



# Murrumbidgee COUNCIL



## TRANSPORT

## Asset Management Plan



Version 2

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### NAMS.PLUS Asset Management Plan Templates

NAMS.Plus offers two Asset Management Plan templates – ‘Concise’ and ‘Comprehensive’.

The Concise template is appropriate for those entities who wish to present their data and information clearly and in as few words as possible whilst complying with the ISO 55000 Standards approach and guidance contained in the International Infrastructure Management Manual.

The Comprehensive template is appropriate for those entities who wish to present their asset management plan and information in a more detailed manner.

**The entity can choose either template to write/update their plan regardless of their level of asset management maturity and in some cases, may even choose to use only the Executive Summary.**

**The illustrated content is suggested only and users should feel free to omit content as preferred (e.g. where info not currently available).**

**The concise Asset Management Plan may be used as a supporting document to inform an overarching Strategic Asset Management Plan.**

This is the **Concise** Asset Management Plan template.

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# 1 EXECUTIVE SUMMARY

## The Purpose of the Plan

Asset management planning is the coordinated set of activities required to deliver the organisation's asset management objectives.

This asset management plan details information about the transport infrastructure assets, proposed actions and outlays required to provide a proposed level of service in the most cost effective manner while managing and communicating risks.

The plan defines the services to be provided, how they are provided and what funds are required to provide the services for the next 10 to 20-year planning period.

This plan covers the infrastructure assets that provide transport services to the community.

### The Approach

A combination of methods has been considered when developing the service and risk forecasts. The Asset Register data is used to project the renewal timing and costs (using the acquisition year, useful life) and ongoing maintenance and upgrade/new requirements are based on best available knowledge and technical judgement.

## Asset Description

These assets include:

The Transport network comprises:

- 2 Aerodromes
- 19 Bridges
- 163 Footpaths
- 50 Ancillary (other) assets
- 119 km Regional Roads
- 478 km Local Sealed Roads
- 907 km Unsealed Roads
- 47 km Urban Streets
- 9 Car Parking Areas

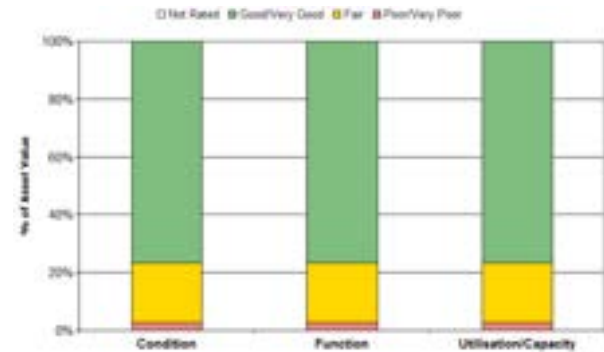
These assets have a \$218M replacement value depreciating at \$2M (1.0%) per year and the depreciated replacement cost (written down value) is \$186M as at 30 June 2017.

## Levels of Service

Stakeholder expectations and the importance of sustaining services are typically high on the agenda for

most of the 4,000-people residing across the Council area.

A significant proportion of the Council's transport infrastructure assets by value (\$198M, around 90%) have been in existence since 1970.



**State of the Assets**

The assets supporting these services are overall well maintained and operate at a generally acceptable standard.

There are a few exceptions which account for approximately 2.8% (or \$6M) of the total asset value. They are:

- Some high order sealed roads being exposed to increased loads.
- Some low order sealed and unsealed roads in need of resurfacing or resheeting.

Our present funding levels are sufficient to continue to provide existing services at current levels in the short-term. However, the 5, 10 to 20-year outlook suggests priorities should remain focused on ensuring operations, maintenance and renewal of existing assets remain funded at required and agreed levels.

The main service issues anticipated in the short to medium term are a gradual reduction in:

- Maintenance grading for some roads
- Sealed road resealing frequency
- Unsealed road resheeting frequency

The focus is to ensure the ongoing provision of safe and fit for purpose infrastructure, access to essential services, timely response to defects and failures ensuring well maintained assets.

Coupled with an appreciation of the risk profile by way of identifying critical assets, analysing failure modes and implement affordable control measures will

ensure transport assets and services are fit for the future.

## Future Demand

The main demands for new services are created by:

- Population demographic change
- Farm aggregation
- Freight Movement
- Increased local agricultural production
- Climate change

These will be managed through a combination of managing existing assets, upgrading and/or disposing of existing assets and providing new assets to meet demand. Demand management practices include non-asset solutions, insuring against risks and managing failures such as:

- Monitor expectations and communicating risk.
- Identify assets for disposal
- Adjust service hierarchies and service levels where possible.
- Monitor utilisation, report variations outside tolerable limits and respond appropriately.

## Lifecycle Management Plan

### What does it Cost?

The projected outlays necessary to sustain the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal and upgrade of existing assets over the 10-year planning period is expected to be around \$47,491M or \$4.75M on average per year.

## Financial Summary

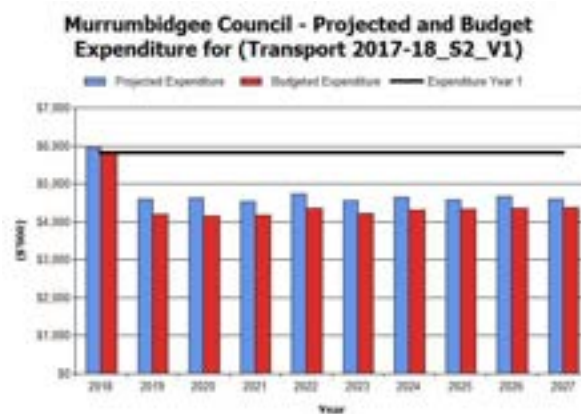
### What we will do

Estimated available funding for this period is \$44.265M or \$4.43M on average per year as per the long term financial plan or budget forecast. This is 93% of the cost to sustain the current level of service at the lowest lifecycle cost.

The reality is infrastructure and service delivery can only be provided from what is funded in the long term financial plan. The focus of the Asset Management Plan is to communicate the consequences of any shortfall the funding plan may have on the services being provided.

The allocated funding leaves a shortfall of \$323,000 on average per year of the projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the

Long Term Financial Plan. This is shown in the figure below.



Figures are in current day (real) dollars net of inflation.

We plan to provide Transport assets and services for the following:

- Operation, maintenance, renewal and upgrade of bridges, sealed and unsealed roads and streets to meet service levels set in annual budgets.
- Road grading, repairs, reseals, resheets and construction within the 10-year planning period.

## What we cannot do

We currently do **not** allocate enough funding to sustain services at current levels over the planning period. Works and services that cannot be provided under present funding levels are:

- An estimated \$2.5M funding shortfall in priority renewals over the next 10 years,
- An estimated \$667,000 funding shortfall in operational and maintenance activities over the next 10 years.

The \$2.5M shortfall represents:

- 26% of required reseals over the next 10 years.
- 14% of required resheets over the next 10-years.

## Managing the Risks

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

- Increased traffic loads from Higher Mass Limits accelerating deterioration leading to premature asset failure.
- Increasing maintenance requirements due to HML vehicles and addition of new assets.
- Some assets deteriorating to a lower service standard due to extended renewal cycles (and funding shortfall) resulting in a higher risk situation.

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

- Re-allocating existing finances to priority assets to sustain services.
- Ensure preventative maintenance schedules are maintained and enhanced.
- Investigate procurement strategies and alternative cost effective treatments to reduce replacement and lifecycle costs.
- Improve management and prioritisation processes for capital renewal and upgrade projects.
- Undertake annual condition, function and capacity audits to better understand performance and report status to the community.

### **Asset Management Practices**

Our systems to manage assets include:

- Civica Financial Management product
- Asset data is stored in eLifeCycle and BizeAsset.

### **Monitoring and Improvement Program**

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

- Implement a continuous improvement strategy to assess and report on the condition, function and capacity of council controlled assets.
- Develop and confirm current and desired levels of service in consultation with the community to understand sustainable levels of service.
- Assess remaining life of our assets and align with up to date performance data and knowledge.
- Develop and adopt a prioritisation framework for renewal and upgrade/new projects.
- Assess transport infrastructure risks and report to the audit committee.
- Ensure the Asset Management Plan is updated on an annual basis incorporating an annual review and update of service level performance, financial projections and risk.

## 2. INTRODUCTION

### 2.1 Background

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

The asset management plan is to be read in conjunction with the Council’s planning documents. This should include the Asset Management Policy and Asset Management Strategy where these have been developed along with other key planning documents:

- Statement of Vision & Priorities, Murrumbidgee Council (April, 2017)
- Draft Operational Plan 2017-2018 and Draft Delivery Programme 2017/2018 – 2020/2021, Murrumbidgee Council (June, 2017)

The infrastructure assets covered by this asset management plan are shown in Table 2.1. These assets are used to provide transport services to the community.

