



# **ASSET MANAGEMENT PLAN**

Liverpool Plains Shire Council

Transportation

Document Control	Asset Management Plan
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## **1.0 EXECUTIVE SUMMARY**

### **1.1 The Purpose of the Plan**

Asset management planning is a comprehensive process ensuring delivery of services from infrastructure is financially sustainable.

This Asset Management Plan (AM Plan) details information about infrastructure assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide over the 20 year planning period. The Asset Management Plan will link to a Long-Term Financial Plan which typically considers a 10-year planning period.

This plan covers the infrastructure assets that provides transportation services throughout the Council area, inclusive of the urban and rural stormwater networks.

### **1.2 Asset Description**

The transportation network comprises:

- Sealed local roads
- Sealed regional roads
- Unsealed local roads
- Major earthworks (cut/fill >2m)
- Bridges
- Major and minor culverts
- Causeways
- Urban stormwater
- Kerb & gutter network
- Footpath network
- Crash barriers
- Road signage
- Guide posts

The above infrastructure assets have significant total renewal value estimated at \$461,594,592.

The nature of transportation assets is that they are inherently long life assets. The result of this is that they can provide a high level of service for an extensive period with routine maintenance. However, these assets are aging with many of them reaching end of their useful lives within the planning period of this AM Plan. This results in a spike in renewal costs that will be experienced. This spike is not able to be funded, with this AM Plan proposing a recurrent expenditure where the assets most in need are renewed each year.

### **1.3 Levels of Service**

The allocation in the planned budget is sufficient to continue providing existing services at current levels for the planning period. However, it is noted that this plan utilises low cost renewal methods to achieve Council's renewal targets. When compared to depreciation, this plan will show a lower than 100% renewal ratio, which is a result of the conflict between asset management planning, and the prevailing accounting standards.

The main service consequences of the Planned Budget are:

- Reliant on grant funding to extend kerb and gutter network
- Reliant on grant funding to deliver adopted Pedestrian Access Movement Plan and Bike Plan

## 1.4 Future Demand

The factors influencing future demand and the impacts they have on service delivery are created by:

- Increase in community expectations
- Increase in heavy vehicle loadings due to changes in legislation
- Climate change resulting in shorter and sharper storms

These demands will be approached using a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures.

- Communication of services Council can sustainably deliver to community
- Development of arterial routes to provide for heavy vehicles
- Management of road access to ensure only suitable heavy vehicles are permitted
- Liverpool Plains Shire Council Local Environmental Plan
- Review of service levels

## 1.5 Lifecycle Management Plan

### 1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AM Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AM Plan may be prepared for a range of time periods, it typically informs a Long-Term Financial Planning period of 10 years. Therefore, a summary output from the AM Plan is the forecast of 10-year total outlays, which for the transportation asset class is estimated as \$117,006,928 or \$11,700,693 on average per year.

## 1.6 Financial Summary

### 1.6.1 Special Rate Variation

This AM Plan has been prepared on the basis of Council receiving the proposed Special Rate Variation (SRV) of 8% in 2021/22, 8% in 2022/23, and 8% in 2023/24. Without this SRV, this AM Plan will have a renewal funding gap of \$11,744,480 over the 10 year period. This would result in Council having to defer renewal works, and increase reactive maintenance such as heavy patching, resulting in reduced service levels.

Over the previous 5 years, Council's asset renewal ratio reported in Special Schedule 7 has averaged 56.62%. This demonstrates that our current funding levels are not sustainable.

Without the SRV, Council's transportation network will continue to deteriorate under the increasing heavy loads as Council is unable to fund renewals as they fall due. Council would be reliant on grant funding to ensure its transportation assets remain in a suitable condition.

### 1.6.2 What we will do

Estimated available funding for the 10 year period is \$115,748,152 or \$11,574,815 on average per year as per the Long-Term Financial plan or Planned Budget. This is 98.92% of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The Informed decision making depends on the AM Plan emphasising the consequences of Planned Budgets on the service levels provided and risks.

The anticipated Planned Budget for transportation assets leaves a shortfall of \$125,878 on average per year of the forecast lifecycle costs required to provide services in the AM Plan compared with the Planned Budget currently included in the Long-Term Financial Plan. This is shown in the figure below.

### Forecast Lifecycle Costs and Planned Budgets

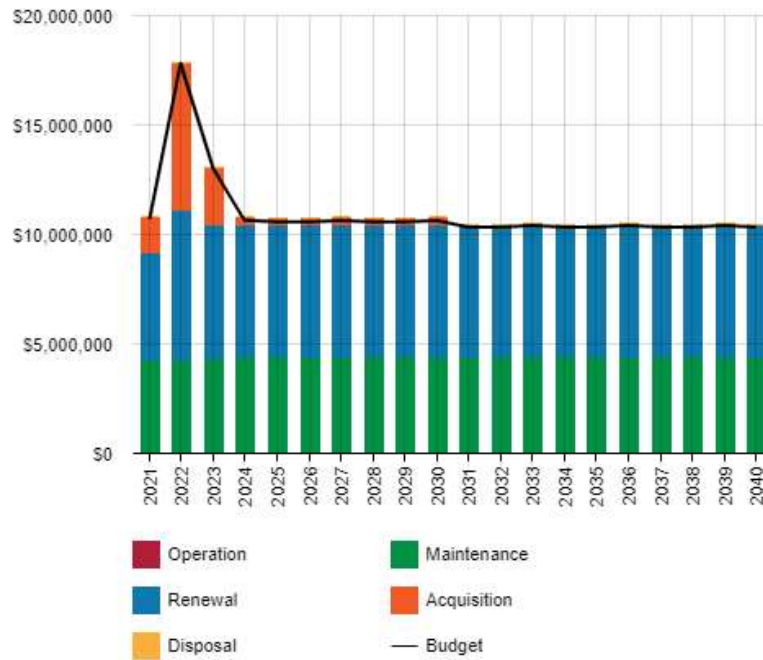


Figure Values are in current dollars.

We plan to provide transportation services for the following:

- Operation, maintenance, renewal and upgrade of local and regional roads, bridges, culverts, urban stormwater, kerb & gutter and foot and shared paths to meet service levels set by in annual budgets.
- Construction of Werris Creek Industrial Precinct Southern Access, construction of new causeways, 100km of sealed road rehabilitation within the 10-year planning period.

#### 1.6.3 What we cannot do

We currently do **not** allocate enough budget to sustain these services at the proposed standard or to provide all new services being sought. Works and services that cannot be provided under present funding levels are:

- Extension of the sealed road network
- Extend our footpath network
- Major upgrade works on the local and regional road network

#### 1.6.4 Managing the Risks

Our present budget levels are sufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Deterioration of the road network due to heavier vehicles and warmer temperatures
- Litigation from property damage
- Litigation from public injury/fatality

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

- Prioritise works based on traffic volumes and speed environment
- Aggressively seek external funding for further works

### **1.7 Asset Management Planning Practices**

Key assumptions made in this AM Plan are:

- Council's current asset register is complete
- That Council will be able to undertake the renewals 'in house'
- Current valuation data is accurate
- That Council will receive approval for the SRV

Assets requiring renewal are identified from either the asset register or an alternative method.

- The timing of capital renewals based on the asset register is applied by adding the useful life to the year of acquisition or year of last renewal,
- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems and may be supplemented with, or based on, expert knowledge.

The alternate method was used to forecast the renewal lifecycle costs for this AM Plan.

