Fraser Coast Regional Council's

2022 / 23

Strategic Asset Management Plan (SAMP)

Long Term - Asset Management Plan (LT-AMP)

Endorsement

This 2022/23 Strategic Asset Management Plan (SAMP) has been prepared to reflect Fraser Coast Regional Council's (Council) Asset Management Strategy. The SAMP also includes Council's 2022/23 Long-term Asset Management Plan (LT-AMP).

The document at a minimum complies with the mandates set out in the *Local Government Act 2009* and the *Local Government Regulation 2012*.

Council endorses that the document:

- has been based on a series of assumptions and the best available data at the time.
- provides a rationale for and underpins the renewal funding request as specified in the related 10-year service financial forecasts and
- provides a strong platform from which to continue asset management advancement by identifying areas for further improvement.

Version Control

Version Number	Key changes	Approval Authority	Approval
0.1	Initial	AMSC	Endorsed
0.12		ELT	Approved
0.13	Final	COUNCIL	Reviewed
1.0	Approved and adopted	COUNCIL	Adopted

Contents

1. Executive Summary

The Fraser Coast Regional Council's 2022/23 Strategic Asset Management Plan (SAMP) inclusive of the Long-term Asset Management Plan (LT-AMP), is a comprehensive strategy that outlines Council's approach to managing its assets. The plan covers a detailed inventory of Council's assets, with an estimated replacement cost of $4.1B, as of June 30th, 2022.

Strategic Context and Issues

Development of the plan has been informed by the findings of the asset management maturity assessment completed in financial years 2020 – 2022. The maturity of Council's asset management is below the standards required by ISO55000 the International Standards of Asset Management and Auditor General's recommendations.

Asset Management Improvement Plan / Next Steps

A detailed roadmap for improvement was curated encompassing the current and the intended future state of the assets, and a plan for maintaining and renewing the assets over the long-term. Council's aim is to achieve core maturity by the first quarter of 2025. This plan outlines the service standards and the asset management improvement initiatives that Council aims to attain by the completion of the Asset Management Improvement Plan.

Current Situation

As of 30th June 2022, Council's comprehensive asset health assessments, incorporating both internal and external programs, reveal that the majority of assets fall within the 'fair to very good' condition bracket based on a consistent 1-5 grading system. Approximately 6% of assets are in 'poor to very poor' condition, indicating areas that require further risk analysis. Council recognises that these condition and performance assessments are crucial in steering operational and capital investment decisions. Factors such as inadequate maintenance, asset overuse, and harsh environmental conditions are known to expedite asset deterioration. Moreover, predictive modelling suggests that a specific group of network assets is nearing the end of their useful life and may soon require renewal. However, it's crucial to confirm these models with actual condition assessments through sample testing during the renewal planning process. Targeted performance and health monitoring will also be applied to critical and trunk infrastructure. Therefore, while predictive modelling is a useful tool for initial assessments, its outputs require validation for precise lifecycle analysis.

Risk Management

The SAMP proposes a risk-based approach to infrastructure and asset management. A high-level structure on the management of risks associated with Council's assets and strategies for building resilient infrastructure is incorporated in the document.

Approach to Asset Management

The decision-making and governance framework, considers Council's strategic goals and objectives, as well as the technical, financial, and social aspects of asset management. The criteria prioritise asset management interventions and determines the most cost-effective and sustainable course of action. Additionally, this plan intends to meet Local Government Regulations, Acts and Queensland State's Auditor General's recommendations.

It is important to note that the SAMP incl. LT-AMP are based on data that is low to medium level of confidence. Council is conducting data migration from multiple legacy asset registers to a centralised TechOne EAM system. It is anticipated that data confidence will increase, once Council has migrated completely to a centralised asset Information, finance, and spatial system.

Financial Forecast

Council's Operational and Maintenance (O&M) cost projection is based on available but potentially incomplete data, indicating room for further refinement. Benchmarking against standards from the Queensland Treasury Corporation (QTC) and the National Asset Management System Plus (NAMS+) suggests potential underfunding of the Council's O&M activities. Specifically, Councils allocation falls short of the recommended percentages of asset replacement costs suggested by these organisations. This gap presents risks, such as asset failure and service disruptions, and underscores the need for a review to align financial planning with effective asset management goals.

The projected required capital outlays including renewal/replacement and upgrade of existing assets and acquisition of new assets over the 10-year planning period is $59M, $8M and $51, respectively - on average per year. These projections are as at the 30th of June 2022.

There is a divergence between budgeted and projected requirements for asset renewals, especially in the short term. This could be attributed to a variety of factors such as inconsistent maintenance, shifting asset uses, inaccuracies in asset life estimates, and changing regulatory landscapes. The SAMP incl. LT-AMP highlights the

need for a thorough investigation to better align our long-term financial planning with the practicalities of asset management.

Opportunities

It is important to re-iterate that the asset data used to generate this SAMP incl. LT-AMP will benefit from further validation, cleansing and improvement. Asset data has been identified as a key asset management improvement required for Council. Future iterations of this plan will inform the progress of the Asset Data Improvement Program (ADIP).

2. Definitions

To assist in the interpretation of this Plan the following definitions apply:
"**Asset**" means a resource controlled by Council because of past transactions or other past events from which future economic benefits are expected to flow to Council. In the context of this policy, assets are typically physical (tangible) in nature and refers to infrastructure, property, plant and equipment, intangible assets, and capital works in progress.

"**Asset Class**" means a grouping of non-current assets used for disclosure purposes in the Financial Statements.

"**Asset Management**" means the life cycle management of physical assets to achieve the stated outputs of the enterprise.

"**Council**" means Fraser Coast Regional Council (FCRC)

"**Non-current Asset**" means an asset which is expected to be consumed over more than one financial year.

"**Non-current Asset Held for Resale**" means an asset where its' carrying amount will be recovered principally through a sale transaction rather than through continuing use. The asset must be available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such assets and its sale must be highly probable.

"**Infrastructure assets**" means the basic service requirement of Council that is necessary for its operation, such as (but not limited to): water, waste drainage, and transport.

"**Non-infrastructure assets**" includes but is not limited to the following: property, plant, land, and equipment.

"**Stakeholder**" means a person or group with an interest in the asset, such as councillors, officers, service users, members of the community/public, suppliers, government agency representatives (local, State and Federal), committees, working groups and regulatory bodies.

"Asset Management Plan" is a medium to long-term plan that outlines the strategies and actions necessary to achieve the asset management objectives, bespoke to a particular portfolio (e.g., Water Treatment Plan AMP or a Coastal and Riverine AMP)

"Strategic Asset Management Plan" is a comprehensive plan that outlines the management approach and objectives for all assets owned by Council over an extended period; it is inclusive of Council's long-term asset management plan (LT-AMP) pursuant to Local Government Act 2009 & Regulation 2012.[1]

"Critical Assets" [2]Assets that have higher consequence of failure (in terms of financial, environment, social and any other financial or non-financial impacts)

"Risk" [3]Risk is the impact on Fraser Coast Regional Council's objectives or possibility of harm or injury. It is measured in terms of likelihood and consequence.

"Risk Rating" A rating given after identifying the Likelihood and Consequence of the risk occurring. E.g., the likelihood an asset will fail is subject to condition rating, environmental factors, maintenance regime and the consequence is subject to the event occurring (i.e., if the asset were to fail, what would be the consequence for FCRC).

[1] In summary, a SAMP is a high-level strategic plan for Council, a LT-AMP is a long-term plan for managing Council's asset portfolios (all of them), and an AMP is a detailed asset lifecycle management plan for managing individual assets or groups of assets.

[2] https://www.namsplus.org/ IIMM,2020 (this version better aligns to the ISO 55000 Suite of Standards

[3] FCRC Risk Assessment Management Policy

3. Purpose and Scope

This Strategic Asset Management Plan (SAMP) has been prepared to include Fraser Coast Regional Council's (Council) Long-Term Asset Management Plan (LT-AMP).

The purpose of the SAMP incl. LT-AMP is to provide a strategic plan for the management of Council's assets. This SAMP incl.LT-AMP presents a business case for essential funding requirements that align levels of service (LOS), compliance with relevant regulations, demand forecasts, ensure value for money, mitigate operational risk, and work towards achieving long-term financial sustainability.

This report outlines the following:

- Organisational Context → outlines Council's Vision and the 2022 Maturity Assessment
- Legislative Context
- Asset Management Strategy including the ISO 55000 compliant Asset Management System
- Asset Management Decision Making
- Council's Asset Management Lifecycle Process
- Strategic Asset Management Objectives / Activities
- Council's Asset Portfolio
- Council's Asset Condition Profile
- Council's Asset Risk Management
- Long-term forecast for renewals to maintain the current levels of service.

This report provides a consolidated overview of the asset base, asset condition and funding requirements Including key funding changes over the forward 10 years, based on the best available information at this time.

4. Legislative context

The Strategic Asset Management Plan inclusive of the Long-term Asset Management Plans are updated regularly as part of Council's requirement to comply with the *Local Government Act 2009, Section 104 (5*) and the *Local Government Regulation 2012, Section 167 & 168*. Council is required to prepare and adopt a long-term Asset management Plan which must:

- provide for strategies to ensure the sustainable management of the assets mentioned in the local government's asset register and the infrastructure of the local government; and
- state the estimated capital expenditure for renewing, upgrading, and extending useful life of assets for the period covered by the plan; and be part of, and consistent with, the long-term Financial Forecast.

5. Organisational context

5.1. Corporate Plan

A set of key themes articulate Council's Organisational priorities. The key Visions outlined in the proposed Corporate Plan:

- Effectively manage and maintain our assets.
- Plan for the future
- Maintain financial sustainability.
- Provide focused service delivery.

As reflected in Figure 1 below, Council is actively working towards achieving this vision through the implementation of the Corporate Plan in conjunctions with other council strategies, plans and reports.

The successful implementation of these plans and strategies is supported through Council's approach towards:

- long term planning for the future infrastructure needs for the region.
- ongoing stewardship of the existing infrastructure on behalf of the region.

Undertaking such a long-term planning approach for Council's infrastructure and assets; enables Council to deliver both short-term and long-term financial sustainability. The results of these planning activities are summarised in this SAMP incl LT-AMP and reported through financial plans such as the Annual Operating Plan, the Annual Budget, and the Long-Term Financial Forecasts.

Figure 1. Strategic - Organisation Framework for Fraser Coast Regional Council

5.2. *Introducing Sustainable Asset Management Practices*

Recent Corporate Planning initiatives have highlighted the increasing expectations regarding sustainable financial and asset management planning to be incorporated as a part of Council's corporate performance measures. Practical financial and asset management planning is essential to ensure Council can continue to provide the desired levels of services within Council's financial capacities.

In addition to Council's financial position, sustainability includes factors such as '*Environmental, Social and Governance*' (ESG) targets. The Fraser Coast region is ideally positioned to drive significant progress on ESG initiatives through sound asset management system and governance, including but not limited to the implementation of a risk-based asset management decision-making criteria explored in section 6.

Implementation of the proposed risk-based approach to asset management will provide Council with insight into the financial and ESG constraints and support the development of more tailored asset investment decisions i.e., encourage a well substantiated Capital and Operation expense forecast. Additionally, sustainable asset management practices will support Council's critical infrastructure growth for the Fraser Coast region.