**Table 2.1: Assets covered by this Plan**

Asset Category	Quantity	Gross Replacement Value
Aerodromes	2	\$693,273
Bridges	19	\$6,443,883
Car Parking Areas	9	\$155,688
Footpaths	163	\$3,429,080
Other	50	\$751,326
Sealed Roads - Regional	119 km	\$38,871,763
Sealed Rural Roads - Local	478 km	\$109,876,748
Unsealed Rural Roads	907 km	\$42,996,414
Urban Streets	47 km	\$15,212,239
<b>TOTAL</b>		<b>\$218,430,414</b>

### 2.2 Goals and Objectives of Asset Ownership

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

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a long-term financial plan which identifies required, affordable expenditure and how it will be allocated.

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>

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



## 2.3 Core and Advanced Asset Management

This asset management plan is prepared as a 'core' asset management plan over a 20 year planning period in accordance with the International Infrastructure Management Manual<sup>3</sup>. Core asset management is a 'top down' approach where analysis is applied at the system or network level. An 'advanced' asset management approach uses a 'bottom up' approach for gathering detailed asset data and information at the component level.

## 3. LEVELS OF SERVICE

### 3.1 Customer Research and Expectations

This 'core' asset management plan is prepared to facilitate consultation prior to adoption by Council. Future revisions of the asset management plan will incorporate community 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 community's ability and willingness to pay for the service.

In accordance with section 402 of the Local Government Act 1993, Council will be developing its Community Strategic Plan (CSP), after consulting with its communities using various engagement techniques.

The CSP identifies the main priorities and aspirations for Council over a 10 year period and states the goals which will form the basis of Council decision making and resource allocation in the future.

The CSP is currently being developed and it is expected this 'core' asset management plan will assist in the customer/community engagement process.

### 3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of the Council's 'Statement of Vision & Priorities' document. This is a high-level guidance document for the early period of the new council (to be elected in September 2017), until the adoption of the first Community Strategic Plan.

Our Vision is:

*A community built by an innovative mindset delivering appropriate and reliable services*

Our Purpose is:

*To deliver quality services creating a friendly, welcoming and engaged community*

Relevant goals and objectives and how these are addressed in this asset management plan are stated as follows:

- We will review all Council service categories to identify collaborative opportunities for positive improvement.
- We will utilise contemporary solutions to connect our organisation, nurture better communication and increase operational efficiencies.
- We will work with other government and non-government agencies to develop action-oriented solutions to community issues.
- We will actively engage with staff to develop forward-thinking options and recognise quality outcomes.

The Council will exercise its duty of care to ensure public safety in accordance with the infrastructure risk management plan prepared in conjunction with this AM Plan. Management of infrastructure risks is covered in Section 6.

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

<sup>3</sup> IPWEA, 2015, IIMM.

### 3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. These include:

**Table 3.3: Legislative Requirements**

Legislation	Requirement
Local Government Act, 1993	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Australian Accounting Standards	Set out the financial reporting standards relating to infrastructure assets. AASB116, AASB136, AASB1121, AAS1001, AASB1041, AAS1015 and AASB1051.
Work Health & Safety Act 2011	Sets out roles and responsibilities to secure the health, safety and welfare of persons at work and covering injury management, emphasising rehabilitation of workers particularly for return to work. Council is to provide a safe working environment and supply equipment to ensure safety.
Road Transport (General) Act 2005	Provides for the administration and enforcement of road transport legislation. It provides for the review of decisions made under road transport legislation. It makes provision for the use of vehicles on roads and road related areas and with respect to written off and wrecked vehicles.
Road Transport (Safety and Traffic Management) Act 1999	Facilitates the adoption of nationally consistent road rules in NSW, the Australian Road Rules. It also makes provision for safety and traffic management on roads and road related areas including alcohol and other drug use, speeding and other dangerous driving, traffic control devices and vehicle safety accidents.
Roads Act 1993	Sets out rights of members of the public to pass along public roads, establishes procedures for opening and closing a public road, and provides for the classification of roads. It also provides for declaration of the RTA and other public authorities as roads authorities for both classified and unclassified roads, and confers certain functions (the function of carrying out roadwork) on the RTA and other roads authorities. Finally, it provides for distribution of functions conferred by this Act between the RTA and other roads authorities, and regulates the carrying out of various activities on public roads.
Local Government (Highways) Act 1982	An Act to consolidate with amendments certain enactments concerning the functions of the corporations of municipalities with respect to highways and certain other ways and places open to the public.
NSW Road Rules 2008	A provision of road rules that are based on the Australian Road Rules to ensure that the road rules applicable in this State are substantially uniform with road rules applicable elsewhere in Australia.

### 3.4 Customer Service Levels

Service levels are defined in two terms, customer and technical levels of service, each are supported by organisational measures of performance and activities.

**Customer Levels of Service** measure how the customer receives the service and whether value to the customer is being provided at the required level.

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

<b>Condition</b>	How good is the service ...	<i>what is the condition or quality of the service?</i>
<b>Function</b>	Is it suitable for its intended purpose ....	<i>Is it the right service?</i>
<b>Capacity/Use</b>	Is the service over or under used ...	<i>do we need more or less of these assets?</i>

The current and expected customer service levels are detailed in Table 3.4 that shows the expected levels of service based on resource levels in the long-term financial plan.

**Organisational measures** are measures of fact related to an outcome ... e.g. number of occasions when service is not available, proportion of asset value in Good/Fair/Poor.

These Organisational measures provide a balance in comparison to the customer perception that may be more subjective.

**Table 3.4: Customer Service Levels**

	Expectation	Performance Measure Used	Current Performance	Expected Position in 10 Years based on the current budget.
<b>Service Objective: To maintain current service levels</b>				
<b>Condition</b>	Transport infrastructure is safe and well maintained.	State of the Assets*: % good/very good % fair % poor/very poor	77% good/very good. 20% fair 3% poor/very poor.	xx % good/very good. xx % fair x% poor/very poor.
<b>Confidence level:</b>			Medium	Low
<b>Function</b>	Transport infrastructure is 'fit for purpose'.	State of the Assets*: % good/very good % fair % poor/very poor	77% good/very good. 20% fair 3% poor/very poor.	xx % good/very good. xx % fair x% poor/very poor.
<b>Confidence level:</b>			Low	Low
<b>Capacity and Use</b>	Transport infrastructure meets the capacity requirements.	State of the Assets*: % good/very good % fair % poor/very poor	77% good/very good. 20% fair 3% poor/very poor.	xx % good/very good. xx % fair x% poor/very poor.
<b>Confidence level:</b>			Low	Low

\*State of the Assets measured as a proportion of gross asset value.

### 3.5 Technical Levels of Service

**Technical Levels of Service** - Supporting the customer service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities to best achieve the desired customer outcomes and demonstrate effective performance.

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

- Operations – 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 (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),
- Upgrade/New – 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).

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.<sup>4</sup>

Table 3.5 shows the technical levels of service expected to be provided under this AM Plan. The ‘Desired’ position in the table documents the position being recommended in this AM Plan.

**Table 3.5: Technical Levels of Service**

Service Attribute	Service Activity Objective	Activity Measure Process	Current Performance *	Required to sustain current service levels **
<b>Operations</b>				
	Transport infrastructure is safe for users’ needs.	Regular condition / defect inspections	Regional roads TBA Local roads TBA Urban Streets TBA	Regional roads 2 / yr Local roads 1 / yr Urban Streets 3 / yr
Operational Cost			\$262,000 / yr	\$300,000 / yr
<b>Maintenance</b>				
	Roads are to maintain a smooth-running surface.	Unsealed road grading frequency	Local Major roads TBA Local Minor roads TBA	Local Major roads 1.0 / yr Local Minor roads 0.5 / yr
	Repair defects within target intervention levels and response times.	TBA	TBA	TBA
Maintenance Cost			\$1,186,000 / yr	\$1,200,000 / yr
<b>Renewal</b>				
	Asset components are replaced to sustain agreed service levels.	Proportion of Sealed roads resurfaced / year	Regional roads 8.0%/yr Local roads 6.5%/yr	Regional roads 8.3%/yr Local roads 6.6%/yr
		Proportion of Unsealed roads Re-sheeted / year	Local roads TBA	Local roads 5.0%/yr
Renewal Cost			\$1,650,000 / yr	\$2,294,000 / yr
<b>Upgrade/New</b>				
	Transport infrastructure is ‘fit for purpose’ and satisfies capacity requirements.	Proportion of assets compliant with design hierarchy standards	To be advised in a future revision	100% compliance
Upgrade/New Cost				

Note: \* Current activities and costs (currently funded).

\*\* Desired activities and costs to sustain current service levels and achieve minimum life cycle costs

<sup>4</sup> IPWEA, 2015, IIMM, p 2 | 28.

It is important to monitor the service levels regularly as they may change. Current performance is influenced by work efficiencies and technological advances acknowledging circumstances and customer priorities may change over time.

Regular review and establishment of the agreed position which achieves the best balance between service, risk and cost is essential.

