JUNEE SHIRE COUNCIL

# ROADS
# Asset Management Plan

## 2012

Version 1.2
Adopted April 2012

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## EXECUTIVE SUMMARY

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## Purpose of the Plan

The purpose of the Roads Asset Management Plan is to outline a path for Junee Shire Council (JSC) to follow in setting budgetary requirements for its maintenance, renewal and capital upgrade program over the next 15 years. The plan needs to strike balance between the competing demands of the level of service the community expects and the level of expenditure the community is willing to provide towards the maintenance, renewal and capital upgrade program.

## Asset Description

Junee Shire has two State Roads amounting to 80 km which are funded through the RMS RMCC Contract

48 km of Regional Road is funded through the RMS Block Grant program

JSC is responsible for a further 752 km of Rural Local roads and 52 km of Urban Local Roads.

JSC also has 19 km of footpath and bike path, 51 km of kerb and gutter,
33 bridges and a stormwater system supporting the urban road network.

## Levels of Service

JSC has endeavoured to increase its level of service for roads in recent years through the use of grant funds from the *Repair Program*, *Blackspot Program* and *Roads to Recovery Program.*

Despite some improvement to the road network, the rate of deterioration is still higher than the rate of renewal needed to meet long term service levels.

There is no long term commitment from either the Federal or State Governments to ensure continued or increased allocation of funds.

The community has an expectation that the level of service provided will be improved in coming years, however JSC has concerns that its financial ability will be stretched just maintaining the present level of service. There is a gap between the community's expectation and the JSC ability to provide that level of service.

## Future Demand

JSC's Local Environmental Plan (LEP) was gazetted on 18 December 1992 and is currently being reviewed. The new LEP will allow for modest land development within the Shire.

JSC's Strategic Plan is for the Shire population to grow by 15% over the next twenty years. While increased population will result in an increase in general rates income and developer charges collected, it will also result in increased expectations from the community and higher traffic volumes which will result in reduced pavement lives.

## Lifecycle Management Plan

The management model for management of road pavements relates particularly to the maintenance and renewal stages of asset life. In the **'do nothing'** phase, the asset deteriorates slowly and maintenance is generally not required. In the **'maintain'** phase, activities will need to be performed to minimize continued deterioration. In the **'renewal'** phase, activities are undertaken that restore the asset to a condition close to that of the original. **Capital upgrade** involves rebuilding the Asset to be a better asset than the original and/or providing an improved level of service than the original asset did.

The importance of the time for intervention for renewal is paramount. If renewal activities are not undertaken in a timely manner, the condition of the asset will deteriorate rapidly to failure, and the cost of **reconstruction** may be up to four times that of renewal activities. This is particularly important with regard to the timing of reseals and gravel resheets.

## Financial Summary

JSC's present budget for roads is $3.08 million give or take annual variation caused by one off grant allocations, flood repairs etc.

A 15-year analysis of existing pavement conditions and costs has been undertaken to determine funding implications for the asset condition of the local road network. Annual adjustment for increases in the cost of road construction materials and services has been made to accurately represent long term results.

To determine Councils long term sustainability two methods will be used.

## Method One

Used historic trends projected forward. This method shows that JSC would have to increase expenditure by $110,000 per year to match the Roads and Bridge Construction Cost Index predicted by the IPWEA (Institute of Public Works Engineering Australia) or a minimum of $90,000 per year to match the CPI-Rate Pegging annual increases.

