CITY OF PROSPECT

Asset Management Plan Summary

2021—2031

Document Control					
Rev No	Date	Revision Details	Author	Reviewer	Approver
1	24/01/21	Initial draft & final document	SW (AE)		

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Institute of Public Works Engineering Australia

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

asset engineering

What is an Asset Management Plan ?

An Asset Management Plan is a comprehensive document that outlines how Council will operate, maintain, renew and dispose of its existing assets together with providing for new assets to ensure that:

- Services delivered by assets are sustainably provided to the community
- Risks associated with service provision are minimised
- Lifecycle costs are contained

The Asset Management Plan achieves this through analysing costs associated with the key lifecycles of an asset being:

- ACQUISITION
- OPERATION
- MAINTENANCE
- RENEWAL
- DISPOSAL

The Asset Management Plan links costs to levels of service and risks associated with service provision. The plan compares funds available via Council's Long Term Financial Plan (LTFP) as the basis for analysis and aims to influence future revisions of the LTFP from the analysis

Executive Summary

Background

The City of Prospect Asset Management Plan comprises the following documents

- This high level summary document
- Annexures to this document—'Technical Asset Management Plans'
  - Buildings
  - Footpaths
  - Open Space
  - Seal / Pavement / Kerb
  - Stormwater

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

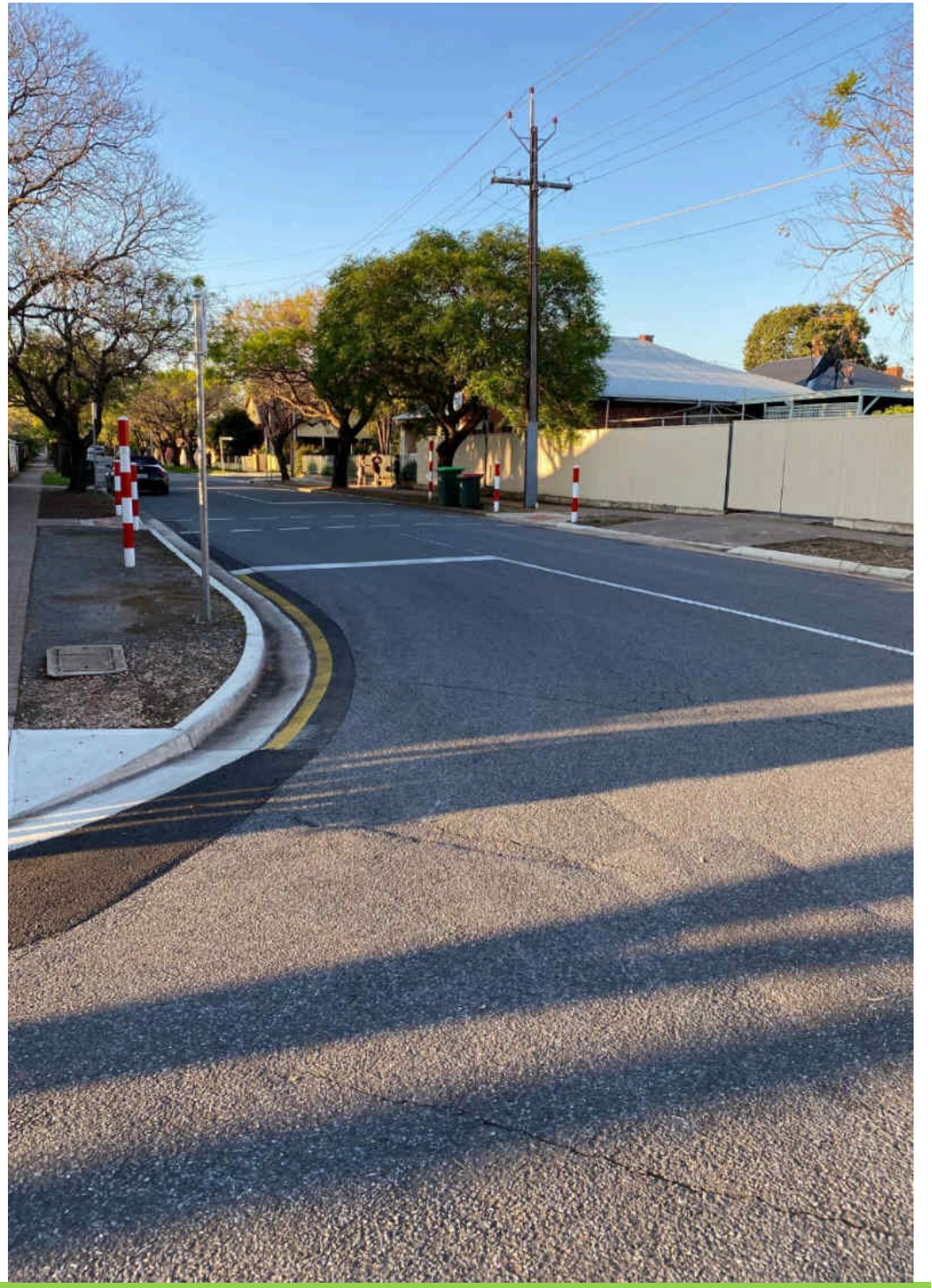
The plan has been developed using the best available information to derive a sustainable renewal program based on defined service levels and exposure to risk. The key areas of Levels of Service, Future Demand and Risk have been established via workshops with Council Staff and Elected Members.

