Central Highlands Council

Roads and Bridges

Asset Management Plan

Version 2

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Institute of Public Works Engineering Australia

AM4SRRC

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Asset Management for Small, Rural or Remote Communities Practice Note

The Institute of Public Works Engineering Australia.

www.ipwea.org.au/AM4SRRC

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1. EXECUTIVE SUMMARY

Context

Council provides a roads and bridges network with the funding assistance from the Australian government to enable the network to be maintained in a 'fit for purpose' condition

The issues confronting Council in maintaining this network include a small revenue and population base coupled with a large, sparsely populated area and extreme diverse climatic conditions.

The Roads and Bridges Service

The Roads and Bridges network comprises:

- Sealed Roads
- Unsealed Roads
- Kerb & Channel
- Footpaths
- Bridges

These infrastructure assets have a replacement value of $93,007,106

What does it Cost?

The projected cost to provide the services covered by this Asset Management Plan includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is $23,913,000 or $2,391,300 per year.

Councils' present funding levels are sufficient to continue to provide existing services at current levels in the long term.

What we will do

Council plans to provide and maintain Roads, Bridges and Footpaths services to achieve the following objectives:

- Ensure that the road network is maintained at a safe and functional standard in accordance with annual budgets.
- Ensure that the road network is affordable/ sustainable for the ratepayer and the broader community.
- Ensure that the road network services the needs of the community.
- Continuing renewal and replacement under current funding levels

What we cannot do

Council does not have enough funding to provide services at higher service levels or provide new services. Works and services that cannot be provided under present funding levels are:

- Any additional projects that are not within Council's 10Yr plan.

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:

- Loss of all weather access
- Reduction of load limits on bridges
- Reduced service levels

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

- Improved maintenance programming
- Improved condition reporting
- Improved allocation of funding

The Next Steps

The actions resulting from this asset management plan are:

- Update the Sealed Road hierarchy to assist in the prioritising of future works
- Update the Unsealed Road hierarchy to maximize quality all weather access
- Update the condition report for all roads

Questions you may have

What is this plan about?

This asset management plan covers the infrastructure assets that serve the Central Highlands Community's Roads and Bridges needs. These assets include Roads, Bridges and Footpaths throughout the Council area that enable people to move around the community.

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.

An 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.

Councils' present funding levels are sufficient to continue to provide existing services at current levels in the medium to long term.

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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.

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

- Strategic Plan
- AusSpan BMS Reports
- Moloney Asset Management Systems

Its purpose is to demonstrate Council's responsive management of assets, compliance with regulatory requirements and to communicate funding required needed to provide the level of service.

This infrastructure management plan covers the road assets, including bridges and culverts, in the road reservation managed by Council's Works and Services Department and are shown in Table 2.1.

Table 2.1: Assets covered by this Plan

Asset category	Dimension	Replacement Value
Sealed Roads	904,022 sqm	$30,854,746
Unsealed Roads	3,280,019 sqm	$44,224,938
Bridges	4303 m2	$15,229,655
Footpaths Kerbs and Guttering	23,084 lm	$2,697,767
TOTAL		**$93,007,106**

2.2 Goals and Objectives of Asset Management

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

Council's goal in managing infrastructure assets is to meet the required level of service in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Taking a life cycle approach,
- Developing cost-effective management strategies for the long term,
- Providing a defined level of service and monitoring performance,
- Understanding and meeting the demands of growth through demand management and infrastructure investment,
- Managing risks associated with asset failures,
- Sustainable use of physical resources,
- Continuous improvement in asset management practices.[1]

The goal of this asset management plan is to:

- Document the services/service levels to be provided and the costs of providing the service,
- Communicate the consequences for service levels and risk, where desired funding is not available, and provide information to assist decision makers in trading off service levels, costs and risks to provide services in a financially sustainable manner.

[1] IPWEA, 2006, *IIMM* Sec 1.1.3, p 1.3.

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

Council's vision is:

Our vision is for the Central Highlands to provide residents and visitors opportunities to participate in and enjoy a vibrant local economy, rewarding community life, cultural heritage and a natural environment that is world class.

Council's mission is:

Our mission is to provide leadership to ensure that local government and other services are provided to satisfy the social, economic and environmental needs of the present day community, whilst endeavouring to ensure the best possible outcomes for future generations.

Relevant goals and objectives and how these are addressed in this asset management plan are shown in Table 2.2.