This AM Plan is based on a reliable level of confidence information.

### **1.8 Monitoring and Improvement Program**

The next steps resulting from this AM Plan to improve asset management practices are:

- Undertake community satisfaction survey
- Undertake ground truthing of asset register to confirm assets owned by Council
- Determine asset age data
- Undertake transportation revaluation
- Incorporate asset financial data into Long Term Financial Plan
- Improve capture of Operations Costs



## **2.0 Introduction**

### **2.1 Background**

This AM Plan communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the planning period.

The AM Plan is to be read with the Liverpool Plains Shire Council planning documents. This should include the Asset Management Policy and Asset Management Strategy, where developed, along with other key planning documents:

- Community Strategic Plan 2017 - 2027
- Long Term Financial Plan
- Local Environmental Plan
- Workforce Plan

Asset Management within Council has not been its prime focus for several years. This has led to asset register data being outdated, and revaluations lagging schedule. This AM Plan will provide Council with a Core level of maturity in Asset Management.

The infrastructure assets covered by this Asset Management Plan include sealed roads, unsealed roads, urban stormwater network, footpaths, kerb & gutter. Given Council's large geographic area, there is an extensive road network for our population. Coupled with the Liverpool Plains reliance on agriculture, the road network is under strain due to its length, and the seasonal nature of the loading. For a detailed summary of the assets covered in this Asset Management Plan refer to Table in Section 5.

These assets are used to provide transportation and stormwater management services.

The infrastructure assets included in this plan have a total replacement value of \$461,594,592.

Key stakeholders in the preparation and implementation of this AM Plan are shown in Table 2.1.

**Table 2.1: Key Stakeholders in the AM Plan**

Key Stakeholder	Role in Asset Management Plan
Councillors	<ul style="list-style-type: none"> <li>■ Represent needs of community/shareholders</li> <li>■ Endorsement of the asset management policy and plans</li> <li>■ Allocate financial resources to meet planning objectives in providing services while managing risks</li> <li>■ Ensure service is sustainable</li> </ul>
General Manager	<ul style="list-style-type: none"> <li>■ Allocate human resources to meet planning objectives in providing services while managing risks,</li> <li>■ To ensure that all staff are educated in asset management and that responsibilities are communicated to staff</li> <li>■ To provide leadership and coordination for the implementation of asset management across the business units</li> <li>■ To raise awareness and provide education of asset management across Council</li> </ul>
Director Engineering Services	<ul style="list-style-type: none"> <li>■ To develop, review and oversee the Asset Management Policy and Asset Management Plans</li> <li>■ To implement the improvement activities identified within the plan</li> <li>■ Ensure that all asset data is kept up to date and inspections are undertaken in accordance with the agreed levels of service</li> <li>■ Develop 10 year Capital Works plans and budgeting</li> </ul>
LPSC Staff	<ul style="list-style-type: none"> <li>■ Verify the size, location, and condition of assets</li> <li>■ Provide local knowledge detail on all infrastructure assets</li> <li>■ Capital Works, Operations and Maintenance management to meet agreed service levels</li> <li>■ Liaison internally with Executive Management Team with regard to asset prioritisation and planning</li> </ul>
Community	<ul style="list-style-type: none"> <li>■ Be aware of service levels and costs</li> <li>■ Participate in consultation processes</li> <li>■ Provide feedback on services</li> <li>■ End user of the assets</li> </ul>

## 2.2 Goals and Objectives of Asset Ownership

Our goal for managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,

- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are

- Levels of service – specifies the services and levels of service to be provided,
- Risk Management,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

Other references to the benefits, fundamentals principles and objectives of asset management are:

- International Infrastructure Management Manual 2015 <sup>1</sup>
- ISO 55000<sup>2</sup>

A road map for preparing an AM Plan is shown below.

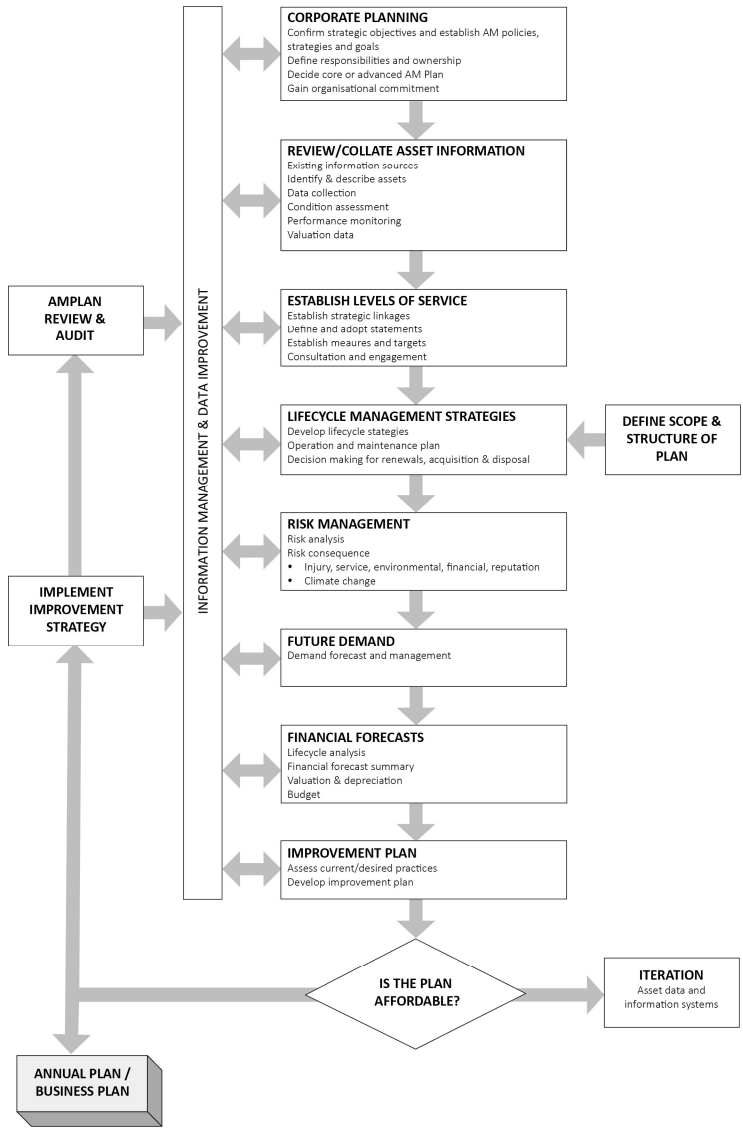
***Road Map for preparing an Asset Management Plan***

*Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11*

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<sup>1</sup> Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2 | 13

<sup>2</sup> ISO 55000 Overview, principles and terminology



### 3.0 LEVELS OF SERVICE

#### 3.1 Customer Research and Expectations

This AM Plan is prepared to facilitate consultation prior to adoption of levels of service by the Council. Future revisions of the AM Plan will incorporate customer consultation on service levels and costs of providing the service. This will assist the Council and stakeholders in matching the level of service required, service risks and consequences with the customer's ability and willingness to pay for the service. This will be managed through the community consultation for Council's Special Rate Variation proposal.

#### 3.2 Strategic and Corporate Goals

This AM Plan is prepared under the direction of the Liverpool Plains Shire Council vision, mission, goals and objectives.