5.2.1. *Informing Long-term Financial Plan / Forecasts*

Council's financial sustainability is reliant on effective management of its assets. The Local Government regulations and Queensland Audit Office recommend that the SAMP incl. LT-AMP and the Long-term Financial Plan (LTFP) convey a consistent message about Council's asset base and financial position. Currently at a 'basic' level, the LTFP and LT-AMP is used to inform long-term capital and operational asset investment decisions for Council.

However, Council's current reconciliation process for financial and asset information systems requires manual intervention to ensure completeness. Council is working on aligning its financial and asset information systems, including the use of the same asset identifier, and conducting asset identification through Work in Progress (WIP) Capitalisation.

These improvements are expected to be implemented at a reasonable timeframe, subject to the success of the data migration process, further ensuring financial sustainability.

5.3. Local Government Infrastructure Plan

The Local Government Infrastructure Plan (LGIP) identifies the local government's plans for trunk infrastructure that is necessary to service urban development growth at a desired standard of service in a coordinated, efficient, and financially sustainable manner. The LGIP is formed in accordance with the *Planning Act 2016* and the Statutory Guideline 03/14 Local Government Infrastructure Plans.

The LGIP includes planning assumptions (for population and employment), priority infrastructure areas, desired standards of service and plans for trunk infrastructure. To successfully deliver the LGIP, it is imperative that the LGIP aligns with the proposed LTFP and LT-AMP.

As the Asset Management space matures for Council, it will better inform LGIP and other related forward forecasting strategies by identifying asset investment requirements through asset attribute data, current asset condition & performance information, disaster & risk management planning and whole-of-life cycle cost analysis.

5.4. Asset Management Governance

Asset Management Governance is the way an organisation allocates responsibility for and makes decisions about asset management related projects, tasks, actions, and issues.

As asset management for Council is a broad discipline that spans the interests of a range of departments and directorates, the overall responsibility for asset management is shared. The Asset Management Steering Committee (AMSC) is a cross functional representation created to oversee the governance and guidance of ongoing management and development of Council's Asset Management Framework.

The endorsed objective of the Asset Management Governance is to:

- Promote the continual improvement of Asset Management practices and capabilities through Council, including increasing alignment to the International Standard of Asset Management (ISO55000).
- Implement a council-wide Asset Management System that delivers cost effective, sustainable, systematic, and coordinated management of services and associated assets to ensure financial sustainability.
- Ensure good stewardship and governance for the sustainable management of the assets that is in line with Council's Asset Management Policy.
- Provide strategic leadership for Asset Management through the alignment of Asset Management strategic objectives, processes, Operational and Capital activities to ensure a whole organisational approach to the management of services and associated assets (both infrastructure and non-infrastructure).
- Promote collaborative and interdisciplinary life-cycle asset management planning across Council and ensure open and clear communication between the various service/function areas, to satisfy internal and external stakeholder expectations and acceptability.

5.5. Maturity Assessment

The Queensland Audit Office (QAO) conducted an audit in May 2022 (via a self-assessment) to assess the asset management maturity of Local Government Authorities (LGAs) across Queensland and benchmark them against similar councils across the state. At the time of the audit, the self-assessed asset management maturity score for Fraser Coast Regional Council (FCRC) was 1.7/5.

The 2021 IAM FCRC asset management maturity assessment was a key input into QAO asset management self-assessment. The assessment applied the Institute of Asset Management (IAM) Self-Assessment Methodology tool. The inputs were derived from a detailed interview process across the multiple directorates and leadership teams within FCRC.

The QAO conducted a comparative analysis and submitted benchmarking results to FCRC, indicating that FCRC's asset management current and desired maturity is positioned slightly lower than the State's Coastal Segment average. FCRC has developed an asset management maturity roadmap, to improve its asset management practices.

The overall asset management maturity for Council's asset management function can be seen in Appendix A. The Asset Management Improvement Program (AMIP) shown in section 9 is based on the maturity assessment findings 2020/2022 and the 2022/23 stakeholder workshops.

6. Asset Management Processes

Council is adopting a comprehensive whole-of-life cycle approach to asset management, encompassing every stage from initial planning to final disposal. The asset management life cycle process, as per ISO 55000, involves a systematic approach to managing assets from throughout the asset life. This process ensures assets are effectively managed to align with Council's strategic goals and achieve desired levels of performance and sustainability. Figure 2 highlights the proposed asset management processes for Council.

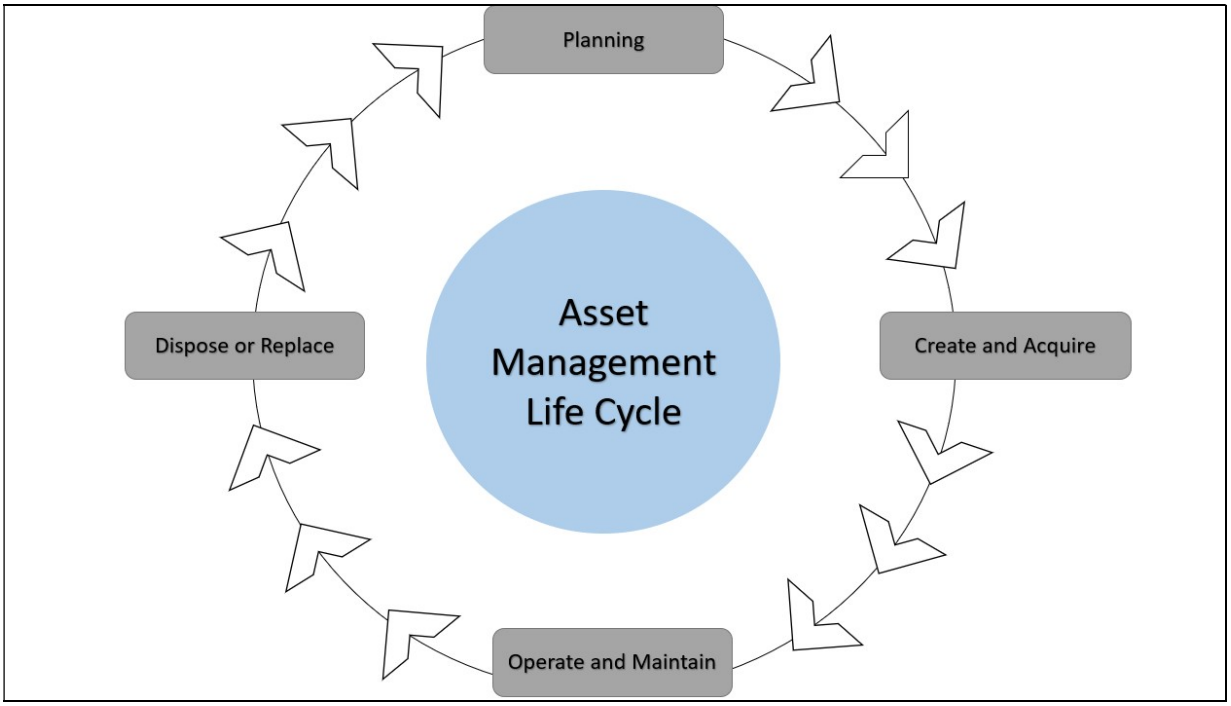


Figure 2. Fraser Coast Regional Council – Asset Lifecycle Management Processes

The asset life cycle process, aligned with ISO 55000, consists of the following key stages within Council's Asset Management:

- PLANNING:
  - Define asset management objectives and strategies in line with organisational goals.
  - Identify and assess asset-related risks and opportunities.
  - Develop plans for asset acquisition, maintenance, operation, and eventual disposal or replacement.

- ACQUIRE:
  - Procure and acquire assets as per defined strategies and plans.
  - Ensure assets meet required specifications and standards.
  - Verify asset documentation and record vital information for future management.

- MAINTAIN AND OPERATE:
  - Regularly maintain assets to sustain performance and condition.
  - Optimise asset operations to achieve desired service levels and efficiency.
  - Monitor asset performance, conduct inspections, and perform necessary testing.

- DISPOSE or REPLACE:
  - Determine the end of an asset's useful life or obsolescence.
  - Decide whether to dispose of or replace the asset.
  - Plan for asset retirement, decommissioning, or replacement to maintain value and continuity.

These stages form a continuous and systematic asset management life cycle, enabling Council to effectively manage assets throughout their entire life span.

7. Asset Management Strategy

This section of the SAMP addresses the requirement specified in the *Local Government Act 2009, Section 104(5) and the Local Government Regulation 2012, Sections 167 & 168*, by providing strategies to ensure the sustainable management of assets listed in the local government's asset register and the broader infrastructure of the local government.

The Asset Management Strategy will aim to achieve an optimal balance between maintenance and renewal activities, with the objective of minimising overall lifecycle costs. The subsequent sections will outline the Council's overarching strategies for maintenance and renewal, accompanied by a comprehensive analysis of their applicability.

Council aspires to develop and maintain effective asset management governance, competent skills, efficient processes, reliable systems, and accurate data. This commitment will be driven by the goal of providing the community with the required level of service both presently and in the future, in a cost-effective and fit-for-purpose manner. The objectives of this strategic asset management plan will be to:

- Implement a risk-based approach to asset management, allowing Council to focus short-term efforts on the high-risk assets and defer medium to low-risk assets to the outer years of the long-term capital forecast.
- Define robust risk assessment and management processes, encompassing risk identification, analysis, mitigation, and monitoring, to proactively address risks associated with critical assets.
- Incorporate whole-of-life cost analysis into asset management decision-making processes to ensure a comprehensive evaluation of costs associated with asset acquisition, operation, maintenance, and disposal throughout their entire life cycle.
- Link and integrate Council’s plans and resources, indicating which services are to be delivered through which assets.
- Forecast future service delivery needs and the capacity of assets to meet those, on a short, medium, and long-term basis.
- Maintain physical asset health by implementing appropriate asset management strategies and appropriate financial resources for those assets
- Review the available funds from the Long-Term Financial Plan to balance affordable service level targets and set out a strategy to communicate the corresponding service levels and risks and how these will be managed to Council and the community. To achieve this, Council’s Asset Management Plans will:
    - Consider the financial resources available to Council through the Long-Term Financial Plan,
    - Consider the service level targets that Council aims to achieve in terms of delivering services to the community (through the specific asset) and ensure that these targets are achievable within the financial resources available.
    - Articulate the potential consequences, impacts, and challenges that may arise from failing to achieve the desired performance levels.
- Specify actions required to improve Council's asset management capability, projected resource requirements, and timeframes.
- Establish systems for asset health and performance measurement.
- Provide high level oversight of financial and asset management responsibilities through Audit Committee/CEO reporting to Council on development and implementation of the Strategic Asset Management Plan including the Long-term Asset Management Plans, Asset Management Plan(s), and Long-Term Financial Plan.
- Ensure ongoing alignment with the agreed Asset Management strategy by conducting a three-to-five-year Asset Management maturity assessment to measure its progress.
- Conduct an annual review of the Long-Term Financial Forecast within the Long-Term Asset Management Plan until comprehensive Asset Management Plans are established for all Council’s entire Asset bases.
- Establish plans to achieve all asset management objectives and initiatives outlined in the Asset Management policy, Strategic Asset Management Plan and the Asset Management Improvement Plan

7.1.1 Council's approach to setting strategic / long-term asset management objectives.

Council's strategic asset management / long-term asset management objectives are formally addressed in the Asset Management Policy. The method to asset management objective setting is displayed in figure 3. The current approach is in line with the overall asset management framework seen in section 5.1.

Strategic asset management objectives are informed by Council's Corporate plan, relevant local government legislation & infrastructure plan, QAO auditor recommendations and International and Australian standards.