The preparation of this series of asset management plans has been used to inform the development of the current long term financial plan through consideration of least life cycle cost techniques with particular attention to service levels. This has resulted in an effective doubling of the funds available for infrastructure.

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

Assets Covered by this Plan

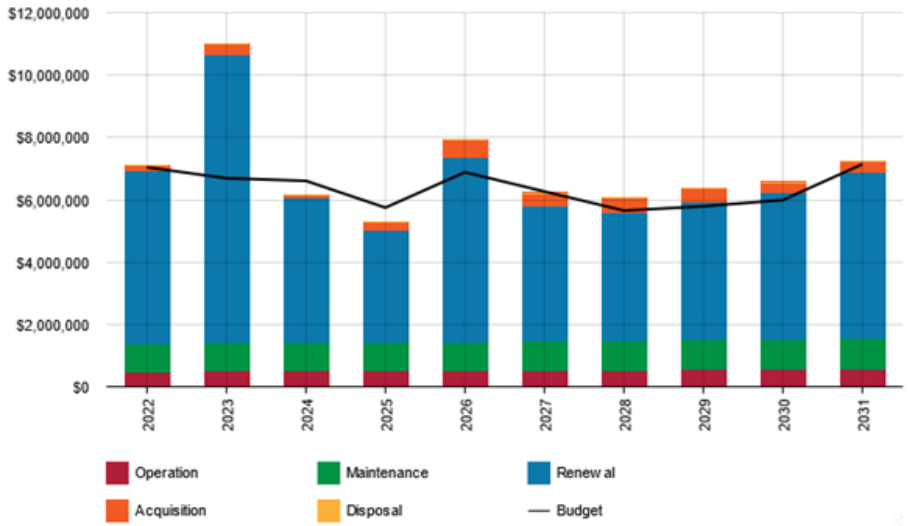
Asset Group	Extent
Stormwater	40.9 km pipes, 1,052 pits
Footpaths	249 km
Roads	89 km, 195 km kerb
Buildings	67
Open Space	Playgrounds, structures, sports courts, and park furniture



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 $ or $6,987,855 on average per year.

The available budget for this period is $63,799,469 or $6,379,947 on average per year which is 91.3% of the cost to provide the service. This equates to a funding deficit of $607,907 on average per year. Forecast expenditure required to provide services in the AMP compared with budgeted expenditure currently included in the Long Term Financial lan are shown in the graph below.