Our vision is:

*In 2027 the Liverpool Plains Shire Council aspires to have a great rural lifestyle with access to quality services, strong community, council and business leadership, whilst encouraging a thriving economy and a sustainable environment to carry us on to the future.*

*To direct our Council forward, we will focus on four strategic target areas which have emerged from the Community Engagement process. These are the dynamic links that the Liverpool Plains Shire Council will plan to meet our social, environmental, economic and civic leadership necessities to foster a more enhanced, engaged community*

Strategic goals have been set by the Liverpool Plains Shire Council Community Strategic Plan 2017 – 2027. The relevant goals and objectives and how these are addressed in this Asset Management Plan are summarised in Table 3.2.

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

Goal	Objective	How Goal and Objectives are addressed in the AM Plan
1.4	Our transport and telecommunications options support our business and lifestyle	Provides better services for freight and transport on roads.
3.1	Our infrastructure is well planned and maintained and will meet our needs now and, in the future,	This plan provides for sustainable, evidence-based renewals and maintenance on our transportation network.
3.4	Our local farming is sustainable	This plan provides for the creation and maintenance of dedicated restricted access vehicle routes to improve our farmers sustainability.

#### 3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the transportation service are outlined in Table 3.3.

**Table 3.3: Legislative Requirements**

Legislation	Requirement
Local Government Act 1993 (and Regulation 2005)	Sets out the responsibilities and powers of local government to provide an accountable, effective, efficient, sustainable and open system of local government. This includes the preparation of a LTFP supported by AMPs.
Roads Act 1993 (and Regulation 2008)	Sets out the responsibilities and powers of Roads Authorities to undertake works on, and maintenance of, public roads. Council is a Roads Authority for all roads within the shire (excluding Crown Roads)
NSW Environmental Planning and Assessment Act 1979	Specifies the environmental considerations required in all development activities.
Protection of the Environment Operations Act 1997	Protects, restore and enhance the quality of the environment. Provides regulation activities, licensing and includes the monitoring and reporting on waste outputs.
Fisheries Management Act (1994)	Conserve fish stocks and habitats. Promote ecologically sustainable development, and quality recreational fishing opportunities. Provide social and economic benefits for the community.
Soil Conservation Act 1938	The objective of this Act is the conservation of soil resources and farm water resources and includes the mitigation of erosion and land degradation
Catchment Management Act 1989	Promotes the co-ordination of policies, programs and activities as they relate to total catchment management.
Native Vegetation Act (2003)	To provide for, encourage and promote the management of native vegetation, and revegetation/rehabilitation of land.
Threatened Species Conservation Act (1995)	Conserve biological diversity and promote ecologically sustainable development.
Work Health and Safety Act 2011 (and Regulations 2017)	An Act to provide for the protection of the health, safety and welfare of the workplace, workers and other persons.
Independent Pricing and Regulatory Tribunal Act 1992	This Act enables the Tribunal to determine and advise on process and pricing policy for Government monopoly services. Provides a framework and guidelines to determine developer and “user pays” charging system.
State Environmental Planning Policy (Infrastructure) 2007	This Planning Instrument provides for Council to undertake works to maintain its infrastructure with reduced approval requirements

### 3.4 Customer Values

Service levels are defined in three ways, customer values, customer levels of service and technical levels of service.

**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

**Table 3.4: Customer Values**

<b>Service Objective:</b>			
<b>Customer Values</b>	<b>Customer Satisfaction Measure</b>	<b>Current Feedback</b>	<b>Expected Trend Based on Planned Budget</b>
That roads and bridges are suitable for heavy vehicles	Number of roads/bridges load limited, number of roads available for higher productivity vehicles	Increasing higher productivity vehicles is desired across the shire	Improvement in number of roads available for higher productivity vehicles
That roads are always available	Number of road closures per year	Not measured, but captured anecdotally	Nil change
That footpaths are available as transportation options to points of interest	Number of requests for new footpaths	Not measured	Access to points of interest to improve

### 3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

**Condition**      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?

In Table 3.5 under each of the service measures types (Condition, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

These are measures of fact related to the service delivery outcome (e.g. number of occasions when service is not available or proportion of replacement value by condition %'s) to provide a balance in comparison to the customer perception that may be more subjective.

**Table 3.5: Customer Level of Service Measures**

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
<b>Condition</b>	Roughness of sealed roads	IRI < 8	Not measured	It is expected that the IRI will improve across the network
	Road network remains open at all times	Number of unplanned closures per year	Nil outside of extreme weather events	No increase in closures
	Nil trip hazards on footpath network	Joint separation <20mm	Not measured	Reduction in trip hazards
	<b>Confidence levels</b>		Low	Low
<b>Function</b>	Enable freight access across the shire with higher productivity vehicles	% roads with higher productivity vehicles are permitted	Not measured	It is expected more roads will be available for higher productivity vehicles
	No bridges with load limits imposed	Number of bridges	2	The number of load limited bridges will decrease
	Minimise number of road trauma incidents on Council roads	NSW Centre for Road Safety	7 fatalities in the last 5 years	Fatalities are expected to decrease
	<b>Confidence levels</b>		Medium	Low
<b>Capacity</b>	Bridges are structurally capable of handling heavy vehicle loads	Number of bridges load limited	2	The number of load limited bridges will decrease
	Traffic congestion kept to a minimum	Function and capacity of intersections	Not measured	Negligible increase in travel time
	<b>Confidence levels</b>		High	Medium

### 3.6 Technical Levels of Service

**Technical Levels of Service** – To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

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

- **Acquisition** – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).



- **Operation** – the regular activities to provide services (e.g. opening hours, cleansing, mowing grass, energy, inspections, etc).
- **Maintenance** – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. road patching, unsealed road grading, 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),

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.<sup>3</sup>

Table 3.6 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the Forecast activity requirements being recommended in this AM Plan.

**Table 3.6: Technical Levels of Service**

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
<b>TECHNICAL LEVELS OF SERVICE</b>				
<b>Acquisition</b>	Construct concrete causeways	Number of causeways built	1 per annum	1 per annum
	Extension of the sealed network	Km's of road sealed	Nil from Council funding	Nil from Council funding
	Improved stormwater network	% of network designed for 1% Annual Exceedance Probability event	Not measured	Stormwater managed during a 1% Annual Exceedance Probability event
		<b>Budget</b>	\$1,277,720	\$1,302,720
<b>Operation</b>	Vegetation control	Nil encroachment to visibility or 4.6m high vehicles	Some encroachment under 4.6m on minor unsealed roads	
	Sweeping of roads to minimise detritus	Km's of road swept	Not measured	Nil customer requests for road sweeping
		<b>Budget</b>	Not currently tracked	Not currently tracked
<b>Maintenance</b>	Repair edge drop offs	<150mm depth	Not measured	<75mm depth & <150mm encroachment
	Repair of potholes	<600mm plan dimension <75mm depth	Not measured	<400mm plan dimension
	Repair of shoves	<100mm height	Not measured	<100mm height
	Repair of trip hazards	<20mm height	Not measured	<20mm height
	Maintenance grading	km's of road graded and roughness	Not measured	<9 IRI, grading based on intervention levels rather than number of cycles

<sup>3</sup> IPWEA, 2015, IIMM, p 2|28.