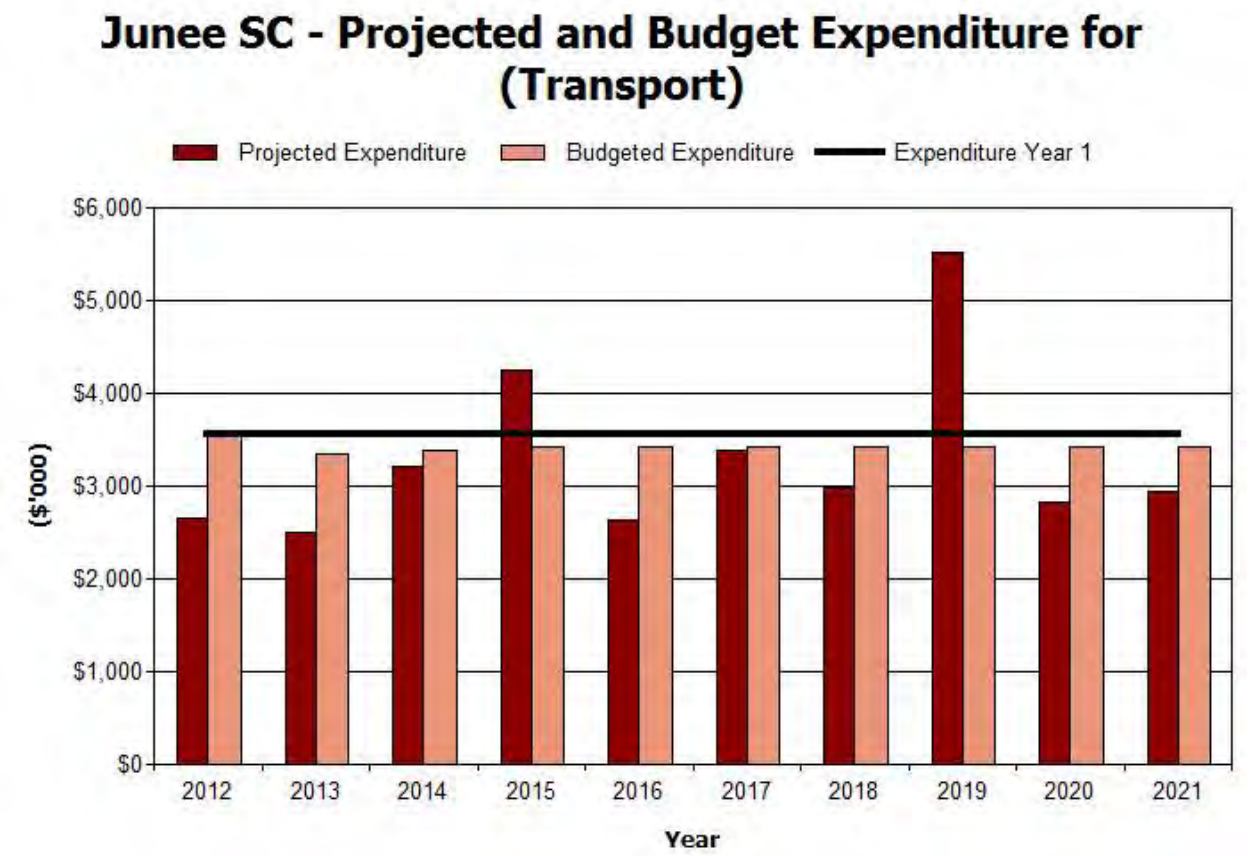
## Method Two

Uses Jeff Roorda and Associates (JRA) "Asset Management for Small Communities" software which calculates sustainability from information collected through Councils asset register.

This method shows that Council would need to increase expenditure by $127,000 per year to maintain long term sustainability.

Both methods prove that JSC needs to budget approximately $3.2 million dollars per year to be sustainable for the long term.

JSC has the additional problem however of addressing the 200km of roads that do not meet current service levels. If the Council is serious about address this problem than an additional $700,000 to $1million dollars per year needs to be expended over the next 30 years to improve the road network to a level the community is satisfied with. Alternatively JSC must convince the community to agree to lower the level of service.




Projected Expenditure is the expenditure identified by the Roorda modelling to maintain, operate and meet the long term renewal cost of the asset. The timing for the renewal is based on the useful life of the asset and the year it was built.

Budgeted Expenditure is the expenditure that JSC will attempt to allocate to road assets in the long term financial plan.

Expenditure Year 1 is the budget for 2011/2012 projected as a straight line across the following ten years. **Note**: This is slightly high for 2012 as we have a one off repair program grant of $245,000 allocated from the RMS for expenditure in this financial year.

## Asset Management Practices

Asset management systems for road assets include JSC's Asset Register which is based on an *Excel* spreadsheet providing:

- Asset Data, financial information including replacement cost, depreciation costs and present values
- MAPINFO (JSC's GIS)
- ***Reflect*** System recording all road defects and repairs

JSC has also used the skills and knowledge of staff who have served the Council for up to forty years. Many hand-kept records have also been used to establish the historical data about assets.

## Monitoring and Improvement Program

Monitoring and review of the asset management plan is required to:

- Ensure compliance with the proposed improvement program
- Ensure compliance with adopted standards and procedures for condition and performance

It is envisaged that a review be undertaken on a regular basis.

Councils Asset Register requires updating and improving to provide more accurate data to assist with the sustainability calculations.

**Recommendations for Monitoring and Improvement of AMP**

1. Develop performance measures and targets for road asset service criteria, considering community/customer expectations; strategic goals; legislative requirements, and JSC's resource ability to meet measures and targets.
   **2009-2010 – (Completed)**

2. Develop accurate financial models to describe fair value and depreciation rates for all asset classes.
   **2009-2010 – (Completed) To be redone in 2012-2013**

3. Review and improved maintenance practices, considering service agreements for maintenance activities, and procedures to reduce the potential liability exposures associated with the maintenance of roads.
   **2009-2010 – (Completed)**

4. Review and update Asset Register for Roads
   **2012-2013**

5. Review and improve the system to monitor and control the standard of work of private/utility contractors associated with road opening restorations.
   **2013-2014**

6. Provide developers with a subdivision code, clearly specifying JSC's requirements in regard to pavement design.
   **2013-2014**

   Note: JSC is, at this time, the only land developer in Junee Shire.

# 1 INTRODUCTION

## *1.1 Background*

### 1.1.1 Purposes of Plan

The **purposes** of the Road Assets Management Plan (AMP) are to:

- Demonstrate asset management in the most cost effective and sustainable manner
- Communicate and justify funding requirements
- Comply with regulatory requirements
- Use techniques (technical and financial) over the lifecycle of the asset to provide pre-determined levels of service
- Identify, establish, and support planning decisions relating to the asset's lifecycle

The outcomes of the AMP are:

- The creation or compilation of information and
- Plans to effectively undertake Asset Lifecycle Management and
- In turn the identification of future funding and service delivery requirements

### 1.1.2 Relationship with other Planning Documents

This AMP is a key component of the planning process linked with the following plans and documents:

- Community Strategic Plan (CSP)
- Forward works program - Asset Maintenance, Renewal and Capital Upgrade Plan 2006/2021
- Junee Shire Council Management Plan 2011- 2015
- Junee Shire Council Long Term Financial Plan

### 1.1.3 Infrastructure Assets Included in the Plan

Assets included in this AMP:

- Sealed and unsealed pavements within the road reserve dedicated to Council for the purpose of traffic movement
- Materials including gravel, seal, concrete, asphalt, and pavers
- Concrete bridges within the road network owned and operated by Junee Shire Council. (Note: Junee Shire has no timber bridges)
- Footpaths
- Kerb and gutter within the road network
- Storm water systems associated with road drainage

In this asset management plan all of these asset classes will be referred to as the 'road assets'.