## 4. 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 were identified and are documented in Table 4.3.

### 4.3 Demand Impact on Assets

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

*Table 4.3: Demand Drivers, Projections and Impact on Services*

Demand drivers	Present position	Projection	Impact on services
Population	4,000 population	The population is forecast to remain stable for the foreseeable future.	The Council's stable population forecast will likely result in minimal impacts on existing infrastructure service provision.
Demographics	In 2011, approximately 27% of people residing in the Murrumbidgee Council area were children (aged under 19 years), 25% were young adults (20 to 44), 48% were older adults (45 years and over) <sup>5</sup>	The proportion of older adults is expected to increase.	Could reduce demand for active recreation facilities and increase for passive recreation facilities such as walking trails and wider footpaths. DDA compliance could possibly increase cost projections.
Farm aggregation	There is evidence of property owners buying adjoining farms.	Expected to continue.	Loss of population, some roads may be surplus to needs. Greater use of larger farm equipment and mobility between farm holdings.

<sup>5</sup> Estimate based on <http://multiculturalnsw.id.com.au/multiculturalnsw/lga-population>

Demand drivers	Present position	Projection	Impact on services
Freight Movement	Volume and Gross Vehicle Mass of traffic unknown.	The national land freight task is expected to grow by 80 per cent between 2011 and 2031, with a large component of this task expected to be handled by road freight vehicles. <sup>6</sup>	Trucks have a significant impact on the deterioration of the road network. The largest truck has the same impact to the road pavement as more than 17,000 cars.
Climate change	Increasing frequency of extreme weather events.	Unknown at this stage however with changing rainfall patterns and intensity and higher summer day temperatures it is possible current trends may continue.	Could lead to changes in the moisture content of subgrades leading to increased cracking of roads on reactive soils. This may result in a shorter life for these assets. Higher summer day temperatures will affect bituminous wearing courses.

#### 4.4 Demand Management Plan

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

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

**Table 4.4: Demand Management Plan Summary**

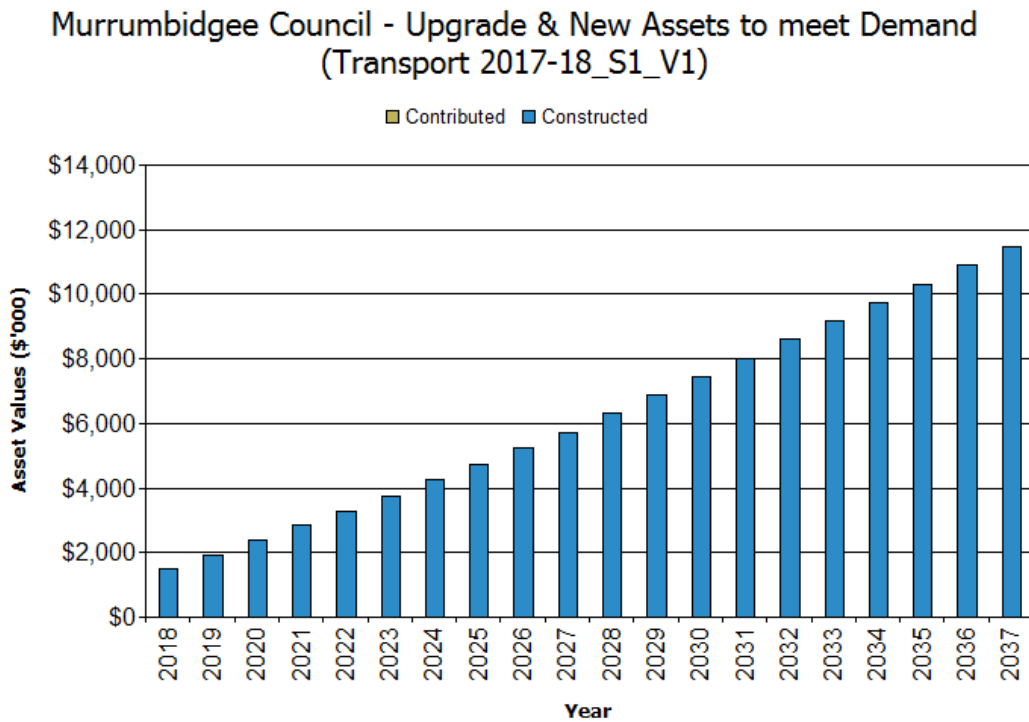
Demand Driver	Impact on Services	Demand Management Plan
Population	The Council’s stable population forecast will likely result in minimal impacts on existing infrastructure service provision.	Raise awareness of sustainable transport options, such as walking, cycling and car-pooling amongst both staff and the community.
Demographics	Could reduce demand for active recreation facilities and increase for passive recreation facilities such as walking trails and wider footpaths. DDA compliance could possibly increase cost projections.	Monitor community expectations and communicate service levels and financial capacity with the community to balance priorities for infrastructure with what the community is prepared to pay for.  Prepare and/or update DDA implementation Plan
Farm aggregation	Loss of population, some roads may be surplus to needs. Greater use of larger farm equipment and mobility between farm holdings.	Identify potential roads for sale/change of tenure. Identify suitable transport routes and encourage their use.
Freight Movement	Trucks have a significant impact on the deterioration of the road network. The largest truck has the same impact to the road pavement as more than 17,000 cars.	Conduct regular traffic classification counts on known heavy vehicle routes and report significant trend variations to the risk committee.

<sup>6</sup> Australian Infrastructure Audit Report, Key Findings, 2015, p. 9

Demand Driver	Impact on Services	Demand Management Plan
Climate change	Could lead to changes in the moisture content of subgrades leading to increased cracking of roads on reactive soils. This may result in a shorter life for these assets. Higher summer day temperatures will affect bituminous wearing courses.	Reducing the width of road pavements where appropriate and/or consideration of raising road formation – to be explored in the review of Council’s Road Geometry Guidelines and Design standards.  Incorporate WSUD techniques in nature strips where appropriate and cost effective.

### 4.5 Asset Programs to meet Demand

The new assets required to meet demand can be acquired, donated or constructed. Additional assets are discussed in Section 5.5. The summary of the cumulative value of additional asset is shown in Figure 1.



**Figure 1: Upgrade and New Assets to meet Demand – (Cumulative)**

Figure Values are in current (real) dollars.

Year 1 value represents Carrathool Bridge Approaches with following years representing Regional Road upgrades and new Footpaths.

Acquiring these new assets will commit 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 further in Section 5.

## 5. LIFECYCLE MANAGEMENT PLAN

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

### 5.1 Background Data

#### 5.1.1 Physical parameters

The assets covered by this asset management plan include:

- 2 Aerodromes
- 19 Bridges
- 163 Footpaths
- 50 Ancillary (other) assets
- 119 km Regional Roads
- 478 km Local Sealed Roads
- 907 km Unsealed Roads
- 47 km Urban Streets
- 9 Car Parking Areas

The transport asset category comprises a complex mix of asset types, age, function and condition.

The age profile of the assets included in this AM Plan is shown in Figure 2 sourced from the asset register based on the date of construction/acquisition or date of last renewal plotted against the replacement cost.

### Murrumbidgee Council - Age Profile (Transport 2017-18\_S1\_V1)

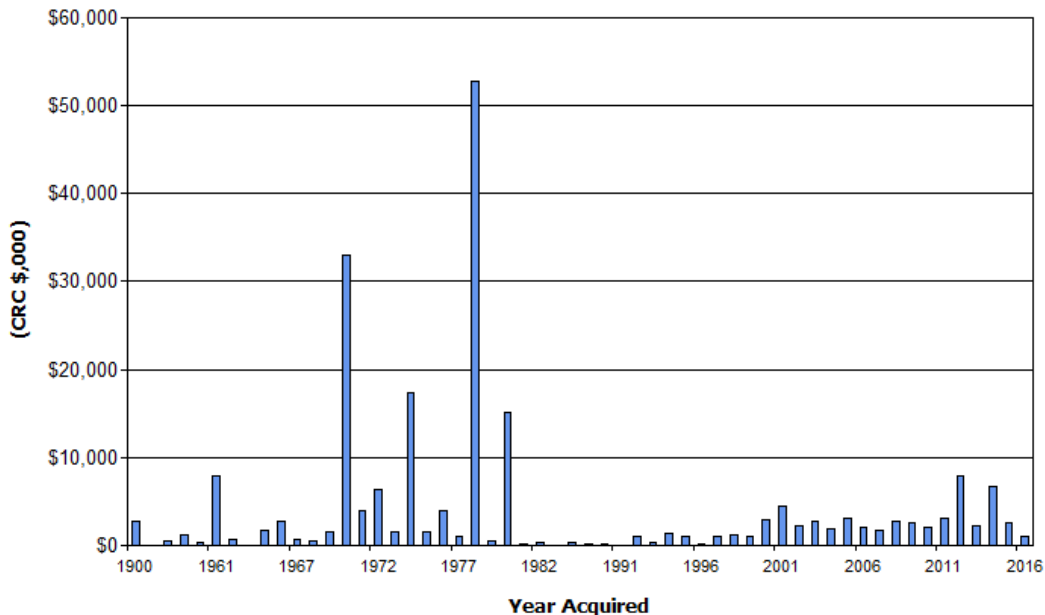


Figure 2: Asset Age Profile

Most transport assets have been in Council's control (constructed or last replaced) since 1970 accounting for \$198M or 91% of the total asset value.