Table 2.2: Organisation Goals and how these are addressed in this Plan

Strategic Objective	How Goal and Objectives are addressed in AMP
To ensure road maintenance and reconstruction works receive a high funding priority	Establish 10 year plans and realistic annual budgets that adequately meet the resource demands of future road network requirements.
To ensure that the standard of existing services and assets are maintained and comply with relevant statutory requirements	Implement sound asset management systems and reporting practices.
To develop programs to address the upgrading and maintenance of infrastructure assets	Implement sound asset management systems and reporting processes

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 the organisation will manage its existing and future assets to provide the required services
- Financial summary – what funds are required to provide the required services.
- Asset management practices
- Monitoring – how the plan will be monitored to ensure it is meeting the organisation's objectives.
- Asset management improvement plan

2.4 Core and Advanced Asset Management

This asset management plan is prepared as a first cut 'core' asset management plan in accordance with the International Infrastructure Management Manual[2]. 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.

[2] IPWEA, 2006.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

Council has not carried out any research on customer expectations. This will be investigated for future updates of the asset management plan.

3.2 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and State regulations. Some of the relevant legislation is shown in Table 3.2.

Table 3.2: 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	Consolidates certain enactments relating to the functions of Councils in respect of highways etc.
Financial Management Audit Act 1990	Management of finances consistent with contemporary accounting standards and practices.
Roads and Jetties Act 1935	Defines State controlled highways in the municipal area etc.

3.3 Current Levels of Service

Council has defined service levels in two terms.

Community Levels of Service relate to the service outcomes that the community wants in terms of safety, quality, quantity, reliability, responsiveness, cost effectiveness and legislative compliance.

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

Quality	How good is the service?
Function	Does it meet users' needs?
Safety	Is the service safe?

Technical Levels of Service - Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the council undertakes to best achieve the desired community outcomes.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as opening hours, cleansing frequency, mowing frequency, etc.
- Maintenance – the activities necessary to retain an assets as near as practicable to its original condition (eg road patching, unsealed road grading, building and structure repairs),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (eg frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),
- Upgrade – the activities to provide a higher level of service (eg widening a road, sealing an unsealed road, replacing a pipe with a larger size) or a new service that did not exist previously (eg a new library).

Council's current service levels need to develop further and are detailed in Table 3.3.

Table 3.3: Current Service Levels

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service
COMMUNITY LEVELS OF SERVICE				
Quality	To provide road and bridge infrastructure that is "fit for purpose"	AARB Condition ratings for all road components	Infrastructure at condition 1,2 and 3 at three yearly assessment periods	
Function	To provide a road network that delivers appropriate mobility and access for users	Customer service requests relating to functionality		
Safety	To provide a safe road network	Number of reported incidents/accidents		
TECHNICAL LEVELS OF SERVICE				
Operations and Maintenance		Budget $820,000		
Renewal		Budget $1,616,856		
Upgrade/New		Budget $220,000		

3.4 Desired Levels of Service

At present, indications of desired levels of service are obtained from various sources including residents' feedback to Councillors and staff, service requests and correspondence. Council has yet to quantify desired levels of service. This will be done in conjunction with future revisions of this asset management plan.

4. FUTURE DEMAND

4.1 Demand Forecast

Factors affecting demand include population change, changes in demographics, seasonal factors, vehicle ownership, consumer preferences and expectations, economic factors, agricultural practices, environmental awareness, etc.

Demand factor trends and impacts on service delivery are summarised in Table 4.1.

Table 4.1: Demand Factors, Projections and Impact on Services

Demand factor	Present position	Projection	Impact on services
Population	2554 (CHC Website)	3000(est. 2030, ABS-2013)	Minimal
Demographics	The 55-64 years age group has increased slightly on average (ABS 2013) whereas the age group 35-44 has decreased slightly.	The ABS predicts a net increase of older Tasmanians to be around 35% of the population by 2046. The same ABS study projects a 15% decrease in 0-15 year olds by 2046.	Increased demand for footpaths/walkways
Forestry	Transition/IGA	Reduced forestry activity	Reduced traffic impact on local roads

4.2 Changes in Technology

Technology changes are forecast to have little effect on the delivery of services covered by this plan.

4.3 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.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this asset management plan.

Table 4.3: Demand Management Plan Summary

Service Activity	Demand Management Plan
Sealing of Roads	Limited by availability of funding and need to maintain existing assets
Capital Works Plan	Ongoing updates of the 10 year Capital Works Plan

4.4 New Assets for Growth

The new assets required to meet growth will be acquired free of cost from land developments and constructed/acquired by Council.

