

Clarence City Council





Roads and Transport

Asset Management Plan 2018



Scenario1 Version1

July 2018

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Note: Scenario and Version (S&V) designations relate to the data used in construction of this Asset Management Plan. An explanation of how this information is utilised is included in section 5.7.

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TABLE OF CONTENTS

1.	EXECUTIVE SUMMARY	4
	Context	4
	What does it Cost?.....	4
	What we will do	4
	What we cannot do	4
	Managing the Risks	4
	Confidence Levels	5
	The Next Steps	5
2.	INTRODUCTION.....	6
	2.1 Background.....	6
	2.2 Goals and Objectives of Asset Management	8
	2.3 Plan Framework.....	8
	2.4 Core and Advanced Asset Management	10
	2.5 Community Consultation.....	10
3.	LEVELS OF SERVICE	11
	3.1 Customer Research and Expectations	11
	3.2 Strategic and Corporate Goals	11
	3.3 Legislative Requirements	13
	3.4 Current Levels of Service	13
	3.5 Desired Levels of Service	16
4.	FUTURE DEMAND	17
	4.1 Demand Drivers.....	17
	4.2 Demand Forecast	17
	4.3 Demand Impact on Assets.....	17
	4.4 Demand Management Plan.....	18
	4.5 Asset Programs to meet Demand.....	19
5.	LIFECYCLE MANAGEMENT PLAN.....	20
	5.1 Background Data	20
	5.2 Infrastructure Risk Management Plan.....	24
	5.3 Routine Operations and Maintenance Plan	26
	5.4 Renewal/Replacement Plan	28
	5.5 Creation/Acquisition/Upgrade Plan	31
	5.6 Disposal Plan	33
	5.7 Service Consequences and Risks	33
6.	FINANCIAL SUMMARY	35
	6.1 Financial Statements and Projections	35
	6.2 Funding Strategy.....	39
	6.3 Valuation Forecasts	39
	6.4 Key Assumptions made in Financial Forecasts	41
	6.5 Forecast Reliability and Confidence	41
7.	PLAN IMPROVEMENT AND MONITORING	43
	7.1 Status of Asset Management Practices	43
	7.2 Improvement Plan	44
	7.3 Monitoring and Review Procedures	44
	7.4 Performance Measures	44
8.	REFERENCES.....	45
9.	APPENDICES	46
	Appendix A Maintenance Response Levels of Service	47
	Appendix B Projected 10 year Capital Renewal and Replacement Works Program.....	48
	Appendix C Projected Upgrade/Exp/New 10 year Capital Works Program.....	50
	Appendix D Budgeted Expenditures Accommodated in LTFP.....	52
	Appendix E Abbreviations.....	53
	Appendix F Glossary	54

1. EXECUTIVE SUMMARY

Context

Clarence City Council manages an expansive area of land on the eastern shore of the Derwent Estuary from South Arm in the south through to Richmond in the north and as far east as Hobart International Airport. Road and transport assets owned and maintained by Council underpin the social and economic activity of the municipality. The age and condition of Council's road and transport assets are such that considerable capital is required to maintain the network in its current condition.

The Road and Transport Service

The road and transport network comprises:

- Sealed Roads 403 km
- Unsealed Roads 41.5 km
- Kerb and Gutter 510 km
- Footpaths 328 km
- Bridges 27 No.
- Carparks 65,241 m²
- Cycleways 28 km
- LATMs 2,050 No.

As of 24 August 2017, these infrastructure assets have a replacement value of **\$456,738,645**.

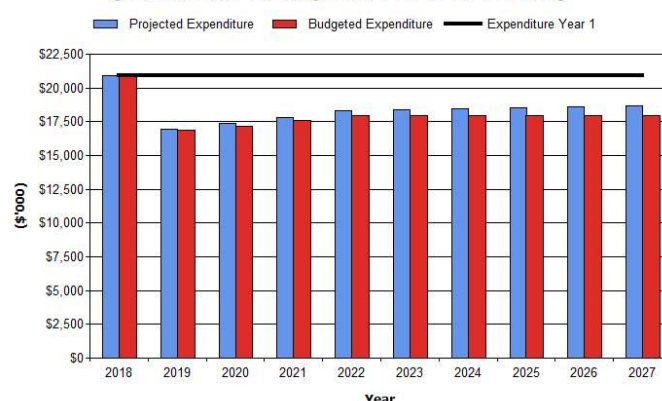
What does it Cost?

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is **\$183,907,000** or **\$18,391,000** on average per year.

Estimated available funding for this period is **\$180,410,000** or **\$18,041,000** on average per year which is **98%** of the cost to provide the service. This is a funding shortfall of **\$350,000** on average per year. Projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the 10 Year Financial Management Plan (Long Term Financial Plan) are shown in Figure 4, below.

Figure 4: Projected Operations and Maintenance Expenditure (From 5.3.3)

Clarence CC - Projected and Budget Expenditure for (Roads and Transport 2017/18_S1_V1)



What we will do

We plan to provide road and transport services for the following:

- Operation, maintenance, renewal and upgrade of roads, kerb and gutter, footpaths, bridges, cycleways and carparks to meet service levels set by Council in annual budgets.
- Construction of DDA facilities and expansion of rural footpaths within the 10 year planning period.

What we cannot do

Due to broad budgetary shortfall, We do not have enough funding to provide all services at the desired service levels or provide new services.

Managing the Risks

There are risks associated with providing the service and not being able to complete all identified activities and projects. We have identified major risks as:

- Structural bridge failures,
- Footpath trip hazards, and
- Injury to road users.

We will endeavour to manage these risks within available funding by:

- Maintenance activities identified by bridge inspections,
- Rectify priority 1-3 hazards from footpath audits, and
- Implement recommendations from road safety audits.

Confidence Levels

This AM Plan is based on medium level of confidence information.

The Next Steps

The actions resulting from this asset management plan are:

- Improve synergies between Asset Management and Finance,
- Revise road segments for condition modelling.

Questions you may have

What is this plan about?

This asset management plan covers the infrastructure assets that serve the Clarence City Council community's road and transport needs. These assets include roads, kerb and guttering, footpaths, bridges, cycleways and carparks throughout the community area that enable people to travel safely and efficiently throughout the City.

What is an Asset Management Plan?

Asset management planning is a comprehensive process to ensure delivery of services from infrastructure is provided in a financially sustainable manner.

Asset management plan details information about infrastructure assets including actions required to provide an agreed level of service in the most cost effective manner. The plan defines the services to be provided, how the services are provided and what funds are required to provide the services.

Why is there a funding shortfall?

Most of the Council's road and transport network was constructed by developers and from government grants, often provided and accepted without consideration of ongoing operations, maintenance and replacement needs.

Many of these assets are approaching the later years of their life and require replacement, services from the assets are decreasing and maintenance costs are increasing.

Our present funding levels are insufficient to continue to provide existing services at current levels in the medium term.

What options do we have?

Resolving the funding shortfall involves several steps:

1. Improving asset knowledge so that data accurately records the asset inventory, how assets are performing and when assets are not able to provide the required service levels,
2. Improving our efficiency in operating, maintaining, renewing and replacing existing assets to optimise life cycle costs,
3. Identifying and managing risks associated with providing services from infrastructure,
4. Making trade-offs between service levels and costs to ensure that the community receives the best return from infrastructure,
5. Identifying assets surplus to needs for disposal to make saving in future operations and maintenance costs,
6. Consulting with the community to ensure that road and transport services and costs meet community needs and are affordable,
7. Developing partnership with other bodies, where available to provide services,
8. Seeking additional funding from governments and other bodies to better reflect a 'whole of government' funding approach to infrastructure services.

What happens if we don't manage the shortfall?

It is likely that we will have to reduce service levels in some areas, unless new sources of revenue are found. For road and transport, the service level reduction may include rougher roads with higher maintenance costs, cracked footpaths and bridge load limiting/closures.

What can we do?

We can develop options, costs and priorities for future road and transport services, consult with the community to plan future services to match the community service needs with ability to pay for services and maximise community benefits against costs.

2. INTRODUCTION

2.1 Background

This asset management plan is to demonstrate responsive management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed to provide the required levels of service over a 20 year planning period.

The asset management plan follows the format for AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual¹.

The asset management plan is to be read with Council's Asset Management Policy, Asset Management Strategy and the following associated planning documents:

- Clarence City Council Strategic Plan 2016 to 2026,
- Clarence City Council 10 Year Financial Management Plan (Long Term Financial Plan),,
- Clarence City Council Annual Report 2016/2017,
- Clarence City Council Risk Management Policy 2013,
- Clarence City Council Strategic Asset Management Policy.

This infrastructure assets covered by this asset management plan are shown in Table 2.1. These assets are used to provide the community to travel safely and efficiently throughout the City.

Table 2.1: Assets covered by this Plan

Asset category	Dimension	Replacement Value
Sealed Roads	403 km	\$306,077,890
Unsealed Roads	41.5 km	\$15,455,773
Kerb and Gutter	510 km	\$62,302,679
Footpaths	328 km	\$37,636,688
LATMs	2,050 units	\$21,388,715
Bridges	27 No.	\$5,530,902
Cycleways	28 km	\$3,708,448
Land Under Roads	9.26 km ²	\$1,410,622
Carparks	65,241 m ²	\$3226928
TOTAL		\$456,738,645

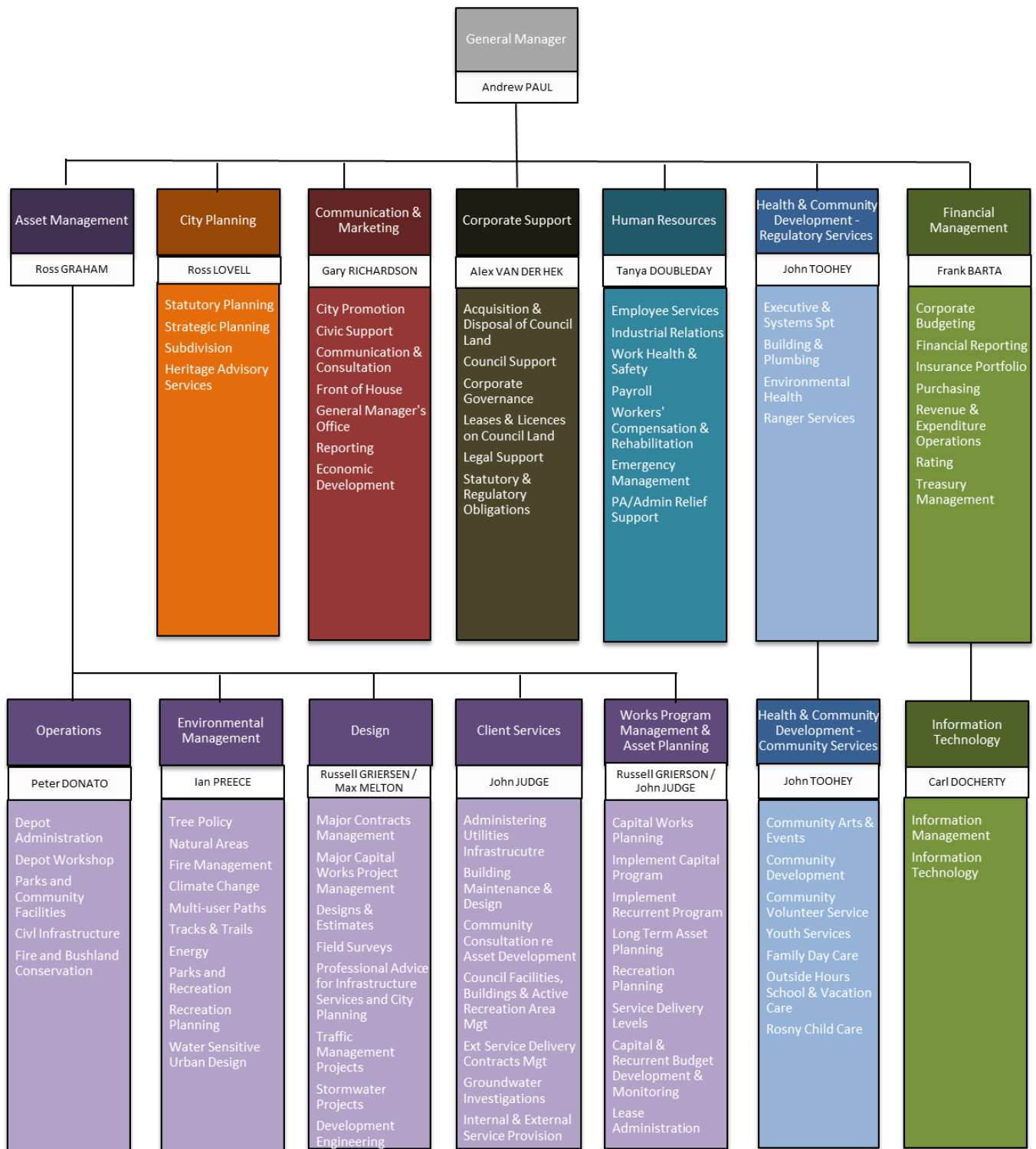
Key stakeholders in the preparation and implementation of this asset management plan are: Shown in Table 2.1.1.

Table 2.1.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Aldermen	<ul style="list-style-type: none"> • Represent needs of community/shareholders, • Allocate resources to meet Council's objectives in providing services while managing risks, • Ensure organisation is financially sustainable, • Accept trade-offs between levels of service and costs.
General Manager	To communicate to Council the service and financial implications arising from the Asset Management Plan
Group Manager Engineering Services	To determine and identify any implications of not meeting funding requirements identified in this AM Plan i.e. consequences of reducing levels of service.
Manager Finance and Information Management	To determine and identify any implications the AM Plan may have on Council's financial sustainability.

¹ IPWEA, 2011, Sec 4.2.6, *Example of an Asset Management Plan Structure*, pp 4 | 24 – 27.

Our organisational structure for service delivery from infrastructure assets is detailed below,



2.2 Goals and Objectives of Asset Management

Council exists to provide services to its community. Some of these services are provided by infrastructure assets. We have acquired infrastructure assets by 'purchase', by contract, construction by our staff and by donation of assets constructed by developers/organisations and others to meet increased levels of service.