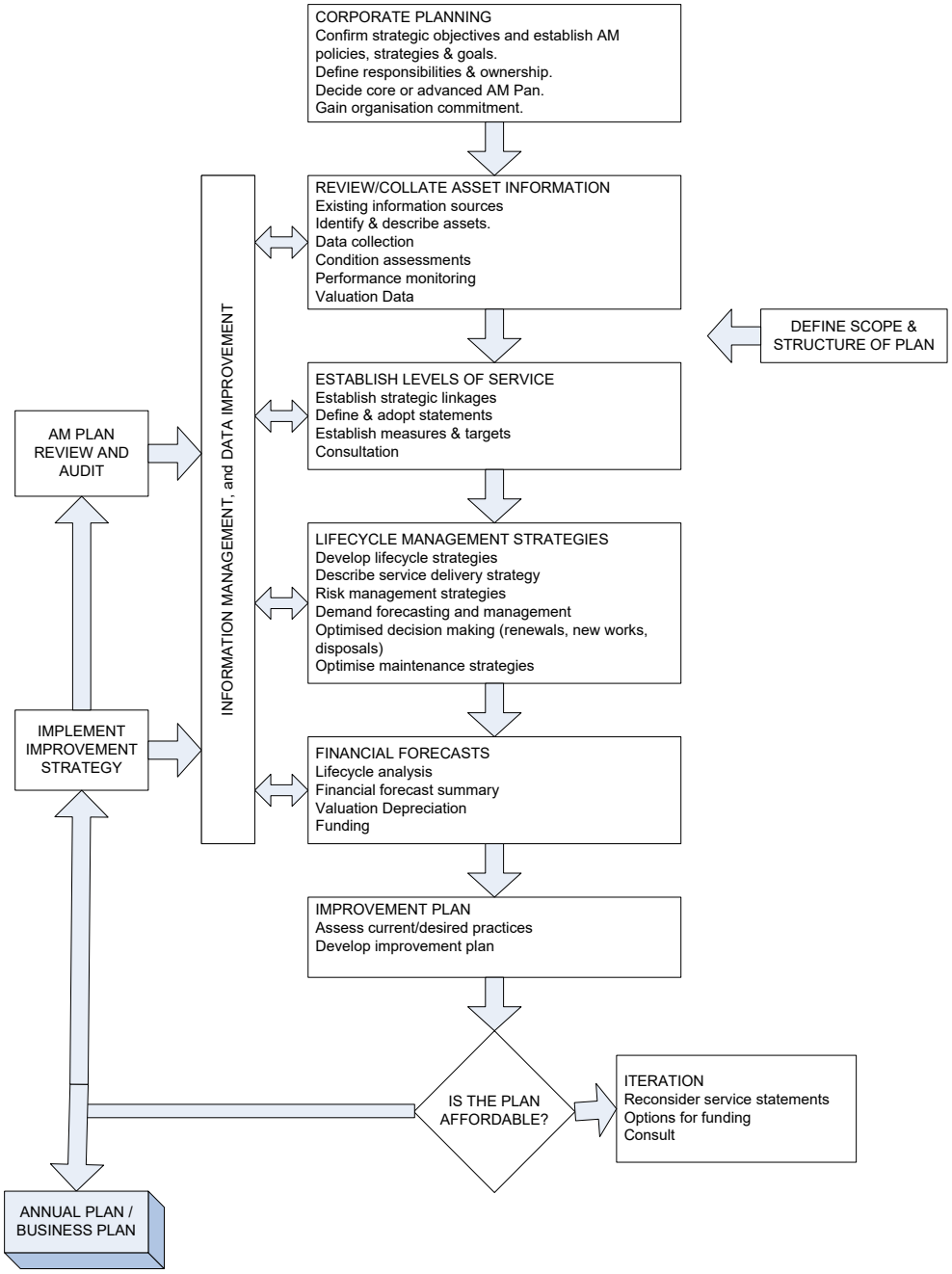


The next steps

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

- Undertake a review of service levels for buildings together with a DDA audit
- Re audit the road, kerb and footpath network with a view to develop detailed project level costs over a 5 year period based on Councils service levels
- Develop a land acquisition and disposal strategy
- Incorporate traffic control devices into this plan
- 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



City of Prospect Assets

Diverse assets

REPLACEMENT VALUE

(valuation)

$246m

91.3%

of forecast funds in budget:

$607km annual short-fall

SERVICES PROVIDED

89km of roads, 195km kerb

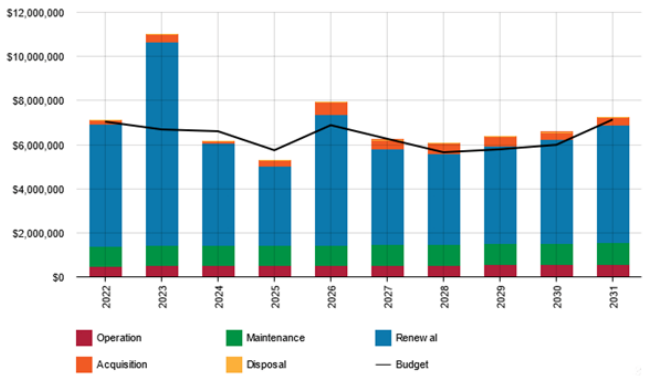
249km footpaths

Stormwater Pipes 40.9 km

Stormwater Pits 1,052

Buildings—67

Open Space: Playgrounds, structures, sports courts and park furniture



LIFECYCLE COSTS

Total **forecast** over 10 years:

$69.88m

Total **budget** over 10 years:

$63.80m

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 Plans (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 measure	Current feedback	Expected trend based on planned budget

It is generally expected that Customer Values will gradually increase over time commensurate with the doubling of funding being allocated to infrastructure allocated through the development of these plans and revision of the LTFP.

Customer

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?

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected trend based on planned budget

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;

It is generally expected that the 'Expected trend based on planned budget' will indicate a gradual increase in 'Customer Levels of Service' given that Council has increased its budget devoted to infrastructure spending substantially.

Technical

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),

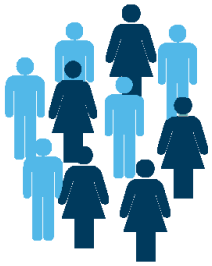
Renewal – the activities that return the service capability of an asset up to that which it had originally provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement).