### 1.1.4 Key Stakeholders in the Plan

A stakeholder is any person or group having an interest in the service provided by the asset and includes suppliers and providers. Key stakeholders for all road assets include:

- Councillors and Staff
- Community
- Visitors
- Other government bodies
- Utilities
- Developers
- Volunteers
- Contractors/Consultants
- Insurers

### 1.1.5 Organisation Structure

The Organisational Structure summarises all activities within council and the staff association with road assets.

COUNCIL

| General Manager's Department | Corporate & Community Services | Development & Environmental Services | Engineering Services |
|---|---|---|---|
| *Mr Greg Campbell* | *Mr John Whitfield* | *Mr Ralph Tambasco* | *Mr Colin Macaulay* |
| Governance | Financial Services | Town Planning | **ROAD ASSETS** |
| Executive Assistance | - Rates | LEP management & update | **Engineering Planning & Coordination** |
| Work Safe & Risk Management | - Debtors | Development Control | **Design Services** |
| Internal Audit | - Creditors | Building Control | **Quality Assurance** |
| Economic Development | - Payroll | Environmental Health | **Plant & Equipment** |
| Property Development | - Cashiering | Inspection & Licensing | **Roads Construction / Roads Maintenance** |
| Geospatial Alliance Project | - Financial Reporting | Food Control | **- Urban Roads** |
| Fire Control & Emergency Services | - Grant management & returns | Order Enforcement | **- Rural Sealed Roads** |
| | Land Development – budget control & sales | Animal Control | **- Rural Unsealed Roads** |
| | Annual Report | Noxious Plant Control | **- Footpaths / Bikepaths** |
| | Management Plan coordination | Community Development | **- Signage** |
| | Annual Budgets | Social Planning | **Street Cleaning** |
| | Budget Reviews | Economic Development | **Bus Shelters** |
| | Long Term Financial Planning | Council Properties | **Storm Water Drainage** |
| | RTA Agency | - Athenium Theatre | **RTA Contracts Management** |
| | Centrelink Services | - Medical Centre | **Private Works** |
| | Administrative Services | - Council houses | **Asset Management** |
| | Customer Service | Heritage matters | Public Toilets |
| | Human Resources | Rural Addressing | Public Cemeteries |
| | Information Technology | On Site Sewage Management | Waste Management (Garbage) |
| | Insurances | Environmental Protection | - Tip Management |
| | Special Projects | - Construction | Sewerage |
| | Community Services | - Wetlands | - Collection |
| | - Recreation & Aquatic Centre | - Salinity | - Treatment |
| | - Library | - Contaminated Land | - Disposal |
| | - Family Day Care | LandCare | - Recycled Effluent |
| | - Community Transport | Waste Management (Garbage) | Sporting Grounds |
| | - Caravan Park | - Collection | Parks, Gardens & Reserves |
| | Asset Management | - Disposal | |
| | Public Officer | - Recycling | |
| | Right to Information Officer | Asset Management | |
| | Responsible Accounting Officer | | |

## *1.2 Goals and Objectives*

### 1.2.1 Reason and Justification for Asset Ownership

JSC is the asset owner of roads primarily due to legislation. Section 2.3 highlights JSC's responsibility in regard to Section 8 of the Local Government Act 1993 and the need for JSC to maintain community assets in accordance with the Council Charter described in this part of the Act.

### 1.2.2 Links to Organisation Vision, Mission, Goals and Objectives

JSC's Vision and Mission statements show a commitment to long term sustainability and management of resources respectively.

#### Vision Statement

*"Junee will be a great place to live, with a healthy civic pride. That will come about because the amenity of the shire – social, recreational, cultural, environmental and visual – is the best quality possible given our circumstances. There will be an increase in population because of this, with the increase made up of people who are net contributors to the community."*

*"Junee will be prosperous and existing services and businesses will have been preserved and grown. The shire will have economic development strategies recognising the different circumstances of urban and rural areas."*

*"Junee will be a place where innovative, responsive leadership and management occurs in all facets of community life."*

*"It will be an independent Local Government area with a strong sense of identity."*

#### Mission Statement

*"Through effective leadership and management, Junee Shire Council will enable the Shire to advance systematically towards its desired vision."*

#### The Community Strategic

*The Community Strategic Plan states:*

*Review and Revise the road hierarchy with a priority assessment of upgrading road conditions in the next 12 years, and undertake priority works every year.*

*Develop an asset management and renewal programme by identifying the condition of all asset categories and ensuring appropriate future provisions for roads, drainage and building maintenance.*

## *1.3 Plan Framework*

### 1.3.1 Key Elements of the Plan

The key elements of this plan include:

- Levels of Service
- Future Demand
- Lifecycle Management Plan
- Financial Summary
- Asset Management Practices and
- Plan Improvement and Monitoring

## *1.4 Basic and Advanced Asset Management*

### 1.4.1 Procedure for Road Inspection

Over the last 10 years JSC staff has physically inspected and recorded asset attributes including pavement type, pavement material, width, road lengths, footpath lengths and width and kerb and gutter length. During this process a condition rating was allocated to assets.

Roads are continually inspected by experienced staff to determine and monitor changes to the condition of the road assets. Historical reseal data has been kept for thirty years and has been included in the plan.

This data has been used to undertake the financial and asset replacement estimates included as part of this plan.

In addition to the formal data collection, roads are also inspected to gain data to prioritise works. These inspections are used to:

- Respond to risk issues raised by staff or customer complaints/ observations; and
- Assess the condition of the physical properties of the road in readiness for road maintenance activities

### 1.4.2 Current Practices for Road Asset Management

In past years the management approach to roads was to undertake as much work as physically and financially possible. In more recent times JSC staff have understood the principles of asset management and have endeavoured to maximise the amount of road renewed and this has resulted in not increasing widths beyond what is required as an absolute minimum. No long term financial management has been undertaken previously and as such staff had no target for the required long term annual spending requirements.

