







Document Control								
Rev No	Date	Revision Details	Author	Reviewer	Approver			
1	30/08/21	Initial draft	SW (AE)	GN(LRC)				
2	30/08/21	Some figures changed within document following Council review	SW(AE)	GN(LRC)				
3	26/04/22	Addition added to 'Key Assumptions in Financial Forecasts'	SW(AE)	GN(LRC)	GN(LRC)			

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Annexure A: Technical Asset Management Plan Summary-Bridges,

Floodways, Footpaths, Stormwater, Transport (Roads)

Annexure B: Technical Asset Management Plan Summary-Buildings

& Open Space

Annexure C: Technical Asset Management Plan Summary—CWMS



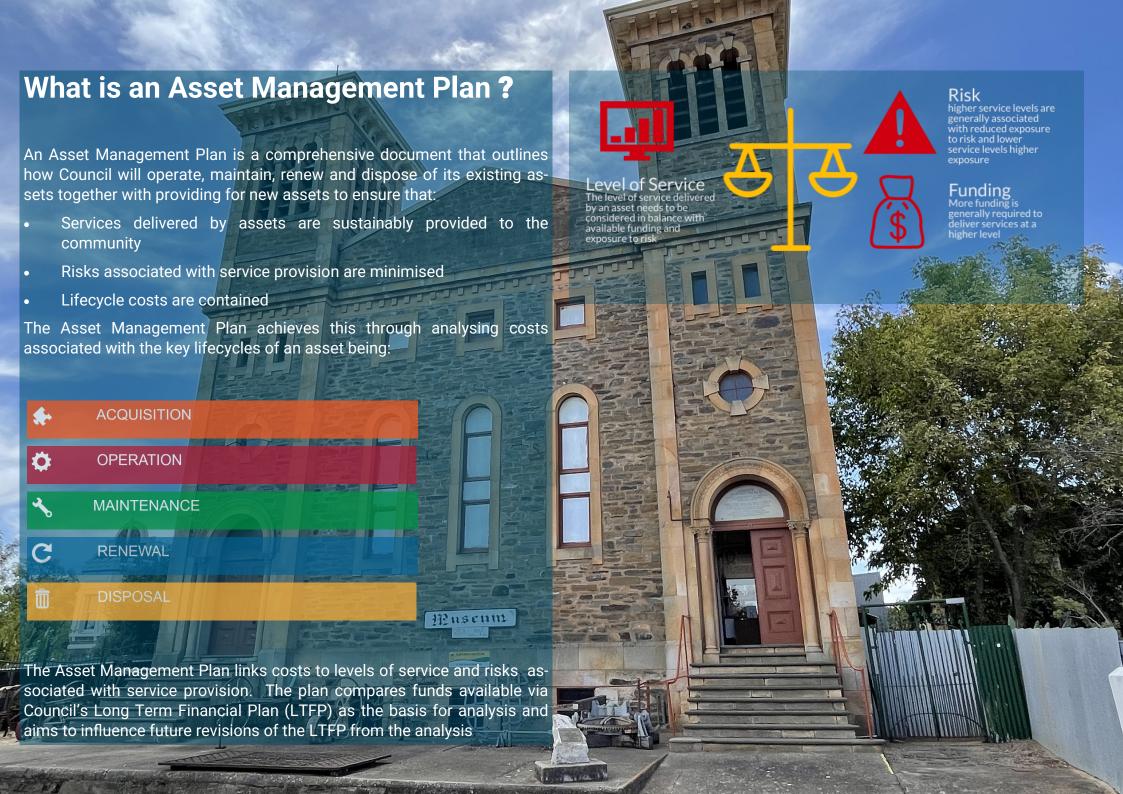
Developed by Asset Engineering from resources available through the IPWEA NAMS+ program











Executive Summary

Background

The Light Regional Council Asset Management Plan comprises the following documents
This high level summary document

- Annexures to this document—'Technical Asset Management Plan Summaries'
 - * Bridges, Floodways, Footpaths, Stormwater & Transport (Roads)
 - * Buildings & Open Space
 - * CWMS

This high level summary document should not be read in isolation of the supporting technical annexure's.

