



**ASSET
MANAGEMENT
STRATEGY
AND PLANS**



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1 EXECUTIVE SUMMARY

Introduction - what is asset management?

Asset management is a comprehensive and structured approach to the long-term management of assets as tools for the efficient and effective delivery of community benefits¹. The emphasis is on the assets being a means to an end, not an end in themselves. Accordingly, this asset management plan for Council's infrastructure assets has been prepared to guide Council's ongoing investment in capital and maintenance works in a way that supports service delivery in the most effective manner.

This Plan provides long term asset requirements and corresponding financial forecasts through a ten-year rolling priority program of works. These programs aim to maintain and renew Council's infrastructure assets so that it continues to provide acceptable levels of service to our community over the long term and in a cost-effective manner.

Background - why asset management?

Council provides many services that aim to deliver social, environmental and economic outcomes for the community of Liverpool. For the majority of these services, Council relies on its large portfolio of infrastructure assets, which are currently valued at more than \$2.7 billion. These assets include public roads and other transport-related facilities; floodplain and drainage networks; parks, reserves and recreational open space facilities; property and buildings.

Council aims to manage all its assets at a level that ensures necessary standards of service are achieved and maintained over time in an efficient and cost-effective manner and asset management plans are the vehicle by which Council can provide an acceptable long-term infrastructure management framework.

Catalysts for improved asset management

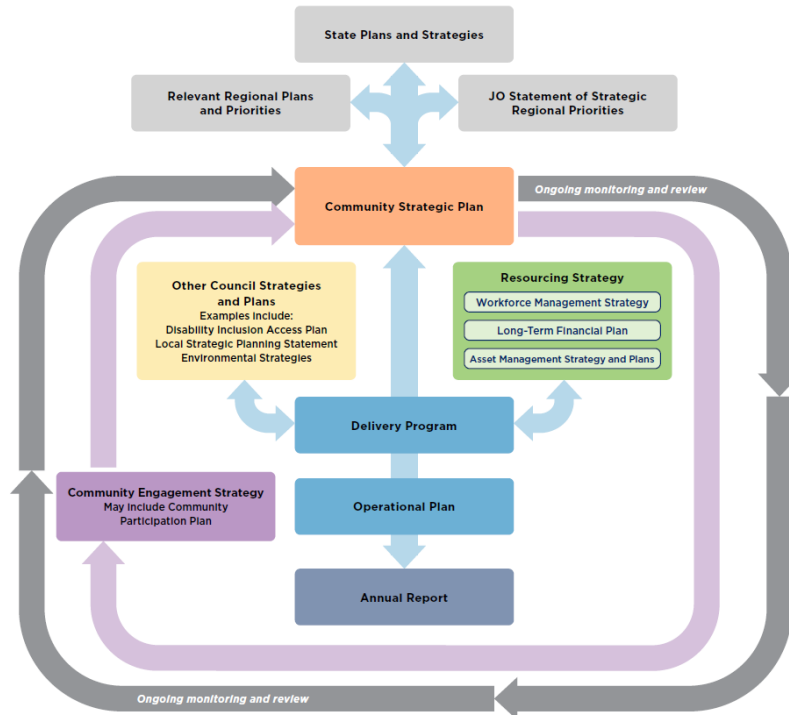
Infrastructure represents a major investment by Council and its importance to the delivery of service is a sufficient driver for more formalised asset management practices. However, various state and national public inquiries including the 2006 independent inquiry into the financial sustainability of Local Governments and the report cards show a concerning picture of infrastructure standards and Councils ongoing ability to fund the required renewals.

The State Government enacted legislation in October 2009 to amend the Local Government Act (1993). Again in 2016, the Local Government Act 1993 (the Act) was further amended with a new set of operating principles to address the way local government leads, plans for, and makes decisions about services and resources. The amendments introduced a new integrated planning and reporting framework for NSW local governments requiring:

- preparation of a long-term Community Strategic Plan; and
- preparation of a resourcing strategy to achieve the objectives established by the community strategic plan including a long-term financial plan, workforce management plan and asset management plans for all assets under the control of Council.

The new legislation also requires Councils to prepare an Asset Management Strategy and an overarching council endorsed Asset Management Policy. This asset management plan has been guided by the principles and outcomes identified in Council's Asset Management Policy and Strategy.

¹ AUSTRROADS 1997 - *Strategy for Improving Asset Management Practice*



Objectives of this asset management plan

This Infrastructure Asset Management Plan aims to demonstrate responsive management of Council’s assets (and services provided from these assets), compliance with regulatory requirements, and communicate funding required to provide the required levels of service. This Plan is expected to facilitate prudent and responsible management of Council’s infrastructure assets.

Benefits of improved asset management

The benefits of formalised asset management practices include:

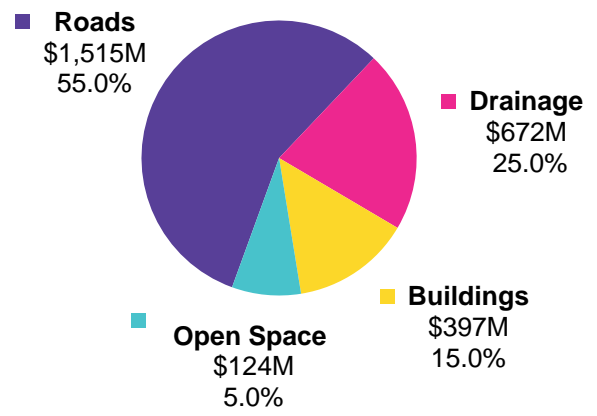
- better allocation of limited council resources
- improved alignment of assets with services and community expectations
- improved understanding of service level options, costs and risks resulting in improved risk management and more sustainable decisions
- reduced demand for new council assets through better integration of service planning and asset planning
- more effective use and maintenance of council assets
- improved processes and accountability for capital and recurrent works
- use of non-asset solutions to meet service demand
- improved governance and accountability through improved decision making based on a better understanding of the benefits and costs of alternatives therefore actions and decisions are optimal and focused on real needs



Council's asset portfolio

Council is responsible for the control and care of a vast portfolio of infrastructure assets, the scope and value of assets covered by this Asset Management Plan is shown below.

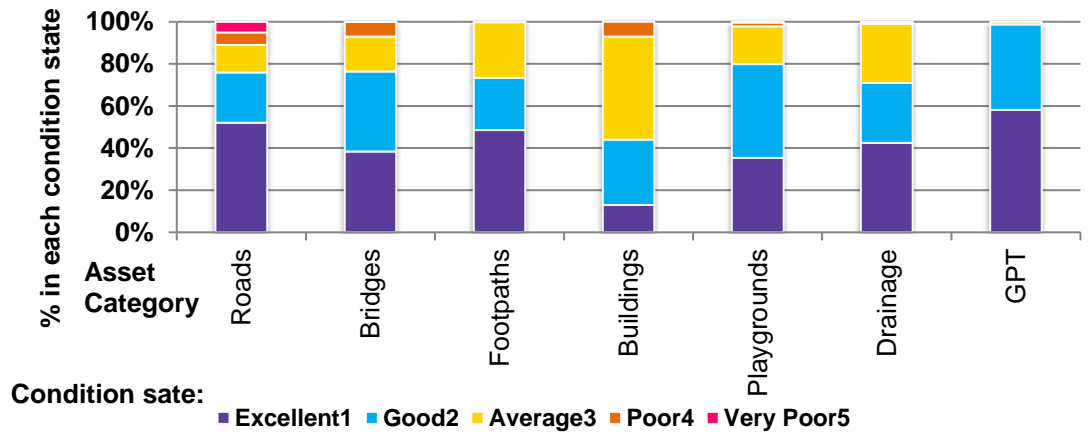
Current Replacement Cost Infrastructure Assets 2021



Over the years, Council has built up a comprehensive database of all its assets, which has enabled Council to undertake necessary planning and valuation of its assets most efficiently and to a high level of accuracy.

Council's ongoing asset surveys have provided valuable data to objectively determine its current condition and performance. This has enabled Council to proactively develop maintenance and renewal strategies and programmes that are responsive and cost-effective. The following provides a summary of condition and performance information for some of Council's key assets.

Condition of Infrastructure Assets



Detailed information on each of the above asset categories including asset condition, current and target performance, required maintenance and renewal activities, and corresponding funding requirements is contained in later sections of this Plan.



Levels of Service

The whole premise of asset management is that asset requirements and asset management strategies need to be driven by defined and acceptable service levels and performance standards. Level of service is a generic term used to describe the quality of services provided by an asset e.g. for roads, it is usually defined in terms of convenience of travel and safety performance. The following provides examples of levels of service characteristics for infrastructure assets that have been used to guide the development of maintenance and renewal targets.

Asset category	Levels of service characteristics
Roads - sealed roads	<ul style="list-style-type: none"> ▪ ride quality ▪ user requirements for width & accessibility ▪ safety - clear signage & line marking (at least not confusing) ▪ travel time
Drainage - stormwater drainage system	<ul style="list-style-type: none"> ▪ drainage capacity and efficiency ▪ structural integrity of drainage structures ▪ level of flood protection provided to properties and roads ▪ pedestrian and traffic safety
Buildings - community facilities	<ul style="list-style-type: none"> ▪ compliance with building & fire regulations ▪ user requirements and availability ▪ clean & healthy facilities ▪ accessibility of facilities
Parks - children’s play equipment	<ul style="list-style-type: none"> ▪ condition and appearance ▪ compliance with Standards ▪ availability of playground equipment

The existing levels of service provided by Council’s assets have been determined predominantly through condition surveys as well through a rigorous in-house consultation process which involved examination of historical patterns of complaints, defects, responsiveness and quality of repairs.

A similar process was used to develop desired levels of service and performance measurement processes. The gap identified between existing and desired service levels guided the development of asset management strategies and programmes to deliver the required level of service over the term of this Plan.

Demand for new assets

Demand projections for new infrastructure as well the need for major improvements to existing infrastructure have been identified in this Plan. The provision of this infrastructure is considered necessary to support the major residential and industrial growth predicted for the Liverpool area, particularly the south-west growth centre.

The following table provides estimates of type and quantity of new infrastructure required over the next ten years based on the predicted population growth as well as to meet the demand for new assets in existing established areas of Liverpool.

Additional infrastructure	Quantity	Replacement Value ('000)
Roads km	180	\$429,384
Footpaths & Cycleways km	200	\$52,132
Kerb & gutter km	360	\$50,400
Bridges No.	12	\$42,285



Additional infrastructure	Quantity	Replacement Value ('000)
Streetlights No.	3,725	Non-Council Asset
Bus shelters (no)	50	\$900
Stormwater drainage (km)	170	\$86,499
Flood retarding basins (No)	30	\$224,576
Gross pollutant traps (No)	50	\$10,296
Admin Building (No)	1	\$189,929
Community buildings (No)	2	\$33,974
Sports amenity buildings (No)	2	\$2,000
Sports fields (No)	10	\$32,847
Parks and reserves (No)	20	\$87,532
Playgrounds (No)	20	\$8,400
TOTAL		\$1,251,155

Table showing type and quantity of new infrastructure required over the next ten years

While approx. 30% of the initial cost of provision of this additional infrastructure will be borne primarily by developers, the ongoing operation and maintenance liability will transfer to Council upon handover and acceptance of these new assets. These future costs, including increases in depreciation charges, are identified and considered in developing forecasts of future operating and maintenance costs.

Risk management

Council has adopted an Enterprise Risk Management Policy in December 2014 which provides the basis for Council's risk management approach and establishes the risk management responsibilities of Council in accordance with Australian Standard for Risk Management, AS/NZS ISO 31000:2009.

Council has implemented many management practices and procedures to identify and manage risks associated with providing services from infrastructure assets. The priority programmes for infrastructure renewal and upgrade are determined using engineering analysis, economic justification as well as risk assessments. The risk-based approach adopted in the development of works programs identifies specific risks associated with the ownership and operation of infrastructure assets and develops strategies to mitigate these risks.

Life cycle management and expenditure forecasts

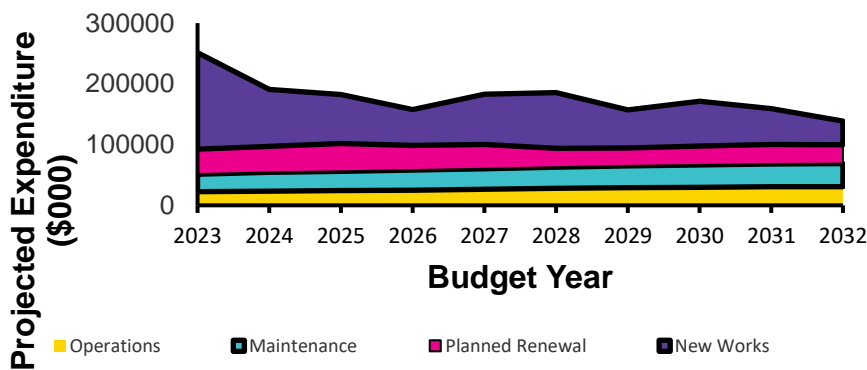
The long-term priority program presented in this Plan reflects Council's adopted strategy to manage its assets at the desired levels of service while optimising life cycle costs. Life cycle management involves consideration of all management options over the life of an asset from creation to disposal. This Plan details the key work activities considered necessary to manage and operate Council's assets. This includes operational and maintenance activities, restoration and renewal activities, enhancement and development activities and finally decommissioning and disposal activities.

The following presents a summary of the ten-year expenditure forecast for Council's infrastructure assets. The ten-year expenditure forecast is based on results from Level of Service requirements, inspection works programs, sustainability and operational/maintenance analysis as well as ten-year Capital budget and Programs.



Budget Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	1	2	3	4	5	6	7	8	9	10
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
R&T Asset Activities	\$251,376	\$191,055	\$182,488	\$157,691	\$183,053	\$185,405	\$157,206	\$171,110	\$159,080	\$138,706
Operations	\$22,493	\$23,520	\$24,255	\$25,045	\$26,286	\$27,912	\$28,826	\$29,709	\$30,577	\$30,801
Maintenance	\$28,797	\$30,923	\$31,940	\$32,966	\$33,871	\$35,000	\$35,904	\$36,725	\$37,619	\$37,866
Planned Renewal	\$41,197	\$42,839	\$45,346	\$40,432	\$40,263	\$30,816	\$29,760	\$31,322	\$32,110	\$31,150
New Works	\$158,889	\$93,773	\$80,947	\$59,248	\$82,633	\$91,677	\$62,716	\$73,354	\$58,774	\$38,889

All Assets 10 Year Expenditure Forecast



While funding to be allocated towards the adopted rolling program of works will be determined each year when the annual budget is formulated and adopted, Council aims to maintain the projected annual expenditure levels. The size of Council’s annual budget allocations for its capital works and, importantly, how these budgets are apportioned to the various programmes, will have major implications for Council’s future financial liability.

Infrastructure sustainability and service management

Liverpool Council has developed its long-term financial plan based on the current and future infrastructure needs of the community as identified through community strategic planning process. Council’s asset creation, maintenance and renewal program has been developed using the right mix of revenue, borrowings and Government grants. The following table shows the infrastructure sustainability and service management ratios:

Summary of Ratios	Financial Year									
	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Infrastructure Backlog Ratio	2.4%	1.8%	1.4%	1.1%	0.9%	0.7%	0.7%	0.7%	0.7%	0.7%
Renewal Ratio	0.95	0.98	0.98	1.01	0.86	0.81	0.60	0.55	0.56	0.57
Maintenance Ratio	0.96	0.94	0.91	0.90	0.88	0.87	0.85	0.84	0.83	0.82

Infrastructure Backlog Ratio - This ratio shows that the asset renewal backlog as a proportion of the total value of Council’s Infrastructure. The higher this ratio, the higher a council’s relative backlog as a proportion of its total infrastructure portfolio. The benchmark for this ratio is for the backlog to be less than 2% of the value of council’s infrastructure assets. Council’s current backlog ratio is >2%. Council forecasted to progressively reduce its infrastructure backlog from 2.4% (2021/22) to less than 1.7% by 2024/25 with increased renewal funding, targeted renewal program based on modern asset management principles and an effective asset maintenance strategy, Council aims to gradually reduce this backlog ratio to less than 2% of fair value over the next few years.



Building and Infrastructure Renewal Ratio - The purpose of this ratio is to assess the rate at which these assets are being renewed relative to the rate at which they are depreciating. The recommended benchmark for this ratio is 1.0. The ratio below 100% is not considered to be an issue due to assets being maintained in accordance with established asset management plans. Moreover, LCC as a rapidly growing Council is receiving brand new infrastructure assets with quite long service life and does not require renewal in the medium term.

Asset Maintenance Ratio - This ratio compares the actual versus required annual asset maintenance expenditure. A ratio above 1.0 indicates Council is investing enough funds to stop the infrastructure backlog growing through insufficient maintenance. The benchmark for this ratio is greater than or equal to 1.0. Council has a history of substantial investment in asset maintenance with overall maintenance expenses generally in line with desired levels of service. Council has estimated required maintenance cost based on ongoing maintenance activities over the life of an asset to minimise whole of life costs.

Council forecasted that the current level of maintenance funding will need to be maintained. Although there is no reduction in existing maintenance budgets, as a fast-growing Council, its asset stock has significantly increased over the years. Additional operational and maintenance budgets will be required in future years to address the ever-increasing asset stock.

Asset management practices and improvements

Finally, this Plan makes an assessment of status of Council's current asset management practices, identifies improvements and makes recommendations in areas where opportunities exist to improve the systems and processes for greater effectiveness.



2 INTRODUCTION

Liverpool City Council is responsible for the management, care and control of a wide range of physical assets with a combined replacement cost of over \$2.7 billion. These assets include public roads and other transport related facilities; floodplain and drainage networks; parks, reserves and recreational facilities; property and buildings.

These assets are used to provide a range of services, which aim to deliver social, environmental and economic outcomes for the community of Liverpool. The level of service delivered by these assets is largely determined by the manner in which they are maintained and managed. Council aims to manage its assets at a level that ensures necessary standards of service are achieved and maintained over time in an efficient and cost-effective manner.

2.1 Objectives of this Plan

This asset management plan aims to demonstrate responsive management of Council's assets (and services provided from these assets), compliance with regulatory requirements, and to communicate funding required in providing the required levels of service.

This Plan is expected to facilitate the prudent and responsible management of Council's assets by:

- ensuring that all assets provide the required levels of service in the most cost-effective manner and in a way that minimises life cycle costs;
- identifying maintenance and renewal activities that are necessary to maintain these services and determining funds required to provide this service;
- identifying and managing risk and liability resulting from the operation of public assets through;
 - a program of regular inspections and monitoring activity to assess asset condition and performance, and
 - undertaking a risk-based approach to identify operational, maintenance, renewal and capital development needs, and applying economic analysis techniques to select the most cost-effective work programme.
- understanding and meeting the impact of growth through demand management and infrastructure investment
- ensuring that assets are managed to deliver Council's strategic outcomes

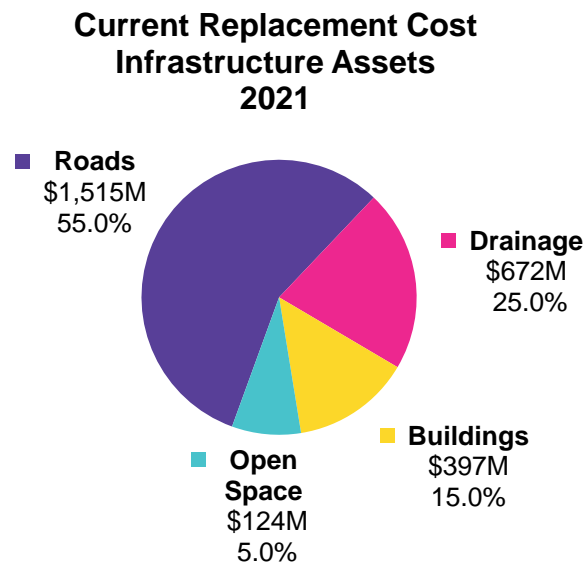


Scope of this Plan

This consolidated Infrastructure Asset Management Plan has been prepared to include all of Council’s infrastructure and building assets. The full scope and value of assets covered by this Plan is shown below.

Asset Category	Scope	Value ('000)
Roads & Transport	959 km roads	\$1,514,532
Buildings	217 buildings	\$397,151
Drainage & Floodplain	762 km of piped drainage	\$672,379
Parks & Recreation	Over 500 parks & reserves	\$123,807
TOTAL		\$2,707,869

The following figure shows the makeup of infrastructure assets under the care and control of Liverpool City Council.





2.2 Plan format

The format of the Infrastructure Asset Management Plan follows the structure recommended in the International Infrastructure Management Manual for the development of asset management plans. The following figure illustrates the key elements and relevant AMP section references in this plan.





2.3 Key stakeholders

Management and operation of public infrastructure assets generally must address and balance the needs and expectations of its stakeholders. This plan is intended to demonstrate to stakeholders that Council is managing its infrastructure assets responsibly. The key stakeholders include:

Internal	External
Council Executive Team Other Management Units Infrastructure and Environment staff Committees Asset Users City Presentation Finance Property Services	Members of Parliament Residents, ratepayers & general public Business owners/operators Community groups & sporting bodies Asset users Government agencies including public utilities

2.4 Legislative requirements

Following the inquiries conducted by the Local Government and Shires Association into the financial sustainability of NSW Local Governments in 2006, the Department of Local Government enacted legislation in October 2009 to amend the Local Government Act 1993. The new legislation introduced a new planning and reporting framework for NSW local governments requiring:

- preparation of a long-term Community Strategic Plan; and
- preparation of a resourcing strategy to achieve the objectives established by the community strategic plan, which includes a long-term financial plan, workforce management plan and asset management plans for all assets under the control of Council.