The asset register provides essential information not only for the asset management and long-term financial planning and reporting, it is also used to calculate depreciation in the operating statement therefore it is important the



supporting data is of high confidence ( $\pm 10\%$ ) to report whether we have enough revenue to support our capital investment in infrastructure over the long-term.

Given the high value of replacement costs in 1970 (\$33M) and 1978 (\$53M) suggests a review of acquisition dates is required and is included in the Improvement Plan (Section 8.2). Values are in current (real) dollars.

**5.1.2 Asset capacity and performance**

Assets are generally provided to meet design standards where mandated and fit for purpose.

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

**Table 5.1.2: Known Service Performance Deficiencies**

Location	Service Deficiency
Sealed road pavements	A small number of sealed pavements have failed prematurely because of increased traffic loading.
Unsealed roads	There is an increasing number of low order unsealed road defects exceeding acceptable intervention levels subsequently increasing community dissatisfaction.
Sealed road surfaces	Current sealed road resurfacing funds meet 74% of the required funding to sustain services over the long term. Road seals are critical in providing safe roads and protecting the road pavement underneath. Continued underfunding will lead to increased failure rates and decreased service levels as the asset is run down consequently increasing risk and costs.
Signage	Reflectivity has not been tested for compliance.

The above service deficiencies were identified from the most recent condition audit and analysis of past expenditures and projected needs.

**5.1.3 Asset condition**

Condition is monitored and managed at an operational level using visual assessment techniques of common distress modes, and the information used to prepare the condition profile is based on regular assessments every year dependant on the recorded asset and service deficiencies of the transport network.

Condition is measured using a 1 – 5 grading system<sup>7</sup> as detailed in Table 5.1.3.

**Table 5.1.3: Simple Condition Grading Model**

Condition Grading	Description of Condition
1	<b>Very Good:</b> only planned maintenance required
2	<b>Good:</b> minor maintenance required plus planned maintenance
3	<b>Fair:</b> significant maintenance required
4	<b>Poor:</b> significant renewal/rehabilitation required
5	<b>Very Poor:</b> physically unsound and/or beyond rehabilitation

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

<sup>7</sup> IPWEA, 2015, IIMM, Sec 2.5.4, p 2 | 80.

### Murrumbidgee Council - Condition Profile (Transport 2017-18\_S1\_V1)

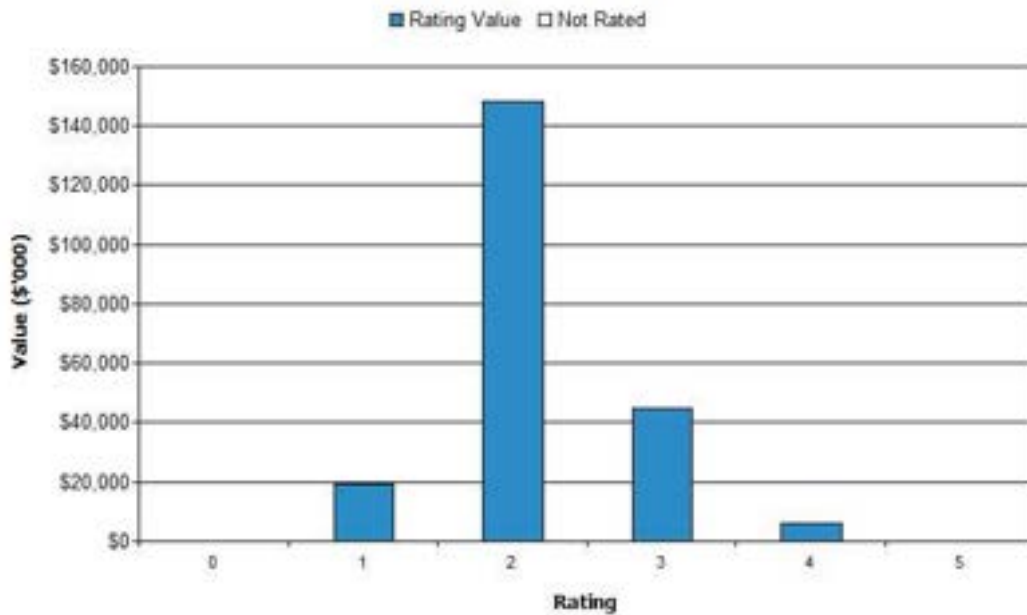


Fig 3: Asset Condition Profile

Regular monitoring of asset condition increases knowledge and understanding of the state and renewal requirements of the asset stock.

Of the assets assessed, 3% of value are performing in a poor to very poor state of repair and in need of repair or renewal highlighting the importance of resourcing ongoing monitoring and reporting for risk and consultation purposes.

#### 5.1.4 State of the Assets

The three indicators of infrastructure performance are:

1. Quality/Condition *...How good is the service?*
2. Function/fit for purpose *...Is it the right service?*
3. Capacity/Utilisation *...Do we need more or less of these assets?*

Reporting high level trends consistent with best practice guidance enables council to monitor trends over time and the relationship between unfunded renewals and the actual physical state of the infrastructure. Shown below is a graphical representation of the current of state of the assets represented as a proportion of asset value.

## Murrumbidgee Council - State of The Assets (Transport 2017-18\_S1\_V1)



Fig 3.2: State of the Assets

### 5.2 Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, e.g. cleaning, street sweeping, utilities costs and street lighting.

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

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.

Maintenance expenditure levels are considered to be adequate to meet projected service levels in the short term, and increased monitoring of ageing and significant assets is crucial to ensure services are maintained at an acceptable level and risk of asset 'failure' is minimised by a risk management plan in order to meet the revenue projections in the LTFP.

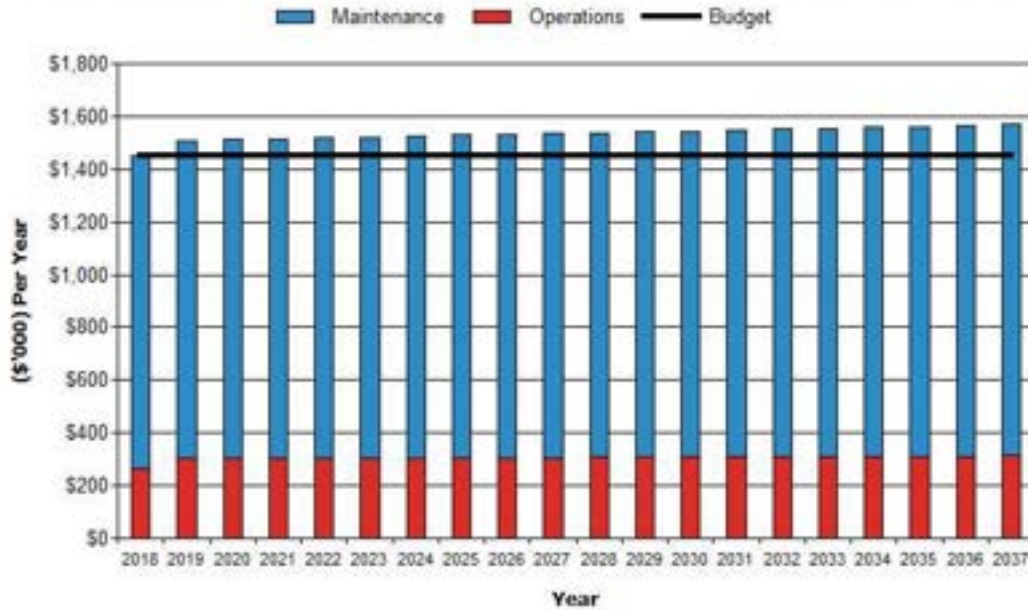
As new assets are brought on-line it is important to understand and respond to the impacts on future operational budgets.

Where maintenance expenditure levels 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.

#### Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current 2017/18 dollar values (i.e. real values).

## Murrumbidgee Council - Projected Operations & Maintenance Expenditure (Transport 2017-18\_S2\_V1)



**Figure 4: Projected Operations and Maintenance Expenditure**

The current year operations and maintenance budget is \$1.45M and the projected requirements are expected to increase to \$1.53M by 2027 due to operating and maintenance needs of contributed assets from development and upgrade/new assets constructed by Council.

Operational and maintenance activities to the value of \$667,000 are unable to be funded in the first 10-years and should be included in the infrastructure risk management plan for consideration.

Operational and maintenance activities are funded from the operating budget. This is further discussed in Section 7.

