

**TRANSPORT ASSET MANAGEMENT PLAN
PREPARED FOR YARRABAH ABORIGINAL SHIRE COUNCIL**

JUNE 2021



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1. EXECUTIVE SUMMARY

1.1 The purpose of the Plan

This Asset Management Plan has been developed in accordance with Council's Asset Management Policy and principles of the Asset Management Strategy (Objectives).

This asset management plan details information about Council's transport assets. The plan outlines the management approach to:

- Describing and aligning the assets to services (as informed by corporate and service planning);
- Managing the future demand for assets to achieve and maintain financial sustainability;
- Optimising the lifecycle management of assets (achieving service demand at lowest lifecycle cost);
- identifying and managing risks associated with the relevant asset (including criticality and condition);
- What funds (operating and capital) are required to operate the asset portfolio in alignment with the asset management plan over a 10-year planning period; and
- Continual improvement in the management of assets and performance monitoring.

Council's transport assets contribute to the community by:

- Allowing people to move safely and conveniently around and through the Shire
- Enabling the transport of goods and services
- Connecting people to service centres and other key destinations.

1.2 Asset Description

The transport infrastructure for which Council is responsible includes **49 Km** of roads (**32 km** sealed and **16.9 km** unsealed).

The following is a summary of the transport asset class.

Asset Classification	Quantity
Sealed Roads	32.18 km
Unsealed Roads	16.92 km
Kerb & Channel	15.36 km
Pits	104 (No.)
Guardrails	50 Metres
Bridges	3 (No.)
Culverts	138 (No.)
Floodways	133 Metres
Channels	110 Metres
Outlets	127 Metres

These infrastructure assets have a significant replacement value of \$29.89 Million.



Source: YASC Website

1.3 Levels of Service

Currently, Council has commenced developing documented levels of service for transport assets. Management of assets, including intervention points and chosen treatment methods, is based upon standard classifications based on the asset hierarchy. This is a key improvement area required to direct our future management approach and investment in transport assets.

1.4 Future Demand

QLD Population Projections produced by the Queensland Treasury¹ indicate that the population of Yarrabah is estimated to increase from 2,927 to 3,565 between 2021 and 2041.

There is increased expectations on a higher levels of service of the road network (more sealed roads with all weather access and drainage particularly during the wet season.

The main demands for new services are created by:

- Population change
- Council financial sustainability
- Council operational and services priority changes
- Expectations for increased levels of service provision

These will be managed through a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand and demand management.

We will implement demand management practices to control future increased costs of transport assets, including the consideration of non-asset solutions and mitigating the increased threat (risk exposure) of asset failure by:

- Restricting the types of vehicles accessing the road network;
- Planning improvements to coincide with development and land use changes;

1.5 Financial Summary

1.5.1 What Does it Cost?

The projected outlays necessary to provide the services covered by this plan for renewals, over the 10-year planning period is \$186,031 on average per year. The renewal data is based on modelling sourced from the valuation data.

¹ Source: Queensland Government population projections, 2018 edition; Australian Bureau of Statistics, *Population by age and sex, regions of Australia*, 2016 (Cat no. 3235.0).

Financial Year	Capital Expenditure
2021-22	\$0
2022-23	\$0
2023-24	\$711
2024-25	\$106,879
2025-26	\$168,673
2026-27	\$209,989
2027-28	\$263,569
2028-29	\$326,849
2029-30	\$379,099
2030-31	\$404,540

1.5.2 What we will do with constrained funding

We plan to provide the following transport related services:

- Operation, maintenance, renewal and upgrade of local sealed and unsealed roads, kerb and gutter, pathways, car parks, and traffic treatments to meet service levels set by Council in annual budgets
- Continue vigorous pursuit of State Government grants for roads and related assets,
- Plan asset rehabilitation to ensure that the highest priority assets are targeted for renewal each financial year. Prioritisation must be based on risk

The accuracy of this information should be verified to determine if the valuation condition data is reflective of asset performance prior to any major funding decisions being made.

1.5.3 What we cannot do with constrained funding

Works and services that cannot be provided under present funding levels are:

- An increased overall level of service delivered by transport assets;
- Upgrade of all identified functional deficiencies across our networks; and
- Sealing of unsealed roads on request.

2. INTRODUCTION

2.1 Background

This Asset Management Plan outlines the required management approach to:

- describing and aligning the assets to services (as informed by corporate and service planning);
- managing the future demand for assets to achieve and maintain financial sustainability;
- optimising the lifecycle management of assets (achieving service demand at the lowest lifecycle cost);
- identifying and managing risks associated with the relevant asset (including criticality and condition);
- what funds (operating and capital) are required to operate the asset portfolio in alignment with the asset management plan over a 10-year planning period; and
- continual improvement in the management of assets and performance monitoring.

The asset management plan is to be read with the Council's Asset Management Policy and Asset Management Strategy along with the Council Corporate Plan and Council Operational Plan.

The diagram below shows the different documents which influence this Asset Management Plan.

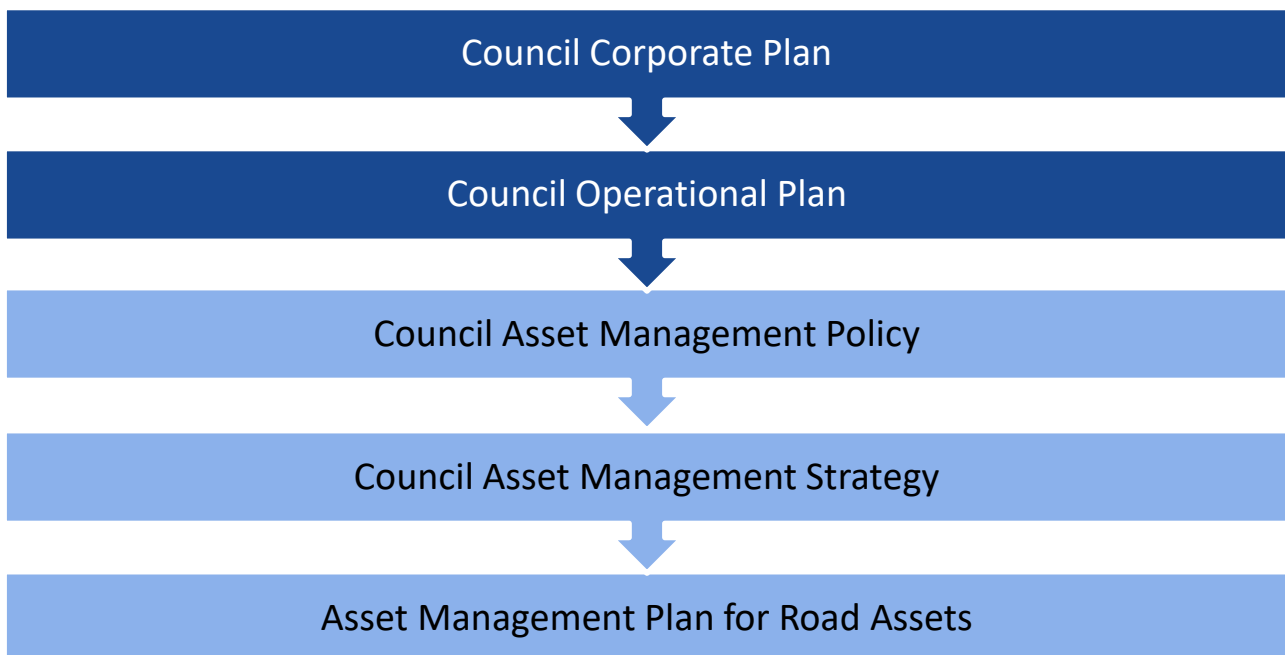


Figure 1 - Asset Management Document Relationship

The infrastructure assets covered by this asset management plan are shown in Table 1.

Council's network of public roads is infrastructure provided to the community to facilitate a safe convenient and defined means for transporting people and goods around and through the municipal area.