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;

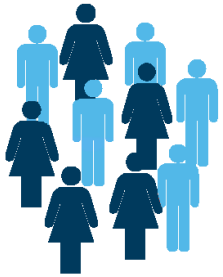
Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance	Recommended Performance

Levels of Service

What the customer values



Customer



Values

- Smooth roads
- Clean streets
- Safe footpaths
- No flooding
- Clean facility
- Fit for purpose functionality
- 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 increase	general increase	steady
Confidence	moderate	moderate	moderate

How we can influence the customer LoS

Technical

	Existing $ pa	Required $ pa	% Funded
ACQUISITION	$387k av.	$341k av.	113%
OPERATION	$487k av.	$530k av.	94%
MAINTENANCE	$905k av.	$940k av.	96%
RENEWAL	$4.59m av.	$5.18m av.	89%
DISPOSAL	$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 Plans (Annexures to this document).

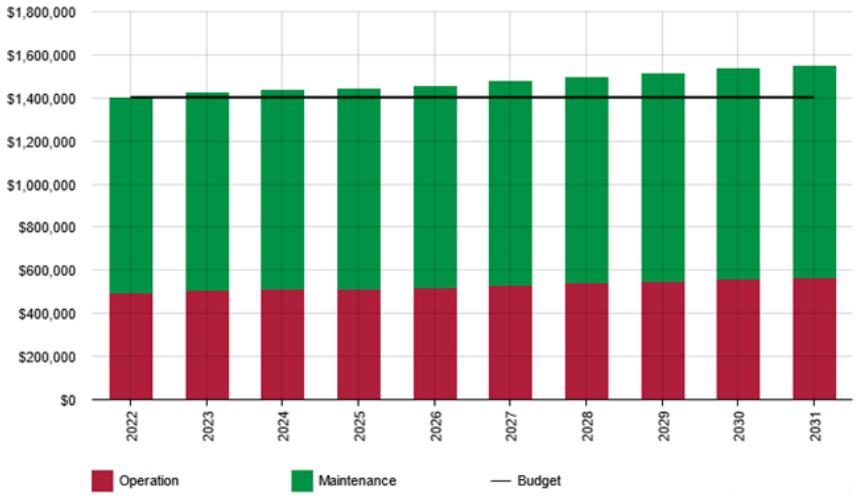
OPERATION

MAINTENANCE

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 2021/2022 dollar values with no adjustment for CPI.

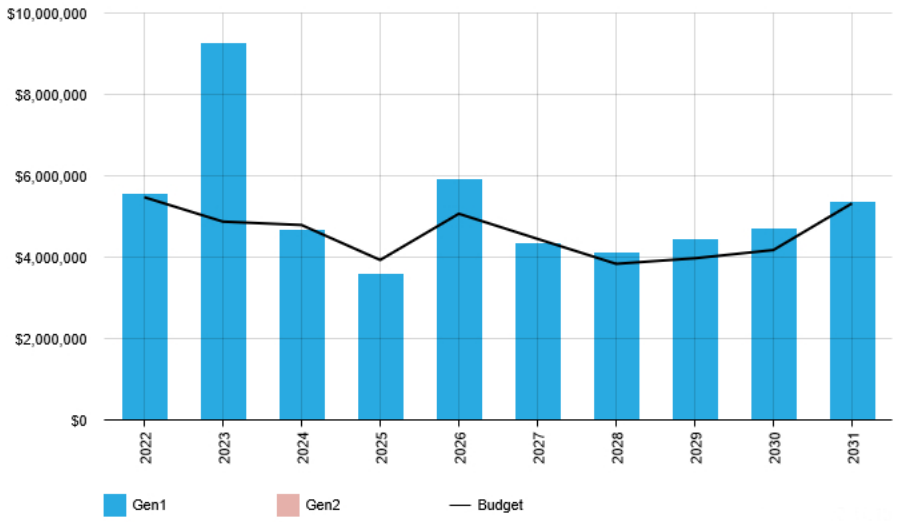
Figure 1 Operations and Maintenance Summary



RENEWAL

The costs associated with renewal are summarised in Fig 2. Note that all costs are shown in current 2021/22 dollar values.

Figure 2 Forecast Renewals



The renewals have been defined based on best available information to derive a realistic renewal program based on interventions driven by level of service considerations. The following are some important notes relating to the formation of the renewal program;

- A review of available data has found that the buildings and kerbing 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.

The Technical Asset Management Plans further discusses 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's, attached as Annexures to this overarching summary document.