### 5.3 Renewal/Replacement Plan

Renewal and replacement expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an upgrade/expansion or new work expenditure resulting in additional future operations and maintenance costs.

Examples of renewal include:

- Resurfacing roads
- Rehabilitating road pavements
- Resheeting unsealed gravelled roads
- Remove and replace bluestone or concrete kerb & channelling
- Replacing bridges & major culverts

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

- Method 1 uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, or
- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as Pavement Management Systems), or

- Method 3 uses a combination of average network renewals plus defect repairs in the Renewal Plan and Defect Repair Plan worksheets on the 'Expenditure template'.

Method 3 has been used for this asset management plan.

### 5.3.1 Renewal ranking criteria

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. roughness of a road).<sup>8</sup>

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

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be greatest,
- Have a total value representing the greatest net value,
- Have the highest average age relative to their expected lives,
- Are identified in the AM Plan as key cost factors,
- Have high operational or maintenance costs, and
- Have replacement with a modern equivalent asset that would provide the equivalent service at a savings.<sup>9</sup>

The ranking criteria used to determine priority of identified renewal and replacement proposals is currently being reviewed as part of the merger and to be presented to council in due course.

### 5.3.2 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time when the asset stock increases. The expenditure is required is shown in Fig 5. Note that all amounts are shown in current (real) dollars.

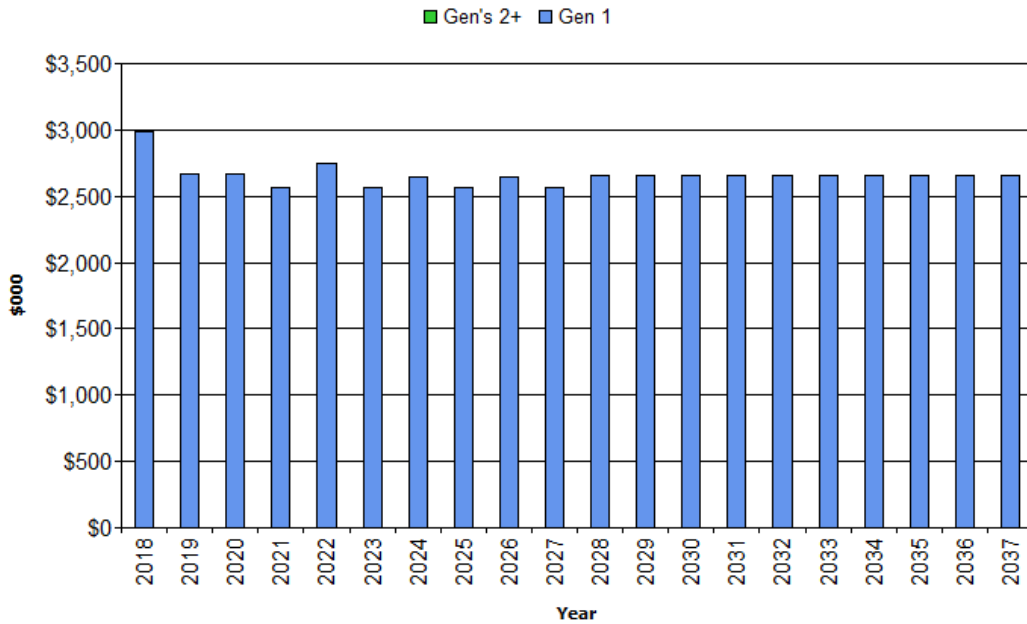
The projected capital renewal and replacement program is shown in Appendix B.

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<sup>8</sup> IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

<sup>9</sup> Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

### Murrumbidgee Council - Projected Capital Renewal Expenditure (Transport 2017-18\_S2\_V1)



**Fig 5: Projected Capital Renewal and Replacement Expenditure**

The above shows a 20-year capital renewal expenditure projection based on sustaining current service levels.

At present, the short to medium 10-year outlook suggests \$26.6M is required to sustain current service levels. This is the best available measure of renewal need at the present time. The LTFP suggests \$24.1M will be made available.

The \$2.5M shortfall represents:

- 26% of required reseals over the next 10 years.
- 14% of required resheets over the next 10-years.

Given an ageing asset stock and the 0.7% annual growth (by value) projections combined with the low to medium confidence performance data (i.e. condition, function and capacity) and knowledge, the risks that may arise during the planning period will need to be carefully monitored. With increased investment in monitoring, auditing and reporting of the infrastructure supporting the services a more reliable estimate of renewal will assist with evaluating future risks.

Given the current knowledge the projections present a position to determine what cannot be done when projections are balanced to the long-term financial plan (LTFP)

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

Renewals and replacement expenditure in the capital works program will be accommodated in the long term financial plan. This is further discussed in Section 7.

## 5.4 Creation/Acquisition/Upgrade Plan

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

### 5.4.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes.

The ranking criteria used to determine priority of upgrade and new proposals is currently being reviewed as part of the merger and to be presented to council in due course.

### 5.4.2 Summary of future upgrade/new assets expenditure

The projected 20-year capital upgrade/new expenditures have been developed and are shown below. All amounts are shown in real values (i.e. today's dollars), net of inflation.

Figure 6 shows the prioritised delivery of projects and programs over the 20-year planning period estimated to be \$5.7M. The first year includes the \$1.0M Carrathool Bridge Approach upgrade project.

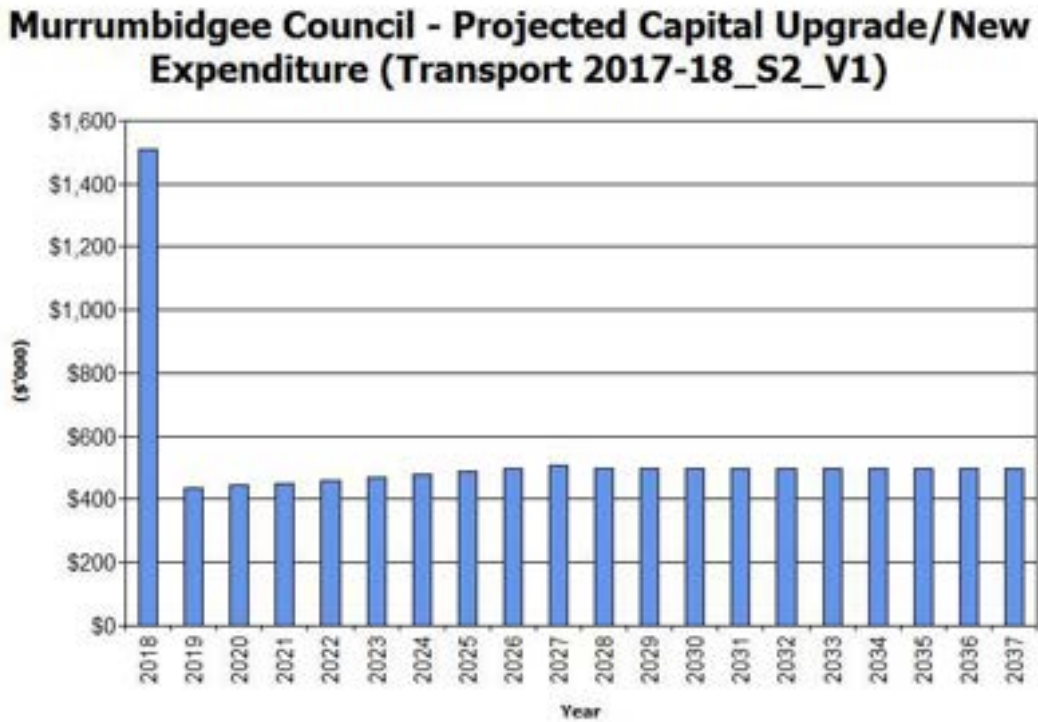


Fig 6: Projected Capital Upgrade/New Asset Expenditure

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 of the available funds

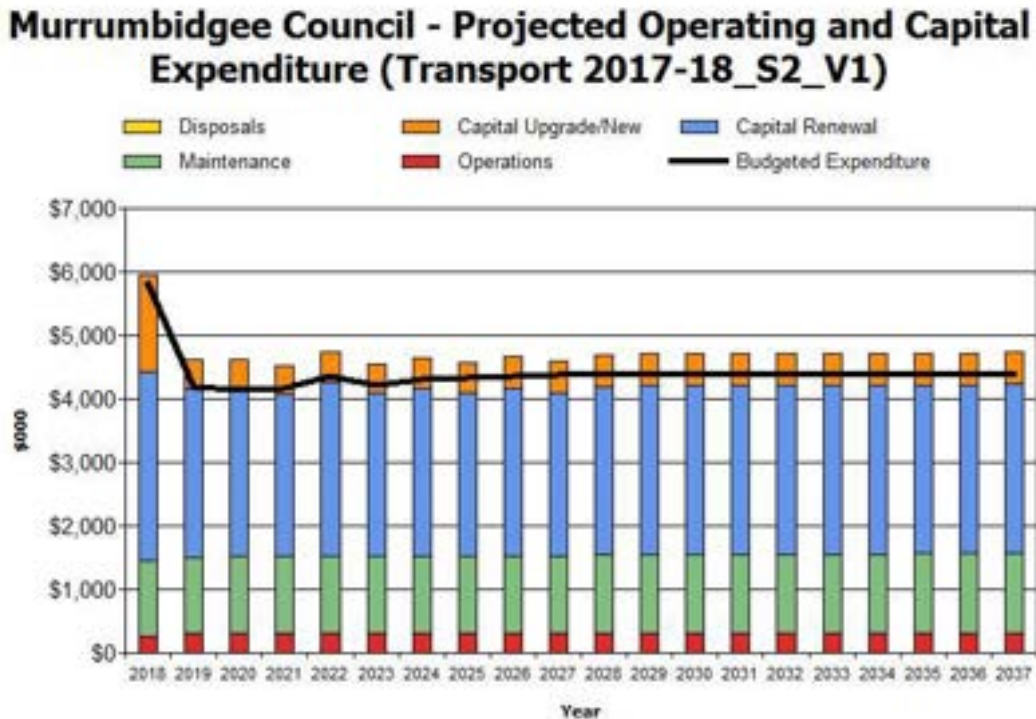
### 5.4.3 Summary of asset expenditure requirements