Asset Classification		Quantity	Replacement Cost	Fair Value	Annual Depreciation
Roads		20,452,916 sqm	\$20,639,228	\$17,708,542	\$349,500
Drainage					
	Kerb & Channel	15,361 m	\$1,762,771	\$1,278,976	\$35,255
	Bridges	3 No.	\$1,782,613	\$1,525,892	\$25,046
	Pits	104 No.	\$912,600	\$730,080	\$18,252
Road Structures			\$23,625	\$14,175	\$788
Culvert		1,344 m	\$3,633,227	\$2,496,787	\$45,415
Floodway		133 m	\$509,030	\$416,847	\$6,363
Channel		110 m	\$546,000	\$382,200	\$9,100
Outlet		127 m	\$154,810	\$108,367	\$1,935
TOTAL			\$29,963,904	\$24,661,866	\$491,654

Table 1 – Assets Covered by this Plan

2.2 Plan Framework

This Asset Management Plan has been prepared using good practice guidance from the ISO55000 – Asset Management standard, International Infrastructure Management Manual (IPWEA) and responds to various Queensland Audit Office recommendations in their reporting.

Council is committed to striving towards best appropriate asset management practices and it is recognised that this asset management plan will need to be updated periodically to reflect changes to management of Council's assets.

It is intended that Council's asset management plans should always reflect as closely as practicable actual practices used in managing its assets. Only in this way will Council be best able to ascertain its long-term financial needs for delivering sustainable assets and services.

2.3 Key Stakeholders

Our assets are utilised by a broad cross-section of the community.

The stakeholders in the management of Council's road transport assets are many and often their needs are wide-ranging. The relevant key stakeholders are:

- The community in general (for recreation, sport, leisure and business);
- Residents and businesses adjoining the road network;
- Pedestrians (including the very young, those with disabilities, and the elderly with somewhat limited mobility);
- Users of a range of miscellaneous smaller and lightweight vehicles such as pedal cyclists, , wheelchairs, prams, etc;
- Vehicle users using motorised vehicles such as trucks, buses, commercial vehicles, cars and motorcycles;
- Tourists and visitors to the area;
- Emergency agencies (Police, Fire, Ambulance, etc);
- Utility agencies that utilise the road reserve for their infrastructure (water, sewerage, gas, electricity, telecommunications);
- State and Federal Government that periodically provide support funding to assist with management of the network; and
- Council's Insurers.

The community's needs and expectations are subject to change frequently and are becoming more demanding manifested by demands for services that provide better quality, value for money, environmental awareness and relevant value adding.

This plan will demonstrate to the various stakeholders that Council is managing its road transport related assets in a responsible manner.

2.4 Goals and Objectives of Asset Ownership

Our goal in managing infrastructure assets is to meet the defined range and levels of service in the most cost-effective manner for present and future consumers. By achieving the most cost-effective approach, we will contribute the affordability and liability of our community, including a vibrant, growing and efficient local economy.

The key elements of infrastructure asset management are:

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

3. LEVELS OF SERVICE

This section outlines the level of service or performance criteria that are required and the basis of the decision behind their adoption. The levels of service support Council’s strategic goals and are based on customer expectations and statutory requirements.

3.1 Strategic and Corporate Goals

The Council Corporate Plan 2016-21 outlines the following strategic goals relating to its transport portfolio in regards to roads and street assets:

Goal:

- Sustainable Communities
 - Utilising 10 year financial modelling
 - Developing asset management plans
 - Development of 10 year capital works plans
 - Focus on maintaining community assets
 - Managing roads, bridges and drainage

3.2 Functional Hierarchy

All transport assets within the Council road network are classified according to a hierarchy in terms of their specific function, types of users, user numbers and potential risk. The hierarchy classification is used to assist in prioritising works programs and intervention responses to remedy defects.

Limited resources can be used more effectively by allocating funds to those roads in greater need. The road hierarchy provides the basis for setting varying inspection frequencies and the repair response times is also based on the road hierarchy and risks arising. This simple classification system aligns with the TMR hierarchy and with the levels of service that Council can and does physically provide.

Sub-Arterial Roads	Distributor Roads	Collector Roads	Access Roads
Connection Roads between townships which are sealed.	Connection Roads between community centres which are mainly sealed.	These are roads that connect the residential areas and link to the distributor road (s) and are the main community road thoroughfares. These might be sealed or be unsealed depending on location to the main community centre	Roads are mostly property accesses and part of local residential network, These can be sealed or unsealed.

Table 2- Yarrabah Aboriginal Shire - Road Classification

3.3 Levels of Service

Service levels can be defined in two interconnected ways, customer levels of service and technical levels of service. These are supplemented by organisational measures which are the Community Strategic Plan, the Operational and Delivery Plan, and the Annual Budget. Service performance results are reported through Council’s Annual Reports.

At present, indications of current and target levels of service are obtained from various sources including:

- Community feedback to Council and staff.
- Operations staff feedback to management.
- Feedback from other stakeholders.
- Service requests and related correspondence entered in Council's Customer Request/Complaints System.
- Physical measurements of quality standards.
- Legislative standards (minimum requirements).

3.3.1 Customer Levels of Service

Service levels are defined service levels in two terms, customer levels of service and technical levels of service. These are supplemented by organisational measures.

Customer Levels of Service measure how the customer receives the service and whether value to the customer is provided.

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

Quality	How good is the service e.g. <i>what is the condition or quality of the service?</i>
Function	Is it suitable for its intended purpose e.g. <i>Is it the right service?</i>
Capacity/Use	Is the service over or under used e.g. <i>do we need more or less of these assets?</i>

Table 3- Customer Level of Service Measures

Organisational measures are measures of fact related to the service delivery outcome e.g. number of occasions when service is not available, condition %'s of Very Poor, Poor/Average/Good, Very good.

These Organisational measures provide a balance in comparison to the customer perception that may be more subjective.

Key Performance Measure	Level of Service Objective	Performance Measure Process	Current Performance	Target Performance
Quality	Roads of an appropriate condition and standard	Community Satisfaction Survey	To be determined	To be determined
Function	Roads and footpaths will be safe to use	Number of public liability claims	To be determined	To be determined
Capacity/ Utilisation	Roads will be wide enough	Percentage of new constructions which meet Council's designed standards	To be determined	To be determined

Table 4 – Customer Level of Service

3.4 Technical Levels of Service

Technical Levels of Service – Supporting the customer service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

Operations	The regular activities to provide services (e.g. access, mowing grass, inspections, response times etc).
Maintenance	The activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. Road patching, unsealed road grading. Table 3 defines the road classification and type for maintenance purposes.
Renewal	The activities that return the service capability of an asset up to that which it had originally (e.g. Road resurfacing and pavement reconstruction)
Asset Improvements	The activities to provide a higher level of service (e.g. Widening a road, sealing an unsealed road)

Table 5 – Technical level of Service Measures

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.

3.4.1 Actual Levels of Service

Council recognises the importance that levels of service play in optimising the lifecycle management of infrastructure assets. For the assets covered by this plan, Council continues to work towards achieving the required service levels in practice. The proposed revised four class roads hierarchy will be utilised to frame levels of service for this asset class.

The development and monitoring of actual service level will be one of the foundations of future improvement through the asset management planning process.

3.5 Customer Research and Expectations

3.5.1 Community Consultation

At this stage, targeted customer research has not been undertaken for Council's Transport Assets.

Council is committed to transparent and informed decision making in relation to the management of its assets and services through engagement with the community. Council undertakes inclusive community consultation to define service levels and performance measures through the development of its Corporate Plan, the Operational Plan, and Annual Budget. These discussions provide input to Council's strategic directions which are supported by the various services, projects and programmes which it delivers.

Wherever practicable, community input is sought on appropriate aspects of planning our roads and by way of consultation. However, Council acknowledges that it needs to do more work with its community in developing levels of service and it will target discussions when making decisions which influence the way that Council delivers its services and manage our assets.

Once service levels and budget funding issues have been properly reconciled, it is appropriate that Council should consult with the community to ensure that these service levels are meeting community expectations.