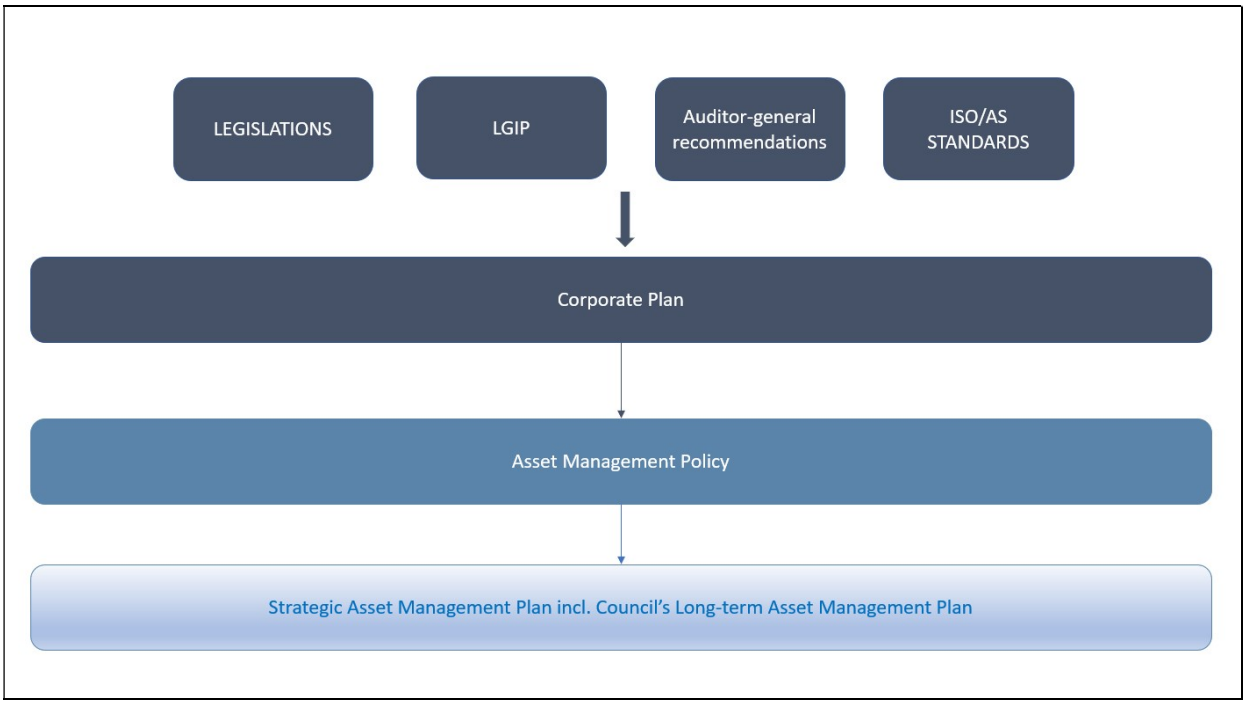


Figure 3. Fraser Coast Regional Council – Strategic Asset Management Objective Setting Inputs

7.2 Risk-based asset management decision-making approach

Effective decision-making requires a framework to be strategically managed to ensure consistency across all Council's directorates that aligns with business objectives. ISO 55002:2018 clause 6; has laid out a value-based, risk-based decision-making framework that infrastructure and asset intensive organisations like Councils should implement. Council has introduced an infrastructure and asset risk management process. As this initiative matures, Council will consider a risk-based asset management decision-making criterion in the next iteration of the asset management process. This criterion will form an integral part of Council's overarching strategic prioritisation process for infrastructure and asset renewals, maintenance, new and upgrade. This is particularly important for a regional local government authority like Fraser Coast Regional Council as adequate resourcing (time, budget, and competent staff) is difficult to obtain.

Benefits of a risk-based approach to asset management includes:

- statutory compliance,
- resolution of safety issues,
- enforce preventative maintenance regime and reduce reactive maintenance, especially for critical infrastructure and assets.
- lessen maintenance backlog and reduced life cycle costs
- optimised service investment

In future iteration of the SAMP, the risk methodology, assessment, and findings will be covered in Council's Infrastructure Risk Management plans. These documents will be governed by council's internal risk advisory group.

7.2.1. Capital Investment Decision-Making criteria.

Council's aim of optimising overall asset life cycle costs requires an appropriate balance of renewal and maintenance. The general asset management strategy is to schedule maintenance, renewal, and reconstruction treatments at the most economic times during an assets life to minimise the lifecycle cost. Council should address minor asset defects through maintenance works, and when the defect is beyond typical maintenance, asset renewal is considered.

As Council's asset management maturity improves, appropriate whole-of-life-cost analysis will form a vital part of the capital investment decision-making criteria. The risk-based capital investment decision-making criteria should clearly communicate the urgency of the decision, so that the risks associated with deferral of decisions are clear to stakeholders. The urgency of the decision will be communicated through asset condition, remaining useful life, asset performance and asset criticality i.e., via the asset risk score.

Council's infrastructure and assets underpins its service delivery activities. It is therefore a requirement to adopt an appropriate and effective asset-based risk management regime. The initiatives, recommendations and programs within this SAMP intends to reduce the impact of inherent risks through effective asset management. To ensure that Council complies with the requirements of the Local Government Act and Regulations the strategies will be adopted in an Asset Investment Policy that is yet to be developed as an improvement initiative. This will be critical to ensuring that sufficient funding is allocated to support the future renewal.

7.2.2. Operations and Maintenance Decision Making Methodology.

The 2020-22 maturity assessment reveals that Council predominantly follows a reactive maintenance approach for its assets. Currently, some departments schedule planned and proactive maintenance for their assets. The lack of sustainable maintenance planning exposes Council's high-risk Infrastructure and asset base to significant legal, safety, and reputational risks.

In accordance with the overarching asset management decision-making criteria, it is recommended that the Council adopts a risk-based approach to operational and maintenance decision making for its infrastructure and assets. To enhance operational planning and prioritise maintenance works effectively, the Council should address asset defects across different asset classes. The Asset Custodians Council should develop a methodology for operational and maintenance profiling.

This proposed methodology will establish prioritised categories ranging from high criticality to low criticality. These profiling categories will guide maintenance personnel in addressing specific types of defects within defined timeframes. This approach aligns with the concept of prioritising maintenance for high-risk assets. Implementation of this approach is expected to lead to cost efficiencies, improved maintenance scheduling, and more appropriate response times for addressing defects.

The details of these activities should be documented in the Asset Management Plans (AMPs) and subsequently incorporated into the department's maintenance specifications and condition assessment plans. This will ensure a systematic and coordinated approach to asset management, resulting in more efficient maintenance practices and improved outcomes.

8. Council's Long-Term Asset Management Plan

The Long-term AMP provides a roadmap for effectively managing the entire life cycle of assets, from acquisition to disposal or replacement, while considering factors such as sustainability, budget constraints, risk management, and alignment with organisational goals.

Council will regularly update the Long-term Asset Management Planning sections to comply with the Local Government Act 2009, Section 104(5), and the Local Government Regulation 2012, Sections 167 & 168, requiring strategies for sustainable asset management, estimated capital expenditure for asset renewal, and alignment with the long-term Financial Forecast.

8.1 Assets

In accordance with Council's Non-Current Asset Accounting Policies for the Queensland Public Sector (NCAP), physical assets are items such as land, buildings, information technology, infrastructure, library collections, equipment, or fleet. Non-current assets are expected to have a service life of more than one year.

This SAMP/LT-AMP applies to all physical assets managed by Council, however the initial focus will be given to Council's long-life infrastructure assets, as per Council's Asset Management Policy. Therefore, the physical asset classes covered by this document are categorised in table 8.1.

The total estimated replacement cost of all assets is approximately $4.1 billion as of 30th June 2022; this value represents 100% of the total replacement cost for all financially recognised assets. See table 8.1 for distribution of existing asset group by replacement value.

It is important to note that Council is currently migrating asset data from its legacy Asset Management (AM) systems to the new TechOne EAM system. As the data migration progresses and asset data quality improves the replacement value is expected to change in future iterations of this LT-AMP.

8.1 Fraser Coast Regional Council – Asset Classes (as at 30th June 2022)

Council's Asset Classes	Number of Assets/ Components/Segments	Replacement Value $M
Land & Held for Resale	1,475	$129.0
Biological	76	$0.9
Buildings and Other Structures	4,842	$339.0
Coastal Infrastructure	129	$34.0
Road & Bridge Network Infrastructure	47,412	$1,348.0
Stormwater Drainage	57,856	$652.0
Water Infrastructure	123,966	$778.0
Sewer Infrastructure	69,217	$693.0
Intangibles	221	$7.30
Property, Plant, Fleet and Equipment	311,583	$93.0
Information Technology Network	3,380	$10.0
Total		$4,084.2

8.2 Asset Age and Remaining Useful Life

The average remaining useful life of Council assets is 60%. In some cases, the corrosive environment at which Councils assets reside and operate in; is accelerating this process.

Table 8.2 shows the useful life range, average age and average remaining useful life spread for Council's asset classes. Over the next 10 to 30 years, a significant portion of the portfolio will reach the end of their design useful life and likely require renewal or replacement.

Thorough review and benchmarking of Council's asset remaining useful life data is required to increase the confidence in sound asset management decision making. Council is adopting a risk-based approach to asset management, which involves prioritising the maintenance, repair, and replacement of assets based on their risk of failure or obsolescence. This can help Council make more informed decisions around the allocation of resources and ensure that the assets that are most critical to Council's primary functions are well-managed.

8.2 Average Useful Life, Remaining Useful Life and Age (as at 30th June 2022)

Classes	Average Useful Life	Average Age (years)	Average RUL (years)	Average RUL (%)
Land & Held for Resale	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Biological	Not Available	Not Available	Not Available	Not Available
Buildings and Other Structures	69	12	52	75%
Coastal Infrastructure	44	10	26	59%
Road & Bridge Network Infrastructure	100+	24	85	81%
Stormwater Drainage	100+	24	61	58%
Water Infrastructure	48	19	34	70%
Sewer Infrastructure	65	31	38	58%
Intangibles	10	12	6	64%
Property, Plant, Fleet and Equipment	6+	6	3	52%
Information Technology Network	Not Available in NCAP breakdown			

8.3 Ageing Infrastructure and Asset Strategy

As Council's infrastructure assets age, they will be more susceptible to deterioration and failure. Leading to safety issues, such as the risk of collapse or failure of critical systems, as well as disruptions to essential services, such as water and transport. Additionally, aging infrastructure can become inefficient, requiring frequent and more expensive maintenance which may be unsustainable for Council effectively manage.

The resource required to maintain and replace infrastructure can be extensive. In the case of Council, time and human resource availability are key inhibitors of timely responses to aging assets, but some possible strategies for addressing aging infrastructure may include:

- **Prioritising maintenance and repair:** predictive and proactive maintenance and repair can help extend the life of infrastructure and prevent more costly repairs or replacements down the line. For Council this is subject to the timely transition to TechOne EAM – Works Module. The efficacy of this module will be discussed in future iterations of the SAMP.
- **Implementing a risk-based approach to asset management:** Existing asset management principles, can help Council to better triage their asset portfolio; where assets are categorised based on their risk priority i.e., condition, performance, and criticality of the asset. Allowing Council to focus their short-term efforts on the high-risk assets and defer medium to low-risk assets to the outer years of the long-term capital forecast.
- **Whole of life cost analysis:** it may be necessary for aging infrastructure that is no longer fit for its intended purpose or that is unable to meet the needs of a growing population to undergo renewal, new, duplication or upgrade. It is proposed, that as the asset data quality improves, Councill will conduct options analysis to better inform their long-term capital decision making.

