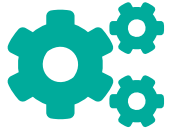


LAKE  
MACQUARIE  
CITY



ASSET  
MANAGEMENT  
PLAN 2022





# INTRODUCTION

The Asset Management Plan is an overview document that identifies the key elements of the individual Asset Management Category Plans. It should be read in conjunction with other key strategic and planning documents including:

- Community Strategic Plan
- Asset Management Policy
- Asset Management Strategy
- Individual Category Plans
- Long-Term Financial Plan
- Operational Plan.





# PURPOSE

The purpose of the Asset Management Plan is to define the requirements for our assets to achieve the objectives of our Asset Management Policy and Asset Management Strategy.

The Asset Management Plan summaries the 11 Category Plans, which aim to ensure:

- ✓ assets are maintained at a safe and functional standard
- ✓ all key life cycle financial indicators are identified and planned for in future operating budgets
- ✓ cost-effective strategies are applied to manage asset life cycle activities
- ✓ desired service levels are identified and aligned closely to Council's ability to deliver in a sustainable manner
- ✓ continuous improvement opportunities are identified for asset management practices.

# KEY ELEMENTS

The Asset Management Plan includes:

- ✓ information regarding the state of our current assets
- ✓ how assets align to the services council provides
- ✓ life cycle management principles and how they are applied
- ✓ outcomes of life cycle modelling and required forward funding allocations
- ✓ asset category risk analysis outcomes.

# STATE OF OUR ASSETS

## CURRENT ASSET BASE

Council provides a wide range of services to the community, most of which are supported by physical assets. Table 2 provides an asset category snapshot that lists examples of the types of sub-assets, the asset category current replacement cost (CRC), average category condition scores and expected useful life.

## ASSET CONDITION

Council regularly assesses the condition of owned assets as part of data collection processes. The condition scores are described in Table 1.

The asset condition scoring is based on a scale of 1-5 as detailed in the Integrated Planning and Reporting Manual for local government in NSW.

The descriptions in the table are a general guide to assist in understanding the meaning of each condition score. The scores are interpreted as '1' being excellent, through to '5' being very poor.

Asset condition scores contribute to a framework for determining sustainable asset service levels. Other factors to be considered include:

- affordability
- intergenerational equity
- risk of asset failure
- capacity
- function.

**TABLE 1: ASSET CONDITION SCORES**

<i>Condition score</i>	<i>Tag</i>	<i>Description</i>	<i>Remaining service potential</i>
1	Excellent	New or near new condition. Only planned cyclic inspection and maintenance required.	Very High
2	Good	Sound or good condition with minor defects. Minor routine maintenance along with planned cyclic inspection and maintenance required.	High
3	Average	Fair condition with significant defects requiring regular maintenance on top of planned cyclic inspections and maintenance to keep the asset serviceable.	Adequate
4	Poor	Poor condition with asset requiring significant renewal/rehabilitation, or higher levels of inspection and substantial maintenance to keep the asset serviceable.	Low
5	Very Poor	Very poor condition. Physically unsound and/or beyond rehabilitation. Renewal required.	Very low

**TABLE 2: ASSET SNAPSHOT**

<i>Community buildings</i>			
	<b>Current replacement cost</b>	<b>Current average condition</b>	<b>Desired useful life (years)</b>
Sporting amenities	\$251m	2.44	55
Community halls/buildings			100
Multi-purpose			90
Community sheds			80
Emergency service buildings			60
Public amenities			50
Child care centres			80
Libraries			90
Surf Life Saving Clubs			80
Art gallery			100
Other structures (for example, building ancillaries such as outdoor tables, fencing, etc.)			Various
<i>Aquatic centres</i>			
	<b>Current replacement cost</b>	<b>Current average condition</b>	<b>Desired useful life (years)</b>
Charlestown Swim Centre	\$38m	2.11	50+
Morisset Swim Centre			
Speers Point Swim Centre			
Swansea Swim Centre			
Toronto Swim Centre			
West Wallsend Swim Centre			

<i>Community recreation</i>			
	<b>Current replacement cost</b>	<b>Current average condition</b>	<b>Desired useful life (years)</b>
<b>Sportsgrounds</b>	\$132m	2.32	
Floodlights			35-50
Courts			10-20
Fencing			25
Irrigation			25
<b>Parkland</b>			
Playgrounds			20
Shelters			30
BBQs			30
Furniture			20-30
<b>Maritime</b>			
Jetties/Pontoons/Boat Ramps			50
<b>Cemeteries</b>			
Lawn beams	50		
Niche walls	50		
<i>Operational buildings</i>			
	<b>Current replacement cost</b>	<b>Current average condition</b>	<b>Desired useful life (years)</b>
Administration Building	\$72m	2.50	100
Works Depot			70-85



**TABLE 2: ASSET SNAPSHOT CONTINUED**

<b>Natural assets</b>			
	<b>Current replacement cost</b>	<b>Current average condition</b>	<b>Desired useful life (years)</b>
Seawall	\$33m	2.33	100
Groyne			100
Revetment			30
Fillets			30
Gabion rock wall			30
Riparian			30
<b>Stormwater</b>			
	<b>Current replacement cost</b>	<b>Current average condition</b>	<b>Desired useful life (years)</b>
Basin	\$981m	3.50	100
Channel			100
Conduit			100
Dam			100
Gross Pollutant Trap			50
Headwall			80
Pit			80
Tank			50
Weir			80