3.6 Legislative Requirements

There are many legislative requirements relating to the management of transport assets. These include:

Legislation	Requirement
Local Government Act 2009 & Local Government Regulation 2012	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Transport Infrastructure Act 1994	To provide public access to roads, to classify roads, to act as the local road authority, to carry out certain functions e.g. road works and to regulate activities on public roads.
Work Health and Safety Regulation 2011	Sets out roles and responsibilities to secure the health, safety and welfare of persons at work.
AS 1742 (Traffic)	To ensure compliance and uniformity with traffic control devices.
Australian Road Rules	To ensure compliance and uniformity with road rules in the State and elsewhere in Australia
Environmental Protection Act 1994	Sets out guidelines for land use planning and promotes sharing of responsibilities between various levels of government in the state.
Civil Liability Act 2003 and Civil Liability Regulation 2014	To manage negligence, elements of a claim, duty of care, standard of care and causation and to address the requirements of sections 35 and 37.
Integrated Planning Act 1997	Management of land use outcomes, development processes and promote ecologically sustainable development

Table 6 – Legislative Requirements

4. FUTURE DEMAND

The objective of asset management is to create, operate, maintain, rehabilitate and replace assets at the required level of service for present and future customers in a cost effective and environmentally sustainable manner. The asset management plan must therefore forecast the needs and demands of the community in the future and outline strategies to develop the assets to meet these needs.

4.1 Strategic Direction

There are a number of existing strategies and plans which have been developed to provide a strategic response to the demands, challenges and opportunities which the ongoing management of the assets covered by this plan present. These documents include:

- Corporate Plan
- Operational Plan
- Infrastructure Design Manual
- Planning Scheme
- Local Government Infrastructure Plan

5. LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

The assets covered by this asset management plan are shown in Table 1. The transport infrastructure for which Council is responsible includes **49 Km** of roads (**32 km** sealed and **16.9 km** unsealed).

Council's network of public roads is infrastructure provided to the community to facilitate a safe, convenient and defined means for transporting people and goods around and through the Shire area.

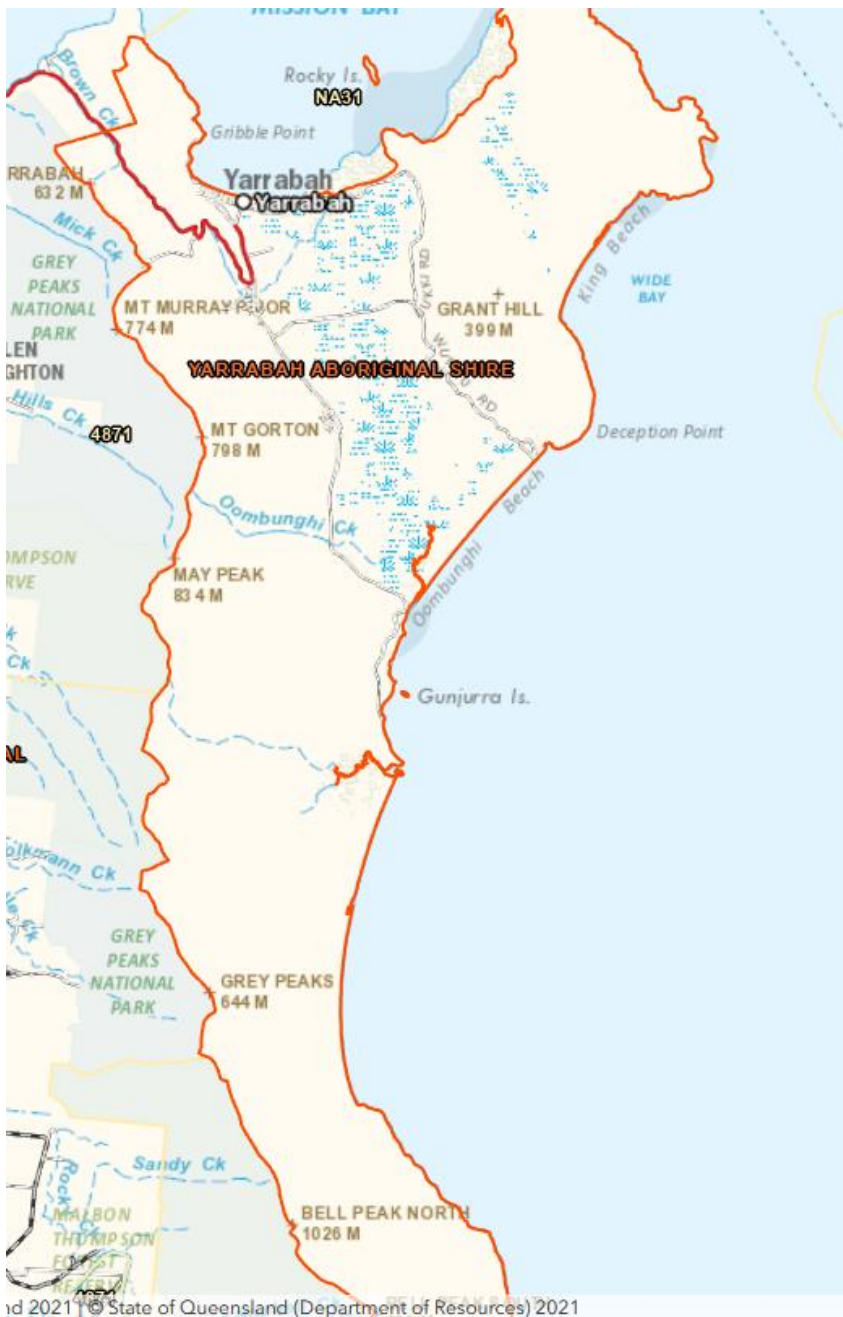


Figure 2 – Yarrabah Aboriginal Shire Council Road Network Overview

Source: Queensland Government – Government Globe

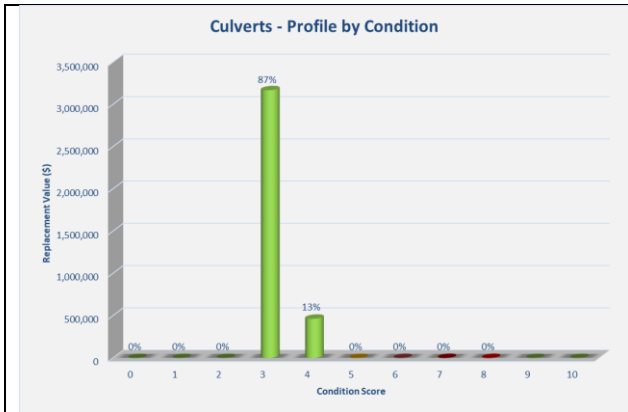
5.2 Asset Condition

Asset condition is a measure of the health of an asset and is a key consideration in determining remaining useful life, as well as predicting how long it will be before an asset needs to be repaired, renewed or replaced. Asset condition is also an indicator of how well it can perform its function. Condition data is valuable for developing long term funding scenarios for strategic planning of Council's budget.

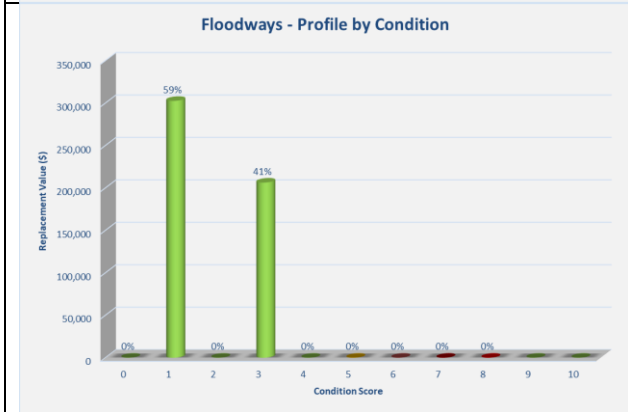
In comparing the transport asset portfolio, the condition profile is compared by condition and road length for each condition rating. This indicates the overall condition profile of asset by road length assessed at each condition rating from 0-10. (0-New, 5- Fair, 10 – Failed/ End of Life).