Our goal in managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. 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 for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Having a long-term financial plan which identifies required, affordable expenditure and how it will be financed.²

2.3 Plan Framework

Key elements of the plan are:

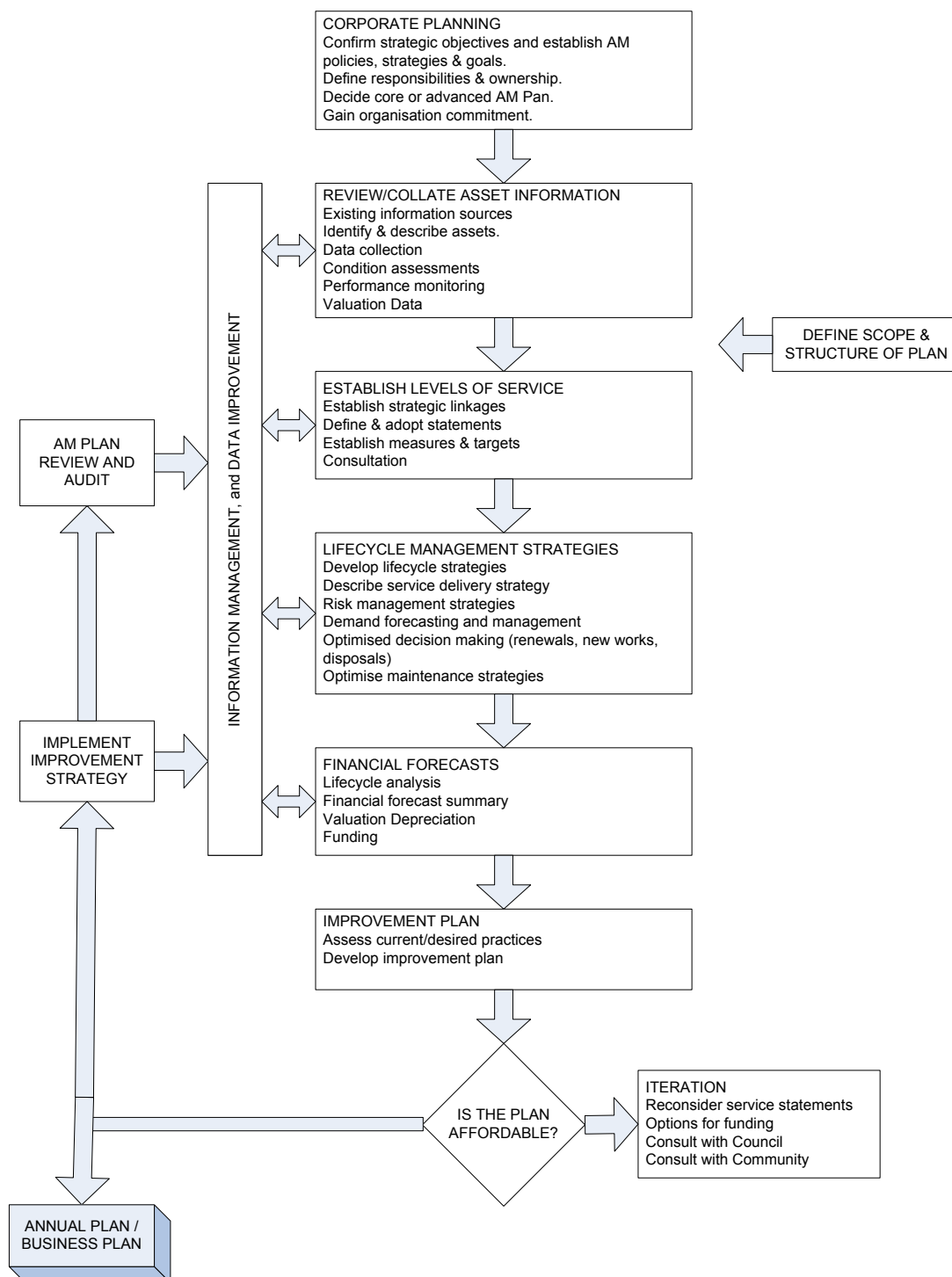
- Levels of service – specifies the services and levels of service to be provided by Council,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Life cycle management – how Council will manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices,
- Monitoring – how the plan will be monitored to ensure it is meeting organisation's objectives,
- Asset management improvement plan.

² Based on IPWEA, 2011, IIMM, Sec 1.2 p 1|7.

A road map for preparing an asset management plan is shown below.

Road Map for preparing an Asset Management Plan

Source: IPWEA, 2006, IIMM, Figure 1.5.1, p 1.11.



2.4 Core and Advanced Asset Management

This asset management plan is prepared as a 'core' asset management plan over a 20 year planning period in accordance with the International Infrastructure Management Manual³. It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a 'top down' approach where analysis is applied at the 'system' or 'network' level.

Future revisions of this asset management plan will move towards 'advanced' asset management using a 'bottom up' approach for gathering asset information for individual assets to support the optimisation of activities and programs to meet agreed service levels in a financially sustainable manner.

2.5 Community Consultation

No community consultation has been undertaken in the preparation of the Roads Asset Management Plan. Future revisions of the asset management plan may incorporate community consultation to assist in Council and the community matching the level of service needed by the community, service risks and consequences with the community's ability and willingness to pay for the service.

³ IPWEA, 2011, IIMM.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

Council engages a consultant to conduct the Clarence City Council Service Quality Biennial Report. The report compiles results from a telephone survey of Clarence residents which gauges the importance that the community places on a services provided by Council and the level of satisfaction with the delivery of those services. The most recent service quality survey covered two road and transport asset related questions, with reported satisfaction levels as follows:

Table 3.1: Community Satisfaction Survey Levels

Performance Measure	2016	2014	2012	2010	2008	2006
% of respondents who consider that Council provides and maintains roads, footpaths and cycleways is very important or important.	98	99	99	99	99	100
Performance in the provision and maintenance of roads, footpaths and cycleways (% based on average score out of 10)	62	60	54	55	59	59

Clarence City Council uses this information in developing its Strategic Plan and in allocation of resources in the budget.

3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of the Council's vision, mission, goals and objectives.

Our vision is:

To make Clarence a Vibrant, Prosperous and Sustainable City.

Our mission is:

Responding to the changing needs of the community through a commitment to excellence in leadership, advocacy, innovative governance and service delivery.

Clarence City Council's goals and objectives and how these are addressed in this asset management plan are shown in the following Table 3.2.

Table 3.2: Organisational Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in AM Plan
Governance and leadership - To provide leadership and accessible, responsive, transparent and accountable governance of the City.	Internal operating systems - Ensure appropriate management of risk associated with Council's operations and activities.	The development of this Road and Transport Asset Management Plan will inform Council of the consequences of its decisions and ensure that the provision and maintenance of the Road and Transport network is sustainable.
A people city – Clarence is a city which values diversity and encourages equity and inclusiveness, where people of all ages and abilities have the opportunity to improve their health and quality of life.	Community Safety and Well-being – Provide essential infrastructure to support, sustain and enhance community safety and social well-being. Public Spaces and Amenity - Develop and implement Asset Management Plans that respond to the identified needs of local communities.	The development of this Road and Transport Asset Management Plan will help identify additional infrastructure needs and plan for the associated financial implications.
A well-planned liveable city - Clarence will be a well-planned liveable city with services and supporting infrastructure to meet current and future needs.	Establish and review a prioritised list of outstanding road transport and alternative transport issues for the City to facilitate the appropriate ranking of projects for capital works planning and funding.	The development of this Road and Transport Asset Management Plan will help identify additional infrastructure needs and plan for the associated financial implications.
Council's assets and resources- To efficiently and effectively manage Council's financial, human, and property resources to attain Council's strategic goals and meet statutory obligations.	Financial management – Maintain a financially sustainable organisation, Maintain Council in a sound financial position, Make affordable and equitable rates and charges, and have effective control of financial risk. Human resources management – Provide an equal opportunity workplace, foster an environment that encourages staff development and continuous learning to strengthen workforce capabilities.	The development of this Road and Transport Asset Management Plan will inform funding decisions and ensure sustainable service delivery in the long term.
A prosperous city – Clarence will develop its economy, improve prosperity, and expand both the level and equity of personal opportunity within its communities.	Economic Development - Provide and plan for essential infrastructure to support economic development.	The development of this Road and Transport Asset Management Plan will help identify additional infrastructure needs and plan for the associated financial implications.
An environmentally responsible city – Clarence is a city that values its natural environment and seeks to protect, manage, and enhance its natural assets for the long term environmental, social and economic benefit of the community.	Built Environment - Develop and implement strategic asset management plans for all Council asset classes.	The development of this Road and Transport Asset Management Plan will directly address this objective.

3.3 Legislative Requirements

Council have to meet many legislative requirements including Australian and State legislation and State regulations. These legislative requirements are shown in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Local Government (Highways) Act 1982	Sets out role, purpose, responsibilities and powers of local governments related to the provision and maintenance of a municipal road and transport network.
Land Acquisition Act 1993	An Act to make provision for the acquisition of land by the Crown, public and local authorities and promoters, to authorize the acquisition of land for undertakings of a public nature, to provide for matters incidental to, and consequential on, that acquisition, and to repeal the <u>Lands Clauses Act 1857</u> , the <u>Lands Resumption Act 1957</u> and the <u>Public Authorities' Land Acquisition Act 194.9</u> .
Land Use Planning and Approvals Act 1993	An Act to make provision for land use planning and approvals.
Work Health and Safety Act 2012	The main object of this Act is to provide for a balanced and nationally consistent framework to secure the health and safety of workers and workplaces.
Other Acts/Policies	Telecommunication, Electricity and Gas Acts. Dangerous Goods (Road Transport) Act 2010. Historic Cultural Heritage Act 1995. Heritage Act 2004.
Clarence City Council Local Highways Standard Requirements By-Law No2 of 2014	By-law made under Section 145 of the Local Government Act, 1993 for the purpose of prescribing standard requirements for the construction of local highways and crossings and the regulation of works in highways in the City of Clarence.

Council will exercise its duty of care to ensure public safety in accordance with the infrastructure risk management policy linked to this AM Plan. Management of risks is discussed in Section 5.2.

3.4 Current Levels of Service

In developing the 2001/02 to 2005/06 plan, the community was consulted through the use of focus groups, a phone survey and interviews with individual residents. The consultation process showed that of all transport assets the road network was by far the most important and that road surface, traffic flow and road width were the most important elements. The consultation process provided a clear definition of what is important to the community as a whole and focused asset planning on the key issues.

As a result of the community consultation three tiers of service levels were developed.

- Primary Service Levels - Relate to the elements of the road network that the community identified as the most important.
- Secondary Service Levels - Associated with those services which if not carried out could impact on the primary service levels.
- Tertiary Service Levels - All remaining transport services carried out by Council. The standard of tertiary service levels may impact on individuals or small groups of residents but should not adversely affect the community as a whole.

Primary Service Levels

Implement a road hierarchy to improve traffic flow and provide a road width 'fit for purpose' based on the following tables. The road hierarchy will be implemented as roads are reconstructed due to pavement failures. As such the hierarchy will take up to 50 years to fully implement. It should be noted that in some cases the reconstruction of a road segment may result in a reduction of pavement width and therefore reducing the lifecycle cost of that segment, while in other cases there may be an increase in pavement width and lifecycle costs. The parameters assigned to the road hierarchy comply with Clarence City Council Local Highways Standard Requirements By-Law, By-Law No.1 of 2004.

Broadly, the Council's Primary Service goals are to:

- Maintain a sealed surface on all roads where a seal already exists, and
- Provide a sealed surface on unsealed roads if it is economic to do so or if there are significant safety concerns.

Other primary targets for Urban, Industrial and Rural roads are shown in tables 3.4.1 and 3.4.2.

Table 3.4.1 Roads in Urban/ Commercial and Industrial Areas

	Cul-De-Sac	Residential Street	Collector Road	Sub-Arterial Road	Arterial Road
Target Maximum Speed km/hr	50	50	50	60	60(+)
Indicative Traffic Volume (vehicles per day)	0-500	0-1500	1000-3000	3000-8000	>8000
Carriageway Width m					
• Travel lane 2 off	3.0	3.0	3.0	3.0	3.5
• Parking lane 1 off	0	0	0	0	0
• Parking lane 2 off	0	0	2.0	2.0	2.3
• Bike lane 2 off	0	0	0	1.5	1.5
Total	6.0	6.0	10.0	13.0	15.6
Slow Points	No	No	No	No	No
Cyclists	Shared	Shared	Shared	Bike Lane	Bike Lane
Bus Route	No	No	No	Yes	Yes
Footpath	One side only	One side only	Both sides	Both sides	Both sides
Line Marking	No	No	Yes	Yes	Yes
Kerb & Guttering	Barrier	Barrier	Barrier	Barrier	Barrier

Table 3.4.2 Roads in Rural/ Rural Residential Areas

	Collector Road	Arterial Road
Target Maximum Speed km/hr	60 – 100	60 - 100
Indicative Traffic Volume (Vehicles per day)	0-2000	>2000
Carriageway Width m	6.0	7.0
Shoulder m	0.5 (unsealed)	0.5 (unsealed) 0.5 (sealed)
Sealed Surface	Yes	Yes
Line Marking	No	Yes

Sealing practices for differing types of roads in the hierarchy are shown in Table 3.4.3.

Table 3.4.3 Road Sealing Practice

Road Type	Sealing Practice	
	Primary Seal	Reseal
Cul-De-Sac	35mm Asphalt seal	Slurry seal

Residential Street	35mm Asphalt seal	Slurry seal
Collector Road	35mm Asphalt seal	Slurry seal
Sub Arterial Road	50mm Asphalt seal	AC overlay
Arterial Road	50mm Asphalt seal	AC overlay
Rural Roads	Spray seal	Spray seal

Arterial roads and major collectors will be identified for reconstruction/rehabilitation once the IRI (International Roughness Index) reaches a value of 7 for maximum speed $\leq 60\text{km/h}$ and 4 for maximum speed $\leq 100\text{km/h}$.

Secondary Levels of Service

Secondary levels of service are shown in the Table 3.6.

Table 3.6 Secondary Levels of Service

Activity	Level of Service	Current Performance
Sealed Road Pavement	<ul style="list-style-type: none"> Inspect, assess and respond to requests about potholes, edge breaks and cracks within 14 days of being reported. Pavement condition assessment every 3 years. 	<ul style="list-style-type: none"> Pothole requests responded to within 14 days.
Gravel Road Maintenance	<ul style="list-style-type: none"> Grade unsealed roads three times per year if required. 	<ul style="list-style-type: none"> Gravel roads graded three times per year.
Minor Works	<ul style="list-style-type: none"> Bridges inspected and repaired as required. Footpath audit conducted every three years, priority 1-3 hazards rectified. Storm damage repaired as required. 	<ul style="list-style-type: none"> Bridges inspected every 6 months. 20,240 priority 1-3 hazards identified (2014).

Tertiary Levels of Service

Tertiary service levels are shown in Table 3.7.

Table 3.7 Tertiary Levels of Service

Activity	Level of Service
Cleaning	<ul style="list-style-type: none"> Litter bins emptied twice a week (Richmond and CBD daily) All sealed urban roads swept at least once every 8-10 weeks.
Drainage	<ul style="list-style-type: none"> Customer requests attended to within 14 days
Footpaths, cycleways and Nature Strips	<ul style="list-style-type: none"> Footpaths inspected and repaired as required. Mow nature strips for the physically infirm twice annually.
Road Furniture	<ul style="list-style-type: none"> Inspected and repaired as required.
Weeds & Trees	<ul style="list-style-type: none"> Inspected and works carried out as required.
Street Lighting	<ul style="list-style-type: none"> Ensure TasNetwork meets its obligations.

3.5 Desired Levels of Service

Desired levels of service are those that Council wants to achieve beyond the current community and technical levels of service. Indicators of desired levels of service are obtained from community consultation/engagement. The asset management planning process includes the development of 2 or 3 scenarios to develop levels of service that are financially sustainable.

Assets not maintained by Council

There are a number of assets associated with the roadway for which Council is not the responsible maintenance authority. These include:

- Vehicle crossovers and driveways for that portion of a vehicle crossing, other than the footpath, located between the carriageway and the property boundary is the responsibility of the adjoining property owner to maintain.
- Nature strips and infill areas within urban areas which are those residual areas between the edge of the road or back of the kerb and the property boundary not occupied by the pathway and private road crossings. The responsibility for maintenance of grassed areas and footpath verges rests with the adjoining property owner.
- Single property stormwater drains that are constructed within the reserve from the property boundary to a discharge outlet in the kerb or into the drain. They are there to benefit the property and as such are the responsibility of the owner of the property being served to maintain.
- Private or illegal landscaping works on the road reserve that are not in accordance with any Council policy on such landscaping or have a potential of causing obstruction or injury/damage to pedestrian or traffic movement.
- Street lighting (Standard) – maintenance of all utility timber and concrete power poles is the responsibility of power companies however maintenance of decorative poles in streetscapes is a council responsibility. Council is responsible for the cost of operating the street lighting service on local road reserves and contributes to the cost of lighting on arterial roads.
- Bridges/culverts/overpasses – some may be maintained by other Departments and some by agreement with the adjoining Council.
- Private roads, driveways, laneways and car parks (Common Property) associated with private developments.
- Rail crossings and associated structures (bridges) are maintained by the Rail authority.
- Service Authority temporary/permanent reinstatements to the road and pathways and other road reserve assets organised by the authority directly.
- Service Authorities Assets - Utility assets such as service pits (communications, water, sewerage, gas, electricity).
- Crown and Service Authority Land/Easements – unless specified.

As part of the ongoing rollout of OneCouncil, Council will be expanding its capacity to record and evaluate service level data to improve on areas where data is considered to be insufficient. These processes will be detailed in the 2022 version of the AMP, as it is too early in their development to comment on specific implementation details.

4. FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand are broader trends of change which may result in unavoidable increases in demand on Council's resources and time, impacting the overall Level of Service Council may be able to provide. .

Council engaged Connell Wagner in 2007 to develop a residential strategy for Clarence. The Clarence Residential Strategy⁴ identified strengths, weaknesses, opportunities and threats (SWOT) for a range of themes including Transport. The Transport SWOT is summarised in Table 4.1.

Table 4.1: Clarence Residential Strategy SWOT - Transport

Strengths	Weaknesses
Good arterial road system. Capacity for higher volumes on Bowen Bridge.	Lack of adequate public transport services. Increase in congestion on roads, and the Tasman Bridge Declining public transport usage rates. Dispersal of urban development across the municipality.
Opportunities	Threats
Provide for growth close to activity nodes, roads and public transport services.	Lack of local employment opportunities. Continued growth in the poorly serviced south eastern coastal areas of Rokeby, Howrah and Tranmere.

4.2 Demand Forecast

The present position and projections for demand drivers that may impact future service delivery and utilisation of assets were identified and are documented in Table 4.3.

4.3 Demand Impact on Assets

The impact of demand drivers that may affect future service delivery and utilisation of assets are shown in Table 4.3.

Table 4.3: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
Tree Change	Allotments currently disposed as primary production.	Subdivision of agricultural land into rural style living parcels.	Expectation of 'urban' quality roads. Increased rate revenue.
Sea Change	Undeveloped agricultural land comprising large allotments.	High demand for small coastal residential allotments.	Increased rate revenue Increased demand for high quality services including roads, street lighting and footpaths resulting in higher costs
Land Use	Council's planning scheme maintains control of areas of future development.	Re-zonings to facilitate new residential/industrial subdivisions.	Increased access to new subdivisions will create pressure to upgrade roads.
Population	55,175 (ABS Estimated resident population June 2016).	70,882 (Projected resident population June 2037 @ 1.2%).	Network expansion and increased usage of existing assets.
Demographics	Aging population.	Proportion of people aged over 60 to increase.	Greater need for safe pedestrian routes. Requirement to widen footpaths for mobility vehicles. Increased public transport (buses) patronage resulting in increased requests for footpaths servicing bus stops.

⁴ Clarence Residential Strategy, 2008, p25.

Increasing levels of service via legislative requirements	Disability Discrimination Act 1992, Disability Standards for Accessible Public Transport.	Higher standards for improved safety and amenity.	Higher levels of service may impact on the amount of maintenance and renewal able to be undertaken with allocated expenditure.
Climate Change	Mild dry spells.	Longer dry spells.	Increased maintenance costs to maintain service levels.
Rising fuel costs	Most trips made by private motor vehicle.	Increasing numbers using alternative transport i.e. walking, cycling etc.	More demand for alternative transport services i.e. dedicated cycle lanes. Park and ride demand for access to public transport.
Sea Level Rise	Some low-lying, coastal assets inundated during storm surges.	Frequency and duration of inundation likely to increase.	Increased deterioration of assets.
Technological Changes	Roads planned and designed based on current driving technology.	Potential availability of self-driving car technologies in the near future.	Potential demand for road network to accommodate self-driving cars.
Tourism	Cellar door sales, coach visits, major events.	Increase in events & tourism.	Increased parking demand. Construction of traffic calming devices/signage.

4.4 Demand Management Plan

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

Non-asset solutions focus on providing the required service without the need for Council to own the assets and management actions including reducing demand for the service, reducing the level of service (allowing some assets to deteriorate beyond current service levels) or educating customers to accept appropriate asset failures⁵. Examples of non-asset solutions include providing services from existing infrastructure such as aquatic centres and libraries that may be in another community area or public toilets provided in commercial premises.

Opportunities identified to date for demand management are shown in Table 4.4. Further opportunities will be evaluated with each future revisions of this asset management plan.

Table 4.4: Demand Management Plan Summary

Demand Driver	Impact on Services	Demand Management Plan
Population	Growth of new Greenfield sites.	Encourage higher resident population densities in existing suburbs. Develop long term road network improvement plans.
Lifestyle changes	Increased demand for urban services in former rural areas.	Charge developer contributions for road upgrades
Rising fuel costs	More demand for alternative services and access to public transport.	Provide carparks in partnership with DSG and Metro Tas for park and ride. Develop dedicated cycle routes.
Technology-driven changed requirements for roads	Increased cost of road upgrade and maintenance.	Accommodate any potential new/development in this area into long term planning as they arise.

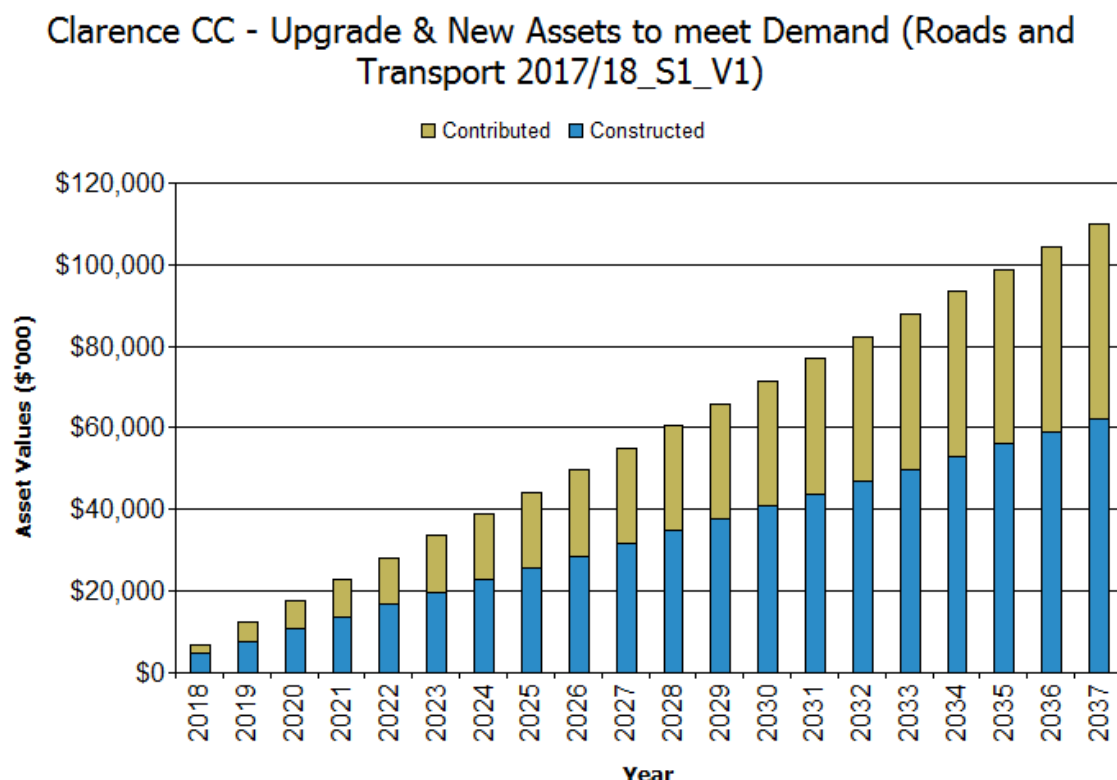
⁵ IPWEA, 2011, IIMM, Table 3.4.1, p 3|58.

Increased demand for roads trafficable by freight vehicles.	Increased cost of road upgrade and maintenance.	Industry engagement. Charge developer contributions for road upgrades. Long term utilisation planning.
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4.5 Asset Programs to meet Demand

The new assets required to meet growth will be acquired free of cost from land developments and constructed/acquired by Council. New assets constructed/acquired by Council are discussed in Section 5.5. The cumulative value of new contributed and constructed asset values are summarised in Figure 1.

Figure 1: Upgrade and New Assets to meet Demand



Acquiring these new assets will commit Council to fund ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs in Section 5.

5. LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

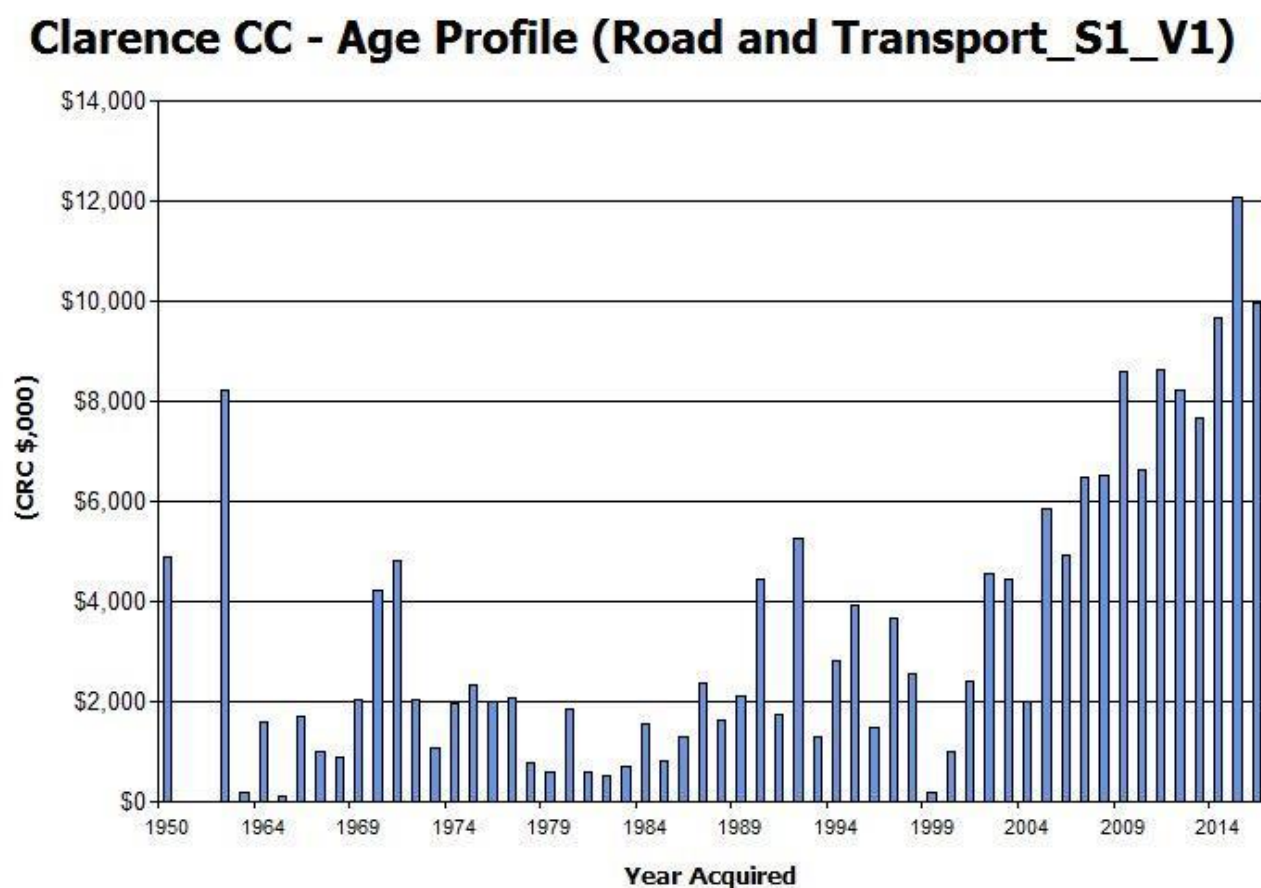
5.1.1 Physical parameters

The assets covered by this asset management plan are shown in Table 2.1.

The majority of Council's road and transport infrastructure is located within the established suburbs of Bellerive, Howrah, Lindisfarne, Risdon Vale and Warrane and was constructed in the 1960s and 1970s. Clarence also experienced increased subdivision activity from 2000 resulting in a substantial increase to the road and transport asset stock, particularly in Howrah, Tranmere and Oakdowns.

The age profile of the assets include in this AM Plan is shown in Figure 2.

Figure 2: Asset Age Profile



The Roads and Transport Asset Age Profile illustrates the gradual development of the Road and Transport network through to the mid-1990s. The increased activity since 2000 is evidence of increased subdivision activity in Howrah, Tranmere, Oakdowns and Glebe Hill and an increased effort to renew existing assets following the adoption of the 2001/02 to 2005/06 Road Asset Plan. The spikes in 1950 and 1962 include assets that had been constructed prior to 1950 plus roads inherited from Department of Main Roads and assets acquired as a result of the amalgamation with Richmond Council. These spikes also include assets of which the construction year is not known. The 2012 revision of

this document referenced an IT Anomaly, listing several decades worth of asset depreciation as one single asset⁶. This provided an inaccurate picture of Council asset ages and has now been corrected.

5.1.2 Asset capacity and performance

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

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

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Acton Park	Excessive deterioration of rural roads Lack of pedestrian facilities
Pass Road	Condition Capacity
City wide	Many existing sealed roads were previously gravel roads with minimal pavement.

The above service deficiencies were identified from road condition surveys, staff knowledge and correspondence with the community.

5.1.3 Asset condition

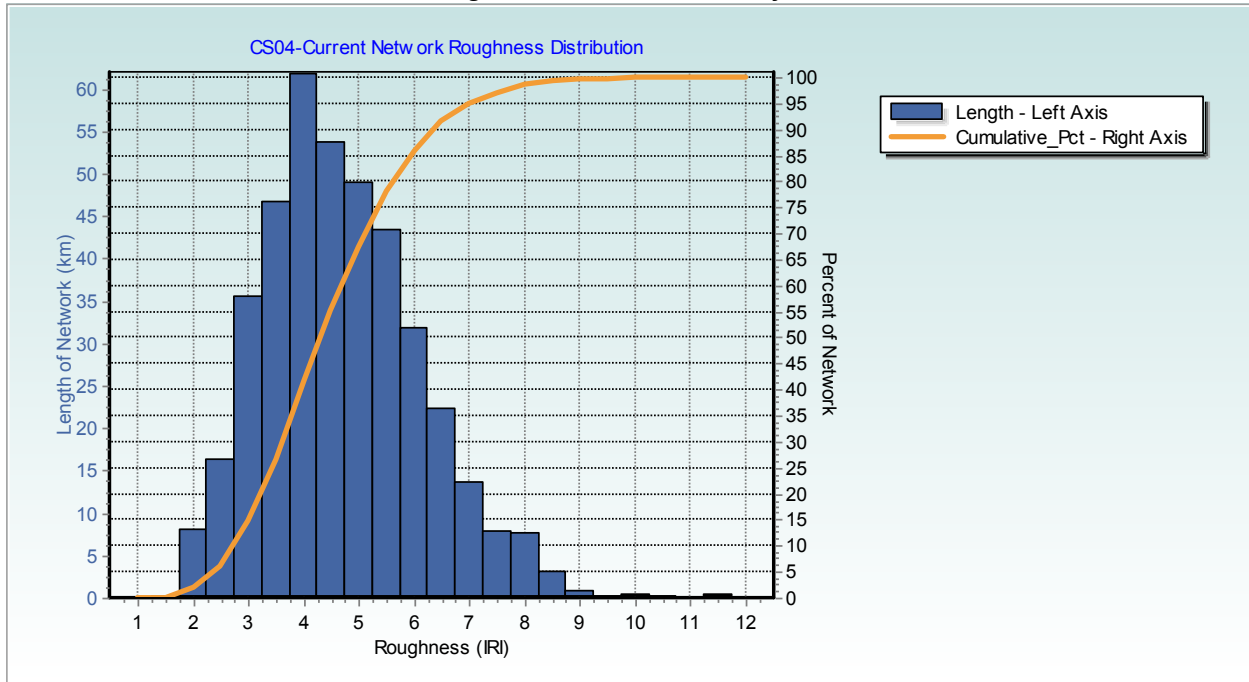
The condition of Council's roads is assessed by an automated pavement roughness survey performed by the Australian Road Research Board (ARRB). The dataset is uploaded to Council's HDM-4 pavement deterioration model which calculates on a 1-5 scale the roughness (International Roughness Index, IRI) and identifies road segments requiring reseal and/or reconstruction/rehabilitation. Roughness Curvature Values are taken from the Institute of Public Works Engineering Australasia (IPWEA) road condition scoring system, which takes into account the condition, age, profile and depth, cracking extent and severity, and drivability of sealed, rigid and unsealed roads. This value is broadly correlated with the serviceable life of the road material, however it also takes into account roads exhibiting signs of deterioration unusual for their service life.