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
		<10 IRI		
		<b>Budget</b>	\$4,267,000	\$4,359,853
<b>Renewal</b>	Bitumen resealing	100% of targeted length resealed	Class A & B 12 years Class C – E 15 years	Class A & B 12 yrs Class C – E 15 years
	Pavement rehabilitation	100% of targeted length rehabilitated	Class A & B 36 years Class C – E 45 years	Class A & B 36 years Class C – E 45 years
	Footpath renewals	100% of targeted length renewed	100-year life	100-year life
	Stormwater Renewals	100% of target length renewed	70-year life	70-year life
		<b>Budget</b>	\$6,030,095	\$6,038,120

Note: \* Current activities related to Planned Budget.

\*\* Expected performance related to forecast lifecycle costs.

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged changing circumstances such as technology and customer priorities will change over time.

## 4.0 FUTURE DEMAND

### 4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

### 4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented.

### 4.3 Demand Impact and Demand Management Plan

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

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 can 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 AM Plan.

**Table 4.3: Demand Management Plan**

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Increase in community expectations	Status quo	Expectations will rise	There will be further desire for more footpaths and sealed roads	Clear, concise communication with residents about affordability of their expectations
Increase in heavy vehicle loading due to change regulations	Current axle loads Single 6.5t Dual 9t Bogey 16.5t Tri-axle 20t	Increase in General Mass Limit axle limits	Potential to increase ESAs/1000t freight shifted, resulting in reduced pavement life	Council can manage approvals for increased axle loads through the National Heavy Vehicle Regulator
Climate change leading to shorter, sharper storms	Not measured	Increase demand on stormwater assets	Increased flooding resulting in road closures and potential property damage	Focus acquisition on increasing capacity of high-risk areas, ensure renewals include assessment of flood capacity

### 4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.4.

Acquiring new assets will commit the Liverpool Plains Shire Council to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial plan (Refer to Section 5).

### 4.5 Climate Change Adaptation

The impacts of climate change may have a significant impact on the assets we manage and the services they provide. In the context of the Asset Management Planning process climate change can be considered as both a future demand and a risk.

How climate change impacts on assets will vary depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.<sup>4</sup>

As a minimum we consider how to manage our existing assets given potential climate change impacts for our region.

Risk and opportunities identified to date are shown in Table 4.5.1

**Table 4.5.1 Managing the Impact of Climate Change on Assets and Services**

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Temperature change	Increase in temperatures	Bitumen will reactivate and fail on sealed roads	Utilise a stiffer bitumen to increase its resilience to higher temperatures
Increasing storm activity	Higher stormwater flows	Flooding and inundation of properties, more frequent closing of roads	Focus acquisitions on improving stormwater capacity of high-risk areas

Additionally, the way in which we construct new assets should recognise that there is opportunity to build in resilience to climate change impacts. Building resilience can have the following benefits:

- Assets will withstand the impacts of climate change;
- Services can be sustained; and
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this AM Plan.

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<sup>4</sup> IPWEA Practice Note 12.1 Climate Change Impacts on the Useful Life of Infrastructure

## 5.0 LIFECYCLE MANAGEMENT PLAN

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

### 5.1 Background Data

#### 5.1.1 Physical parameters

The assets covered by this AM Plan are shown in Table 5.1.1.

This covers all council provided transportation assets, including sealed and unsealed roads, bridges and culverts, urban stormwater, kerb and guttering, footpaths and all roadside furniture in both urban and rural areas across the shire. Within the Liverpool Plains Shire area, this excludes the Kamilaroi Highway, and the New England Highway and all railways and related infrastructure.

Council does not have accurate age data for its road network, so is unable to provide an age profile based on actual age for the majority of road assets.

The age profile of the assets included in this AM Plan are shown in Figure 5.1.1.

**Table 5.1.1: Assets covered by this Plan**

Asset Category	Dimension	Replacement Value
Regional Roads	198.886km	\$92,631,142
Sealed Local Roads	310.317km	\$113,692,370
Unsealed Local Roads	812.429km	\$156,911,256
Bridges	199	\$73,409,532
Footpaths	22.736km	\$5,352,491
Stormwater Pits	1,060	\$3,128,155
Stormwater Pipes	19.317km	\$10,833,287
Kerb & Gutter	60.440km	\$5,636,359
<b>TOTAL</b>		<b>\$461,594,592</b>

All figure values are shown in current day dollars.

Council does not have accurate age data for its transportation network. Utilising condition as a proxy for age shows large spikes in expenditure in various years, which are unrealistic from a delivery standpoint, and from a funding standpoint.

It is proposed through this plan to undertake Council's renewals based on asset condition, with asset life estimates providing the anticipated average annual spend.

#### 5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. 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
Gurton Street bridge	2t load limit on bridge
Bridge Road bridge	2t load limit on bridge
Werris Creek	Urban stormwater management

The above service deficiencies were identified from asset inspections and corporate knowledge.

### 5.1.3 Asset condition

Condition has historically been unmonitored. At the time of writing this Plan, asset condition inspection has commenced, and will be undertaken on an annual basis.

Condition is measured using a 1 – 5 grading system<sup>5</sup> as detailed in Table 5.1.3. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level, however, for reporting in the AM plan results are translated to a 1 – 5 grading scale for ease of communication.

**Table 5.1.3: Condition Grading System**

Condition Grading	Description of Condition
1	<b>Very Good:</b> free of defects, only planned and/or routine maintenance required
2	<b>Good:</b> minor defects, increasing maintenance required plus planned maintenance
3	<b>Fair:</b> defects requiring regular and/or significant maintenance to reinstate service
4	<b>Poor:</b> significant defects, higher order cost intervention likely
5	<b>Very Poor:</b> physically unsound and/or beyond rehabilitation, immediate action required

Condition data is not currently available for this asset class.

All figure values are shown in current day dollars.

## 5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, street sweeping, asset inspection, and utility costs.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include pipe repairs, asphalt patching, and equipment repairs.

The trend in maintenance budgets are shown in Table 5.2.1.

<sup>5</sup> IPWEA, 2015, IIMM, Sec 2.5.4, p 2 | 80.

**Table 5.2.1: Maintenance Budget Trends**

Year	Maintenance Budget \$
2019/2020	\$4,321,364
2020/2021	\$4,267,000
2021/2022	\$4,267,000

Maintenance budget levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan.

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

#### **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.

The service hierarchy is shown in Table 5.2.2.

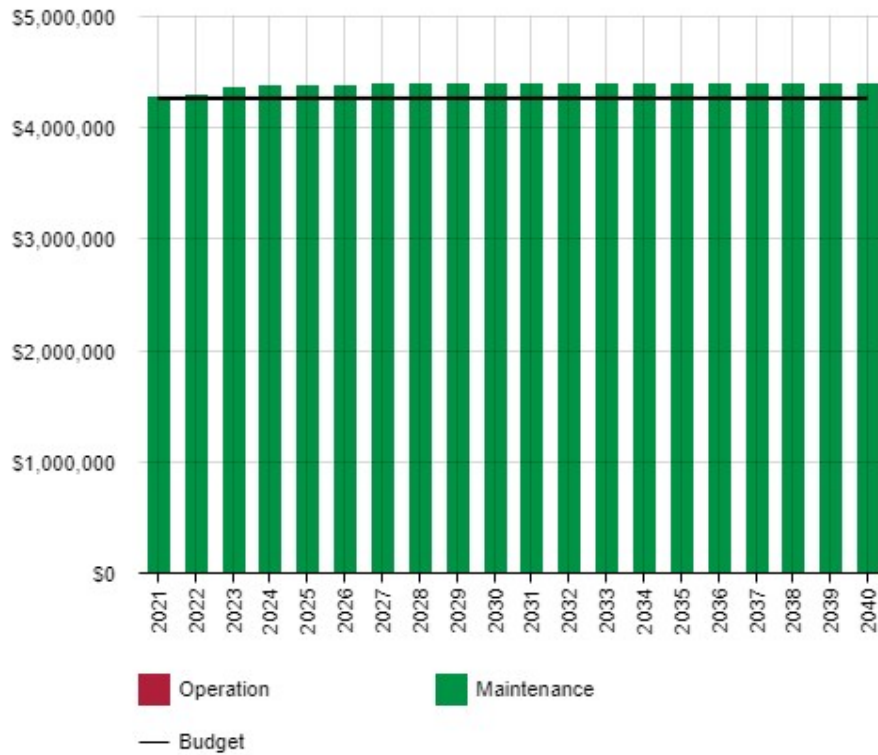
**Table 5.2.2: Asset Service Hierarchy**