As no recent physical condition data from Council was available, valuation data has been utilised in this asset management plan. Council Revaluation of the transport assets in 2019 provided condition data and are split by asset types as follows:

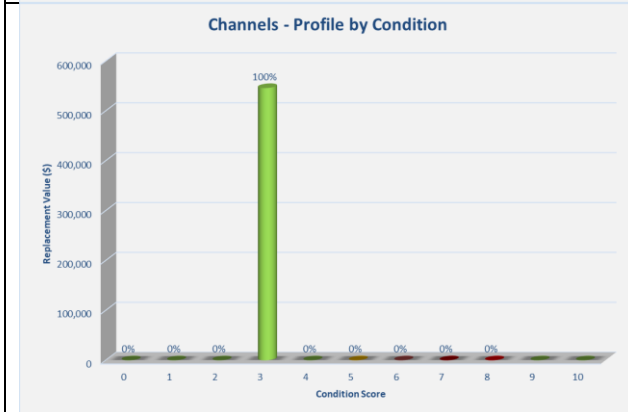
<p>Seal - Profile by Condition</p> <table border="1"> <thead> <tr> <th>Condition Score</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>0</td><td>0%</td></tr> <tr><td>1</td><td>21%</td></tr> <tr><td>2</td><td>43%</td></tr> <tr><td>3</td><td>27%</td></tr> <tr><td>4</td><td>8%</td></tr> <tr><td>5</td><td>0.1%</td></tr> <tr><td>6</td><td>0.3%</td></tr> <tr><td>7</td><td>0%</td></tr> <tr><td>8</td><td>0%</td></tr> <tr><td>9</td><td>0%</td></tr> <tr><td>10</td><td>0%</td></tr> </tbody> </table>	Condition Score	Percentage	0	0%	1	21%	2	43%	3	27%	4	8%	5	0.1%	6	0.3%	7	0%	8	0%	9	0%	10	0%	<p>The seal profile includes all road hierarchy classifications from sub-arterial distributor, collector and access roads.</p> <p>These items have useful lives of approximately 15 years. It is noted that a number of the seals were done in 2011 and it is recommended that physical condition assessments be undertaken to confirm actual remaining lives of the seals.</p>
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<p>Pavement Under Seal - Profile by Condition</p> <table border="1"> <thead> <tr> <th>Condition Score</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>0</td><td>1%</td></tr> <tr><td>1</td><td>3%</td></tr> <tr><td>2</td><td>50%</td></tr> <tr><td>3</td><td>36%</td></tr> <tr><td>4</td><td>10%</td></tr> <tr><td>5</td><td>0%</td></tr> <tr><td>6</td><td>0%</td></tr> <tr><td>7</td><td>0%</td></tr> <tr><td>8</td><td>0%</td></tr> <tr><td>9</td><td>0%</td></tr> <tr><td>10</td><td>0%</td></tr> </tbody> </table>	Condition Score	Percentage	0	1%	1	3%	2	50%	3	36%	4	10%	5	0%	6	0%	7	0%	8	0%	9	0%	10	0%	<p>This category refers to pavement relating to all sealed roads. The useful life is directly related to the condition of the seal.</p> <p>These items have useful lives of 70 years. The condition shown is a function of the age and remaining life of the pavement. Again, a physical assessment will better record actual pavement condition.</p>
Condition Score	Percentage																								
0	1%																								
1	3%																								
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<p>Unsealed Pavement - Profile by Condition</p> <table border="1"> <thead> <tr> <th>Condition Score</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>0</td><td>0%</td></tr> <tr><td>1</td><td>0%</td></tr> <tr><td>2</td><td>17%</td></tr> <tr><td>3</td><td>42%</td></tr> <tr><td>4</td><td>0%</td></tr> <tr><td>5</td><td>41%</td></tr> <tr><td>6</td><td>0%</td></tr> <tr><td>7</td><td>0%</td></tr> <tr><td>8</td><td>0%</td></tr> <tr><td>9</td><td>0%</td></tr> <tr><td>10</td><td>0%</td></tr> </tbody> </table>	Condition Score	Percentage	0	0%	1	0%	2	17%	3	42%	4	0%	5	41%	6	0%	7	0%	8	0%	9	0%	10	0%	<p>Unsealed pavement, being exposed to the elements has a shorter useful live of approximately 15 years.</p> <p>Regular maintenance grading and appropriate resheeting will assist in maintaining The condition shown is a function of the age and remaining life of the equipment</p>
Condition Score	Percentage																								
0	0%																								
1	0%																								
2	17%																								
3	42%																								
4	0%																								
5	41%																								
6	0%																								
7	0%																								
8	0%																								
9	0%																								
10	0%																								



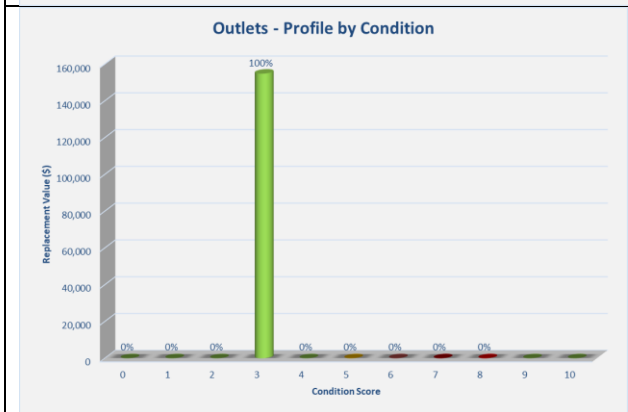
These items have long useful lives of approximately 80 years. The condition shown is a function of the age and remaining life of the asset. The valuation data indicates that the culvert asserts are approximately one third through their useful life with the Back Beach Road culverts being the oldest.



The floodway assets consist of concrete causeways with or without pipes and concrete headwalls. These items also have long useful lives of approximately 80 years. The condition shown is a function of the age and remaining life of the asset. The valuation data indicates that the culvert asserts are approximately one third through their useful life apart from the newer assets on Bilma Road.



There are 110m of channels. These items also have relatively long useful lives of approximately 60 years. The condition shown is a function of the age and remaining life of the asset. The valuation data indicates that the channel asserts are approximately one third through their useful life.



There are 127m of outlets. These items also have relatively long useful lives of approximately 80 years. The condition shown is a function of the age and remaining life of the asset. The valuation data indicates that the channel asserts are approximately one third through their useful life.

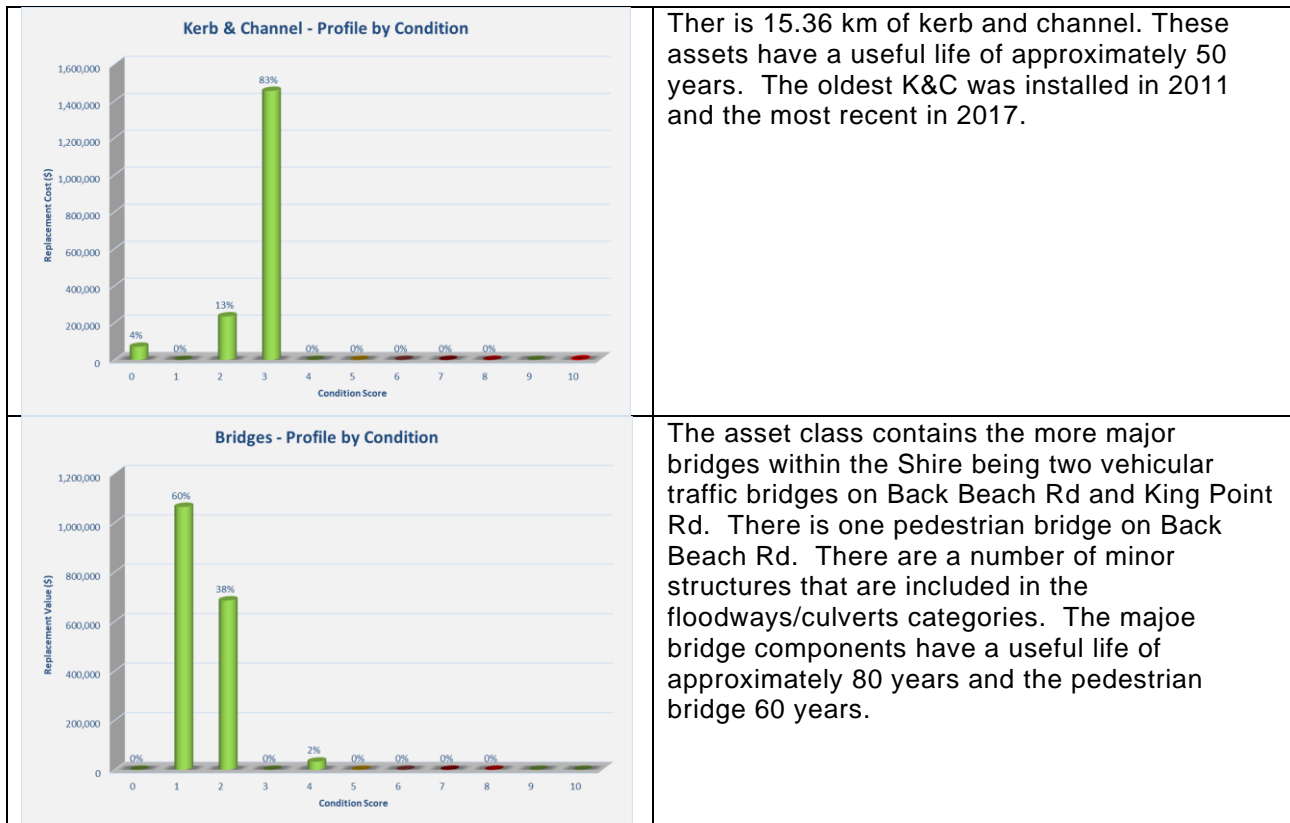


Figure 3 – Condition Profile – Transport Assets²

What does this mean?