While this asset management plan has initially been developed in response to the new legislation, recognition of Council’s vast investment in infrastructure and its importance to the delivery of service has also been a major impetus for moving towards more formalised asset management practices.

Further, following the abolition of immunity and defence that existed under the rule of nonfeasance and the subsequent introduction of the Civil Liability Act 2002, Councils now have a positive duty of care to take steps to mitigate foreseeable risks and injuries within available resources. The Civil Liability Act 2002 requires Councils to take reasonable steps to ascertain the existence of latent dangers which might reasonably be suspected to exist in the management of public assets.

The development and adoption of formalised and structured asset management practices for Council’s assets will provide the very framework needed to identify and mitigate potential risks arising from the ownership and operation of public assets.

2.5 Relationship with other plans

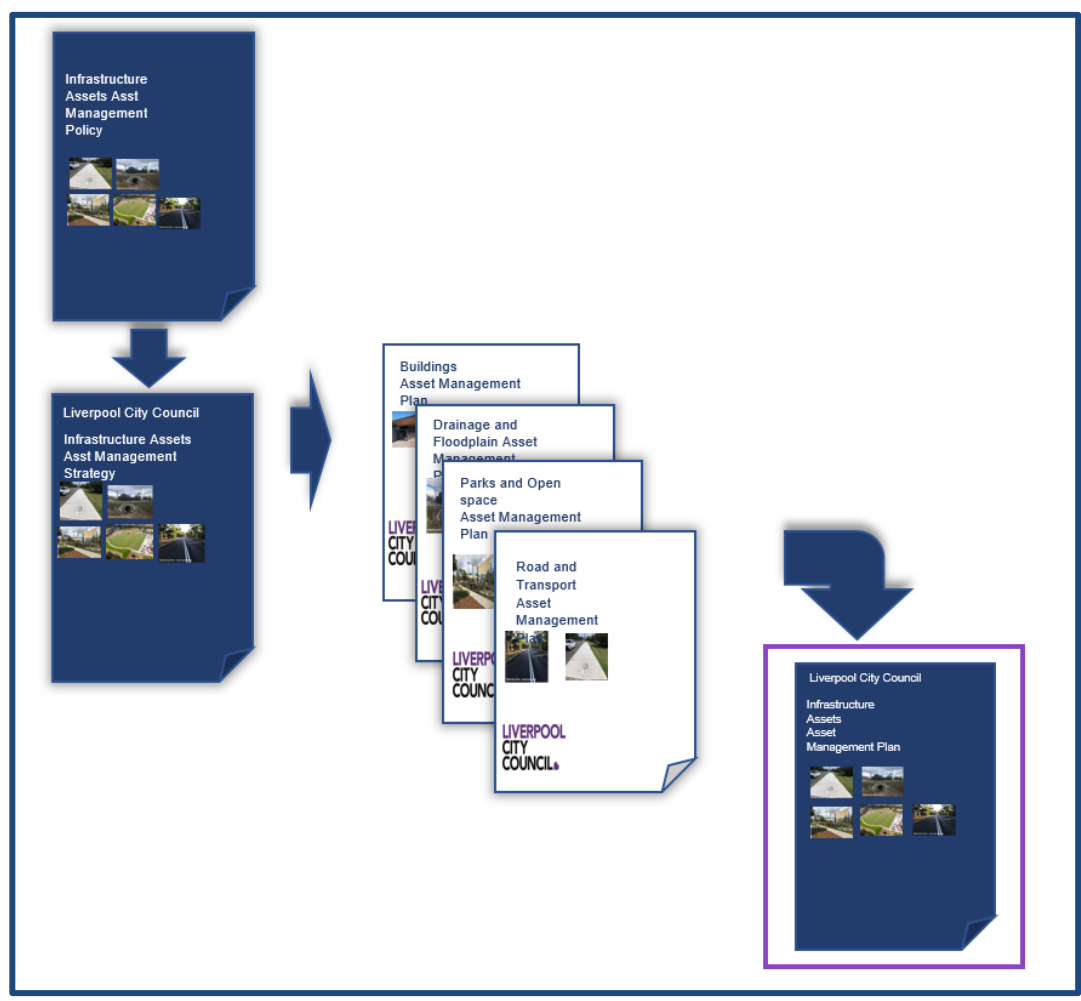
This asset management plan for Council’s infrastructure assets is a key component of Council’s planning process and has been prepared under the direction of Council’s strategic plans, asset management policy and strategy, which outline Council’s long term strategic vision, short term strategies and specific actions with respect to the management of its assets.

Separate asset management plans have been developed covering each of the four key classes of infrastructure assets under the care and control of this Council. This Plan consolidates the various



asset management plans and is intended to present a more holistic view of Council's approach to the management of its assets.

A summary of the plan structure and major asset classes is shown below.





3 LEVEL OF SERVICE

3.1 Introduction

The whole premise of asset management is that asset requirements and asset management strategies should be driven by defined and acceptable service levels and performance standards. This section will define the various factors that are considered relevant in determining the level of service for Council’s assets that have been used to provide the basis for the life cycle management strategies and works programme identified within this asset management plan.

Level of Service is a generic term used to describe the quality of services provided by an asset e.g. for roads, it is usually defined in terms of convenience of travel and safety performance and for buildings, it is defined in terms of functionality, accessibility and amenity. The following provides examples of levels of service characteristics for key infrastructure assets:

Road & Transport Asset	Levels of service characteristics
Roads	<ul style="list-style-type: none"> ride quality user requirements for width & accessibility safety - clear signage & line marking (at least not confusing) travel time
Bridges	<ul style="list-style-type: none"> load rating/capacity availability/flood immunity vertical & horizontal clearances
Stormwater drainage system	<ul style="list-style-type: none"> drainage capacity and efficiency structural integrity of drainage structures level of flood protection provided to properties and roads pedestrian and traffic safety quality of water discharged to natural waterways overall health of natural waterways
Community buildings	<ul style="list-style-type: none"> compliance with building & fire regulations user requirements and availability clean & healthy facilities accessibility of facilities
Playground equipment	<ul style="list-style-type: none"> condition and appearance compliance with Standards availability of playground equipment

These levels of service have been used to:

- develop asset management strategies to deliver the required level of service;
- measure performance against defined targets, over the long term;
- identify costs and benefits of the services provided; and
- enable customers to assess the suitability and affordability of the services offered.

3.2 Factors affecting levels of service

Service levels and desired standards are mostly influenced by and translated from community expectations, strategic goals, legislative requirements, technical standards and availability of



resources. While the management and operation of infrastructure assets generally must address and balance the needs and expectations of its community, in setting service level targets, consideration has also been given to technical and legislative standards, and Council's ability to allocate sufficient resources to meet proposed targets.

3.3 Community research and expectations

Users of Council services have certain expectations regarding the types and levels of service that are to be provided. Customer satisfaction surveys are useful in the identification of gaps between Council's performance and community expectations.

In response to the new legislation for Integrated Planning and Reporting and following a comprehensive community consultation process, Council has developed a 10-year Community Strategic Plan. The Community Strategic Plan 2032 (CSP) sets directions, objectives and strategies for the coming years based on community needs and priorities.

Council's asset management practices and programs will be driven by the following four strategic objectives presented in the Community Strategic Plan 2032. The strategic objectives identify the community's priorities over the next 10 years and are based on social, economic, environmental, and civic leadership matters.

- A healthy, inclusive and engaging city
- A liveable, sustainable and resilient city
- An evolving, prosperous and innovative city
- A leading, responsible and visionary Council

3.4 Strategic and corporate goals

Management, operation and development of assets need to be consistent with goals and values stated in the corporate plan. Council's ten-year Community Strategic Plan identifies long term priorities and goals that Liverpool's community want to have delivered in their City.

Council's asset management practices and programs will be driven by the following stated key directions in the 2022-2032 Community Strategic Plan (CSP), the ten-year Community Strategic Plan for the City of Liverpool.

- Creating Connection
- Strengthening and Protecting Environment
- Generating Opportunities
- Leading through Collaboration

3.5 Legislative requirements, standards and codes of practice

Legislative requirements provide a broad framework and impose minimum standards for the management of public infrastructure to ensure the safety of its users. Further, public assets must be managed in compliance with relevant codes and standards and the adoption of performance measures and targets must consider the available level of resources to achieve these targets.

The key legislations that impact the standards of infrastructure are listed below.



Legislation	Legislative requirement & impact on asset management
1. Roads Act 1993	Sets out procedures, functions and responsibilities of Council as the roads authority with respect to the management and administration of all roads under its control.
2. Local Government Act 1993	Provides the legal frameworks for the provision of various services to the community.
3. Environment Planning & Assessment Act 1979	Sets out processes for the orderly and economic development of land including processes for the provision and coordination of community assets.
4. Disability Discrimination Act 1992	Imposes strict standards and timeframes through Disability Standards for Accessible Public Transport 2002 e.g. access paths, manoeuvring areas & ramps to 55% of bus stops in Council LGA are to be fully accessible by 2012; 90% to be fully accessible by 2017 and full compliance to be achieved by 2022.
5. Heritage Act 1997	Aims to conserve the environmental heritage of the State. Several properties within the LGA are listed under the terms of the Act and attract a high level of maintenance, approval and monitoring.
6. Building Code of Australia	BCA aims to achieve a nationally consistent minimum standards of health, safety, (including structural safety and safety from fire), amenity and sustainability objectives efficiently.
7. Civil Liability Act 2002	The Civil Liability Act imposes a positive duty of care on Councils to take steps to mitigate foreseeable risks and injuries. A formalised system of inspection and monitoring is now critical in proactively identifying and mitigating potential risks.
8. Work Health and Safety Act 2011	Imposes legal obligations on Council and Council staff to protect the health, safety and welfare of all employees, contractors and visitors visiting to the workplace.

3.6 Current and target levels of service - asset condition & performance

To enable the development of the most optimal asset management strategies and programmes for assets, it is essential that the current condition and performance of assets are well understood. Condition surveys of existing assets provide valuable data to objectively determine current performance and develop long term and appropriate maintenance and renewal strategies and programmes.

Asset condition reflects the physical state of the asset, which in most cases influences its ability to provide the required levels of service. Every asset is subject to deterioration resulting in a reduction of future service potential. The Planning and Reporting Manual² recommends the use of the following condition rating model for the condition assessment of assets, which is based on the condition assessment model suggested in the International Infrastructure Management Manual.

Rating	Description of condition	Remaining Service Potential
1	Excellent - very good condition and only normal maintenance required	85%-100%

² Department of Local Government 2010, *Planning a Sustainable Future - Planning & Reporting Manual for Local Government in NSW*, DLG, Sydney



Rating	Description of condition	Remaining Service Potential
2	Good - minor defects only and minor maintenance required	65%-85%
3	Average - significant maintenance required to return to accepted levels of service	30% -65%
4	Poor - significant renewal and upgrade required	10%-30%
5	Very poor - asset unserviceable and over 50% of asset requires replacement	0%-10%

Results of Council’s condition surveys, assessments and typical condition photos are included in later sections of this Plan. All condition assessments are based on visual assessment of current asset condition.

While, over the years Council has significantly improved the level of information on its assets, the same level of information is not, however, available for every asset class. The following provides the status of asset condition surveys and level of information available for each asset class:

Asset class	Status of condition survey
1. Roads & Transport Assets	Council has comprehensive information on this asset class.
2. Drainage & Floodplain Assets	While Council has comprehensive information on most assets within this category, condition assessment of underground piped drainage system is continuing and will be ongoing.
3. Building Assets	Council has collected comprehensive condition information of most of this asset class.
4. Parks & Recreation Assets	Council has comprehensive information on this asset class.

3.7 Levels of service tables

As stated above, the whole premise of asset management is that asset requirements and asset management strategies should be driven by defined and acceptable service levels and performance standards.

Appropriate asset management strategies have been developed to improve and deliver the required levels of service when service gap is observed from the current level of service. Asset renewal programmes have been developed to progressively improve condition and maintain average condition within target levels.

Levels of service tables have been extensively used to translate information regarding service requirements and standards into performance targets, asset management strategies and programmes and levels of service tables for several classes of assets are attached as Appendix B. As can be seen, level of service tables provides a structured method for collating information regarding current and target service levels for all asset groups and provides the framework and basis for the development of long-term asset management strategies and works programmes.

Levels of service tables also provide information regarding areas of service deficiencies, potential asset failures or constraints. This information forms basis for Council to develop its improvement action plan.



4 DEMAND FORECAST

4.1 Introduction

Infrastructure assets are long lived and asset management planning involves consideration of activities and costs over the life cycle of the asset. This requires consideration of not only existing assets, but assets that will be provided over the long term. This section of the Plan will:

- identify factors and trends that influence demand for assets over the long term;
- prepare projections for new assets as well as identify need for upgrade to existing assets over a ten-year period; and
- consider demand management strategies that can be considered as an alternative to upgrading or creating assets to meet changing demand.

A comprehensive understanding of demand for new infrastructure is essential and will enable Council to:

- optimise utilisation & performance of existing assets;
- reduce or defer the need for new assets;
- better understand long term maintenance and operation costs (including depreciation) associated with service delivery;
- improved resource planning leading to sustainable service delivery; and
- better meet customer needs.

4.2 Factors influencing demand

Understanding key drivers of demand is an important first step in forecasting demand for new assets. Once the factors are understood, mathematical modelling can be used to assess the impact of these factors on future demand. The key drivers of demand for infrastructure assets are:

- population growth & residential development;
- demographic changes;
- commercial & industrial growth;
- demand for increased services; and
- strategic extensions to the network

This section of the Plan describes these demand factors, their impact on future demand for new or upgraded assets and how these factors have been used to project future demand for new assets.

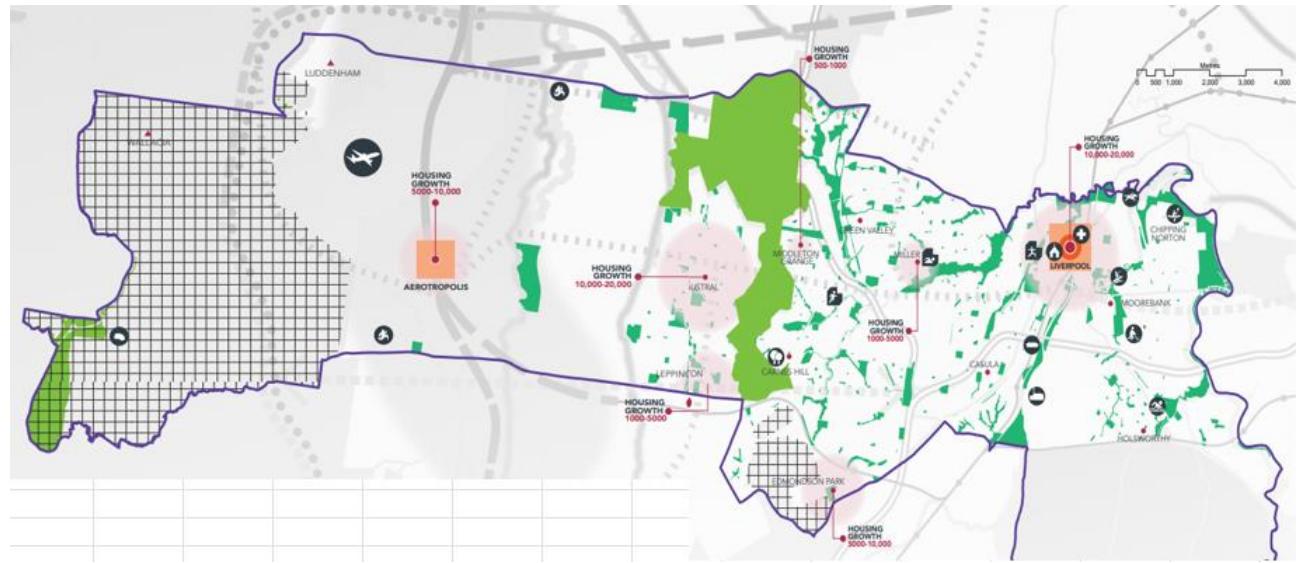
4.3 Growth trends

Population growth is a more commonly understood factor influencing demand changes and quantitative demand forecasting techniques have been used to translate population growth to changes in the asset base.

Council's approach to managing the predicted growth within Liverpool is a combination of urban release and urban consolidation strategies. Both these strategies place different demands on existing



or new infrastructure. Higher density, infill development has been identified for strategic areas around the Liverpool CBD while the major new release areas are located along the western and eastern fringes of the existing urban areas as shown in the figure below. The growth along the existing urban fringes is already evident with a large number of new residential developments over the past three years.



Current Housing Growth Areas within the LGA

The western areas of the LGA, known as the South West Priority Growth Area, are expected to experience the most significant growth. The South West Priority Growth Area incorporates suburbs of Austral, Kemps Creek, Rossmore, Badgerys Creek and Bringelly and extends into Camden LGA. The area is expected to yield 100,000 dwellings (approx. 325,000 people) over the next 30 years.

Demand for housing and industrial development, and associated infrastructure will be exuberated by the new Western Sydney Airport (WSA) planned to be operational from 2026. It is envisaged that a new city equivalent to the size of Adelaide will be developed around the new airport. This will significantly increase future infrastructure needs. Council’s Asset Management Plan will be progressively updated as the new information becomes available.

Once future asset demand is fully understood, effective demand management strategies will be required to explore an alternative to upgrading or creating assets to meet changing demand e.g. rationalising assets, disposal and alternative usage.

4.4 Demographic changes

Factors such as population trends, population density, age profile and leisure trends are not expected to greatly influence the quantity or type of road and drainage related infrastructure.

However, in areas such as Buildings and Open Space, changing demographics are likely to have a stronger influence on future demand for social infrastructure than population numbers.

4.5 Commercial and industrial impacts

An assessment of areas that are likely to undergo major industrial developments has been undertaken, which has enabled the identification of upgrades and improvements to transport and drainage related assets. Major industrial subdivisions and developments are forecasted within the broader Prestons industrial area, which identified the need for major upgrades to key sub arterial



links to this area. As such Council recently completed the construction of Bernera Road and Kurrajong Road.

Commercial and industrial developments are unlikely to have any significant impact on the demand for buildings and open space infrastructure.

4.6 Strategic extensions to network

Council often inherits new and upgraded assets arising out of works by State agencies on major state arterials. The State Government made significant investments towards major transport network within Western Sydney in the last decade. Major upgrades to the state arterials within the Liverpool LGA comprising of Bringelly Road, Campbelltown Road and The Northern Road are some of the examples of those investments.

These improvements have resulted in the creation of a large number of high-quality new assets within the nature strip, which include cycleways, footpaths, street lighting and landscaped gardens. The transfer of ownership of these assets to Council has also created an additional maintenance burden and will impact Council's long term financial liabilities. A major impact to the maintenance budget arises from the need for a more proactive and intensive maintenance of the extensive landscaped areas, which are now Council responsibility.

Liverpool will soon embrace the WSA at Badgerys Creek as the second international airport. Construction of M12 and major upgrade planned for Elizabeth Drive to provide easy access to the airport will create additional demand on the existing local, collector and regional roads, triggering for major upgrade.

4.7 Impact of trends on infrastructure

The need for major improvements to existing infrastructure has been identified by Council to support major residential and industrial release areas of Liverpool. While the provision of internal infrastructure will be the developer responsibility, extensive improvements to existing road and transport-related infrastructure required to support these developments remains Council responsibility. Funding for such infrastructure is provided by Council from s7-11 contributions and other sources of funding.

The following outlines some of the major upgrades proposed in the near future:

- Fifteenth Avenue widening and strengthening as a corridor road;
- Additional traffic loading arising from the Western Sydney Airport will result in affected roads within the South West Priority Growth Area undergoing upgrades;
- Edmondson Avenue between Bringelly Road and Elizabeth Drive; and
- Strengthening of Ash Road, Jedda Road and Martin Road due to industrial developments.

The above improvements will entail additional bus shelters, traffic facilities, street furniture, etc. In addition, facilities for active transport like footpaths and cycleways may also be required.

- Provision of number of flood retarding basins to facilitate residential developments in Austral, Leppington and East Leppington new growth areas; and
- Provision of flood retarding basins to facilitate over 6,100 lot residential subdivision at Edmondson Park.

In addition, demand projections for new infrastructure have also been prepared and the following table provides estimates of type and quantity of new infrastructure required over the next ten years.