<b>Retaining walls</b>			
	<b>Current replacement cost</b>	<b>Current average condition</b>	<b>Desired useful life (years)</b>
Concrete planks	\$41m	1.78	50
Concrete blocks			50
Cribblock			50
Gabion			40
Keystone block			50
Mass rock			50
Sandstone block			50
Shotcrete			50
Sandstone rock			50
Timber			30
<b>Bridges</b>			
	<b>Current replacement cost</b>	<b>Current average condition</b>	<b>Desired useful life (years)</b>
Road bridge – concrete	\$105m	2.16	85
Road bridge – timber			67
Pedestrian bridge – concrete			85
Pedestrian bridge – timber			67
Pedestrian bridge – steel			80
Road culvert			76

<b>Roads</b>			
	<b>Current replacement cost (\$'000)</b>	<b>Current average condition</b>	<b>Desired useful life (years)</b>
<b>Sealed roads</b>	\$1.988b	2.69	
Surface			20
Base			65
Sub-base			115
<b>Kerb and channel</b>			80
<b>Road auxiliary items</b>			65
<b>Car parks</b>			65
<b>Concrete paved roads</b>			
Surface			55.3
Base			60.6
Sub-base			121.2
<b>Gravel paved roads</b>			
Surface			19
Base			60.6
Sub-base			121.2
<b>Brick paved roads</b>			
Surface	32.9		
Base	60.6		
Sub-base	121.2		
<b>Holiday park roads</b>		65	

<b>Roadside assets</b>			
	<b>Current replacement cost</b>	<b>Current average condition</b>	<b>Desired useful life (years)</b>
Roundabouts	\$70m	1.93	80
Speed humps			65
Medians and traffic islands			80
Pedestrian medians/refuges			80
Kerb blisters			65
Gates			40
Fences			30-60
Guardrails			40
Bollards			40
Miscellaneous furniture			30-60
Bus shelter			50
Bus seat			35
<b>Footpaths and shared paths</b>			
	<b>Current replacement cost</b>	<b>Current average condition</b>	<b>Desired useful life (years)</b>
Footpaths (gravel, paver asphalt and concrete)	\$152m	1.99	30-92
Shared paths			91-92
Kerb ramps			91-92

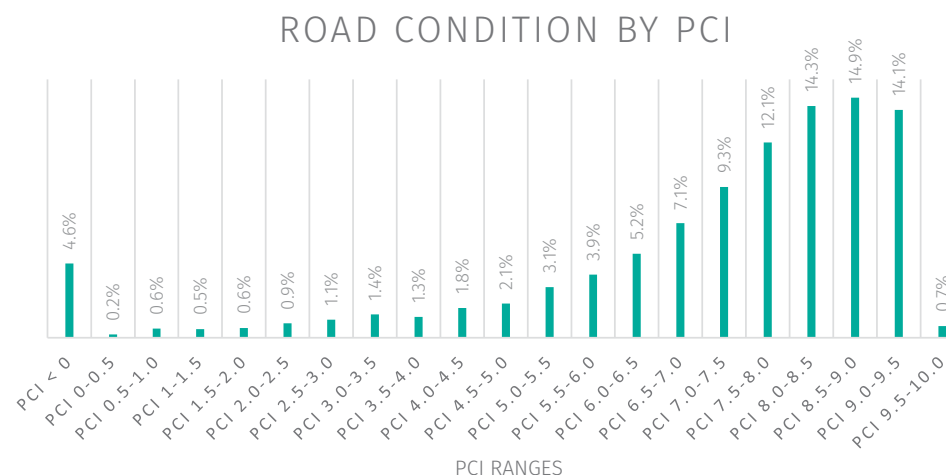
# PAVEMENT CONDITION INDEX

An important asset condition measure is the pavement condition index (PCI). The Roads asset class is Council’s largest asset base to manage, both in asset quantity and value. The PCI is a rating of 1-10 using a standardised system under the Pavement Management System. The PCI is used to assess the pavement condition only. It is reversed and converted into a score out of five for inclusion in the overall road category condition rating in the previous section.

Rating	PCI range	Description of condition	Requirements
1	9.0-10.0	Excellent	Only planned maintenance required.
2	8.0-9.0	Very good	Minor maintenance required plus planned maintenance.
3	5.5-8.0	Good	Significant maintenance required.
4	4.0-5.5	Fair	Significant renewal/upgrade required.
5	< 4.0	Poor	Major repairs or reconstruction required.

The graph below illustrates the PCI profile for all road assets. It shows the proportion of roads at each PCI level.