The condition profiles for the various assets which comprise Council’s transport infrastructure indicates that:

- A significant amount of the assets are relatively new and have been renewed through various capital works and NDRRA projects over time.
- The overall condition of longer life civil assets indicates that they are in good condition.

However, it is recommended that a condition assessment be undertaken to fully confirm the state of the assets plus accurate costings of maintenance and renewals.

² Reference Australis Asset Advisory Group – Yarrabah Aboriginal Shire Council Infrastructure Assets Valuation Summary 2019

5.3 Routine Operations and Maintenance Plan

Effective maintenance strategies are essential to ensure that an asset performs at the desired service level on a day-to-day basis.

Operations	Includes regular activities to provide and/or services such as public health, safety and amenity.
Maintenance	Maintenance is the regular on-going work that is necessary to keep assets operating, including instances where components of the asset fail and need immediate repair to make the asset safe and operational again.

Table 7 – Maintenance Strategy Summary

5.3.1 Maintenance Strategy

The following general maintenance and operations strategies are applied to Council's transport assets:

Operations	Use and manage the assets in a manner that minimises the long term overall total cost. Undertake scheduled inspections as justified by the consequences of failure on levels of service, costs, public health, or safety.
Reactive Maintenance	A suitable level of preparedness for a prompt and effective response to service requests or asset failures is maintained.
Planned or Preventative Maintenance	Undertake planned asset maintenance activities to minimise the risk of critical asset failure and to maintain assets in a manner that minimises ongoing lifecycle costs.

Table 8 – Maintenance Definitions

5.3.2 Maintenance Standards

All maintenance work undertaken is in accordance with Council's standard design guides, standard drawings, and specifications for relevant storm water assets or, if not, covered by these technical guides, in accordance with standard industry practices. New assets either built or acquire will be accompanied by manufacturer recommendations on maintenance to achieve full utilisation. The asset register becomes a point of truth holding this attribute information.

5.3.3 Inspections

For Council to carry out effective planning and competent management of its transport assets, both in a strategic and operational sense, it is essential that maintenance and performance related information is collected through disciplined and regular inspections of the whole of the network.

The inspection frequency regime uses a risk approach that considers the road/path hierarchy. The higher up the road hierarchy, the higher the risk exposure and the more frequent the inspections and the quicker the response time.

Council's inspection activities can be grouped into the following categories based on definition and purpose:

Inspection Type	Description
Reactive / Safety Inspections	Reactive inspections are initiated generally by requests for maintenance received from asset users. Safety issues may be detected either as a result of programmed defect inspection or by customer request. Council's objective in relation to maintenance requests is to inspect and prioritise the work requests within specific timeframes.

Inspection Type	Description
Planned Inspections (Programmed Defect Inspections)	Planned or maintenance inspections involve a visual investigation to assess the condition of sub-elements or asset components. These inspections provide a basis for urgent, preventative, cyclic maintenance needs and, capital works planning.
Condition Inspections	A condition audit is a systematic inspection and identification and recording of the physical and functional adequacy of assets. The purpose of these inspections is to provide an input for life-cycle cost analysis, and asset planning purposes. This level of inspection does not identify detailed maintenance requirements but provides a basis for managing the asset portfolio from a strategic perspective.

Figure 4 - Asset Inspection Type Summary

5.4 Renewal/Replacement Plan

Renewal expenditure is major work that does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential.

Work over and above restoring an asset to original service potential is an upgrade/expansion or new work expenditure resulting in additional future operations and maintenance costs.

Assets requiring renewal are identified using a combination of an analysis of the performance of the asset (condition, user complaints, and faults) and the strategy for renewal, for example, is it planned or reactive renewal. The data gathered as part of a condition assessment will provide long term financial budgeting inputs as part of an improved approach to maintenance and renewals planning.

5.4.1 Renewal Strategy

Council will plan capital renewal and replacement projects to meet the level of service objectives and minimise infrastructure service risks by:

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner;
- Undertaking project scoping for all capital renewal and replacement projects to identify:
 - The service delivery 'deficiency', present risk and optimum time for renewal/replacement;
 - The project objectives to rectify the deficiency;
 - The range of options, estimated capital and life cycle costs for each option that could address the service deficiency;
 - And evaluate the options against evaluation criteria adopted by the organisation; and
 - Select the best option to be included in capital renewal programs
- Using 'low cost' renewal methods (cost of renewal is less than replacement) wherever possible;
- Maintain a current infrastructure risk register for assets and service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council;
- Review the current and required skills base and implement workforce training and development to meet the required construction and renewal needs;
- Maintain a current hierarchy of critical assets and capital renewal treatments and timings required;
- Review management of capital renewal and replacement activities to ensure Council is obtaining the best value for resources used;
- Renewal ranking criteria; and
- Asset renewal and replacement are typically undertaken to either:
 - Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate; or
 - To ensure the infrastructure is of sufficient quality to meet the service requirements.

As a general principle, the number and cost of repairs will determine the optimum timing to invest in the renewal of assets. Every time an asset is repaired it provides information about its condition deterioration rate and a prediction of the optimum time to renew. As the rate of repairs increases, a prediction can be made about the optimum time to renew an asset to keep the cost of ownership at the optimum level.

5.4.2 Renewal Standards

Council's construction standards are based on various standards necessary to accommodate the demands and technical requirements placed on our various transportation networks.

These standards take into consideration the extensive work previously undertaken by the various professional and industry bodies such as:

- Infrastructure Design Manual
- Australian Standards
- Austroads Design Guidelines
- TMR Technical Manuals

All renewal works shall comply with Council's engineering standards and specifications for design and construction which apply at the time.

5.5 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation.

Roads and transport related assets are rarely, if ever, disposed. Council currently has no immediate or current strategic direction to retire or dispose of any elements of the local transport network however does respond to requests for acquisition from other parties as required.

In conjunction with detailed service planning, there may be opportunities to review the status of parts of Council's extensive road network to determine if various routes could be managed to a lower level of service. For example, there may be cases of parallel roads that are all currently being maintained to the same standard. Stakeholder engagement may identify a preferred strategic route that is managed to an agreed level of service while the other alternative parallel roads are delivered at a reduced level of service.

6. RISK MANAGEMENT PLAN

The purpose of this section is to describe the basis of Council's strategic risk and investment policies and the way it will manage risk associated with Council's transport assets.

6.1 Risk Management Process

Council's risk management framework and processes are in accordance with *AS/NZS ISO 31000:2009 – Risk Management – Principles and Guidelines* and *HB 436:2013 – Risk Management Guidelines*.

The Framework is designed to provide the architecture for a common platform for all risk management activities undertaken by Council and is used to identify specific risks associated with Council's delivery of services and management of assets.

The objective of the risk management process with regards to Council's assets is to ensure that:

- All significant operational and organisational risks are understood and identified;
- The highest risks that need to be addressed in the short to medium term are identified; and
- Strategies and treatments to address risks are identified and applied.

An assessment of risks associated with service delivery from infrastructure assets has identified the most critical risks to Council. The risk assessment process identifies and assesses risks, develops a risk rating and develops a risk treatment plan for non-acceptable risks.

6.1.1 Risk Assessment

Network or system risks assessed as 'Very High' - requiring immediate corrective action and 'High' – requiring prioritised corrective action identified by Council's asset risk assessment process are summarised in Table 9 below.