The road network was surveyed in 2004, 2010 and again in 2014. The next survey is due in 2017/2018.

The condition profile of our assets is shown in Figure 3.

⁶ The background of this was that the Financial Asset registry was different to Asset Management's road asset inventory, so a one-off correction was applied to synchronise the two ledgers.

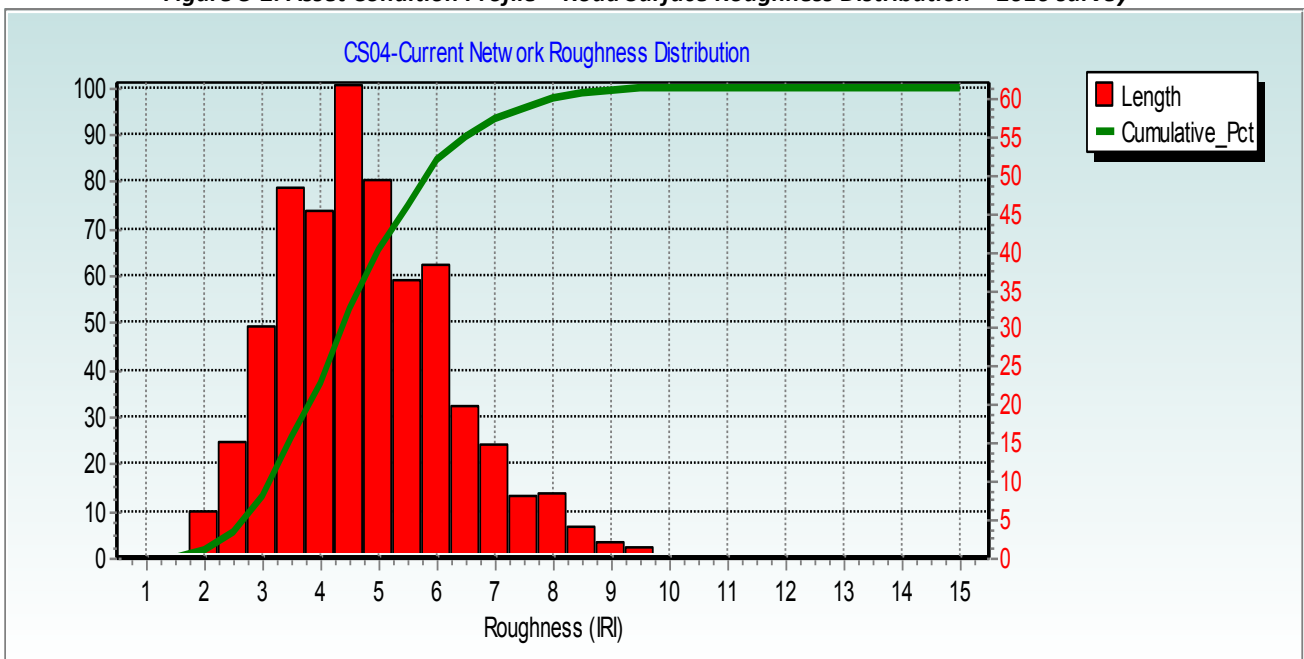
Figure 3: Asset Condition Profile



Council's HDM-4 model is programmed to identify road segments with $IRI \geq 7$ and $IRI \geq 4$, with maximum target speed limits of 60km/h and 100km/h respectively, for renewal works. The current network roughness distribution (2014 survey) shows that the 50th percentile for Council's roads is IRI 4. Approximately 5% of the road network exceeds IRI 7. This distribution is considered to be fair since the majority of Council's roads have a maximum speed limit of 60km/h or less.

A comparison of the 2014 survey results to 2010 shows a reduction of road segments exceeding IRI 7. However, significant rehabilitation is required to reduce the remaining proportion of the road network not meeting the service level.

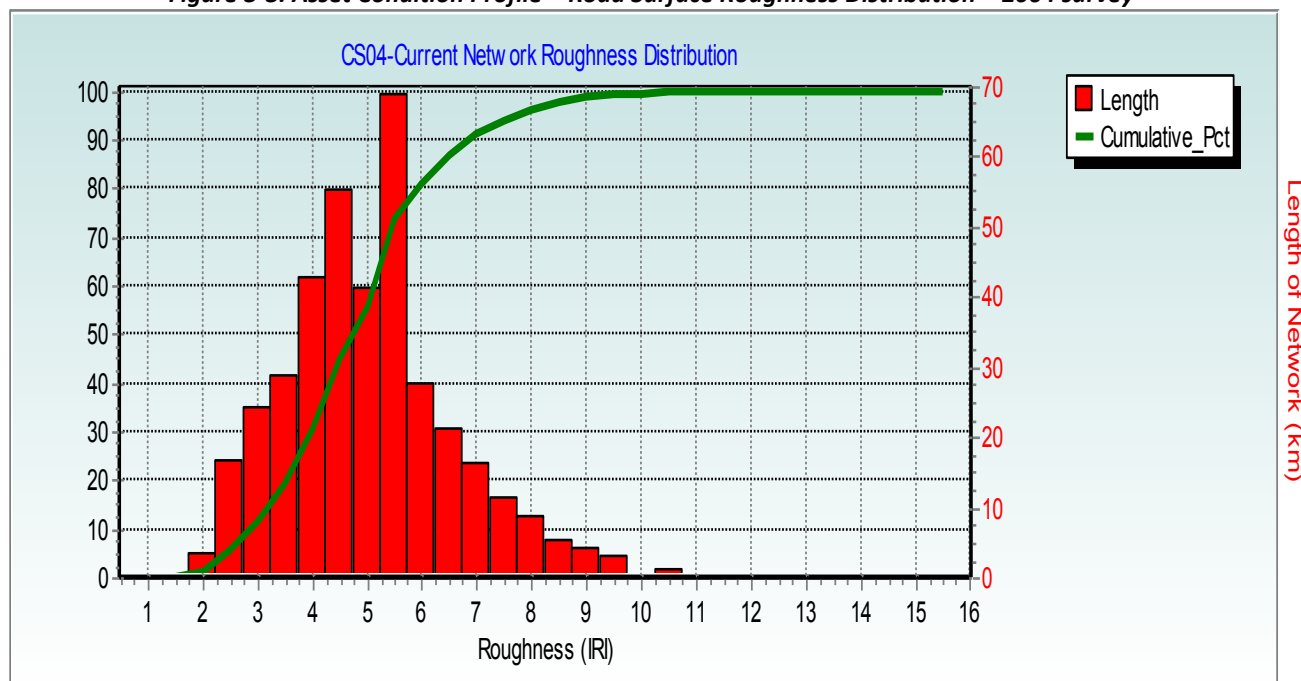
Figure 3-2. Asset Condition Profile – Road Surface Roughness Distribution – 2010 survey



The 2010 network roughness distribution shows that the 50th percentile for Council's roads is IRI 4.5. Approximately 7.5% of the road network exceeds IRI 7.

A comparison of the 2010 survey results to 2004 shows a reduction of road segments exceeding IRI 7 by 25%.

Figure 3-3. Asset Condition Profile – Road Surface Roughness Distribution – 2004 survey



Condition rating of other road and transport assets is not available, however the inspection regime for bridges and footpaths is summarised in Table 5.1.3.

Table 5.1.3: Inspection Regime – Bridges, Footpaths and Multiuser Paths

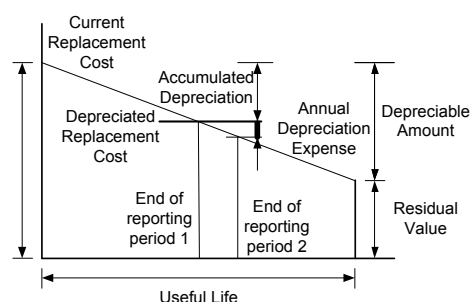
Asset Category	Inspection Frequency	Outcome
Bridges	6 months maintenance inspection.	Defects rated on a 1-6, 6 requiring immediate rectification.
Footpaths and Multiuser paths	Safety audit conducted every three years.	Council currently assigns \$1.2M to the renewal/rectification of footpath/cycleway/kerb and gutter defects annually.

As part of the ongoing rollout of OneCouncil, Council will seek to implement more comprehensive condition evaluation processes for its assets, to be implemented in the 2022 version of this document.

5.1.4 Asset valuations

The value of assets recorded in the asset register as at June 2017 covered by this asset management plan is shown below. Assets were last revalued at June 2017. Assets are valued at replacement cost greenfield.

Current Replacement Cost	\$456,739,000
Depreciable Amount	\$455,328,000
Depreciated Replacement Cost ⁷	\$237,988,000
Annual Depreciation Expense	\$8,814,000



⁷ Also reported as Written Down Current Replacement Cost (WDCRC).

Useful lives of these assets are currently assumed to be 30 years for road seal, 70 years for road pavement, 80 years for bridges and 20-60 years for footpaths. The useful lives will be reviewed as asset condition data is collected and interpreted.

Various ratios of asset consumption and expenditure have been prepared to help guide and gauge asset management performance and trends over time.

Rate of Annual Asset Consumption (Depreciation/Depreciable Amount)	1.9%
Rate of Annual Asset Renewal (Capital renewal exp/Depreciable amount)	2.2%
Rate of Annual Asset Upgrade/New (Capital upgrade exp/Depreciable amount)	1.0%
Rate of Annual Asset Upgrade/New (including contributed assets)	1.0%

In 2017/18 Council plans to renew assets at 112.6% of the rate they are being consumed and will be increasing its asset stock by 1.0% in the year.

5.2 Infrastructure Risk Management Plan

A formalised infrastructure risk management plan will be prepared with the next review of this plan. In the meantime, Council currently manages risk by undertaking regular inspections of public open space and the assets within. The resulting remediation action/programs are prioritised according to an assessed level of residual risk.

An assessment of risks associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a financial loss to Council. The risk assessment process identifies credible risks, the consequences and likelihood of the associated risk events occurring, the controls available to either eliminate or minimise the risks, and then evaluates the risks and develops a risk treatment plan.

Critical risks, being those assessed as 'Very High' - requiring immediate corrective action and 'High' – requiring prioritised corrective action identified in the Infrastructure Risk Management Plan, together with the estimated residual risk after the selected treatment plan is operational are summarised in Table 5.2. These risks are reported to management and Council.

Table 5.2: Critical Risks and Treatment Plans

Service or Asset at Risk	Risk Event	Consequence	Risk Controls	Likelihood	Residual Risk
Roads					
Hazardous pavement Failure	Blockage causing damage to third party.	Moderate	HDM4 deterioration model updated with automated condition surveys every three years. Annual inspections to prioritise renewal works. Cyclic inspections to identify defects i.e. Potholes.	Possible	L
Public safety	Injury to users due to road function i.e. inadequate line marking, geometry etc.	High	Local area traffic management devices are installed in accordance with relevant standards. Road safety audits. Provision of street lighting.	Possible	M
Public safety	Collision with headwalls and other similar roadside hazards.	High	Road safety audit. Installation of guardrails.	Possible	M

Financial	Financial losses through poor management of road network.	High	HDM4 deterioration survey/modelling.	Possible	M
Accidents during/ after road works activities	Vehicle related accident caused by loose material being left on road surface. Note: this practice of leaving a certain amount of loose material for some time after treatment is necessary practice of spray seal application.	High	Relevant staff trained in work site traffic management. Recording of signage set up and retention of those records. Contractors required to implement traffic management treatments. Random inspections to ensure compliance.	Unlikely	M
Line marking of resealed areas	Pre-existing line markings not being replaced or not being replaced correctly following reseal works.	Moderate	Inspection of road segment prior to reseal. Reconcile with aerial photography.	Unlikely	L
Bridges					
Structural failure	Structural failure of bridge superstructure causing injury.	High	Annual bridge inspections.	Unlikely	M
Footpaths					
Trip hazards	Injury to users due to trip hazard.	High	Footpath audit conducted every three years, priority 1-3 hazards rectified.	Possible	M

Note * The residual risk is the risk remaining after the selected risk treatment plan is operational.

5.3 Routine Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, e.g. Cleansing, street sweeping, grass mowing and street lighting.

Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where portions of the asset fail and need immediate repair to make the asset operational again.

5.3.1 Operations and Maintenance Plan

Operations activities affect service levels including quality and function through street sweeping, line renewal frequency, and other road services.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating, e.g. road patching but excluding rehabilitation or renewal. Maintenance may be classified into reactive, planned and specific maintenance work activities.

Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions.

Planned maintenance is repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown experience, prioritising, scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

Specific maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, replacing air conditioning units, etc. This work falls below the capital/maintenance threshold but may require a specific budget allocation.

Actual past maintenance expenditure is shown in Table 5.3.1.

Table 5.3.1: Maintenance Expenditure Trends

Year	Maintenance Expenditure	
	Planned and Specific	Unplanned
2012/13	\$2,904,350	\$848,910
2013/14	\$3,296,498	\$710,567
2014/15	\$3,148,616	\$814,351
2015/16	\$3,095,456	\$853,158
2016/17	\$3,004,818	\$855,198

Planned maintenance work is currently 77.8% of total maintenance expenditure. Industry figures propose 30-50% unplanned maintenance work is desirable. The council's Roads unplanned maintenance expenditure of 22.2% represents an effective Council works program in this area.

Maintenance expenditure levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. If expenditure levels are such that will result in a lesser level of service, the service risks will be identified and service consequences considered in the future Infrastructure Risk Management Plan.

Reactive maintenance is carried out in accordance with response levels of service detailed in Appendix A.

5.3.2 Operations and Maintenance Strategies

Council will operate and maintain assets to provide the defined level of service to approved budgets in the most cost-efficient manner. The operation and maintenance activities include:

- Scheduling operations activities to deliver the defined level of service in the most efficient manner,
- Undertaking maintenance activities through a planned maintenance system to reduce maintenance costs and improve maintenance outcomes. Undertake cost-benefit analysis to determine the most cost-effective split between planned and unplanned maintenance activities (50 – 70% planned desirable as measured by cost),
- Maintain a current infrastructure risk register for assets and present 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 current and required skills base and implement workforce training and development to meet required operations and maintenance needs,
- Review asset utilisation to identify underutilised assets and appropriate remedies, and over utilised assets and customer demand management options,
- Maintain a current hierarchy of critical assets and required operations and maintenance activities,
- Develop and regularly review appropriate emergency response capability,
- Review management of operations and maintenance activities to ensure Council is obtaining best value for resources used.

Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

Council's service hierarchy is shown in Table 5.3.2.

Table 5.3.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Bitumen Road (Sealed)	Collector
Bitumen Road (Sealed)	Major Local
Bitumen Road (Sealed)	Minor Local
Gravel Road (Unsealed)	Collector
Gravel Road (Unsealed)	Major Local
Gravel Road (Unsealed)	Minor Local

Critical Assets

Critical assets are those assets which have a high consequence of failure but not necessarily a high likelihood of failure. By identifying critical assets and critical failure modes, organisations can target and refine investigative activities, maintenance plans and capital expenditure plans at the appropriate time.

Operations and maintenance activities may be targeted to mitigate critical assets failure and maintain service levels. These activities may include increased inspection frequency, higher maintenance intervention levels, etc. Critical assets failure modes and required operations and maintenance activities are detailed in Table 5.3.2.1.