**The average PCI for the road network in 2021 was 7.09.**

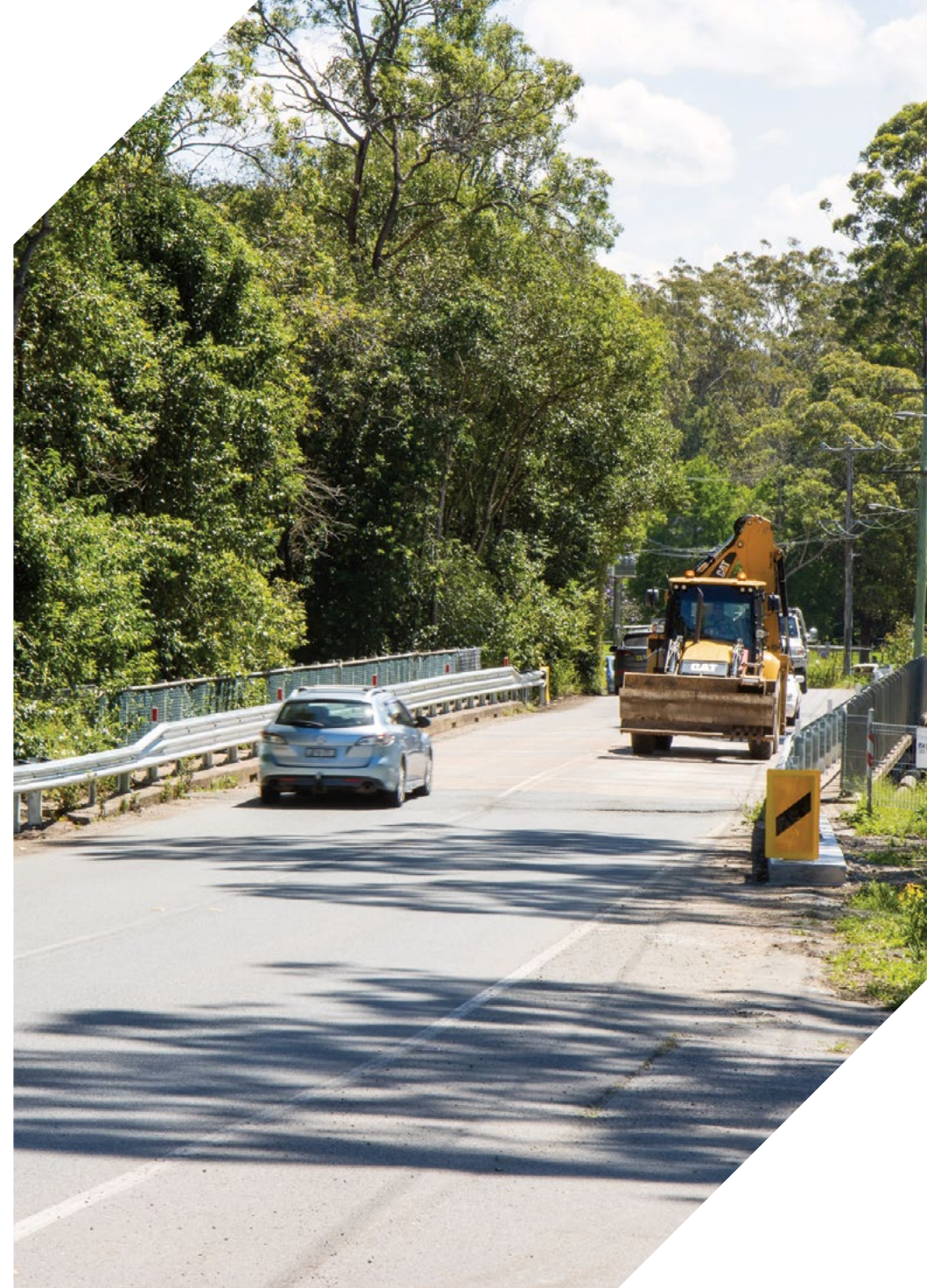


Council uses a targeted approach to efficiently distribute road renewal funding based on a hierarchy. The hierarchy informs road renewal decisions by considering variable conditions such as use, and applies a weighted score.

Not all categories within the hierarchy will be managed to achieve the same PCI score. Target PCIs are set per each category within the hierarchy.



Categories	Road traffic hierarchy	% Network	Current weighted avg PCI	Proposed weighted avg PCI
Commercial areas	10	<1%	N/A	7.2
Industrial	6	1%	7.46	7.2
High volume urban roads	1-4	19%	6.96	7.1
Low volume urban roads	5	65%	7.09	6.9
High volume rural roads	1-4	6%	7.38	7
Low volume rural roads	5	8%	7.21	6.5
Holiday parks	9	<1%	6.23	6.5
Awaba Waste Management Facility (AWMF)	11	<1%	N/A	7.2







# SERVICE DELIVERY

Council provides a wide range of services to the community that are directly supported by physical assets as identified in the following table. All of the below service areas are supported by the Asset Management and City Works departments, as well as other departments as listed.

<i>External service delivery</i>		
<b>Service area</b>	<b>Assets</b>	<b>Delivery partners</b>
Pools and beaches	Swim centres, surf clubs, foreshore areas	Leisure Services, Community Partnerships, Surf Life Saving NSW
Community sport	Playing fields, amenity buildings, courts, athletics facilities	Community Partnerships, operating committees
Community activities	Men's sheds, Landcare sites	Community Partnerships
Library services	Buildings, mobile library	Arts, Culture and Tourism, Business Information Technology Solutions
Community events	Foreshore areas, reserves, parks and infrastructure, amenities buildings	Arts, Culture and Tourism, Communications and Corporate Strategy, Community Partnerships

Service area	Assets	Delivery partners
Play and recreation	Playgrounds, skate parks, BMX tracks, shared pathways	Community Partnerships
Active transport	Footpaths, shared pathways	Community Partnerships
Waste	Awaba Waste Management Facility	Waste Services
Cultural services	Libraries, galleries, museum, performance centres	Arts, Culture and Tourism
Community centres	Community facilities and child care	Community Partnerships, operating committees
Emergency response services	Buildings and equipment	Rural Fire Service, State Emergency Service, Surf Life Saving NSW

In addition to the direct services provided by Council's assets, Council's operational activities require assets to deliver indirect services to the community. These are outlined in the following table.

<i>Internal service delivery</i>		
Service area	Assets	Delivery partners
Plant and fleet	Light vehicles, commercial vehicles, waste trucks, small plant	City Works
Staff facilities	Administration Building, Works Depot, sub depots, Landcare Resource Centre, works caravans, car parks	Property and Business Development, City Works, Asset Management
Information technology	Network infrastructure, records, Geographic Information System (GIS), computer hardware, communications	Business Information Technology Solutions