The plan has been developed using the best available information to derive a sustainable renewal program based on defined service levels and exposure to risk. The key areas of Levels of Service, Future Demand and Risk via workshops with Council Staff

The next version of the plan will draw upon improved information detailed in the 'improvement plan'.

Assets Covered by this Plan

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1100

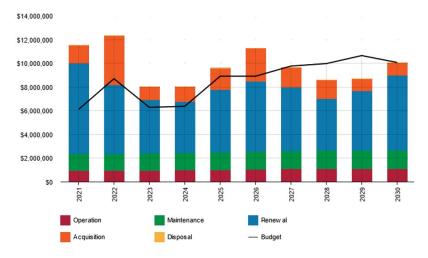
Asset Group	Extent
Stormwater	58.7 km pipes, 2,224 pits
Township Roads	205 km
Unsealed Roads	777 km
Kerbing	181 km
Footpaths	50 km
Bridges	38
Floodways	113
Buildings	49
Open Space	Playgrounds, structures, sports courts, and park furniture
CWMS	4 schemes



What does it cost?

The **estimated** forecast funds required to provide the services covered by this Asset Management Plan (AMP) including operations, maintenance, renewal, upgrade and disposal of existing assets over the 10-year planning period is \$97,745,240 or \$9,774,524 on average per year.

The available budget for this period is \$85,882,744 or \$8,578,274 on average per year which is 87.8% of the cost to provide the service. This equates to a funding deficit of \$1,196,250 on average per year. Forecast expenditure required to provide services in the AMP compared with budgeted expenditure currently included in the Long Term Financial Plan are shown in the graph below.

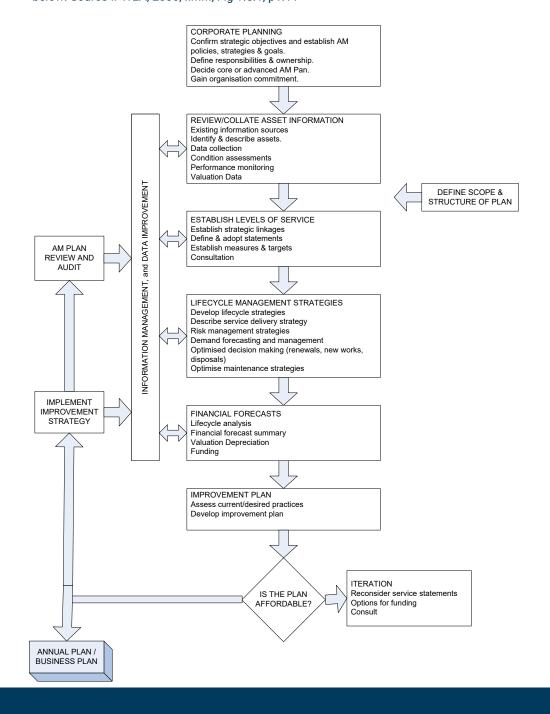


The next steps

The actions resulting from this Asset Management Plan are detailed in the improvement plan and summarised as:

- Re audit the road network with a view to develop detailed project level costs over a 5 year period based on Councils service levels
- Undertake bridge inspection & develop costed renewal and upgrade program
- Review of unit rates & valuation methodology
- Undertake utilisation review of all Council buildings including condition state with a view to consolidation
- Undertake review of playgrounds & open space throughout the Council with a view to prioritised renewal planning
- CWMS: Undertake study to model growth against existing schemes.
- CWMS: Upgrade of Lagoons (Kapunda & Grenock) to be investigated and costed
- Update this AMP

This Asset Management Plan has been developed using a road map shown in the chart below. Source IPWEA, 2006, IIMM, Fig 1.5.1, p1.11



Light Regional Council Assets

Diverse assets



REPLACEMENT **VALUE**

\$260m

(valuation)