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

Projections are based on best available information and are aimed at providing a forecast for the future and indicate priority asset and financial management and planning tasks. Confidence levels around the reliability and accuracy of the data used to prepare the financial projections exist, however, it is important that the projections be based on best available information and improved over time as information becomes available on current and desired levels of service and current and projected future asset performance.

The financial projections from this asset plan are shown below for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). All amounts are shown in real values (i.e. 2017/18 dollars and net of inflation).

The bars in Figure 7.1 represent the anticipated budget needs required to achieve lowest lifecycle costs, the budget line indicates what is currently available. The gap between these informs the discussion on achieving the balance between services, costs and risk to achieve the best value outcome.



**Fig 7.1: Scenario 2 - Projected Operating and Capital Expenditure**  
*(Sustaining assets and services over the planning period at current levels)*

Scenario 2 requirements are based on an amount sustaining existing assets over the long term at current service levels. The expenditure outlays required over the next 10 years is estimated at \$47.5M and is not fully funded in the Long Term Financial Plan (current projections indicate \$44.3M is allocated). This means the deferral of \$3.2M priority operational, replacement and upgrade/new works and activities past the 10 year LTFP timeframe which is represented in Figure 7.2 below.



### Murrumbidgee Council - Projected Operating and Capital Expenditure (Transport 2017-18\_S3\_V1)

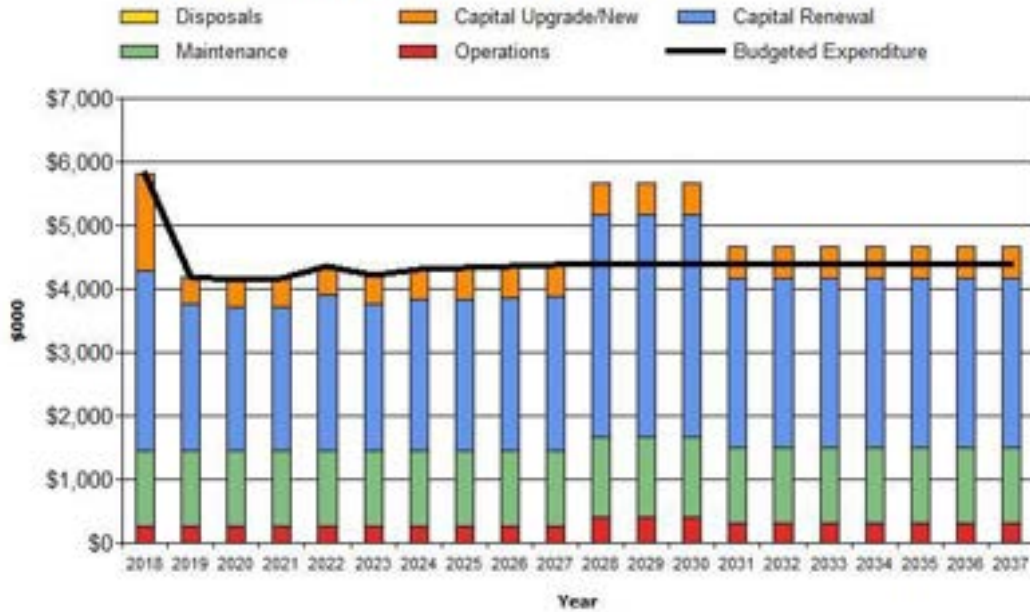


Fig 7.2: Scenario 3 - Projected Operating and Capital Expenditure (Balanced with the LTFP)

The mix of operational and capital activities and projects in the \$3.2M deferral past the first 10 years of the plan is a question for the Executive and Council to determine. Clearly there will be implications and the service and risk consequences of this should form the basis of reviewing priorities in subsequent updates of the asset management program as part of the ongoing improvement plan.

### 5.5 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.5, together with estimated annual savings from not having to fund operations and maintenance of the assets. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any. Any costs or revenue gained from asset disposals is accommodated in the long term financial plan.

Table 5.5: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Expenditure	Operations & Maintenance Annual Savings
No assets have been identified for disposal in this AM Plan.				

## 6. RISK MANAGEMENT PLAN

The purpose of infrastructure risk management is to document the results 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 31000:2009 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2009 as: ‘coordinated activities to direct and control with regard to risk’<sup>10</sup>.

An assessment of risks<sup>11</sup> associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a ‘financial shock’. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

### 6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Similarly, critical failure modes are those which have the highest consequences.

Critical assets have been identified and their typical failure mode and the impact on service delivery are as follows:

**Table 6.1 Critical Assets**

Critical Asset(s)	Failure Mode	Impact
High order road seals and pavements.	Rutting, cracking and local surface defects.	Level of Service targets may not be achieved. Condition of the asset could potentially reduce remaining life and/or accelerate deterioration. Can increase risk profile, legal liability for nuisance, negligence and third party damage.

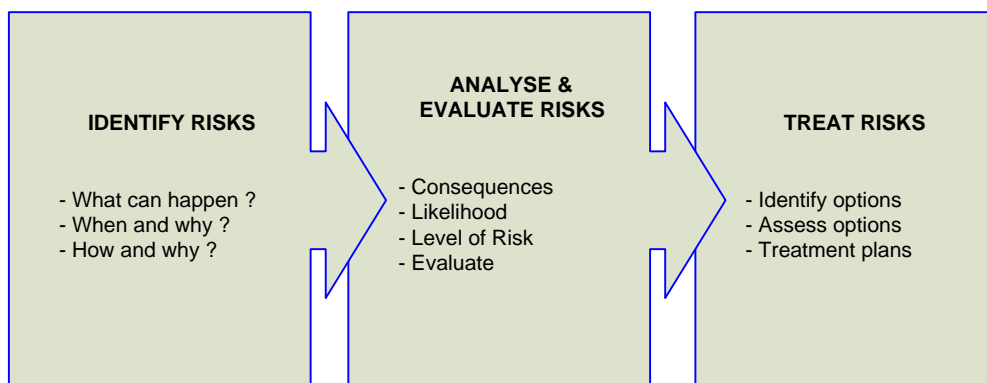
By identifying critical assets and failure modes investigative activities, condition inspection programs, maintenance and capital expenditure plans can be targeted at the critical areas.

### 6.2 Risk Assessment

The risk management process used in this project 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 the ISO risk assessment standard ISO 31000:2009.



<sup>10</sup> ISO 31000:2009, p 2

<sup>11</sup> Referenced to the Corporate or Infrastructure Risk Management Plan

**Fig 6.2 Risk Management Process – Abridged**

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

An assessment of risks<sup>12</sup> associated with service delivery from infrastructure assets has identified the critical risks that will result in significant loss, ‘financial shock’, or a reduction in service.

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 cost after the selected treatment plan is implemented is shown in Table 6.2. These risks and costs are reported to management, Audit Committee and Council.

**Table 6.2: Critical Risks and Treatment Plans**

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
All road & drainage assets	Damage to assets because of a significant natural event.	Very High	Cannot be managed within councils resourcing strategy. Reliant on external assistance such as NDRRA. Ensure resources are redirected to manage the NDRRA process when an event is declared.	Medium	Within existing budget. Staff time
	Increasing maintenance requirements due to HML and addition of new assets.	High	Continue to improve data Documented service level risks and utilisation for establishing future maintenance priorities. Determine service level hierarchy.	Low to Medium	Within existing budget. Staff time
	Defects causing injury or property damage	High	Schedule inspections based on affordable and prioritised inspection schedule within agreed service level targets.	Medium	Within existing budget. Staff time
	Increasing financial pressure to adequately sustain current service levels.  Some roads deteriorating to a lower service standard resulting in a higher risk situation.  Premature failure of some assets.	High	Continue to improve data and knowledge by carrying our targeted inspections.  Required renewal of road components may be achieved in the short to medium term  Future planning improvements can be made by documenting service level risks and utilisation of these in establishing future renewal priorities.	Medium	Within existing budget. Staff time

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

<sup>12</sup> Referenced to the Corporate or Infrastructure Risk Management Plan

## 6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to our customers and the services we provide. To adapt to changing conditions and grow over time we need to understand our capacity to respond to possible disruptions and be positioned to absorb disturbance and act effectively in a crisis to ensure continuity of service.