# LIFE CYCLE MANAGEMENT

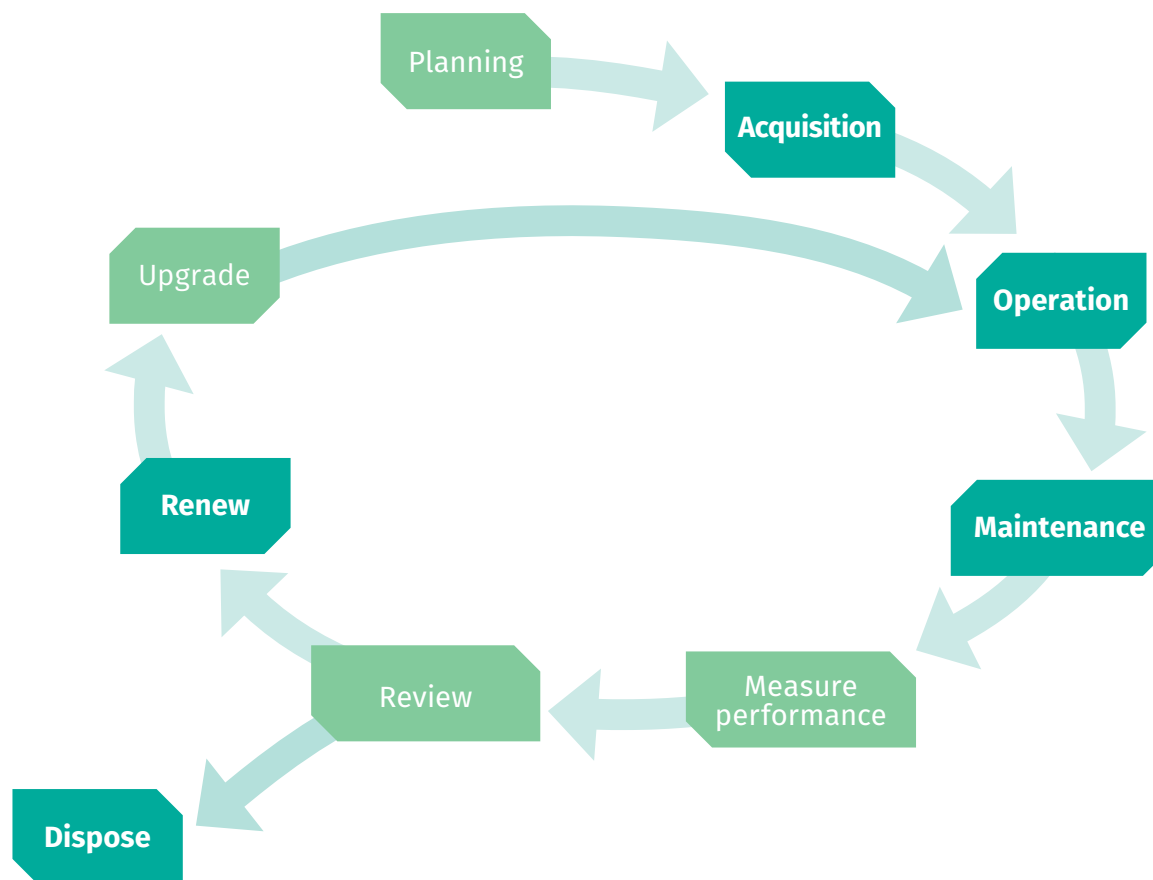
As identified in the Asset Management Policy, Council's asset management practices consider whole-of-asset life cycle.

Effective asset management is delivered by defining asset needs across the life cycle phases of acquisition, operation, maintenance renewal and disposal. Council aligns its business activities and actions to reflect whole of asset life requirements.

Asset life cycle modelling is undertaken to assess the costs required to manage Council's asset base throughout these life cycle phases. Modelling within each asset category allows required budgets to be identified. Target expenditure is set and allocated within the Long-Term Financial Plan and annual budget.

The following sections outline Council's approach to life cycle management and document the outcomes of current asset modelling for each asset category. An example based on the life of a playground in Lake Macquarie is provided under each heading, explaining the considerations and costs associated with each life cycle stage.

## Typical Asset Life Cycle







## ASSET ACQUISITION

Asset acquisition involves either a capital expenditure activity or a dedication that creates new assets intended to deliver a service to the community that didn't exist beforehand.

### Example

A new local playground is identified to be acquired in a suburb of Lake Macquarie. The relevant strategy identifies there is a need to provide an additional playground due to the increasing population in the area, and younger demographic.

The park is expected to cost \$150,000 to build.

A number of actions are required prior to the build, including:

- securing funding
- planning actions
- consulting with the community on the location and mix of equipment
- developing concept plan

- procurement processes
- contractor management
- quality checks
- commissioning the new equipment
- placing new playground on relevant maintenance programs
- ensuring new equipment is recorded on Council's financial and asset registers.

The playground is now available for use by the community. The park is expected to last for 20 years. To ensure the life is met, Council must fund and schedule further work over the life of the playground.

### **Acquisition – key stakeholders**

<b>Stakeholder</b>	<b>What do they do?</b>
Asset Management	Strategic planning, project delivery
Community Partnerships	Strategic planning (community facility planning), project delivery (major community build), stakeholder input
Integrated Planning	Strategic planners, land use planning, developer contribution planning (section 7:11)
Community	Aspirations, consult on function and design
Development Assessment and Certification	Town planning, development consent
City Projects	Design and delivery
Councillors	Advocacy, approval of delivery plan
NSW Government	Grants, major approvals (concept approval), create and dedicate road infrastructure, set regulatory requirements, dedicate land, coastal acquisition
Federal Government	Grants, dedication of infrastructure, legislation
Development industry	Creation and dedication of assets to Council
Community groups	Creation and dedication of assets
Environmental Systems	Review of design standards, review of site selection, whole of life cycle cost analysis, circular life cycle analysis
City Works	Review of design standards and maintenance plans, construction
Waste Services, Leisure Services and Arts, Culture and Tourism	Identification of assets required to deliver their community services



New asset acquisition activities are guided by Council’s Community Strategic Plan, Local Strategic Planning Statement, and more specific strategic plans related to service provision. These strategies are developed in close consultation with the community.

Funding sources for new capital projects include:

- section 711 development contributions
- other restricted assets
- grants and subsidies
- specific purpose rates
- special rate variations
- asset sales
- loans.

