Works Improvement Program Community Levels of Service assist in the ranking and prioritisation of individual projects.

In the context of assets, the ongoing provision of a service is contingent on appropriate maintenance management of the infrastructure, this is further discussed in Section 5.3.

[2] IPWEA, 2011, IIMM, p 2.22

3.4 DESIRED LEVELS OF SERVICE

Each year Council receives requests from the community and its elected representatives, identifying gaps in desired service level provision. These requests and the identification of enhancements/repairs through Technical Levels of Service form the basis of Council's Works Improvement Program preparation. This annual budget document and associated funding programs represent three decades of community engagement. All requests received by Council are critically assessed against the service levels identified in Table 3.3 / 3.4 and listed for funding consideration based on detailed selection criteria.

In many instances further studies or effort is required to fully identify and document the gap between current and desired service level provision, these are recorded in the Implementation Plan in Section 8.2, Table 8.1.

Table 3.3 Current Service Levels

Objective	Description	Measure	Actions
Performance Category - Renewal			
Service Level - Condition / Sustainability			
Lowest Life Cycle Cost	To provide infrastructure required to underpin drainage services in the most economic and sustainable manner.	Renewal requirements catered for in Council's long term Financial Plan	Undertake Annually review of renewal modelling.
Performance Category - Maintenance/Operations			
Service Level - Condition / Sustainability			
Lowest Life Cycle Cost	To provide infrastructure required to underpin drainage services in the most economic and sustainable manner.	Performance monitoring of maintenance	Preparation of a drainage Maintenance Plan outlining performance measures for planned maintenance, priorities unplanned maintenance and monitor deferred maintenance.

Table 3.4 Desired Levels of Service

Please note: While the Renewal and Maintenance/Operations performance categories express levels of service which are currently provided, the Upgrade/New Service Levels are more complex and aspirational. They reflect a range of Council policies, as well as technical standards which Council operations are aiming to achieve over time.

Performance Category - Upgrade/New			
Service Level - Aesthetics			
Public Domain	To provide vibrant places to meet at key interchanges.	Implementation of Central Business District Master Plans	Examine Master Plans and identify service gaps for consideration into Works Improvement Program.
Stormwater drainage corridors.	To provide attractive flood relief corridors.	Customer satisfaction	Undertake customer satisfaction survey.

Performance Category - Capacity			
Service Level - Minimum Standard / Social Equity			
Stormwater drains	Ensure appropriate provision of stormwater drainage to cater for conveyance of local flows.	Provision in accordance with Engineering Development Guidelines.	Undertake city wide audit of stormwater drainage and identify locations where provision is below design ARI. List required upgrades for funding consideration into the Works Improvement Program.
Flood Mitigation	Ensure appropriate provision of flood mitigation structures.	Provision in accordance with NSW Floodplain Development Manual.	Undertake flood studies and identify locations where provision is lacking. List required upgrades for funding consideration into the Works Improvement Program.
Performance Category - Safety			
Service Level - Safety			
Flood Evacuation	Provision of safe flood evacuation routes.	All identified flood evacuation routes are not inundated in a 1 in 500 year event.	Dam Safety Emergency Plans are to be developed for prescribed basins. Comply with DSC guidelines and ensure all basins meet the safety requirements.
Performance Category - Function			
Service Level - Environment			
Aquatic Ecosystem health	Ensure appropriate provision of water quality.	Provision in accordance with Part R Blacktown Development Control Plan water quality/stability targets.	Undertake city wide audit of water quality/stability measures and identify locations where provision is lacking. List required upgrades for funding consideration into the Works Improvement Program.
Aquatic Ecosystem health	Stability		Assess the geomorphology of the city's waterways and identify locations where provision is lacking. List required upgrades for funding consideration into the Works Improvement Program.
Aquatic Ecosystem health	Rehabilitation measures.		Undertake a condition assessment of the City's waterways and identify where rehabilitation is required. List required upgrades for funding consideration into the Works Improvement Program.

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. The resulting actions in response to these issues are included in the Implementation Plan contained in Section 8.2.

Table 4.1. Demand Factors, Projections and Impact on Services, Strategic Issues

Demand factor	Present position	Projection	Impact on services	Action
Increased population density and new urban areas.	In 2011 – 312,485 North-West sector release planning. Completion of 1980's and Parklea Release areas.	By 2021 – 366,107 Release and development of the North-West Sector. Capping of s94 contributions State Government and increased development standards.	Increase in drainage assets and accompanying renewal and operating expenditures. Increased stormwater runoff and pollution from increased population requiring upgrades to existing drainage infrastructure.	Maintain up-to-date asset management systems and undertake regular reviews of Asset Management Plans.
Demographics	2012 0-4 yrs 26,570 8.4% 5-11yrs 33,401 10.5% 12-17yrs 27,343 8.6% 18-24yrs 31,978 10.1% 25-34yrs 50,523 15.9% 35-49yrs 68,068 21.5% 50-59yrs 35,898 11.4% 60-69yrs 24,810 7.8% 70-84yrs 15,560 4.9% 85 + 2,813 0.9% **Total 316,964**	2032 34,955 8.2% 47,387 11.1% 36,172 8.5% 39,174 9.2% 62,480 14.6% 91,341 21.4% 46,594 10.9% 34,136 8.0% 30,031 7.1% 4,204 1.0% **Total 426,474**	Increase demand on services in general. As the demographic of Blacktown changes over time service levels will need to be reviewed to respond to an aging population.	Review service levels and regularly undertake community consultation.
Land Use	Current development based on existing land use planning.	The development of new release areas will require additional drainage infrastructure.	Increased population density will require upgrades of existing services/infrastructure.	Integrate appropriate drainage infrastructure into release area planning.

Climate change.	Current renewal programs and planning based on existing climatic conditions.	Changes in climatic conditions may increase renewal requirements or standards.	Fluctuations in Planned Capital Renewal and Operating Expenditure.	Review the effect of climate change on Council infrastructure and promote environmentally sensitive solutions.
Increase material supply costs and contract rates.	Inflation in drainage construction prices exceeds annual increases in drainage expenditure.	Annual increases in construction costs continue to exceed increases in drainage expenditure, effectively reducing 'real expenditure' on drainage infrastructure.	Increased cost to maintain and renew and upgrade drainage facilities. Reduction in real expenditure will delay treatments reducing the life cycle of the asset	Continually review renewal modelling ensuring forecasting is accurate.
Tipping Sites	Tipping of reclaimed pavement materials at private tip sites is becoming increasingly more expensive.	Tipping of reclaimed pavement materials will become cost prohibitive.	Increased tipping cost will subsequently increase construction cost.	Investigate alternate options for the disposal of surplus excavated material.
Rising Community Expectation	Community expectation for drainage services rising.	Desired service level provision increased over time.	Adoption of higher service levels provided for drainage services will create service level gaps and increase projects in delivery programs.	Review service levels and regularly undertake community consultation.
Increasing Design Standards	Design standards based on State and Federal design standards.	Higher standards adopted over time by other road authorities resulting in expected standards by Local Government.	New infrastructure may be constructed to higher standards leading to potential retro-fitting of existing infrastructure to conform to higher standard.	Review service levels and ensure incorporation of new standards and requirements on existing infrastructure.
Increasing Environmental Standards	Public awareness of environmental issues and standards are increasing.	Environmental standards increase further, supported by Regulations and/or the introduction of new taxes.	The provision of drainage infrastructure incorporates environmental management features significantly increasing the cost of provision of drainage services. Providing high levels of service in new release areas through development in comparison with existing areas will	Review service levels and to ensure incorporation of new environmental standards and requirements on existing infrastructure.

			create inequity. Retrofitting the existing areas with environmental management features may be unachievable.	
Stormwater harvesting and reuse	Stormwater harvesting and reuse is emerging as design principle.	Stormwater harvesting and reuse will be integral to any overall drainage scheme.	Consideration of harvesting is a new service that may drive up overall cost of drainage schemes. Harvested stormwater can be utilised for irrigation.	Continually review progress in the field of stormwater harvesting technologies and include impacts in future revisions of this plan.

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	Action
Advances in trenchless technology techniques	Damaged or under capacity drainage infrastructure can be restored or augmented whilst negating damage to surface infrastructure and property.	Continually monitor advances in trenchless technology techniques.
Integration of electronic data management systems internally and with other tiers of government	Allow better management and reporting of drainage management assets.	Develop a Knowledge Management Strategy.
Expansion of social media and crowd sourcing	Greater opportunities to inform and obtain feedback from the community.	Continually monitor advances in technology in social media. Capitalise on any efficiencies in communicating with the community gained through this medium.