Experienced JSC staff have always felt however that a higher level of expenditure was required for the long term sustainability of the road network.

The general approach to road management has been to undertake the following activities at regular frequencies as described below. These frequencies are dependent on available funding:

- Resealing of each road is completed every 20 years
- Gravel roads are resheeted every 10 to 15 years
- Road pavement is renewed every 100 years and
- General maintenance is conducted on demand or on an as-needs basis

No formal future prediction models are currently used for proactive management.

### 1.4.3 Sophistication/Limitations of the Asset Management Plan

JSC has limited resources available to undertake detailed modelling of the road network and therefore a number of assumptions have been made in relation to future replacement costs, expected life of assets, traffic volumes and deterioration rates.

Staff have used surface deterioration and ride quality to assume future expected lives based on assumed total life and the area of defects to provide a 'best guess' of the remaining life. No pavement testing has been undertaken to confirm these assumptions.

We know from historical research that most of Council's roads were built and sealed in the 1950s and 1960s with some in the 1970s. Very little renewal workings carried out until the Roads to Recovery programme commenced in the early 2000s.

We have assumed that on average roads are going to have to last 100 years in total. This means that some roads are going to last 150 years, while others will have shorter lives. Increases in traffic from additional development and an expected increase in heavy vehicle traffic from increased farming and feedlot activity, and an ethanol plant will decrease pavement lives. Already there have been some road pavements which have reached the end of their lives.

# 2 LEVELS OF SERVICE

## *2.1 Customer Research and Expectations*

The statements of levels of service in this section are:

- To inform customers of the proposed type and level of service to be offered
- To identify the costs and benefits of the services offered
- To enable customers to assess suitability, affordability and equity of the services offered
- To be a measure of the effectiveness of the AMP
- To be a focus for the asset management strategies developed to deliver the required level of service

The optimal levels of service outlined in the section are to be based on:

- Community Research and Expectations
- Information gathered from customers on expected quality of services
- Strategic and Corporate Goals
- Legislative Requirements
- Legislation Regulations Environmental Standards and Industry and Australian Standards that might impact on the way assets are managed
- Design Standards and Codes of Practice (Australian Design Standards also provide the minimum design parameters for infrastructure delivery)
- The Council's ability to fund the level of service

### 2.1.1 Background and Customer Research Undertaken

JSC's customer request system and written letters and discussions with the community are all used to gain the community's expectation for level of service.

JSC also has the advantage of many long serving staff who have lived in the community all their lives. They have an intimate knowledge of community expectation. Conversely, the community feels very comfortable with letting staff know of their concerns and expectations.

Further, JSC undertakes periodic surveys to gauge the community's satisfaction levels for a number of the services provided. Road services rate lower in satisfaction than other areas of Council operations.

### 2.1.2 Details of How Research Translates into Levels of Service

The asset's physical deterioration, funding allocation, and the risk management processes predominantly determine the level of maintenance. While the community would generally like 'better roads' the Council's ability to fund the maintenance and renewal is often limited and only community pressure on Council would see further funds allocated to roads at the expense of other services provided.

## *2.2 Strategic Corporate Objectives*

The Community Strategic Plan States:

Theme No. 2:
"making tracks" – A Liveable Community

| ***Strategy*** | ***Responsible Service Area*** |
|---|---|
| *Review and revise the road hierarchy*<br>*- with a priority assessment of upgrading road conditions in the next 12 years, and undertake priority works every year.* | *Urban Sealed & Unsealed Roads*<br>*Rural Sealed Roads*<br>*Rural Unsealed Roads* |
| *Develop an asset management and renewal Programme*<br>*- identify the condition of all asset categories and ensure appropriate future provisions for roads, drainage and buildings maintenance* | *Administration Building*<br>*Library Services*<br>*Recreation Centre*<br>*Housing*<br>*Public Halls & Buildings*<br>*Business Undertakings*<br>*Sewerage*<br>*Sporting Grounds*<br>*Parks & Gardens*<br>*Urban Sealed & Unsealed Roads*<br>*Rural Sealed Roads* |

### *2.2 Actions the Council will take which relate to Road Infrastructure*

- *We will seek to provide for the increasing cost of maintaining and improving public infrastructure – roads, drainage, buildings etc*

***Performance measures:***

- *Road conditions maintained*

It is clear that the Council's Strategic objectives have identified the importance of sustainable Road Asset Management.

## *2.3 Legislative Requirements*

### 2.3.1 Legislation or Regulations which Affect Asset Operation or Require Certain Levels of Service

| Legislation | Requirement |
|---|---|
| Local Government Act | Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery. |
| Local Government Act 1993 | Provides the legal framework for an effective, efficient, environmentally responsible and open system of local government in NSW. To regulate the relationships between the people and bodies comprising the system, and to encourage and assist the effective participation of local communities in the affairs of local government. Includes the preparation of a strategic plans and a long term financial plan supported by asset management plans for sustainable service delivery. |
| Local Government Act - Annual Reporting Section 428(2)(d) | (d) A report of the condition of the public works (including public buildings, public road and water sewerage and drainage works) under the control of council as at the end of that year; together with<br>(i) An estimate (at current values) of the amount of money required to bring the works up to a satisfactory standard; and<br>(ii) An estimate (at current values) of the annual expense of maintain the works at that standard; and<br>(iii) The Council's program for maintenance for that year in respect of the works. |
| NSW Local Government Act 1993 (Section 8) | The council's charter<br>A council has the following charter:<br>• To provide directly or on behalf of other levels of government, after due consultation, adequate, equitable and appropriate services and facilities for the community and to ensure that those services and facilities are managed efficiently and effectively.<br>• To exercise community leadership.<br>• To exercise its functions in a manner that is consistent with and actively promotes the principles of multi-culturalism.<br>• To promote and to provide and plan for the needs of children.<br>• To properly manage, develop, protect, restore, enhance and conserve the environment of the area for which it is responsible, in a manner that is consistent with and promotes the principles of ecologically sustainable development.<br>• To have regard to the long term and cumulative effects of its decisions.<br>• To bear in mind that it is the custodian and trustee of public assets and to effectively account for and manage the assets for which it is responsible.<br>• To facilitate the involvement of councillors, members of the public, users of facilities and services and council staff in the development, improvement and co-ordination of local government.<br>• To raise funds for local purposes by the fair imposition of rates, charges and fees, by income earned from investments and, when appropriate, by borrowings and grants.<br>• To keep the local community and the State government (and through it, the wider community) informed about its activities.<br>• To ensure that, in the exercise of its regulatory functions, it acts consistently and without bias, particularly where an activity of the council is affected.<br>• To be a responsible employer. |