The following table provides a summary of upcoming new capital project expenditure identified in Council's Long-Term Financial Plan.

<b>Service area</b>	<b>2022-2023 \$000</b>
Aquatic facilities	10
Bridges	112
Buildings – community	22,105
Buildings - operational	366
Footpaths and shared paths	8,890
Natural assets	329
Recreation and community	14,904
Retaining walls*	-
Roads	3,567
Roadside assets	125
Stormwater	3,128

\* Retaining wall expenditure may be included in acquisition costs within other asset category projects.



## ASSET OPERATIONS

Asset operations are activities that have no effect on asset condition but are necessary to deliver intended functionality.

### Example

Following the completion of the new playground, Council must schedule operational activities to ensure the playground is functional and fit to be enjoyed by the community.

These may tasks include:

- scheduled cleaning
- inspections
- mowing
- upkeep of gardens
- utility bills for water and lights
- insurances
- removal of rubbish
- support services
- graffiti removal, if required
- pest management.

The typical ratio of operational spend for playgrounds is approximately 6.3 per cent per year of the original acquisition cost.





Operational activities are guided by Council's Service Standards document.

The service standards are informed by community feedback, and balanced with Council's ability to sustainably resource the activities.

The table to the right indicates the per cent ratio of operational spend per dollar of Current Replacement Cost (CRC), comparing allocations in previous years to planned 2022-2023 allocations.

<b>Service area</b>	<b>Aquatic facilities</b>	<b>Bridges</b>	<b>Buildings - communities</b>	<b>Buildings - operational</b>	<b>Footpaths and shared paths</b>	<b>Natural assets</b>	<b>Recreation and community</b>	<b>Retaining walls</b>	<b>Roads</b>	<b>Roadside assets</b>	<b>Stormwater</b>
CRC (\$000)	37,799	105,408	251,341	71,901	151,677	32,943	132,007	41,319	1,987,685	69,918	980,983
Current operational average spend p.a.	805	32	2,639	1,445	15	-	8,343	29	30	3,160	98
Current % of CRC operational spend p.a.	2.13%	0.03%	1.05%	2.01%	0.01%	<0.01%	6.32%	0.07%	<0.01%	4.52%	0.01%
Planned operational spend p.a. 2022-2023	810	32	2,677	1,445	26	-	8,846	30	92	3,161	100
Planned % of CRC operational spend p.a.	2.14%	0.03%	1.07%	2.01%	0.02%	0.00%	6.70%	0.07%	0.00%	4.52%	0.01%

The table below outlines the typical operational activities and providers for each asset category.

<b>Asset category</b>	<b>Service provider</b>	<b>Operational activity (examples)</b>
Aquatic facilities	Leisure Services	Staffing, chemical costs, utility costs, facility cleaning, pool testing, contractor management, security patrols, security infrastructure
	City Works	Asset inspections
	Waste Services	Bin collection
Bridges	Asset Management	Asset inspections
	City Projects	Asset inspections
	City Works	Routine maintenance inspections
Buildings – community	City Works	Facility cleaning, graffiti removal, vegetation management, mowing, security patrols, security infrastructure, asset inspections
	Waste Services	Bin collection, effluent removal
	Asset Management	Utility costs
	Community Partnerships	Community leasing and supporting activities
	Arts, Culture and Tourism	Events and supporting activities
Buildings – operational	Property and Business Development	Staffing, utility costs, facility cleaning, mowing, vegetation maintenance, asset inspections
	Waste Services	Bin collection

<b>Asset category</b>	<b>Service provider</b>	<b>Operational activity (examples)</b>
Footpaths and shared paths	City Works	Asset inspections, mowing
	Asset Management	Safety and compliance
Natural assets	Environmental Systems	Asset inspections
Recreation and community	Asset Management	Utilities
	Waste Services	Bin collection
	City Works	Boat ramp, BBQ, jetty and pontoon cleaning, mowing, beach cleaning, beach pathway cleaning, asset inspections
	Community Partnerships	Managing community users
Retaining walls	Asset Management	Asset inspections
Roads	Asset Management	Asset inspections
	City Works	Street sweeping, litter removal
Roadside assets	City Works	Asset inspections, bus shelter cleaning, street lights
Stormwater	Asset Management	Asset inspections

## ASSET MAINTENANCE

Asset maintenance is the regular ongoing work that is necessary to keep assets operating to provide the required levels of service. Maintenance typically falls into two broad categories:

- Planned (proactive) maintenance, designed to prevent premature asset deterioration or correct defects.
- Unplanned (reactive) maintenance, to correct asset malfunctions and failures on an 'as required' or ad-hoc basis.

Maintenance work is required to maintain the asset's ability to provide the agreed service levels, and the use of the asset to achieve the desired useful life.

### Example

As the playground progresses through its life, it will be subjected to wear and tear. To ensure the playground continues to be functional and safe, components will likely need to be maintained.

Typical maintenance activities include:

- playground fixture maintenance
- soft fall repairs and replenishment of mulch
- replacement or repair of small components that are damaged or worn
- vandalism response
- painting.

The typical ratio of maintenance spend for playgrounds is approximately 5.4 per cent per year of the original acquisition cost.

The maintenance costs early in the life of a playground will represent a smaller spend ratio and gradually increase over time.



Council's asset maintenance providers include:

- City Works – Workshop, Building Services, City Presentation and Infrastructure Maintenance Teams
- contractors – various
- volunteers
- tenants, leaseholders and operators.

The table to the right indicates the per cent ratio of annual maintenance spend per dollar of Current Replacement Cost (CRC), comparing allocations in previous years to planned 2022-2023 allocations.