87.8%

of forecast funds in budget: \$1.45m annual shortfall

SERVICES PROVIDED



Sealed Roads both townships and rural-205km



Unsealed Roads -777km



Community wastewater management schemes - 4



Buildings-49

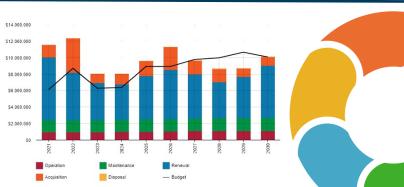
Floodways-113

Playgrounds, structures, sports courts and park furniture

Stormwater Pipes 58.7 km

Stormwater Pits 2,224

Bridges-38



LIFECYCLE COSTS

Total **forecast** over 10 years:

\$97.75m

Total **budget** over 10 years: \$85.78m



Levels of Service

Levels of Service can be considered using 3 main criteria

Customer values

what is valued by the community in the provision of the service

Customer levels of service / measures

service levels considered from the customers point of view in terms of quality, function, capacity and use

Technical levels of service

to deliver the customer values and impact the customer levels of service



Customer

Customer Values

Customer values indicate:

- what aspects of the service is important to the customer,
- whether they see value in what is currently provided and
- the likely trend over time based on the current budget provision

The Technical Asset Management Plan Summaries (attached as Annexures to this report) contain detailed tables on Customer Values with the following headings at the individual asset type level;

Customer values	Customer satisfaction	Expected trend based on planned budget
	measure	

It is generally expected that Customer Values will decline over time given that Council is not fully funding identified asset renewals, upgrades and operations and additional operations and maintenance costs associated with asset growth.



Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Quality How good is the service?

What is the condition or quality of the service?

Function Is it suitable for its intended purpose?

Is it the right service?

Capacity/Use Is the service over or under used?

Do we need more or less of these assets?

The Technical Asset Management Plan Summaries (attached as Annexures to this report) contain detailed tables on Customer Levels of Service with the following headings at the individual asset type level;

	Type of Measure			Performance	Expected trend based on planned budget
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It is generally expected that the 'Expected trend based on planned budget' will indicate a decline in Customer Levels of Service' given that Council is not fully funding identified asset renewals, upgrades and operations and additional operations and maintenance costs associated with asset growth.



Technical Levels of Service

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

Acquisition – the activities to provide a higher level of or a new service that did not exist previously (e.g. a new CWMS plant).

Operation – the regular activities to provide services (e.g. cleaning, energy etc)

Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. building and structure repairs).

Renewal – the activities that return the service capability of an asset up to that which it had originally provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement).

The Technical Asset Management Plan Summaries (attached as Annexures to this report) contain detailed tables on Technical Levels of Service with the following headings at the individual asset type level;

Lifecycle	Purpose of	Activity	Current	Recommended
Activity	Activity	Measure	Performance	Performance

The difference between the 'recommended performance' and the 'current performance' mirrors the difference between the forecast budget and existing provisions within the LTFP.



Levels of Service



What the customer values



Customer





Smooth roads Clean streets Safe footpaths

No flooding Safe bridges & floodways Clean facility

Fit for purpose functionality

Utilisation of facilities

Value for money

Structurally sound building

Customer Measures

Quality /

	Condition	Function	Capacity	
Measure	condition as- sessment	varies by asset type	varies by asset type	
Trend	general decline	general decline	steady	
Confidence	moderate	moderate	moderate	

How we can influence the customer LoS



Existing \$ pa	Required \$ pa	% Funded
♣ ACQUIS	ITION	
\$1.26m av.	\$1.78m av.	56%
OPERA	TION	
\$0.94m av.	\$1.03m av.	91%
MAINTE	NANCE	
\$1.45m av.	\$1.50m av.	97%
C RENEW	'AL	
\$4.93m av.	\$5.44m av.	90%
DISPOS	SAL	
\$0k av.	\$0k av.	100%



Lifecycle Management & **Future Demand**

This section of the plan explores the costs associated with managing and operating the assets at the agreed service levels with due regard to risks associated with this for the following stages of an assets life:

- Operations / maintenance
- Renewal / replacement
- Upgrade / new (Acquisition)
- Disposal

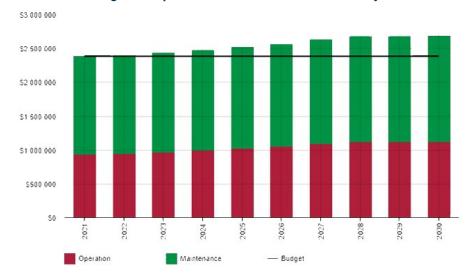
The influence of Future Demand is considered in this summary under 'Upgrade / new (Acquisition)'. Influences related to Future Demand are covered more fully in the Technical Asset Management Plan Summaries (Annexures to this document).



The modelling behind the development of Councils asset planning increases required maintenance and operations commensurate with new assets that are constructed by Council together with donated assets through growth.

Future maintenance and operations expenditure is forecast to trend in line with the value of the asset stock as shown in Fig 1. Note that all costs are shown in current 2020/2021 dollar values with no adjustment for CPI.

Figure 1 Operations and Maintenance Summary





The costs associated with renewal are summarised in Fig 2. Note that all costs are shown in current 2020/21 dollar values.



Figure 2 Forecast Renewals

The red column in Fig 2 represents identified renewals that have been carried forward from previous years that have not yet been actioned and are referred to as 'unfunded renewals'.

The renewals have been defined based on best available information to derive a realistic renewal program based on service level intervention levels. The following are some important notes relating to the formation of the renewal program:

- A review of available data has found that the bridges, sheeted roads, buildings, & CWMS, asset groups have unsuitable data for renewal planning purposes and accordingly an estimated renewal forecast only has been made against these assets.
- No field inspections have been made against any assets to confirm remaining life estimates.
- Significant adjustment has been made to componentisation, useful lives and unit rates used within Councils valuation register to derive a realistic renewal program for seals and pavements.
- Renewals for seals, pavement and kerbing are directly linked to acquisitions within the same asset groups through level of service adjustments (kerbing unkerbed roads, sealing unsealed shoulders and AC reseal)

The Technical Asset Management Plan Summaries further discuss the issues identified above.

ACQUISITION

Upgrade to existing assets and construction of new assets are driven by 'demand' factors. These demand factors are explored in some detail in the individual Technical AMP Summary documents, attached as Annexures to this overarching summary document.

These demand factors give rise to the following key acquisitions;

- At the time of the next reseal, township roads are being upgraded from what is
 usually a spray seal surface with an unsealed shoulder and no kerbing to a
 fully sealed asphalt surface with full kerbing on both sides. These additional
 costs and associated addition maintenance and operations costs are not
 funded within the LTFP.
- A \$2.5m upgrade to the Freeling CWMS treatment plant in 2021/22, funded from reserve funds within the CWMS LTFP.
- Stormwater upgrades of \$2.85m over 10 years (program yet to be developed) funded within the current LTFP.
- Footpath upgrades of \$2.52m over 10 years (program yet to be developed) funded within the current LTFP.
- Open space upgrades of \$78k over 10 years funded within the current LTFP

In addition to these Council funded asset acquisitions there are substantial donated assets predicted to be vested with Council resulting from the urban development at Roseworthy. These additions to Councils network (Council funded + donated) have an impact upon the maintenance and operations funds required by Council to continue to manage the network.