4.3 DEMAND MANAGEMENT PLAN

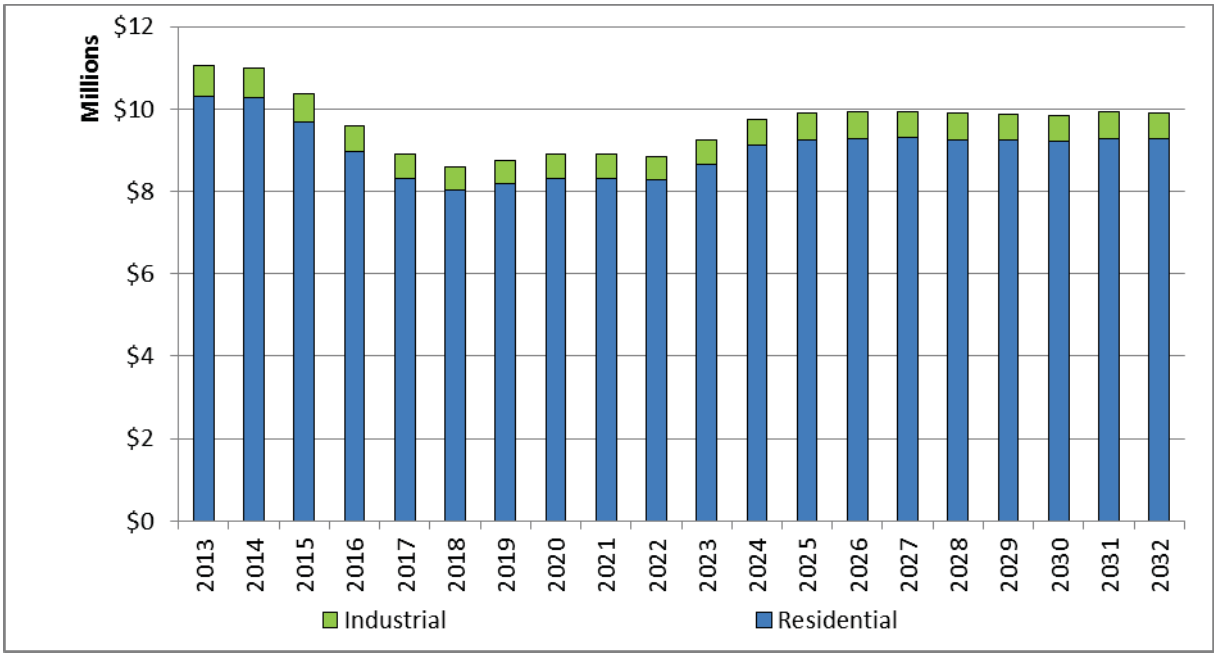
Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Tables 4.1 and 4.2. The resulting actions in response to these issues are included in the Implementation Plan contained in Section 8.2. Further opportunities as they arise will be developed in future revisions of this Asset Management Plan.

4.4 NEW ASSETS FROM GROWTH

The new assets required to meet growth will be acquired from land developments and constructed by Council. These facilities (generally in land release areas), provide new facilities to accommodate the growth in population as well promote a safer more efficient and environmentally sustainable drainage network.

Figure 1. New Assets from Growth



Acquiring these new assets will commit Council to fund ongoing operational and maintenance costs for the period for which 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.

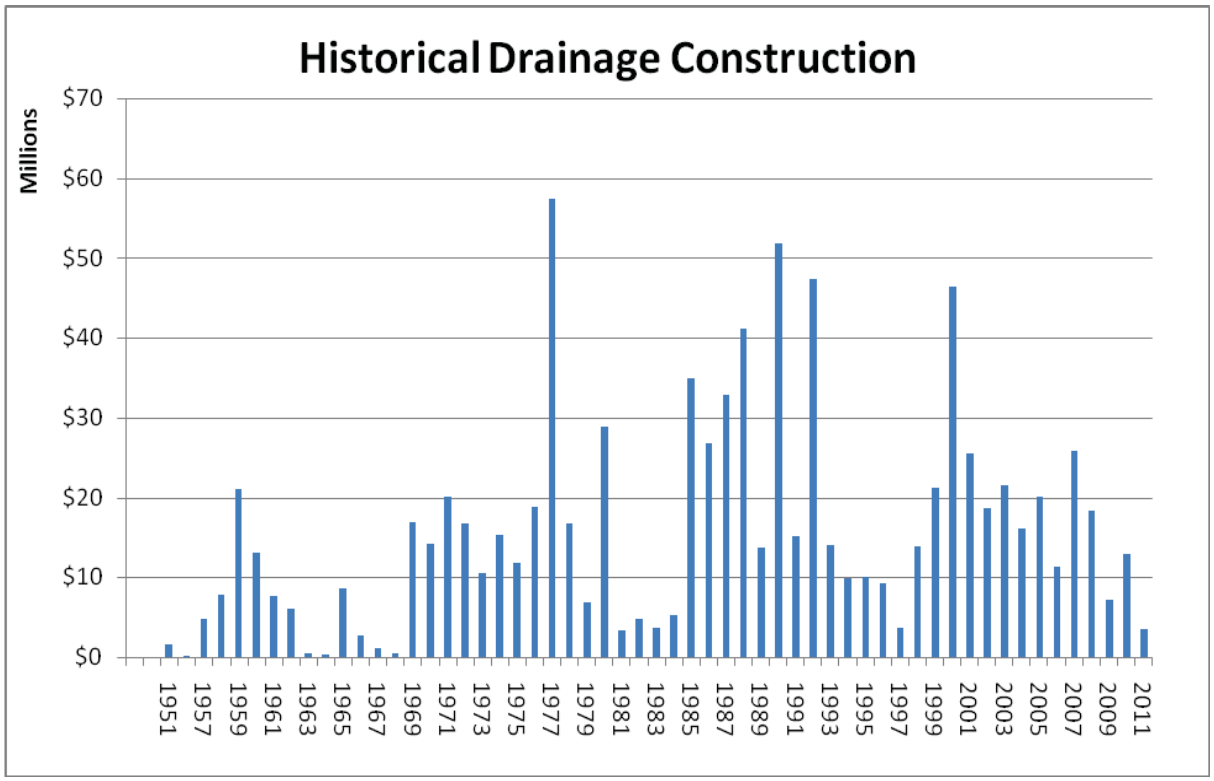
5.1 BACKGROUND DATA

The infrastructure considered in the Asset Management Plan are those required to underpin the movement of and treatment of stormwater across the City. Drainage assets are located on Council road reserves, dedicated drainage corridors and open space.

Blacktown has experienced continuous high growth over the past four decades and this is reflected in the age profile of Council's assets shown below. Approximately $14.5 million of new drainage assets are created per annum to underpin city growth.

The age profile of Council's assets based on the renewal cost is shown below.

Figure 2. Asset Age Profile



5.1.2 ASSET CAPACITY AND PERFORMANCE

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

Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

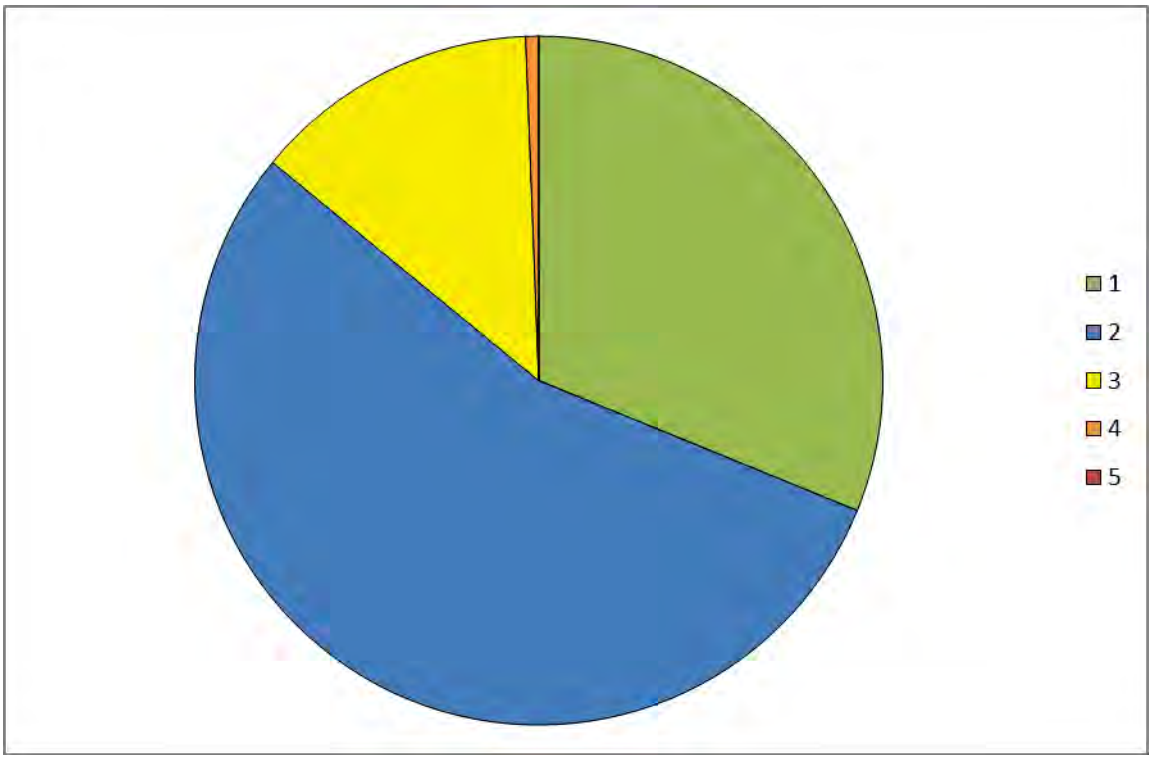
Table 5.1.2 Known Service Performance Deficiencies

Location	Service Deficiency
Stormwater Drainage Network	Insufficient network capacity resulting in localised flooding. Remediation projects have been identified, prioritised and listed for funding in Council's Works Improvement Program.
Waterway Channels	Aquatic ecosystem health, weed control, removing of silt and bank erosion. Grass cutting and general maintenance. Inundation of road crossings in storm events.
Wetlands	Aquatic ecosystem health, weed control, removing of silt and repairing vegetation.
Detention Basins	Aquatic ecosystem health, weed control, removing of silt and bank erosion. Grass cutting and general maintenance. Repair of gabion walls and floors.