<b>Service area</b>	<b>Aquatic facilities</b>	<b>Bridges</b>	<b>Buildings - communities</b>	<b>Buildings - operational</b>	<b>Footpaths and shared paths</b>	<b>Natural assets</b>	<b>Recreation and community</b>	<b>Retaining walls*</b>	<b>Roads</b>	<b>Roadside assets</b>	<b>Stormwater</b>
CRC (\$000)	37,799	105,408	251,341	71,901	151,677	32,943	132,007	41,319	1,987,685	69,918	980,983
Current maintenance average spend p.a.	261	84	1,181	1,043	713	-	7,076	-	7,553	776	3,532
Current % of CRC maintenance spend p.a.	0.69%	0.08%	0.47%	1.45%	0.47%	0.00%	5.36%	0.00%	0.38%	1.11%	0.36%
Planned maintenance spend p.a. 2022-2023	363	85	1,389	1,044	757	-	7,108	50	7,641	819	3,526
Planned % of CRC maintenance spend p.a.	0.96%	0.08%	0.55%	1.45%	0.50%	0.00%	5.38%	0.12%	0.38%	1.17%	0.36%

\* Retaining wall maintenance activities may be captured in other asset class costings.

## ASSET RENEWALS

Renewal works are the substantial replacement of an asset or significant asset components compared with the asset's original size and capacity. Renewal resets the asset or component condition and extends the remaining useful life. Renewal works are included in Council's capital works programs.

### Example

The playground has reached the stage of its life where it does not represent value for money to continue undertaking maintenance activities to maintain functionality.

A review of the playground is completed to help make decisions and considers aspects such as:

- Have the demographics changed?
- Are customers still using and desiring playgrounds?
- Does the playground equipment meet contemporary customer expectations?
- Does the existing equipment meet current standards for safe use?
- If replacing, what type of playground and equipment is best suitable to meet community needs?
- Is there a higher priority use for the land to meet community infrastructure needs?

If Council determines the playground is to be replaced, the replacement playground will be placed onto the future capital works program as a project.

Various teams within Council combine to assess the condition, functionality and capacity of existing assets to inform and determine renewal priorities, including:

- service providers
- community planners
- community asset management
- infrastructure asset management
- capital works program staff
- environmental officers.

Community and facility user feedback is also considered.

The table to the right indicates the planned budget for renewal spending on each asset category per Council's Long-Term Financial Plan.

<b>Service area</b>	<b>2022-2023 \$000</b>
Aquatic facilities	537
Bridges	6,187
Buildings – community	2,956
Buildings - operational	1,009
Footpaths and shared paths	677
Natural assets	92
Recreation and community	4,573
Retaining walls	24
Roads	26,435
Roadside assets	935
Stormwater	1,492



## ASSET DISPOSAL

Asset disposal is the removal or decommissioning of assets from service following the end of an asset's service life, or change in asset requirements due to rationalisation.

### Example

The playground has reached the end of its useful life. Following review and consultation with the community, it has been determined that the playground is no longer required.

To dispose of an asset, Council would undertake the following activities:

- Program the cost of demolition and removal of materials.
- Rehabilitate the site to be safe and functional.
- Remove the playground from the financial and asset registers.
- Adjust operational and maintenance schedules as needed.

Asset disposal costs are associated with the physical removal or disposal of decommissioned assets. The disposal costs may include:

- evaluation of options
- consultation and advertising
- provision of professional services, for example, legal and engineering
- demolition, site clearing, and safety costs.

These costs, and the use of the sale proceeds, are determined by Council as part of the disposal decision-making process.

Where renewal or replacement of an asset is undertaken before the asset has reached the end of its useful life, the remaining asset value is written off.

## LEVELS OF SERVICE

Levels of service describe the outputs a customer can expect to receive from the asset-related activity, while performance measures indicate the specific level of performance against those levels of service.

### Example

Customers who use the playground indicate they expect the asset to be safe, and available for use at all times.

To measure this, Council would track the completion of condition inspections per year to determine safety, and track service request response times for any maintenance requests that impact the safety and availability of the playground.

Council's Asset Management Category Plans contain specific levels of service, and desired performance measures. There is varying maturity between Category Plans, and work will continue to further develop effective levels of service into the future. Limitations on available resources require allocations to be made based on risk, not exclusively customer expectation.





## DEMAND MANAGEMENT

Predicting future demand for services enables Council to plan ahead and identify the best way of meeting that demand. That may be achieved through a combination of demand management and asset investment strategies.

Demand will change over time in terms of both demand for the quantity of the service, and type of service required.

Council monitors and analyses demand regularly through various means, such as:

- utilisation data
- industry trend reports
- population growth and demographics
- community surveys
- observation of other councils with similar scale and demographics.

Various master plans and strategies have been adopted by Council and influence asset management decisions. These documents can be viewed on Council's website at [lakemac.com.au/our-council/city-strategies-plans-and-reporting](http://lakemac.com.au/our-council/city-strategies-plans-and-reporting)

# LIFE CYCLE MANAGEMENT SIGNIFICANT INFLUENCES

## CIRCULAR ECONOMY

A seismic shift has happened in the global economy in the past 10-15 years, as it's become widely accepted that our current linear economy isn't sustainable. Each year, on average, we consume resources almost twice as fast as the planet's ecosystems can regenerate them. There is now a significant global momentum behind the transition to a circular economy.

Council has adopted a Circular Economy Policy and Framework which will help guide our future asset management planning to support this transition. We will continue to explore ways to embed sustainable design options, and optimise Council assets to increase recycled content in construction materials and reduce finite materials use.





## ADAPTING TO CLIMATE CHANGE

Climate change risks impacting Council's management of assets include:

- sea level rise (SLR) and related coastal recession and flooding (including extreme flood events and frequent tidal inundation)
- the increasing frequency, intensity, extent and duration of extreme events, such as storms, heatwaves, drought and bushfire.