Table 5.3.2.1: Critical Assets and Service Level Objectives

Critical Assets	Critical Failure Mode	Operations & Maintenance Activities
No critical assets are identified in this Road and Transport AMP	N/A	N/A

Standards and specifications

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

Institute of Public Works Engineering Australia (IPWEA) & Local Government Association Tasmania (LGAT),

- Tasmanian Standard Drawings (November 2013)

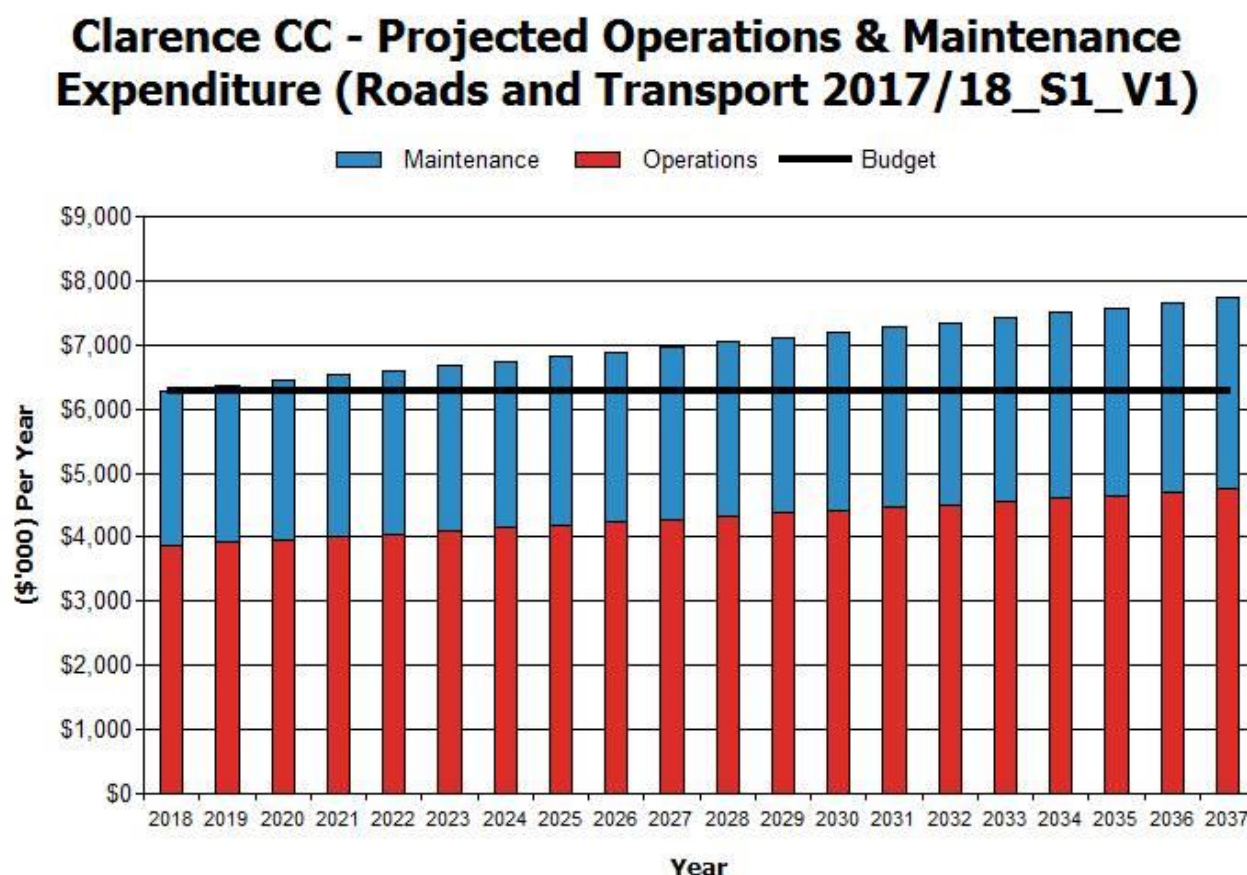
Clarence City Council

- Technical Specification for Construction Works (June 2008)

5.3.3 Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current 2017 dollar values (i.e. real values).

Figure 4: Projected Operations and Maintenance Expenditure



Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded are to be included in the risk assessment and analysis in the infrastructure risk management plan.

Maintenance is funded from the operating budget where available. This is further discussed in Section 6.2.

5.4 Renewal/Replacement Plan

Renewal and replacement expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original or lesser required service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure. Council implements its asset management programs based on information collected about those assets, either from inspection or from community feedback. For existing assets, the HDM-4 road planning and analysis framework is used to evaluate the need to repair inspected roads, with priority given to roads of high importance to the road network or of advanced age.

5.4.1 Renewal plan

Assets requiring renewal/replacement are identified from one of three methods provided in the 'Expenditure Template'.

- Method 1 uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, or
- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as Pavement Management Systems), or
- Method 3 uses a combination of average *network renewals* plus *defect repairs* in the *Renewal Plan* and *Defect Repair Plan* worksheets on the 'Expenditure template'.

A combination of Methods 2 & 3 has been used in the preparation of this Road and Transport Asset management Plan. Road pavement and seal renewal projections are derived from condition modelling from Council's HDM-4 model, while renewal projections for other subcategories (i.e. footpaths) have been estimated using average network renewals.

The useful lives of assets used to develop projected asset renewal expenditures are shown in Table 5.4.1.

Table 5.4.1: Useful Lives of Assets

Asset (Sub)Category	Useful life
Road Pavement	70 years
Road Seal <ul style="list-style-type: none"> • Asphalt • Asphalt Overlay • Spray Seal • Slurry Seal 	30 years 25 years 15 years 13 years ⁸
Kerb & Gutter	60 years
Footpaths <ul style="list-style-type: none"> • Gravel • Paved • Sealed • Concrete 	10 years 25 years 25 years 60 years
LATM <ul style="list-style-type: none"> • Traffic Islands/Medians 	70 years
Bridges	80 years

5.4.2 Renewal and Replacement Strategies

Council will plan capital renewal and replacement projects to meet 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 options that could address the service deficiency,
 - and evaluate the options against evaluation criteria adopted by Council, 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,

⁸ Council commenced slurry seal surface work in 2007 as a means to increase the road service life before expensive road reconstruction is needed. Industry figures indicate the useful life of this treatment is 13 to 15 years. Council will evaluate the surface quality of older implementations as they reach the end of their stated serviceable life and consider whether the aged period needs amending.

- 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 current and required skills base and implement workforce training and development to meet 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 best value for resources used.

Renewal ranking criteria

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. roughness of a road).⁹

It is possible to get some indication of capital renewal and replacement priorities by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have a high utilisation and subsequent impact on users would be greatest,
- The total value represents the greatest net value to Council,
- Have the highest average age relative to their expected lives,
- Are identified in the AM Plan as key cost factors,
- Have high operational or maintenance costs, and
- Where replacement with modern equivalent assets would yield material savings.¹⁰

The ranking criteria used to determine priority of identified sealed road renewal and replacement proposals is detailed in Table 5.4.2a and 5.4.2b.

Table 5.4.2a: Renewal and Replacement Priority Ranking Criteria - Reseal

Criteria	Weighting
Condition/Failure	50%
Hierarchy	20%
Bus route	20%
Age of seal	10%
Total	100%

Table 5.4.2b: Renewal and Replacement Priority Ranking Criteria – Pavement Rehabilitation

Criteria	Weighting
Condition/Failure	50%
Hierarchy	20%
Traffic	20%
Treatment cost	10%
Total	100%

Renewal and replacement standards

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

⁹ IPWEA, 2011, IIMM, Sec 3.4.4, p 3 | 60.

¹⁰ Based on IPWEA, 2011, IIMM, Sec 3.4.5, p 3 | 66.

Clarence City Council:

- Technical Specification for Construction Works June 2008;
- Local Highways Standard Requirements By-Law, By-Law No.2 of 2014.

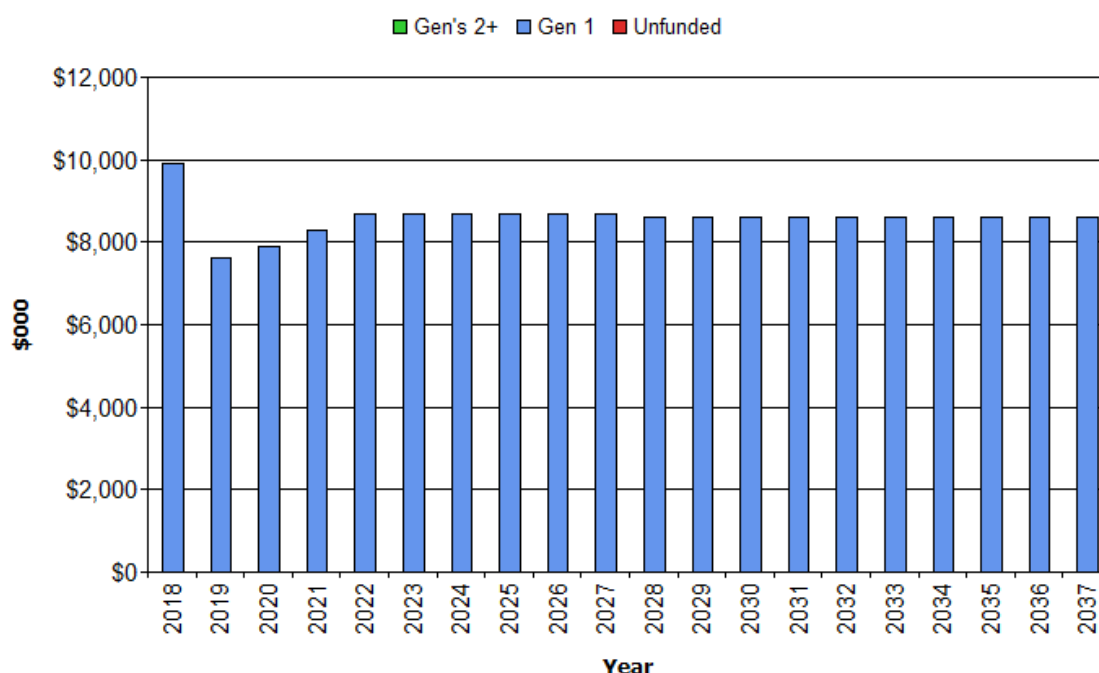
5.4.3 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time as the asset stock increases from growth. The expenditure is summarised in Figure 5. Note that all amounts are shown in real values.

The projected capital renewal and replacement program is shown in Appendix B.

Figure 5: Projected Capital Renewal and Replacement Expenditure

Clarence CC - Projected Capital Renewal Expenditure (Roads and Transport 2017/18_S1_V1)



Deferred renewal and replacement, i.e. those assets identified for renewal and/or replacement and not scheduled in capital works programs are to be included in the risk analysis process in the risk management policy.

Renewals and replacement expenditure in Council's capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

5.5 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to Council from land development. These assets from growth are considered in Section 4.4.

5.5.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as councillor/director or community requests, proposals identified by strategic plans or partnerships with other organisations. For new Road and Transport assets, priority is placed on assets which are important additions to the road network or improve the ability of existing assets to meet Council's desired Level of Service Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed below.

Table 5.5.1: New Assets Priority Ranking Criteria

Criteria	Weighting
Function - Road Hierarchy	50%
Usage	50%
Total	100%

5.5.2 Capital Investment Strategies

Council will plan capital upgrade and new projects to meet level of service objectives by:

- Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner,
- Undertake project scoping for all capital upgrade/new projects to identify:
 - the service delivery 'deficiency', present risk and required timeline for delivery of the upgrade/new asset,
 - the project objectives to rectify the deficiency including value management for major projects,
 - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
 - management of risks associated with alternative options,
 - and evaluate the options against evaluation criteria adopted by Council, and
 - select the best option to be included in capital upgrade/new programs,
- Review current and required skills base and implement training and development to meet required construction and project management needs,
- Review management of capital project management activities to ensure Council is obtaining best value for resources used.

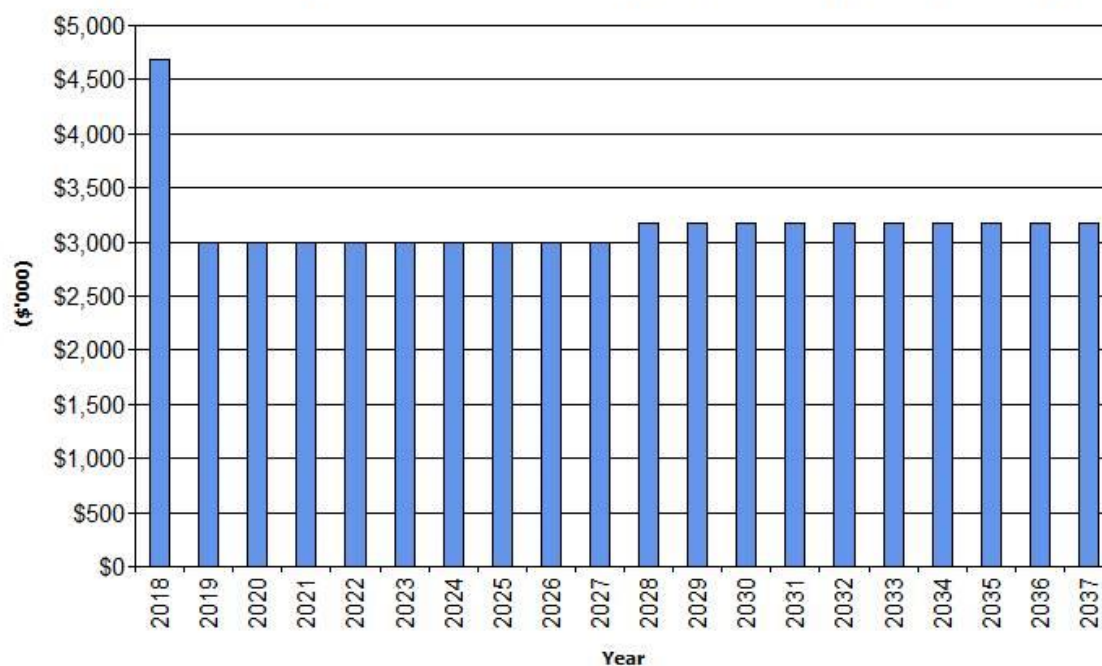
Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in Section 5.4.2.

5.5.3 Summary of future upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in Figure 6. The projected upgrade/new capital works program is shown in Appendix C. All amounts are shown in real values.

Figure 6: Projected Capital Upgrade/New Asset Expenditure

Clarence CC - Projected Capital Upgrade/New Expenditure (Roads and Transport 2017/18_S1_V1)



Expenditure on new assets and services in Council's capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2. In some cases, High capital expenditure in the current year reflects the presence of carryover construction from the previous financial year. Council does not currently review the influence of carryover funds on expenditure beyond the current financial year.

5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6, together with estimated annual savings from not having to fund operations and maintenance of the assets. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any. Any revenue gained from asset disposals is accommodated in Council's long term financial plan.

Where cashflow projections from asset disposals are not available, these will be developed in future revisions of this asset management plan. There are no Roads and Transport assets currently identified for disposal.

Table 5.6: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Expenditure	Operations & Maintenance Annual Savings
Roads and Transport	None Proposed	N/A	N/A	N/A

5.7 Service Consequences and Risks

Council has prioritised decisions made in adopting this AM Plan to obtain the optimum benefits from its available resources. Decisions were made based on the development of 3 scenarios of AM Plans.

Scenario 1 - What we would like to do based on asset register data.

Scenario 2 – What we should do with existing budgets and identifying level of service and risk consequences (i.e. what are the operations and maintenance and capital projects we are unable to do, what is the service and risk consequences associated with this position). This may require several versions of the AM Plan.

Scenario 3 – What we can do and be financially sustainable with AM Plans matching long-term financial plans.

The development of scenario 1 and scenario 2 AM Plans provides the tools for discussion with the Council and community on trade-offs between what we would like to do (scenario 1) and what we should be doing with existing budgets (scenario 2) by balancing changes in services and service levels with affordability and acceptance of the service and risk consequences of the trade-off position (scenario 3).

5.7.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

- Bitumen Sealing of Rural Unsealed Roads – Capital Expense.
- Replace footpaths with priority hazards >3.

5.7.2 Service consequences

Operations and maintenance activities and capital projects that cannot be undertaken will maintain or create service consequences for users. These include:

- Rural residents that utilise unsealed roads may have some concern if their access road is not bitumen sealed.
- Some residents may have concerns with footpaths which have priority hazards >3.