| | |
|---|---|
| Department of Local Government NSW Integrated Planning Local Government Amendment (Planning and Reporting) Act 2009 | Requirement for integrated (long term) Community Strategic Plan with Delivery Program and Operational Plan. Additionally it is stated that each Council must prepare a Resourcing Strategy including an Asset Management Policy and Strategy and Asset Management Plan/s to support the Community Strategic Plan and Delivery Program. |
| Civil Liability Act 2002 and Civil Liability Amendment (Personal Responsibility) Act 2002 | Protects the Council from civil action by requiring the courts to take into account the financial resources, the general responsibilities of the authority and the compliance with general practices and applicable standards. |
| NSW Roads Act 1993 | Sets out the rights of members of the public to pass along public roads, the rights of persons who own land adjoining a public road to have access to the public road, and to establish the procedures for the opening and closing of a public road, to provide for the classification of roads, to provide for the declaration of public authorities as roads authorities for classified and unclassified roads, to confer certain functions (in particular, the function of carrying out road work), and to regulate the carrying out of various activities on public roads. |
| NSW Roads Act 1993 – Section 7 | Roads authorities :<br>1. The RTA is the roads authority for all freeways.<br>2. The Minister is the roads authority for all crown roads.<br>3. The regulations may declare that a specified public authority is the roads authority for a specified public road, or for all public roads within a specified area, other than any freeway or crown road.<br>4. The council of a local government area is the roads authority for all public roads within the area, other than:<br>a) Any freeway or Crown road, and<br>b) Any public road for which some other public authority is declared by the regulations to be the roads authority.<br>5. A roads authority has such functions as are conferred on it by or under this or any other Act or law. |
| Protection of the Environment Operations Act 1997 | Sets out to protect, restore and enhance the quality of the environment in NSW, having regard to the need to maintain ecologically sustainable development, pollution prevention, the elimination of harmful wastes, the reduction in the use of materials and the re-use, recovery or recycling of materials. |
| Environmental Planning and Assessment Act 1979 | Sets out to encourage the proper management, development and conservation of natural and artificial resources for the purpose of promoting the social and economic welfare of the community and a better environment and the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats. |
| Natural Resources Management Act 2004 | Sets out the role, purpose, responsibilities and powers of local government in controlling the use of natural resources. |
| 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/issues including alcohol and other drug use, speeding and other dangerous driving, traffic control devices and vehicle safety accidents. |
| Crown Lands Act 1989 | Sets out the objectives and principles for Crown Land management. |
| National Parks and Wildlife Act 1974 | Sets out objectives and principles for conserving the State's natural and cultural heritage, fostering public appreciation, understanding and enjoyment of a State's natural and cultural heritage, and managing any lands reserved for the purposes of conserving and fostering public appreciation and enjoyment of the State's natural and/or cultural heritage. |
| Noxious Weeds Act 1993 | Sets out to reduce the negative impacts of weeds on the economy, community and environment. |
| Threatened Species Act 1995 | Sets out to conserve biodiversity and promote ecologically sustainable |

| | |
|---|---|
| | development. |
| Native Vegetation Act 2003 | To manage and protect native vegetation, to prevent broad scale clearing, to improve native vegetation and to encourage revegetation of land. |
| Heritage Act 1977 | To promote understanding of heritage issues and conservation of items of heritage significance. |
| State Environmental Planning Policy No 19 Bushland and Urban Areas | Sets out the objectives to protect and preserve bushland within the LGA. |
| Occupational Health and Safety Act 2000 | Sets out the responsibilities of Council to secure and promote the health, safety and welfare of people at work. |
| Disability Discrimination Act | Sets out the responsibilities of Council and staff in dealing with access and use of public infrastructure. |
| Other relevant State and Federal Acts and Regulations | As appropriate |
| Standards and Specifications | |
| Australian Accounting Standards | Sets out the financial reporting standards relating to infrastructure assets. Standards of particular relevance to infrastructure assets include:-<br><br>AASB 116 Property, Plant and Equipment – prescribes requirements for recognition and depreciation of property, plant and equipment assets.<br><br>AASB 136 Impairment of Assets – aims to ensure that assets are carried at amounts that are not in excess of their recoverable amounts.<br><br>AASB 1021 – Depreciation of Non-Current Assets – specifies how depreciation is to be calculated<br><br>AAS 1001 Accounting Policies – specifies the policies that Council is to have for recognition of assets and depreciation<br><br>AASB 1041 Accounting for the reduction of Non-Current Assets – specifies the frequency and basis of calculating depreciation and revaluation basis used for assets<br><br>AAS 1015 Accounting for acquisition of assets – method of allocating the value to new assets on acquisition<br><br>AASB 1051 Land Under Roads |
| Austroads Guides, Commentaries and Reports | Austroads works with Local Government to improve Australia's roads and transport systems, recognising the value and importance of developing the local road component of the national road network. |
| Australian Standards | Various standards outlining the minimum requirements for Council for operations and design. Include:-<br>- AS 1742 – various standards forming Manual of Uniform Traffic Control Devices<br>- AS/NZS 4360:2004 Risk Management<br>- HB 4360:2004 Risk Management Guidelines – Companion to AS/NZS 4360:2004 |

## *2.4 Current Level of Service*

### 2.4.1 Current Levels of Service being Provided by the Asset

The overriding level of service is controlled by the maintenance, renewal and capital upgrade programs.