5.1.3 ASSET CONDITION

A condition rating of each asset is not kept for drainage infrastructure. The condition profile of Council's drainage assets below is based on the assets estimated remaining life. The majority of Council's drainage assets are in the form of concrete structures that will remain in service for up to 100 years. Although the condition profile shown in Figure 3 is consistent with the relative youth of the constructed assets covered under this Asset Management Plan there is a range of green assets such as natural and built waterways and water quality structures that have shorter lives and inherently high maintenance costs. In addition, the condition does not reflect the assets service potential, for example a concrete pipe may be structurally sound however be undersized and in need of upgrade.

Figure 3. Asset Renewal Profile



Condition is measured using a 1 – 5 rating system.

Condition Rating		Description of Condition	Economic Life %
1	Very good:	Only planned maintenance required	80-100
2	Good:	Minor maintenance required plus planned maintenance	50-80
3	Fair:	Significant maintenance required	25-50
4	Poor:	Significant renewal/rehabilitation required.	5-25
5	Very Poor:	physically unsound and/or beyond rehabilitation	0-5

5.1.4 ASSET VALUATIONS

The value of assets as at 30 June, 2012 covered by this Asset Management Plan is summarised below.

Current Replacement Cost	$913,232,182
Depreciable Amount	$574,379,554
Non Depreciable Amount	$338,852,628
Depreciated Replacement Cost	$410,637,000
Annual Depreciation Expense	$6,337,000

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

Asset Consumption 1.10% (Annual Depreciation Expense/Depreciable amount) x 100

5.2 RISK MANAGEMENT PLAN

An assessment of risks[3] 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
Pipe & Box Culverts	Blockage	Low	Regular inspection. Cleaning and clearing schedule plan.
Pollution Control Devices	Blockage	Low	Maintain current cleaning program.
Drainage Pipes	Flooding of private properties.	Medium	Carry out flood mitigation works directed by the floodplain management studies. Adopt a merit based approach for development proposals. Encourage development and construction that is compatible with the identified flood hazards to ensure the safety of the development. In case of emergency implement disaster plan.
Drainage Pits / Pipes	Blockage	Low	Cleaning program and after events.
Drainage headwalls	Damage to rural headwalls from vehicles	Low	Inspection program for rural headwalls
Drainage Pipes	Deterioration of existing pipes	Low	Assess the condition of the pipe system. Develop long term renewal program.
Open channels	Concrete open channels are not compliant with current State legislation.	Medium	Design and estimate work required to reconstruct concrete channels to comply with current environmental standards. Priorities work and prepare a program.
Open channels	Flow capacity reduced.	Low	Maintain current clearing program.

[3] Blacktown City Council's Infrastructure Risk Management Plan

Basins	Failure of Basin	Medium	Introduce maintenance program to all basins.
Waterways	Water quality	Low	
Open channels & Wetlands	Risk to public	Medium	Audit all open channels and wetlands that the public have direct access to. Introduce safety audit program.

5.3 MAINTENANCE PLAN

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. Council considers maintenance to be planned or unplanned.

5.3.1 PLANNED MAINTENANCE

The following describes Council's approaches to planned maintenance

- **Frequency based maintenance** is maintenance scheduled periodically. It is required to sustain the design life of the asset or to maintain a performance standard. Programmed maintenance is typically undertaken on assets that are not critical, and have low risks associated with failure. Frequency based maintenance has set performance measures, maintenance activities undertaken, recorded and form the basis performance monitoring For example, Council services its pollution control devices on a regular basis, in order to maintain its functionality so that the filtration system does not get blocked and stops the function of the device.

- **Preventative maintenance** is maintenance that can be initiated without routine or continuous checking (e.g. using information contained in maintenance manual or manufacturer's recommendations) and is not condition or performance based. The purpose of this maintenance is to undertake sufficient maintenance activities to reduce the risk of unforeseen failure. Preventative maintenance is undertaken on assets that have high risks or unacceptable loss of service associated with failure. For example, maintenance of an aerator unit for fountain that is in a wetland.
- **Routine maintenance** is day-to-day operational activities to keep the asset operating (cleaning of drains, repairing leak etc.) and which form part of the annual operating budget.

5.3.2 UNPLANNED MAINTENANCE

- **Corrective maintenance** is a task performed to identify, isolate and rectify a fault so that the failed asset can be returned to a condition in which it can perform its intended function. Council considers corrective maintenance as activity based maintenance and has documented intervention levels, response times (to complete the work from date of issue), work methods and performance measures. These are based on the IPWEA's NATSPEC documentation.

  Depending on how critical the failed asset is and availability of funds, corrective maintenance can be either immediate or deferred corrective maintenance.

  Unplanned maintenance includes unforeseen failure, vandalism, storm and accidental damage and is identified through customer requests, Council's maintenance crews and routine asset condition inspections. The manner that unplanned maintenance arises is irregular and cannot be

predicted, for example damage caused by storms and vandalism. It is therefore necessary to monitor unplanned maintenance activities that cannot be undertaken immediately. Over time, by monitoring the trends of the amount of deferred corrective maintenance Council can optimise its investment or resources required to balance the trend.

Maintenance expenditure trends are shown in Table 5.3.1

Table 5.3.1. Maintenance Expenditure Trends

Year	Maintenance Expenditure		
	Planned	Unplanned	
	Frequency/Routine	Corrective	Deferred
2009/10	$1,008,905	$357,964	$263,850
2010/11	$1,154,301	$366,807	$454,725
2011/12	$1,444,396	$509,239	$439,300

Planned maintenance work is approximately 74% of total maintenance expenditure.

The total value of deferred maintenance is approximately $439,300 a decrease of $15,425 from the previous year. Deferred maintenance records have been kept by Council for 8.5 years this represents an increase of $51,682 per annum.

5.3.3 STANDARDS AND SPECIFICATIONS FOR MAINTENANCE

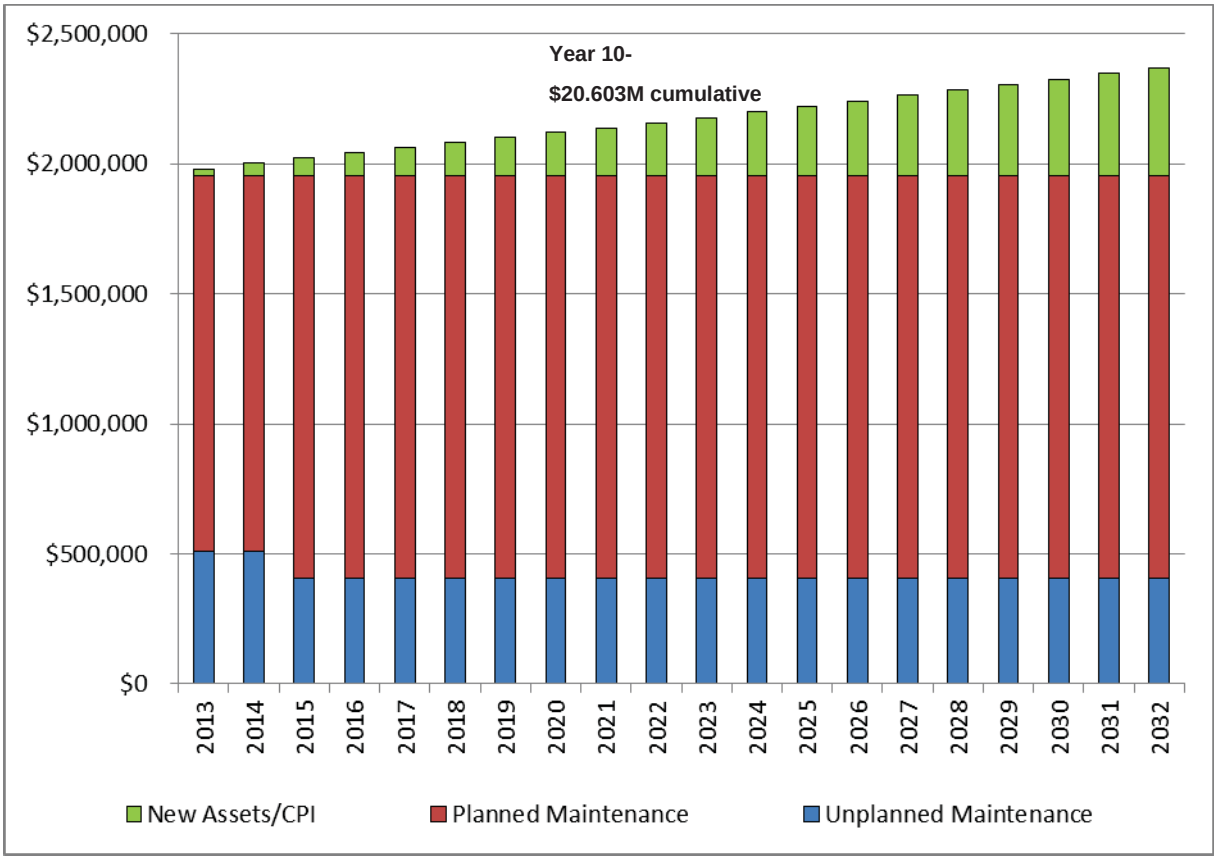
Maintenance work is carried out in accordance with the following Standards and Specifications.