Additional infrastructure	Quantity	Replacement Value (\$ 000)
Road Assets	180 km	\$429,384
Footpaths & Cycleways	200 km	\$52,132
Kerb & gutter	360 km	\$50,400
Bridges and Culverts	12 No.	\$42,285
Street lights	3,725 No.	Non-Council Asset
Bus Shelters	50 No.	\$900
Stormwater drainage	170 km	\$86,499
Flood retarding basins	30 No.	\$224,576
Gross pollutant traps	50 No.	\$10,296
Admin Building	1 No.	\$189,929
Community buildings	2 no.	\$33,974
Sports amenity buildings	2 no.	\$2,000
Sports fields	10 No.	\$32,847
Parks and reserves	20 no.	\$87,532
Playgrounds	20 no.	\$8,400
TOTAL		\$1,251,155

Table showing type and quantity of new infrastructure required over the next ten years

While approx. 30% of the initial cost of provision of this additional infrastructure will be borne primarily by developers, the ongoing operation and maintenance liability will transfer to Council upon handover and acceptance of these new assets. These future costs are identified and considered in developing forecasts of future operating and maintenance costs.



Light Horse Park



Light Horse Park – Concept Plan

River Connection Project (Design phase)- Georges River Pedestrian Bridge – to be constructed over the old railway pylons.

4.8 Demand management strategies

Demand management strategies provide alternatives to the creation of new assets in order to meet demand. Objective of demand management is to actively seek to modify customer demands for service in such a way that utilisation of existing assets is maximised and demand for new assets is



deferred or reduced. Non-asset solutions may range from controlling demand to reducing levels of service as shown below.

Asset class	Non asset solution	Description
Buildings	Rationalise and optimise usage of existing facilities	Investigate ways to maximise use of existing buildings to improve its utilisation e.g. review occupancy and layout of existing buildings
	Leasing properties to meet needs	
	Planning controls	Review planning regulations to allow Service Providers commercial opportunities for the delivery of services, insuring against risks and managing failures.
	Joint venture partnerships	
Drainage & Floodplains	Development controls	Discourage or restrict development in flood prone areas using risk-based approach in lieu of providing costly flood mitigation structures.
	Managing stormwater	Where possible, investigate ways to direct runoff from hardstand areas through existing landscape and grassed areas to eliminate use of pollutant capture systems.
Parks & Open Space	Rationalise and optimise usage of existing facilities	Investigate ways to maximise use of existing sporting fields and buildings to improve its utilisation.
	Decommission & disposal	Progressively convert small sections of unused open space back to natural bushland
		Progressive closure and disposal of passive open space under 1000sm and/or where open space exceeds catchments needs
Roads & Transport	Transportation strategies	Promote alternative forms of transport and review the road hierarchy and linkages to allow the road network to develop in an efficient manner.
	Traffic controls	The increased development of urban areas may create the need to implement traffic control strategies, which includes installation of signals that help to control traffic flows within urban areas and the intersections.
	Traffic bylaws	Bylaws could be introduced to restrict use of existing roads during certain times to manage peak demand - e.g. introducing clearways to improve road capacity during peak hours.
	Community strategies & public education	Public education programmes could be implemented to encourage use of alternative transport methods.
	Reduced level of service	In the long term as the capacity of the road network fails to meet increased traffic demand, it may become appropriate to provide a reduced level of service e.g. failing roads in future release areas should only be maintained to ensure it is safe and trafficable until full reconstruction and resurfacing can be undertaken as part of any subdivision.

5 RISK MANAGEMENT

5.1 Introduction

This section discusses Council’s approach to the management of risks resulting from the management and operation of roads and transport assets. Council has developed its risk management framework based on the Australian and New Zealand Risk Management Standard AS/NZS ISO 31000:2009. It has adopted Enterprise Risk Management (ERM) policy and strategy. The risk management approach includes five key stages: i) communicate and consult, ii) establish context, iii) risk identification, analysis and evaluation, iv) risk treatments, and v) monitoring and review. Figure 5.1 has provided the Council’s risk management approach.

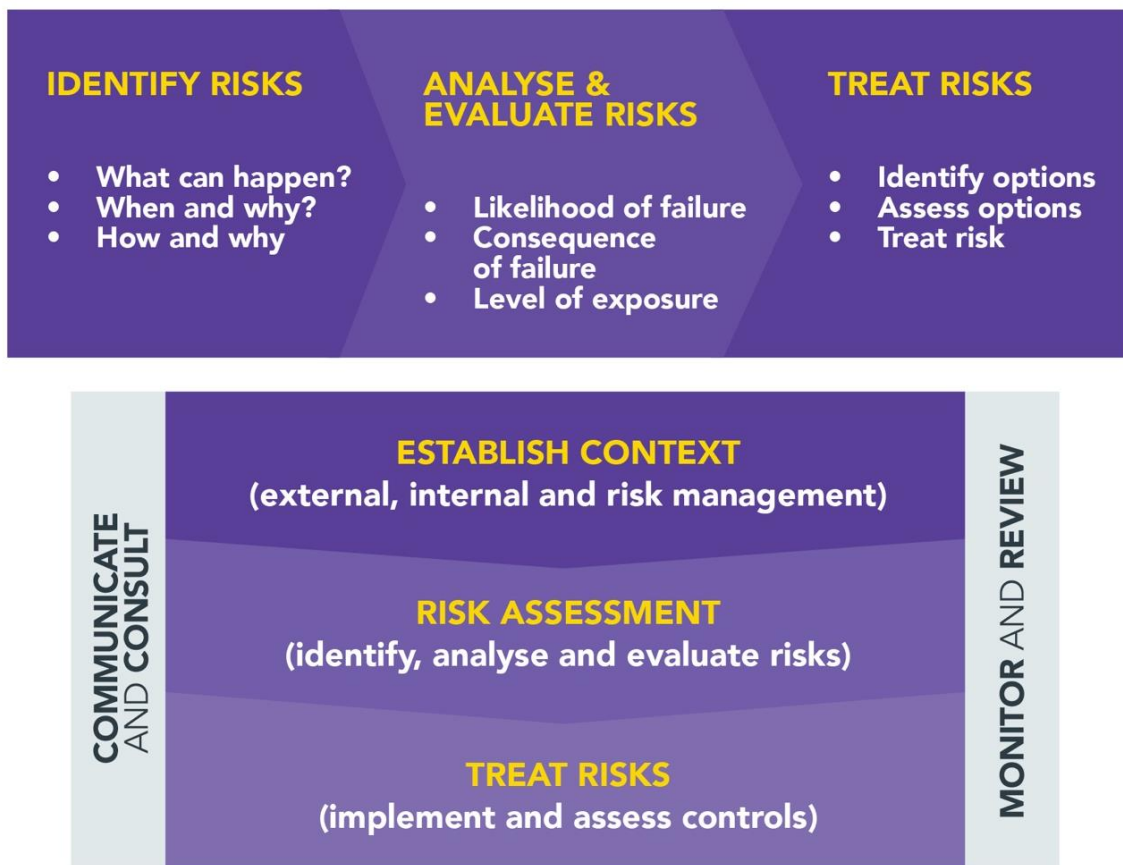


Figure 5.1: Risks assessment and mitigation measures (adopted by the Council)

The Risk Management Plan consists of a Risk Management Policy and Strategy supported by a risk register, which covers the followings:

- identify risks to Council that may impact on the delivery of services from infrastructure;
- select credible risks for detailed analysis;
- analyse and evaluate risks;
- prioritise risks requiring treatments by management action; and
- develop risk treatment plans identifying the tasks required to manage the risks, the person responsible for each task, the resources required and the due completion date.



5.2 Current risk management process

Council has implemented many management practices and procedures to identify and manage risks associated with providing services from infrastructure assets, which include:

- operating a reactive maintenance service for all assets and services;
- operating a planned maintenance program for all assets;
- monitoring condition and performances of assets to predict future performances and potential assets failure;
- renewing and upgrading assets to maintain service delivery;
- closing and disposing of assets not providing the required service level; and
- acquiring or constructing new assets to provide new and improved services.

The management of risks associated with assets and service delivery is currently the responsibility of various areas in Council that are involved in the management of assets and services provided by assets. It is intended that using the new risk management framework, the roles and responsibilities for risk management within the organisation will be better defined and risk treatments are better assigned.

5.3 Risk identification and works prioritisation

Since funding for the management of assets will always be limited, asset maintenance, rehabilitation and improvement works need to be prioritised. This requires some form of objective differentiation between projects to identify and target funding towards areas and projects of greatest need.

Council's works priority for infrastructure renewal and upgrade works is determined using economic justification as well as risk assessments. The risk-based approach adopted in the development of works programs identifies specific risks associated with the ownership and operation of infrastructure assets and develops strategies to mitigate the risks.

A recent review of the risk management guidelines suggested by the International Organisation for Standardisation (ISO), International Infrastructure Management Manual (IIMM) and Institute of Public Works Engineering Association (IPWEA) show that the Council's approach needs improvement. The risks identification should consider assets criticality assessment at first, which needs to be added. A risk analysis may include risk rating and impact of treatments on risks reduction. Moreover, 'risks reduction/cost' factor may be used for prioritisation while formulating a risks treatment plan. The ISO 31000 also suggests costifying risks in risk assessment using the following algorithm.

Risk (\$) = Business Risk Exposure = Probability of Failure x Cost of Consequences

This AMP has proposed for an updated risk assessment framework for Council as used by the ISO 31000 and IIMM (see Figure 5.2). This is valid for all the infrastructure assets and ensures more robust assessment outcomes. The framework recommends incorporating assets criticality assessment at first for updating the current assets risk register. Detailed quantification of risks, costifying risks and estimating residual risks after treatments could be added in the risk analysis. It is suggested to improve the risk treatment plan by introducing 'risks reduction/cost' factor for better treatments prioritisation.

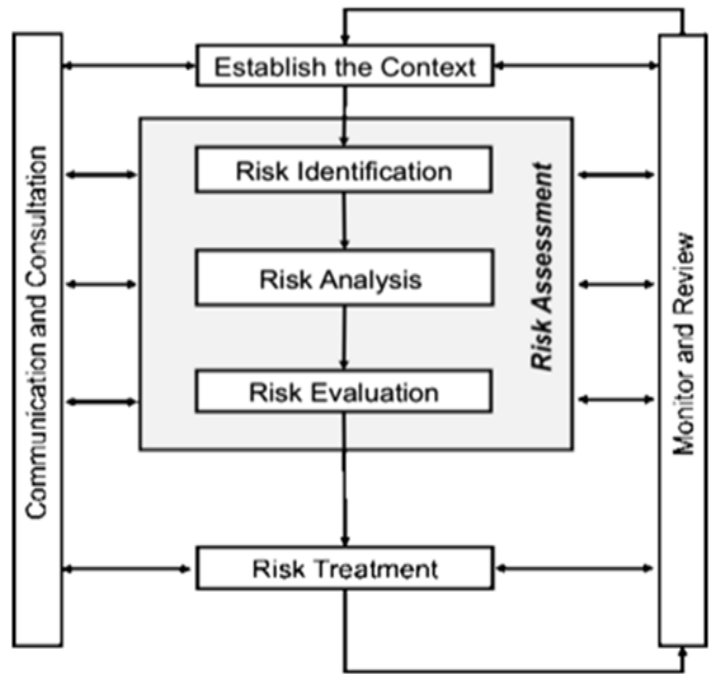


Figure 5.2: Updated risks assessment framework (extracted from ISO 31000)

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 the non-acceptable risks. Critical risks, being assessed as ‘Extreme’ in the ERM strategy, requires immediate corrective actions; while ‘High’ risks need prioritised corrective actions identified in the infrastructure risk management plan.

The key risks related to the Council’s roads and transport assets are summarised in the Enterprise Risk register, which are mainly related to safety, access, defects and sustainable management of the assets. These identified risks obtained from the risks register are assessed here using the likelihood of the events and respective consequences.

A risk score and rating were done using the Council’s ERM strategy. The suggested risk treatments assist managing likelihood and/or consequences. The current treatment plan could not manage to obtain information on budget and due date, and hence these are not included.

A detailed assets criticality assessment would be done while preparing the next AMP. The ‘risks reduction/cost’ factor could be added for each risk’s mitigation plan along with costifying risks if possible. The difference between the current and residual risk scores provides the risks reduction value.

The current LCA and NAMS expenditure tool has tentatively planned for lump sum amounts in each year for different assets to minimise risks.

In future, Council could consider risks due to climate change and assessing assets vulnerability and suggest for climate resilience assets.



6 LIFECYCLE MANAGEMENT PLANS

Life cycle management involves consideration of all management options over the life of an asset from creation to disposal and this section of the Plan will detail how Council plans to manage and operate its assets at the desired levels of service (defined in Section 3 & Appendix B) while optimising life cycle costs.

Life cycle management plans cover the following five key work activities, which are necessary to manage and operate these assets.

Asset management activity	Description
Operational activities	<p>Activities undertaken to ensure efficient operation and serviceability of assets to enable the assets to provide intended service over its useful life. Asset operation may not have effect on asset condition but is necessary to keep the asset appropriately utilised. Typical operational activities include:</p> <ul style="list-style-type: none"> ▪ cleaning of buildings ▪ park mowing ▪ electricity costs for streetlights ▪ street sweeping and cleaning ▪ litter control
Maintenance activities	<p>Are the ongoing repair and minor replacement works required to keep assets operating at required service levels over its useful life, and falls into two broad categories:</p> <ul style="list-style-type: none"> ▪ Planned (proactive) Maintenance - proactive inspection and maintenance works planned to prevent asset failure; and ▪ Unplanned (reactive) Maintenance - reactive action to correct asset malfunctions and failures on an as required basis (e.g. emergency repairs). <p>Operation and maintenance costs have been determined based on existing & adopted service level standards applied to existing and new assets over the term of the Plan.</p>



Asset management activity	Description
Restoration & renewal	<p>These are provided for the progressive replacement of individual assets or its components, which have reached the end of their service life. Deteriorating asset condition primarily drives renewal needs and will generally involve substantial replacement of the asset or a significant asset component to its original size and capacity to restore its service potential. Renewals expenditure includes:</p> <ul style="list-style-type: none"> ▪ replacing large sections of building roofs; ▪ replacing large sections of turf or playground equipment; ▪ resurfacing of roads - asphalt or sprayed seals; ▪ relining or replacing large sections of deteriorated drainage pipes; ▪ rehabilitation & reconstruction of roads - replacement of existing pavement and surfacing with an equivalent structure that is generally applicable for a long length of road. This could also include insitu stabilisation to restore structural integrity of road pavements; ▪ replacement of footpaths - replacement of large sections of paved footpaths and cycleways to restore serviceability; ▪ replacement of major structures such as bridges and retaining walls or their components; and ▪ replacement of street furniture such as bus shelters and litter bins. <p>Renewal expenditures have been determined from condition assessment, predictive modelling and rate of asset depreciation. Asset condition is the primary determinant in renewal intervention.</p>
Enhancement & development activities	<p>These are used for upgrades to address capacity constraints or to meet development needs and increased community expectation. These include:</p> <ul style="list-style-type: none"> ▪ works which create an asset that did not exist in any shape or form .e.g. new paved footpaths and shared ways or providing new playground equipment; ▪ works which improves an asset beyond its original size or capacity .e.g. widening of existing roads or extensions to existing buildings to provide additional capacity; ▪ upgrade works which increase the capacity of an asset; or ▪ works designed to produce an improvement in the standard and operation of the asset beyond its original capacity .e.g. new traffic control device such as roundabout. <p>Need for enhancement and development activities and associated costs have been determined from:</p> <ul style="list-style-type: none"> ▪ condition assessments (i.e. potential asset failures, capacity constraints); ▪ strategic and master plans (growth predictions & strategies); ▪ flood plain management plans; and ▪ community input.



Asset management activity	Description
Decommissioning & disposal activities	Any of the activities associated with disposal of a decommissioned asset including sale, demolition or relocation. The factors that influence decommissioning and disposal activities include asset age & condition, obsolescence and changing needs.

The following sections of the Plan outline life cycle management strategies and corresponding expenditure forecasts for the following group of infrastructure assets:

- roads and transport assets
- drainage and floodplain assets
- buildings
- parks and open space



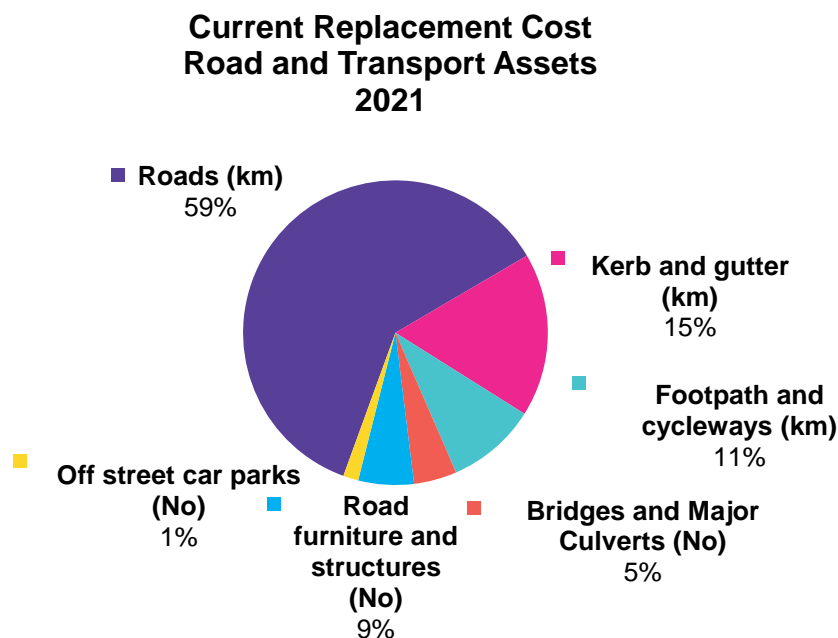
7 ROADS AND TRANSPORT ASSETS

7.1 Information and description of roads and transport assets

Council is responsible for the control and care of over 959km of sealed road network and 121 bridges of various compositions with a combined replacement cost over \$1.5 billion. The scope and value of Council’s road related infrastructure is shown below and as can be seen, it represents the highest value of assets owned by Council comprising over 55% of the entire asset portfolio.

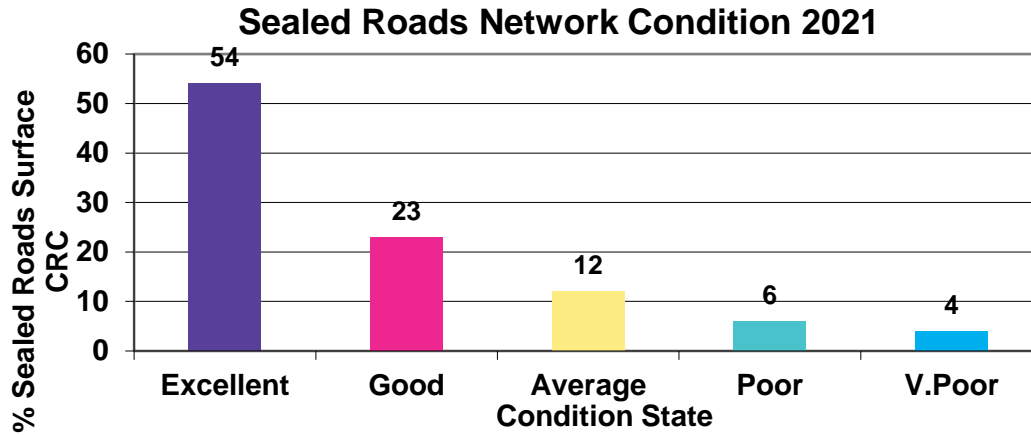
Road & Transport Asset	Quantity	Value ('000)
Roads	959 km	\$893,029
Kerb and gutter	1520 km	\$227,654
Footpath and cycleways	926 km	\$166,034
Bridges and culverts	121 no.	\$78,381
Road furniture and structures	20,624.	\$131,180
Off street car parks	123 no.	\$18,254
TOTAL		\$1,514,532

The following figure shows the makeup of all road and transport-related infrastructure assets under the care and control of Liverpool City Council.

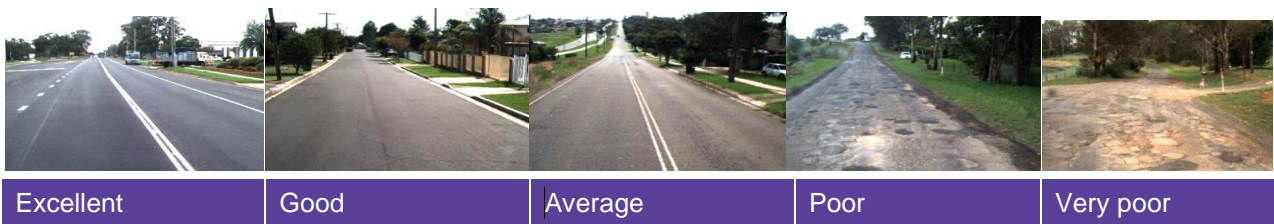


7.2 Condition and performance of roads & transport assets

Council has been progressively undertaking inspections and condition surveys of all its road-related assets. A comprehensive condition assessment of the entire network of road pavements was undertaken in 2013. This information has formed the basis for Council’s road pavement maintenance and renewal strategies and programmes. The following graph presents the average condition distribution of Council’s sealed road network.



Photos below show the various condition states of sealed roads.



The following provides a summary of condition and performance information for some of Council's key road assets.