These demand factors give rise to the following key acquisitions and donated assets;

- Upgrades to playgrounds and associated open space assets at the next renewal time (Council funded)
- Additional stormwater assets to mitigate flooding in the network identified by the Barker Inlet Central Stormwater Management Plan (Donated assets)

These additions to Councils network (Council funded + donated) have an impact on the maintenance and operations funds required by Council to continue to manage the network.

Figure 3 Forecast & Budgeted Acquisition

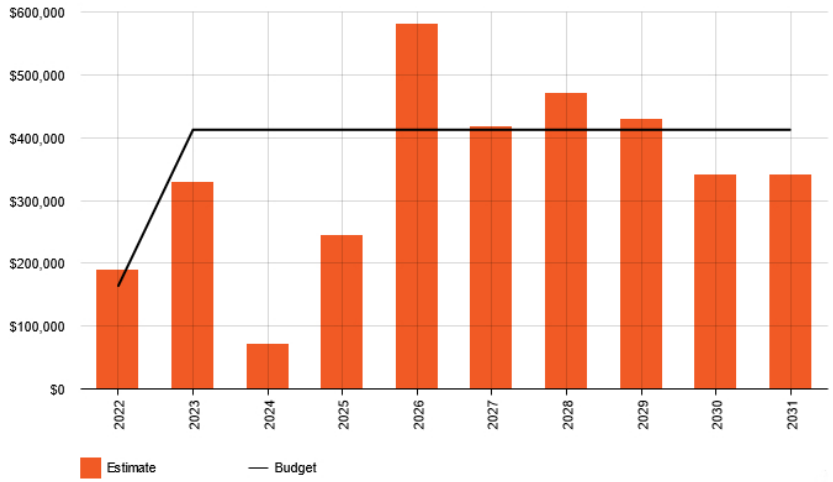


Figure 3 illustrates the following:

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

Figure 4 Acquisition Summary

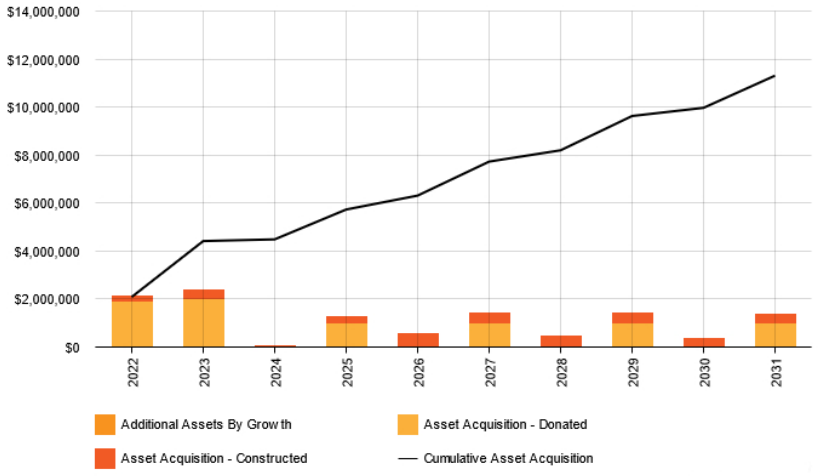


Figure 4 illustrates the following:

- Acquisition Constructed: new / upgrades constructed using Council funds (light orange)
- Donated assets (orange)
- Cumulative new assets for which Council will be responsible for (black line)

DISPOSAL

No disposals are planned over the term of this AMP

Lifecycle Management

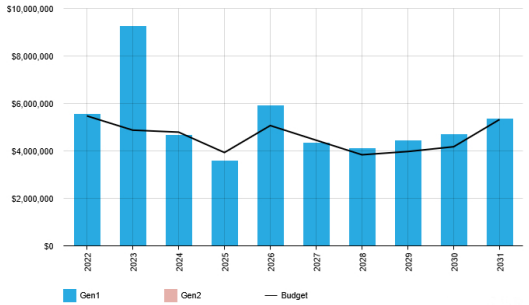
DISPOSAL

Demolition / disposal of existing assets

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

RENEWAL

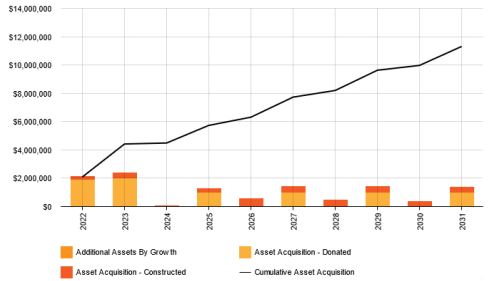
Replacement of assets to the same service levels



The renewal program has been derived from the best available data that Council has at hand currently but further work is required to develop a detailed project based program of works. It is anticipated that the renewal program will gradually improve the levels of service provided by infrastructure as least lifecycle cost methods are employed in managing the network and renewal timing.