- Council's Engineering Guidelines
- Maintenance Services Section Procedures Manual
- Council's Maintenance Management Procedure
- Council's Works Instructions for Drainage Maintenance
- Relevant Australian Standards
- Australian Rainfall and Runoff (AR&R)
- Australian Runoff Quality (ARQ)
- Water Sensitive Urban Design – Technical Guidelines for Western Sydney

5.3.4 SUMMARY OF FUTURE MAINTENANCE EXPENDITURES

Overall maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in 2011/2012 dollar values. The results of asset condition inspections and deferred maintenance analysis currently underway will form the basis of refined planned maintenance programs in 2013-14.

Figure 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 6.1.

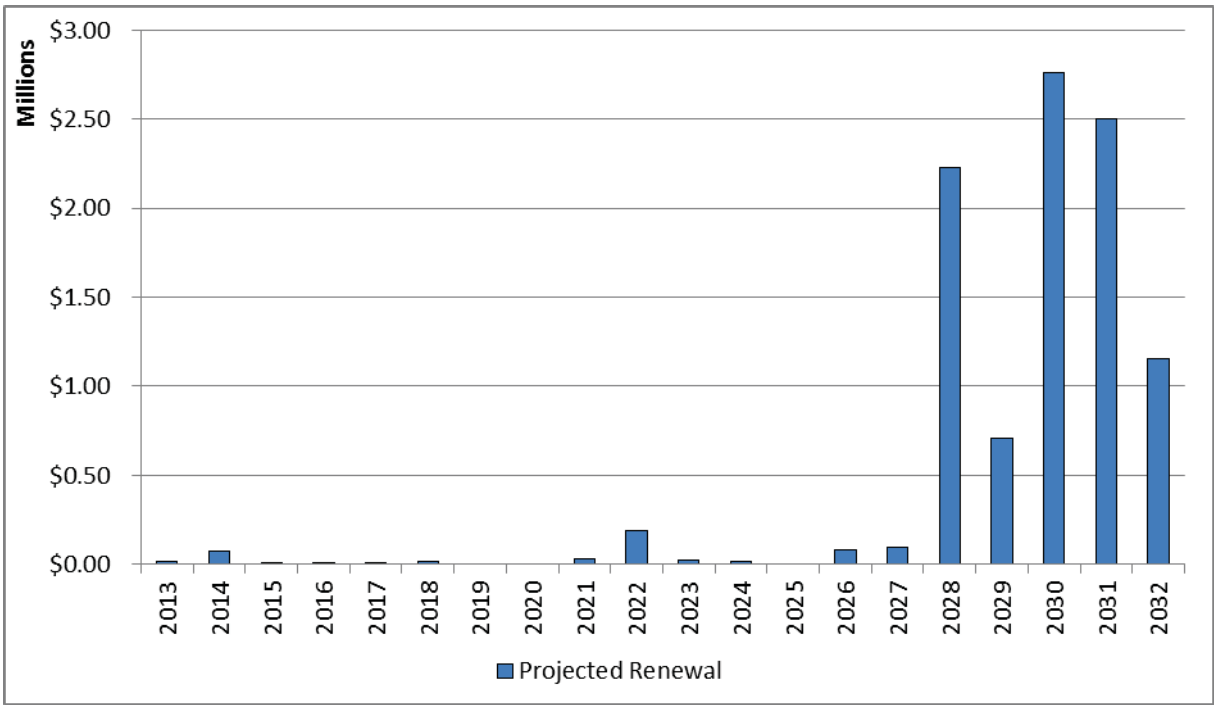
5.4 RENEWAL/REPLACEMENT PLAN

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 DEMAND

The first step of the renewal plan is to forecast the amount of drainage renewal work required 20 years into the future. The information required to achieve this is obtained from condition assessments, customer requests and routine inspections. Renewal estimates (indexed to the scheduled year) 20 years into the future are detailed in Figure 5.

Figure 5. Forecast Renewal Demand



The forecast for renewal demand for drainage assets is relatively low due to their relatively low age in comparison to economic life. Due to this it is not anticipated that any significant renewal work is required in the near future, with the bulk majority of work required in the next 20 years relating to short life assets such as pollution control devices and older drainage pits.

5.4.2 RENEWAL STANDARDS

Renewal work is carried out in accordance with the following standards and specifications.

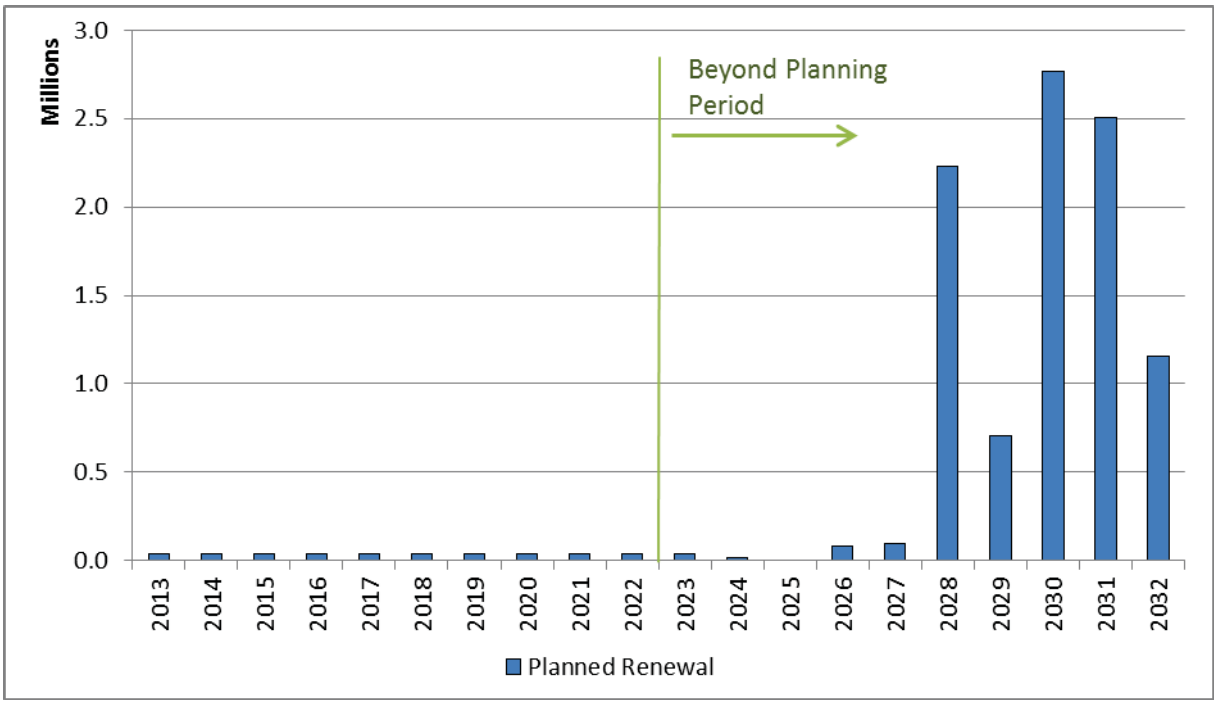
- Relevant Australian Standards
- Australian Rainfall and Runoff (AR&R)
- Australian Runoff Quality (ARQ)
- Water Sensitive Urban Design – Technical Guidelines for Western Sydney
- Dam Safety Management Guidance Sheets
- Blacktown City Council' Design Guidelines - Subdivision and Developments
- Blacktown City Council Works Specifications - Subdivision and Developments and associated Standard Drawings

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 Figure 6. Note that all costs are shown in current 2011/2012 dollar values.

Complex modelling is performed to smooth out the renewal profile resulting in the lowest cost solution over a 10 year period that is manageable with current operations. The resulting 10 year renewal program and forecast for the ensuing 10 years is shown in Figure 6. These results are used in Council's Long Term Financial Planning.

Figure 6. Projected Capital Renewal Expenditure



Through the annual preparation of Council's Works Improvement Program candidate proposals identified for renewal are inspected to verify the accuracy of cost and treatment proposed and finally ranked on a priority basis. There are a number of Drainage renewals and upgrade programs in the Works Improvement Program, the selection criteria used to rank and prioritise these works are detailed in Appendix A.

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 UPGRADE/EXPANSION PLAN

These are 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.