Stephenson St Freeling 2010, unsealed





Figure 3 Forecast & Budgeted Acquisition

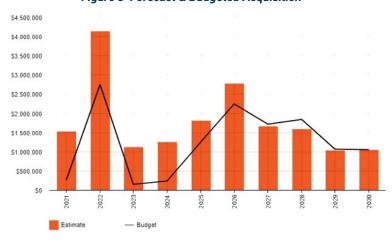


Figure 3 illustrates the following:

- Acquisition Constructed: new / upgrades constructed using Council funds
- Budget: Funds available in Council's LTFP

∭ DISPOSA

No disposals are planned over the term of this AMP

Stephenson St, Freeling, 2020, AC surface, kerbed + footpath





Lifecycle Management

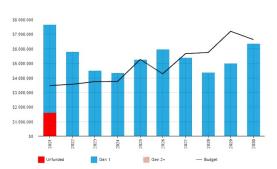
m DISPOS

Demolition / disposal of existing assets

No assets have been identified for disposal in preparation of this plan

C RENEWAL

Replacement of assets to the same service levels

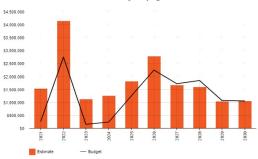


The red in the first bar of the graph (2020/21) represents assets that are beyond their assigned useful life or assets that do not meet current minimum service levels / intervention levels





New or substantially upgraded assets



New assets have been derived from the following sources;

- township road upgrades (kerbing, sealing shoulder / spray seal to asphalt)
- new footpaths / stormwater infrastructure
- open space assets service level increase



Operations and maintenance costs have been modelled to increase as new or substantially upgraded assets are added to the network



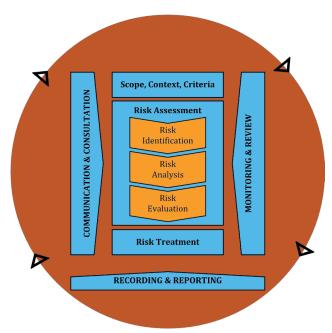
Risk Management

Risk is an important consideration in Asset Management for the below reasons:

- Determination about the rehabilitation, replacement or disposal of an asset should be based on the 'critical failure mode' established from risk management principles.
- Target maintenance plans, capital plans & investigations.
- To enable condition assessment to be focused on the critical mode of failure.
- The reduction or avoidance of risk need to be quantified as a benefit when making decisions
- Cost of actions to reduce risk need to be balanced against benefits achieved

Risks have been identified in workshops by Council staff through predominantly looking at risks that may prevent, degrade or delay service delivery.

The risk assessment process identifies 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. It has followed the fundamentals of the process documented in International Standard ISO 31000:2018 as detailed below:





Critical Risks and Treatment Plans

The Technical AMP Summary Annexures to this Plan contain detailed risk management chapters and costed treatment plans. The following table and discussion includes some of the most critical risks identified in the development of this plan.

Service or Asset at Risk	What can happen	Risk rating	Risk Treatment Plan
Bridges	Potential for unbudgeted significant renewal or replacement costs	Н	Undertake bridge inspection. Develop costed renewal and upgrade program
Roads Sealed	Increase in life cycle costs (premature asset failure) due to project level planning not identifying pavement renewal and deep lift patching requirements.	Н	Undertake development of a 5- year project level rolling works program, (incorporating kerb replacement) derived from a detailed inspection of the town- ship road network
Pool	Use of facility drops through degradation of condition	Н	Pool investigation
Heritage Buildings	Very high costs in remediation of salt damp & compliance / access issues	Н	Undertake utilisation review of all Council buildings including condition state with a view to consolidation
Play- grounds	Utilisation of playgrounds / open space throughout	Н	Undertake review of play- grounds throughout the Coun- cil.
CWMS: Under- ground collection network, pump sta- tions and chambers	Premature unplanned failure thru old earthenware pipe network	Н	Inspection of network via camera – 10 – 15km per year
CWMS: Non compliance with storage of water	Overflow of treatment plants and lagoons thru power loss or insufficient capacity	Н	Notify authorities on estimated volumes of overflow from ponds and take appropriate action to mitigate Vac trucks used in times of power failure

Service and Risk Trade-Offs

Higher service levels and greater expenditure are generally associated with reduced exposure to risk and lower service levels higher exposure to risk and lower service levels.

The objective in this Asset Management Plan is to balance Levels of Service against Risk and Funding requirements.