ACQUISITION

New or substantially upgraded assets

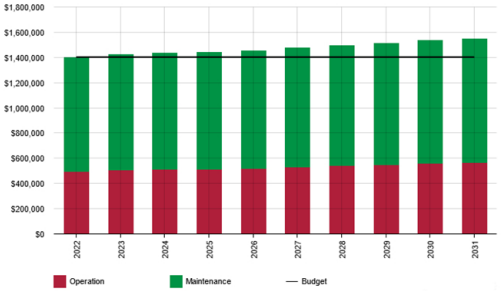


New assets have been derived from the following sources;

- upgrades to open space playgrounds and reserves
- additional stormwater assets to mitigate flooding in the network

MAINTENANCE

OPERATION



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

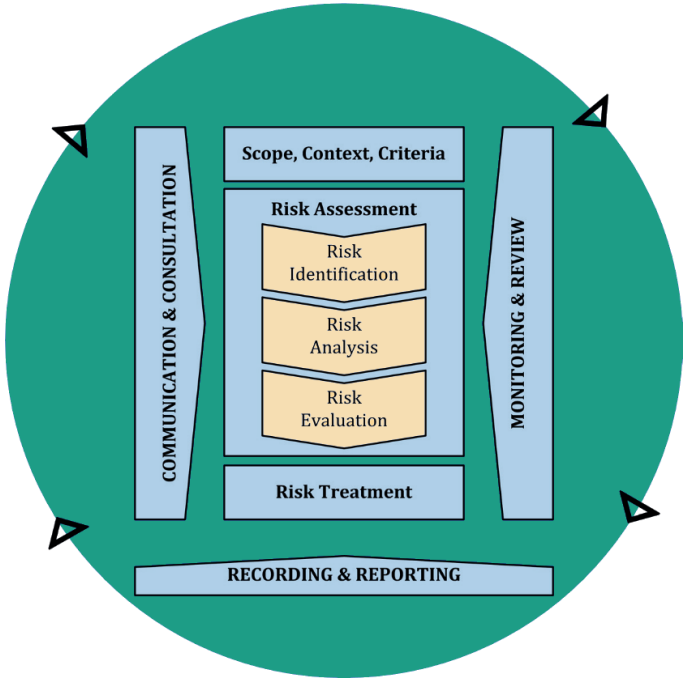
Risk Management

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 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
Buildings	Buildings may be non-compliant with DDA and fire prevention requirements	H	Undertake DDA and fire prevention audit
Buildings	Building collapse or forced demolition	H	Undertake structural investigation of buildings
Footpaths	Renewal and maintenance program has not been developed or optimised	H	Undertake field and associated desktop audit to develop proactive programs
Open Space	Open space provision is inadequate to meet the needs of the community	H	Develop a land acquisition and disposal strategy Review open space strategy
Open Space	Open space provision is inadequate to meet the needs of the community	H	Develop a land acquisition and disposal strategy Review open space strategy
Road: seal pavement & kerb	Increase in lifecycle costs due to project level planning not identifying optimized renewal requirements.	H	Undertake development of a 5 year project level rolling works program (incorporating kerb replacement) derived from a detailed inspection of the road network
Stormwater	Potential collapse	H	Council has undertaken a condition assessment (via camera survey) of 40% of its drainage network. This audit has found approximately $3.1m of pipes in condition 4 or 5. Funds are not yet available via Council's LTFP for renewal of these conduits
Stormwater	Flooding	H	Council has developed the Barker Inlet Stormwater Management Plan which details required works ($26m) across the network to mitigate flooding.

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:

- Cannot address all potential DDA compliance issues
- Lift the service level of all footpaths, roads and kerbs within the 10 years of the AMP
- Undertake significant renewals on reserves that rea not defined in the open space strategy
- Provision of additional open space
- Lift the maintenance budget for footpaths, roads and kerbs to industry standard levels
- Cannot renew stormwater pipes in condition 4 or 5 as detailed in the condition audit
- Cannot

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:

- There may be issues limiting access to buildings by people with a disability
- Footpath, roads and kerb maintenance not undertaken in a timely manner
- Some open space assets that are currently not identified will continue to decline in condition
- Ongoing potential for stormwater flooding

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:

- Potential for additional risks of premature structural failure of buildings
- Low footpath, road and kerb maintenance will realise greater exposure to hazards.
- Inadequate open space provided to satisfy the needs of the growing community particularly in new high density settings
- Potential for stormwater pipe collapse