Rising community expectation has driven up desired service levels over time, this can result in disparate service provision across the city. For example, rain water gardens, these are new pollution control devices that are designed to improve water quality in nearby bodies of water. These pollution control gardens are mainly positioned close to water ways to cut down on the amount of pollution reaching creeks and streams. To achieve a uniform standard across the city Council should:

- Adopt desired service levels.
- Identify gaps in service provision.
- Quantify physical work to achieve desired service levels city wide.
- Determine delivery timeframe through community consultation.
- Prioritise upgrades based on set selection criteria.
- Implement a program of works to retrofit the city.

- Update planned capital upgrade program Figure 7.

Where further effort is required to estimate new/upgrade plans, actions linked to desired service levels (Table 3.3) form part of the Improvement Plan in Section 8.2. Results of these actions will be documented in future revisions of this Asset Management Plan, as such the Planned Capital Upgrade/New Asset Expenditure detailed in Figure 7 only represents infrastructure required to service new release areas.

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 and release area planning. Candidate proposals represent assets that have characteristics/attributes that inhibit them from performing a desired service level. In some instances existing infrastructure has not been tested against the service levels documented in Section 3.4 and further studies are required to fully identify potential service gaps. Proposals are annually reviewed in Council's Works Improvement Program and ranked by priority. The priority ranking criteria is detailed in Appendix A.

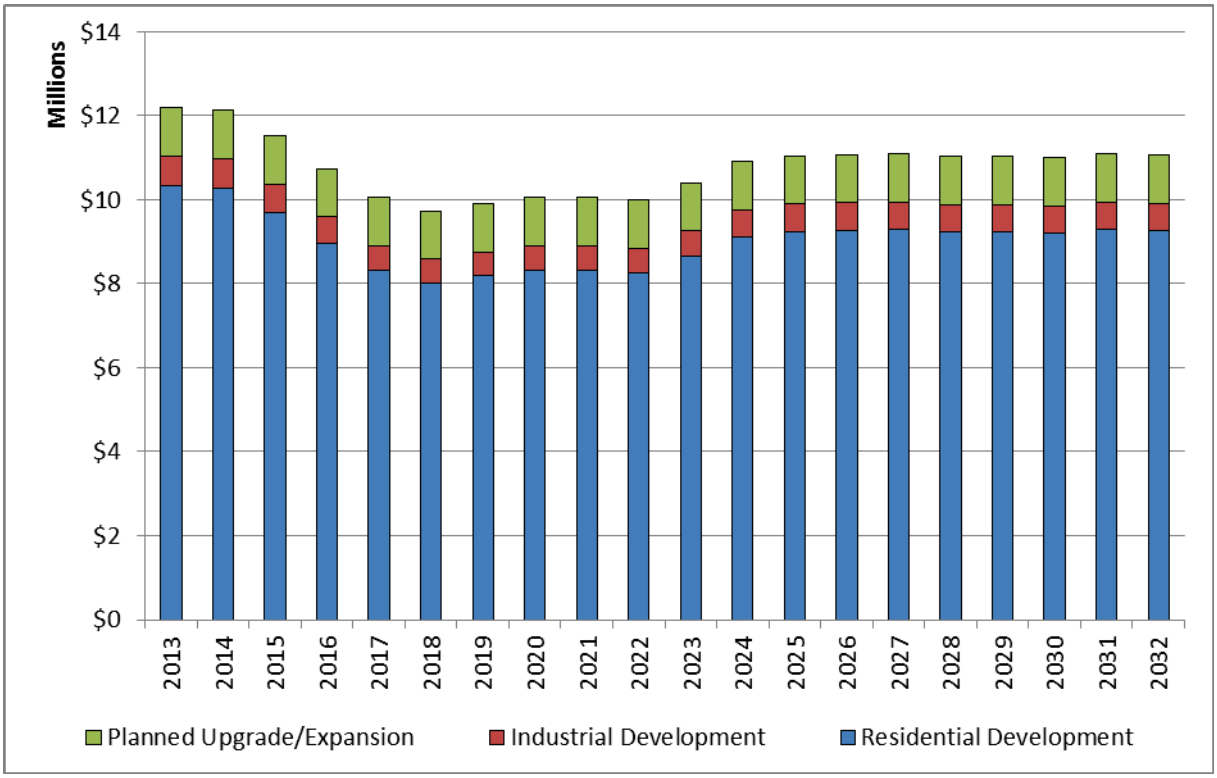
5.5.2 STANDARDS AND SPECIFICATIONS FOR UPGRADE/EXPANSION

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/EXPANSION ASSETS EXPENDITURE

Estimated upgrade/new asset expenditures are summarised in Figure 7. All costs are shown in current 2011/2012 dollar values.

Figure 7. Planned Capital Upgrade/New Asset Expenditure



The provision of additional and upgraded drainage will continue over the next 20 years specifically in the North West Growth Area, which will be predominately funded by developer contributions. The investment into new and upgraded drainage assets will be monitored and the above forecast reviewed annually.

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. At this stage no assets are identified for possible decommissioning and disposal. 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.

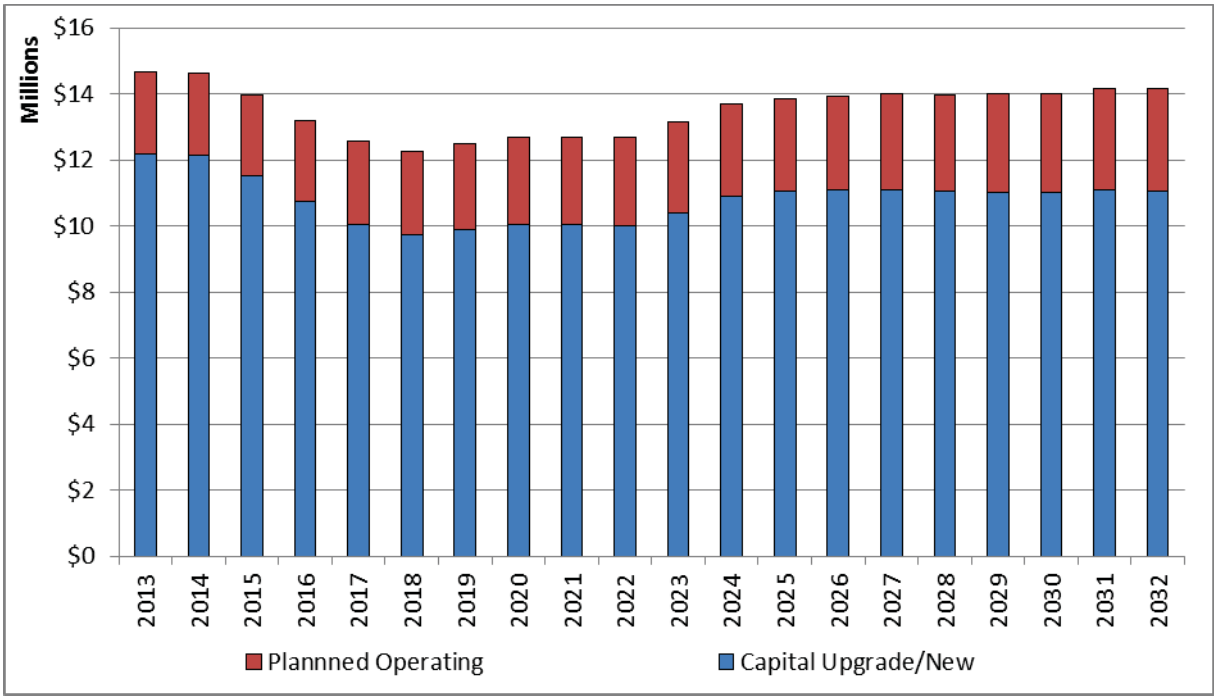
6. FINANCIAL SUMMARY

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 Figure 8 for planned operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets).

Figure 8. Planned Operating and Capital Expenditure



Note that all costs are shown in current 2012/2013 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

Annual Depreciation (5.1.4)	$ 6,337,000
Maintenance Expenditure (table 5.3.1)	$ 1,953,635
Average Annual increase in Deferred Maintenance (table 5.3.1)	$ 51,682
Total	**$ 8,342,317**

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 **$1,988,401**.

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 Drainage 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 **$6,353,916** per annum. The life cycle sustainability index is **0.238**.

Medium term – 10 year financial planning period

This Asset Management Plan identifies the estimated maintenance and capital expenditure 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.

Figure 9 details the projected asset renewals in the 20 year forecast period and compared to planned renewal expenditure in the capital works program. Table 6.1 details the annual and cumulative funding gap (deferred renewal) between projected and planned renewals.