Lake Macquarie is recognised as Australia's most exposed Local Government Area in terms of SLR. Council's Flooding and Tidal Inundation Policy mandates SLR benchmarks and local adaptation planning to protect private and public assets. SLR is already happening in the city, with potential impacts on most asset categories. Lake Macquarie is rising at 3.5mm/year (1990-2021) and the rate of rise is increasing. Every year the area of roads, pathways, foreshores and other assets impacted by salt water intrusion (tides and groundwater) and flooding increases.

Council's Local Adaptation Plans (LAPs) for Marks Point and Belmont South, and Pelican, Blacksmiths, Swansea, Swansea Heads and Caves Beach include actions targeting Council's management of assets, including roads, footways, parks/reserves and buildings. Council's Urban Heat Strategy also includes actions to address urban heat in asset management category plans.

To proactively adapt to climate change, Council's Asset Management Plans:

- are informed by LAPs, urban heat and bushfire strategies/plans
- consider current and projected exposure and damages from climate change hazards
- investigate capital reserves to fund asset adaptation measures.

## SUSTAINABLE DEVELOPMENT GOALS

The United Nations Sustainable Development Goals (SDGs) are a set of global principles to guide action. Seventeen goals sit atop 169 detailed global targets and an emerging set of indicators. While there are global targets sitting beneath each goal, the goals can be localised to address specific issues that are relevant in a local context to contribute to the global effort.

Council is increasingly considering how our asset management approach is contributing to the achievement of relevant SDGs. This approach also contributes to sustainability for the organisation and the city across the 'four pillars of sustainability' (economic sustainability, environmental sustainability, social sustainability and sustainable governance), as described in the Lake Macquarie City Council Sustainability Policy 2012.

# ASSET DATA COLLECTION AND MANAGEMENT

Asset data is collected and managed to inform decision-making across all asset life cycle phases.

Council's asset data collection and inspection program is centred on a risk-based approach, having regard to available resources and the risk profiles of the individual assets.

Asset condition data provides a point-in-time assessment of the condition of an asset. This information is collected to:

- monitor the condition of assets over time
- provide input to asset valuations and revaluations
- model asset depreciation
- plan for maintenance and renewal.

Asset due diligence assessments are undertaken to:

- identify risks to asset users
- identify wear and tear or damage that may affect customer satisfaction
- assist in monitoring trends in asset failures so that maintenance programs can be planned to mitigate future failures.

Data is collected through a range of methods including:

- inspections undertaken by appropriately qualified asset inspectors
- investigations and inspections by specialist contractors
- specialist technology and remote sensing equipment
- operations staff and asset users.

Collection schedules are determined by the risk profile of the asset, and the data is collected concurrently for due diligence and condition rating purposes.

The due diligence (identifying repairs and maintenance requirements and any immediate risks) information is used with the condition ratings (1-5 score for each predetermined component of the asset) to determine overall condition scores of the asset.

Built in intervention actions allow automated service requests for repairs to be created, as well as the overall condition score for the asset informing into the capital works and renewal programs.

Asset data is stored in Council's enterprise asset register.

# ASSET CATEGORY RISK

Asset-based risk is managed in accordance within the principles of Council’s Enterprise Risk Management Framework.

Asset category risk management plans have been developed and included in Category Plans, summarised in the following table.

Category	Assessment of risk	Implications	Management strategies	Identified critical assets
Aquatic facilities	Our present budget levels are insufficient to continue to manage risks in the medium term	<ul style="list-style-type: none"> <li>• Service interruptions</li> <li>• Asset failures</li> </ul>	<ul style="list-style-type: none"> <li>• Developing scheduled maintenance and inspection programs</li> <li>• Renewal/refurbishment within our capital works program to extend design lives</li> </ul>	<ul style="list-style-type: none"> <li>• Plant and equipment</li> </ul>
Bridges	Our present budget levels are sufficient to continue to manage risks in the medium term	<ul style="list-style-type: none"> <li>• Bridge asset replacement projects requiring additional expenses beyond like-for-like replacement to meet demand drivers such as increased width, road realignment and improvements to hydraulic capacity. A bridge with a replacement unit or rate of \$0.5m may actually require capital works of \$2.5m to meet the required demand drivers.</li> <li>• Incomplete/incorrect data assigned to asset in the asset register leading to poor planning and asset replacement determination (lack of data).</li> <li>• Life cycle costs not considered, leading to additional costs.</li> </ul>	<ul style="list-style-type: none"> <li>• Only funding upgrades requiring new capital in conjunction with asset renewal projects where demand drivers dictate it is a high priority</li> <li>• Improving knowledge of the asset base through improved data collection and revising this Category Plan forecast life cycle costs as required</li> <li>• Completing componentisation of bridge asset elements and undertaking risk assessments to prioritise maintenance actions</li> <li>• Increasing resources as relevant to the task or role</li> </ul>	<ul style="list-style-type: none"> <li>• Bridges serving as single access point to a location (itemised in Category Plan)</li> </ul>