5.7.3 Risk consequences

The operations and maintenance activities and capital projects that cannot be undertaken may maintain or create risk consequences for Council. These include:

- Little consequences – road safety will be maintained.
- Dust may be of a concern to residents that live along unsealed rural roads.
- Some trip incidents to residents.

These risks will be included in the Infrastructure Risk Management Plan currently under development, with risk management plans, actions and expenditures included within projected expenditures.

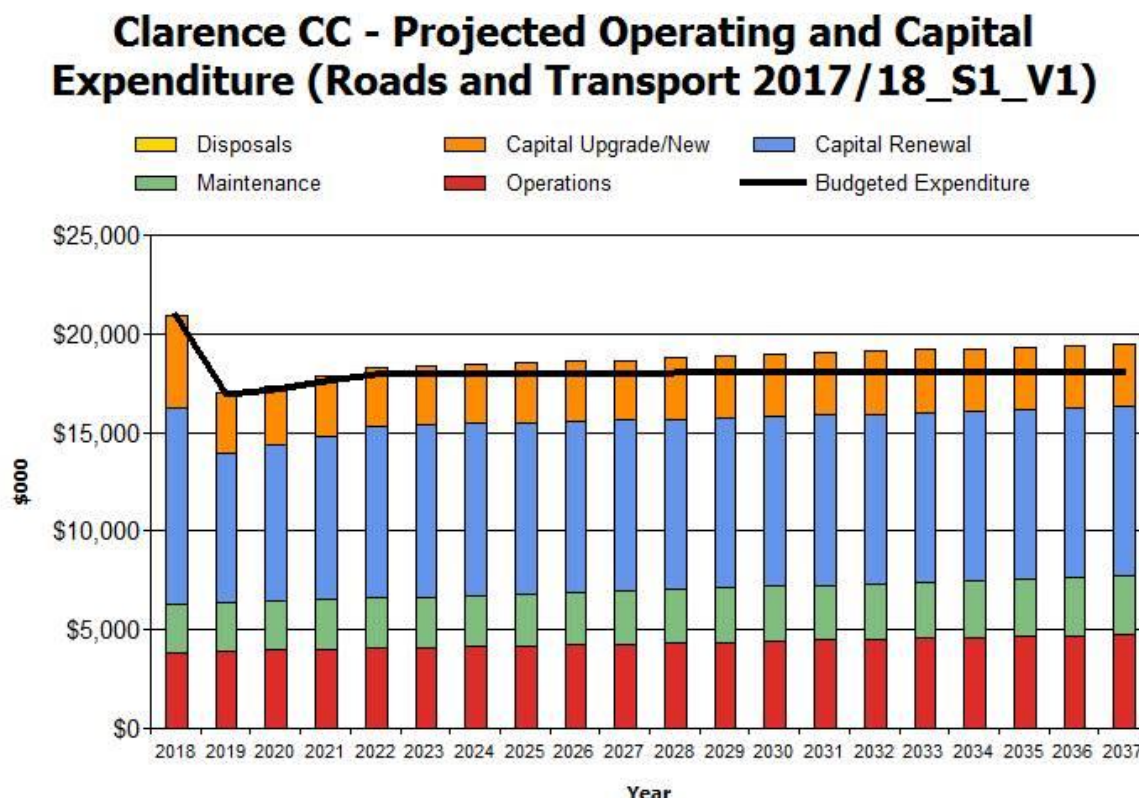
6. FINANCIAL SUMMARY

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

6.1 Financial Statements and Projections

The financial projections are shown in Figure 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in real values.

Figure 7: Projected Operating and Capital Expenditure



6.1.1 Sustainability of service delivery

There are four key indicators for service delivery sustainability that have been considered in the analysis of the services provided by this asset category, these being the asset renewal funding ratio, long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5 and 10 years of the planning period.

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹¹ 100%

The Asset Renewal Funding Ratio is the most important indicator and reveals that over the next 10 years, Council is forecasting that it will have 89% of the funds required for the optimal renewal and replacement of its assets.

Long term - Life Cycle Cost

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the asset life cycle. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation expense). The life cycle cost for the services covered in this asset management plan is \$15,444,000 per year (average

¹¹ AIFMG, 2012, Version 1.3, Financial Sustainability Indicator 4, Sec 2.6, p 2.16

operations and maintenance expenditure plus depreciation expense projected over 10 years). The Long Term Financial Plan (LTFP) was developed alongside the Asset Management Plans (AMP) using expenditure projections from the AMP's to underpin a 10 year sustainable funding model for the Council. These AMP projections are quantified in the LTFP in terms of asset value, planned and reactive maintenance expense, life cycle depreciation and asset replacement costs of each asset portfolio.

Life cycle costs can be compared to life cycle expenditure to give an initial indicator of affordability of projected service levels when considered with age profiles. Life cycle expenditure includes operations, maintenance and capital renewal expenditure. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure over the 10 year planning period is \$14,873,000 per year (average operations and maintenance plus capital renewal budgeted expenditure in LTFP over 10 years).

A shortfall between life cycle cost and life cycle expenditure is the life cycle gap. The life cycle gap for services covered by this asset management plan is \$-571,000 per year (-ve = gap, +ve = surplus).

Life cycle expenditure is 96% of life cycle costs.

The life cycle costs and life cycle expenditure comparison highlights any difference between present outlays and the average cost of providing the service over the long term. If the life cycle expenditure is less than that life cycle cost, it is most likely that outlays will need to be increased or cuts in services made in the future. Should Council endorse additional funding to meet life cycle costs then this will need to take into account staff resourcing, plant, materials and capital works required to achieve this.

Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and long term financial plan.

Medium term – 10 year financial planning period

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

These projected expenditures may be compared to budgeted expenditures in the 10 year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing assets.

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is \$15,222,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$14,873,000 on average per year giving a 10 year funding shortfall of \$350,000 per year. This indicates that Council expects to have 98% of the projected expenditures needed to provide the services documented in the asset management plan.

Medium Term – 5 year financial planning period

The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is \$14,929,000 on average per year.

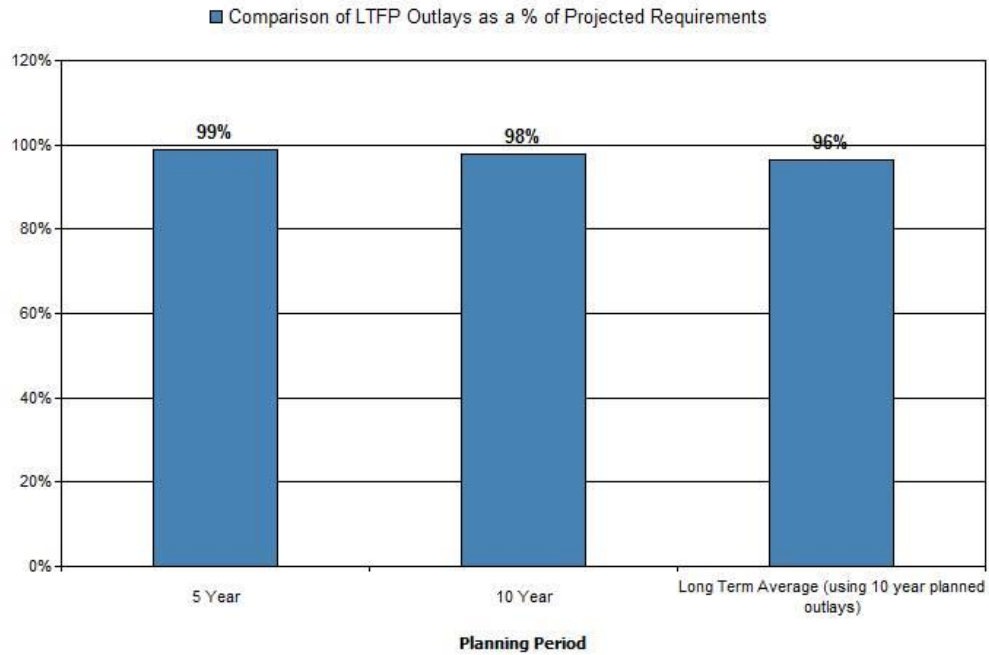
Estimated (budget) operations, maintenance and capital renewal funding is \$14,765,000 on average per year giving a 5 year funding shortfall of \$164,000 per year. This indicates that Council expects to have 99% of projected expenditures required to provide the services shown in this asset management plan.

Asset management financial indicators

Figure 7A shows the asset management financial indicators over the 10 year planning period and for the long term life cycle.

Figure 8: Asset Management Financial Indicators

Clarence CC - AM Financial Indicators (Roads and Transport 2017/18_S1_V1)



Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and financing to achieve a financial indicator of approximately 1.0 for the first years of the asset management plan and ideally over the 10 year life of the Long Term Financial Plan.

Figure 8 shows the projected asset renewal and replacement expenditure over the 20 years of the AM Plan. The projected asset renewal and replacement expenditure is compared to renewal and replacement expenditure in the capital works program, which is accommodated in the long term financial plan.

Figure 9: Projected and LTFP Budgeted Renewal Expenditure

Clarence CC - Projected & LTFP Budgeted Renewal Expenditure (Roads and Transport 2017/18_S1_V1)

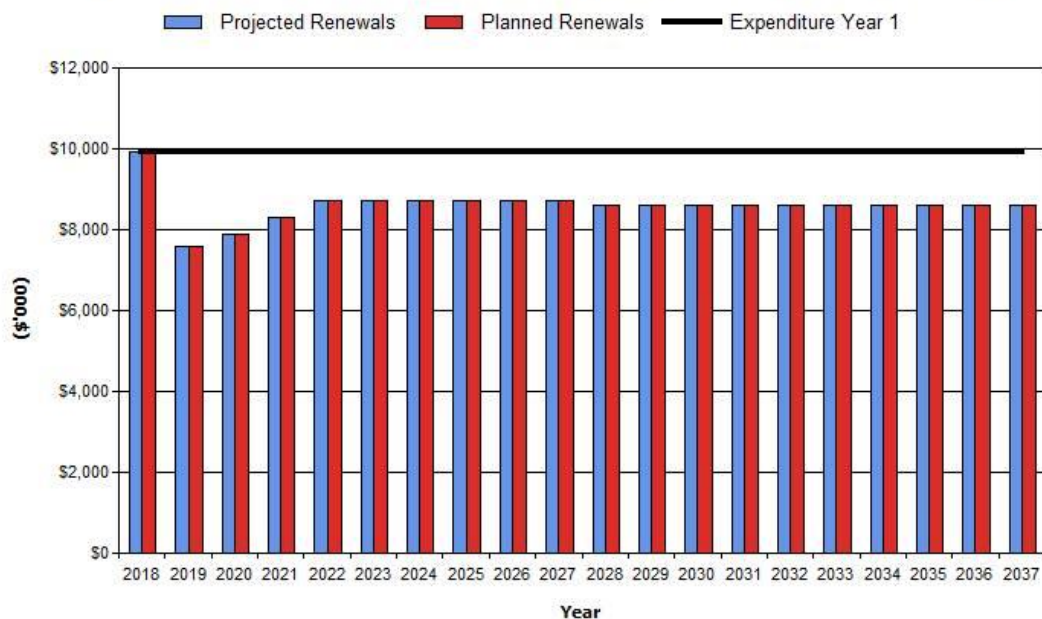


Table 6.1.1 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in long term financial plan. Budget expenditures accommodated in the long term financial plan or extrapolated from current budgets are shown in Appendix D.

Table 6.1.1: Projected and LTFP Budgeted Renewals and Financing Shortfall

Year	Projected Renewals (\$000)	LTFP Renewal Budget (\$000)	Renewal Financing Shortfall (\$000) (-ve Gap, +ve Surplus)	Cumulative Shortfall (\$000) (-ve Gap, +ve Surplus)
2018	\$9,925	\$9,925	\$0	\$0
2019	\$7,600	\$7,600	\$0	\$0
2020	\$7,900	\$7,900	\$0	\$0
2021	\$8,300	\$8,300	\$0	\$0
2022	\$8,700	\$8,700	\$0	\$0
2023	\$8,700	\$8,700	\$0	\$0
2024	\$8,700	\$8,700	\$0	\$0
2025	\$8,700	\$8,700	\$0	\$0
2026	\$8,700	\$8,700	\$0	\$0
2027	\$8,700	\$8,700	\$0	\$0
2028	\$8,593	\$8,593	\$0	\$0
2029	\$8,593	\$8,593	\$0	\$0
2030	\$8,593	\$8,593	\$0	\$0
2031	\$8,593	\$8,593	\$0	\$0
2032	\$8,593	\$8,593	\$0	\$0
2033	\$8,593	\$8,593	\$0	\$0
2034	\$8,593	\$8,593	\$0	\$0
2035	\$8,593	\$8,593	\$0	\$0
2036	\$8,593	\$8,593	\$0	\$0
2037	\$8,593	\$8,593	\$0	\$0

Note: A negative shortfall indicates a financing gap, a positive shortfall indicates a surplus for that year.

For Council this implies that over the course of the modelling period Council will meet renewals as projected from upgrade requirements.

6.1.2 Projected expenditures for long term financial plan

Table 6.1.2 shows the projected expenditures for the 10 year long term financial plan.

Expenditure projections are in 2017 real values.

Table 6.1.2: Projected Expenditures for Long Term Financial Plan (\$000)

Year	Operations (\$000)	Maintenance (\$000)	Projected Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2018	\$3,860	\$2,420	\$9,925	\$4,685	\$0
2019	\$3,919	\$2,457	\$7,600	\$3,000	\$0
2020	\$3,964	\$2,485	\$7,900	\$3,000	\$0
2021	\$4,008	\$2,513	\$8,300	\$3,000	\$0
2022	\$4,053	\$2,541	\$8,700	\$3,000	\$0
2023	\$4,098	\$2,570	\$8,700	\$3,000	\$0
2024	\$4,144	\$2,598	\$8,700	\$3,000	\$0
2025	\$4,189	\$2,626	\$8,700	\$3,000	\$0
2026	\$4,234	\$2,655	\$8,700	\$3,000	\$0
2027	\$4,280	\$2,683	\$8,700	\$3,000	\$0
2028	\$4,325	\$2,712	\$8,593	\$3,169	\$0
2029	\$4,372	\$2,741	\$8,593	\$3,169	\$0
2030	\$4,419	\$2,771	\$8,593	\$3,169	\$0
2031	\$4,467	\$2,800	\$8,593	\$3,169	\$0
2032	\$4,514	\$2,830	\$8,593	\$3,169	\$0
2033	\$4,562	\$2,860	\$8,593	\$3,169	\$0
2034	\$4,609	\$2,890	\$8,593	\$3,169	\$0
2035	\$4,657	\$2,920	\$8,593	\$3,169	\$0
2036	\$4,705	\$2,949	\$8,593	\$3,169	\$0
2037	\$4,752	\$2,980	\$8,593	\$3,169	\$0

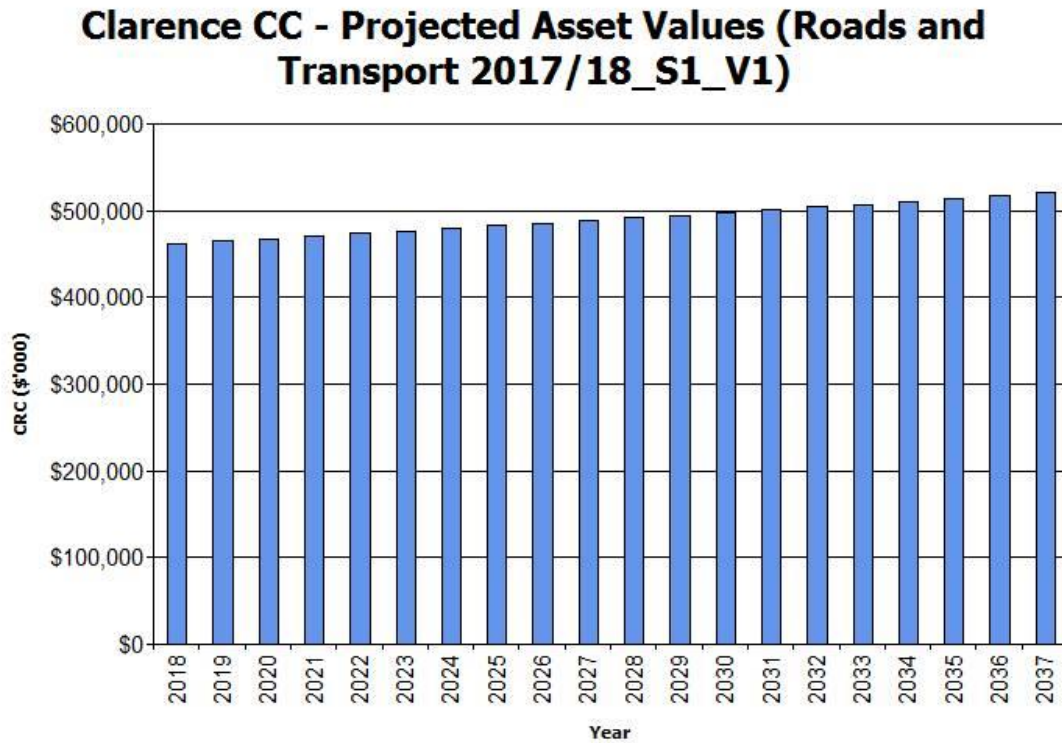
6.2 Funding Strategy

After reviewing service levels, as appropriate to ensure ongoing financial sustainability projected expenditures identified in Section 6.1.2 will be accommodated in the Council's 10 year long term financial plan.