Road & Transport Asset	Proportion of assets in each of the following condition state				
	Excellent	Good	Average	Poor	Very Poor
Sealed Roads Surface	52%	24%	13%	6%	5%
Sealed Roads Structure	52%	24%	13%	6%	5%
Bridges	38%	38%	17%	7%	0%
Footpaths & Cycleways	49%	25%	26%	0%	0%
Kerb and Gutter	26%	40%	33%	0%	0%
Road Structures & Furnitures	64%	28%	7%	1%	0%
Off Street Car parks	26%	37%	36%	1%	0%

The condition of road and transport assets has slightly deteriorated in general in comparison to the conditions observed in 2013. For example, condition of below average road assets has increased from 9% in 2013 to 11% in 2019. Approximately 11% of the road pavements are still at below average condition overall, mainly due to ageing and deterioration.

Detailed information on each of the above asset categories including asset condition, current and target performance, required maintenance and renewal activities, and corresponding funding requirements is contained in the Roads & Transport Asset Management Plan.

7.3 Level of service

As stated previously, level of service for roads is usually defined in terms of convenience of travel and safety performance. The following provides examples of levels of service characteristics for key



transport related assets that have been used to guide the development of maintenance and renewal targets and programs.

Road & Transport Asset	Levels of service characteristics
Roads	<ul style="list-style-type: none"> ride quality user requirements for width & accessibility safety - clear signage & line marking (at least not confusing) travel time
Bridges	<ul style="list-style-type: none"> load rating/capacity availability/flood immunity vertical & horizontal clearances
Footpaths & cycleways	<ul style="list-style-type: none"> ride quality user requirements for width & accessibility safety - absence of any trip hazard
Kerb and Gutter	<ul style="list-style-type: none"> Safe Performances – no blockage Visual appearance
Car Parks	<ul style="list-style-type: none"> User requirements for width and accessibility Safe Visual appearance

The existing levels of service provided by Council’s road assets have been determined predominantly through condition surveys as well through a rigorous in-house consultation process which involved examination of historical patterns of complaints, defects, responsiveness and quality of repairs.

Similar process was used to develop desired levels of service and performance measurement processes. The gap identified between existing and desired service levels guided the development of asset management strategies and programmes to deliver the required level of service over the term of this Plan e.g. the proposed road rehabilitation and reconstruction programmes aim to progressively improve road network pavement condition and surface roughness to achieve target levels.

7.4 Management of risks associated with roads & transport assets

Council has implemented many management practices and procedures to identify and manage risks associated with providing services from road and transport related assets. These include:

- monitoring condition and performance of road assets to predict future performance and potential asset failures through systematic periodic inspections and condition assessments;
- renewing and upgrading assets to maintain service delivery;
- constructing new pedestrian and traffic facilities to mitigate accident risks including accident black spots.

The priority programmes for infrastructure renewal and upgrade presented in this Plan have been determined using engineering and economic justification as well as risk assessments. The risk-based approach adopted in the development of works programs identifies specific risks associated with the ownership and operation of infrastructure assets and develops strategies to mitigate the risks.



7.5 Lifecycle management plan for roads & transport assets

The long-term priority program presented in this Plan reflects Council’s adopted strategy to manage its road assets at the desired levels of service while optimising life cycle costs. The life cycle management plan for roads involves consideration of all management options over the life of road assets including operational and maintenance activities, restoration and renewal activities, enhancement and development activities and finally decommissioning and disposal activities.

7.6 Operations and maintenance plan

The routine operating activities for roads such as inspections and patrols, condition surveys, quality audits and litter control are expected to continue into the future without any significant change. However, several components of Council’s roads operating costs are projected to rise significantly over the term of the plan due to increases to Council’s asset base. Over 180km of new roads and over 3,500 new street lighting is expected to be provided over the next 10 years in conjunction with new release areas, which will result in sizeable increases to street sweeping costs and electricity charges respectively. Council’s depreciation expense is also projected to increase over the next 10 years in line with increases to its asset base.

Council’s road maintenance strategies aim to progressively upgrade assets that are in poor condition while placing a significant focus on preventing assets that are in fair or good condition from falling into the poor category. This preventative approach aims to minimise the overall rate of decline in the condition and performance of the road network and preserve the existing roads in a serviceable condition over the long term.

Council achieves this by undertaking a range of necessary routine maintenance activities on a regular basis to protect the pavement and its surfacing and reduce any potential deterioration.

The Road Asset Management Plan also outlines a more cost-effective and enhanced maintenance strategy for roads within the future South West Priority Growth Area as an alternative to the more costly full reconstruction and resurfacing of deteriorating pavements.

7.7 Restoration and renewal plan

A large proportion of pavement failures originate at the road surface and timely intervention through appropriate renewal treatment can extend the pavement life at a minimal cost. However, investigations show that many roads have deteriorated beyond the optimum intervention point and increasing traffic volumes are accelerating the deterioration.

Following condition assessment of the road network, a comprehensive analysis has been carried out using Council’s pavement management system to analyse and produce long term maintenance and renewal programs for Council’s road assets. Council’s pavement renewal activities are grouped under the following restoration and renewal programs.

Renewal program	Scope and description
Resurfacing	The resurfacing program comprises all those activities that are undertaken to provide water proofing of road pavements as well as to provide a smooth and durable ride surface.
Rehabilitation	Road rehabilitation programs focus on replacement of existing pavement and surfacing with an equivalent structure that is generally applicable for a long length of road. Typical rehabilitation treatments include: <ul style="list-style-type: none"> ▪ patching failed areas of pavement and applying structural overlay;



Renewal program	Scope and description
	<ul style="list-style-type: none"> insitu stabilisation of subgrade and pavement materials to restore structural integrity of road pavements; <p>Projects on rehabilitation programs are ideally treated at the optimum intervention point so as to maximise return on investment.</p>
Reconstruction	<p>Road reconstruction program is primarily focused on the replacement of road pavements that have reached the end of their serviceable lives but the work may also include ancillary works such as kerb & gutter replacement, drainage works etc.</p>

The resurfacing and rehabilitation programs focus on the replacement of the pavement surface but also include repairs to the pavement. In keeping with Council's strategy for road maintenance, priority for road repair treatments such as rehabilitation and resurfacing is determined with the view to maximising return on Council's investment in the form of a reduction in Council's long term financial liabilities, reduction in vehicle operating or road user costs and extending pavement service lives.

In contrast, the priority selection system for road reconstruction works uses a risk minimisation framework to select and prioritise road pavements that have reached the end of their serviceable lives. The project ranking system gives weighted consideration to identified risk factors and all other things being equal, this method usually allocates highest priority to the more heavily trafficked roads as they represent greater risk and their repair yields greater savings in road user costs. This targeted approach that utilises condition of the asset in decision making helps Council to progressively reduce its infrastructure backlog.

The factors established to rank and prioritise road reconstruction projects are those that influence the probability of failure and those related to consequences of failure as shown below.

Asset category	Risk factors	
	Likelihood or probability factors	Severity or consequence factors
Roads	<ul style="list-style-type: none"> pavement condition - poor pavement condition increases likelihood of accidents/injuries proportion of heavy vehicles - high HV proportion increases likelihood of pavement damage & requires adequate road geometry accident history and potential - previous accidents indicate design or construction deficiency and potential for reoccurrence design deficiency - implies high likelihood of poor performance and compromised safety 	<ul style="list-style-type: none"> human & community imperatives - human consequence increases with increase in traffic volumes or pedestrian usage public transport route - as above economic benefits - higher benefit to cost ratio yields greater savings in road user costs and maintenance costs

7.8 Enhancement and expansion plan

Several road enhancement and development works have been identified to address capacity constraints or to meet development needs.

Growth related - subdivision developments

The need for major improvements to existing infrastructure has been identified by Council to support major residential and industrial release areas of Liverpool. While the provision of internal infrastructure will be developer responsibility, extensive improvements to existing road and transport



related infrastructure required to support these developments remains Council responsibility. Funding for such infrastructure are provided by Council from Section 7.11 contributions and other sources.

The Council have identified the need for major improvements to several existing roads to support the future residential and industrial release areas in Liverpool. The following outlines some of the major road related upgrades proposed:

- Fifteenth Avenue widening and strengthening as a corridor road;
- Eleven affected roads to be upgraded due to additional traffic loading arising from the Western Sydney airport project;
- Edmondson Avenue between Bringelly Road and Fifteenth Avenue; and
- Strengthening of Ash road, Jedda Road and Martin Road due to industrial development.

Provision of transport infrastructure to support new developments in Middleton Grange, Edmondson Park and Austral includes construction of collector roads and enhancement of existing transport facilities. Extension of Bernera Road from Camden Valley Way to Sounders Parade in Edmondson park is already completed to unlock more than 6000 lots of residential developments. Expenditure forecast considers the upgrade and widening of the road network to support the growth.

Capacity driven developments

Council has also identified the need to widen and upgrade several of its key strategic links that provide a regional road function. Further, intersection upgrades have also been identified to address existing capacity constraints or accident black spots. Few examples are provided below with details contained in the expenditure forecast tables.

- widening and upgrades to Governor Macquarie Drive, which is a key regional road linking two primary state arterials comprising Newbridge Road and Hume Highway;
- intersection Upgrade of Governor Macquarie Drive & Hume Highway;
- construction of Middleton Drive - M7 Underpass and widening and major upgrade of Edmondson Avenue;
- cycleway development at Hume Highway, Liverpool, Governor Macquarie Drive and Government Road at Hinchinbrook;
- carpark renewal at Stanwell Oval, Ashcroft.

Demand projections for new infrastructure as well the need for major improvements to existing infrastructure have been identified in this Plan. The provision of this infrastructure is considered necessary to support the major residential and industrial growth predicted for the Liverpool area, particularly the southwest growth centre and Western Sydney airport areas at Badgerys Creek. The new airport may have an effect on the higher population and economic growths, as a result, demand for infrastructure would increase in the CBD and these areas.

7.9 Decommissioning and disposal plan

Changing demand within the Liverpool LGA will be the primary cause of disposal of road assets and these will result from:

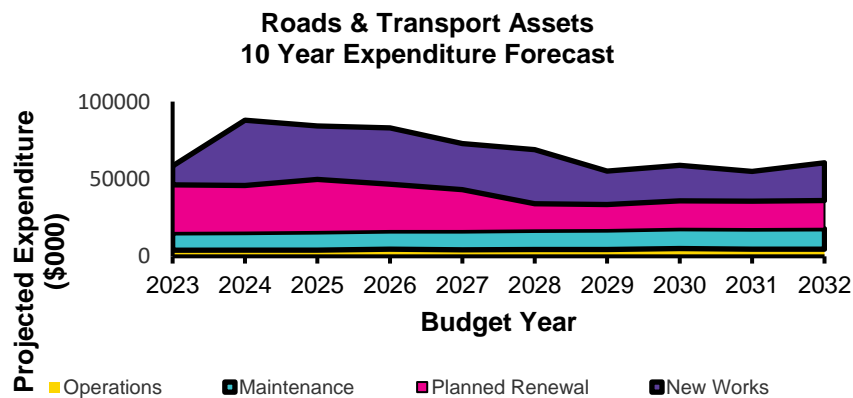
- new urban release that will alter the existing pattern of access and linkages;
- strategic programmes by the State or Federal Governments that will result in significant changes to land use patterns e.g. the Western Sydney Parklands is a major State Government initiative that aims to convert existing rural areas into parklands. Most roads within the subject area will become redundant; and

- strategic programmes of Council that will result in alterations to land use e.g. the Moorebank Voluntary Acquisition Scheme is Council’s response to the significant flooding experienced by properties along Rickard Road and Arthur Street in Moorebank. Upon acquisition of all properties, the area will be converted to parklands at which point the internal roads will become redundant.

7.10 Summary of projected financial expenditure

The following presents a summary of ten-year expenditure forecast for roads and transport assets. The ten year expenditure forecast is based on results from Predictive modelling, inspection works programs, sustainability and operational/maintenance analysis as well as ten-year Capital budget and Programs.

Budget Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	1	2	3	4	5	6	7	8	9	10
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
R&T Asset Activities	58,457	87,962	84,197	82,900	72,949	68,983	55,170	58,729	54,802	60,392
Operations	\$3,946	\$4,009	\$4,083	\$4,622	\$4,246	\$4,378	\$4,441	\$4,971	\$4,570	\$4,636
Maintenance	\$11,210	\$11,387	\$11,599	\$11,806	\$12,059	\$12,428	\$12,607	\$12,790	\$12,974	\$13,159
Planned Renewal	\$30,999	\$30,350	\$34,041	\$30,186	\$26,874	\$17,126	\$16,417	\$18,107	\$18,174	\$18,174
New Works	\$12,302	\$42,216	\$34,474	\$36,286	\$29,770	\$35,051	\$21,705	\$22,861	\$19,084	\$24,423



Predictive modelling undertaken during development of the Roads & Transport AMP showed that an average of \$24.0 million per year expenditure for road renewal works would need to be maintained for the foreseeable future to maintain the road network in its current condition and to arrest the decline in the condition of the overall road network across the LGA.

The rural road network, due to its advanced state of deterioration, will continue to decline unless a substantial boost in funding is provided to arrest this decline. However, these rural roads lie predominantly within the South West Priority Growth Area and the ensuing residential and commercial developments will ultimately see the full reconstruction, widening and upgrades to majority of the roads within this area. Alternative low cost strategies, to hold these rural roads in a reasonable condition until such time as full reconstruction can occur, are provided in the Roads & Transport Asset Management Plan.

Some of the key issues facing Council’s road assets are:

- one of the major problems facing this Council is the ageing of its public infrastructure assets. Many roads and associated infrastructure built in the 1970s and 1980s, while delivered according to the standards of the time, are now approaching the end of their serviceable lives and require



significant improvements and renewal to bring them up to current acceptable standards for the community;

- The average road network condition was deteriorated between 2000 and 2012. The increase in investment in the early phase of the current decade has tackled the deterioration and managed to improve network condition. Although the average PCI increased to 7.85 in 2014 because of high investment, not maintaining the budget have affected on the pavements performances in the last few years. The current PCI in 2021 is 6.8.
- Council's local road network has been developed since 1995. The road network is expected to grow by another 20% over the next 10 years and with this growth comes the need for increased maintenance activities; and
- development in the rural areas is leading to increased traffic loadings unsuitable for the existing rural road pavements, which places additional pressure on already constrained maintenance budgets.

8 DRAINAGE AND FLOODPLAIN ASSETS

8.1 Drainage asset information and description

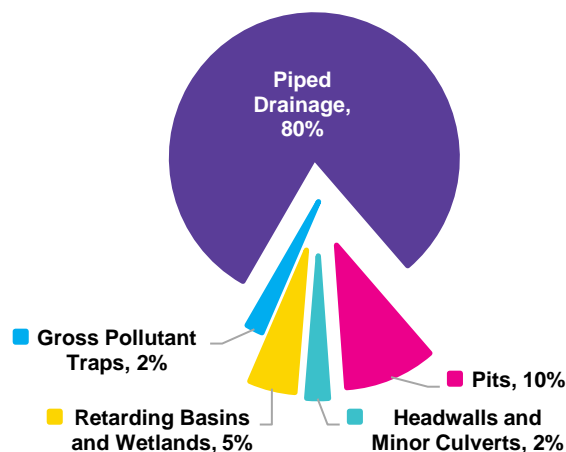
Council is responsible for the control and care of over 762km of piped drainage network and a range of associated drainage and flood management infrastructure, with a combined replacement cost of over \$672 million.

The quantity and value of Council’s drainage and flood related infrastructure is shown below.

Drainage & Floodplain Assets	Quantity	Value ('000)
Piped Drainage	762 km	\$540,118
Pits	28,325 No	\$68,548
Headwalls and Minor Culverts	2,100 No	\$16,343
Retarding Basins and Wetlands	93 No	\$34,956
Gross Pollutant Traps	218 No	\$12,414
TOTAL		\$672,379

The following figure shows the makeup of all drainage and floodplain related infrastructure assets under the care and control of Liverpool City Council.

Drainage & Floodplain Assets



8.2 Condition and performance of drainage assets

As with any other asset, performance of the drainage network over time is a function of its condition. Detailed knowledge of its existing condition is therefore necessary to establish realistic levels of service, treatment intervention levels and to develop responsive works programs within funding constraints.

Council in 2009 commenced a comprehensive inspection of its piped drainage network to assess its structural condition and hydraulic performance. The inspection, which uses a close circuit television camera (CCTV), is ongoing and its purpose is to provide Council with accurate condition data and digital imagery of its pipe network to enable:

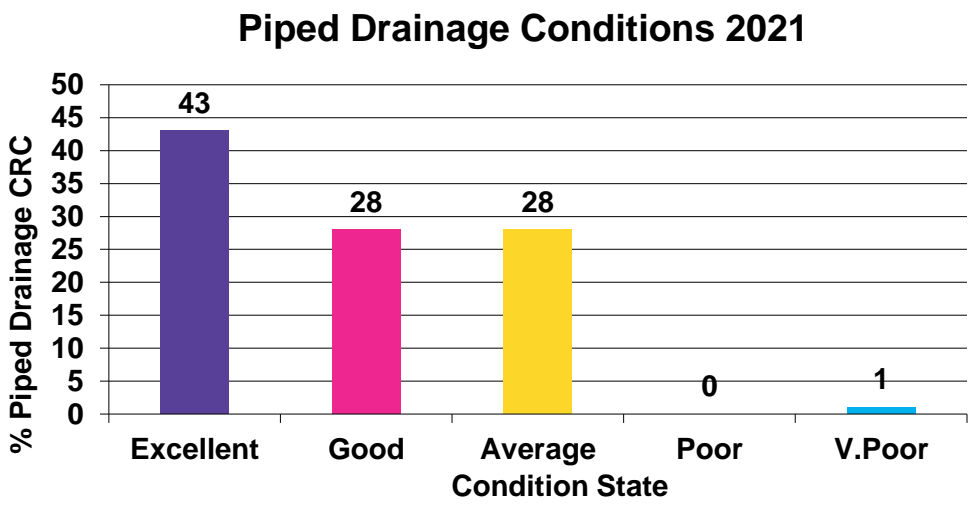
- development of optimised maintenance and renewal programs;



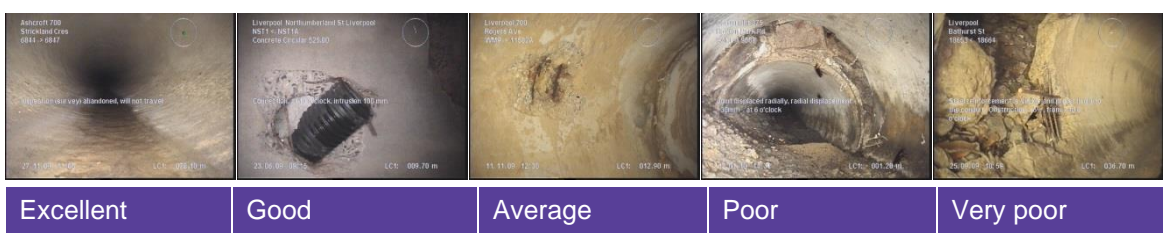
- development of asset management plans; and
- valuation of stormwater drainage structures to meet OLG requirements.

While this method of collecting data is costly and time consuming, it is the only reliable means of collecting valuable information on assets that are predominantly located underground. It is expected that the entire drainage network will be completely surveyed and assessed over the next ten years.

The following graph presents average condition distribution of Council's piped drainage network based on inspection and assessment of 200km of the piped network.



Photos below show the various condition states of stormwater drainage pipes.



The following table provides a summary of condition and performance information for the entire drainage and floodplain assets. Detailed information on each of these assets including asset condition, current and target performance, required maintenance and renewal activities, and corresponding funding requirements is contained in the Drainage & Floodplain Assets Management Plan.

Drainage & Floodplain Assets	Proportion of assets in each of the following condition state				
	Excellent	Good	Average	Poor	Very Poor
Piped Drainage	43%	28%	28%	0.5%	0.5%
Pits	49%	44%	6%	0.2%	0.2%
Headwalls and minor culverts	34%	14%	45%	5%	3%
Retarding Basins and Wetlands	12%	56%	31%	0%	0%



Gross Pollutant Traps	58%	41%	1%	0%	0%
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The condition of drainage assets has improved in general in comparison to the conditions observed in 2009. For example, condition of below average pipe drainage assets has reduced from 3% in 2016 to only 1% in 2021. This is due to the increased renewal expenditure over the last few years and effective implementation of Council’s asset management plan. Approximately 1% of the drainage pipes and 8% of headwalls are still at below average condition.

Asset inspections have identified a range of defects that, if unattended could affect long term performance of the piped drainage system. These defects include:

- pipe joint displacement - resulting from movements in surrounding soil or from poor compaction;
- multiple cracking & broken pipes - due to excessive loading or pipes of poor strength or incorrect classification;
- severe spalling, cracking and crushed pipes - from severe corrosion of reinforcement or excessive loading;
- root intrusion, heavy siltation & dumped litter - severe root intrusion can trap litter, debris and sediment and can also cause extensive cracking.
- other intrusions - such as utilities or unauthorised service connections resulting in protrusions that compromise structural integrity and trap debris thereby affecting hydraulic performance of pipes.