Figure 9. Projected and Planned Renewals and Current Renewal Expenditure

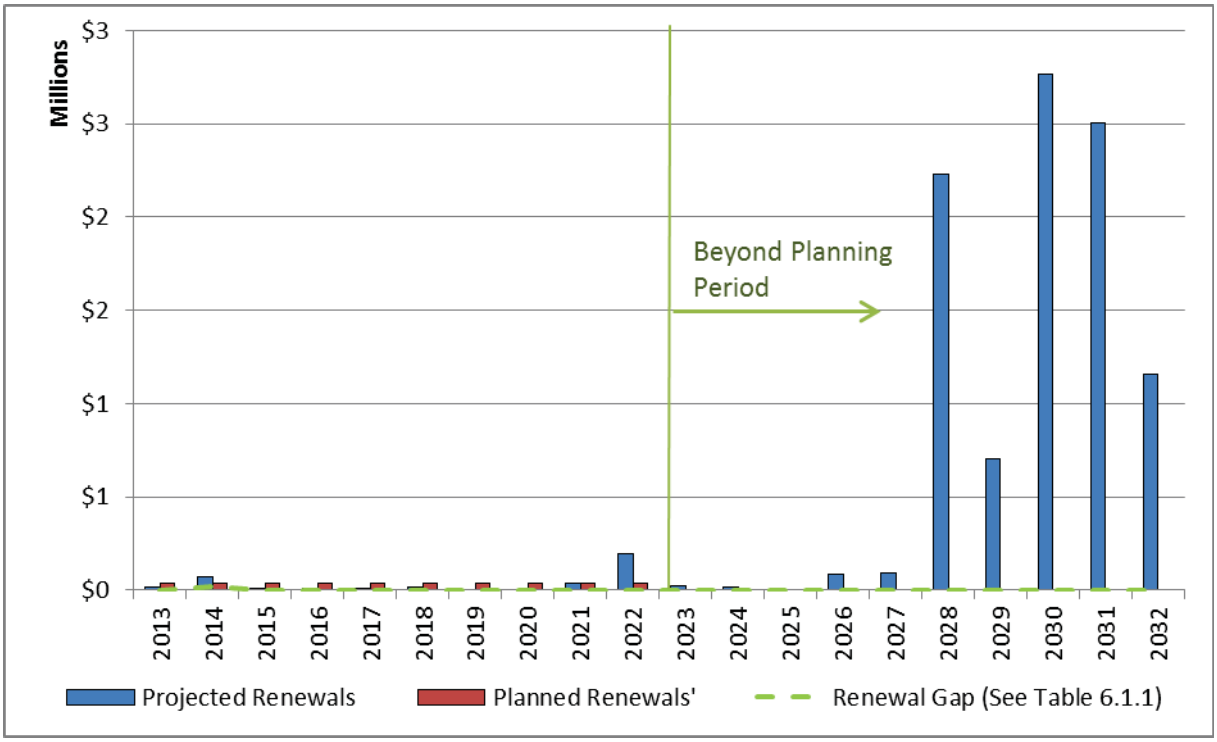


Table 6.1.1 shows the gap between projected and planned renewals.

Table 6.1.1 Projected and Planned Renewals and Expenditure Gap

Year	Projected Renewals	Planned Renewals	Renewal Funding Gap
2013	$15,000.00	$34,766	$0.00
2014	$74,000.00	$34,766	$19,467
2015	$1,000.00	$34,766	$0.00
2016	$11,000.00	$34,766	$0.00
2017	$6,000.00	$34,766	$0.00
2018	$15,000.00	$34,766	$0.00
2019	$0.00	$34,767	$0.00
2020	$0.00	$34,767	$0.00
2021	$33,678.00	$34,767	$0.00
2022	$191,986	$34,767	$0.00
Total	**$347,664**	**$347,664**	

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, and renewal strategies to manage the upcoming renewal requirements in approximately a decade from now.

Council's long term financial plan covers the first 10 years of the 20 year planning period. The total maintenance and capital renewal expenditure required over the 10 years is:

10 year Projected Renewal (6.1.1)	$ 347,664
10 year Projected Maintenance Expenditure (5.3.4)	$ 20,602,918
Deferred Maintenance (table 5.3.1)	$ 439,300
Total	**$ 21,389,882**

The estimated maintenance and capital renewal expenditure in the first 10 years is:

10 year Planned Renewal (6.1.1)	$ 347,664
10 year Projected Maintenance Expenditure (5.3.4)	$ 20,602,918
Total	**$ 20,950,582**

The 10 year sustainability index is **0.979**.

6.2 FUNDING STRATEGY

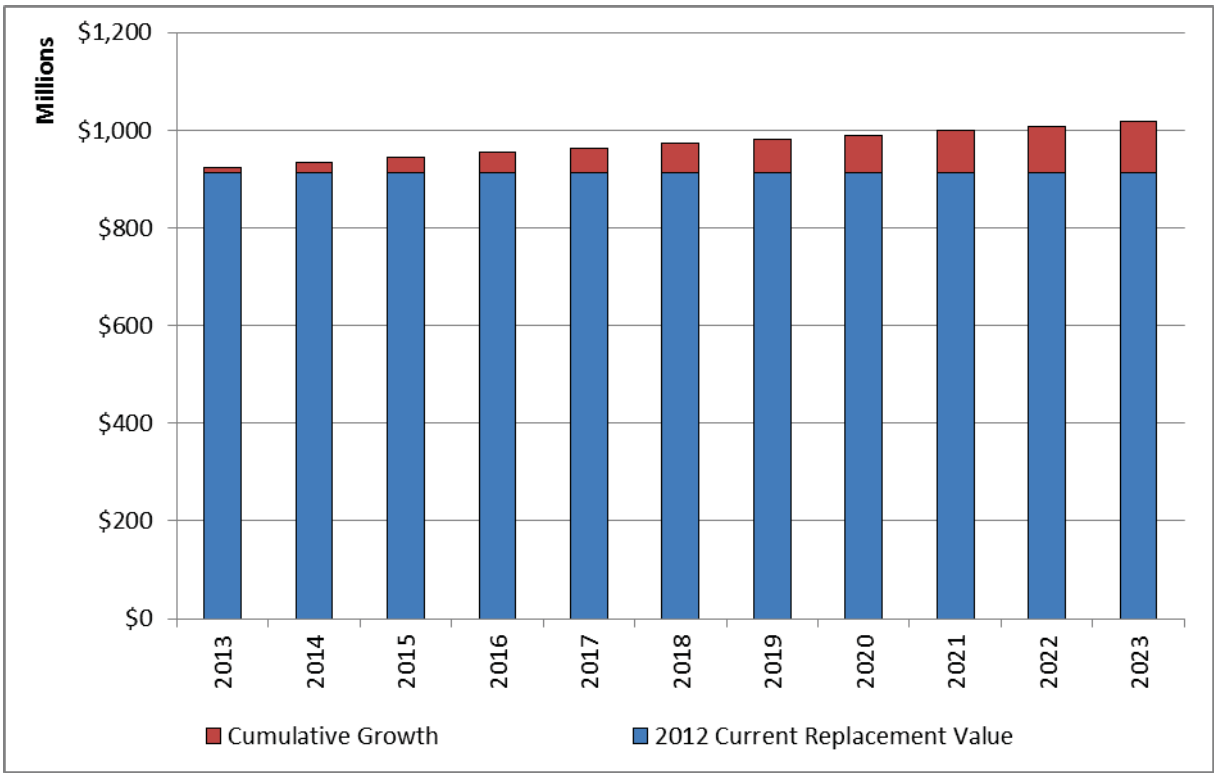
Projected expenditure identified in Section 6.1 is to be funded from Council's operating and capital budgets. The funding strategy is detailed in Council's 10 year long term financial plan.

Achieving the financial strategy will require continual monitoring of drainage conditions and modelling to forecast required renewal expenditure matched by funds detailed in Council's Long-Term Financial Plan.

6.3 VALUATION FORECASTS

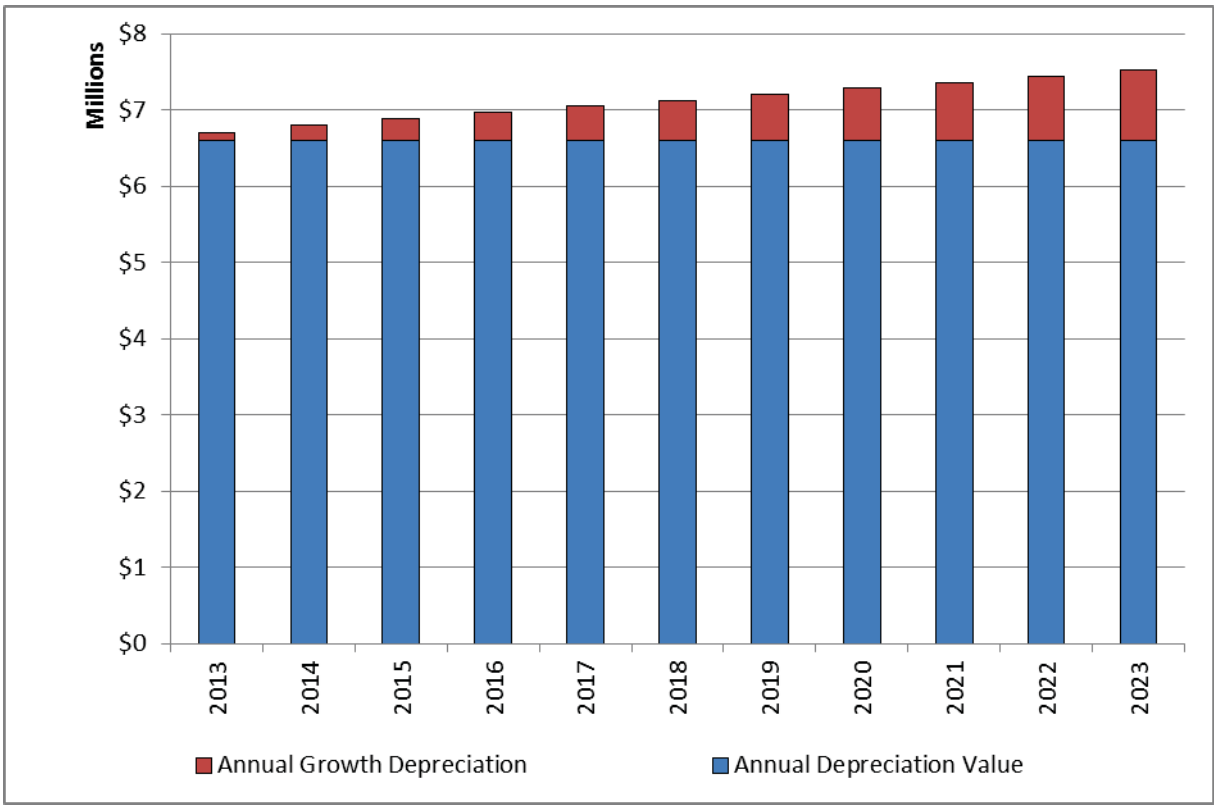
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 10 shows the projected replacement cost asset values over the planning period in current 2012/2013 dollar values.