Buildings – community	Our present budget levels are sufficient to continue to manage risks in the medium term	<ul style="list-style-type: none"> <li>• Service interruptions</li> <li>• Future unexpected capital expenditure if assets are not maintained appropriately</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure appropriate levels of due diligence inspections are completed and cost-effective maintenance solutions considered</li> </ul>	<ul style="list-style-type: none"> <li>• Nil</li> </ul>
Buildings – operational	Our present budget levels are sufficient to continue to manage risks in the medium term	<ul style="list-style-type: none"> <li>• Breakdown of water treatment system causing a reportable pollution incident</li> <li>• Service provision disruptions caused by electrical supply failures</li> <li>• Comfort levels in office spaces are unacceptable due to air conditioning failures</li> </ul>	<ul style="list-style-type: none"> <li>• Regular maintenance of critical asset components</li> <li>• Business continuity planning</li> </ul>	<ul style="list-style-type: none"> <li>• Administrative Centre</li> <li>• Works Depot</li> </ul>
Footpaths and shared paths	Our present budget levels are sufficient to continue to manage risks in the medium term	<ul style="list-style-type: none"> <li>• Incomplete/incorrect data assigned to asset in the asset register leading to poor planning and asset replacement determination (lack of data)</li> <li>• Life cycle costs not considered, leading to excessive maintenance costs and/or early renewals</li> <li>• Resourcing (financial, technology, skills - loss of key staff and continuity planning)</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing operational budget so asset condition is better understood and assets prioritised for works</li> <li>• Training staff to consider overall life cycle costing of assets</li> <li>• Increasing resources as relevant to the task or role</li> </ul>	<ul style="list-style-type: none"> <li>• Nil</li> </ul>
Natural assets	Our present budget levels are insufficient to continue to manage risks in the medium term	<ul style="list-style-type: none"> <li>• Loss of key staff</li> <li>• Inadequate data and processes preventing planning and maintenance</li> <li>• Failure of assets compromising safety of other adjacent assets and reputation</li> <li>• Insufficient physical and technological resourcing</li> </ul>	<ul style="list-style-type: none"> <li>• Introducing proactive inspections</li> <li>• Providing required resources for improved data collection</li> <li>• Staff training and development</li> <li>• Prioritising risk in accordance with Council's Enterprise Risk Management Framework</li> </ul>	<ul style="list-style-type: none"> <li>• Nil</li> </ul>
Recreation and community	Our present budget levels are insufficient to continue to manage risks in the medium term	<ul style="list-style-type: none"> <li>• Failure of infrastructure resulting in harm to person and/or damage to property</li> <li>• Failure of infrastructure resulting in loss of service to community</li> <li>• Unavailability/lack of provision effecting community satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>• Conducting programmed inspections</li> <li>• Recording inspection information into a centralised database to forecast and plan works</li> <li>• Plan and list desired works in the capital works project management program</li> </ul>	<ul style="list-style-type: none"> <li>• Nil</li> </ul>

Retaining walls	Our present budget levels are sufficient to continue to manage risks in the medium term	<ul style="list-style-type: none"> <li>• Incorrect data assigned to assets within asset register</li> <li>• Life cycle costs not considered, leading to unfeasible maintenance costs and/or early renewals</li> <li>• Identifying high and very high-risk walls</li> </ul>	<ul style="list-style-type: none"> <li>• Increase operational budget to undertake programmed inspection of assets</li> <li>• Recording inspection information into a centralised database to forecast</li> <li>• Planning of appropriate assets within the forward works program</li> </ul>	<ul style="list-style-type: none"> <li>• Nil</li> </ul>
Roads	Our present budget levels are sufficient to continue to manage risks in the medium term	<ul style="list-style-type: none"> <li>• Failure to intervene at an optimum intervention period</li> <li>• A higher level of expectation</li> <li>• Conditions change faster than forecast modelling</li> </ul>	<ul style="list-style-type: none"> <li>• Inspection and maintenance of road assets</li> <li>• Monitor all aspects that affect the long-term useful life of assets</li> </ul>	<ul style="list-style-type: none"> <li>• Mount Sugarloaf Road, Seahampton</li> <li>• Wilton Road, Awaba</li> <li>• High risk bushfire and flooding locations (itemised in Category Plan)</li> </ul>
Roadside assets	Our present budget levels are sufficient to continue to manage risks in the medium term	<ul style="list-style-type: none"> <li>• Incomplete/incorrect data assigned to asset in the asset register leading to poor planning and asset replacement determination (lack of data)</li> <li>• Life cycle costs not considered, leading to unattainable maintenance costs and/or early renewals</li> <li>• Resourcing (financial, technology, skills -loss of key staff and continuity planning)</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing operational budget so asset condition is better understood and assets prioritised for works</li> <li>• Training staff to consider overall life cycle costing of assets</li> <li>• Increasing resources as relevant to the task or role</li> </ul>	<ul style="list-style-type: none"> <li>• Nil</li> </ul>
Stormwater	Our present budget is insufficient to continue to manage risks in the medium term	<ul style="list-style-type: none"> <li>• Incomplete/incorrect data assigned to asset in asset register leading to poor planning</li> <li>• Life cycle costs not considered, leading to additional costs</li> </ul>	<ul style="list-style-type: none"> <li>• Review data in Asset Management Information System</li> <li>• Complete life cycle assessment as per Council policies for Asset Management and Financial Accountability Framework</li> </ul>	<ul style="list-style-type: none"> <li>• Garden Suburbs Detention Basin No. 2</li> <li>• Floraville Road Detention Basin</li> </ul>

# ASSET IMPROVEMENT PLAN

An asset improvement plan has been developed to identify on-going opportunities in asset management practices. The improvement plan is recognised as one of the key strategic pillars in the asset strategy, with actions identified in the Organisational support key focus area of the annual Operational Plan. Improvement actions have been developed under the framework of:

- ✓ Integrated Planning and Reporting
- ✓ Asset Management Framework
- ✓ asset knowledge
- ✓ system of management
- ✓ service levels
- ✓ performance and reporting.

Individual category plans also identify improvement actions specific to relevant asset categories.







# EVALUATION AND REVIEW

The Asset Management Plan and Asset Management Category Plans will be reviewed annually.

Outputs and activities achieved against the plans will be detailed in Council's Annual Report.



*For more information*



[lakemac.com.au](http://lakemac.com.au)



[lakemaccity](https://www.facebook.com/lakemaccity)



02 4921 0333



[ourlakemac](https://www.instagram.com/ourlakemac)



[lakemac](https://twitter.com/lakemac)