- **Stakeholder collaboration:** Working with other agencies, such as utilities, transportation agencies, and local governments that are in a similar environment to the Fraser Coast can help facilitate the sharing of resources and expertise and lead to more efficient and effective infrastructure management.

8.4 Asset Growth

Figures 4 and 5 confirm that the Fraser Coast Regional Council has seen a steady growth in its asset base in the last 50 – 60 years, particularly for the Water, Sewerage, Drainage and Transport Networks, which can reasonably be attributed to the population growth for the region. Council has seen significant growth in environmental assets, such as the stormwater and drainage portfolio. This can also be attributed to increased urbanisation and arguably climate change, which has resulted in greater demand for effective stormwater management and drainage systems for the region. As the need for climate resiliency increases, it is expected that climate resilient asset growth will be required to meet environmental sustainability targets. Additionally, as the LGIP comes to fruition, the Fraser Coast can expect infrastructure growth based on the LGIP model predictions at the time.

It is important to note that the accuracy around acqusition date will increase over time, as Council moves towards a centralised asset and financial register. Finally, as data quality increases, Council is required to analyse the asset performance and durability for the varying acquistion methods over the asset life cycle. Different asset inception methods may require bespoke life cycle management strategies.

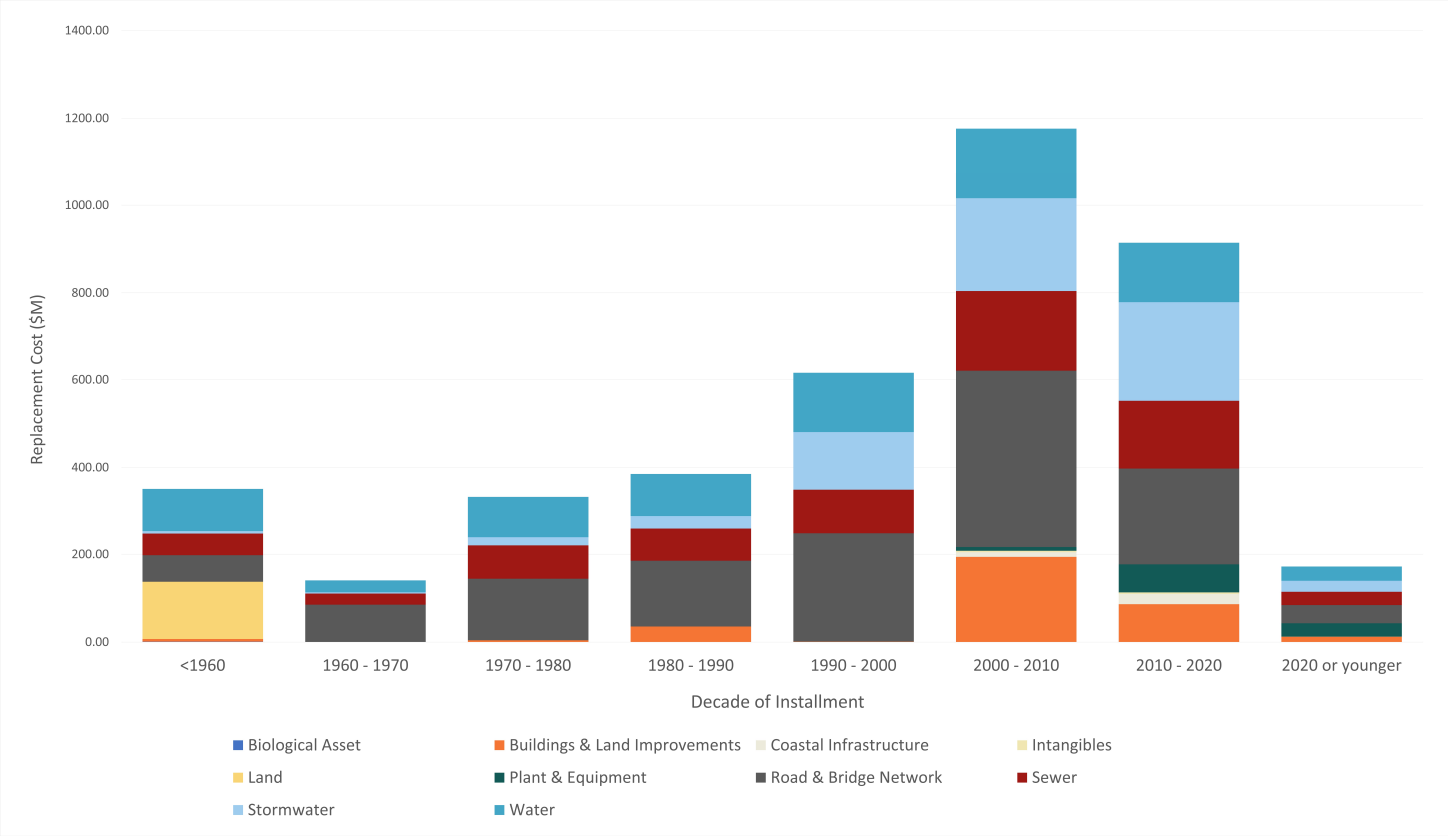


Figure 4. Asset Acquistion Date by Replacement Value

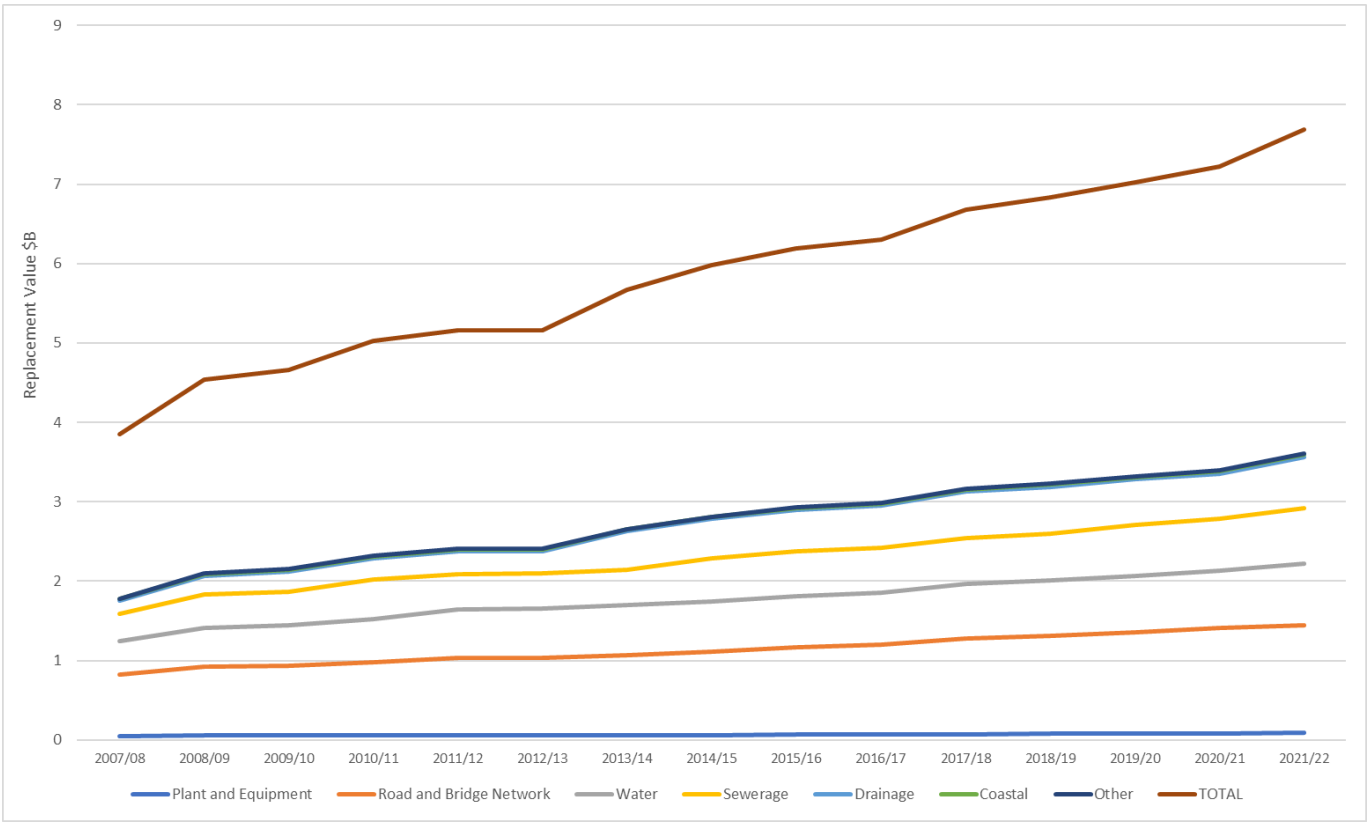


Figure 5. Cumulative Asset Growth since 2008

Council currently utilises various methods to acquire infrastructure and assets. The acquisition methods for Council include: Constructed, Found, Contributed and Purchased. As asset data is currently being migrated from legacy systems to TechOne EAM, it is anticipated that the precision around acqusition will increase over time.

8.5 Future Demand

The future demand for assets and the impact on service delivery, will be influenced by factors such as the; increase in community's service level expectations, climate change, new technologies, standards, demographics and population growth. These demands will be addressed through a combination of managing existing assets, upgrading assets, and providing new (additional) assets. Non-asset solutions, risk management, and failure management may also be implemented. The Local Government Infrastructure Plan (LGIP) will play a vital role in identifying necessary trunk infrastructure for coordinated, efficient, and financially sustainable urban development

Effective asset management planning and acquisition strategies will be used in conjunction with the Strategies implemented by the individual Departments, Asset Custodians and Custodian representative, in order to manage demand. The Planning Scheme Review project aims to align land use planning with the Strategies and State Planning Policy requirements. This may result in changes to population growth assumptions and density reduction areas around the Fraser Coast region. As a first step, Council is proposing to mitigate the impacts of climate change through sustainable coastal hazards and flood mitigation management.

As Council's Asset Management practices mature, it will inform the LGIP and future strategies, ensuring preparedness for evolving demands while maintaining a sustainable and financially responsible approach to asset management and service delivery.

8.6 Climate Change Adaptation

Climate change has the potential to significantly impact the assets managed by Council and the services they provide. It is an important factor to consider in the asset management planning process as it can both increase demand for assets and pose a risk to existing assets. The specific impacts of climate change on assets will vary depending on their location and the services they provide, therefore, a tailored approach will be taken to manage these impacts.

At a minimum, Council will consider how to manage existing assets in light of potential climate change impacts for the region. Council has identified risks and opportunities associated with climate change, as outlined in Table 8.3.