8.3 Level of service

For drainage and floodplain assets, the level of service is usually defined in terms of the capacity of stormwater drainage systems, level of flood protection provided by flood management structures and quality of water reaching natural creeks and waterways. The following provides examples of levels of service characteristics for key drainage and floodplain related assets that have been used to guide the development of maintenance and renewal programs:

Drainage & Floodplain Asset	Levels of service characteristics
Stormwater drainage systems	<ul style="list-style-type: none"> ▪ drainage capacity and efficiency ▪ structural integrity of drainage structures ▪ level of flood protection provided to properties and roads ▪ safety - pedestrian and traffic
Gross pollutant traps	<ul style="list-style-type: none"> ▪ water quality ▪ accessibility - for maintenance & cleaning ▪ safety - for operation and maintenance
Detention basins and wetlands	<ul style="list-style-type: none"> ▪ structural integrity and adequacy ▪ flood retardation ▪ flood monitoring & warning ▪ quality of habitat and water body

The existing levels of service provided by Council’s assets have been determined predominantly through condition surveys as well through a rigorous in-house consultation process which involved examination of historical patterns of complaints, defects, responsiveness and quality of repairs.

Similar process was used to develop desired levels of service and performance measurement processes. The gap identified between existing and desired service levels guided the development



of asset management strategies and programmes to deliver the required level of service over the term of this Plan e.g. the proposed piped drainage rehabilitation and restoration programmes aim to progressively restore deteriorated pipe condition to satisfactory levels.

8.4 Management of risks associated with drainage assets

Council has implemented many management practices and procedures to identify and manage risks associated with the management and operation of Council's drainage and flood plain assets. These include:

- monitoring condition and performance of drainage assets to predict future performance and potential asset failures through systematic periodic inspections and condition assessments;
- undertaking comprehensive flood studies including developing and implementing LGA wide floodplain risk management plans to mitigate potential risks from both, main-stream and overland flooding;
- renewing and upgrading assets to maintain service delivery;
- acquiring or constructing new assets to mitigate risks from flooding.

8.5 Lifecycle management plan for drainage assets

Unlike most other assets, because drainage assets are generally not subjected to frequent dynamic loading, these assets if built properly and under appropriate conditions can remain in a satisfactory condition for extended periods of time. The following outlines all management options over the life of drainage assets, from creation to disposal, that are considered necessary to manage and operate the drainage network at the desired levels of service while optimising life cycle costs.

8.5.1. Operations and maintenance plan

The following lists typical operational activities for drainage assets, which are undertaken to ensure efficient operation and serviceability of these assets:

- ongoing CCTV inspection and condition assessment of drainage systems;
- litter removal from GPTs and piped drainage network;
- mowing and upkeep of flood retarding basins;
- mowing, upkeeping and cleaning of water quality improvement devices;
- routine and reactive maintenance of specialised water quality improvement devices such as bio-filters;
- ongoing monitoring and reporting of dam water levels; and
- surveillance and assessment of declared detention basins.

Most of the above routine operating activities are expected to continue into the future without any significant change. However, the recent introduction of water quality improvement devices and specialist skills and techniques required for the operation and maintenance of these devices will significantly increase the future operation and maintenance cost. While nominal allowance has been made in the future expenditure forecast, Council will update the more realistic forecast once these costs are better understood.

Drainage maintenance activities, on the other hand, represent the day-to-day works carried out on the asset itself to prevent asset failure or works undertaken to correct asset malfunctions and



failures on an as required basis e.g. emergency pipe and pit repairs, removal of major root intrusion using robotic cutting tools, high-pressure pipe jetting and major cleaning activities to preserve the performance and serviceability of drainage systems and limit the need for expensive rehabilitation treatments.

The 10 year financial forecast is based on maintaining the current level of operating and routine maintenance expenditure over the term of this plan, which are based on existing and adopted service level standards applied to existing and new assets.

8.5.2. Restoration and renewal plan

As stated previously, systematic condition surveys of drainage and floodplain related assets have provided valuable data to objectively determine its current condition and performance. This has enabled Council to proactively develop maintenance and renewal strategies and programmes that are responsive and cost effective. The inspections have identified the need for the following broad categories of drainage renewal and replacement activities, which are expected to improve hydraulic performance and significantly extend service lives:

- restoration of piped drainage system through relining of long lengths of existing deteriorated pipes. This trenchless method of pipe restoration method uses robotic techniques to apply a PVC liner within existing pipes to restore structural integrity and flow efficiency;
- restoration of piped drainage system through the application of structural patches to isolated failures within pipes. Again, this trenchless method of pipe restoration method uses robotic techniques to apply polyurethane resin patches that provide long term structural enhancement and seals against root intrusion; and
- replacement of failed pipes that have deteriorated beyond economic repair.

To enable identified works to be delivered most efficiently, Council in February 2010 established long term contracts with a panel of contractors specialised in drainage rehabilitation works for ongoing maintenance and renewal of stormwater drainage pipes.

The priority selection system for restoration, renewal and replacement of drainage system is based on asset condition assessments and knowledge of other performance parameters including strategic location of pipes, flooding and safety.

8.5.3. Enhancement and expansion plan

Drainage enhancement and expansion works have been identified to address capacity constraints or to meet development needs.

Growth related - subdivision developments

The need for new drainage and flood management infrastructure as well as major improvements to several existing assets have been identified by Council to support the future residential and industrial release areas of Liverpool.

The need for new drainage and flood management infrastructure as well the need for major improvements to existing infrastructure have been identified in this Plan. The provision of this infrastructure is considered necessary to support the major residential and industrial growth predicted for the Liverpool LGA, particularly the South West Priority Growth Area (SWPGA) and Western Sydney airport areas at Badgerys Creek. The new airport would affect the higher



population and economic growths, as a result, demand for infrastructure would increase in the CBD and these areas.

According to the recent catchment studies carried out in Austral and North Leppington area, it has been identified that there are 19 detention basins and associated assets required over the next 10 years. In addition to these 19 basins, there are 2 basins and associated stormwater infrastructure including 7 raingardens and trunk drainage system will be constructed over this 10-year period.

Major flood detention basins will be delivered in Edmondson Park in 2022-23 period.

In addition to the above, Council will deliver 30 to 40 GPTs over the next 10 years.

Capacity driven developments

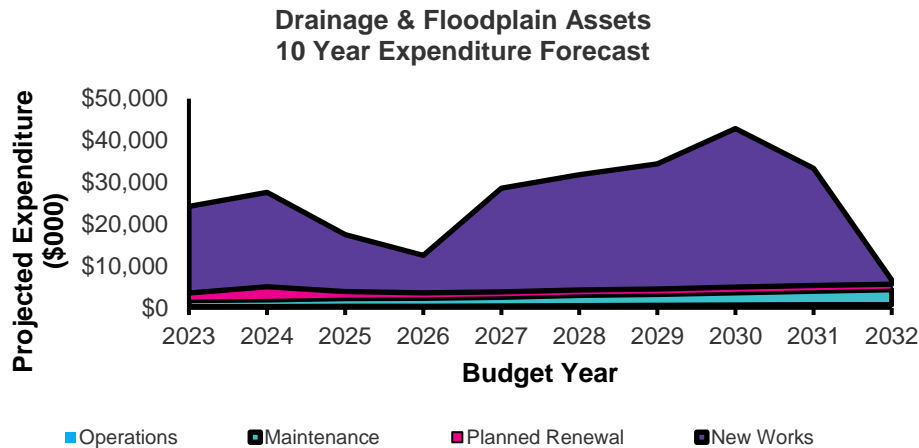
Council has also identified the need to upgrade of its drainage assets to improve current capacities and to alleviate flooding problems:

- widening and realigning of Brickmakers Creek to enhance flow capacity and alleviate flooding in the northern CBD including flooding of major state highways including Hume Highway, Cumberland Highway and Elizabeth Drive;
- creek Enhancement Works at Seventeenth Avenue, Austral;
- flood Mitigations - Overland Flows M7 Shared path.
- Casula Parkland, Casula Drainage Improvement works.

8.6 Summary of projected financial expenditure

The following presents a summary of ten-year expenditure forecast for drainage and floodplain assets based on program of works attached in Appendix A. The ten year expenditure forecast is based on results from Level of Service requirements, inspection works programs, sustainability and operational/maintenance analysis as well as ten-year Capital budget and Programs.

Budget Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	1	2	3	4	5	6	7	8	9	10
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Drainage Asset Activities	24,275	27,604	17,541	12,537	28,567	31,814	34,411	42,862	33,368	6,610
Operations	\$288	\$319	\$372	\$398	\$433	\$523	\$575	\$640	\$717	\$781
Maintenance	\$1,460	\$1,581	\$1,804	\$1,908	\$2,051	\$2,441	\$2,655	\$2,939	\$3,266	\$3,543
Planned Renewal	\$1,780	\$3,132	\$1,750	\$1,250	\$1,300	\$1,300	\$1,300	\$1,350	\$1,350	\$1,350
New Works	\$20,747	\$22,572	\$13,615	\$8,981	\$24,783	\$27,550	\$29,881	\$37,933	\$28,035	\$936



As with other asset classes, funding to be allocated towards the corresponding program of works will be determined each year when the annual budget is formulated and adopted by Council.

Council's Stormwater Management Service Charge, which generates approximately \$1.6 million each year, has provided Council a sustainable funding source for its stormwater management program and this funding has enabled more enhanced maintenance and renewal programmes to be undertaken;

The following lists some of the key issues facing the management of Council's drainage assets:

- existing drainage system comprises predominantly underground pipes and pits, which can only be properly assessed using CCTV. This method of collecting data is costly and time consuming and only 10-15km of the piped network is able to be assessed each year. Approx. 200km (26%) of the pipe network has been assessed so far. This means that condition of the entire drainage network will continue to be estimated from collected data for asset management and valuation purposes;
- inspections and assessments so far have shown a proportion of the drainage system is still at below average condition. Council's drainage renewal and rehabilitation program will continue to have challenges to arresting this decline;
- the drainage network and associated infrastructure is expected to grow by another 170 km or 24% over the period of this Plan and with this growth comes the need for increased operation and maintenance activities;
- The current initiatives towards water sensitive urban designs has introduced new types of assets and devices for stormwater quality improvement, which will require more structured and sometimes more intensive maintenance practices to be adopted;
- Council's voluntary property acquisition scheme, currently operating in Moorebank to mitigate adverse impacts of flooding from the Georges River, has not been progressing as anticipated, primarily due to a lack of interest from property owners to participate in the Scheme; and
- Four large flood detention basins have been built to facilitate development within the Cabramatta Creek catchment and these basins place additional burden on Council resources due to stringent monitoring and surveillance requirements placed by the NSW Dam Safety Committee.



9 BUILDING MANAGEMENT PLAN

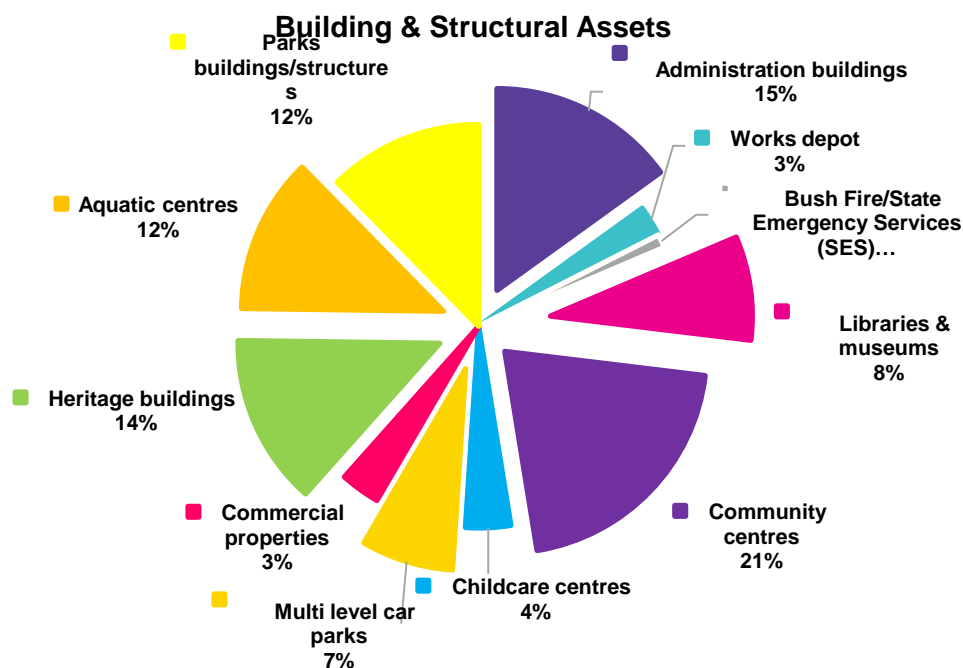
9.1 Building information and description

Council has in its ownership, care and control some 217 building assets covering its commercial, operational, community, recreational, cultural and heritage services, with a combined current replacement cost of over \$397 million. The mix of buildings is significant with many of the buildings built in the late 50's and 60's and several specialised structures such as parking stations, large aquatic centres and heritage buildings.

The scope and value of Council's building related infrastructure is shown below.

Building Asset	Quantity (number)	Value ('000)
Admin Building	2	\$59,770
Aquatic Centres	6	\$49,403
Bush Fire / SES	10	\$4,288
Childcare Centres	10	\$14,287
Commercial Properties	2	\$12,579
Community Centres	39	\$81,523
Heritage Buildings	13	\$54,157
Libraries, Museums	4	\$33,014
Multi Level Car Parks	2	\$29,276
Parks Buildings / Structures	116	\$49,033
Works Depot	13	\$9,821
TOTAL	217	\$397,150

The following figure shows the makeup of all building and structural assets under the care and control of Liverpool City Council.



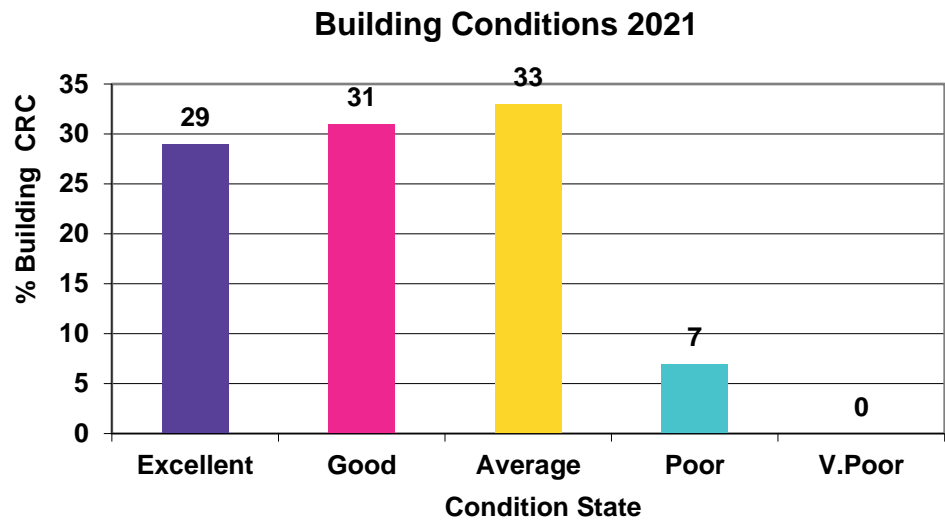


9.2 Condition and performance of building assets

A comprehensive inspection of building assets were undertaken in 2013 as part of ongoing inspections and condition surveys of Council assets. The surveys involved visual inspections and assessments to determine the general condition and suitability of all building facilities in view of its current usage. Further detail inspection of Council's entire Building portfolio has recently started with inspection of community facilities, childcare centres and sports amenity completed. A comprehensive capital works program and maintenance program is being developed based on this latest information. The information gathered has enable Council to:

- Update asset management plans;
- rationalisation of building asset portfolio based on the current and future utilisation; and
- undertake fair value assessment of buildings as per requirements of the Office of Local Government.

Council has developed its Aquatic and Leisure Centre asset management plans using component wise condition assessment data. The following graph presents average condition distribution of Council's building portfolio.



Photos below show the various condition states of building infrastructure.



The following table provides a summary of condition and performance information for the entire building assets. Detailed information on each of these assets including asset condition, current and target performance, required maintenance and renewal activities, and corresponding funding requirements is contained in the Building Assets Management Plan.



Building Assets	Proportion of assets in each of the following condition state				
	Excellent	Good	Average	Poor	Very Poor
Admin Building	2%	26%	71%	0%	0%
Aquatic Centres	0%	1%	98%	1%	0%
Bush Fire / SES	44%	30%	3%	23%	0%
Childcare Centres	0%	79%	20%	1%	0%
Commercial Properties	50%	0%	50%	0%	0%
Community Centres	8%	66%	16%	10%	0%
Heritage Buildings	59%	27%	14%	0%	0%
Libraries, Museums	33%	67%	0%	0%	0%
Multi-Level Car Parks	0%	65%	35%	0%	0%
Parks Buildings / Structures	15%	42%	40%	3%	0%
Works Depot	37%	0%	12%	51%	0%

As can be seen, a substantial proportion of the buildings are at Average or below Average condition overall and this has critical implications on the allocation of maintenance funding. The large proportion of the buildings in a Poor to Very Poor condition relate to secondary buildings or parts of buildings such as storage facilities and public toilets associated with sporting facilities, works depot and the fire services.

9.3 Level of service

The buildings asset management plan is based on providing acceptable, accessible and functional building assets to support the delivery of Council’s services to the community. As with other asset classes, the existing levels of service provided by Council’s building assets have been determined predominantly through condition surveys as well through a rigorous in-house consultation process which involved examination of historical patterns of complaints, defects, responsiveness and quality of repairs.

Similar process has been used to develop desired levels of service and performance measurement processes and has formed the basis for:

- prioritising future maintenance and renewal activities
- determining standard of new building assets and their functional features
- planning upgrade requirements for existing assets
- determining response times to requests for maintenance (e.g. leaky toilets)

Following analysis of service levels, this Plan documents:

- required financial resources over the short and the long-term to meet the target service levels
- required condition monitoring of building assets to manage the physical state and the service potential of the assets
- prioritisation mechanisms to enable Council to target funds more appropriately

9.4 Management of risks associated with building assets



An assessment of risks associated with service delivery from building assets has identified a range of potential risks to Council. The following management practices and procedures have been implemented to manage risks associated with the management and operation of Council's building assets:

- monitoring condition and performance of building assets to predict future performance and potential asset failures through systematic periodic inspections and condition assessments;
- undertaking regulatory inspections of essential services and utilities to ensure satisfactory performance of safety monitoring systems; and
- renewing and upgrading assets to maintain service delivery.

Council has also initiated to develop asset specific asset management plan of its critical building facilities such as leisure centres, community centres and childcare facilities. This will help Council to proactively manage these facilities and eliminate or reduce service interruptions.

9.5 Lifecycle management plan for building assets

The lifecycle management plan for buildings details how Council plans to manage and operate these assets at an acceptable level of service while optimising life cycle costs. Assets are created and acquired to deliver required Council services. These assets are operated and maintained throughout their useful life, and their performance and condition are monitored to ensure they deliver the necessary service. Over the life of the assets, there will come a point where the asset is no longer performing at a satisfactory level and may require rehabilitation to restore service life.

This Plan outlines a range of management activities that will be required over the long term to ensure the building assets continue to deliver the required services to acceptable levels.

9.5.1. Operations and maintenance plan

Maintenance of council buildings has traditionally been undertaken by various areas of Council which has resulted in an ad hoc approach to building and facilities maintenance. This approach has also resulted in certain buildings not receiving adequate levels of maintenance at all and this is reflected in the overall condition of council's buildings.

Further, and in light of the overall average to poor condition of buildings, Council's maintenance approach has become more reactive responses rather than proactive programmed and preventative maintenance. This reactive approach to maintenance has meant that some buildings are left for lengthy periods without maintenance and in some cases left to gradually deteriorate to levels that are beyond rehabilitation.

In developing this asset management plan, Council has commenced a process to rationally allocate maintenance effort to individual buildings based on condition, functionality, usage and desired service levels. Council has also developed a range of intervention criteria for reactive responses as well as preventative actions.

The asset management plan for Council buildings also documents regular monitoring and inspection activities to enable:

- condition assessments for renewal planning
- updating of risk management plans
- updating of insurance for the entire building portfolio
- better understanding of standard of presentation and level of usage
- necessary modifications to programmed maintenance



The long-term forecasts for operational activities and expenditures have been developed based on projecting the current activities and cost over the next ten years. The maintenance forecasts at this stage, are based on written down value of the building portfolio. These forecasts will be improved as maintenance practices are improved and better information on required maintenance activities become available.

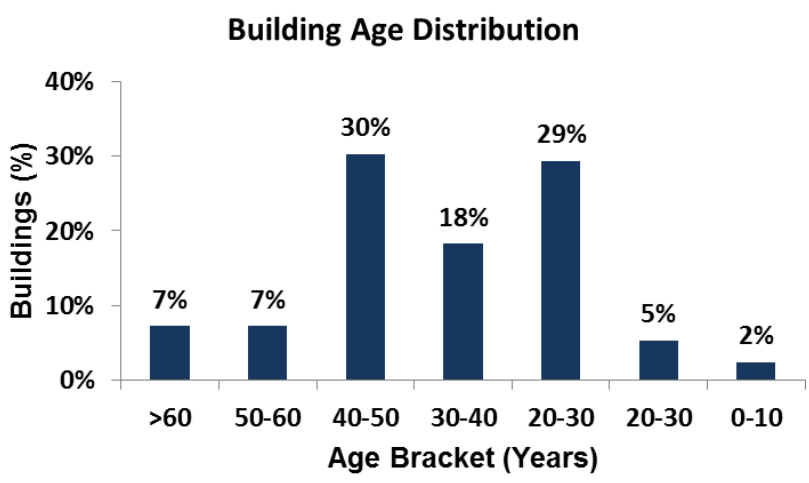
Council has recently created a Facilities Management (FM) team to achieve best practice management and operation of all Council’s facilities including properties, buildings and associated infrastructure assets to ensure ongoing provision of satisfactory levels of service to all occupiers and end users. The FM team is responsible for planning and implementation of costeffective and quality facility services across the entire portfolio of Council buildings including maintenance, operational management, cleaning, security, fire safety, environmental performance, waste removal, car parking, utilities management and signage.