Acquiring these new assets will commit council to fund ongoing operations and maintenance 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 and maintenance costs.

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.

Topography and geographic location has a major influence on the maintenance of infrastructure in the Central Highlands with extreme variances in climatic conditions and availability of road making materials.

Age profile information is not currently available. An age profile will be developed in future revisions of the asset management plan.

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
Hollow Tree Road	Pavement failure due to heavy vehicles
Ellendale Road	Pavement failure due to heavy vehicles
Victoria Valley Road	Pavement failure due to heavy vehicles
Tor Hill Road	Pavement failure due to heavy vehicles/substandard materials.
Pelham Tiers Road	Pavement failure due to heavy vehicles/substandard materials/design deficiencies

The above service deficiencies were identified from discussions with Works and Services Manager.

5.1.3 Asset condition

Asset condition information is not currently available

Condition will be measured using a 1 – 5 rating system[3] as detailed in Table 5.1.3.

Table 5.1.3: IIMM Description of Condition

Condition Rating	Description
1	Excellent condition: Only planned maintenance required.
2	Very good: Minor maintenance required plus planned maintenance.
3	Good: Significant maintenance required.
4	Fair: Significant renewal/upgrade required.
5	Poor: Unserviceable.

[3] IIMM 2006, Appendix B, p B:1-3 ('cyclic' modified to 'planned', 'average' changed to 'fair'')

5.1.4 Asset valuations

The value of assets recorded in the asset register as at 30th June 2017 covered by this asset management plan is shown below.

Current Replacement Cost	$93,007,006
Written Down Value	$68,891,388
Annual Depreciation Expense	$1,548,753

Council's sustainability reporting reports the rate of annual asset consumption and compares this to asset renewal and asset upgrade and expansion.

Asset Consumption 79.6%
(Depreciated replacement cost/Current replacement cost)

Asset renewal 122%
(Capital renewal exp/Annual Depreciation)

To provide services in a financially sustainable manner, Council will need to ensure that it is renewing assets at the rate they are being consumed over the medium-long term and funding the life cycle costs for all new assets and services in its long term financial plan.

5.1.5 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 is Table 5.1.5

Table 5.1.5: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Collector Sealed Roads	Provide safe, smooth and all weather access
Local Sealed Road	Provide safe, smooth and all weather access
Collector Unsealed	Provide safe, smooth and all weather access
Local Unsealed	Provide safe access

5.2 Risk Management Plan

An assessment of risks[4] 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 shock' to the organisation. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

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 are summarised in Table 5.2.

Table 5.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Associated Costs
Urban Streets and Rural roads (Sealed and Unsealed)	Poor ride quality, continuous patching of potholes, high pavement failure rate		Identify and prioritise based on risk and within budget (increased resealing frequency)	
Unsealed Rural roads	Reduced ride quality due to potholing, corrugations and poorer gravels		Compare existing intervention levels and work processes with alternatives – match to available funds	
Timber Bridges	Road closures/ imposition of load limits		Review bridge capacity/condition and load limits	

5.3 Routine Maintenance Plan

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 Maintenance plan

Maintenance includes 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, building roof replacement, etc. This work generally 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
2016/17	$984,000
2015/16	$974,000
2014/15	$940,000

Current maintenance expenditure levels are considered to be adequate to meet required service levels. Future revision of this asset management plan will include linking required maintenance expenditures with required service levels.

Assessment and prioritisation of reactive maintenance is undertaken by operational staff using experience and judgement.

5.3.2 Standards and specifications

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

- Australian Standards
- Central Highlands General Specifications and Standards
- Standard Contract Documentation and Specifications

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.

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

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

5.4 Renewal / Replacement Plan

Renewal 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 service potential. Work over and above restoring an asset to original service potential is upgrade / expansion or new works expenditure.

5.4.1 Renewal plan

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

Method 1 uses Asset Register data to project the renewal costs for renewal years using acquisition year and useful life, 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'.

Method 1 was used for this asset management plan.

A Draft ranking criteria that could be used to determine priority of identified renewal proposals is detailed in Table 5.4.1.

Table 5.4.1: Renewal Priority Ranking Criteria

Criteria	Weighting
Fit with strategic longer – term objectives	30%
Percentage of useful life	25%
Traffic and pedestrian use	25%
Number of service requests	20%
Total	**100%**

Renewal will be undertaken using 'low-cost' renewal methods where practical. The aim of 'low-cost' renewals is to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than replacement cost.