6.3 Valuation Forecasts

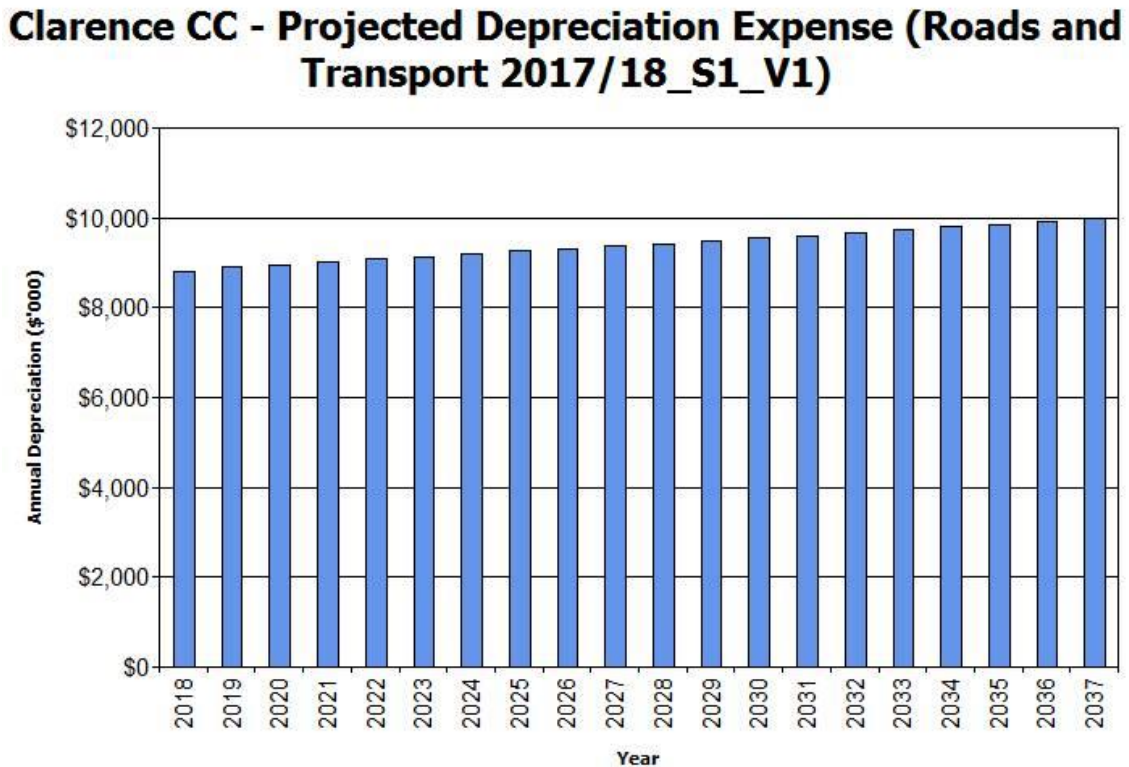
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 9 shows the projected replacement cost asset values over the planning period in real values.

Figure 10: Projected Asset Values



Depreciation expense values are forecast in line with asset values as shown in Figure 10.

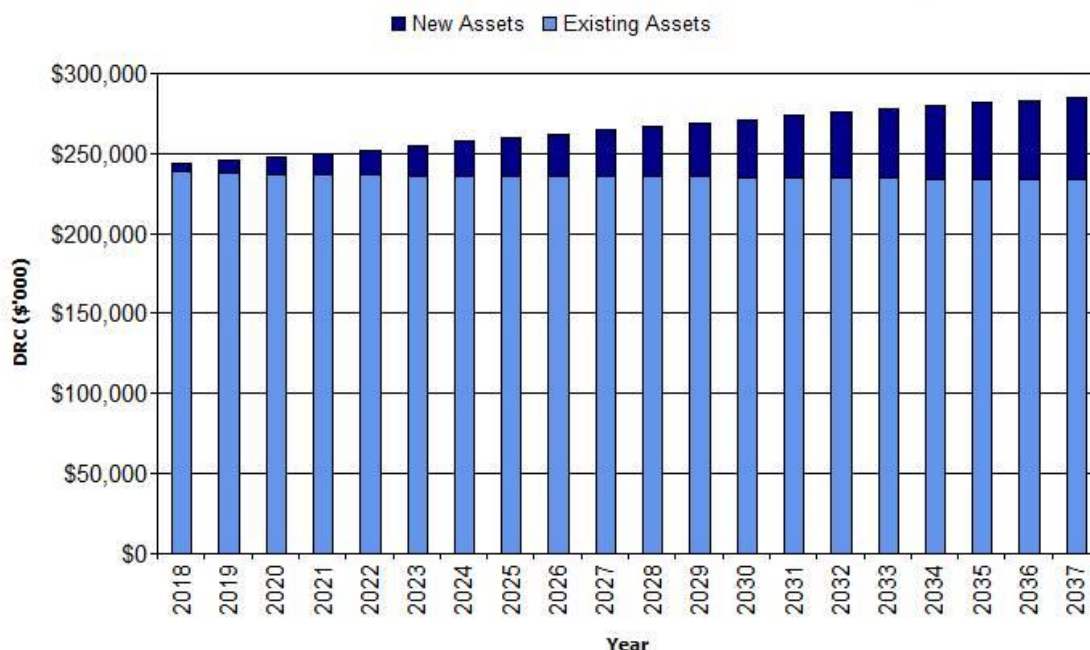
Figure 11: Projected Depreciation Expense



The depreciated replacement cost will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets' depreciated replacement cost is shown in Figure 11. The depreciated replacement cost of contributed and new assets is shown in the darker colour and in the lighter colour for existing assets.

Figure 12: Projected Depreciated Replacement Cost

Clarence CC - Projected Depreciated Replacement Cost (Roads and Transport 2017/18_S1_V1)



6.4 Key Assumptions made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this asset management plan and in preparing forecasts of required operating and capital expenditure and asset values, depreciation expense and carrying amount estimates. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan and risks that these may change are shown in Table 6.4.

Table 6.4: Key Assumptions made in AM Plan and Risks of Change

Key Assumptions	Risks of Change to Assumptions
All expenditure is stated in 2017 dollars with no allowance for inflation.	Low risk
0.5% growth from asset contributions	Low chance of increase or decrease in operations and maintenance expenditure projections and projected asset values
Budget carryovers represent where money is unexpended for the Annual Plan and carried over to the next financial year.	Very low risk of Council budget carryover procedure changing.

6.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale¹² in accordance with Table 6.5.

¹² IPWEA, 2011, IIMM, Table 2.4.6, p 2|59.

Table 6.5: Data Confidence Grading System

Confidence Grade	Description
A Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate $\pm 2\%$.
B Reliable	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 $\pm 10\%$.
C Uncertain	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 $\pm 25\%$.
D Very Uncertain	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 $\pm 40\%$.
E Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 6.5.1.

Table 6.5.1: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	Reliable	-
Growth projections	Reliable	Average of past years donated assets.
Operations expenditures	Reliable	-
Maintenance expenditures	Reliable	-
Projected Renewal exps. - Asset values	Reliable	Asset values derived from current tenders.
- Asset residual values	Unknown	-
- Asset useful lives	Reliable	-
- Condition modelling	Reliable	Comprehensive road roughness survey. Revision of road segments required to improve the representation of the condition of the network.
- Network renewals	Uncertain	Finance asset register available only – Maximo asset register incomplete.
- Defect repairs	Reliable	Frequent inspections/audits – bridges and footpaths.
Upgrade/New expenditures	Uncertain	-
Disposal expenditures	Unknown	-

Over all data sources the data confidence is assessed as medium confidence level for data used in the preparation of this AM Plan.

7. PLAN IMPROVEMENT AND MONITORING

7.1 Status of Asset Management Practices

7.1.1 Accounting and financial systems

Council is currently implementing Technology One's OneCouncil system which will meet Council's Financial/Accounting IT requirements. OneCouncil is an integrated system used for all financial and accounting activities, including budget control, purchasing/debtors, invoicing/creditors, taxation and reporting. The system operates on a web browser platform with many employees across Council having regulated access on a needs basis. Finance Management generally operates the Finance modules of the system with other departments utilising it for purchasing tasks and for interrogation and reporting. Records are generally at a high level.

Accountabilities for financial systems

Manager Information and Finance Management is accountable for the finance system.

Accounting standards and regulations

As a State entity, the Audit Act 2008 requires that following accounting principles be met:

- Unless otherwise required by any other written law, the financial statements are to be prepared in accordance with the accounting standards and other requirements issued by the Australian Accounting Standards.
- Revaluations of a class of assets normally occur at intervals of no greater than 5 years. However, a class of assets will be revalued at such time as there has been a significant movement in the current replacement cost of that asset class relative to the value disclosed in the financial statements. Market indices are applied as appropriate to reflect moderate market movements.

Capital/maintenance threshold

Thresholds determining the treatment of work undertaken on assets will vary according to the nature of the asset and relative scale/type of work undertaken. The judgement of qualified professionals will be obtained to determine the extent to which an activity represents maintenance (which retains the existing service potential of an asset and/or prevents untimely deterioration of the asset) or represents partial or full renewal of an asset. In any event, expenditure below \$10,000 will generally be treated as maintenance.

Required changes to accounting financial systems arising from this AM Plan

Following the adoption of this policy, a full revaluation of the asset class will be undertaken (within reasonable time frames) to reflect the asset unit costs and asset lives identified within this policy. This is to ensure appropriate valuations are maintained for financial accounting purposes, and to ensure consistency between asset accounting records and adopted Asset Management Plans.

7.1.2 Asset management system

The OneCouncil system also includes an asset management module, Enterprise asset Management (EAM).

OneCouncil will be used by Engineering Services staff for generating work orders, periodic maintenance scheduling, reporting and maintaining the asset register.

Linkage from asset management to financial system

OneCouncil is a fully integrated enterprise system.

Accountabilities for asset management system and data maintenance

Group Manager Engineering Services is accountable for the asset management system and data maintenance.

Required changes to asset management system arising from this AM Plan

Continual improvement, including the implementation of the Strategic Asset Management module (SAM).

7.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 7.2.

Table 7.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Complete Asset register of footpath and gutter assets	Asset management	Staff time	12 months
2	Construct and complete road furniture register	Asset management	Staff time	4 years
3	Revise road segments	Traffic Engineer, assets officer	Staff time	4 years (partially ongoing)
4	Prepare Risk Management Plan for road and transport assets	Asset Management	Staff time	4 years
5	Complete OneCouncil SAM data entry to prepare 2022 review	Asset Management	Staff time	4 years

7.3 Monitoring and Review Procedures

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

The AM 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 Council's long term financial plan.

The AM Plan has a life of 4 years (Council election cycle) and is due for complete revision and updating within 1 year of each Council election.

7.4 Performance Measures

The effectiveness of the asset management plan can be measured in the following ways:

- The degree to which the required projected expenditures identified in this asset management plan are incorporated into Council's long term financial plan,
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the asset management plan,
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the Council's Strategic Plan and associated plans,
- **The Asset Renewal Funding Ratio achieving the target of 1.0.**

8. REFERENCES

IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM

IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.

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

IPWEA, 2011, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM

Clarence City Council, 'Strategic Plan 2016 – 2026',

Clarence City Council, 'Annual Plan and Budget'.

9. APPENDICES

Appendix A	Maintenance Response Levels of Service
Appendix B	Projected 10 year Capital Renewal and Replacement Works Program
Appendix C	Projected 10 year Capital Upgrade/New Works Program
Appendix D	LTFP Budgeted Expenditures Accommodated in AM Plan
Appendix E	Abbreviations
Appendix F	Glossary

Appendix A Maintenance Response Levels of Service

Table 3.6 Secondary Levels of Service

Activity	Level of Service
Sealed Road Pavement	<ul style="list-style-type: none"> Potholes, edge breaks, cracks repaired within 14 days of being reported. Rural road shoulders graded twice a year.
Gravel Road Maintenance	<ul style="list-style-type: none"> Roads graded quarterly (weather dependant).
Minor Works	<ul style="list-style-type: none"> Bridges inspected annually and repaired as required. Footpath audit conducted every three years, priority 1-3 hazards rectified. Storm damage repaired as required.
Cleaning	<ul style="list-style-type: none"> Litter bins emptied twice a week (Richmond and CBD daily) All sealed urban roads swept at least once every 6 weeks.
Drainage	<ul style="list-style-type: none"> Customer requests attended to within 14 days
Footpaths, cycleways and Nature Strips	<ul style="list-style-type: none"> Footpaths inspected annually and repaired as required. Mow nature strips in Richmond monthly. Mow nature strips for the physically infirm twice annually.
Road Furniture	<ul style="list-style-type: none"> Inspected annually and repaired as required.
Weeds & Trees	<ul style="list-style-type: none"> Inspected annually and works carried out as required.