Resilience is built on aspects such as response and recovery planning, financial capacity and crisis leadership.

Our current measure of resilience is shown in Table 6.4 which includes the type of threats and hazards, resilience assessment and identified improvements and/or interventions.

**Table 6.4: Resilience Plan**

Threat / Hazard	Resilience LMH	Improvements / Interventions
Flooding	Medium	<p><b>Short term</b> response:                      Ensure effective communication to users and stakeholders.                      Prompt response to closure notifications and response to service requests.</p> <p><b>Long term</b> response:                      Identify hazard areas and map.                      Inform alternate routes.                      Prioritise mitigation works.                      Consider education strategy on risks.                      Training for staff members directly involved.</p>

## 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.

Options were considered based on the development of 3 scenarios.

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

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

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

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

This AM Plan has been developed using all three scenarios.

### 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:

- An estimated \$2.5M funding shortfall in priority renewals over the next 10 years,
- An estimated \$667,000 funding shortfall in operational and maintenance activities over the next 10 years, and
- Anticipated gradual reduction in maintenance grading and road resealing frequency for some roads.

#### **6.4.2 Service trade-off**

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

- Increased number of potholes and corrugations on unsealed roads.
- Extended response time to service requests.

#### **6.4.3 Risk trade-off**

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

- Increased maintenance and servicing costs.
- Accelerated ageing and general deterioration of assets.

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

## 7. FINANCIAL SUMMARY

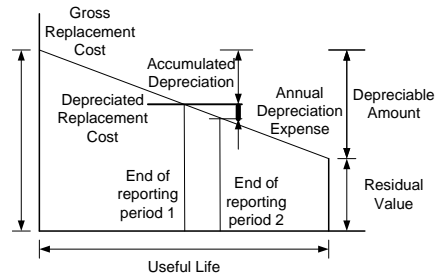
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset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

### 7.1 Financial Statements and Projections

#### 7.1.1 Asset valuations

The best available estimate of the value of assets included in this Asset Management Plan are shown below. Assets are valued using fair value principles at cost to replace service potential.

Gross Replacement Cost	\$218.413M
Depreciable Amount	\$218.413M
Depreciated Replacement Cost <sup>13</sup>	\$186.319M
Annual Depreciation Expense	\$2.152M



#### 7.1.1 Sustainability of service delivery

Two key indicators for service delivery sustainability that have been considered in the analysis of the services provided by this asset category, these being the:

- asset renewal funding ratio, and
- medium term budgeted expenditures/projected expenditure (over 10 years of the planning period).

#### Asset Renewal Funding Ratio

Asset Renewal Funding Ratio<sup>14</sup> 90%

The Asset Renewal Funding Ratio is the most important indicator and indicates that over the next 10 years of the forecasting that we expect to have 90% of the funds required for the optimal renewal and replacement of assets.

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

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

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

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is \$4.176M on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$3.853M on average per year giving a 10 year funding shortfall of \$323,000 per year. This indicates 92% of the projected expenditures needed to provide the services documented in the asset management plan. This excludes upgrade/new assets.

<sup>13</sup> Also reported as Written Down Value, Carrying or Net Book Value.

<sup>14</sup> AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

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

### 7.1.2 Projected expenditures for long term financial plan

Table 7.1.2 shows the projected expenditures for the 10 year long term financial plan.

Expenditure projections are in 2017 real values, net of inflation.

**Table 7.1.2: Projected Expenditures for Long Term Financial Plan (\$000)**

Year	Operations (\$000)	Maintenance (\$000)	Projected Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2018	\$262	\$1,186	\$2,848	\$1,507	\$0
2019	\$262	\$1,186	\$2,310	\$435	\$0
2020	\$262	\$1,186	\$2,260	\$443	\$0
2021	\$262	\$1,186	\$2,275	\$451	\$0
2022	\$262	\$1,186	\$2,451	\$460	\$0
2023	\$262	\$1,186	\$2,307	\$469	\$0
2024	\$262	\$1,186	\$2,374	\$478	\$0
2025	\$262	\$1,186	\$2,391	\$487	\$0
2026	\$262	\$1,186	\$2,409	\$497	\$0
2027	\$262	\$1,186	\$2,427	\$506	\$0

## 7.2 Funding Strategy

Funding for assets is provided from the budget and long term financial plan.

The financial strategy of the entity determines how funding will be provided, whereas the asset management plan communicates how and when this will be spent, along with the service and risk consequences of differing options.

## 7.3 Valuation Forecasts

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

Additional assets will generally add to the operations and maintenance needs in the longer term, as well as the need for future renewal. Additional assets will also add to future depreciation forecasts.

## 7.4 Key Assumptions Made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this asset management plan. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan are:

**Table 7.4: Key Assumptions made in AM Plan and Risks of Change**

- The assets will remain in the organisations ownership and control throughout the planning period.
- Planned and reactive maintenance is to take place in accordance with relevant guidelines/standards.
- All expenditure is stated in 2017/18 dollar values.
- Regulations/standards relating to operations will remain the same over the planning period.

## 7.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale<sup>15</sup> in accordance with Table 7.5.

**Table 7.5: Data Confidence Grading System**

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

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

## 8. PLAN IMPROVEMENT AND MONITORING

### 8.1 Status of Asset Management Practices<sup>16</sup>

#### 8.1.1 Accounting and financial data sources

This section describes the status of accounting and financial data and any changes required because of this AM Plan.

Council uses Civica’s Authority Financial Management product for managing its financial and asset accounting processes.

#### Accountabilities for financial data

The Responsible Accounting Officer is the Director of Corporate & Community Services.

#### Accounting standards and regulations

Council works under Australian Accounting Standards and NSW State Legislation/Regulations and Directives issued by the Office of Local Government

- NSW Local Government Act 1993
- Local Government Amendment (Planning and Reporting) Act 2009

<sup>15</sup> IPWEA, 2015, IIMM, Table 2.4.6, p 2 | 71.

<sup>16</sup> ISO 55000 Refers to this as the Asset Management System



- NSW Local Government Code of Accounting Practice and Financial Reporting
- Australian Accounting Standards Board

### **Capital/maintenance threshold**

Items of infrastructure, property, plant and equipment are not capitalised unless their cost of acquisition exceeds \$1,000.

### **Required changes to accounting financial data and systems arising from this AM Plan**

Changes to accounting and financial data and systems identified arising from this asset management plan are:

- Develop reporting on expenditures, to identify separation of costs for operations as opposed to maintenance and separate maintenance costs into reactive, planned and specific work activities.
- Continued input and development of a single corporate asset register, in which financial calculations and valuations can be undertaken by council.
- Integrating customer service system/work orders to the asset register to ensure effective service level reporting,
- Improve project cost accounting to record costs against the asset component and develop a unit rates table.

#### **8.1.2 Asset management data sources**

This section describes the status of resources, processes and technology that the organisation uses to manage its assets and reports any required changes arising from this AM Plan.

#### **Asset registers**

Asset data is stored in CivicView and manual spreadsheets recording core asset attribute data at component level in respect to:

- Location
- Inventory
- Valuation, and
- Performance

#### **Linkage from asset management to financial system**

There is limited integration between the Financial and Asset Management Information Systems. Transactions and Capitalisation are managed via a manual process.

#### **Accountabilities for asset management system and data maintenance**

The Director of Infrastructure Services is responsible for

- Data maintenance and audit
- Developing targets and frequency for asset condition inspections
- Developing and administrating asset hierarchy within the Asset Management System including any variations adopted by council
- Determining, recommending and implementing system improvements

Operational officers' and contractors' complete asset condition inspections and input data in accordance with established business protocols.

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

Changes to asset management systems identified resulting from the preparation of this asset management plan are:

- Review the accuracy and currency of asset related data and action updates,
- Continued development of a single technical asset register as the corporate asset register, in which financial valuation calculations including depreciation can be undertaken at an individual asset component level.
- Review asset categories and sub-categories to assist in maintenance management processes.
- Development of a works costing and maintenance management system to improve works planning and cost recording to identifies expenditure type (operations, maintenance, capital renewal and capital new/upgrade)
- Improved project cost accounting to record costs against the asset component and develop valuation unit rates.