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:

- Upgrades to township roads in the form of provision of kerbing and change in seal type
- Upgrade of all floodway's to culverts
- Renewal of pool facilities including, heating, tiling, change rooms.
- Public toilet renewal program
- Upgrade of playgrounds to bring to current standards.
- Heritage Buildings: Upgrade all heritage buildings to meet current accessibility and DDA standards
- Heritage Buildings: Undertake preventative treatments to prevent salt damp
- Upgrade to Kapunda CWMS Treatment Plant
- Upgrade to Greenock CWMS Treatment Plant

Service trade-off

The forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, will result in service consequences for users. These service consequences include:

- Resident access reduced at times of high-water levels in watercourses.
- Service levels will reduce over time since the renewal program is not adequately resourced.
- Potential pool closure
- Playgrounds may need to be renewed or are underutilised
- Kapunda & Greenock CWMS Treatment Plants: Unable to provide environmentally sustainable service to users

Risk trade-off

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

- High risk exposure due to increased lifecycle costs through not adequately funding the renewal program.
- Slightly higher risk exposure on un-kerbed roads with swales.
- Pool: public heath risk
- Playgounds: potential injury to public
- Unable to meet statutory requirements



Risk Management

Risk Assessment

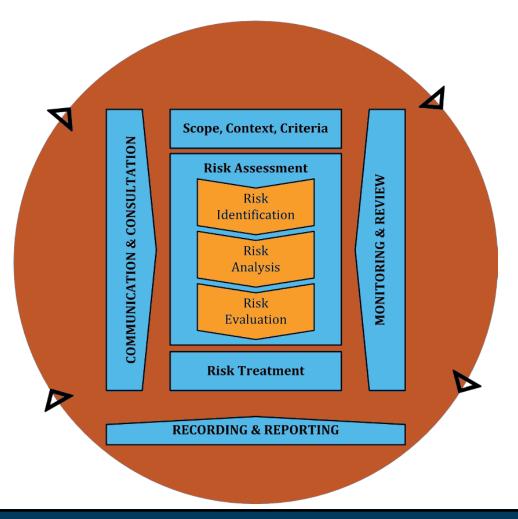


Further work is required to identify additional risks as follows:

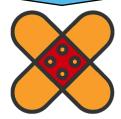
- Bridge condition and risk assessments
- Project based planning on sealed township roads
- 'Old' buildings leading to salt damp issues
- Utilisation of playgrounds and open space assets generally
- Potential problems with CWMS earthenware pipe network
- Overflows from CWMS treatment plants

Higher service levels and greater expenditure are generally associated with reduced exposure to risk and lower service levels higher exposure to risk and lower service levels

Key objective: To balance Levels of Service against Risk and Funding requirements.



Risk Treatment



Actions:

- Undertake bridge condition assessment
- Develop 5 year costed rolling works program for Township Roads
- Investigate condition of pool and associated plant
- Review playground provision and condition
- Inspect CWMS earthenware pipes—10-15 km/yr
- Take appropriate action to mitigate overflows from CWMS treatment facilities

Financial Summary & Improvement

Councils Long Term Financial Plan (LTFP) has been developed in parallel to the development of this Asset Management Plan over a 9 month period. This process has seen a substantial adjustment to the LTFP to reflect renewals and upgrades identified in the asset management planning process.

The purpose of an asset management plan is to identify levels of service that the community needs and can afford and inform the long term financial plan to provide the service in a sustainable manner.

This section contains a summary of the financial requirements resulting from the information presented in the technical asset management plan summaries attached as Annuxures to this document.

Financial Statements & Projections

Asset valuations

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

Current (Gross) Replacement Cost Depreciated Replacement Cost (written down value) Annual Depreciation \$260,077,664 \$169,855,520 \$5,107,645

These figures are based on Councils Valuation Register. It should be noted that these figures do not directly compare to the required sustainable renewals identified in the preparation of this plan due to the structure and assumptions used within the register. The amendment of this register is a key improvement identified in the development of this plan.