Appendix B Projected 10 year Capital Renewal and Replacement Works Program

Clarence CC

Projected Capital Renewal Works Program - Road and Transport_S1_V1

(\$000)

Year	Item	Description	Estimate
2018		Network Renewals	
	1	Blackspot reduction - Gellibrand Drive / Rifle Range Rd	\$250
	2	Clarence Foreshore Trail between Tasman Bridge & Montagu Bay Park & from Simmons Park to Anzac Park - Stage 2	\$250
	3	Major Digouts / Reconstruction - Annual Program	\$2,000
	4	Footpath / Kerb & Gutter Renewal	\$1,250
	5	Road reseal program	\$2,500
	6	Kerb Replacement - Major Digouts Program	\$500
	7	Other Works	\$1,165
2018		Total	\$9,925

2019		Network Renewals	
	1	Estimated Roads & Transport renewals	\$7,600
2019		Total	\$7,600

(\$000)

Year	Item	Description	Estimate
2020		Network Renewals	
	1	Estimated Roads & Transport renewals	\$7,900
2020		Total	\$7,900

2021		Network Renewals	Estimate
	1	Estimated Roads & Transport renewals	\$8,300
2021		Total	\$8,300

(\$000)

Year	Item	Description	Estimate
2022		Network Renewals	
	1	Estimated Roads & Transport renewals	\$8,700
2022		Total	\$8,700

2023		Network Renewals	
	1	Estimated Roads & Transport renewals	\$8,700
2024		Total	\$8,700

(\$000)

2025		Network Renewals	
	1	Estimated Roads & Transport renewals	\$8,700
2025		Total	\$8,700

(\$000)

Year	Item	Description	Estimate
2026		Network Renewals	
	1	Estimated Roads & Transport renewals	\$8,700
2026		Total	\$8,700

2027		Network Renewals	
	1	Estimated Roads & Transport renewals	\$8,700
2027		Total	\$8,700

Appendix C Projected Upgrade/Exp/New 10 year Capital Works Program

Clarence CC

Projected Capital Upgrade/New Works Program - Road and Transport_S1_V1

(\$000)

Year	Item	Description	Estimate
2018	1	Carry over projects	\$850
	2	Upgrade component of 17/18 projects	\$675
		Construction of Bellerive public pier	\$1,350
		Kangaroo Bay Drive Car Park (Lot 4)	\$1,300
		Clarendon Vale Greenbelt - Pathway and Lighting - Mockridge Road to Marsden St	\$360
		Acton Road footpath between Estate Drive Roundabout and 904 Acton Rd	\$150
2018		Total	\$4,685

(\$000)

Year	Item	Description	Estimate
2019	1	Estimated Roads & Transport upgrades	\$3,000
2019		Total	\$3,000

(\$000)

Year	Item	Description	Estimate
2020	1	Estimated Roads & Transport upgrades	\$3,000
2020		Total	\$3,000

(\$000)

Year	Item	Description	Estimate
2021	1	Estimated Roads & Transport upgrades	\$3,000
2021		Total	\$3,000

(\$000)

Year	Item	Description	Estimate
2022	1	Estimated Roads & Transport upgrades	\$3,000
2022		Total	\$3,000

(\$000)

Year	Item	Description	Estimate
2023	1	Estimated Roads & Transport upgrades	\$3,000
2023		Total	\$3,000

(\$000)

Year	Item	Description	Estimate
2024	1	Estimated Roads & Transport upgrades	\$3,000
2024		Total	\$3,000

(\$000)

Year	Item	Description	Estimate
2025	1	Estimated Roads & Transport upgrades	\$3,000
2025		Total	\$3,000

(\$000)

Year	Item	Description	Estimate
2026	1	Estimated Roads & Transport upgrades	\$3,000
2026		Total	\$3,000

(\$000)

Year	Item	Description	Estimate
2027	1	Estimated Roads & Transport upgrades	\$3,000
2027		Total	\$3,000

Appendix D Budgeted Expenditures Accommodated in LTFP

NAMS.PLUS3 Asset Management Clarence CC																				
© Copyright. All rights reserved. The Institute of Public Works Engineering Australasia																				
Roads & Transport 2017/18_S1_V1										Asset Management Plan										
First year of expenditure projections 2018 (financial yr ending)																				
Roads & Transport 2017/18																				
Asset values at start of planning period																				
Current replacement cost	\$456,739	(000)	Calc CRC from Asset Register		\$0	(000)														
Depreciable amount	\$455,328	(000)	This is a check for you.																	
Depreciated replacement cost	\$237,988	(000)																		
Annual depreciation expense	\$8,814	(000)																		
Planned Expenditures from LTFP																				
20 Year Expenditure Projections										Note: Enter all values in current 2018 values										
Financial year ending	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Expenditure Outlays included in Long Term Financial Plan (in current \$ values)										Average of first 10 year Expenditure Outlays from LTFP										
Operations																				
Operations budget	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860
Management budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
AM systems budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total operations	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860	\$3,860
Maintenance																				
Reactive maintenance budget	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640	\$640
Planned maintenance budget	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780	\$1,780
Specific maintenance items budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total maintenance	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420	\$2,420
Capital																				
Planned renewal budget	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925	\$9,925
Planned upgrade/new budget	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685	\$4,685
Non-growth contributed asset value	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Asset Disposals																				
Est Cost to dispose of assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Carrying value (DRC) of disposed assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)										Average of first 10 years Expenditure Outlays required from IRMP										
Additional Expenditure Outlays required and not included above	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Operations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Maintenance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital Renewal	to be incorporated into Forms 2 & 2.1 (where Method 1 is used) OR Form 2B Defect Repairs (where Method 2 or 3 is used)																			
Capital Upgrade	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
User Comments #2																				
Forecasts for Capital Renewal using Methods 2 & 3 (Form 2A & 2B) & Capital Upgrade (Form 2C)										Average of first 10 years Capital Renewal & Upgrade Forecasts										
Forecast Capital Renewal from Forms 2A & 2B	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Forecast Capital Upgrade from Form 2C	\$9,925	\$7,600	\$7,900	\$8,300	\$8,700	\$8,700	\$8,700	\$8,700	\$8,700	\$8,700	\$8,593	\$8,593	\$8,593	\$8,593	\$8,593	\$8,593	\$8,593	\$8,593	\$8,593	\$8,593
	\$4,685	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,169	\$3,169	\$3,169	\$3,169	\$3,169	\$3,169	\$3,169	\$3,169	\$3,169	\$3,169

Appendix E Abbreviations

AAAC	Average annual asset consumption
AM	Asset management
AM Plan	Asset management plan
ARI	Average recurrence interval
ASC	Annual service cost
BOD	Biochemical (biological) oxygen demand
CRC	Current replacement cost
CWMS	Community wastewater management systems
DA	Depreciable amount
DRC	Depreciated replacement cost
EF	Earthworks/formation
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
LTFP	Long term financial plan
MMS	Maintenance management system
PCI	Pavement condition index
RV	Residual value
SoA	State of the Assets
SS	Suspended solids
vph	Vehicles per hour
WDCRC	Written down current replacement cost

Appendix F Glossary

Annual service cost (ASC)

- 1) Reporting actual cost
The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.
- 2) For investment analysis and budgeting
An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, finance/opportunity and disposal costs, less revenue.

Asset

A resource controlled by an entity as a result of past events and from which future economic benefits are expected to flow to the entity. Infrastructure assets are a sub-class of property, plant and equipment which are non-current assets with a life greater than 12 months and enable services to be provided.

Asset category

Sub-group of assets within a class hierarchy for financial reporting and management purposes.

Asset class

A group of assets having a similar nature or function in the operations of an entity, and which, for purposes of disclosure, is shown as a single item without supplementary disclosure.

Asset condition assessment

The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for some preventative or remedial action.

Asset hierarchy

A framework for segmenting an asset base into appropriate classifications. The asset hierarchy can be based on asset function or asset type or a combination of the two.

Asset management (AM)

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

Asset renewal funding ratio

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

Average annual asset consumption (AAAC)*

The amount of an organisation's asset base consumed during a reporting period (generally a year). This may be calculated by dividing the depreciable amount by the useful life (or total future economic benefits/service potential) and totalled for each and every asset OR by dividing the carrying amount (depreciated replacement cost) by the remaining useful life (or remaining future economic benefits/service potential) and totalled for each and every asset in an asset category or class.

Borrowings

A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of time or at a specified point in time, to cover both the initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to finance outlays (typically physical assets) when it has insufficient funds of its own to do so, and for the lending entity to make a financial return, normally in the form of interest revenue, on the funding provided.

Capital expenditure

Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

Capital expenditure - expansion

Expenditure that extends the capacity of an existing asset to provide benefits, at the same standard as is currently enjoyed by existing beneficiaries, to a new group of users. It is discretionary expenditure, which increases future operations and maintenance costs, because it increases Council's asset base, but may be associated with additional revenue from the new user group, e.g. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

Capital expenditure - new

Expenditure which creates a new asset providing a new service/output that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operations and maintenance expenditure.

Capital expenditure - renewal

Expenditure on an existing asset or on replacing an existing asset, which returns the service capability of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it generally has no impact on revenue, but may reduce future operations and maintenance expenditure if completed at the optimum time, e.g. resurfacing or resheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval.

Capital expenditure - upgrade

Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operations and maintenance expenditure in the future because of the increase in Council's asset base, e.g.. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.

Capital funding

Funding to pay for capital expenditure.

Capital grants

Monies received generally tied to the specific projects for which they are granted, which are often upgrade and/or expansion or new investment proposals.

Capital investment expenditure

See capital expenditure definition.

Capitalisation threshold

The value of expenditure on non-current assets above which the expenditure is recognised as capital expenditure and below which the expenditure is charged as an expense in the year of acquisition.

Carrying amount

The amount at which an asset is recognised after deducting any accumulated depreciation / amortisation and accumulated impairment losses thereon.

Class of assets

See asset class definition.

Component

Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

Core asset management

Asset management which relies primarily on the use of an asset register, maintenance management systems, job resource management, inventory control, condition assessment, simple risk assessment and defined levels of service, in order to establish alternative treatment options and long-term cashflow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than detailed risk analysis and optimised decision-making).

Cost of an asset

The amount of cash or cash equivalents paid or the fair value of the consideration given to acquire an asset at the time of its acquisition or construction, including any costs necessary to place the asset into service. This includes one-off design and project management costs.

Critical assets

Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.

Current replacement cost (CRC)

The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a technologically modern equivalent new asset (not a second hand one) with the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs.

Deferred maintenance

The shortfall in rehabilitation work undertaken relative to that required to maintain the service potential of an asset.

Depreciable amount

The cost of an asset, or other amount substituted for its cost, less its residual value.

Depreciated replacement cost (DRC)

The current replacement cost (CRC) of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.

Depreciation / amortisation

The systematic allocation of the depreciable amount (service potential) of an asset over its useful life.

Economic life

See useful life definition.

Expenditure

The spending of money on goods and services. Expenditure includes recurrent and capital outlays.

Expenses

Decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or increases in liabilities that result in decreases in equity, other than those relating to distributions to equity participants.

Fair value

The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arms length transaction.

Financing gap

A financing gap exists whenever an entity has insufficient capacity to finance asset renewal and other expenditure necessary to be able to appropriately maintain the range and level of services its existing asset stock was originally designed and intended to deliver. The service capability of the existing asset stock should be determined assuming no additional operating revenue, productivity improvements, or net financial liabilities above levels currently planned or projected. A current financing gap means service levels have already or are currently falling. A projected financing gap if not addressed will result in a future diminution of existing service levels.

Heritage asset

An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture and this purpose is central to the objectives of the entity holding it.

Impairment Loss

The amount by which the carrying amount of an asset exceeds its recoverable amount.

Infrastructure assets

Physical assets that contribute to meeting the needs of organisations or the need for access to major economic and social facilities and services, e.g.. roads, drainage, footpaths and cycleways. These are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence the assets have long lives. They are fixed in place and are often have no separate market value.

Investment property

Property held to earn rentals or for capital appreciation or both, rather than for:

- (a) use in the production or supply of goods or services or for administrative purposes; or
- (b) sale in the ordinary course of business.

Key performance indicator

A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.

Level of service

The defined service quality for a particular service/activity against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental impact, acceptability and cost.

Life Cycle Cost *

1. **Total LCC** The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
2. **Average LCC** The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises average operations, maintenance expenditure plus asset consumption expense, represented by depreciation expense projected over 10 years. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

Life Cycle Expenditure

The Life Cycle Expenditure (LCE) is the average operations, maintenance and capital renewal expenditure accommodated in the long term financial plan over 10 years. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of affordability of projected service levels when considered with asset age profiles.

Loans / borrowings

See borrowings.

Maintenance

All actions necessary for retaining an asset as near as practicable to an appropriate service condition, including regular ongoing day-to-day work necessary to keep assets operating, e.g. road patching but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life.

- **Planned maintenance**

Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

- **Reactive maintenance**

Unplanned repair work that is carried out in response to service requests and management/supervisory directions.

- **Specific maintenance**

Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget.

- **Unplanned maintenance**

Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.

Maintenance expenditure *

Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. It is expenditure, which was anticipated in determining the asset's useful life.

Materiality

The notion of materiality guides the margin of error acceptable, the degree of precision required and the extent of the disclosure required when preparing general purpose financial reports. Information is material if its omission, misstatement or non-disclosure has the potential, individually or collectively, to influence the economic decisions of users taken on the basis of the financial report or affect the discharge of accountability by the management or governing body of the entity.

Modern equivalent asset

Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing. It allows for technology changes and, improvements and efficiencies in production and installation techniques.

Net present value (NPV)

The value to Council of the cash flows associated with an asset, liability, activity or event calculated using a discount rate to reflect the time value of money. It is the net amount of discounted total cash inflows after deducting the value of the discounted total cash outflows arising from e.g. the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.

Non-revenue generating investments

Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the Council, e.g. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operations

Regular activities to provide services such as public health, safety and amenity, e.g. street sweeping, grass mowing and street lighting.

Operating expenditure

Recurrent expenditure, which is continuously required to provide a service. In common use the term typically includes, e.g. power, fuel, staff, plant equipment, on-costs and overheads but excludes maintenance and depreciation. Maintenance and depreciation is on the other hand included in operating expenses.

Operating expense

The gross outflow of economic benefits, being cash and non-cash items, during the period arising in the course of ordinary activities of an entity when those outflows result in decreases in equity, other than decreases relating to distributions to equity participants.

Operating expenses

Recurrent expenses continuously required to provide a service, including power, fuel, staff, plant equipment, maintenance, depreciation, on-costs and overheads.

Operations, maintenance and renewal financing ratio

Ratio of estimated budget to projected expenditure for operations, maintenance and renewal of assets over a defined time (e.g. 5, 10 and 15 years).

Operations, maintenance and renewal gap

Difference between budgeted expenditures in a long term financial plan (or estimated future budgets in absence of a long term financial plan) and projected expenditures for operations, maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Pavement management system (PMS)

A systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.

PMS Score

A measure of condition of a road segment determined from a Pavement Management System.

Rate of annual asset consumption *

The ratio of annual asset consumption relative to the depreciable amount of the assets. It measures the amount of the consumable parts of assets that are consumed in a period (depreciation) expressed as a percentage of the depreciable amount.

Rate of annual asset renewal *

The ratio of asset renewal and replacement expenditure relative to depreciable amount for a period. It measures whether assets are being replaced at the rate they are wearing out with capital renewal expenditure expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

Rate of annual asset upgrade/new *

A measure of the rate at which assets are being upgraded and expanded per annum with capital upgrade/new expenditure expressed as a percentage of depreciable amount (capital upgrade/expansion expenditure/DA).

Recoverable amount

The higher of an asset's fair value, less costs to sell and its value in use.

Recurrent expenditure

Relatively small (immaterial) expenditure or that which has benefits expected to last less than 12 months. Recurrent expenditure includes operations and maintenance expenditure.

Recurrent funding

Funding to pay for recurrent expenditure.

Rehabilitation

See capital renewal expenditure definition above.

Remaining useful life

The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life is useful life.

Renewal

See capital renewal expenditure definition above.

Residual value

The estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

Revenue generating investments

Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, e.g. public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.

Risk management

The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.

Section or segment

A self-contained part or piece of an infrastructure asset.

Service potential

The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.

Service potential remaining

A measure of the future economic benefits remaining in assets. It may be expressed in dollar values (Fair Value) or as a percentage of total anticipated future economic benefits. It is also a measure of the percentage of the asset's potential to provide services that is still available for use in providing services (Depreciated Replacement Cost/Depreciable Amount).

Source: IPWEA, 2009, Glossary

Additional and modified glossary items shown *

Specific Maintenance

Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, replacement of air conditioning equipment, etc. This work generally falls below the capital/ maintenance threshold and needs to be identified in a specific maintenance budget allocation.

Strategic Longer-Term Plan

A plan covering the term of office of councillors (4 years minimum) reflecting the needs of the community for the foreseeable future. It brings together the detailed requirements in the Council's longer-term plans such as the asset management plan and the long-term financial plan. The plan is prepared in consultation with the community and details where the Council is at that point in time, where it wants to go, how it is going to get there, mechanisms for monitoring the achievement of the outcomes and how the plan will be resourced.

Sub-component

Smaller individual parts that make up a component part.

Useful life

Either:

- (a) the period over which an asset is expected to be available for use by an entity, or
- (b) the number of production or similar units expected to be obtained from the asset by the entity.

It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the Council.

Value in Use

The present value of future cash flows expected to be derived from an asset or cash generating unit. It is deemed to be depreciated replacement cost (DRC) for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, where the entity would, if deprived of the asset, replace its remaining future economic benefits.