- *General maintenance works – works prioritised from the risk management process and adopted intervention levels.*

- *Renewal and capital upgrade – works created by the priority listing set by condition rating serviceability and risk assessment. Refer to* ***"Asset Maintenance, Renewal and Capital Upgrade Plan"****.*

The available funding and resources control the number of works undertaken each year.

### 2.4.2 Related Performance Measures

An improvement to the present level of service will have the following benefits:

- Reduction in the number of public liability claims
- Improvement in safety
- Reduction of complaints from the community regarding road condition
- Increased efficiency for road users

(N.B. If present levels of service is reduced the opposite of the above will occur)

## *2.5 Level of Service to Achieve Sustainability*

### 2.5.1 Sustainability Level of Service

JSC has no detailed information on what customers' desired level of service is. It does have evidence, from the Customer Satisfaction Surveys conducted in 2006 and 2011 that customers are generally less satisfied with the level of service provided for roads than for other functions.

Residents want the road network to be sustainable with several roads to be sealed and old sealed roads to be renewed or upgraded.

### 2.5.2 Provide Details of Differences Between Current and Sustainable Levels of Service and How These Gaps will be Progressively Closed

JSC has identified that it has 200 km of its road network that does not meet current "agreed levels of service". (Refer to Appendix 5) If JSC could raise its level of expenditure on roads from $2.972 m to $4 m the road network would meet expected service levels in approximately 30 years time.

The study conducted by IPWEA using the **Road Management** model shows that for long term sustainability of its road network JSC would need to increase expenditure by $0.7m.

Whether the funding gap is $1m or $0.7m per year it is impossible for JSC to close it unless JSC considers significant rate rises or borrowing, obtains additional Federal or State Government funding or institutes a significant lowering of the agreed level of service.

For agreed Levels of Service refer to Appendix 2.

**AN EXAMPLE TO SHOW HOW THE FUNDING GAP CAN BE ILLUSTRATED USING EXPENDITURE FOR ROAD ASSETS 2009/2010**

| | | | |
|---|---|---|---|
| Annual Operating Expenses | 2009/10 | | $1,143,000 |
| Annual Renewal | - Reseals | 2009/10 | $ 435,000 |
| | - Resheets | 2009/10 | $ 244,000 |
| Annual Capital Upgrades | 2009/10 | | $ 804,000 |
| TOTAL | | | $2,626,000 |

**The IPWEA model shows for Long Term Sustainability for Road Assets**

| | | |
|---|---|---|
| Annual Operating Expenses | | $1,143,000 |
| Annual Renewal | - Reseals | $ 568,000 |
| | - Resheets | $ 758,000 |
| Annual Capital Upgrades | | $ 866,000 |
| **TOTAL** | | $3,335,000 |
| Funding Gap | | $ 709,000 |

As of March 2012 the Council has not made a decision as to how this funding gap will be closed.

# 3 FUTURE DEMAND

## *3.1 Demand Forecast*

The demand forecast is based on the *Junee Residential Strategy* (Ref 1) population estimates. This document has taken into consideration the estimated increase in population based on the available land for development under the present and future Local Environmental Plan (LEP).

JSC's existing road network will support the demand placed on it from the existing population and rural industry needs well into the future, including the modest population growth that is predicted and assuming a sustainable level of funding is provided for maintenance, renewal and capital upgrade.

The proposed ethanol plant located at Marinna will focus a large amount of grain haulage to that site. The access from the east and the west will be via the State Road Network. The north and the south access will be via local access roads. Council will negotiate a suitable planning agreement through the Development Application process to fund the upgrade and maintenance required for our local roads to provide the required level of service to the ethanol plant.

Refer to Appendix 3 - map of the shire showing road upgrades required for the ethanol plant.

### 3.1.1 Factors Influencing Demand

The key drivers influencing demand for the road infrastructure are:

- Population growth (minor)
- Residential development
- Demographic changes
- Demand for increased services
- Strategic extensions to the network

### 3.1.2 Junee Residential Strategy
### Population Projections for Junee Shire Council

The Junee Residential Strategy states:

*"For the purpose of this strategic plan an estimated population growth of one percent (per annum) has been assumed. The projections are based on the last national census of 2001. The ABS 2003 estimates and Junee Shire Council estimates for 2003 put the current growth rate slightly higher between 1.5 and 2 percent. The assumed growth rate of one percent takes into account the history of the town's previous population decline as well as recent growth and subsequent significant development activity. This figure allows for a projected residential supply that can meet the growing needs of the community in an efficient and timely manner. Actual growth should be considered after each population census along with take-up rates and trends to ensure supply and demand remain on-track as well as considering other environmental factors"* ( Junee Residential Strategy)

### 3.1.3 Anticipated Changes in Customer Expectations

Generally there is an expectation of a higher level of service, particularly from families relocating to this area from larger wealthier cities (the 'tree changers').

JSC has broached this issue already in its Rural Roads Policy and as such has limited future development to areas that can be adequately serviced by JSC's existing road network and has required considerable developer contributions to ensure an adequate level of service to new subdivisions.