Table 8.3 Managing the Impact of Climate Change on Assets and Services

Climate Change Description	Projected Change	Potential Impact on Assets and Services
Increased demand for assets	Climate change can increase demand for assets, such as infrastructure for flood protection and coastal erosion control as well as for services such as emergency management. Increased maintenance and repair costs	Climate change can result in more extreme weather events, which can lead to increased maintenance and repair costs for assets
Increased maintenance and repair costs	Climate change can result in more extreme weather events	Lead to increased maintenance and repair costs for assets
Reduced service life and functionality	Due to increased exposure to extreme weather events and sea level rise	Reduced service life and functionality of assets, such as roads and bridges
Risk of loss or damage to assets	Climate change can increase the risk of loss due to flooding, scouring and landslide etc	Risk of loss or damage to assets
Changes in land use and development patterns	Climate change can also lead to changes in land use and development patterns	Implications for the location and design of assets

To address these strategic asset management impacts, it is acknowledged that Council may consider the development of a climate change adaptation strategy in future, which may incorporate the following elements:

- Identify and assess the potential impacts of climate change on assets and services.
- Develop a plan to manage and mitigate these impacts, including measures such as upgrading existing assets, providing new assets, and implementing non-asset solutions.
- Incorporate climate change considerations into all aspects of asset management planning and decision-making.
- Regularly review and update the climate change adaptation strategy to take into account new information and changing conditions.

It is important to note that Council will need to consider the specific needs and circumstances of its region in order to develop and implement an effective climate change adaptation strategy.

Coastal Hazard Adaptation Strategy

The development and implementation of a Coastal Hazard Adaptation Strategy (CHAS) was undertaken to address the potential impacts of climate change on Council's coastal assets. The CHAS addresses the identified risks and opportunities associated with climate change, considering the location and services provided by each asset. The project has identified potential risks to the community, assets, and values associated with coastal hazards, specifically:

- Temporary flooding of coastal areas due to storm tide;
- Temporary or permanent loss of land due to coastal erosion; and
- Permanent loss of land due to coastal erosion and sea level rise.

The Coastal Hazard Adaptation Strategy (CHAS) is a long-term planning project that aims to assess the impacts of climate change on existing assets within the Fraser Coast region. The project is part of the QCoast2100 program, which is a statewide initiative to help coastal communities adapt to climate change. It guides the adoption of measures tailored to manage and mitigate these impacts effectively. Such measures may include upgrading existing assets, introducing new assets, and implementing non-asset solutions. The planning horizon for the CHAS project is 2100, which means that the project will consider the impacts of climate change over the next 87 years.

Developing an effective climate change adaptation strategy requires careful consideration of the specific needs and circumstances of Council's region to ensure resilient and sustainable asset management practices. By incorporating the CHAS into the long-term AMP, Council aims to proactively address climate change challenges and safeguard the community and assets for the future.

Council’s detailed CHAS can be found on the Fraser Coast Regional Council Website.

New Climate Change Resilient Assets

To build resilience in new assets, Council may consider incorporating climate change projections, designing for extreme weather events, using durable materials, incorporating flexibility and adaptability, prioritising preventative maintenance, and incorporating monitoring and reporting systems into the design, construction, and maintenance of new assets. This will help ensure that the assets can withstand the impacts of climate change, services can be sustained, and lifecycle costs and carbon footprint can be reduced.

Council is committed to integrating climate change considerations into all aspects of asset management planning and decision-making. Regular reviews and updates of the climate change adaptation strategy will ensure that it remains up to date with new information and changing conditions.

Building resilience to climate change is a continuous process and further opportunities will be developed in future iterations of the SAMP incl LT- AMP.

8.7 Asset Health

The purpose of condition assessment and performance monitoring is to obtain an understanding of the current state of the assets and determine how they may perform into the future. Additionally, condition assessment is undertaken to substantiate both OPEX and CAPEX funding requirements. Council monitors asset health by analysing the data gathered from a series of condition assessment programs. These condition assessment programs are both internally and externally resourced.

Though the assessment methodology and the parameters may vary between each asset class, the global condition grading system remains consistent across each portfolio. Condition is measured using a 1 – 5 grading system as detailed in table below.

Table 8.4 Fraser Coast Regional Council – Global Condition Description

Selection Code	Short Description	Description
1	Very Good Condition	Near new and/or excellent condition, age-based approach greater than 90% of design life
2	Good Condition	Minor defects only, good overall condition with wear and deterioration slight, aged, based approach between 75%-90% of design life
3	Fair or moderate Condition	Maintenance Required, some serviceability loss/deterioration aged based approach between 25%-75% of design life
4	Poor Condition	Requires Renewal, obvious deterioration or service loss, high maintenance costs or WHS issues emerging, age-based approach between 10%-25% of design life
5	Very Poor Condition	Urgent Renewal, service deterioration problems, very high maintenance costs or WHS issue outstanding, age-based approach below 10% of design life
TBD	To Be Determined	Asset that has no known condition assessment undertaken/recorded

Assets are continually assessed as a part of the ongoing condition assessment program and a breakdown of condition is shown in Figure 14. Council's assets generally range from very good to fair condition with less than 6% of the asset base at poor to very poor condition.

Council recognises the significance asset condition assessments to identify areas of concern and prioritise operational and capital - asset investment decisions, accordingly. Various factors can influence asset health, such as:

- Lack of planned maintenance can contribute to premature asset failure.
- Unplanned asset use or overuse can lead to the deterioration of asset condition.
- Asset degradation can be exacerbated, due to the corrosive environment in which the assets reside in. Additionally.
    - an asset that is not properly designed, constructed, configured to withstand the environmental conditions will undergo accelerated degradation.
- Due to asset accessibility issues; in some instances, predictive life cycle modelling has provided an indication of when assets are likely to reach the end of their useful life.
    - In these instances, modelled conditions and performance data will require validation through actual condition assessment at the time of predicted renewal intervention.
    - Assessment of a representative sample of assets from a cohort may be used estimate the condition of the entire cohort (particularly inaccessible assets) and justify the need for replacement.

Finally, it is important to highlight that the below diagram was developed using asset and condition data that requires significant improvement. The AMIP mentioned in section below, identifies the need to undergo asset data quality improvement (ADIP). Details for the ADIP requirement, will be covered in the 'Improvement Planning' section below.

As per the asset management maturity assessment, findings suggest that Council's current condition assessment practices are disparate and '*inconsistent across asset types with no feedback'*. As a result, Council is meeting only the '*basic'* asset performance and health monitoring requirements.

The AMIP recognises the need for a consistent condition assessment framework for Council's asset base and proposes to introduce detailed Condition Assessment Plans for high-risk infrastructure by 2024.

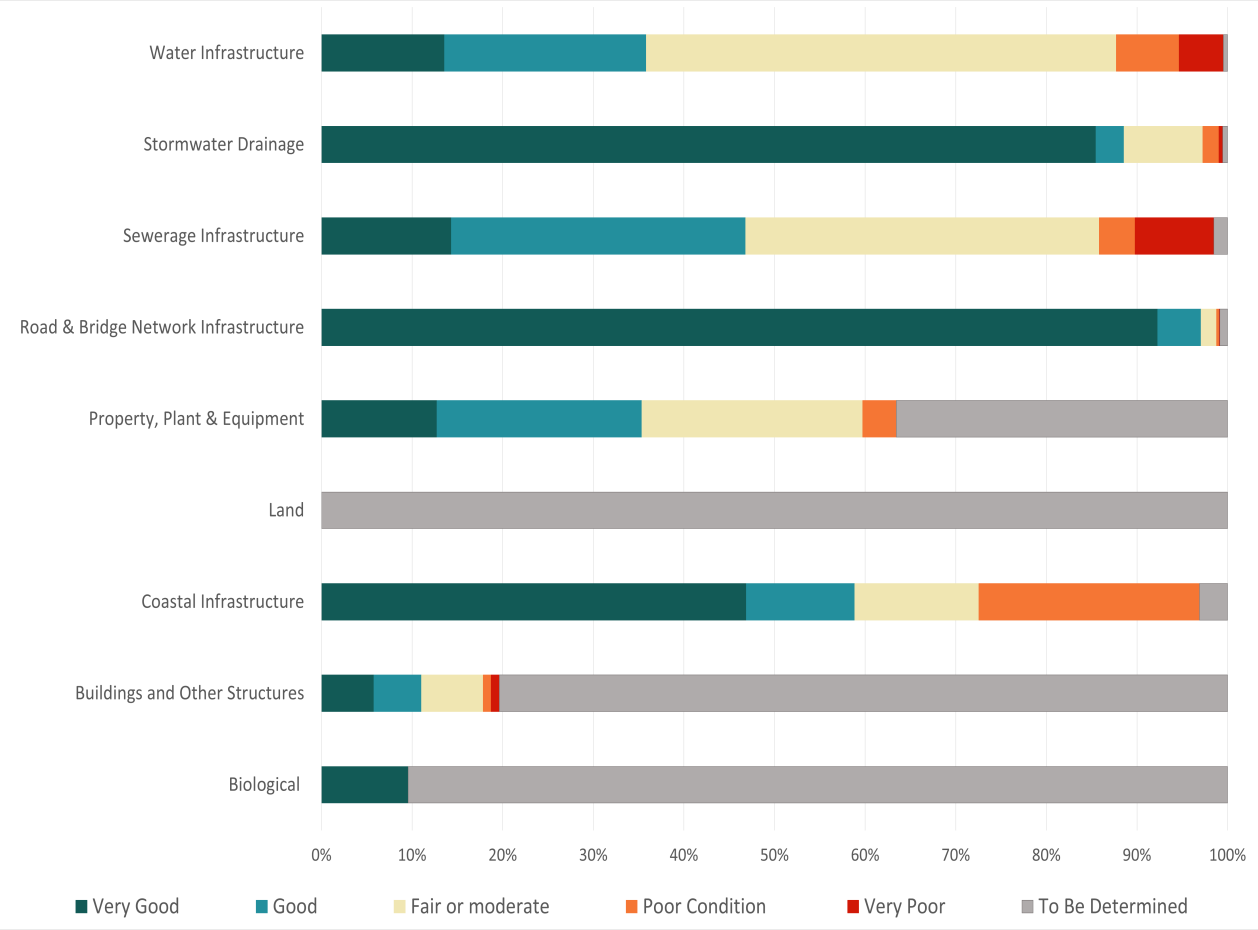


Figure 14. Fraser Coast Regional Council – Asset Condition % by Replacement Value ($)

8.8 Asset Performance

Effective asset performance management is a crucial aspect of maintaining infrastructure and assets to meet their intended design life and required level of service. In the Fraser Coast region, as the infrastructure asset base matures, proactive monitoring becomes essential to address ageing infrastructure and ensure service levels provided to the community are sustained while managing associated risks.

Council recognises the significance of monitoring asset performance and condition to identify areas of concern and prioritise maintenance efforts. Various factors can influence asset performance, such as:

- environmental conditions,
- increased demand,
- material usage,
- construction methods, and
- infrastructure standards.

By employing tailored and comprehensive performance measurements over time, trends and potential issues can be identified, enabling informed decision-making.

Prioritising the assessment and monitoring of assets allows Council to take proactive measures to address challenges and optimise resource allocation effectively. It promotes prudent financial planning and ensures that assets continue to serve the community efficiently, safely, and in line with evolving needs and expectations.

By embracing a holistic approach to asset performance monitoring, Council demonstrates its commitment to maintaining a sustainable, reliable, and resilient infrastructure network for the benefit of the community. Future iteration of this document will identify Key Performance Indicators associated with management of Council's assets and infrastructure.

8.9 Asset Risk Management Planning

The purpose of this section is to identify, assess, and prioritise potential risks to Council's assets and infrastructure and to develop strategies to mitigate or manage those risks. This section outlines the objectives of the proposed Council's asset risk management plan, identifies the assets that need to be prioritised for operational and capital intervention, and details the strategies that will be implemented to manage those risks. The objectives of the proposed Council's asset risk management plan are to:

- identify potential risks to Council's assets, including both physical and intangible assets,
- assess the likelihood and potential impact of those risks,
- prioritise the risks based on the likelihood and potential impact,
- develop and implement strategies to mitigate or manage the identified risks, and
- continuously monitor and review the effectiveness of Council's risk management strategies.