Examples of low cost renewal include;

- Crack Sealing

- Cement / lime and Chemical stabilisation

- Spray seals

- Asphalt instead of Concrete footpaths

5.4.2 Renewal standards

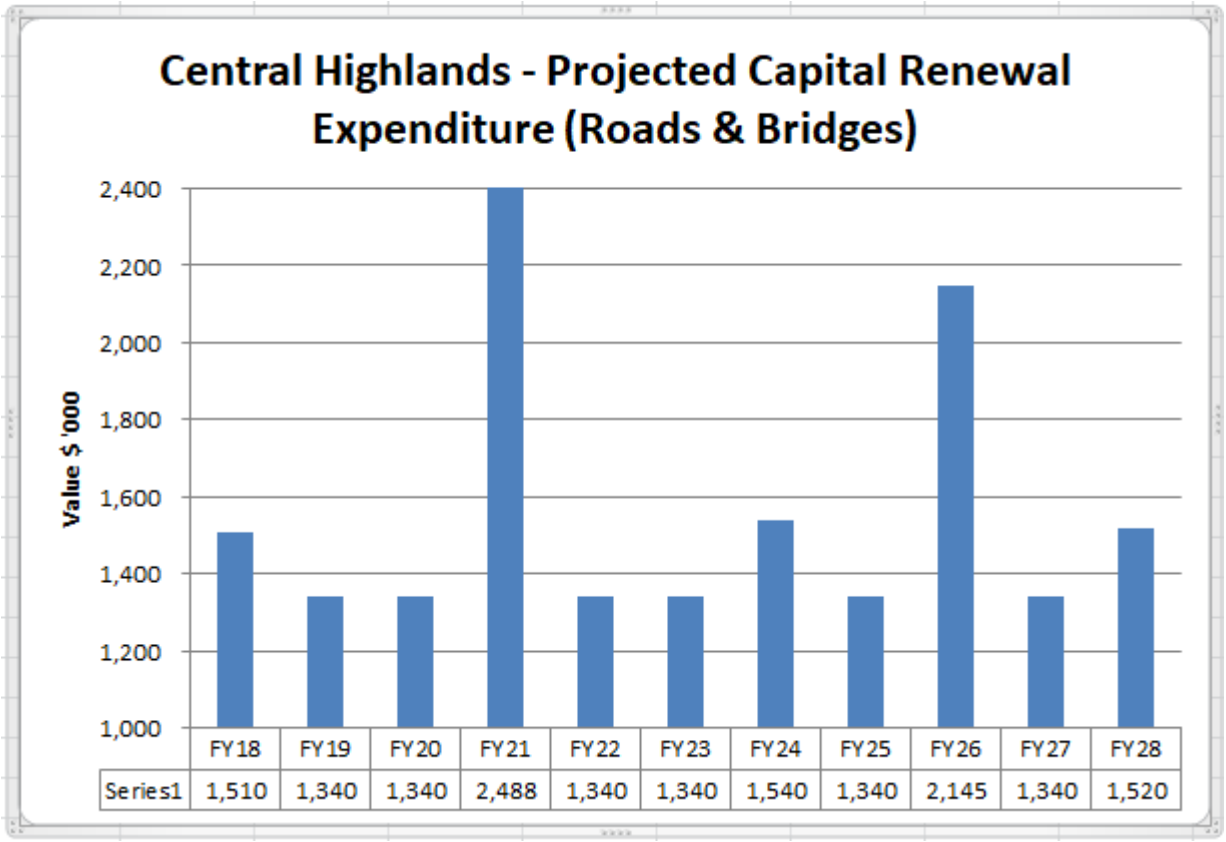
Renewal work is carried out in accordance with the following Standards and Specifications.

- Australian Standards
- Central Highlands Council general Specifications and Standard Drawings
- Standard Contract documentation and Drawings

5.4.3 Summary of projected renewal expenditure

Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The costs are summarised in Figure 5. Note that all costs are shown in 2016/2017 dollar values.

Figure 5: Projected Capital Renewal Expenditure



Deferred renewal, ie those assets identified for renewal and not scheduled for renewal in capital works programs are to be included in the risk assessment process in the risk management plan.