Service Hierarchy	Service Level Objective
Class A	Provide for transportation between points of interest, allow for freight transport to receivals and beyond the shire
Class B	Provides a local arterial function to connect isolated communities to the larger centres.
Class C	Provides feeder access from rural properties to the larger arterial roads
Class D	Minor roads that provide for minor feeder access
Class E	Provides access to residences only

#### **Summary of forecast operations and maintenance costs**

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

**Figure 5.2: Operations and Maintenance Summary**



All figure values are shown in current day dollars.

There is a minor increase in maintenance expenditure forecast due to the construction of the Werris Creek Industrial Precinct Southern Access and the continuation of constructing new causeways. These are considered negligible impacts on Council.

### 5.3 Renewal Plan

Renewal is major capital work which does not significantly alter the original service provided by the asset, 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 considered to be an acquisition resulting in additional future operations and maintenance costs.

Assets requiring renewal are identified from one of two approaches in the Lifecycle Model.

- The first method uses Asset Register data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year), or
- The second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives were last reviewed on November 2020.



**Table 5.3: Useful Lives of Assets**

Asset (Sub)Category	Useful life
Class A - B Roads	Seal 12 years Pavement 36 years
Class C – E Roads	Seal 15 years Pavement 45 years
Footpaths	100 years
Kerb & Gutter	100 years
Bridges	100 years
Stormwater	70 years

The estimates for renewals in this AM Plan were based on the alternate method.

### 5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5-t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a playground).<sup>6</sup>

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.<sup>7</sup>

Council currently prioritises renewals on its higher-class assets based on condition assessment that takes into account failures and other defects.

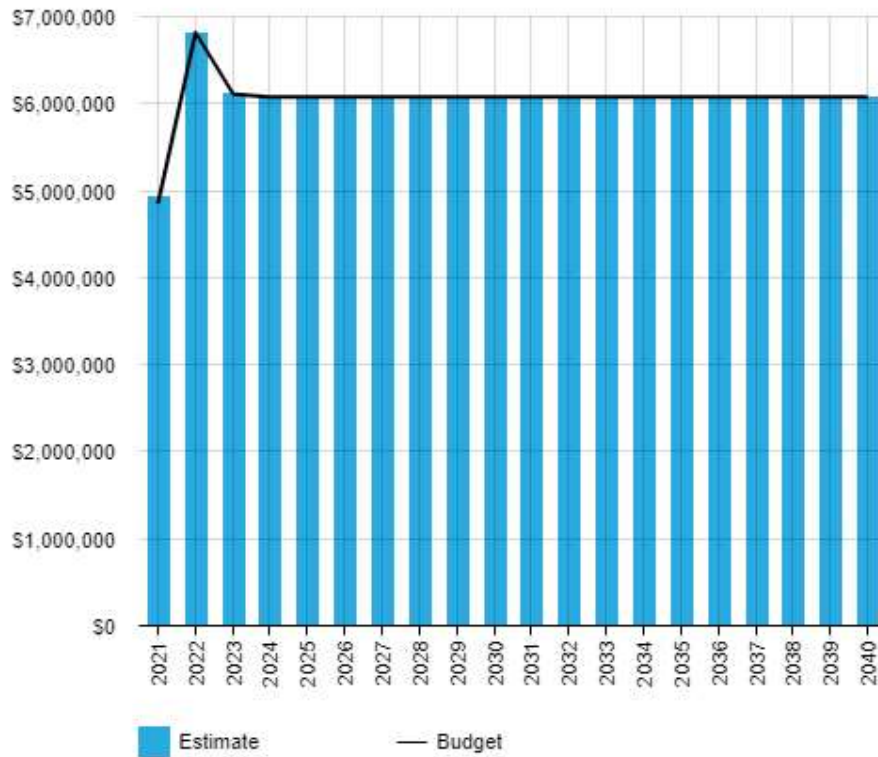
### 5.4 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix D.

<sup>6</sup> IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

<sup>7</sup> Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

**Figure 5.4.1: Forecast Renewal Costs**



All figure values are shown in current day dollars.

Council can fund its renewals as they fall due with the proposed 8% Special Rate Variation (SRV) over 3 years. Should the SRV be unsuccessful, the plan will require review.

## 5.5 Acquisition Plan

Acquisition reflects are new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to the Liverpool Plains Shire Council.

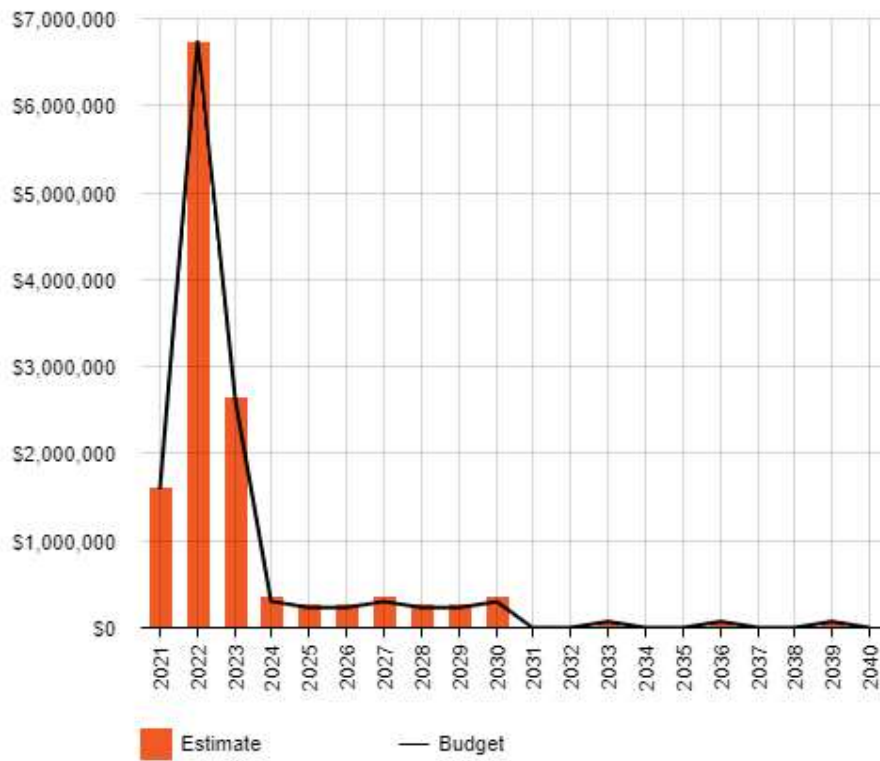
### 5.5.1 Selection criteria

Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential to the Entities needs. Proposed upgrade and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority and available funds and scheduled in future works programmes. Council does not currently have criteria for the ranking of acquisitions.