Sustainability of service delivery

There are three key indicators of sustainable service delivery that are considered in this Asset Management Plan . The three indicators are the:

- asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years), and
- capital funding ratio (proposed renewal + acquisition budget for the next 10 years / forecast renewal + acquisition costs for next 10 years
- medium term forecast costs/proposed budget (over 10 years of the planning period). This includes all anticipated costs i.e. operations, maintenance, renewal, upgrade & disposal.

Asset renewal funding ratio

Asset Renewal Funding Ratio 90.63% pa shortfall \$510,220

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 100.0% of the funds required for the optimal renewal of assets.

Capital funding ratio

Capital Funding Ratio 85.63% pa shortfall \$1,039,000

This ratio is particularly **important** for Council since the renewals are directly linked to acquisitions (upgrades) associated with the Township Road network and Open Space asset groups.

Medium Term (10 year) Forecast total costs v budget (not including acquisitions)

This Asset Management Plan identifies the forecast acquisition, operations, maintenance, renewal and disposal costs 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.

This forecast work can be compared to the proposed budget over the 10 year period to identify any funding shortfall.

The forecast acquisition, operations, maintenance, renewal and disposal costs over the 10 year planning period is \$7,986,076 on average per year.

The proposed (budget) operations, maintenance, renewal and disposal funding is \$7,318,585 on average per year giving a 10 year funding shortfall of \$667,491 per year. This indicates that 92% of the forecast costs needed to provide the services documented in this Asset Management Plan are accommodated in the proposed budget. Fig 5 illustrates forecast operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets) against funds available via the current LTFP. Note that all costs are shown in real values.

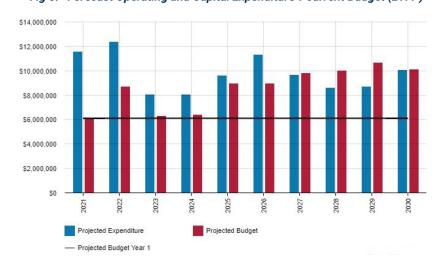


Fig 5. Forecast Operating and Capital Expenditure v current Budget (LTFP)

The solid black line in Fig 5 reflects the LTFP budget line in the year 2020/21 which is the first year of this AMP. The difference between the red bars (projected budget) and this black line generally accounts for the adjustment (increase) to the LTFP that has been made in response to the development of this plan. The current LTFP is for the period 2021/22 to 2030/31 whereas this plan is for the period 2020/21 to 2029/30, accordingly the full increase in the LTFP figures are not reflected in this plans 10 year term.

The difference between the forecast and the budget over the 10 years of this plan is principally due to:

- Growth in maintenance & operations costs associated with donated assets, Council funded new assets (footpath & stormwater) and increases in levels of service.
- No funding directed to defined level of service increases (upgrade—acquisition) associated with Township road upgrades at next reseal date
- Recent adjustment to LTFP did not include allowance for footpath and stormwater new infrastructure.

Forecast costs (outlays) for the Long Term Financial Plan

The table below shows the estimated forecast costs (outlays) for incorporation into Councils revised 10 year long-term financial plan and compares the forecast to the provisions within the current LTFP (Budget)

Year	Forecast Acquisition	Forecast Operation	Forecast Maintenance	Forecast Renewal	Total Forecast	Total Budget	Annual Shortfall	Cumulative Shortfall
2021	1,519,053	940,770	1,445,063	7,637,518	11,542,404	6,115,144	5,427,260	5,427,260
2022	4,130,666	948,562	1,446,495	5,795,834	12,321,557	8,700,751	3,620,806	9,048,067
2023	1,108,621	964,604	1,466,238	4,472,286	8,011,748	6,288,499	1,723,249	10,771,316
2024	1,240,346	994,084	1,479,589	4,315,765	8,029,784	6,378,440	1,651,344	12,422,660
2025	1,800,163	1,023,797	1,494,298	5,245,316	9,563,573	8,913,973	649,600	13,072,260
2026	2,773,317	1,056,549	1,509,774	5,944,007	11,283,646	8,913,526	2,370,120	15,442,380
2027	1,656,126	1,091,239	1,530,509	5,367,096	9,644,970	9,769,333	-124,363	15,318,017
2028	1,585,511	1,119,834	1,549,878	4,345,899	8,601,122	9,976,367	-1,375,245	13,942,772
2029	1,024,504	1,123,344	1,557,542	4,981,832	8,687,222	10,652,886	-1,965,664	11,977,108
2030	1,046,181	1,123,980	1,564,892	6,324,165	10,059,217	10,073,825	-14,608	11,962,500