9.5.2. Restoration and renewal plan

As defined earlier, renewal activities and costs include major works that do not increase the asset’s design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential.

Buildings renewals are initially identified based on remaining useful life of the asset. Assets identified for renewal are inspected to verify the accuracy of its remaining life and to enable development of renewal strategy and estimates. Identified buildings are assessed against established service delivery priorities and ranked accordingly in Council’s works program.

Asset renewals aim to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than replacement cost. Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The age profile of Council’s building assets is shown below.



Over 44% of Council’s current building stock is 40 years or older. Council will continue to undertake further assessment of these buildings to determine appropriate response.

It should be noted that the age of the building is not the only factor that determines its functionality and performance. Timely intervention through a proactive maintenance program will, in most cases, extend the serviceable life of the building allowing it to continue to provide the desired level of service.

9.5.3. Enhancement and expansion plan

Several building enhancement programs have been identified to address the functionality and capacity of a number of existing buildings. The proposed enhancements will enable improved utilisation and better access to buildings.

Council has also identified and constructed additional community facilities and a library in Carnes Hill and additional community facilities in Prestons to support growth projected within the western areas of Liverpool.

Construction of the Lurnea Community Hub project at Phillips Park, Lurnea - the project is in an established suburb, characterised by low socio-economic status and high levels of ethnic diversity. Through the development of community and recreational infrastructure, coupled to the adaptation of under-utilised land, the project will act as a catalyst for wider urban renewal and economic regeneration.

Completed construction of a new amenities building near the water play area and a new storage building adjacent to the cafe area in Bigge Park.



Bigge Park amenity



Phillips Park Community Hub – works underway

9.5.4. Decommissioning and disposal plan

Council presently does not have a strategy for the planned decommissioning and disposal of council buildings. However, changing demand for services resulting from the following will create a need for an asset disposal plan;

- introduction of new community facilities due to changes to usage patterns
- development of community hubs
- need to relocate community buildings closer to strong transport links or commercial centres to make facilities more accessible to the wider community
- merging community and sporting groups to maximise utilisation

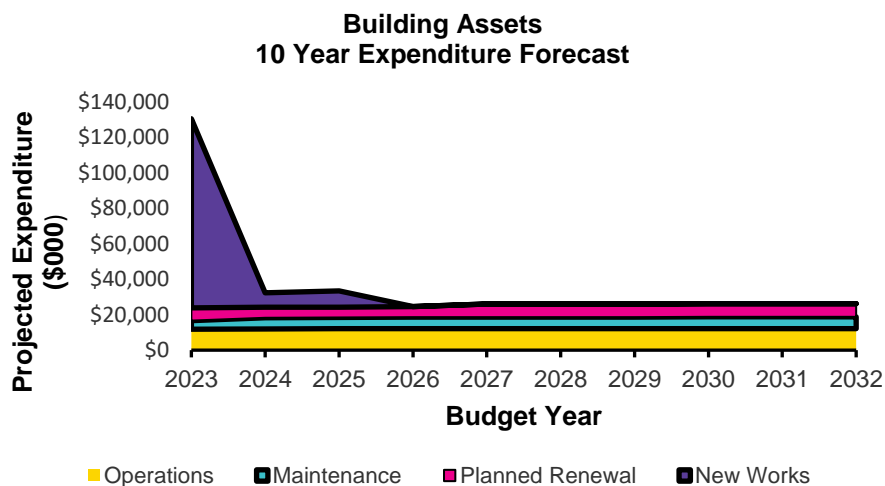
Council has begun to review the utilisation and service potential of its entire building portfolio. As a result, Council is currently finalising Community Facility Strategy and Recreational Strategy. The comprehensive Building Asset Management Plan will be updated in 2017/18 with the latest building condition, building asset revaluation and most up to date community facility and recreational strategy. Council may consider disposal and decommissioning of some of its building assets that are currently underutilised.

Asset disposal costs will only be recognised in the 10-year plan once a management strategy is in place for disposing and decommissioning of buildings.

9.6 Summary of projected financial expenditure

The following presents a summary of the ten-year expenditure forecast for building assets. The ten year expenditure forecast is based on results from Level of Service requirements, inspection works programs, sustainability and operational/maintenance analysis as well as ten-year Capital budget and Programs.

Budget Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	1	2	3	4	5	6	7	8	9	10
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Buildings	130,562	32,384	33,438	24,642	26,058	26,083	26,109	26,234	26,259	26,286
Operations	\$11,815	\$12,032	\$12,051	\$12,073	\$12,077	\$12,080	\$12,084	\$12,087	\$12,090	\$12,094
Maintenance	\$4,866	\$6,275	\$6,403	\$6,545	\$6,567	\$6,589	\$6,611	\$6,633	\$6,655	\$6,678
Planned Renewal	\$7,170	\$5,984	\$5,744	\$6,024	\$7,414	\$7,414	\$7,414	\$7,514	\$7,514	\$7,514
New Works	\$106,711	\$8,093	\$9,240	\$0	\$0	\$0	\$0	\$0	\$0	\$0



As can be seen, both operational and maintenance costs will stay relatively stable growing at approximately 3 to 4% annually over the next 10 years. The above average new works from 2021/22 to 2024/25 is mainly due to the construction of new Civic Place.

As with other asset classes, funding allocated for corresponding program of works, will be determined each year when the annual budget is formulated and adopted by Council. The following lists some of the key issues facing the management of Council's building assets:

- up to 7% of the building portfolio requires significant maintenance or renewal to restore serviceability;
- malicious damage to sports amenity buildings due to its location within reserves and inadequate surveillance require higher than normal maintenance;
- majority of Council's buildings do not generate any income and are unable to offset the spiralling cost of maintenance and renewal; and
- addition of new community facilities to existing deteriorating asset stock will place a significant burden on Council's financial resources.



10 PARKS AND OPEN SPACE ASSETS

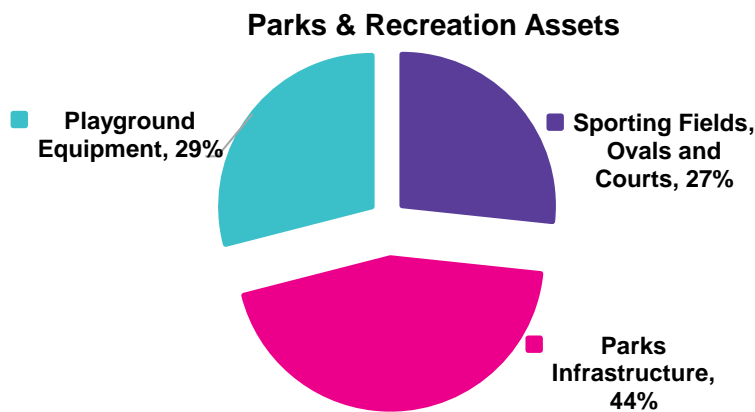
10.1 Information and description of parks & open space assets

Council manages a portfolio of 512 open space reserves, consisting of Regional, District or Local open space made up of active, passive and natural bush land. The portfolio includes 217 recreational and sporting facilities including netball courts, tennis courts, cricket nets, skate ramps and aquatic centres. These assets cover over 1400 hectares and have a combined replacement cost of over \$123 million.

The scope and value of Council's parks and open space related infrastructure is shown below.

Parks & Open Space Asset	Quantity	Value ('000)
Sporting Fields, Ovals and Courts (no.)	217	\$33,028
Parks Infrastructure (no. of Parks)	512	\$54,880
Playground Equipment (no.)	176	\$35,899
TOTAL		\$123,807

The following figure shows the makeup of all parks and open space related infrastructure assets under the care and control of Liverpool City Council.

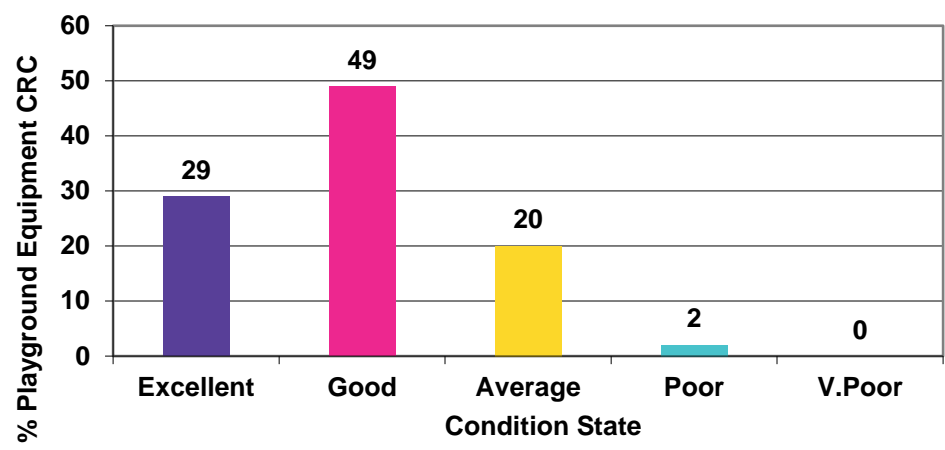


10.2 Condition and performance of Council's parks & open space

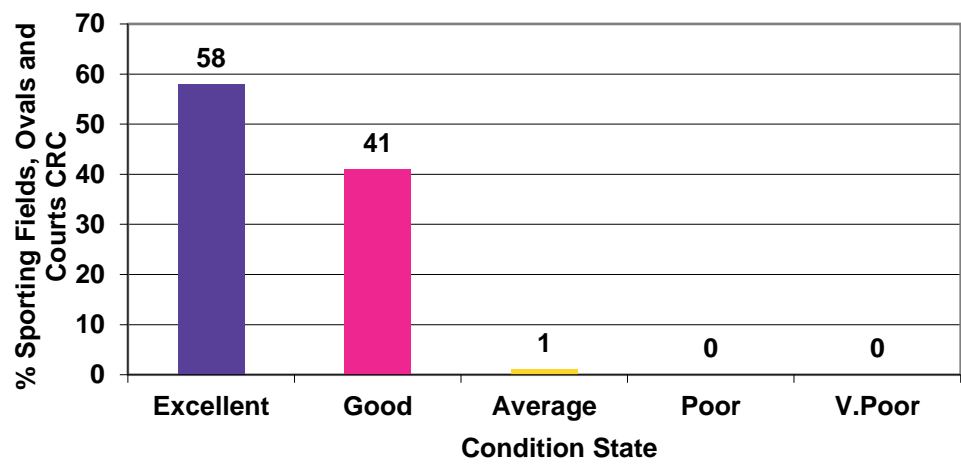
Council undertakes annual condition audits of its playground related assets in accordance with Australian Standards and the following graph presents average condition distribution of Council's playground facilities in 2021.



Playground Equipment Condition 2021



Sporting Fields, Ovals and Courts Conditions 2021



Photos below show the various condition states of playground assets.



The following provides a summary of condition and performance information for some of Council's key open space assets. Detailed information on each of these assets including asset condition, current and target performance, required maintenance and renewal activities, and corresponding funding requirements is contained in the Parks and Open Space Asset Management Plan.

Parks & Recreation Assets	Proportion of assets in each of the following condition state				
	Excellent	Good	Average	Poor	Very Poor
Sporting Fields/Ovals/Courts	24%	63%	11%	1%	1%



Parks Infrastructure	38%	47%	13%	1%	1%
Playground Equipment	29%	49%	20%	2%	0%

The above table shows that a substantial proportion of Council’s recreational assets are above average condition overall.

10.3 Level of service

The asset management plan for parks and open space assets is based on providing safe and functional assets to support the delivery of Council’s services to the community. As with other asset classes, the existing levels of service provided by Council’s parks and open space assets have been determined predominantly through condition surveys as well through a rigorous in-house consultation process which involved examination of historical patterns of complaints, defects, responsiveness and quality of repairs.

Similar process has been used to develop desired levels of service and performance measurement processes and has formed the basis for:

- prioritising future maintenance and renewal activities
- determining standard of new parks and open space assets and their functional features
- planning upgrade requirements for existing assets
- determining response times to requests for maintenance

Following analysis of service levels, this Plan documents:

- required financial resources over the short and the long-term to meet the target service levels
- required condition monitoring of parks and open space assets to manage the physical state and the service potential of the assets
- prioritisation mechanisms to enable Council to target funds more appropriately

10.4 Management of risks associated with parks & open space assets

An assessment of risks associated with service delivery from park assets has identified a range of potential risks to Council. The following management practices and procedures have been implemented to manage risks associated with the management and operation of Council’s parks and open space assets:

- monitoring condition and performance of parks and open space assets to predict future performance and potential asset failures through systematic periodic inspections and condition assessments;
- undertaking annual regulatory inspections of playgrounds and associated assets to ensure satisfactory performance; and
- renewing and upgrading assets to maintain service delivery.

10.5 Lifecycle management plan for parks & open space assets

The lifecycle management plan for parks and open space details how Council plans to manage and operate these assets at an acceptable level of service while optimising life cycle costs. Assets are created and acquired to deliver required Council services. These assets are operated and maintained throughout their useful life, and their performance and condition are monitored to



ensure they deliver the necessary service. Over the life of the assets, there will come a point where the asset is no longer performing at a satisfactory level and may require rehabilitation to restore service life.

This Plan outlines a range of management activities that will be required over the long term to ensure that parks and open space assets continue to deliver the required services to acceptable levels.

10.5.1. Operations and maintenance plan

Operational activities for open space assets include ongoing inspections and condition assessments. A major component of the operations expenditure comprises utility and lighting charges.

Routine maintenance activities comprise a mixture of planned and unplanned works, which include:

- mowing of Council's large number of parks and open space
- response to repairs resulting from vandalism
- intensive maintenance following high levels of seasonal use

These activities and costs are projected to grow in line with the growth of Council's asset base.

10.5.2. Restoration and renewal plan

Renewal of park assets is initially identified based on remaining useful life of the asset. Assets identified for renewal are inspected to verify the accuracy of its remaining life and to enable development of renewal scope and estimate. Identified Park assets are assessed against established service delivery priorities and other performance criteria and ranked accordingly in Council's works program. Typical renewal activities for park assets include:

- programmed replacement of playground equipment
- replacement of flood lighting to sporting field and facilities
- replacement and refurbishment of sports courts and sports grounds

Asset renewals aim to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than replacement cost. Projected future renewal expenditures are forecast to increase over time as the asset stock ages.

10.5.3. Enhancement and expansion plan

Several park and open space enhancements and upgrades have been identified to meet changing demand and to improve functionality and utilisation of a number of council's recreation facilities. Council is also planning to upgrade and enhance other major parks and open spaces as identified in draft recreational strategy.

The proposed enhancements will increase the aesthetic appeal as well as safety of the identified open space assets. The typical activities will include:

- provision and upgrading of irrigation systems to green areas
- provision of floodlighting to sports fields to reduce risk of injury
- playground upgrades to address safety issues



In addition to upgrades to existing facilities, Council has also identified the need for additional recreational services and community infrastructure to meet the increasing demand in the new release areas of Liverpool.

Council recently completed construction of Cirillo Reserve Sporting Complex at Middleton Grange at a cost of \$10.4m - located seven kilometres west of Liverpool CBD in the new residential suburb of Middleton Grange, the greenfield site was characterised by open space adjacent to low-rise residential development, Middleton Grange Public School and publicly accessible streets. The suburb of nearly 8,000 people had no community infrastructure.



The Recreation, Open Space and Sports Strategy 2018 - 2028 provides a number of key strategies and directions that will help shape the future recreational needs of Liverpool. Following are some of the key achievements between 2019 and 2021 as a part of delivering the strategy.

- Completion of detailed designs for Schoeffel Park pump track, car parking and park infrastructure in Horningsea Park, redevelopment of St Andrews Park, Casula and new park adjacent to Basin 14 in Edmondson Park;
- Works are ongoing to deliver new parks at Lillian Bratkovic Park, Edmondson Park and Stante Reserve waterplay facility in Middleton Grange at a total cost of over \$4 million;
- Council delivered a new 4 court tennis facility, including parking and landscaping at McGirr Park, Miller, developed stage 1 works at Schoeffel Park, Horningsea Park
- Construction of Livvi's Place Inclusive Playground at Lt Cantello Reserve, Hammondville.

10.5.4. Decommissioning and disposal plan

Council presently does not have a strategy for the planned decommissioning and disposal of council's parks and open space assets. However, asset condition and changing demand for services, particularly from the following, will create a need for an asset disposal plan;

- changing demographics resulting in altered usage patterns
- development of community hubs
- merging community and sporting groups to maximise utilisation

Asset disposal costs will be recognised in the 10 year plan once a management strategy is in place for disposing and decommissioning of parks and open space assets.

10.6 Summary of projected financial expenditure

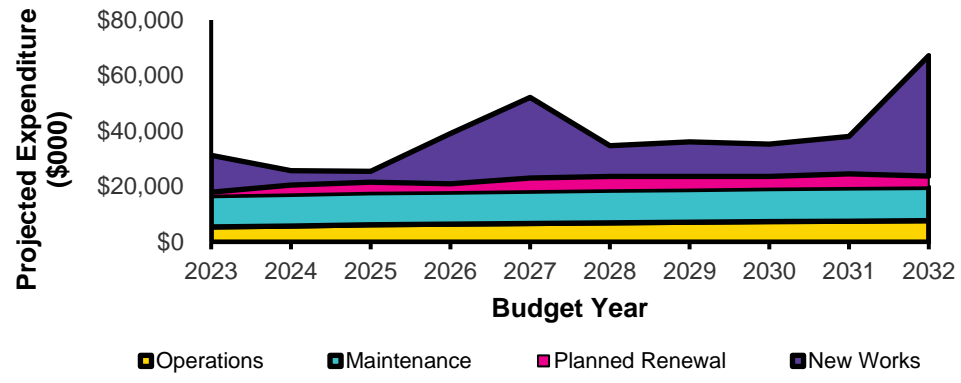
The following presents a summary of ten-year expenditure forecast for parks and open space assets. The ten year expenditure forecast is based on results from Level of Service requirements,



inspection works programs, sustainability and operational/maintenance analysis as well as ten-year Capital budget and Programs.

Budget Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	1	2	3	4	5	6	7	8	9	10
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
R&T Asset Activities										
Operations	\$5,480	\$5,841	\$6,252	\$6,442	\$6,703	\$6,920	\$7,160	\$7,406	\$7,531	\$7,703
Maintenance	\$11,250	\$11,368	\$11,512	\$11,572	\$11,661	\$11,734	\$11,814	\$11,899	\$11,938	\$11,999
Planned Renewal	\$1,247	\$3,374	\$3,811	\$2,973	\$4,675	\$4,977	\$4,629	\$4,351	\$5,073	\$4,113
New Works	\$13,285	\$5,170	\$3,980	\$18,080	\$29,076	\$11,130	\$12,560	\$11,655	\$13,530	\$43,344

Parks and Open Space Assets 10 Year Expenditure Forecast



As with other asset classes, funding allocated for corresponding program of works will be determined each year when the annual budget is formulated and adopted by Council. From the graph, it can be seen that:

- With the exception of sports fields, which charge a small lease fee, the majority of Council’s parks do not generate income and are unable to offset the long-term cost of maintenance and renewal; and
- The continual growth and development of new open space facilities when added to existing deteriorating recreation infrastructure will place a significant burden on Council’s future financial resources.



11. FINANCIAL FORECASTS

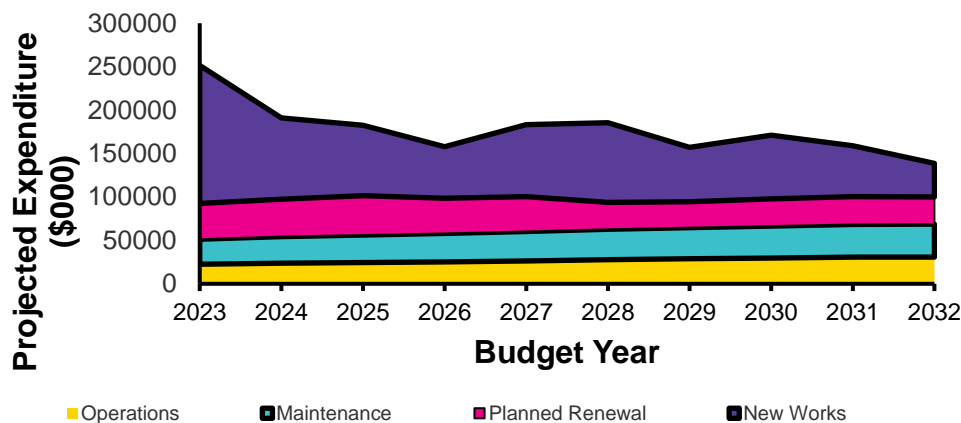
This section outlines the long term financial requirements resulting from all the information presented in the previous sections of this asset management plan and is based on expenditure forecast for each of the individual asset groups contained in Sections 6 to 10.