#### Summary of future asset acquisition costs

Forecast acquisition asset costs are summarised / summarized in Figure 5.4.1 and shown relative to the proposed acquisition budget. The forecast acquisition capital works program is shown in Appendix A.

**Figure 5.5.1: Acquisition (Constructed) Summary**



All figure values are shown in current day dollars.

When an Entity commits to new assets, they must be prepared to fund future operations, maintenance and renewal costs. They must also account for future depreciation when reviewing long term sustainability. When reviewing the long-term impacts of asset acquisition, it is useful to consider the cumulative value of the acquired assets being taken on by the Entity. The cumulative value of all acquisition work, including assets that are constructed and contributed shown in Figure 5.4.2.

**Figure 5.5.2: Acquisition Summary**



All figure values are shown in current dollars.

Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding.

The majority of the acquisitions identified within this plan is the construction of the Werris Creek Industrial Precinct Southern Access. This will obligate ongoing maintenance and operations on Council, however there will be an offset in maintenance from the current South Street access.

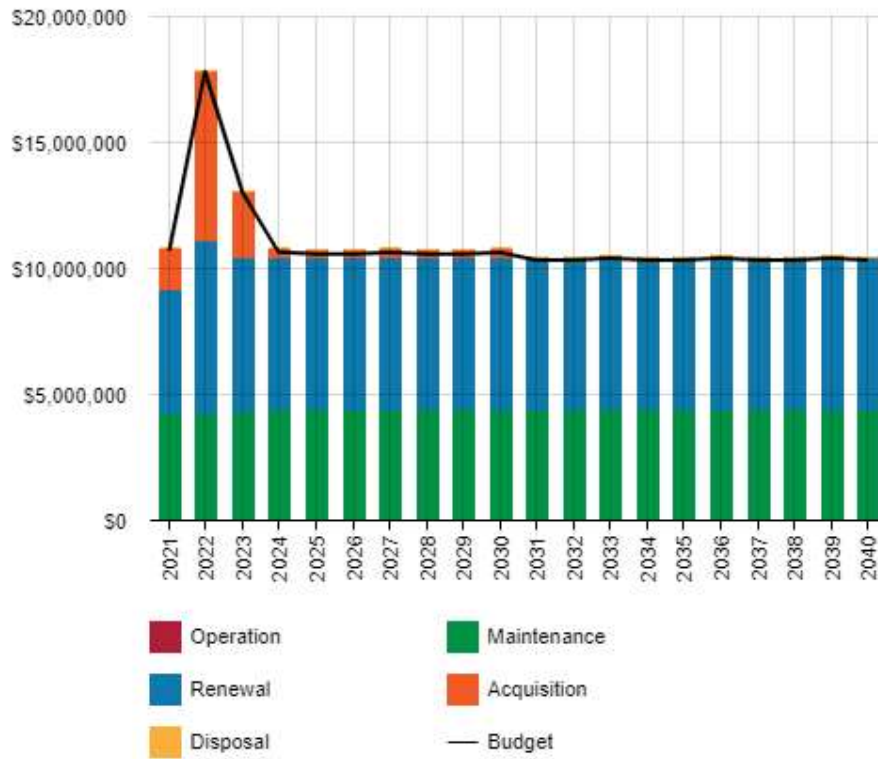
Other acquisitions within the plan are for concrete causeways, and stormwater upgrades. These are necessary to improve the stormwater management within the shire.

**Summary of asset forecast costs**

The financial projections from this asset plan are shown in Figure 5.4.3. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

The bars in the graphs represent the forecast costs needed to minimise the life cycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

**Figure 5.5.3: Lifecycle Summary**



All figure values are shown in current day dollars.

As this plan is based on the alternate method, the budget levels are very stable. Without accurate condition data, it is likely that some renewals may need to be deferred to manage Council’s cashflow. Deferral will be based on condition assessment, with Council prioritising the poorest condition assets for renewal.

### 5.6 Disposal Plan

There are no assets available for disposal under this Plan.

## 6.0 RISK MANAGEMENT PLANNING

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: ‘coordinated activities to direct and control with regard to risk’<sup>8</sup>.

An assessment of risks<sup>9</sup> associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a ‘financial shock’, reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

### 6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 6.1. Failure modes may include physical failure, collapse or essential service interruption.

**Table 6.1 Critical Assets**

Critical Asset(s)	Failure Mode	Impact
Coonabarabran Road bridge over Mooki River	Collapse/structural failure resulting in load limit or closure	Arterial route cut, freight unable to move through shire efficiently
Russell Street	Flooding/inundation cutting off town bypass	Higher Productivity Vehicles unable to utilise bypass, resulting in longer travel times for alternate routes

By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

### 6.2 Risk Assessment

The risk management process used is shown in Figure 6.2 below.

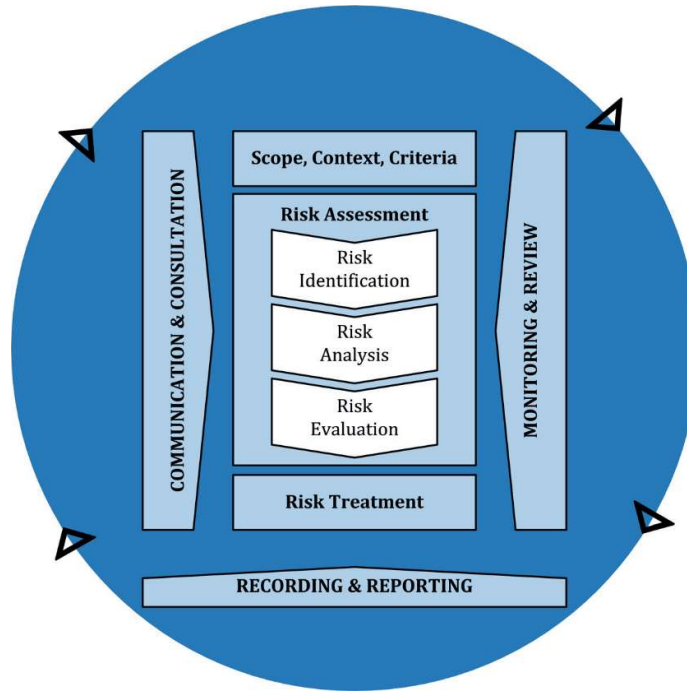
It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of International Standard ISO 31000:2018.

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<sup>8</sup> ISO 31000:2009, p 2

<sup>9</sup> REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote



**Fig 6.2 Risk Management Process – Abridged**  
 Source: ISO 31000:2018, Figure 1, p9

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and the Council.

**Table 6.2: Risks and Treatment Plans**

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Roads	Flooding/inundation leading to pavement failure	H	Adequate drainage maintenance, initial pavement design considerations	M	\$300,000/km
Footpath	Movement in footpath creating a trip hazard	H	Regular inspections and routine maintenance	M	\$165/sq.m
Bridge	Flooding inundation leading to structural damage. Lack of routine maintenance leading to structural damage	H	Regular inspections, specific inspections after storm events	M	Item specific
Stormwater	Blocking of stormwater pipes leading to flooding	H	Street sweeping, routine inspections	M	Nil additional

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

### 6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to ‘withstand a given level of stress or demand’, and to respond to possible disruptions to ensure continuity of service.

Resilience recovery planning, financial capacity, climate change risk assessment and crisis leadership.