### 3.1.4 Impact of Changes in Demand on Asset Use

It is anticipated that the change in demand will increase:

- Traffic volume for new developments and increased commercial activity
- Traffic and pedestrian management planning
- Calming devices on road
- Deterioration of the road network

## *3.2 Changes in Technology*

### 3.2.1 New Technology and Effects on Providing Future Services

Technological advances will increase the asset inspection efficiencies by minimising double handling of information and better managing our data. This information includes asset physical parameters and condition.

JSC has already embraced new technology which consists of asset data capture on to JSC's GIS through the ***Reflect*** software.

### 3.2.2 Obsolescence

Previous methods of inspections requiring person power may be reduced with new technologies automating information gathering.

## *3.3 Demand Management Plan*

### 3.3.1 Non-Asset Solutions Available as Alternatives to Asset Based Solutions

Non-asset solutions available to Council as alternatives include demand management, insurance measures and risk management processes.

| | |
|---|---|
| Demand Management | Load mass restrictions on roads and pavements. |
| | Reducing traffic volumes on roads and bridges. |
| Risk Management | JSC has developed risk management procedures for undertaking works on JSC's roads network to limit risk to employees undertaking road works. |
| | JSC has undertaken a risk management process to identify non-scheduled works in order to prioritise these works and minimise risk to road users. |

| | |
|---|---|
| Insurance | JSC is insured through **Statewide**. It has both Public Liability and Professional Indemnity cover to provide added protection in instances where assets do not perform to the level of service required and results in damage or loss to property or person. |

### 3.3.2 Summarise New Works Programs and Costs

The "Asset Maintenance, Renewal and Capital Upgrade Plan 2006/2021" is currently used as a forward planning document for the rehabilitation and reconstruction of roads, footpaths, kerb & gutter and stormwater.

# 4 LIFECYCLE MANAGEMENT PLAN

## *4.1 Background Data*

A summary of JSC's roads data is provided in the table below:

| Asset Description | Quantity | Replacement Value |
|---|---|---|
| Regional Road | 48 km | $10,379,632 |
| Sealed Rural/Local Roads | 426 km | $50,969,893 |
| Unsealed Rural Roads | 326 km | $14,261,526 |
| Urban Roads | 46 km | $9,888,590 |
| Footpath | 18 km | $1,611,644 |
| Kerb and Gutter | 51 km | $4,139,525 |
| Bridges | 34 | $6,026,000 |
| Total | | $97,276,810 |

***Table 4.1 – Asset Summary as at June 2010***

### 4.1.1 Physical Parameters

Physical parameters include:

- Length
- Width
- Type of Surface Material (Asphalt Concrete, Flush Seal, Pavers etc.)

The road databases are updated annually and stored on JSC's server.

### 4.1.2 Asset Capacity/Performance

The network has not reached its traffic capacity. No computer or statistical analysis to calculate future capacity has been undertaken to date, nor is it considered necessary as traffic volumes are low.

### 4.1.3 Asset Condition

A full asset condition audit needs to be conducted at regular intervals to substantiate the deterioration assumptions made in this plan and make changes to the deterioration models if necessary. It is suggested that this may need to be done every three to five years with annual minor reviews conducted to fine tune the next year's forward works program. Changes in technology and industry though may result in the type of information collected to assess the assets condition.

At present JSC continually inspects each road visually.

Condition assessments use a five point scale based on ride quality, number and frequency of defects and ability to provide the service level requirements of the community i.e. width and traffic volumes, vertical and horizontal alignment. as shown in the following table 4.1.3a Asset Condition Rating

| ROAD CONDITION RATING | |
|---|---|
| Rating | Description |
| 1 | All road attributes are in excellent condition, vertical and horizontal alignment, pavement & seal width are correct for the volume of Traffic and the Community Expectations<br>Nil Customer Complaints |
| 2 | All road attributes are in sound condition, vertical and horizontal alignment, pavement & seal width are adequate for the volume of Traffic. Community generally satisfied with road<br>Minor pavement defects<br>Minimal Customer Complaints |
| 3 | Road attributes are generally below standard. Vertical and horizontal alignment, pavement & seal width are adequate for the volume of traffic<br>Pavement defects regularly occur<br>Community generally satisfied however would prefer a "better road"<br>With continual maintenance and regular reseals road will provide service for quite some years.<br>Some Customer Complaints |
| 4 | Road attributes are poor vertical & horizontal alignment, pavement & seal width are poor<br>Pavement defects are many and frequent<br>Community dissatisfied with the road and want a "better road"<br>Maintenance is an on-going problem - especially gravel roads<br>Regular Customer Complaints |
| 5 | Road attributes are almost non-existent<br>Road is often near to impassable in wet weather<br>Very low traffic volumes<br>Roads in this category are usually local farm access tracks or dead end lanes<br>JSC has not allowed any of its roads that have a regular traffic flow to fall into this category. |

**Table 4.1.3a - Asset Condition Rating**

### 4.1.4 Asset Risk Management

A visual defect identification inspection is conducted regularly (Refer to "Reflect" work procedure – Appendix 4) as a process of the risk management of roads. The risk rating assesses a set of typical hazards on the road reserve. This process is shown in the State wide "Best Practice Manual Roads" Reference 2

### 4.1.5 Asset Valuations

Current accounting and engineering depreciation have historically been straight line depreciation, however in the preparation of this plan revaluations have used fair value accounting processes. Asset lives need to be assumed for both valuing methods and for this plan, the estimated life for a new asset is:

- Seals – 20 years
- Sealed Pavements – 100 years
- Unsealed Pavements – 15 years
- Concrete Structures – 100 years
- Footpaths – 50 years
- Kerb & Gutter – 50 years

### 4.1.6 Historical Data

Historical maintenance expenditures are stored in JSC's Authority system with these figures taken from the annual Management Plans.