Risk Management

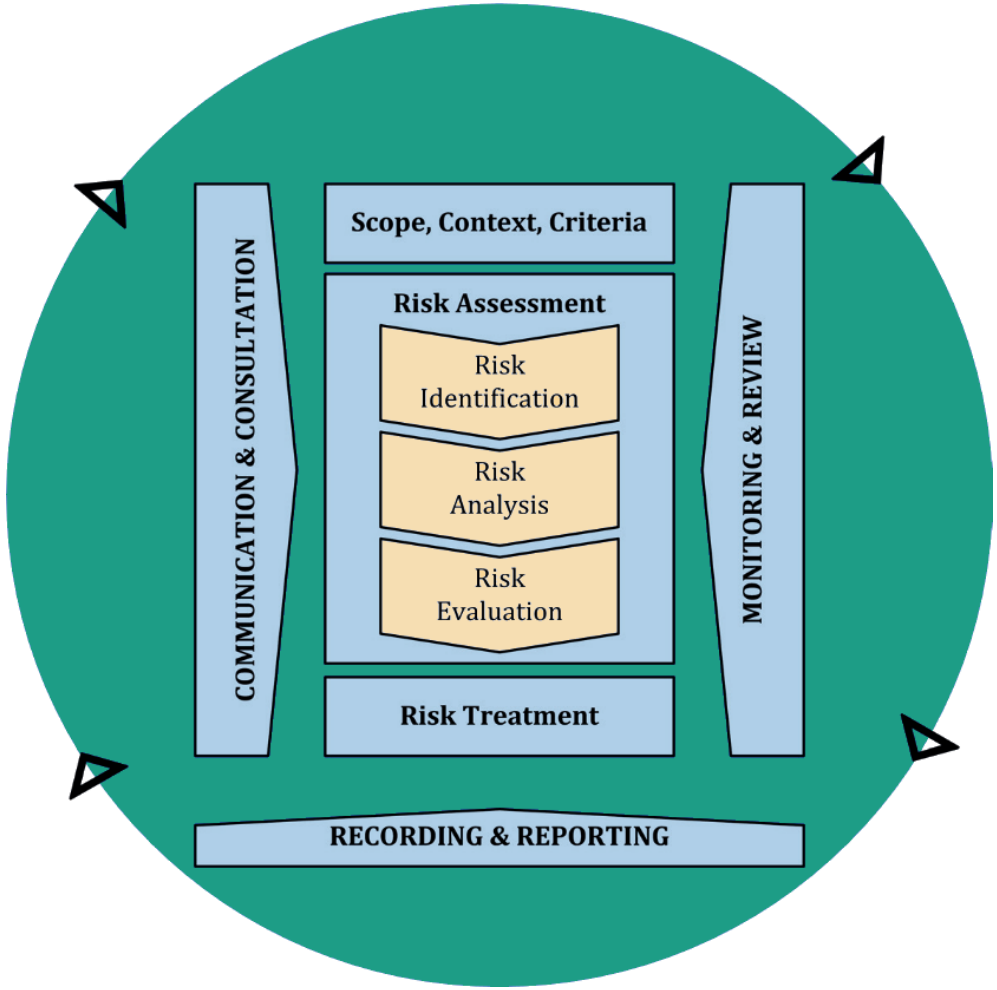
Risk Assessment

Further work is required to identify additional risks as follows:

- Disability access and fire prevention requirements for buildings.
- Structural integrity of buildings
- Project based planning on footpaths, roads and kerbs

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 DDA and fire prevention audit of buildings
- Undertake structural investigation of buildings
- Inspect all roads, kerbs and footpaths and develop costed 5 year project based works program.

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	$246,105,680
Depreciated Replacement Cost (written down value)	$140,609,168
Annual Depreciation	$ 4,156,676

These figures are based on Councils updated Valuation Register

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	88.67%	pa shortfall	$586,606

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.

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

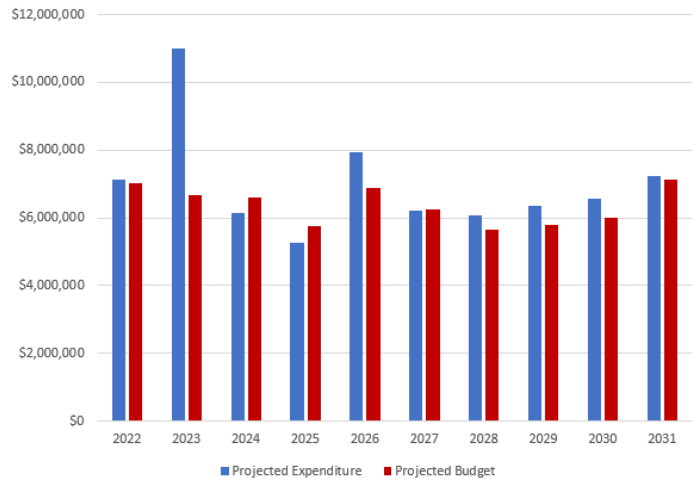
This Asset Management Plan identifies the forecast acquisition, operations, maintenance, renewal and disposal costs required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services 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 $6,987,854 on average per year.