Figure 10. Projected Asset Values



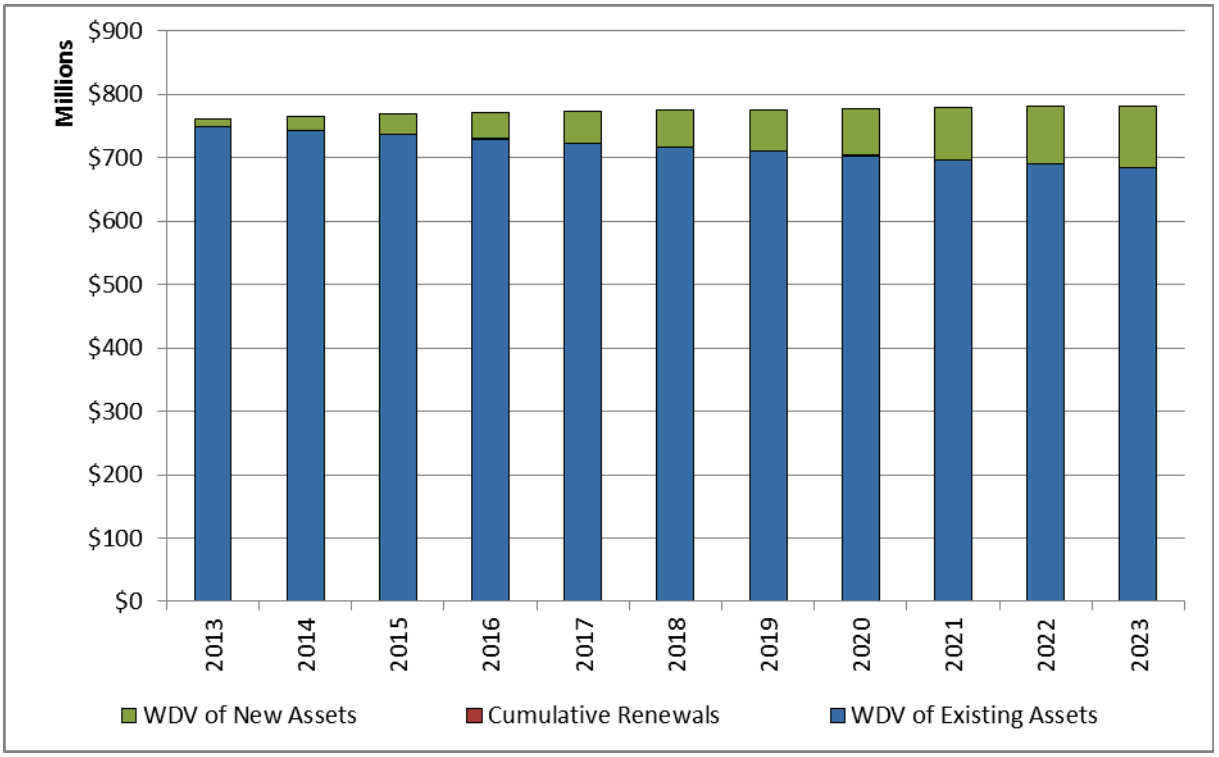
Depreciation expense values are forecast in line with asset values as shown in Figure 11.

Figure 11. Projected Depreciation Expense annual 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 Figure 12.

Figure 12. 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:

- Indexation used in modelling results was set at 5% per annum.
- Economic lives of assets are based on asset condition inspections or industry standards.
- For infrastructure valued under Council's materiality threshold replacement is covered under operational budgets.

Accuracy of future financial forecasts may be improved in future revisions of this Asset Management Plan by the following actions.

- Include the results of service level gaps identified by the actions contained in Table 8.1. Identify the desired time to reduce service level gaps through community consultation and use as the basis of an annual allocation.

7. ASSET MANAGEMENT PRACTICES

7.1 ACCOUNTING/FINANCIAL SYSTEMS

Council manages finances in accordance with the following standards, guidelines and regulations:

- The Local Government Act 1993 (as amended) and the Regulations made there under.
- The Australian Accounting Standards and professional pronouncements, and
- The Local Government Code of Accounting Practice and Financial Reporting.

Australian Accounting Standards include Australian equivalents to International Financial Reporting Standards (IFR's). Because the AASB's are sector neutral, some standards either:

- have local Australian content and prescription that is specific to the Not For Profit sector (including Local Government) which are not in compliance with IFR's; or
- Specifically exclude application by not for profit entities.

Examples of this includes excluding Local Government from AASB 120 (IAS 20) for grant accounting and AASB 118 (IAS 18) for segment reporting. Different requirements apply to Local Government for impairment of assets in AASB 136 (IAS 36) and AASB 116 (IAS 16) regarding accounting for the revaluation of assets.

7.2 ASSET MANAGEMENT SYSTEMS

7.2.1 BLACKTOWN CITY COUNCIL ASSET MANAGEMENT SYSTEM (BCAMS)

Council maintains a single asset management system to record asset inventory, manage inspections and risk and fulfill its mandatory planning and reporting requirements. The system utilises MS Sequel Server systems to store corporate asset information and manage backup and disaster recovery processes. Access to corporate asset information via various interfaces are managed by role based authenticated accounts.

Asset information obtained through engineering plans from land developments and internal and contracted construction and maintenance work is incorporated into the corporate asset information in an ongoing basis. This core register provides the basis for further related information to be added for the following functions.

1. Asset registers
2. Spatial (GIS) information
3. Asset accounting
4. Risk inspections
5. Maintenance works management
6. Long term renewal forecasting and planning
7. Service level planning

7.2.2 WORKS IMPROVEMENT PROGRAM (WIP)

The implementation of asset management strategies and renewal programs is managed by Council's Works Improvement Program System. The system annually underpins the;

1. Preparation of the Capital Works Program, including prioritisation.
2. Planning and implementation of capital works.

3. Environmental management of adopted programs.

The administration, training and security of the above systems are the responsibility of Council's Asset Planning and Support section, whilst the disaster recovery and backup of corporate information is managed by Information Technology.

7.2.3 INSPECTIONS

Council's drainage assets are routinely inspected to identify any defects requiring rectification. Proposed works resulting from inspections are recorded and issued on a priority basis established from the assets location (exposure to traffic, pedestrian and cycle movements) and the potential harm or consequence the defect could cause.

The frequency drainage assets are inspected are as follows;

- Prescribed Basins
    - Routine Inspection Monthly
    - Dam safety surveillance inspection 3 yearly
- Waterways 6 monthly
- Detention Basins 6 monthly
- Road Drainage 6 monthly
- Pollution Control Devices 6 monthly

7.3 INFORMATION FLOW REQUIREMENTS AND PROCESSES

The key information that 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 that 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.

7.4 STANDARDS AND GUIDELINES

- Blacktown City Council Asset Management Policy 2012
- Blacktown City Council Asset Management Strategy 2012
- Australian Accounting Standards (AASB 116)
- NATSPEC 2012.

- IPWEA, 2011, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australia, Sydney.

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 cash flows identified in this Asset Management Plan are incorporated into Council's long term financial plan and Strategic Management Plan;
- The degree to which 1 and 4 year delivery programs provided by this Asset Management Plan are taken into account in the detailed works programs, budgets, business plans and organisational structures.

8.2 IMPROVEMENT PLAN

The asset management improvement plan generated from this Asset Management Plan is shown in Table 8.1.