Risk Event	Cause	Risk Rating (VH, H)	Risk Treatment Mitigation Plan	Residual Risk
Sealed Roads Pavement failure and potholes causing vehicle damage and increasing risk of traffic accidents	<ul style="list-style-type: none"> ▪ Extreme weather conditions. ▪ Lack of maintenance and reseal program. 	High	<ul style="list-style-type: none"> • Immediate response to damage created by major storm events. • Make road safe and repair as soon as possible. • Regular inspections and ongoing capital works / reseal / maintenance program. 	Medium
Unsealed Roads Corrugations, loss of pavement shape and rutting.	<ul style="list-style-type: none"> ▪ Extended dry weather during dry season 	Medium	<ul style="list-style-type: none"> • Regular maintenance grading program. • Regular road inspections. • Understanding and appreciating traffic movement patterns. 	Low
Unsealed Roads Washouts during extreme weather conditions	<ul style="list-style-type: none"> ▪ Storm – flood damage 	High	<ul style="list-style-type: none"> • Immediate response by on call staff in the event of a major storm event. • Make road safe and repair as soon as possible. • Regular inspections and ongoing capital works / maintenance program. • Close road and provide alternative access if possible. 	Medium

Table 9 – Identified Transport Risks

7. FINANCIAL SUMMARY

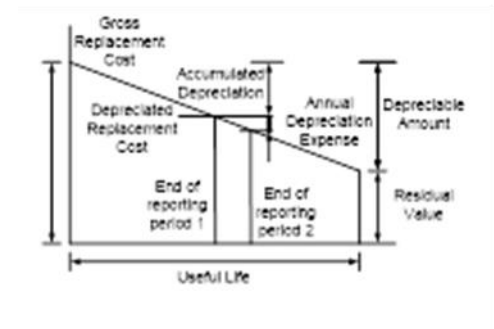
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset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

7.1 Financial Statements and Projections

7.1.1 Asset Valuations

The best available estimate of the value of assets included in this Asset Management Plan are shown below.

Gross Replacement Cost	\$29,639,228
Accumulated Depreciation	\$5,302,038
Depreciated Replacement Cost	\$24,337,190
Annual Average Asset Consumption	\$491,654



Assets are valued at fair value based on depreciated replacement cost according to Greenfield rates. Quantities represent those assets whose replacement cost meets Council's capitalisation threshold.

7.1.2 Sustainability of Service Delivery

Renewals

The Department of Local Government, Racing & Multicultural Affairs (DLGRMA) has included the Asset Sustainability Ratio as one of its key measures of sustainability³. The ratio is defined as follows:

Financial Management (Sustainability)

$$\frac{\text{Capital Expenditure on Replacement of Assets (Renewals)}}{\text{Depreciation Expenditure}}$$

The target range is greater than 90% per annum (on average over the long-term). From Council's most recent Transport Revaluation, the annual depreciation is **\$491,654**. Based on the 90% target then the target annual renewal expenditure amount should be in the order of **\$442,489**

7.1.3 Previous Expenditure on Roads

The following is the historical expenditure on roads

Year	Shire Roads & Stormwater		Upgrades/New
	Maintenance	Renewals	
2017-18			
2018-19			
2019-20			
2020-21	\$6,185	\$156,390	\$652,609
2021-22			

Table 10 – Historical and Budgeted Expenditures on Roads Assets

It is recognised that the ability of Indigneous Councils is severely constrained in generating revenue due to the nature of land ownership and therefore must rely heavily on grant funding to attempt to maintain a reasonable level of service from community assets, Based on the above, the Asset Sustainability Ratio is currently in the order of **32%**.

7.1.4 Projected Expenditures for Long Term Financial Plan

Based on the valuation data and Council condition data, the following identifies the projected renewals requirements over the next 20 years. The large “spikes” represent the projected re-sheets based on the current condition score of 6 and that they have a relatively short life. In practice, renewals will be programmed over a number of years so that acts to “smooth” out the expenditure curve. The following table shows the predicted renewal expenditure for each class.