The proposed (budget) operations, maintenance, renewal and disposal funding is $6,379,947 on average per year giving a 10 year funding shortfall of $607,907 per year. This indicates that 91% 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)



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
2022	188,250	497,669	905,148	5,525,914	7,116,981	7,039,661	-77,320	-77,320
2023	328,875	504,944	913,428	9,242,898	10,990,145	6,689,668	-4,300,477	-4,377,797
2024	70,500	513,322	923,006	4,649,623	6,156,450	6,606,124	449,674	-3,928,123
2025	243,750	514,732	924,416	3,588,895	5,271,792	5,746,301	474,509	-3,453,614
2026	580,500	520,507	930,791	5,895,670	7,927,467	6,883,014	-1,044,453	-4,498,067
2027	416,250	532,117	942,401	4,315,108	6,205,875	6,265,522	59,647	-4,438,420
2028	471,000	541,342	952,226	4,100,997	6,065,564	5,651,934	-413,630	-4,852,050
2029	429,000	550,762	961,646	4,415,673	6,357,080	5,788,411	-568,669	-5,420,719
2030	341,016	560,242	971,726	4,689,308	6,562,291	5,991,017	-571,274	-5,991,993
2031	341,016	567,062	978,546	5,338,275	7,224,898	7,137,817	-87,081	-6,079,074

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:

- Availability of grant funding
- Existing maintenance expenditure is considered adequate although by industry standards it is low
- Data used to develop renewals has been based on differing assumptions with relation to useful lives and unit rates
- Pavement renewals based on consideration of network useful lives and rates
- Kerb renewals based on average kerb percentage renewals associated with resealing program
- Council funds will be spent on renewals rather than acquisitions when works are undertaken on expansion of the existing stormwater network

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.

- Undertake a review of service levels for buildings together with a DDA audit
- Re audit the road, kerb and footpath network with a view to develop detailed project level costs over a 5 year period based on Councils service levels
- Develop a land acquisition and disposal strategy
- Incorporate traffic control devices into this plan
- Update this AMP

Financial Summary & Improvement

Capital Renewals Only

RENEWAL

88.7% of estimated required costs are budgeted

$5.18m

average annual required renewal

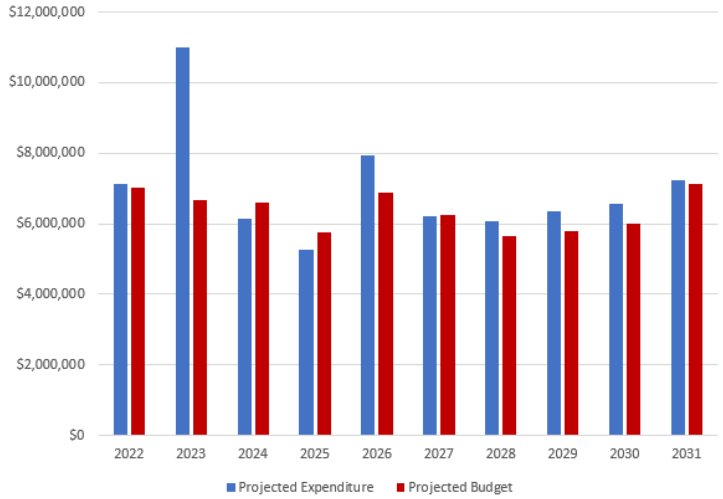
$0.59m annual average shortfall

Assumptions

- Availability of grant funding
- Existing maintenance expenditure is considered adequate although by industry standards it is low
- Data used to develop renewals has been based on differing assumptions with relation to useful lives and unit rates
- Pavement renewals based on consideration of network useful lives and rates
- Kerb renewals based on average kerb percentage renewals associated with resealing program
- Council funds will be spent on renewals rather than acquisitions when works are undertaken on expansion of the existing stormwater network

10 Year Planning Period

All Costs



Improvements

- Undertake a review of service levels for buildings together with a DDA audit
- Re audit the road, kerb and footpath network with a view to develop detailed project level costs over a 5 year period based on Councils service levels
- Develop a land acquisition and disposal strategy
- Incorporate traffic control devices into this plan
- Update this AMP

All Estimated Costs

ACQUISITION
OPERATION
MAINTENANCE
RENEWAL
DISPOSAL

$6.987m annual average forecast

$6.380m annual average budget

$0.607m annual average shortfall

91% of required funds

Reasons for the shortfall include:

- Growth in maintenance & operations costs associated with donated assets, Council funded new assets (open space).
- Timing between development of this AMP and revision of the current LTFP