Renewals are to be funded from capital works programs and grants where available. 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 the 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 or community requests, proposals identified by strategic plans or partnerships with other organisations. Candidate proposals are inspected to verify need and to develop a preliminary estimate.

Council is to develop a New Assets priority ranking criteria system.

This system will verified proposals that are ranked by priority and available funds and scheduled in future works programmes. The draft priority ranking criteria is detailed in Table 5.5.1.

Table 5.5.1: Draft Upgrade / New Assets Priority Ranking Criteria

Criteria	Weighting
Fit with strategic longer-term plan objectives	30%
Percentage of useful life	25%
Traffic and pedestrian Use	25%
Number of Service Requests	20%
Total	**100%**

5.5.2 Standards and specifications

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 projected upgrade/new assets expenditure

New assets and services are to be funded from capital works program and grants where available. This is further discussed in Section 6.2.

5.6 Disposal Plan

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

These assets would be reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any.

Where cashflow projections from asset disposals are not available, these will be developed in future revisions of this asset management plan.

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

6.1 Financial sustainability in service delivery

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

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 longest asset life. 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 $2,380,000 per year (operations and maintenance expenditure plus depreciation expense in year 1).

Life cycle costs can be compared to life cycle expenditure to give an indicator of sustainability in service provision. Life cycle expenditure includes operations, maintenance and capital renewal expenditure in year 1. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure at the start of the plan is $2,383,000 (operations and maintenance expenditure plus budgeted capital renewal expenditure in year 1).

If there is a shortfall between life cycle cost and life cycle expenditure then there is a life cycle gap.

For services covered by this asset management plan life cycle expenditure exceeds life cycle costs by $3,000 per year

Life cycle expenditure is 100% of life cycle cost.

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 would need to be increased or cuts in services made in the future.

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 surplus. 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 $2,430,300 per year.

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 $2,460,600 per year.

Financial Sustainability Indicators

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

Providing services in a sustainable manner will require matching of projected asset renewals to meet agreed service levels with planned capital works programs and available revenue.

A gap between projected asset renewals, planned asset renewals and funding indicates that further work is required to manage required service levels and funding to eliminate any funding gap.

We will manage the 'gap' by developing this asset management plan to provide guidance on future service levels and resources required to provide these services, and review future services, service levels and costs with the community.

6.1.2 Expenditure projections 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 current (non-inflated) values. Disposals are shown as net expenditures (revenues are negative).

Table 6.1.2: Expenditure Projections for Long Term Financial Plan ($000)

Year	Operations ($000)	Maintenance ($000)	Projected Capital Renewal ($000)	Capital Upgrade/ New ($000)	Disposals ($000)
2018	$0	$980	$1,500	$0	$0
2019	$0	$980	$1,340	$200	$0
2020	$0	$980	$1,340	$0	$0
2021	$0	$980	$2,488	$250	$0
2022	$0	$980	$1,340	$0	$0
2023	$0	$980	$1,340	$0	$0
2024	$0	$980	$1,540	$0	$0
2025	$0	$980	$1,340	$0	$0
2026	$0	$980	$2,145	$0	$0
2027	$0	$980	$1,340	$0	$0
2028	$0	$980	$1,520	$0	$0

Note: All projected expenditures are in 2017/2018 values

6.2 Funding Strategy

Projected expenditure identified in Section 6.1 is to be funded from future operating and capital budgets. The funding strategy is detailed in the organisation's 10 year long term financial plan.

6.3 Key Assumptions made in Financial Forecasts

Key assumptions made in this asset management plan are:

- Asset values as per Revaluation Reports
- Useful lives of assets is similar to other Councils
- Current Replacement Cost (CRC) is based on Fair Value
- Present service levels will remain constant for life of AM Plan

7. ASSET MANAGEMENT PRACTICES

7.1 Accounting / Financial Systems

7.1.1 Accounting and financial systems

- Navision Accounting System
- Accounting practices comply with the Australian Accounting Standards
- Compliance with the Local government Act 1993.

7.1.2 Accountabilities for financial systems

Accountability for the financial management of Council's financial system rests with the Deputy General Manager.

7.1.3 Capital / maintenance threshold

Capital / maintenance threshold policy needs to be developed

7.1.4 Required changes to accounting financial systems arising from this AM Plan

A review needs to be undertaken to ensure the correct allocation of costs between maintenance, renewal and capital expenditure and that this is reflected in the Chart of Accounts.

7.2 Asset Management Systems

7.2.1 Asset management system

Council currently does not have an integrated asset management system.