11.1 Ten-year financial forecast

The ten-year financial projections are shown below for planned operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). A detailed program of capital works for all assets is attached as Appendix A. The ten year expenditure forecast is based on Level of Service requirements, inspection works programs, sustainability and operational/maintenance analysis as well as ten-year Capital budget and Programs.

Budget Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	1	2	3	4	5	6	7	8	9	10
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
R&T Asset Activities	\$251,376	\$191,055	\$182,488	\$157,691	\$183,053	\$185,405	\$157,206	\$171,110	\$159,080	\$138,706
Operations	\$22,493	\$23,520	\$24,255	\$25,045	\$26,286	\$27,912	\$28,826	\$29,709	\$30,577	\$30,801
Maintenance	\$28,797	\$30,923	\$31,940	\$32,966	\$33,871	\$35,000	\$35,904	\$36,725	\$37,619	\$37,866
Planned Renewal	\$41,197	\$42,839	\$45,346	\$40,432	\$40,263	\$30,816	\$29,760	\$31,322	\$32,110	\$31,150
New Works	\$158,889	\$93,773	\$80,947	\$59,248	\$82,633	\$91,677	\$62,716	\$73,354	\$58,774	\$38,889

**All Assets
10 Year Expenditure Forecast**



Council has prioritised its required renewal programs based on asset condition, public safety and risk, community expectation and strategic importance. Funding strategy has been developed to minimise or eliminate funding gaps. This has enabled Council to achieve infrastructure sustainability and service management benchmark ratios being discussed in the next chapter.

Some of the key features of the above financial projections are:

- operations and maintenance expenditures will generally increase in line with increases to Council’s asset base to meet residential growth;



- road operation and maintenance expenditures are also projected to increase as a result of advanced state of pavement deterioration and the need to undertake more enhanced maintenance to maintain serviceability;
- building maintenance and renewal expenditures are projected to increase significantly as a result of an ageing portfolio and new structures;
- depreciation expenses, while expected to be significant, have not been included in this expenditure forecast. However, the relevant depreciation estimates will be included in the long term financial plan;
- renewal expenditures are based on maintaining adopted levels of service over the term of the Plan. Priority projects are selected each year to closely resemble the forecast depreciation expenses; and
- the expenditure forecasts for Section 7.11 funded New Works include only those works that have been identified and scoped for delivery in the early parts of the ten-year program. As the timing and scope of remaining new works under this program is currently not known only high level distribution of this expenditure have been included in this Plan.

In addition, more than \$35 million of new assets are expected to be vested per year with Council, a total of \$350 million over the next 10 years. As a consequence, the total asset replacement cost is expected to increase over the period of the Plan from \$2,708, million to over \$3959 million including over \$780 million of new Council assets and \$350 million of dedicated assets.

A commensurate increase in depreciation expense is projected as a result of increases to Council's asset base from donated assets.

11.2 Funding Strategy

Projected expenditures are to be funded from general funds, external grants, subsidies, Section 7.11 contributions and external borrowings in the years as may be required. The funding strategy is detailed in the Council's long term financial plan.

11.3 Asset valuation

Asset values are forecast to increase as additional assets are added to the asset stock from construction, acquisition and from assets constructed by land developers and others and donated to Council. Council's civil infrastructure assets has been revalued as at 30 June 2019 using "fair value" methodology in accordance with provisions with Australian Accounting Standards, AASB 116 Property Plant & Equipment, issued in July 2004. Council's building assets were revalued in 2018.

The detailed valuation and valuation methodology are contained in an internal document titled 'Infrastructure Asset Valuation - Guidelines & Methodology, January and is filed as Trim.

11.4 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:



- all expenditure is stated in dollar values as of June 2021 with no allowance made for inflation over the 10-year planning period;
- renewal and replacement costs have been established based on historical costs and current construction rates for prioritised projects;
- all capital costs are inclusive of internal charges but exclude other overheads and direct charges;
- continuation of the current rate and pattern of urban development; and
- continuation of the Stormwater Management Service Charge.

The most significant potential changes to the financial projections shown will result from the factors below:

- assumptions have been made regarding the useful lives and remaining lives of the assets based on current knowledge and experience and historical trends. These will be progressively reviewed and the accuracy improved based on real time assessments of asset deterioration;
- changes in the desired level of service and service standards from those identified in this Plan;
- changes to rate of growth used in forecasting demand for new assets;
- any increases to electricity and street light maintenance charges imposed by the electricity supply authorities will impact on roads operations cost; and
- changes to cost of construction materials.



12 INFRASTRUCTURE SUSTAINABILITY AND SERVICE MANAGEMENT

12.1 Background

The NSW Government has a vision to rebuild our State and deliver a strong future for the people of NSW. To have a strong future, NSW needs strong Councils providing the services and infrastructure that communities need. Liverpool Council plays an important role in this mission by identifying smarter and sustainable ways to meet the current and future infrastructure needs of the communities within LGA. This will ensure that Council is fit for the effective and efficient management of the future challenges and opportunities.

For Councils to meet the service and infrastructure needs of their communities they need to be financially sustainable. The NSW Treasury Corporation defined a financially sustainable Council as one that, over the long term, is able to generate sufficient funds to provide the level and scope of services and infrastructure, agreed with its community through the Integrated Planning & Reporting process.

Liverpool Council has developed its long-term financial plan based on the current and future infrastructure needs of the community as identified through community strategic planning process. Council's asset creation, maintenance and renewal program has been developed using the right mix of revenue, borrowings and Government grants.

12.2 Infrastructure Backlog Ratio

This ratio shows that asset renewal backlog as a proportion of the total value of Council's Infrastructure. The higher this ratio, the higher a council's relative backlog as a proportion of its total infrastructure portfolio. The benchmark for this ratio is for the backlog to be less than 2% of the value of council's infrastructure assets.

	Financial Year									
	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Infrastructure Backlog Ratio	2.4%	1.8%	1.4%	1.1%	0.9%	0.7%	0.7%	0.7%	0.7%	0.7%
Infrastructure Backlog (\$M)	\$53.8	\$41.8	\$35.3	\$28.0	\$22.8	\$19.2	\$20.2	\$20.2	\$20.2	\$20.2
Estimated WDV (\$M)	\$2,258	\$2,350	\$2,459	\$2,552	\$2,649	\$2,766	\$2,866	\$2,953	\$3,038	\$3,107

As of 30 June 2021, Council's costs to bring assets to satisfactory condition has been estimated to be \$53.8 million which is 2.4% of the value of Council's infrastructure assets. Although this is slightly above the benchmark value, with increased renewal funding, targeted renewal program based on modern asset management principles and effective asset maintenance strategy, Council aims to gradually reduce this backlog ratio to less than 2% of fair value over the next few years as shown in the above table.

12.3 Building and Asset Renewal Ratio

The purpose of this ratio is to assess the rate at which these assets are being renewed relative to the rate at which they are depreciating. The recommended benchmark for this ratio is 1.0.

	Financial Year									
	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Renewal Ratio	0.95	0.98	0.98	1.01	0.86	0.81	0.60	0.55	0.56	0.57
Annual Depreciation (\$M)	\$39.7	\$42.2	\$43.7	\$44.8	\$46.8	\$49.4	\$51.7	\$53.9	\$56.2	\$56.5
Renewal Budget (\$M)	\$37.6	\$41.2	\$42.8	\$45.3	\$40.4	\$40.3	\$30.8	\$29.8	\$31.3	\$32.1



The slight reduction in the renewals ratio compared to previous years is as a result of increasing depreciation arising from over \$90M increase in Council’s asset base from dedicated as well as capex programs. Further, the ratio below 100% is not considered to be an issue due to assets being maintained in accordance with established asset management plans. Moreover, LCC as a rapidly growing Council is receiving brand new infrastructure assets with quite long service life and does not require renewal in the medium term.

12.4 Asset Maintenance Ratio

The purpose of this ratio is to assess the rate at which these assets are being renewed relative to the rate at which they are depreciating. The recommended benchmark for this ratio is 1.0. The table below shows Council’s asset maintenance ratio performance projected for the next 10 years based on the required maintenance expenses and allocated maintenance budget.

	Financial Year									
	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Maintenance Ratio	0.96	0.94	0.91	0.90	0.88	0.87	0.85	0.84	0.83	0.82
Required Maintenance (AMP, \$M)	\$28.0	\$28.8	\$30.9	\$31.8	\$32.7	\$33.5	\$34.5	\$35.4	\$36.2	\$37.1
Maintenance Budget (\$M)	\$26.8	\$27.1	\$28.2	\$28.5	\$28.8	\$29.1	\$29.4	\$29.7	\$30.0	\$30.3

Council has a history of substantial investment in asset maintenance with overall maintenance expenses generally exceeding the required maintenance expenses across all class of assets. Council has estimated required maintenance cost based on required ongoing maintenance activities over the life of an asset to achieve minimum of its design useful life.

Appendix C provides further details on calculation of infrastructure sustainability and service management performance ratios. Detailed analysis of the ratios including forecast of annual operation and maintenance expenses required to provide agreed level of service is included in the calculation.



13 ASSET MANAGEMENT PRACTICES & IMPROVEMENTS

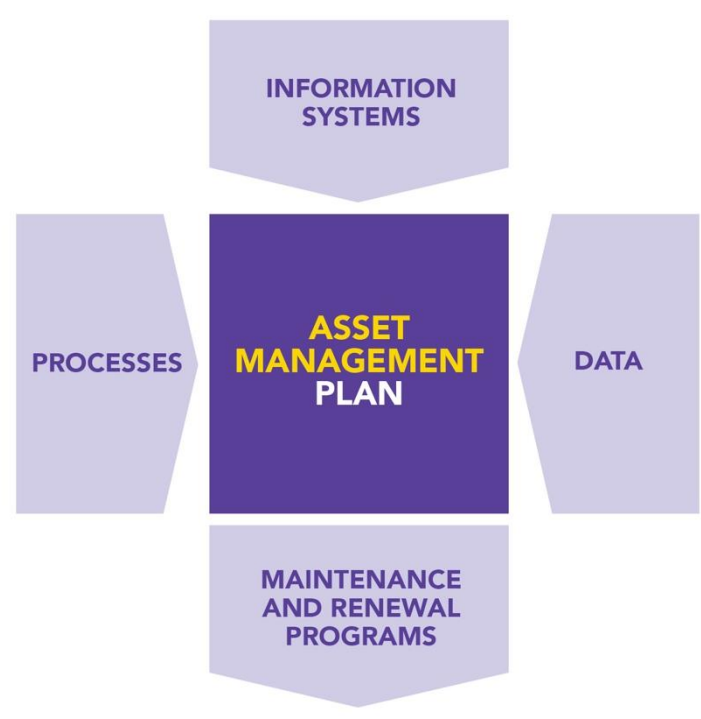
13.1 Overview

Council's Asset Management Strategy identifies improvements and makes recommendations in areas where opportunities exist to improve the systems and processes for greater effectiveness. It also outlines a monitoring and review process for the asset management plan. These improvements are discussed below and can be found in the Asset Improvement Plan part of the Asset Management Strategy.

13.2 Asset Management Practices

The key asset management practices needed to support good asset management in an organisation can be grouped into three broad areas and are illustrated below:

- processes - the necessary business processes, analysis and evaluation techniques needed for life cycle asset management;
- information systems - the information support systems that support the above processes and which store and manipulate asset data;
- data - up to date and accurate asset data which should be available for manipulation by information systems to support decision-making.





The following table shows the state of current business processes within Council and possible future improvements.

Process	Current business practice	Desired business practice
1. Asset handover	Capex assets handover process is fully implemented. Currently electronic submission of WAEs from the developers are in trial.	Electronic WAE submissions and digital extraction of asset information.
2. Asset knowledge	A process of comprehensive asset surveys initiated in 2007 has enabled existing asset registers and databases to be improved to refine the quality of condition data, assessments and valuations.	Continue asset surveys in accordance with adopted timetable.
3. Capital works planning & delivery	Council has structured processes for the planning and delivery of projects & programs.	Systems and processes to be reviewed periodically for currency and relevance. Council wide Project Management Framework (PMF) is fully implemented.
4. Demand management	Council has rationalised and optimised the usage of its facilities. Current and future demands of infrastructure and facilities assets are being determined from strategic planning, transportation strategies growth drivers.	Continue to review asset utilisation to inform future demand management.
5. Financial asset register	A Cloud based Corporate AMS was implemented in 2018 which include systems and processes for data collection, storage and analysis, and support decision-making about optimal use of resources.	Continue current practice with periodic review of improvement opportunities.
6. Levels of service planning	Service level planning is being undertaken to identify service level targets based on industry standards, legislation, codes, and high level community consultation.	Continue to increase community input in identifying service level targets.
7. Maintenance planning & delivery	Asset maintenance activities mostly reactive.	A Maintenance Planning module is currently in progress which will provide a more proactive approach to maintenance planning.
8. Risk management	Council has implemented many management practices and procedures to identify and manage risks associated with providing services from infrastructure assets.	Future revisions of this plan will continue to explore risk management opportunities in accordance with Australian Standard for Risk Management
9. Maintenance management system	Paper based systems exist for maintenance works, however, no structured system exists beyond basic record keeping for maintenance planning and delivery.	A Maintenance Planning module is currently in progress with the Maintenance Team which will provide a more proactive approach to maintenance planning.
10. Optimised decision making	PMS is used for optimising investment in pavement renewal and rehabilitation works. The Predictive Modelling part of	Continue current practice with periodic review of improvement opportunities.



Process	Current business practice	Desired business practice
	the Cloud AMS provides opportunities to optimise investment in other asset categories.	
11. Project management systems	Structured PM systems exist within the Project Delivery area only.	Systems and processes to be reviewed periodically for currency and relevance. Council wise Project Management Framework (PMF) is fully implemented.
12. Reporting systems	Integration of Assetic and Technology One provides more efficient corporate reporting system that consolidates and streamlines all reporting.	Continue current practice with periodic review of improvement opportunities.
13. Asset age and useful lives	Use of condition assessments to continually reassess remaining asset useful life for improved valuation and asset management.	Continue current practice with periodic review of improvement opportunities.

13.3 Asset Management Improvements

Improving the management of Council’s assets will be a continual and ongoing process. Following an assessment of current practices and processes with respect to the management of Council’s infrastructure assets, the following key improvements to existing systems and processes have been identified for greater asset management effectiveness. These improvements are documented

Asset management system

A Cloud based Corporate AMS was implemented in 2018 which include systems and processes for data collection, storage and analysis, and support decision-making about optimal use of resources. Council is continuing to progress its Asset Management (AM) planning to facilitate consistent application of current best AM practices across the Liverpool Local Government Area (LGA) and across all categories of infrastructure assets. Council’s adopted Strategic Asset Management (SAM) policy, strategy and plans continue to provide an effective asset management decision making framework. Application of such decision making framework has ensured that Council assets provide required levels of service over time and in a cost effective manner.

Council’s Asset Management System for all of its infrastructure assets also facilitates a systematic approach to the planning, programming and implementing the wide range of activities associated with the effective management of Council’s infrastructure assets. The system includes processes for data collection, storage and life-cycle analysis to support decision-making about optimal use of resources for the operation, maintenance, rehabilitation, upgrading and reconstruction of infrastructure assets.

Council’s Asset Management Systems and processes are developed in accordance with the set guidelines of the International Infrastructure Management Manual (IIMM) and ISO 55,000 for achieving sound Strategic Asset Management outcomes.

Council’s AM System, that now operates in the Cloud environment, continue to enhance the standard of AM practices in various aspects including the asset accounting, data accessibility, data security and integration with GIS and Customer Request Management System (CRMS).



Demand management

Demand management strategies provide alternatives to the creation of new assets in order to meet demand. Objective of demand management is to actively seek to modify customer demands for service in such a way that utilisation of existing assets is maximised and demand for new assets is deferred or reduced. This requires a comprehensive understanding of community need for services and assets. Future revisions of this plan will include complete strategies to manage demand for new assets.

Risk management

Council has adopted an Enterprise Risk Management Policy in December 2014 which provides the basis for Council's risk management approach and establishes the risk management responsibilities of Council in accordance with Australian Standard for Risk Management, AS/NZS ISO 31000:2009.

Levels of service

As stated in Section 3.3, numerous methodologies have been adopted to inform this asset management plan with respect to desired levels of service for Council's infrastructure assets. However, a more targeted community consultation is required to develop a more accurate understanding of both current and future needs and expectations of the community on desired infrastructure standards, costs and options.

The service levels and performance measures determined through this process will be incorporated in the future updates of this Plan.

Maintenance practices

Over the past few years there has been a shift in focus from reactive responses to a more proactive approach to the planning and implementation of infrastructure maintenance activities, however, with the availability of better asset data, there are prospects for further improvements to overall and coordinated maintenance planning and implementation.

Moreover, Council has recently created a Facilities Management (FM) team to achieve best practice management and operation of all Council's facilities including properties, buildings and associated infrastructure assets to ensure ongoing provision of satisfactory levels of service to all occupiers and end users. The FM team is responsible for planning and implementation of cost effective and quality facility services across the entire portfolio of Council buildings including maintenance, operational management, cleaning, security, fire safety, environmental performance, waste removal, car parking, utilities management and signage.



14 REFERENCES

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- iii). AUSTROADS 1997, *Strategy for Improving Asset Management Practice. No AP - 53/97*, AUSTROADS, Sydney
- iv). National Asset Management Strategy Committee, *NAMS.PLUS - An Online Guided Pathway to Implementation of Asset Management Planning*, <http://www.namsplus.org.au>
- v). Department of Local Government 2010, *Planning a Sustainable Future - Planning & Reporting Manual for Local Government in NSW*, DLG, Sydney