Council is to adopt a risk-based approach to asset management. The risks to Council's assets will be assessed based on the likelihood of their occurrence and the potential impact on Council operations. Asset management decision making will be triaged based on the potential and the consequence measures - with a focus on high-criticality asset risks that could have a significant impact on Council functions.

The effectiveness of Council's risk management strategies will be continuously monitored and reviewed, and any necessary adjustments will be made to ensure that Council assets are effectively protected. The Asset Risk Management Plan will be reviewed and updated on a regular basis to ensure that it remains effective in addressing Council's changing risk landscape.

Council currently adopts the following risk matrix table as endorsed by ISO 31000, Current Asset Management Plans, and Internal Corporate Risk Management advice.

	Consequence				
Likelihood	**Insignificant**	**Minor**	**Moderate**	**Major**	**Severe**
Almost Certain	**Medium**	**High**	**High**	**Extreme**	**Extreme**
Likely	**Medium**	**Medium**	**High**	**Extreme**	**Extreme**
Possible	**Medium**	**Medium**	**High**	**High**	**Extreme**
Unlikely	**Low**	**Medium**	**Medium**	**High**	**High**
Rare	**Low**	**Low**	**Medium**	**High**	**High**

Figure 15. Fraser Coast Regional Council – Risk Management Matrix

8.10 Level of Service

This section outlines the level of service (LOS) that Council aims to provide for its assets, in accordance with the requirements of ISO 55000 and Council's recently adopted Range and Level of Service Review. The level of service defines the standard of performance and reliability that the organisation expects from its assets and helps to guide decision-making and budgeting for asset management.

Eventually, the level of service will be based on Council's strategic goals and objectives, as well as the requirements of ISO 55000, organisational objectives, relevant technical standards, regulations, and processes. Council's LOS will be benchmarked with other surrounding Councils and infrastructure-intensive organisations like Fraser Coast Regional Council. The LOS will be defined for each asset class or category, considering the specific needs and requirements of that asset, which will be identified in the individual Asset Management Plans.

The level of service will be reviewed and updated regularly to ensure it remains aligned with the organisation's goals and objectives, and to consider any changes in regulations, industry standards, or market conditions.

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. Changes are expected because of Council's recent Range and Level of Service. Technology and customer priorities will likely also change over time.

The level of service standards will be integrated into Council's overall asset management processes, including maintenance, upgrades, and replacements. Regular monitoring and reporting will be conducted to ensure that the level of service standards are being met and align with best practice standards and other regulations. Any deviation from the level of service standards will be addressed through corrective actions and improvements to the asset management processes.

8.11 Long-term financial forecast

This section of Council's Long-term Asset Management Plan outlines Council's long-term financial forecast for managing its assets. This forecast includes projected costs associated with maintaining, upgrading, and replacing assets, as well as projected revenue from the assets. The long-term financial forecast will be used to guide decision-making and budgeting for Council's assets over the next five to ten years.

The long-term financial forecast is based on historical data and trends, as well as current asset conditions. The projections incorporate Council's current and planned initiatives for managing assets, including preventative maintenance, upgrades, and replacements. The forecast considers external factors, where the long-term financial forecast aims to provide a holistic and adaptable outlook, enabling Council to effectively manage its assets and adapt to evolving circumstances.

Operational and Maintenance Expenses - Long-term Financial Forecast

The Operational and Maintenance cost projection is based on the data available, which may benefit from further refinement to enhance accuracy. As Council gathers more comprehensive information on asset condition and performance during project inception, future projections will be better informed, enabling Council to make well-grounded decisions for effective asset management.

Certain assumptions have been made to estimate asset management-related maintenance and operational costs. It is essential to note that overhead costs were excluded from the 2022-23 below forecast.

To enhance the accuracy of projections further, Council currently considers the future Infrastructure and asset growth in the budget planning process. This approach will offer a more comprehensive outlook and enable better-informed decision-making for effective asset management. Emphasising a collaborative effort to refine budgeting practices will ensure that Council's financial planning aligns with the evolving needs and objectives of asset management.

Noting these assumptions and limitations, the Cost Projections for Council's existing asset base, maintenance and operations cost is projected to be $141M respectively per year, increased by Council's Cost Index (CCI).

The Queensland Treasury Corporation (QTC) and National Asset Management System Plus (NAMS+) were used to benchmark Council's Operational and Maintenance cost against industry standards and best practices, providing an objective and reliable basis for evaluating the adequacy of Council's funding for asset operational and maintenance management activities.

The Queensland Treasury Corporation (QTC) recommends allocating 6.5% to 16% of the asset replacement cost for operational and maintenance (O&M) activities annually, while the National Asset Management System Plus (NAMS+) suggests allocating 4% of the asset replacement cost. In comparison, Council's 2022/23 adopted (amended) O&M budget allocated 3% of the asset replacement cost to O&M activities.

Compared to the benchmark projections, it appears from Table 8.6 and Figure 16, that Council may be under funding asset management related Operational and Maintenance cost. Further investigation is required to critically review the accuracy of this indication, but it is generally accepted that failure to proactively maintain assets will result in increased risk of asset failure, service disruptions and asset management related compliance issues.

Table 8.6 Forward 10 Year Operational Expense Forecast

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32
Adopted O&M cost ($M)	141	149.22	155.93	161.39	166.23	171.22	176.36	181.65	187.10	192.71
NAMs+ Benchmarked O&M cost ($M)	173.15	183.54	191.80	198.51	204.47	210.60	216.92	223.43	230.13	237.04
QTC Benchmarked O&M cost ($M)	267	282.49	295.20	305.53	314.70	324.14	333.87	343.88	$354.20	364.82

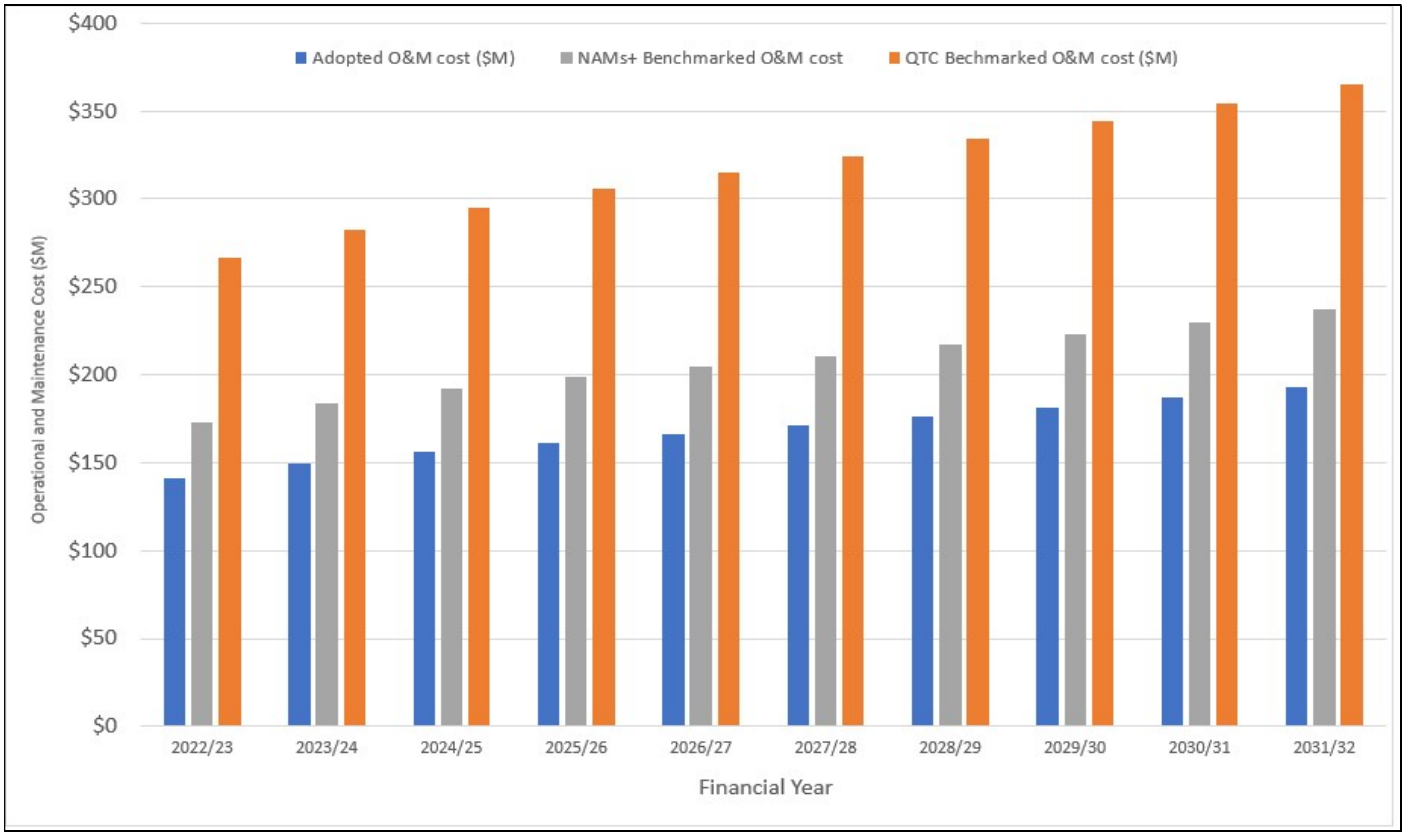


Figure 16. Forward 10 Year Operational Expense Forecast

In the greater scope of asset and infrastructure management; operational outlays alone are not sufficient to determine whether Council is meeting maintenance requirements for its' asset base. While these figures serve as indicators of the level of investment in maintenance and asset operations, a more comprehensive analysis is needed to assess whether maintenance activities are being carried out effectively and efficiently.

Figure 17 coveys a typical relationship between, likelihood of failure and maintenance intervention requirements throughout the asset life. A Potential Failure (P) – Functional Failure (F) curve can help better plan maintenance activities by providing a visual representation of the asset deterioration process and identifying the optimal time for maintenance activities to be performed, which can prevent unexpected failures and reduce maintenance costs.

Therefore, future iterations of this analysis should consider factors such as:

- Risk management: A risk-based approach to maintenance can help ensure that maintenance activities are targeted at assets that are critical to Council's operations and have the highest risk of failure.
- Asset condition: The condition of an asset can impact the level of maintenance required. Assets that are in poor condition may require more maintenance to keep them in serviceable condition compared to assets that are in good condition.
- Maintenance planning: A comprehensive maintenance plan that is aligned with Council's asset management objectives can help ensure that maintenance activities are carried out effectively and efficiently.
- Funding allocation: An adequate funding allocation to maintenance activities to ensure that assets are maintained in serviceable condition and that maintenance requirements are met.
- Performance measurement: Regular performance measurement can help assess the effectiveness of maintenance activities and identify areas for improvement.
- Breakdown of Operations and Maintenance costs: Asset class breakdowns can provide valuable insights into where Council's maintenance spending is going and help identify areas for improvement.