7.2.4 Accountabilities for asset management system and data

Accountabilities for the Asset Management System rest with the Deputy General Manager and the Works & Services Manager.

7.2.5 Required changes to asset management system arising from this AM Plan

Commissioning of a full conditioning report for roads needs to be undertaken to improve the accuracy of data.

7.3 Information Flow Requirements and Processes

The key information flows *into* this asset management plan are:

- Council strategic and operational plans,
- Service requests from the community,
- Network assets information,
- The unit rates for categories of work / materials,
- Current levels of service, expenditures, service deficiencies and service risks,
- Projections of various factors affecting future demand for services and new assets acquired by Council,
- Future capital works programs,
- Financial asset values.

The key information flows *from* this asset management plan are:

- The projected Works Program and trends,
- The resulting budget and long term financial plan expenditure projections,
- Financial sustainability indicators.

These will impact the Long Term Financial Plan, Strategic Longer-Term Plan, annual budget and departmental business plans and budgets.

7.4 Standards and Guidelines

Standards, guidelines and policy documents referenced in this asset management plan are:

- Australian Accounting Standards
- Central Highlands Council Asset Management Policy
- IIMA Manual, Association of Local Government Engineering
- Australian Infrastructure financial Management Guidelines IPWEA 2009

8. PLAN IMPROVEMENT AND MONITORING

8.1 Performance Measures

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

- The degree to which the required cashflows identified in this asset management plan are incorporated into the organisation's long term financial plan and Community / Strategic Planning processes and documents,
- 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;

8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 8.2.

Table 8.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Maintain a 10 year capital works program	Corporate & Finance Services	Deputy General Manager	Ongoing
2	Set response levels of service for reactive maintenance	Works and Services	Works & Services Manager	2018
3	Update full condition report on all roads every 3 years	Works & Services	Works & Services Manager	Next due 2017/18
4	Develop a sealed road hierarchy to assist in prioritising of future works	Works & Services	Works & Services Manager	2018
5	Develop an unsealed road hierarchy to maximise quality all weather access	Works & Services	Works & Services Manager	2018
6	Develop services levels for each road	Works & Services	Works & Services Manager	2018
7	Ensure the correct allocation of costs between maintenance, renewal and capital expenditure to ensure this is reflected accurately in the chart of accounts	Corporate & Finance Services	Deputy General Manager	Ongoing

8.3 Monitoring and Review Procedures

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

The Plan has a life of 3 years and is due for revision and updating within one year of each Council election.

REFERENCES

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APPENDICES

Appendix A Abbreviations

AAAC	Average annual asset consumption
AMP	Asset management plan
ARI	Average recurrence interval
ASC	Annual Service Cost
CRC	Current replacement cost
DA	Depreciable amount
DRC	Depreciated Replacement Cost
EF	Earthworks / formation
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
MMS	Maintenance management system
PCI	Pavement condition index
RV	Residual value
vph	Vehicles per hour

Appendix B 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 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 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.

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 the organisation'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 the organisation'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.

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.

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.

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.

Fair value
The amount for which an asset could be exchanged or a liability settled, between knowledgeable, willing parties, in an arm's length transaction.

Funding gap
A funding gap exists whenever an entity has insufficient capacity to fund 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 funding gap means service levels have already or are currently falling. A projected funding 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 cycle ways. 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 annual operations, maintenance and asset consumption expense, represented by depreciation expense. 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 actual or planned annual operations, maintenance and capital renewal expenditure incurred in providing the service in a particular year. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of life cycle sustainability.

Loans / borrowings
See borrowings.

Maintenance
All actions necessary for retaining an asset as near as practicable to its original 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.
- **Significant maintenance**
  Maintenance work to repair components or replace sub-components that need 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 and renewal gap
Difference between estimated budgets and projected required expenditures for maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Maintenance and renewal sustainability index

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

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 the organisation 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 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.

Pavement management system
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
A measure of average annual consumption of assets (AAAC) expressed as a percentage of the depreciable amount (AAAC/DA). Depreciation may be used for AAAC.

Rate of annual asset renewal
A measure of the rate at which assets are being renewed per annum expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

Rate of annual asset upgrade
A measure of the rate at which assets are being upgraded and expanded per annum 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 are still available for use in providing services (Depreciated Replacement Cost/Depreciable Amount).

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.

Specific Maintenance
Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, cycle, 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.

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.

Source: IPWEA, 2009, Glossary