We do not currently measure our resilience in service delivery. This will be included in future iterations of the AM Plan.

### 6.4 Service and Risk Trade-Offs

The decisions made in adopting this AM Plan are based on the objective to achieve the optimum benefits from the available resources.

#### 6.4.1 What we cannot do

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

- Construction of new footpaths under Council’s Pedestrian Access Mobility Plan and Bike Plan
- Extend the sealed road network
- Major upgrade works on the Regional road network

#### 6.4.2 Service trade-off

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



- Reduction in service level due
- Potential load limiting of roads or bridges
- Restriction of access for Higher Productivity Vehicles

#### **6.4.3 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:

- Increasing reactive maintenance costs
- Exposure to claims and litigation against Council for public liability breaches
- Political pressure for improved levels of service
- Lower performance on asset and financial indicators

These actions and expenditures are considered and included in the forecast costs, and where developed, the Risk Management Plan.

## 7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this AM Plan. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

### 7.1 Financial Sustainability and Projections

#### 7.1.1 Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the AM Plan for this service area. The two indicators are the:

- asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years), and
- medium term forecast costs/proposed budget (over 10 years of the planning period).

##### Asset Renewal Funding Ratio

Asset Renewal Funding Ratio<sup>10</sup> 99.87%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 99.87% of the funds required for the optimal renewal of assets.

The forecast renewal work along with the proposed renewal budget, and the cumulative shortfall, is illustrated in Appendix D.

##### Medium term – 10-year financial planning period

This AM Plan identifies the forecast operations, maintenance and renewal 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 first 10 years of the planning period to identify any funding shortfall.

The forecast operations, maintenance and renewal costs over the 10 year planning period is \$10,397,973 average per year.

The proposed (budget) operations, maintenance and renewal funding is \$10,297,095 on average per year giving a 10 year funding shortfall of \$100,878 per year. This indicates that 99.03% of the forecast costs needed to provide the services documented in this AM Plan are accommodated in the proposed budget. Note, these calculations exclude acquired assets.

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately 1.0 for the first years of the AM Plan and ideally over the 10 year life of the Long-Term Financial Plan.

#### 7.1.2 Forecast Costs (outlays) for the long-term financial plan

Table 7.1.3 shows the forecast costs (outlays) required for consideration in the 10 year long-term financial plan.

Providing services in a financially sustainable manner requires a balance between the forecast outlays required to deliver the agreed service levels with the planned budget allocations in the long-term financial plan.

A gap between the forecast outlays and the amounts allocated in the financial plan indicates further work is required on reviewing service levels in the AM Plan (including possibly revising the long-term financial plan).

Forecast costs are shown in 2020/2021 dollar values.

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<sup>10</sup> AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

**Table 7.1.2: Forecast Costs (Outlays) for the Long-Term Financial Plan**

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2021	1,596,200	0	4,267,000	4,928,900	0
2022	6,730,000	0	4,282,962	6,816,100	0
2023	2,636,000	0	4,350,262	6,108,400	0
2024	335,000	0	4,376,622	6,075,400	0
2025	265,000	0	4,379,972	6,075,400	0
2026	265,000	0	4,382,622	6,075,400	0
2027	335,000	0	4,385,272	6,075,400	0
2028	265,000	0	4,388,622	6,075,400	0
2029	265,000	0	4,391,272	6,075,400	0
2030	335,000	0	4,393,922	6,075,400	0
2031	0	0	4,397,272	6,075,400	0
2032	0	0	4,397,272	6,075,400	0
2033	70,000	0	4,397,272	6,075,400	0
2034	0	0	4,397,972	6,075,400	0
2035	0	0	4,397,972	6,075,400	0
2036	70,000	0	4,397,972	6,075,400	0
2037	0	0	4,398,672	6,075,400	0
2038	0	0	4,398,672	6,075,400	0
2039	70,000	0	4,398,672	6,075,400	0
2040	0	0	4,399,372	6,075,400	0

## 7.2 Funding Strategy

The proposed funding for assets is outlined in the Entity’s budget and Long-Term financial plan.

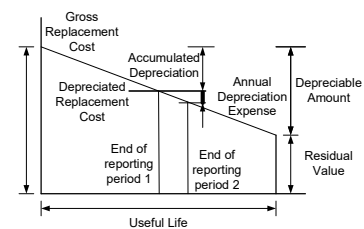
The financial strategy of the entity determines how funding will be provided, whereas the AM Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

## 7.3 Valuation Forecasts

### 7.3.1 Asset valuations

The best available estimate of the value of assets included in this AM Plan are shown below. The assets are valued at fair value to replace with assets providing the same function and capacity:

Replacement Cost (Current/Gross)	\$461,594,592
Depreciable Amount	\$381,720,384
Depreciated Replacement Cost <sup>11</sup>	\$394,363,776
Depreciation	\$9,430,000



<sup>11</sup> Also reported as Written Down Value, Carrying or Net Book Value.

### 7.3.2 Valuation forecast

Asset values are forecast to increase as additional assets are added to service.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

### 7.4 Key Assumptions Made in Financial Forecasts

In compiling this AM 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 AM Plan are:

- Council's current asset register is complete
- That Council will be able to undertake the renewals 'in house'
- Current valuation data is accurate
- That Council will receive approval for the SRV

### 7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AM Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale<sup>12</sup> in accordance with Table 7.5.1.

**Table 7.5.1: Data Confidence Grading System**

Confidence Grade	Description
A. Very High	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate $\pm 2\%$
B. High	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate $\pm 10\%$
C. Medium	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated $\pm 25\%$
D. Low	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy $\pm 40\%$
E. Very Low	None or very little data held.

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 7.5.2.

<sup>12</sup> IPWEA, 2015, IIMM, Table 2.4.6, p 2 | 71.

**Table 7.5.2: Data Confidence Assessment for Data used in AM Plan**

Data	Confidence Assessment	Comment
Demand drivers	C	Based on looking at historical drivers and the current forecasts
Growth projections	B	Data from NSW Planning
Acquisition forecast	A	Currently planned acquisitions, minimal gifted assets
Operation forecast	E	Not currently tracked, expenditure is rolled up into maintenance
Maintenance forecast	A	Based on historic expenditure
Renewal forecast		Asset values based on asset register and realistic unit rates
- Asset values	B	
- Asset useful lives	B	Based on engineering design lives, and those experienced by Council
- Condition modelling	E	Not currently provided
Disposal forecast	A	No disposals expected

The estimated confidence level for and reliability of data used in this AM Plan is considered to be High.

## 8.0 PLAN IMPROVEMENT AND MONITORING

### 8.1 Status of Asset Management Practices<sup>13</sup>

#### 8.1.1 Accounting and financial data sources

This AM Plan utilises accounting and financial data. The source of the data is Authority.

#### 8.1.2 Asset management data sources

This AM Plan also utilises asset management data. The source of the data is Assetic.

### 8.2 Improvement Plan

It is important that an entity recognise areas of their AM Plan and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this AM Plan is shown in Table 8.2.

**Table 8.2: Improvement Plan**

Task	Task	Responsibility	Resources Required	Timeline
1	Undertake community satisfaction survey	DES	\$15,000 for communications firm	2022
2	Undertake ground truthing of asset register to confirm assets owned by Council	DES	Internal allocations	2021
3	Determine asset age data	DES	Internal allocations	2021
4	Undertake transportation revaluation	DES	Internal allocations	2021
5	Incorporate asset financial data into Long Term Financial Plan	DES/EMF	Internal allocations	2021
6	Improve capture of Operations Costs	DES/EMF	Internal Allocations	2022

### 8.3 Monitoring and Review Procedures

This AM Plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The AM Plan will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

The AM Plan has a maximum life of 4 years and is due for complete revision and updating within 12 months of each Council election.