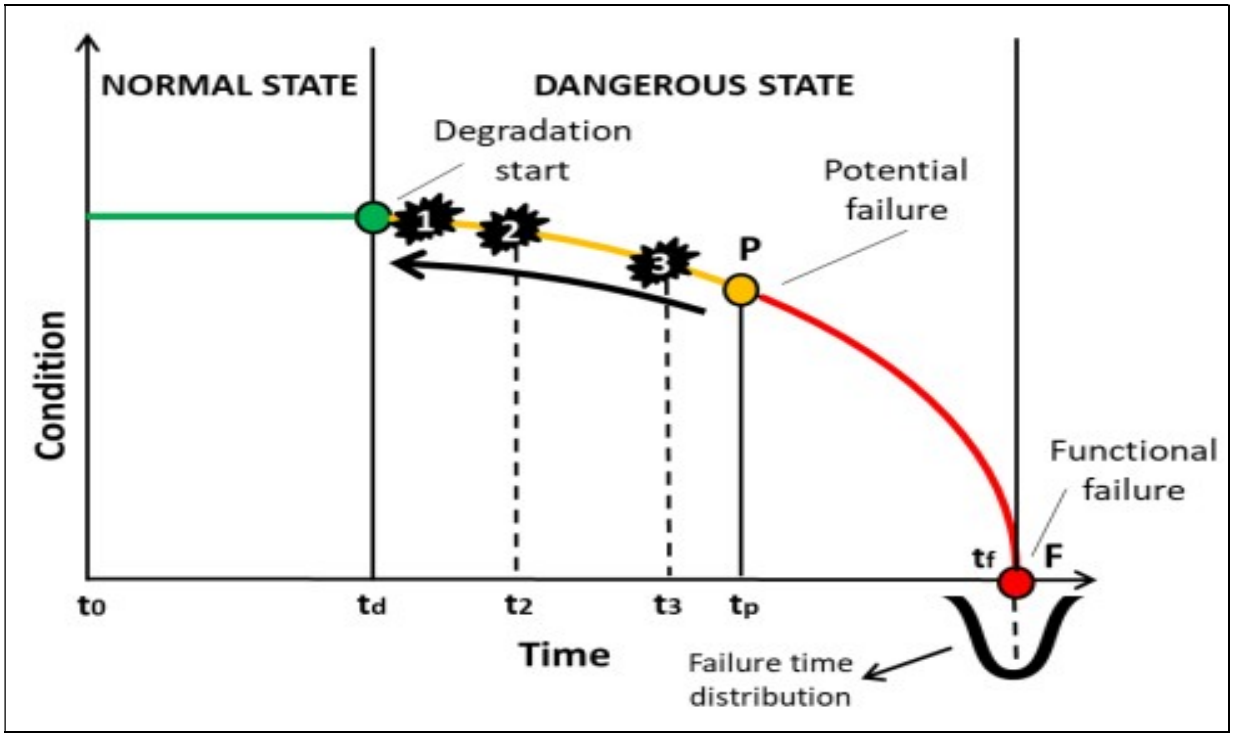


Figure 17. Maintenance based on Potential Failure (P) – Functional Failure (F) Curve. (Bousdekis et.al 2020)

Capital Expenses - Long-term Financial Forecast

The capital expenditure outlays in Table 8.7 and Figure 18, provide a snapshot of Council's planned investments in asset renewal, new construction, and upgrades over the next 10 years. The adopted renewal, new, and upgrade budgets represent the planned spending on maintaining existing assets, constructing new assets, and upgrading existing assets, respectively. The remaining useful life (RUL) -based renewal model considers the remaining useful life of assets, meaning that assets approaching the end of their useful life should be prioritised for renewals.

Overall, these capital expenditure outlays are an important component of Council's long-term financial plan and asset management strategy, ensuring that the community's assets are maintained and renewed in a financially sustainable manner.

Table 8.7 Forward 10 Year Capital Expense Forecast

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2030/32
Adopted Renewal ($M)	59	82	73	79	61	52	56	55	55	55
Adopted New ($M)	51	72	64	68	54	45	49	48	48	48
Adopted Upgrade ($M)	8	11	9	10	8	7	7	7	7	7
Remaining Useful Life Based – Modelled Renewals										
RUL based renewal (modelled) ($M)	9	9	10	14	28	113	25	21	82	24

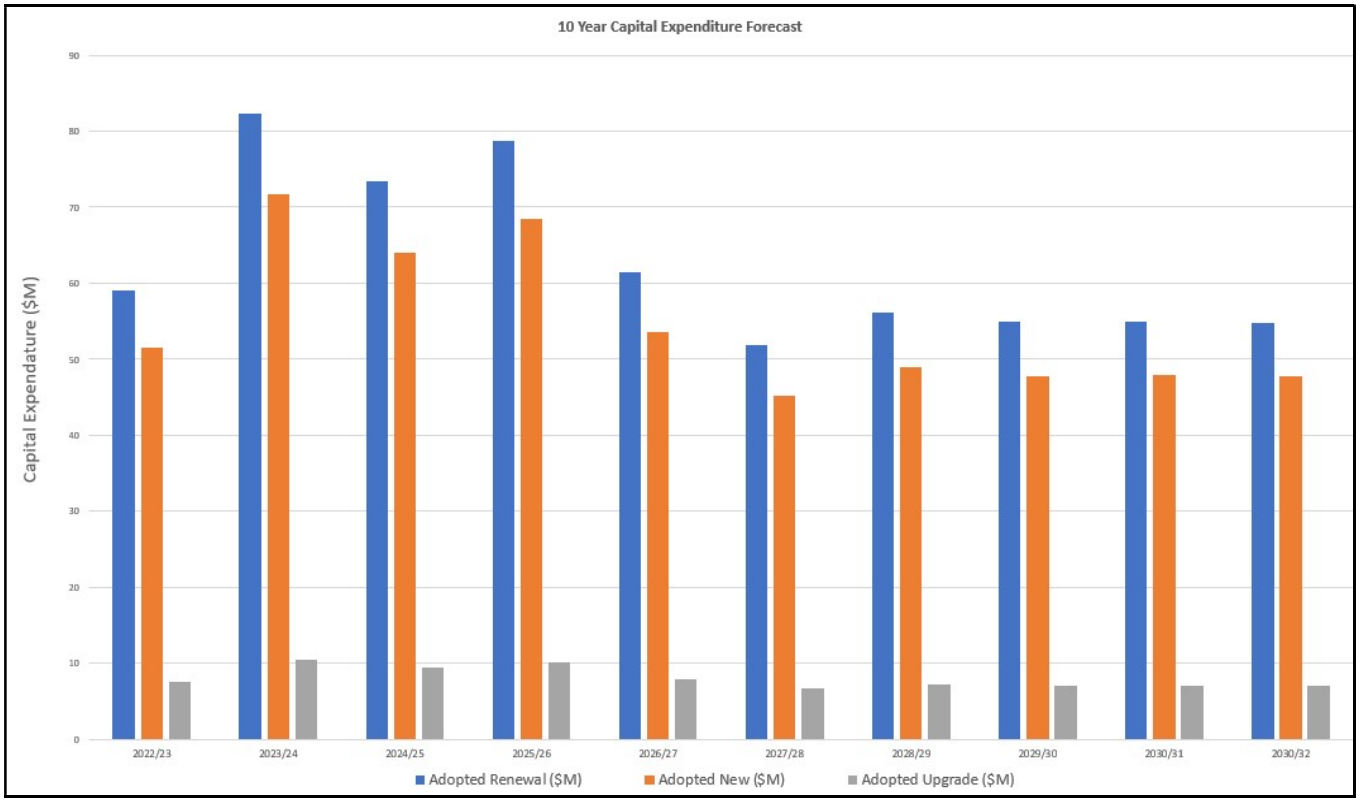


Figure 18. Forward 10 Year Capital Expense Forecast

Figure 19 highlights that there are significant differences between the adopted renewals for Council and the predicted modelled renewals, particularly in years 1-5. There are likely to be a combination of factors that could potentially contribute to these disparities including, but not limited to the following:

- Inadequate maintenance and operational practices, which can lead to premature asset failures;
- Changes in asset use;
- Inaccuracies in the remaining useful life estimates;
- Insufficient data availability (e.g. construction dates and maintenance records) to determine asset end of life;
- Unreliable asset condition data and reliance on external valuers in some instances;
- Inclusion of additional project costs in the "adopted" renewals that are not accounted for in the RUL modelled renewals (such as capital delivery costs); and/or
- External factors impacting on renewal costs, such as changes in regulatory requirements or funding availability.

These potential factors, while serving as guiding points for further investigation, should be regarded as plausible factors rather than conclusive causes. They provide a basis for directing Council's attention and exploring the underlying reasons, but further analysis and verification are required to establish their precise impact in future iterations of this document.

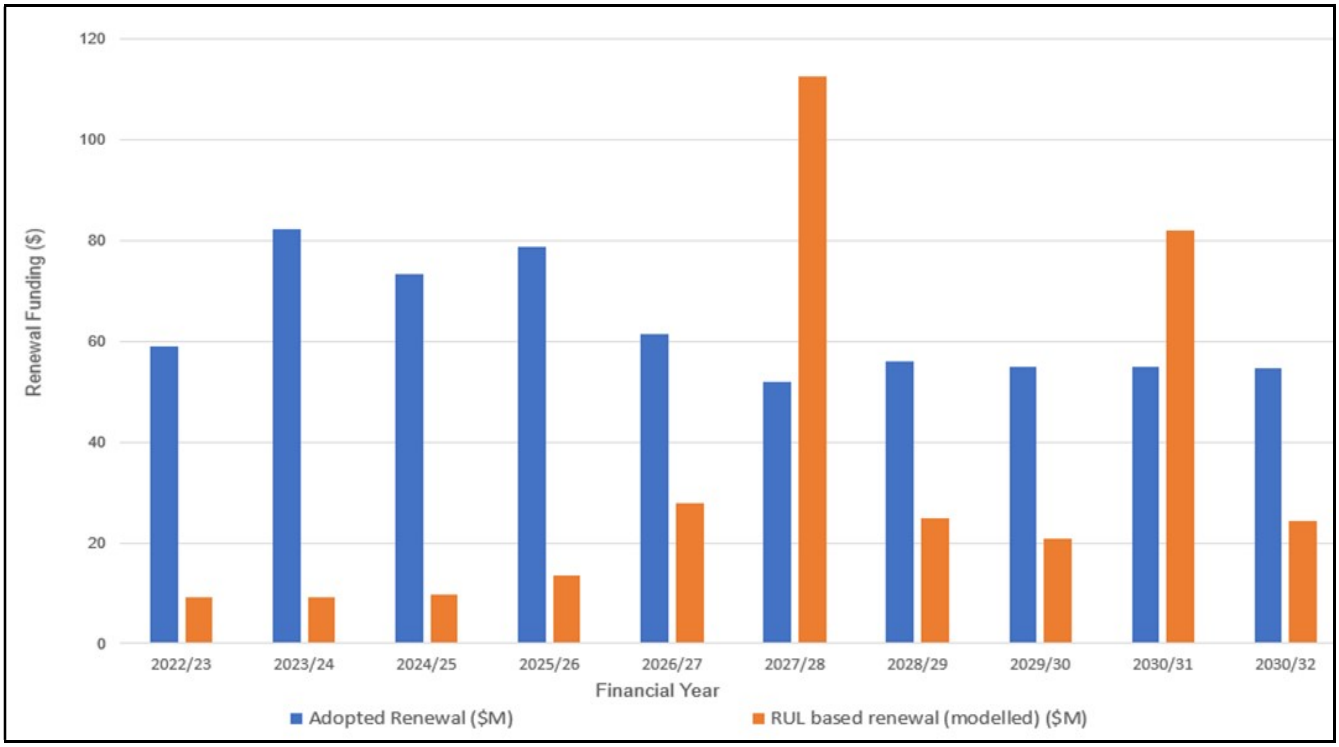


Figure 19. Adopted Renewals vs RUL based renewal.