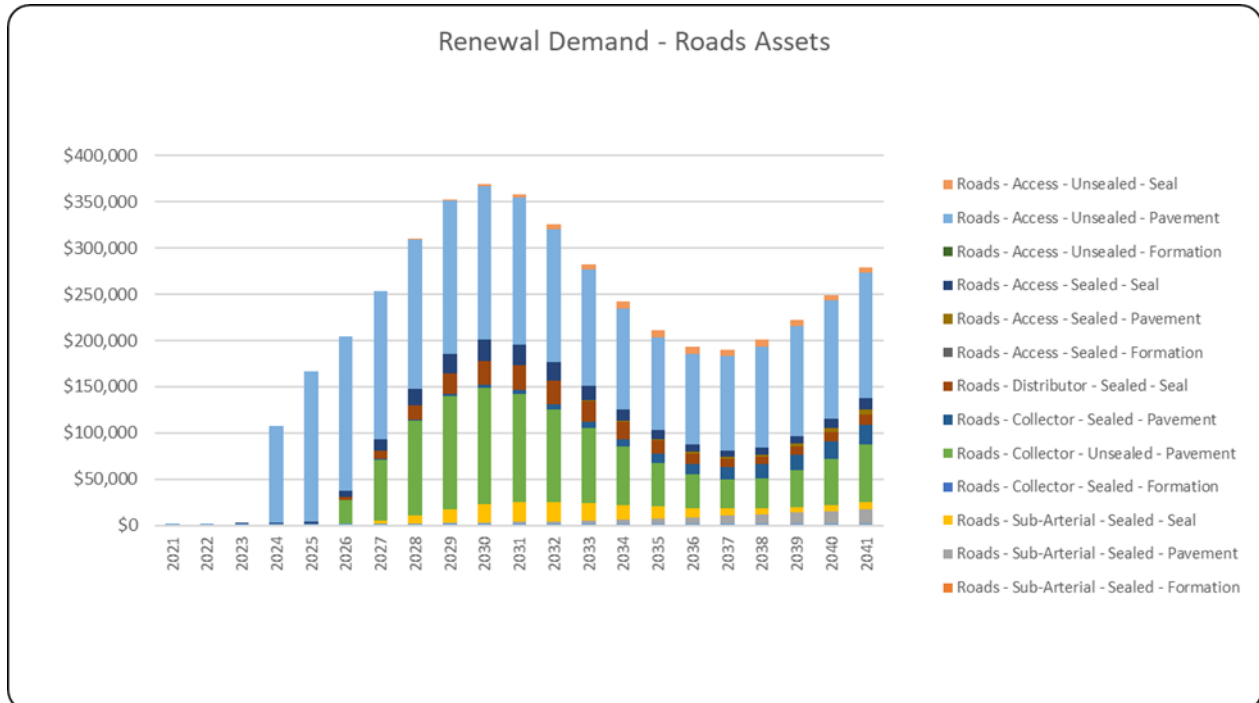


Figure 5 – Projected 20 Year Renewals- Roads Assets

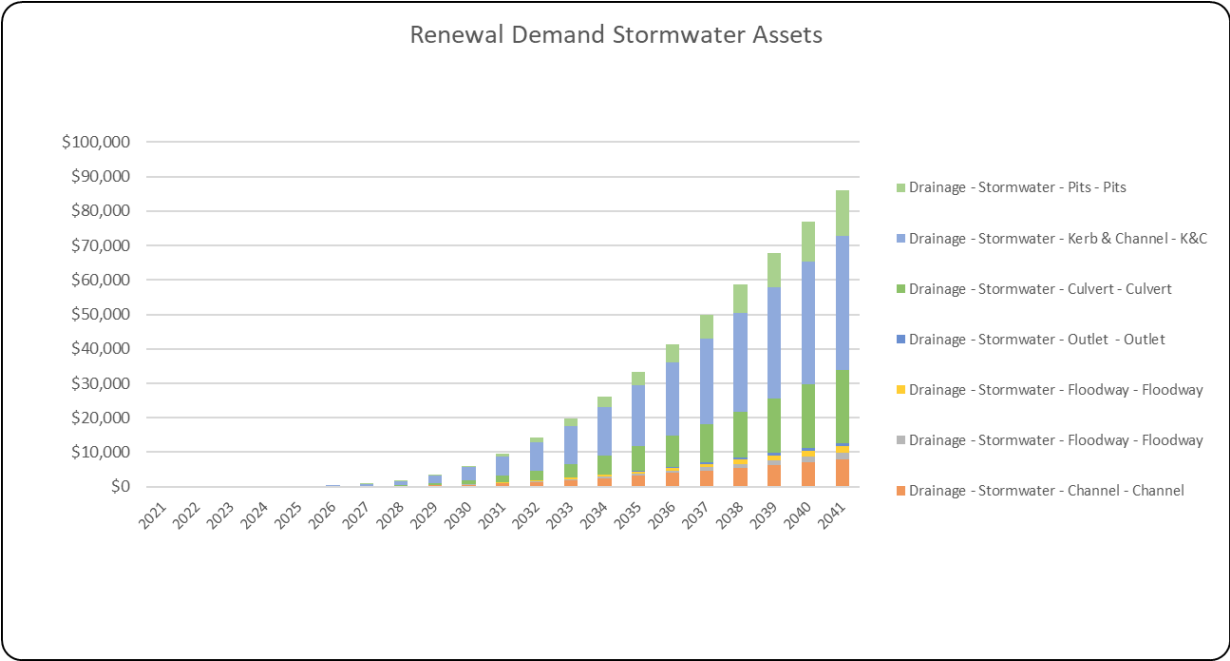


Figure 6 – Projected 20 Year Renewals- Stormwater Assets

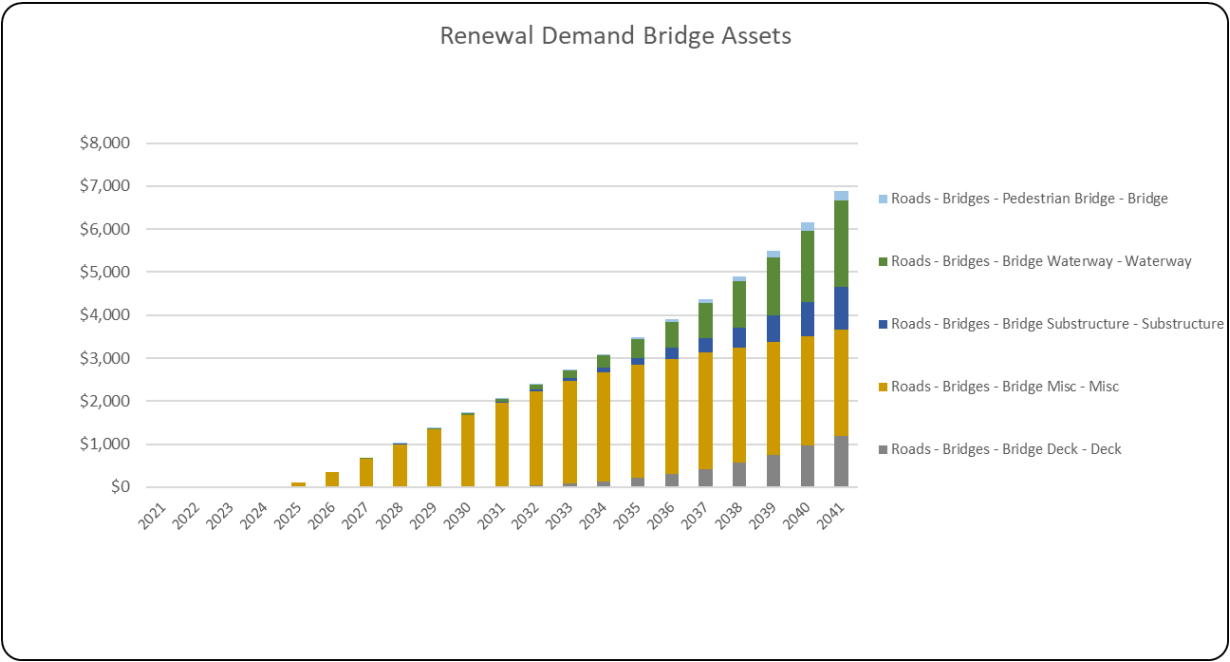


Figure 7 – Projected 20 Year Renewals- Bridge Assets

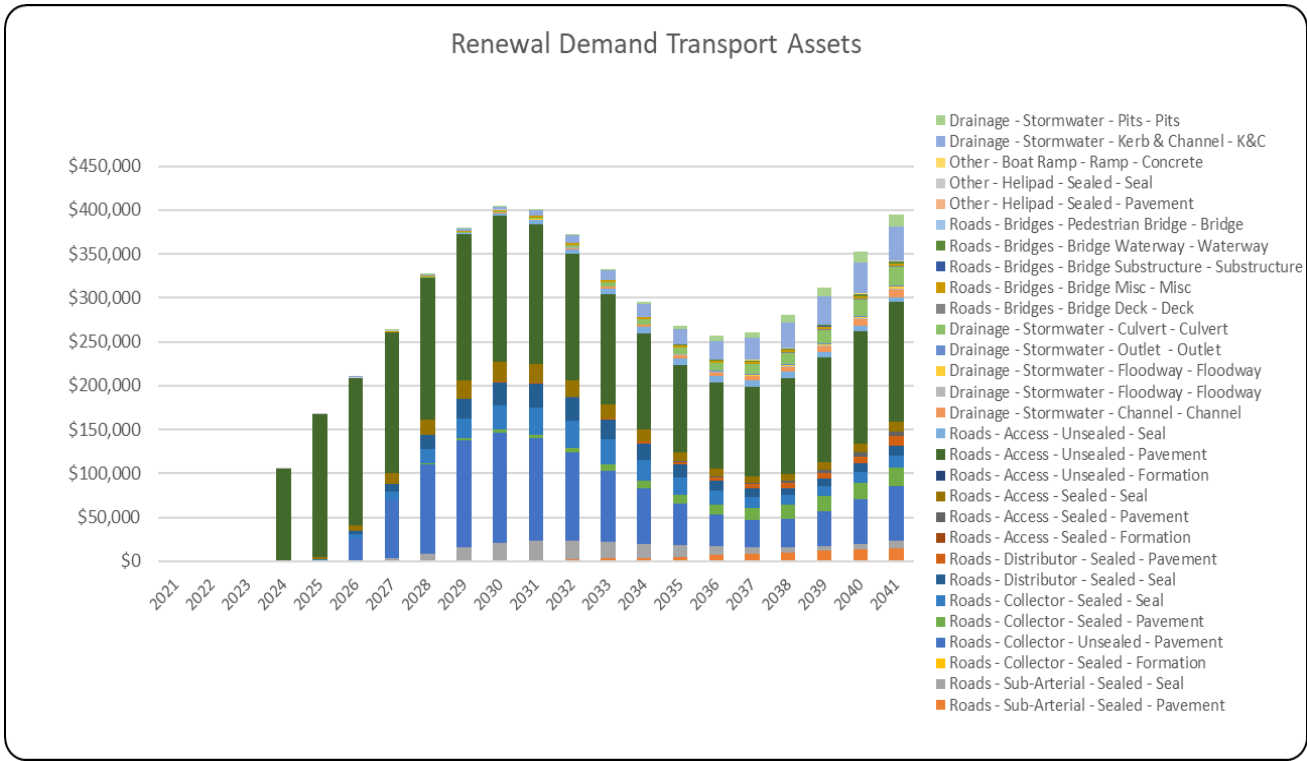


Figure 8 – Projected 20 Year Renewals- Transport Assets

Table 11 shows the projected expenditures for the 10-year, Long Term Financial Plan. Expenditure projections are in 2020/21 real values.