15 APPENDICES

Appendix A – Long term expenditure forecasts

Appendix B – Levels of service tables

Appendix C – Infrastructure Sustainability and Service Management Ratios



Long Term Expenditure Forecasts

Appendix A

Project Source / Asset Category	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	Grand Total
NEW	\$153,045,870	\$78,051,629	\$61,309,832	\$63,347,566	\$83,629,682	\$73,730,921	\$64,146,200	\$72,449,200	\$60,649,200	\$68,703,654	\$779,063,754
Buildings	\$106,711,467	\$8,093,144	\$9,240,000								\$124,044,611
Admin Building	\$103,111,467	\$5,213,144	\$0								\$108,324,611
Community Centres	\$3,600,000	\$2,880,000	\$9,240,000								\$15,720,000
Drainage and Floodplain	\$20,746,800	\$22,572,000	\$13,615,000	\$8,981,000	\$24,783,000	\$27,550,000	\$29,881,000	\$37,933,000	\$28,035,000	\$936,231	\$215,033,031
Basins and Wetlands	\$19,576,000	\$21,132,000	\$12,890,000	\$7,500,000	\$23,958,000	\$26,725,000	\$29,056,000	\$37,058,000	\$27,160,000	\$61,231	\$205,116,231
GPT	\$1,095,800	\$1,440,000	\$725,000	\$725,000	\$825,000	\$825,000	\$825,000	\$875,000	\$875,000	\$875,000	\$9,085,800
Piped Drainage	\$75,000			\$756,000							\$831,000
Parks and Recreation	\$13,285,000	\$5,170,000	\$3,980,000	\$18,080,000	\$29,076,338	\$11,130,000	\$12,560,000	\$11,655,000	\$13,530,000	\$43,344,223	\$161,810,561
Parks and Reserves	\$12,615,000	\$3,040,000	\$3,430,000	\$16,930,000	\$20,514,338	\$4,060,000	\$6,820,000	\$7,550,000	\$7,710,000	\$3,458,223	\$86,127,561
Parks Infrastructure	\$100,000	\$240,000	\$200,000	\$200,000	\$240,000	\$240,000	\$240,000	\$240,000	\$240,000	\$240,000	\$2,180,000
Playgrounds	\$370,000	\$190,000	\$350,000	\$350,000	\$360,000	\$380,000	\$350,000	\$380,000	\$380,000	\$190,000	\$3,300,000
Sports Field	\$200,000	\$1,700,000		\$600,000	\$7,962,000	\$6,450,000	\$5,150,000	\$3,485,000	\$5,200,000	\$39,456,000	\$70,203,000
Roads and Transport	\$12,302,603	\$42,216,485	\$34,474,832	\$36,286,566	\$29,770,344	\$35,050,921	\$21,705,200	\$22,861,200	\$19,084,200	\$24,423,200	\$278,175,551
Bridges	\$1,275,412	\$1,275,412	\$499,555	\$3,000,000	\$4,000,000	\$7,242,000	\$3,600,000	\$4,650,000	\$836,000	\$6,175,000	\$31,277,967
Footpaths and Cycleways	\$3,302,500	\$2,677,000	\$1,988,500	\$2,239,000	\$2,055,000	\$2,545,000	\$1,914,000	\$1,920,000	\$2,037,000	\$2,037,000	\$22,715,000
Off Street Carparks	\$200,000	\$250,000	\$250,000								\$700,000
Road Structure and Furniture	\$1,773,200	\$19,191,200	\$5,191,200	\$19,835,166	\$16,146,857	\$16,091,200	\$16,191,200	\$16,291,200	\$16,211,200	\$16,211,200	\$143,133,623
Roads	\$7,026,903	\$18,822,873	\$26,545,577	\$11,212,400	\$7,568,487	\$9,172,721					\$80,348,961
RENEW	\$41,196,770	\$42,839,445	\$45,345,748	\$40,432,375	\$40,262,875	\$30,816,375	\$29,760,275	\$31,321,575	\$32,110,375	\$31,150,375	\$365,236,188
Buildings	\$7,169,870	\$5,983,875	\$5,743,875	\$6,023,875	\$7,413,875	\$7,413,875	\$7,413,875	\$7,513,875	\$7,513,875	\$7,513,875	\$69,704,745
Aquatic Centres	\$1,300,000	\$1,590,675	\$1,590,675	\$1,590,675	\$1,590,675	\$1,590,675	\$1,590,675	\$1,590,675	\$1,590,675	\$1,590,675	\$15,616,075
Child Care Centres	\$300,000	\$2,727,200	\$300,000	\$2,667,200		\$3,117,200		\$3,217,200		\$3,217,200	\$15,546,000
Community Centres	\$2,963,744	\$770,000	\$2,957,200	\$870,000	\$4,027,200	\$910,000	\$4,027,200	\$910,000	\$4,127,200	\$910,000	\$22,472,544
Heritage Buildings	\$1,889,126	\$480,000	\$480,000	\$480,000	\$580,000	\$580,000	\$580,000	\$580,000	\$580,000	\$580,000	\$6,809,126
Library & Museum	\$150,000	\$120,000	\$120,000	\$120,000	\$420,000	\$420,000	\$420,000	\$420,000	\$420,000	\$420,000	\$3,030,000
Parks Buildings	\$567,000	\$296,000	\$296,000	\$296,000	\$796,000	\$796,000	\$796,000	\$796,000	\$796,000	\$796,000	\$6,231,000
Drainage and Floodplain	\$1,780,000	\$3,132,000	\$1,750,000	\$1,250,000	\$1,300,000	\$1,300,000	\$1,300,000	\$1,350,000	\$1,350,000	\$1,350,000	\$15,862,000
Basins and Wetlands	\$780,000	\$2,282,000	\$900,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$6,062,000
Piped Drainage	\$1,000,000	\$850,000	\$850,000	\$950,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,050,000	\$1,050,000	\$1,050,000	\$9,800,000
Parks and Recreation	\$1,247,000	\$3,374,000	\$3,811,000	\$2,973,000	\$4,675,000	\$4,977,000	\$4,629,000	\$4,351,000	\$5,073,000	\$4,113,000	\$39,223,000
Parks and Reserves	\$797,000	\$799,000	\$2,001,000	\$1,293,000	\$3,405,000	\$3,107,000	\$2,289,000	\$1,811,000	\$1,413,000	\$1,823,000	\$18,738,000
Parks Infrastructure		\$170,000	\$230,000		\$170,000	\$50,000	\$240,000	\$240,000	\$240,000	\$240,000	\$1,580,000
Playgrounds	\$290,000	\$1,080,000	\$1,050,000	\$800,000	\$1,100,000	\$1,500,000	\$1,300,000	\$1,300,000	\$1,300,000	\$1,050,000	\$10,770,000
Sports Field	\$160,000	\$1,325,000	\$530,000	\$880,000		\$320,000	\$800,000	\$1,000,000	\$2,120,000	\$1,000,000	\$8,135,000
Roads and Transport	\$30,999,900	\$30,349,570	\$34,040,873	\$30,185,500	\$26,874,000	\$17,125,500	\$16,417,400	\$18,106,700	\$18,173,500	\$18,173,500	\$240,446,443
Bridges	\$383,000	\$2,733,000	\$11,180,000	\$7,083,000	\$83,000	\$83,000	\$83,000	\$83,000	\$83,000	\$83,000	\$21,877,000
Footpaths and Cycleways	\$2,650,000										\$2,650,000
Off Street Carparks	\$49,500	\$300,000	\$100,500	\$350,000	\$299,500	\$299,500	\$399,500	\$449,500	\$449,500	\$449,500	\$3,147,000
Road Structure and Furniture	\$835,000	\$160,000	\$160,000	\$160,000	\$110,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$1,825,000
Roads	\$27,082,400	\$27,156,570	\$22,600,373	\$22,592,500	\$26,381,500	\$16,663,000	\$15,854,900	\$17,494,200	\$17,561,000	\$17,561,000	\$210,947,443
Grand Total	\$194,242,640	\$120,891,074	\$106,655,580	\$103,779,941	\$123,892,557	\$104,547,296	\$93,906,475	\$103,770,775	\$92,759,575	\$99,854,029	\$1,144,299,942



Service Level Table - Roads in Liverpool City Centre					Appendix B1
Key Performance Indicator	Service Level Characteristic	Performance Measurement Process	Target Performance	Current Performance	Required Actions
Condition	<ul style="list-style-type: none"> CBD roads will have a smooth surface that provides a satisfactory ride quality. 	<ul style="list-style-type: none"> Network condition surveys. 	<ul style="list-style-type: none"> 100% network condition surveys conducted every four years. 	<ul style="list-style-type: none"> Full network condition survey completed in November 2018. 	<ul style="list-style-type: none"> Include budget provision in LTFP to facilitate regular surveys. Continue current inspection frequency.
	<ul style="list-style-type: none"> The CBD road network will be maintained in a good condition, on average. 		<ul style="list-style-type: none"> 90% of CBD road length has roughness of ≤ 110 NAASRA counts. Average CBD network roughness of between 80 & 100 NAASRA counts. Average CBD network pavement condition rating ≤ 2 (PCI range 6.01 to 8.0) 	<ul style="list-style-type: none"> 41% is ≤ 110. Max. Roughness = 300 Ave. Roughness = 109 Average condition = 2 (PCI = 6.6) 	<ul style="list-style-type: none"> Use condition assessment and network modelling to identify maintenance and renewal activities to achieve targets. Continue.
		<ul style="list-style-type: none"> Routine maintenance patrols. 	<ul style="list-style-type: none"> 100% of CBD network patrolled & reported every four months. 	<ul style="list-style-type: none"> 100% of road network patrolled & reported every three months. 	<ul style="list-style-type: none"> Continue current inspection frequency.
	<ul style="list-style-type: none"> Responsiveness in repair of potholes & localised failures. 	<ul style="list-style-type: none"> No. of complaints about potholes/failures. 	<ul style="list-style-type: none"> Less than 35 per year. 	<ul style="list-style-type: none"> Less than 20 	
		<ul style="list-style-type: none"> Response time to repair potholes/failures. 	<ul style="list-style-type: none"> 100% of afterhours emergency situations are made safe within 4 hours. 100% of all other situations are made 	<ul style="list-style-type: none"> 100% of afterhours emergency situations are made safe within 4 hours. 75% of all other situations are made 	



Service Level Table - Roads in Liverpool City Centre					Appendix B1
Key Performance Indicator	Service Level Characteristic	Performance Measurement Process	Target Performance	Current Performance	Required Actions
			safe within 2 working days. ▪ 75% of all situations are permanently repaired within 30 working days.	safe within 2 working days. ▪ 50% of all situations are permanently repaired within 30 working days.	
	▪ CBD roads are free of litter & debris	▪ Mechanical Road Sweeping Program	▪ 100% of network is swept daily - 7 days per week	▪ 100% of network is swept daily - 7 days per week.	Maintain existing frequency.
Function	▪ Meet user requirements for width, accessibility, alignment & travel time.	▪ Compliance with design standards for current traffic including cyclists, parking, buses.	▪ 100% of new roads are compliant with design standards.	▪ 100% of new roads are compliant with design standards.	
		▪ Intersection performance of Council roads.	▪ 80% have a minimum Level of Service (LOS) C	▪ 85% have LOS C or better	
		▪ Availability of car parking	▪ 85% usage	▪ 90-100 % utilised	Implement CBD Parking Strategy
Safety	▪ Provide adequate signage & line marking.	▪ No. of complaints about signage & line marking.	▪ Less than 25 per year per 100 km of road.	▪ Less than 25	
	▪ Ensure suitability of street lighting levels.	▪ No. of complaints about lighting. ▪ Compliance with street lighting standards.	▪ Less than 10 per year per 100 km of road. ▪ 100% of new & upgraded roads are compliant with street lighting standards.	▪ Less than 10 ▪ 100% of new & upgraded roads are compliant with street lighting standards.	Review lighting requirements as part of planning for streetscape improvement works



Service Level Table - Roads in Liverpool City Centre

Appendix B1

Key Performance Indicator	Service Level Characteristic	Performance Measurement Process	Target Performance	Current Performance	Required Actions
	<ul style="list-style-type: none"> Provide adequate pedestrian safety. 	<ul style="list-style-type: none"> Condition survey of laneways. 	<ul style="list-style-type: none"> Nil potholes (trip hazards) 	<ul style="list-style-type: none"> Reactive maintenance 	Use condition assessment and network modelling to identify maintenance and renewal activities to achieve targets. Continue the process.
	<ul style="list-style-type: none"> Road alignment meets user requirements. 	<ul style="list-style-type: none"> Geometric design standards. 	<ul style="list-style-type: none"> 100% conformance by 2020. 		



Service Level Table - Stormwater Drainage System					Appendix B2
Key Performance Indicator	Service Level Characteristic	Performance Measurement Process	Target Performance	Current Performance	Required Actions
Condition	<ul style="list-style-type: none"> ▪ Pipe drainage systems will have sound structural condition to enable effective drainage. 	<ul style="list-style-type: none"> ▪ CCTV inspection and condition assessment of piped drainage system. 	<ul style="list-style-type: none"> ▪ Inspect 10% of 30 years or older pipes annually via a CCTV inspection program. 	<ul style="list-style-type: none"> ▪ 2.7% of piped systems are inspected annually via CCTV inspection program. ▪ 90% of surveyed pipes are in good condition (condition 1 & 2). 	<ul style="list-style-type: none"> ▪ Continue CCTV inspection, renewal and restoration of drainage systems. ▪ Develop risk based program to undertake above works prior to structural failure.
	<ul style="list-style-type: none"> ▪ All inlet and outlet structures to be structurally sound 	<ul style="list-style-type: none"> ▪ Visual inspection of all drainage structures and head walls ▪ Customer complaints 	<ul style="list-style-type: none"> ▪ Inspect 25% of pits and headwalls annually. ▪ Pipes, pits and headwalls condition rating ≤ 2 (minor degrade but serviceable). ▪ Adequate erosion protection works at all outlet structures. 	<ul style="list-style-type: none"> ▪ 13% of headwalls and 2.5% of pits are inspected annually ▪ 82% of surveyed headwalls are in above average condition. ▪ 91% of surveyed pits are in good condition. 	<ul style="list-style-type: none"> ▪ Develop risk based program to undertake works prior to structural failure. ▪ Erosion protection works being undertaken under annual capital works program (ongoing).
Function	<ul style="list-style-type: none"> ▪ Pipes meet drainage capacity requirements. ▪ Properties are free from flooding for up to 1 in 5 year ARI storm events. ▪ Major roads are trafficable for up to 1 in 	<ul style="list-style-type: none"> ▪ Number of property flooding complaints per year. ▪ Traffic disruptions and road closure due to flooding. ▪ CCTV inspection to identify blockage. 	<ul style="list-style-type: none"> ▪ Properties are free from flooding for up to 1 in 5 year ARI storm events. ▪ Major roads are trafficable for up to 1 in 5 year ARI storm events. ▪ CBD area is free from flooding for up to 1 in 	<ul style="list-style-type: none"> ▪ No record of customer complaints of properties being flooded for up to 1 in 5-year ARI storm events. ▪ No record of Major road closure. ▪ Blockages have been identified through CCTV inspection. 	<ul style="list-style-type: none"> ▪ Identify flood affected areas from overland flow path maps and undertake drainage capacity analysis of hot spot areas. ▪ Develop risk based priority works program for drainage upgrade works.



Service Level Table - Stormwater Drainage System					Appendix B2
Key Performance Indicator	Service Level Characteristic	Performance Measurement Process	Target Performance	Current Performance	Required Actions
	5 year ARI storm events.	<ul style="list-style-type: none"> Overland Flow Path mapping to identify potential flooding area 	20 year ARI storm events.		<ul style="list-style-type: none"> Undertake drainage upgrade works.

Service Level Table - Community facilities					Appendix B3
Key Performance Indicator	Service Level Characteristic	Performance Measurement Process	Target Performance	Current Performance	Required Actions
Condition	<ul style="list-style-type: none"> Councils assets are maintained in sound condition to meet the communities needs 	<ul style="list-style-type: none"> Annual inspection and condition rating of 50% of the building asset network (by value) / yr 	<ul style="list-style-type: none"> 80% of Councils Building Assets are maintained to condition level 3 or better. 	<ul style="list-style-type: none"> 93% of Councils Building Assets are maintained to condition level 3 or better. 	<ul style="list-style-type: none"> Implement inspection regime and initiate planned maintenance and renewal program
Safety	<ul style="list-style-type: none"> Ensure the safety and security of parks infrastructure 	<ul style="list-style-type: none"> Ongoing risk auditing on park infrastructure. 	<ul style="list-style-type: none"> 80% of infrastructure assessed in good condition or better. 	<ul style="list-style-type: none"> Annual playground audits 44% of infrastructure assessed in good condition or better. 	<ul style="list-style-type: none"> Implement inspection regime for remaining asset category.
Responsiveness	<ul style="list-style-type: none"> Response to maintenance requests 	<ul style="list-style-type: none"> Reduction in maintenance requests as compared to previous year 	<ul style="list-style-type: none"> 85% of maintenance requests actioned within a 7 day turnaround 	<ul style="list-style-type: none"> About 90% requests are actioned within a 7-day turnaround. 	<ul style="list-style-type: none"> Development of a monthly reporting system
Availability	<ul style="list-style-type: none"> Provision of functional and accessible community facilities 	<ul style="list-style-type: none"> User survey measuring quality of the facilities provided 	<ul style="list-style-type: none"> Building accessibility is provided to 100% of the community 	<ul style="list-style-type: none"> Ranked higher (3.7) than the satisfaction benchmark (3.6). IRIS in 2018. 	<ul style="list-style-type: none"> Audit of building against accessibility standard AS 1428
Safety	<ul style="list-style-type: none"> Compliance with building and fire regulations 	<ul style="list-style-type: none"> Inspection and testing of essential services 	<ul style="list-style-type: none"> Issue of essential service performance 	<ul style="list-style-type: none"> Annual fire safety statement 	<ul style="list-style-type: none"> Annual contract for the inspection, testing and maintenance of



Service Level Table - Community facilities Appendix B3

Key Performance Indicator	Service Level Characteristic	Performance Measurement Process	Target Performance	Current Performance	Required Actions
			compliance certification		buildings essential services
Function	<ul style="list-style-type: none"> Facility meets user's needs and availability. 	<ul style="list-style-type: none"> Council's annual community satisfaction survey to measure % of people satisfied with the functionality of the facility 	<ul style="list-style-type: none"> 90% of survey respondents consider the functionality of the facilities satisfactory or better. 	<ul style="list-style-type: none"> Measured as per results of the IRIS survey. 	<ul style="list-style-type: none"> Include this indicator in community surveys to assess satisfaction levels
Quality	<ul style="list-style-type: none"> Provide buildings that are clean and provide adequate environmental comfort for users 	<ul style="list-style-type: none"> Council's annual community satisfaction survey. 	<ul style="list-style-type: none"> All significant building issues are identified and mitigated where possible 	<ul style="list-style-type: none"> Not measured 	<ul style="list-style-type: none"> Annual audits of the buildings and associated equipment for operational performance

Service Level Table - Park assets Appendix B4

Key Performance Indicator	Service Level Characteristic	Performance Measurement Process	Target Performance	Current Performance	Required Actions
Condition	<ul style="list-style-type: none"> All parks assets will meet condition standards defined by park hierarchy and Australian Standards 	<ul style="list-style-type: none"> Annual condition audits and surveys 	<ul style="list-style-type: none"> 70% of parks assessed in good condition or better 	<ul style="list-style-type: none"> 85% of parks assessed in good condition or better. 	<ul style="list-style-type: none"> Continue inspection regime. Initiate planned maintenance and renewal program
Safety	<ul style="list-style-type: none"> Ensure the safety and security of parks infrastructure 	<ul style="list-style-type: none"> Numbers of hazards identified and remedied within performance guidelines. Public liability claims. 	<ul style="list-style-type: none"> 80% of infrastructure assessed in good condition or better. 	<ul style="list-style-type: none"> Annual playground audits. 85% of parks assessed in good condition or better. 	<ul style="list-style-type: none"> Continue inspection regime.



Service Level Table - Park assets					Appendix B4
Key Performance Indicator	Service Level Characteristic	Performance Measurement Process	Target Performance	Current Performance	Required Actions
	<ul style="list-style-type: none"> Provide safe facilities, free from hazards 	<ul style="list-style-type: none"> Numbers of hazards identified and remedied within performance guidelines. Public liability claims. 	<ul style="list-style-type: none"> Fewer than 5 reported accidents per year. Appropriate action on all hazards 	<ul style="list-style-type: none"> Quantity measure through Customer requests 	<ul style="list-style-type: none"> Development of an efficient method to prioritise actions and track safety performance.
Function	<ul style="list-style-type: none"> Parks facilities are available that meet community demand 	<ul style="list-style-type: none"> Council's annual community satisfaction survey to measure % of people satisfied with level of service. 	<ul style="list-style-type: none"> The gap between Importance and satisfaction is reduced as per the IRIS survey 	<ul style="list-style-type: none"> Measured as per results of the IRIS survey. 	<ul style="list-style-type: none"> Include this indicator in community surveys to assess satisfaction levels
Responsiveness	<ul style="list-style-type: none"> Timely response to customer enquiries and requests 	<ul style="list-style-type: none"> No. of complaints 	<ul style="list-style-type: none"> 90% of requests actioned within the customer request service standard. 	<ul style="list-style-type: none"> Not measured 	<ul style="list-style-type: none"> Coordinate monthly performance report for Park and Recreation
Quality	<ul style="list-style-type: none"> Provide high quality park facilities 	<ul style="list-style-type: none"> Council's annual community satisfaction survey. 	<ul style="list-style-type: none"> The gap between Importance and satisfaction is reduced as per the IRIS survey 	<ul style="list-style-type: none"> Ranked lower (3.5) than the satisfaction benchmark (3.7) IRIS 2019. 	<ul style="list-style-type: none"> Include this indicator in community surveys to assess satisfaction levels
Availability	<ul style="list-style-type: none"> Provision of appropriate levels of park assets 	<ul style="list-style-type: none"> Community survey to measure satisfaction with facilities and distance to them 	<ul style="list-style-type: none"> 80% of community are satisfied with the availability of park assets 	<ul style="list-style-type: none"> Not measured 	<ul style="list-style-type: none"> Include this indicator in community surveys to assess satisfaction levels



Infrastructure Sustainability and Service Management

Appendix C1

Infrastructure Sustainability and Service Management Ratios

Baseline Forecast year 2020/21

	Financial Year									
	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32
Renewal Ratio	0.95	0.98	0.98	1.01	0.86	0.81	0.60	0.55	0.56	0.57
Annual Depreciation (FFF, \$M)	\$29.6	\$30.0	\$30.3	\$30.6	\$31.0	\$31.3	\$31.7	\$32.1		
Annual Depreciation (\$M)	\$39.7	\$42.2	\$43.7	\$44.8	\$46.8	\$49.4	\$51.7	\$53.9	\$56.2	\$56.5
Renewal Budget (\$M)	\$37.6	\$41.2	\$42.8	\$45.3	\$40.4	\$40.3	\$30.8	\$29.8	\$31.3	\$32.1
	Financial Year									
	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32
Infrastructure Backlog Ratio	2.4%	1.8%	1.4%	1.1%	0.9%	0.7%	0.7%	0.7%	0.7%	0.7%
Infrastructure Backlog (\$M)	\$53.8	\$41.8	\$35.3	\$28.0	\$22.8	\$19.2	\$20.2	\$20.2	\$20.2	\$20.2
Estimated WDV (\$M)	\$2,258	\$2,350	\$2,459	\$2,552	\$2,649	\$2,766	\$2,866	\$2,953	\$3,038	\$3,107
	Financial Year									
	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32
Maintenance Ratio	0.96	0.94	0.91	0.90	0.88	0.87	0.85	0.84	0.83	0.82
Required Maintenance (AMP, \$M)	\$28.0	\$28.8	\$30.9	\$31.8	\$32.7	\$33.5	\$34.5	\$35.4	\$36.2	\$37.1
Maintenance Budget (\$M)	\$26.8	\$27.1	\$28.2	\$28.5	\$28.8	\$29.1	\$29.4	\$29.7	\$30.0	\$30.3
Summary of Ratios	Financial Year									
	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32
Infrastructure Backlog Ratio	2.4%	1.8%	1.4%	1.1%	0.9%	0.7%	0.7%	0.7%	0.7%	0.7%
Renewal Ratio	0.95	0.98	0.98	1.01	0.86	0.81	0.60	0.55	0.56	0.57
Maintenance Ratio	0.96	0.94	0.91	0.90	0.88	0.87	0.85	0.84	0.83	0.82