Financial forecast risk

Council is currently in the process of optimising its operational and capital funding regime by adopting a more risk-based approach to asset management.

To further enhance the accuracy of long-term asset renewal forecasts, Council will be undertaking validation processes based on previous capital and operational works, as per below.

- Detailed condition inspection of assets prior to project initiation to determine the scope and time significance of the asset renewals.
- Improving the accuracy of asset data and adopting a consistent approach for assessing asset condition is necessary, as there may be a lack of useful life data for buildings and other complex civil infrastructure.
- Enhancing the accuracy of abstracted and defined useful life data and aligning replacement value with manufacturers' recommendations is essential.
- Implementing a proactive approach to asset management, including regular condition assessments and timely renewal planning, can help prevent the accumulation of renewals backlog in the future.
- Detailed asset risk profiling.
- Detailed asset inspection and performance reports are to review and be endorsed by internal technical specialists, to establish both the urgency and scope of works.
- Whole-of-life options analysis to define the total expense of owning an asset over the asset life. This is mainly relating to assets in contention for new, duplication or upgrade.
- Coastal infrastructure should be renewed based on remaining useful life (RUL) calculations, considering factors such as service relocation, economies of scale, and convenience.
- Internally approved asset & project valuation by quantity surveyors and capital delivery executives.
- Finally, on-going inspections and maintenance regime will further reinforce the data quality of Council's asset information. Improved data will encourage better asset valuation and whole of life scenario analysis, therefore accurately influencing long-term asset management forecasts.

As Council's asset management and budget process continues to mature, the financial forecast risks can be mitigated by the implementation of a risk-based asset management decision making criteria, mentioned in section 6.1.

To ensure a more balanced and sustainable asset management strategy, it is imperative for Council to redirect its attention towards managing and maintained its existing asset base in a comprehensive and responsible manner. This will entail asset whole of life cycle costs analysis, such as the maintenance, renewal, and eventual replacement, to minimise potential risks and optimise cost-effectiveness.

To address these challenges, actions such as divestment, policy adjustments, prioritising asset management, improving data quality and categorisation, investing in resources and training, implementing consistent frameworks and processes, and optimising maintenance strategies are recommended.

Finally, by placing a greater emphasis on asset management, refining decision-making mechanisms, and augmenting reporting processes, Council can bridge the gap between modelled and adopted renewals. This concerted effort will facilitate a more robust and sustainable approach to asset management, ensuring the long-term viability and effectiveness of Council's assets.

8.12 Data Confidence

Findings in this Long-Term Asset Management Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on an A - E level accordance with Table 8.8.

This LT-AMP is based on "*low to medium"* confidence data sets. However, Asset Custodians are actively improving asset information through field investigations, maintenance, performance, and asset health monitoring. It is anticipated that the next iteration of this document will represent improved asset information.

Table 8.8 Data Confidence Grading System[4]

Confidence Grade	Description
A. Very High	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B. High	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C. Medium	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D. Low	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E. Very Low	None or very little data held.

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 8.9. However, as the confidence varies across the different asset types, the tabulated assessment represents an average assessment.

Table 8.9: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Asset Replacement Cost ($)	C	Replacement value has been sourced from the Asset Books in Council's Enterprise Asset Management system, confirmed by Asset Finance Team
Asset Useful Life	D	Useful lives have been sourced from Council's Enterprise Asset Management system. While the Asset Finance team confirms that Asset Custodians review the useful life per asset class annually, the data is primarily based on unconfirmed reports or cursory inspections. The dataset for useful life may be incomplete, and a significant portion of the data could be estimated or extrapolated
Asset Acquisition Date and Age	C	Values sourced from legacy asset management systems (Assetic and WASP) and post processed by Asset Finance
Asset Condition	C	Asset condition data is sourced differently across Council and the asset classes. Various sources include collection by internal asset inspectors, specialist consultants, or external valuers. s

[4] PWEA, 2015, IIMM, Table 2.4.6, p 271.

Improvement Planning

An Asset Management Improvement Plan (AMIP) was initiated as part of Council's ongoing efforts to enhance Council's asset management practices and to improve Council's overall asset management maturity. An update to the existing plan was developed based on feedback from stakeholders and a task prioritisation survey conducted in June 2023.

Council is committed to the implantation of the AMIP, which expected to optimise the performance and lifespan of its assets. The initiatives identified in the AMIP are designed to improve the efficiency, reliability, and sustainability of Council's assets, which will help to reduce costs and improve performance. The AMIP coveys the three to five years Asset Management initiatives for Council.

Council's Asset Management Steering Committee will be responsible for monitoring the progress, programming, and delivery of the AMIP initiatives.

The objectives of the initiatives identified in the AMIP are primarily focused on:

- Improving the overall efficiency and performance of assets through regular preventative maintenance and upgrading or replacing aging equipment.
- Implementation of new technologies to improve tracking, monitoring, and data analysis of assets.
- Improving overall asset management processes by creating standard operating procedures, incorporating data analytics, and implementing the TechOne software systems.
- Provision of training programs for employees to improve their knowledge and skills in managing assets.

The initiatives outlined in the AMIP will be implemented and managed by dedicated Asset Management Specialists and/or officers have been allocated for the implementation of these initiatives, throughout Council.

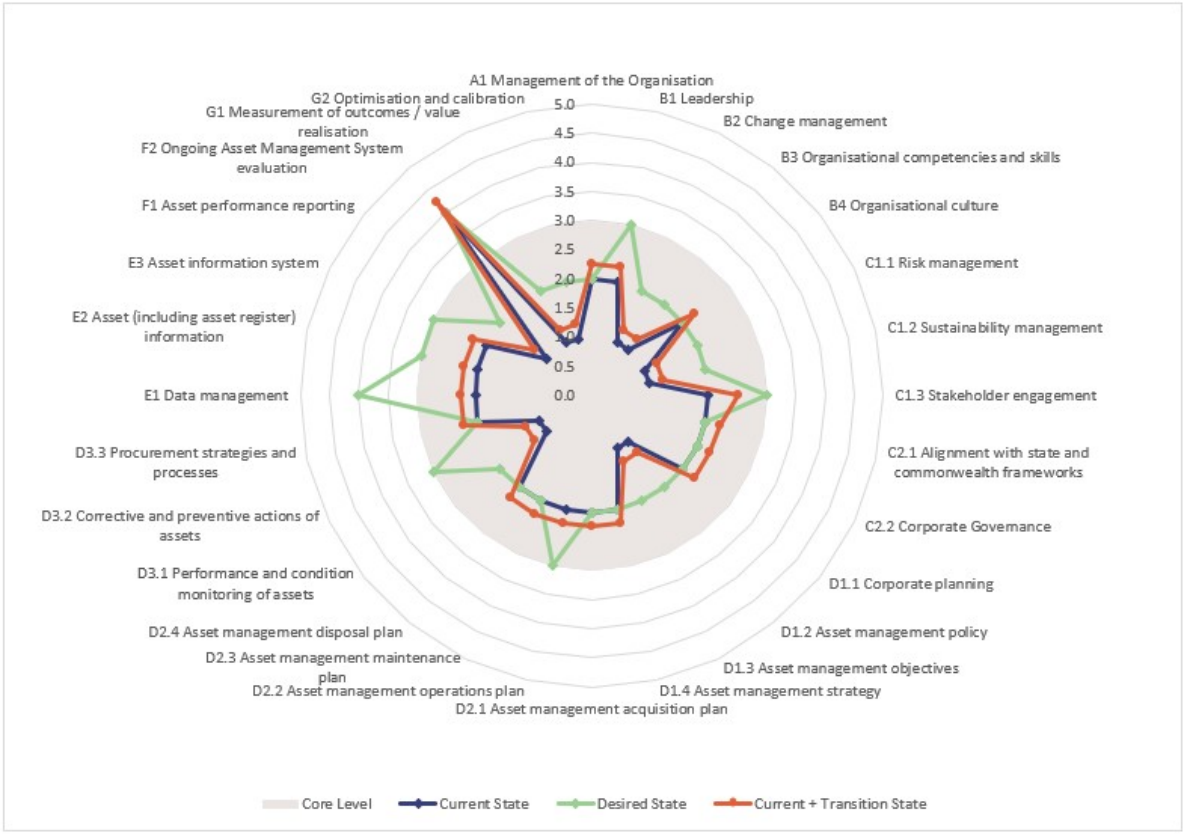
9. References

- ISO55000 International Standards for Asset Management
- IPWEA International Infrastructure Management Manual
- IPWEA International Infrastructure Financial Management Manual
- Fraser Coast Regional Council Corporate Plan
- NAMS+ Asset Management Templates
- Queensland Treasury Commission - Quick-Reference-Guide-Whole-of-Life-Costing.
- International Infrastructure Management Manual (5th ed.). (2015).
- ISO 55000:2018 Asset management -- Overview, principles, and terminology.
- Queensland Government, Department of Local Government, Racing and Multicultural Affairs. (2020). Asset management.
- Predictive Maintenance in the 4th Industrial Revolution: Benefits, Business Opportunities, and Managerial Implications, IEEE Engineering Management Review, A. Bousdekis, G. Mentz as, D.Apostolou, March 2020

APPENDIX

Appendix A – 2022 QAO Maturity Assessment Results

Q #	Criteria	Aspect	Current State	Desired State
1	A1	Management of the Organisation	2	2
2	B1	Leadership	2	3
3	B2	Change management	1	2
4	B3	Organisational competencies and skills	1	2
5	B4	Organisational culture	2	2
6	C1.1	Risk management	1	2
7	C1.2	Sustainability management	1	2
8	C1.3	Stakeholder engagement	2	3
9	C2.1	Alignment with state and commonwealth framew	2	2
10	C2.2	Corporate Governance	2	2
11	D1.1	Corporate planning	2	2
12	D1.2	Asset management policy	1	2
13	D1.3	Asset management objectives	1	2
14	D1.4	Asset management strategy	2	2
15	D2.1	Asset management acquisition plan	2	2
16	D2.2	Asset management operations plan	2	3
17	D2.3	Asset management maintenance plan	2	2
18	D2.4	Asset management disposal plan	2	2
19	D3.1	Performance and condition monitoring of asset	1	2
20	D3.2	Corrective and preventive actions of assets	1	3
21	D3.3	Procurement strategies and processes	2	2
22	E1	Data management	2	4
23	E2	Asset (including asset register) information	2	3
24	E3	Asset information system	2	3
25	F1	Asset performance reporting	1	2
26	F2	Ongoing Asset Management System evaluatior	4	4
27	G1	Measurement of outcomes / value realisation	1	2
28	G2	Optimisation and calibration	1	2



Element	Avg Current Score	Avg Score	Avg Desired Score
A Managing the Organisation	2.0	2.3	2.0
B Leadership and Culture	1.5	1.8	2.3
C1 Context and Drivers	1.3	1.7	2.3
C2 Enabling Framework	2.0	2.3	2.0
D1 Strategic Planning	1.5	1.8	2.0
D2 Tactical Planning	2.0	2.3	2.3
D3 Operational Planning	1.3	1.6	2.3
E Information and Support Systems	2.0	2.3	3.3
F Performance and Improvement	2.5	2.8	3.0
G Outcomes / Value Realisation	1.0	1.3	2.0