### 8.4 Performance Measures

The effectiveness of this AM Plan can be measured in the following ways:

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<sup>13</sup> ISO 55000 Refers to this as the Asset Management System

- The degree to which the required forecast costs identified in this AM Plan are incorporated into the long-term financial plan,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures consider the 'global' works program trends provided by the AM Plan,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Planning documents and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 90 – 100%).

## 9.0 REFERENCES

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- Long Term Financial Plan
- Delivery Plan
- Operational Plan



## 10.0 APPENDICES

### Appendix A Acquisition Forecast

#### A.1 – Acquisition Forecast Assumptions and Source

Acquisitions are limited to those funded by Council. There is no consideration made for donated assets within this plan due to the historic low rate of subdivision.

#### A.2 – Acquisition Project Summary

The project titles included in the lifecycle forecast are included here.

Year	Project	Cost
2021	Stormwater Upgrades	70,000
2021	Blackville Road	421,700
2021	Lowes Creek Road Deviation	100,000
2021	Callaghans Lane	562,500
2021	Werris Creek Industrial Precinct Southern Access	250,000
2021	Causeway/Culvert new construction	192,000
2022	Werris Creek Industrial Precinct Southern Access	6,500,000
2022	Causeway/Culvert new construction	230,000
2023	Werris Creek Industrial Precinct Southern Access	2,396,000
2023	Causeway/Culvert new construction	240,000
2024	Stormwater Upgrades	75,000
2024	Causeway/Culvert new construction	260,000
2025	Causeway/Culvert new construction	265,000
2026	Causeway/Culvert new construction	265,000
2027	Stormwater Upgrades	70,000
2027	Causeway/Culvert new construction	265,000
2028	Causeway/Culvert new construction	265,000
2029	Causeway/Culvert new construction	265,000
2030	Stormwater Upgrades	70,000
2030	Causeway/Culvert new construction	265,000
2033	Stormwater Upgrades	70,000
2036	Stormwater Upgrades	70,000
2039	Stormwater Upgrades	70,000

### A.3 – Acquisition Forecast Summary

Recommend using NAMS+ Outputs Summary for Acquisition

**Table A3 - Acquisition Forecast Summary**

Year	Constructed	Donated	Growth
2021	1,596,200	0	0
2022	6,730,000	0	0
2023	2,636,000	0	0
2024	335,000	0	0
2025	265,000	0	0
2026	265,000	0	0
2027	335,000	0	0
2028	265,000	0	0
2029	265,000	0	0
2030	335,000	0	0
2031	0	0	0
2032	0	0	0
2033	70,000	0	0
2034	0	0	0
2035	0	0	0
2036	70,000	0	0
2037	0	0	0
2038	0	0	0
2039	70,000	0	0
2040	0	0	0

## **Appendix B    Operation Forecast**

### **B.1 – Operation Forecast Assumptions and Source**

Council does not currently capture operations costs for transportation assets, so no forecast is made in this AM Plan.

## Appendix C Maintenance Forecast

### C.1 – Maintenance Forecast Assumptions and Source

It is assumed that new assets will add a 1% of capital costs increase to ongoing maintenance obligations. This is likely conservative given our current maintenance costs are <1% of our capital costs.

### C.2 – Maintenance Forecast Summary

*Table C2 - Maintenance Forecast Summary*

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2021	4,267,000	15,962	4,267,000
2022	4,282,962	67,300	4,282,962
2023	4,350,262	26,360	4,350,262
2024	4,376,622	3,350	4,376,622
2025	4,379,972	2,650	4,379,972
2026	4,382,622	2,650	4,382,622
2027	4,385,272	3,350	4,385,272
2028	4,388,622	2,650	4,388,622
2029	4,391,272	2,650	4,391,272
2030	4,393,922	3,350	4,393,922
2031	4,397,272	0	4,397,272
2032	4,397,272	0	4,397,272
2033	4,397,272	700	4,397,272
2034	4,397,972	0	4,397,972
2035	4,397,972	0	4,397,972
2036	4,397,972	700	4,397,972
2037	4,398,672	0	4,398,672
2038	4,398,672	0	4,398,672
2039	4,398,672	700	4,398,672
2040	4,399,372	700	4,399,372

## Appendix D Renewal Forecast Summary

### D.1 – Renewal Forecast Assumptions and Source

The renewals forecast is based on expected renewal quantities required given the useful lives of the asset components. It is assumed that prioritisation will be undertaken each financial year to ensure the assets with most need are renewed as required.

Condition based forecasting will be considered in a later review of this AM Plan

### D.2 – Renewal Forecast Summary

*Table D3 - Renewal Forecast Summary*

Year	Renewal Forecast	Renewal Budget
2021	4,928,900	4,849,300
2022	6,816,100	6,815,650
2023	6,108,400	6,108,400
2024	6,075,400	6,075,400
2025	6,075,400	6,075,400
2026	6,075,400	6,075,200
2027	6,075,400	6,075,400
2028	6,075,400	6,075,400
2029	6,075,400	6,075,400
2030	6,075,400	6,075,400
2031	6,075,400	6,075,400
2032	6,075,400	6,075,400
2033	6,075,400	6,075,400
2034	6,075,400	6,075,400
2035	6,075,400	6,075,400
2036	6,075,400	6,075,400
2037	6,075,400	6,075,400
2038	6,075,400	6,075,400
2039	6,075,400	6,075,400
2040	6,075,400	6,075,400

## **Appendix E    Disposal Summary**

There are no disposals projected in this plan.

## Appendix F Budget Summary by Lifecycle Activity

The budget is based on known approved grants, and that the proposed SRV is successful.

**Table F1 – Budget Summary by Lifecycle Activity**

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2021	1,596,200	0	4,267,000	4,849,300	0	10,712,500
2022	6,730,000	0	4,267,000	6,815,650	0	17,812,650
2023	2,626,000	0	4,267,000	6,108,400	0	13,001,400
2024	305,000	0	4,267,000	6,075,400	0	10,647,400
2025	230,000	0	4,267,000	6,075,400	0	10,572,400
2026	230,000	0	4,267,000	6,075,200	0	10,572,200
2027	300,000	0	4,267,000	6,075,400	0	10,642,400
2028	230,000	0	4,267,000	6,075,400	0	10,572,400
2029	230,000	0	4,267,000	6,075,400	0	10,572,400
2030	300,000	0	4,267,000	6,075,400	0	10,642,400
2031	0	0	4,267,000	6,075,400	0	10,342,400
2032	0	0	4,267,000	6,075,400	0	10,342,400
2033	70,000	0	4,267,000	6,075,400	0	10,412,400
2034	0	0	4,267,000	6,075,400	0	10,342,400
2035	0	0	4,267,000	6,075,400	0	10,342,400
2036	70,000	0	4,267,000	6,075,400	0	10,412,400
2037	0	0	4,267,000	6,075,400	0	10,342,400
2038	0	0	4,267,000	6,075,400	0	10,342,400
2039	70,000	0	4,267,000	6,075,400	0	10,412,400
2040	0	0	4,267,000	6,075,400	0	10,342,400