Table 8.1 Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
Consultation				
1	Review community satisfaction survey.	Community Development	Existing Staff/Funds	Jun-14
Quality				
2	Annually review renewal modelling.	Asset Planning and Support	Existing staff	Jun-14
3	Enhance maintenance modelling for drainage assets.	Asset Planning and Support	Existing staff	Jun-14
4	Undertake customer satisfaction survey of aesthetics of stormwater corridors.	Asset Planning and Support/Community Development	Online tools	Jun-14
Capacity				
5	Undertake city wide audit of stormwater drainage and identify locations where provision is lacking. List required upgrades for funding consideration into the Works Improvement Program.	Asset Design Services	Existing staff Consultants	Ongoing
6	Undertake flood studies and identify locations where provision is lacking. List required upgrades for funding consideration into the Works Improvement Program.	Asset Design Services	External consultants	Ongoing
Safety				
7	Incorporate principles of safe passage of vehicles and pedestrians into future upgrade works.	Asset Design Services	Existing staff	Ongoing
8	Identify locations that are inundated in storm events below the design event, hence requiring control measures / upgrades and	Asset Design Services	Existing staff	Ongoing

	list in the Works Improvement Program			
9	Assess inundation of flood evacuation routes in the 500 year storm event. Identify upgrade projects and list for funding consideration in the Works Improvement Program.	Asset Design Services	Existing staff	Jun-14
10	Undertake a survey of the drainage network for safety.	Asset Planning and Support	Existing staff	Ongoing
Function				
11	Undertake city wide audit of water quality/stability measures and identify locations where provision is lacking. List required upgrades for funding consideration into the Works Improvement Program.	Asset Design Services	Consultants and Existing staff	Jun-14
12	Assess results from the geomorphology of the City's waterways and identify locations where provision is lacking. List required upgrades for funding consideration into the Works Improvement Program.	Asset Design Services	Consultants and Existing staff	Jun-14
13	Undertake a condition assessment of the city's waterways and identify where rehabilitation is required. List required upgrades for funding consideration into the Works Improvement Program.	Asset Design Services	Consultants and Existing staff	Jun-14
Future Demand				
14	Maintain up-to-date asset management systems and undertake regular reviews of the asset management plans.	Asset Planning and Support	Existing staff	Ongoing
15	Integrate appropriate drainage infrastructure into release area planning.	All	Existing staff	Ongoing
16	Review the effect of climate change on Council infrastructure and promote environmentally sensitive solutions.	All	State Government requirements and existing staff	Ongoing
17	Continually review renewal modelling ensuring forecasting is accurate.	Asset Planning and Support	Existing staff	Annually
18	Investigate alternate options for the disposal of surplus excavated material.	All	Existing staff	Ongoing
19	Review service levels and regularly undertake community consultation.	All	Existing staff	Ongoing
20	Review service levels and ensure incorporation of new design standards and requirements on existing infrastructure.	All	Existing staff	Ongoing
21	Review service levels and ensure incorporation of new environmental standards and requirements on existing infrastructure.	All	Existing staff	Ongoing
22	Continually review progress in the field of stormwater harvesting technologies and include impacts in future revisions of this plan.	All	Existing staff	Ongoing
Changes in Technology				
23	Continually monitor advances in trenchless	All	Existing staff	Ongoing

	technology techniques.			
24	Develop Knowledge Management Strategy.		Existing staff	Ongoing
25	Continually monitor advances in technology in social media. Capitalise on any efficiencies in communicating with the community gained through this medium.		Existing staff	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.

REFERENCES

Blacktown City Council 2012 Asset Management Strategy

DVC, 2006, 'Asset Investment Guidelines', 'Glossary', Department for Victorian Communities, Local Government Victoria, Melbourne, http://www.dvc.vic.gov.au/web20/dvclgv.nsf/allDocs/RWP1C79EC4A7225CD2FCA257170003259F6?OpenDocument

International Infrastructure Management Manual, Institute of Public Works Engineering Australia, Sydney, 2006 & 2011

IPWEA, 2009, 'Australian Infrastructure Financial Management Guidelines', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AIFMG.

Micromex 2011 Blacktown City Council Community Research

NAMS.PLUS Asset Management Template, Institute of Public Works Engineering Australia, Sydney, 2008,

iD Forecast
http://forecast2.id.com.au/Default.aspx?id=211&pg=5000

APPENDICES

APPENDIX A SELECTION CRITERIA FOR WORKS IMPROVEMENT PROGRAM

Drainage

Selection Criteria
Grant Funded
Flooding Type
Community Safety/Amenity Improvement
Cost Effectiveness (Flooding Only)
Environmental Improvement

Stormwater Management

Selection Criteria
Operational Costs
Target Pollutants
Effectiveness of Pollutant Removal
Target Pollutants (Number)
Compliance
Public Benefit

Environmental Stormwater Management

Selection Criteria
Staging order of Program

S94 CP No. 1 - 1980's Trunk Drainage

Selection Criteria
Percentage of Catchment Developed
Required for Development to Proceed
Community Safety/Amenity Improvement
Staging Order

S94 CP No. 5 – Parklea - Trunk Drainage

Selection Criteria
Percentage of Catchment Developed
Required for Development to Proceed
Community Safety/Amenity Improvement

S94 CP No.20 - Riverstone & Alex Avenue - Trunk Drainage

Selection Criteria
Percentage of Catchment Developed
Required for Development to Proceed
Community Safety/Amenity Improvement

APPENDIX B - ABBREVIATIONS

AAAC	Average Annual Asset Consumption
AMP	Asset Management Plan
ARI	Average Recurrence Interval
CRC	Current Replacement Cost
DA	Depreciable Amount
DSC	Dam Safety Committee
IRMP	Infrastructure Risk Management Plan
LCC	Life Cycle Cost
LCE	Life Cycle Expenditure
MMS	Maintenance Management System
RV	Residual Value
IFRS	International Financial Reporting Standards
DCP	Development Control Plan

APPENDIX C - GLOSSARY

Assets

"An asset of the local government shall be recognised in the statement of financial position when and only when it is probable that the future economic benefits embodied in the asset will eventuate; and the asset possesses a cost or other value that can be measured reliably.

Most road infrastructure assets satisfy both criteria. Exceptions are land under roads and bulk earthworks.

For network assets such as roads, the high variability of the road attributes across the network has resulted in the almost universal and correct practice that assets be broken into segments.

Each asset has a current replacement value, written down current replacement value, annual depreciation amount, and economic and remaining life.

Asset category

Grouping of like assets classes e.g. Drainage, Transport.

Asset class

Grouping of like assets, e.g. all pavement, seal, kerb & gutter are all classes of the asset category of Drainage.

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, and engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.

Annual Asset Consumption

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 OR by dividing the Fair Value (Depreciated Replacement Cost) by the Remaining Life.

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.

Asset renewal funding ratio

The ratio of the net present value of asset renewal funding accommodated over a 10 year period in a long term financial plan relative to the net present value of projected capital renewal expenditures identified in an asset management plan for the same period [AIFMG Financial Sustainability Indicator No 8].

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, e.g. 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 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, e.g. 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, e.g. 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.

Crowdsourcing ***

Is the act of outsourcing tasks, traditionally performed by an employee or contractor, to an undefined, large group of people or community (a "crowd"), through an open call.

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.

Delivery Program

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.

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.

Enterprise Risk Management

The discipline by which an organisation manages its risk appetite; by assessing, controlling, exploiting and financing the organisation's risk in the context of its mission (where it wants to go), strategic direction (how it wants to get there) and operations (what it does) for the purpose of maximising its value to stakeholders (ratepayers and customers).

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 arm's length transaction.

Funding Model

A Funding Strategy which addresses the need for funds, the peaks and troughs in this need and how the funds will be sourced.

Life cycle analysis should be the basis of the funding model. The funding model adopted by Council decides how it determines:

- The level of funds year by year
- The source of those funds
- The use or allocation of those funds
- To recurrent/capital
- To infrastructure and to other assets and other services

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, e.g. 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 often have no market value.

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 the 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 LCC 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. LCE may be compared to LCC to give an initial indicator of life cycle sustainability.

Maintenance and renewal gap

Difference between estimated budgets and projected expenditures for maintenance and renewal of assets, totalled over a defined time (e.g. 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 (e.g. 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.

Operating expenditure

Recurrent expenditure that is continuously required excluding maintenance and depreciation, e.g. power, fuel, staff, plant equipment, on-costs and overheads.

Planned Maintenance**

Repair work that is identified and managed through a Maintenance Management System (MMS). MMS activities includes 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.

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 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.

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.

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.

Risk management

The allocation of probability and consequence to an undesirable event and subsequent actions taken to control or mitigate that probability and/or consequence.

Service category

Grouping of like primary services (e.g. drainage/flood protection, environmental protection/waterways, waste management and waste minimisation/recycling are grouped as Environmental Services).

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.

Social media***

Social media are media for social interaction, using highly accessible and scalable communication techniques. Social media is the use of web-based and mobile technologies to turn communication into interactive dialogue.

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.

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 the 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.

Works Improvement Program (WIP)

An annual budgeting tool used by Blacktown City Council to prioritise, allocate and implement the capital works program.

Source: DVC 2006, Glossary

Note: Items shown * modified to use DA instead of CRC

Additional glossary items shown **

Wikipedia