## 8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 8.1.

**Table 8.1: Improvement Plan**

Task No	Task	Responsibility	Resources Required	Timeline
1	<b>Asset Register</b> Assess the Remaining Life of all assets on a priority basis and align with up to date performance data and knowledge.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
2	Review and update data for the year of acquisition or date of last renewal and replacement cost in the asset register for 1970 & 1978 as a priority.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
3	Adopt and implement an Infrastructure Asset Hierarchy as a basis for consistent reporting across the organisation	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
4	Review the accuracy and currency of location and inventory related data	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
5	develop and maintain a unit rates table on annual basis to ensure valuations are up to date.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
6	<b>Infrastructure Risk Management</b> Assess infrastructure risks and report high residual risks to the audit committee.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
7	<b>Forward Projections</b> Ensure funding models reflect the resources required meeting the timely renewal of existing assets and those identified and implemented under the Strategic Plan.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
8	Develop and adopt a prioritisation framework for renewal and upgrade/new projects.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
9	Increase confidence and prioritise renewal and upgrade/new estimates based on risk.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018

Task No	Task	Responsibility	Resources Required	Timeline
10	<b>Levels of Service</b> Develop and confirm current and desired customer/community and technical levels of service to understand and report on a sustainable service delivery model.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
11	State of the assets reporting to show current and 10-year target and affordable service levels for condition, function and capacity indicators.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
12	<b>AM Plan</b> Maintain an annual review of the plan incorporating an update of service level performance, financial and expenditure projections and risk.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
13	Implement a continuous improvement strategy to assess and report on the performance of controlled assets.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018

### 8.3 Monitoring and Review Procedures

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

The AM Plan projections will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the long term financial plan.

The AM Plan has a 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 the asset management plan can be measured in the following ways:

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

## 9. REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, [www.ipwea.org/IIMM](http://www.ipwea.org/IIMM)
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, [www.ipwea.org/namsplus](http://www.ipwea.org/namsplus).
- IPWEA, 2015, 2nd edn., 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, [www.ipwea.org/AIFMM](http://www.ipwea.org/AIFMM).
- IPWEA, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, [www.ipwea.org/IIMM](http://www.ipwea.org/IIMM)

- IPWEA, 2012 LTFP Practice Note 6 PN Long Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney
- Statement of Vision & Priorities, Murrumbidgee Council (April, 2017)
- Draft Operational Plan 2017-2018 and Draft Delivery Programme 2017/2018 - 2020/2021, Murrumbidgee Council (June, 2017).

## **10. APPENDICES**

Appendix A      Projected 10 year Capital Works Program

Appendix B      LTFP Budgeted Expenditures Accommodated in AM Plan

## Appendix A Projected 10-year Capital Works Program

Capital Works Forecast		2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27
Cost Centre	Description										
<b>Transport &amp; Communication</b>											
Bridges	1740790 Bridge Repairs/renov					120,000					
Footpaths-New	1740793 Footpaths/Cycleways Construction- New		100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
	Footpaths- Replacement	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Sealed Rural/Local Roads	1740700 Bitumen Resealing Program	779,399	779,399	779,399	779,399	779,399	779,399	779,399	779,399	779,399	779,399
	Earthwork Bridge Approaches	1,000,000									
	Main Canal Road Upgrade	180,000									
	Sealed Road Reconstruction	317,460	317,460	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Sealed Regional Roads	1740709 Regional Road Upgrade	307,382	313,564	323,179	331,435	339,939	348,499	357,127	367,028	376,579	386,439
	1740708 Regional Road Bitumen Reseal	723,182	723,171	723,423	723,511	723,499	723,499	723,194	723,171	723,209	723,411
Unsealed Rural Roads	1740702 Gravel Resealing	907,816	823,897	823,282	828,879	923,874	940,889	947,907	953,389	962,004	970,899
Urban Roads	1489100 Bitumen Resealing Programme	0	0	0	0	30,000	0	30,000	0	30,000	0
	Road Street Intersection	200,000									
	Taxi Improvement Works - Greenbank - Dum	5,000									
	1740802 Trench Streets Reconstruction	0	0	0	0	0	0	0	0	0	0
	1740702 Paved Programmes	0	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
	Construct Bus Shelter at Census Service Station	13,000									
	<b>Total</b>	<b>\$ 4,305,517</b>	<b>\$ 2,745,654</b>	<b>\$ 2,762,766</b>	<b>\$ 2,738,104</b>	<b>\$ 2,918,588</b>	<b>\$ 2,775,581</b>	<b>\$ 2,851,323</b>	<b>\$ 2,877,898</b>	<b>\$ 2,905,348</b>	<b>\$ 2,931,217</b>
	<b>Replacements</b>	<b>\$ 2,848,154</b>	<b>\$ 2,310,450</b>	<b>\$ 2,258,587</b>	<b>\$ 2,274,889</b>	<b>\$ 2,450,653</b>	<b>\$ 2,306,885</b>	<b>\$ 2,373,606</b>	<b>\$ 2,390,829</b>	<b>\$ 2,408,569</b>	<b>\$ 2,426,841</b>
	<b>Upgrade/ New</b>	<b>\$ 1,507,363</b>	<b>\$ 435,204</b>	<b>\$ 504,179</b>	<b>\$ 463,215</b>	<b>\$ 467,935</b>	<b>\$ 468,696</b>	<b>\$ 477,717</b>	<b>\$ 487,069</b>	<b>\$ 496,779</b>	<b>\$ 504,376</b>

## Appendix B Budgeted Expenditures Accommodated in LTFP

NAM5.PLUS3 Asset Management Murrumbidgee Council										
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Transport 2017-18_S2_V1					Asset Management Plan			IPWEA		JRA
First year of expenditure projections 2018 (Financial yr ending)										
<b>Transport 2017-18</b>										
<b>Asset values at start of planning period</b>										
Current replacement cost	\$218,430	(000)	Calc CRC from Asset Register							
Depreciable amount	\$218,430	(000)	This is a check for you.							
Depreciated replacement cost	\$186,319	(000)								
Annual depreciation expense	\$2,152	(000)								
<b>Operations and Maintenance Costs for New Assets</b>										
Additional operations costs	% of asset value 0.12%									
Additional maintenance	0.54%									
Additional depreciation	0.99%									
Planned renewal budget (information only)										
You may use these values calculated from your data or overwrite the links.										
<b>Planned Expenditures from LTFP</b>										
20 Year Expenditure Projections Note: Enter all values in current 2018 values										
Financial year ending	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
<b>Expenditure Outlays included in Long Term Financial Plan (in current \$ values)</b>										
<b>Operations</b>										
Operations budget	\$262	\$262	\$262	\$262	\$262	\$262	\$262	\$262	\$262	\$262
Management budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
AMI systems budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total operations</b>	<b>\$262</b>	<b>\$262</b>	<b>\$262</b>	<b>\$262</b>	<b>\$262</b>	<b>\$262</b>	<b>\$262</b>	<b>\$262</b>	<b>\$262</b>	<b>\$262</b>
<b>Maintenance</b>										
Reactive maintenance budget	\$1,186	\$1,186	\$1,186	\$1,186	\$1,186	\$1,186	\$1,186	\$1,186	\$1,186	\$1,186
Planned maintenance budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specific maintenance items budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total maintenance</b>	<b>\$1,186</b>	<b>\$1,186</b>	<b>\$1,186</b>	<b>\$1,186</b>	<b>\$1,186</b>	<b>\$1,186</b>	<b>\$1,186</b>	<b>\$1,186</b>	<b>\$1,186</b>	<b>\$1,186</b>
<b>Capital</b>										
Planned renewal budget	\$2,848	\$2,310	\$2,260	\$2,275	\$2,451	\$2,307	\$2,374	\$2,391	\$2,409	\$2,427
Planned upgrade/new budget	\$1,507	\$435	\$443	\$451	\$460	\$469	\$478	\$487	\$497	\$506
<b>Non-growth contributed asset value</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Asset Disposals</b>										
Est Cost to dispose of assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Carrying value (DRC) of disposed assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)</b>										
Additional Expenditure Outlays required and not included above	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Operations	\$0	\$38	\$38	\$38	\$38	\$38	\$38	\$38	\$38	\$38
Maintenance	\$0	\$14	\$14	\$14	\$14	\$14	\$14	\$14	\$14	\$14
Capital Renewal	* to be incorporated into Forms 2 & 2.1 (where Method 1 is used) OR Form 2B Defect Repairs (where Method 2 or 3 is used)									
Capital Upgrade	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
User Comments #2										
<b>Forecasts for Capital Renewal using Methods 2 &amp; 3 (Form 2A &amp; 2B) &amp; Capital Upgrade (Form 2C)</b>										
Forecast Capital Renewal from Forms 2A & 2B	\$2,997	\$2,665	\$2,665	\$2,565	\$2,750	\$2,565	\$2,640	\$2,565	\$2,640	\$2,565
Forecast Capital Upgrade from Form 2C	\$1,507	\$435	\$443	\$451	\$460	\$469	\$478	\$487	\$497	\$506