Asset Type	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Roads - Sub-Arterial - Sealed - Formation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Roads - Sub-Arterial - Sealed - Pavement	\$0	\$0	\$0	\$0	\$0	\$21	\$92	\$248	\$520	\$931
Roads - Sub-Arterial - Sealed - Seal	\$0	\$0	\$0	\$0	\$0	\$0	\$3,062	\$8,908	\$15,159	\$19,705
Roads - Collector - Sealed - Formation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Roads - Collector - Unsealed - Pavement	\$0	\$0	\$0	\$0	\$0	\$25,598	\$65,934	\$101,898	\$122,484	\$126,195
Roads - Collector - Sealed - Pavement	\$0	\$0	\$0	\$0	\$80	\$292	\$670	\$1,229	\$1,974	\$2,904
Roads - Collector - Sealed - Seal	\$0	\$0	\$0	\$0	\$2,257	\$5,235	\$9,098	\$15,304	\$22,527	\$28,385
Roads - Distributor - Sealed - Seal	\$0	\$0	\$0	\$0	\$0	\$2,964	\$8,781	\$15,964	\$22,272	\$26,098
Roads - Distributor - Sealed - Pavement	\$0	\$0	\$0	\$0	\$0	\$4	\$22	\$66	\$155	\$308
Roads - Access - Sealed - Formation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Roads - Access - Sealed - Pavement	\$0	\$0	\$0	\$0	\$0	\$0	\$3	\$14	\$39	\$89
Roads - Access - Sealed - Seal	\$0	\$0	\$711	\$840	\$2,341	\$6,539	\$12,302	\$17,762	\$21,414	\$22,676
Roads - Access - Unsealed - Formation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Roads - Access - Unsealed - Pavement	\$0	\$0	\$0	\$105,115	\$162,451	\$167,374	\$161,058	\$161,526	\$165,992	\$166,677
Roads - Access - Unsealed - Seal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$296	\$1,088	\$2,340
Roads - Bridges - Bridge Deck - Deck	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$5	\$12
Roads - Bridges - Bridge Misc - Misc	\$0	\$0	\$0	\$0	\$114	\$346	\$655	\$998	\$1,341	\$1,662
Roads - Bridges - Bridge Substructure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$4	\$10
Roads - Bridges - Bridge Waterway	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$3	\$11	\$28
Roads - Bridges - Pedestrian Bridge	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$2
Drainage - Stormwater - Channel	\$0	\$0	\$0	\$0	\$0	\$14	\$63	\$165	\$339	\$596
Drainage - Stormwater - Floodway	\$0	\$0	\$0	\$0	\$0	\$2	\$8	\$22	\$47	\$86
Drainage - Stormwater - Floodway	\$0	\$0	\$0	\$0	\$0	\$2	\$8	\$22	\$47	\$86
Drainage - Stormwater - Outlet	\$0	\$0	\$0	\$0	\$0	\$1	\$4	\$12	\$25	\$46
Drainage - Stormwater - Culvert	\$0	\$0	\$0	\$0	\$2	\$31	\$122	\$314	\$647	\$1,154
Drainage - Stormwater - Kerb & Channel - I	\$0	\$0	\$0	\$0	\$0	\$95	\$410	\$1,059	\$2,126	\$3,660
Drainage - Stormwater - Pits - Pits	\$0	\$0	\$0	\$0	\$0	\$0	\$12	\$60	\$178	\$402
Other - Helipad - Sealed - Pavement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$2
Other - Helipad - Sealed - Seal	\$0	\$0	\$0	\$923	\$1,427	\$1,470	\$1,262	\$975	\$703	\$483
Other - Boat Ramp - Ramp - Concrete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$2
TOTAL	\$0	\$0	\$711	\$106,879	\$168,673	\$209,989	\$263,569	\$326,849	\$379,099	\$404,540

Table 11 - Projected Expenditures of Transport Assets for Long Term Financial Plan

8. PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices

Council currently uses the following corporate information systems for recording relevant asset data and information:

Module	System
Customer Request Management	N/A
Financial/Accounting	Synergy
Records Management	
Mapping (GIS)	
Asset Register	
Strategic Asset Management	N/A
Mobile Solutions	N/A
Works Management	N/A

Table 12 – Overview of Corporate Systems

(To be completed in next update of Plan)

The asset management system underpins asset management capacity and capabilities and is a key source of information for decision making, coordination of operations, and performance reporting. It is understood that Council is investigating options for its future asset management system, it is important that a clear road map is developed for the implementation of the additional functionality of this system which is either being performed by other non-integrated solutions or manual processes.

8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 13.

Issue	Tasks / Processes	Timeframe	Responsibility	Status
POLICY	Update current Asset Management Policy	Regular input to Council agendas	CEO / Directors	Policy to be updated
STRATEGY	Initiate 'Whole of Life' analysis for all major projects in the Capital Works Program.		CEO / Directors	To be developed with next Budget
	Establish Long Term Financial Plans using AMP financial forecasts.		CEO / DES / DCS	Refined with AMP, (this plan)
LEVELS OF SERVICE	Complete Levels of Service for major assets and facilities.	Jun-22	CEO / Directors	Commenced and Draft Roads LoS completed
	Determine costing for current Levels of Service	Jun-22	DES / DCS	To commence
	Consult with community regarding Levels of Service and affordability.	Jun-22	Councillors / CEO	To commence – use LoS

RISK MANAGEMENT	Maintain Risk Register for asset and services management	Jun-22	CEO / Directors	Initial register developed and reported
DATA	Continue to increase the integrity of asset and services data	Ongoing	DES / DCS	Confidence Factors are acceptable
	Maintain Asset Inventories for asset management purposes with complementary information in Asset Register	Jun-22	DES / DCS	Processes to be reviewed and validated
	Process reviews to ensure data is consistent and accurate across all functions, eg asset handover, as constructed drawings, etc.	Jun-22	DES	Initiated
FINANCIAL MANAGEMENT	Determine costs for services – an essential element of the determination of the Levels of Service, (may require new disciplines for cost capture as well as revised GL accounts);	Dec-22	DES / DCS	
	Ensure alignment between Asset Inventories and Asset Register	Ongoing	CEO / DCS / DES	Work from updated inventories
	Apply financial forecast calculation process for each asset class, and regularly test against industry indicators	Ongoing	DES / DCS	Initial data recorded in Asset Inventories
OPERATIONS	Establish templates and processes to provide regular reports on asset and services management status and practices improvements program, plus overall and individual asset and services performance.	Ongoing	CEO / Directors	To commence

Table 13 – Improvement Plan

Council's Executive Management Team (EMT) will be responsible for determining the priority of the actions in this improvement plan and also to allocate a responsible officer and to identify resource needs. This is to ensure that the implementation of these improvement actions align with Council's overall asset program.

8.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget planning processes and amended to show any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

The asset management plan will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital

upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the Long Term Financial Plan.

The asset management plan will have a life of four (4) years and will be completely reviewed and updated in order to inform the development of the Corporate Plan, the Operational and Development Plan, and the Long Term Financial Plan.

8.4 Performance Measures

Performance measures will be developed to ensure that work practices and the asset management plan are reflective of each other.

The performance of the asset management plan shall be monitored against the following criteria in accordance with the process detailed below.

- Maintenance and renewal programs - to confirm that allocated budget projects were delivered on time, within budget and to the specified level of service (see following item on delivery performance).
- Inspection programs - to confirm that they were undertaken as specified in the asset management plans and any other service level agreements which may be in operation.
- Scheduled condition assessments – to confirm that they were undertaken as required.
- Maintenance of asset information systems - to ensure that stored data is current and accurate.
- External factors - including legislative requirements, ongoing development of Council policies, plans, and other major system implementations, that may affect the contents of the asset management plan.

9. GLOSSARY

The following definitions and assumptions have been used in the compilation of this report:

Asset Management Plan:

A plan developed for the management of one or more infrastructure assets that combines multi-disciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost-effective manner to provide a specified level of service (function/purpose). A significant component of the plan is a long-term cash-flow projection for the continuation of the asset to function at its level of service.

Asset Management Team:

A team appointed by an organisation to review and monitor the corporate asset management improvement program and ensure the development of integrated asset management systems and plans consistent with organisational goals and objectives.

Asset Data:

A record of asset information considered worthy of separate identification including inventory, location, age, condition, history, financial, construction, technical and financial information about each individual asset.

Current Replacement Cost:

The cost of replacing the current service potential of an existing asset with an asset of equivalent capacity, built to current community standards and expectations.

Cyclic Maintenance:

Maintenance carried out on a programmed basis that ensures the asset is protected against deterioration and enhances appearance (e.g. cleaning of gutters).

Gap Analysis:

A method of assessing the gap between the Organisation's current asset management practices and the future desirable asset management practices. Also called "needs analysis" or "improvement planning", and for buildings, the financial gap between current renewal and maintenance funding and the existing asset or asset's components required renewal and maintenance funding needs.

Improvement /Upgrades:

Works required to an existing asset that changes the current functional level of service to a revised, improved or upgraded function to meet user's expectations.

Operational maintenance:

Un-programmed maintenance, carried out to ensure the asset or element remains serviceable (e.g. remove grass from down pipes).

Renewal:

Works to refurbish or replace an existing asset or asset component with facilities of equivalent capacity or performance capability.

Replacement:

The complete replacement of an asset or asset component that has reached the end of its life in order to provide a similar or agreed alternative level of service.



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