Key Assumptions in Financial Forecasts

In compiling this Asset Management Plan, it was necessary to make some assumptions. This section details the key assumptions made in the development of this AM plan and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this Asset Management Plan are:

- A review of available data has found that the bridges, sheeted roads, buildings, & CWMS, asset groups have unsuitable data for renewal planning purposes and accordingly an estimated renewal forecast only has been made against these assets.
- No field inspections have been made against any assets to confirm remaining life estimates.
- Significant adjustment has been made to componentisation, useful lives and unit rates used within Councils valuation register to derive a realistic renewal program for seals and payements.
- As part of IAMP Council has included \$1.196m in future grant funding predictions as additional income that would fund projects for asset upgrade. This inclusion of grant funding will partially bridge the funding gap. Projects where grant funding has been identified will only progress subject to external funding. Should Council be unable to attract external funding these projects will not proceed and will be reprioritised

Improvement Plan

The Technical AMP Summary Annexures to this Plan contain detailed costed improvement plans. The following list includes some of the most critical improvements identified in the development of this plan.

- Re audit the road network with a view to develop detailed project level costs over a 5 year period based on Councils service levels
- Undertake bridge inspection & develop costed renewal and upgrade program
- · Review of unit rates & valuation methodology
- Undertake utilisation review of all Council buildings including condition state with a view to consolidation
- Undertake review of playgrounds & open space throughout the Council with a view to prioritised renewal planning
- CWMS: Undertake study to model growth against existing schemes.





Financial Summary & Improvement

Capital Renewals Only



90.6% of estimated required costs are budgeted

\$5.44m

average annual required renewal

\$0.51m annual average shortfall

Capital Renewals + Upgrades Only



It is important to consider the total capital funding as an indicator since renewals are directly linked to upgrades (acquisition) for township roads and open space infrastructure.

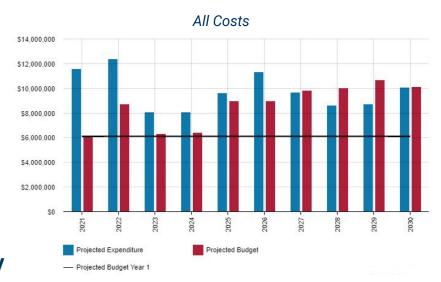
86% of estimated required costs are budgeted

\$7.231m

average annual required renewal + upgrade

\$1.038m annual average shortfall

10 Year Planning Period



Improvements

- Re audit the road network with a view to develop detailed project level costs over a 5 year period based on Councils service levels
- Undertake bridge inspection & develop costed renewal and upgrade program
- Review of unit rates & valuation methodology
- Undertake utilisation review of all Council buildings including condition state with a view to consolidation
- Undertake review of playgrounds & open space throughout the Council with a view to prioritised renewal planning
- CWMS: Undertake study to model growth against existing schemes.
- CWMS: Upgrade of Lagoons (Kapunda & Greenock) to be investigated and costed
- Update this AMP

All Estimated Costs



\$9.774m annual average forecast

\$8.578m annual average budget

\$1.196m annual average shortfall

88% of required funds

Reasons for the shortfall include:

- Growth in maintenance & operations costs associated with donated assets, Council funded new assets (footpath & stormwater) and increases in levels of service
- No funding directed to defined level of service increases (upgrade—acquisition) associated with Township road upgrades at next reseal date
- Recent adjustment to LTFP did not include allowance for footpath and stormwater new infrastructure.