Ref to table 5.1.a and 5.1.b

## *4.2 Routine Maintenance Plan*

### 4.2.1 Maintenance Plan

Proactive inspection for maintenance is undertaken as per the Statewide "Best Practice Manual Roads" and "Reflect Work Procedures". Works are then conducted in order of priority. Reactive inspections are evaluated using the above proactive inspection process and placed on the works priority list.

### 4.2.2 Standards and Specifications

JSC uses RTA standards, Australia Standards, Aus-spec, Australian Road Research Board (ARRB) and Ausroads standards and specifications however, on occasion, has used non-specified materials and standards in an attempt to control work costs.

# 5 ANALYSIS OF FUTURE COSTS AND FINANCIAL MANAGEMENT

To gain a full understanding of the future costs of both maintenance and capital renewal and upgrade of Junee Shire Council's roads into the future two methods were considered.

## *5.1 Method One*

This involves the projection of historical costs forward to predict what future costs would be. This method is based on the assumption that a) current service levels with regard to maintenance are at an acceptable standard and b) that 200km of Junee Shire Councils road network does not meet agreed service levels and they need to be renewed over the next thirty years.

To predict what the future costs and expenditure will be up to the year 2025–26 JSC has analysed the trends over the last 11 years and then extrapolated those results into the next 15 years. To establish the total roads expenditure trends for the previous 11 years JSC has used actual dollars spent in each year (Refer to Figure12) to establish the actual % increase. This line forms the historic expenditure trend (Refer to Figure14 & 15).

To establish a more realistic expenditure prediction JSC has used a trend developed by averaging historic Rate Pegging rises, CPI rises and Roads Construction Index rises to form the historic ensemble trend (Refer to Figure13). This trend was used to predict expenditure to 2025–26 (Refer to Figure14 & 15).

To establish the sustainable future expenditure levels, Council has used the funding gap identified by the IPWEA modelling for 2009/10 and then projected the Road Construction cost indices predicted in the IPWEA publication "NSW Local Road Construction Cost Forecasts 2010–2020" showing the Roads and Bridge Construction Cost Index - Refer Figure15.
The predicted cost line is shown on Figure14 & 15.

The difference between the forecast of costs line and forecast of expenditure line is what is referred to as "The Gap" which Figure14 & 15 shows as widening into the future.

The addition of each year gap is referred to as the "Backlog". The backlog that Figure14 & 15 shows for the years 2001 to 2011 amounts to $5.7million.

**Council will be working on strategies during the next 12 months to enable the long term financial plan to match the expenditure for roads. To do this will require additional funding sources or a lowering of the level of service.**

At best JSC would desire to increase expenditure on maintenance and renewal each year at a level equal to the Road and Bridge Construction Cost Index published by the IPWEA (NSW) Roads & Transport Directorate.

The increase in expenditure for Council to match the RBCCI from historical expenditure trend would be $110,000 per year.

As a minimum Council should attempt to match the CPI – Rate Pegging ensemble line which would mean increasing expenditure by $90,000 per year.

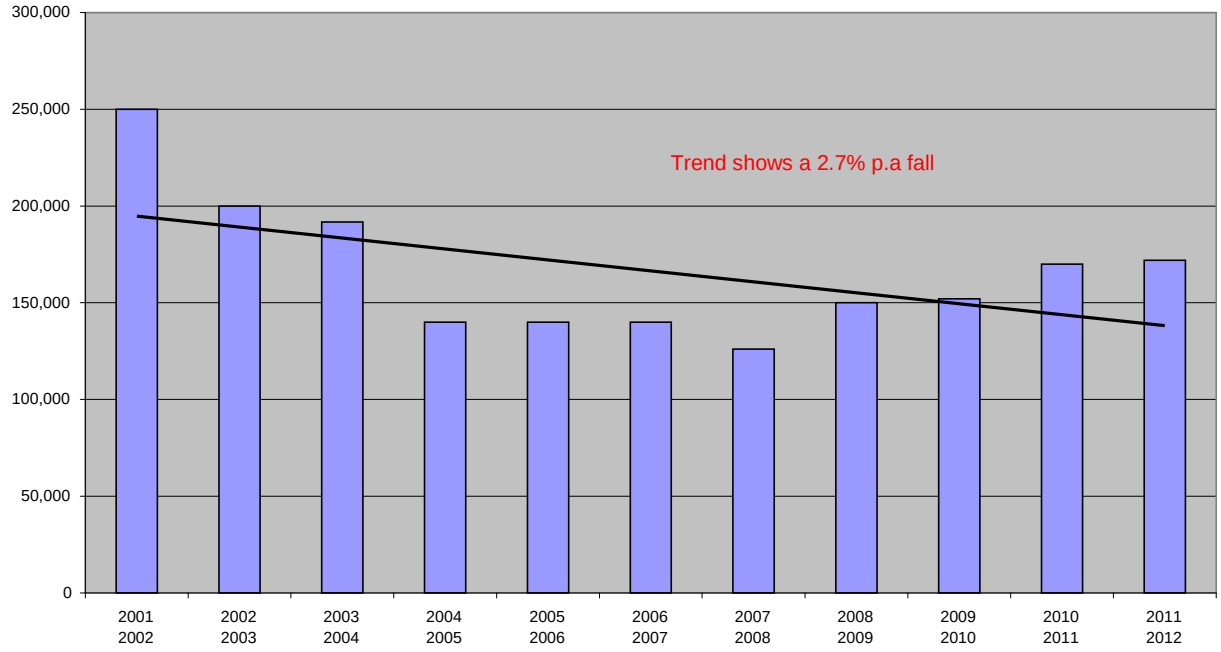
As either of these scenarios are not likely under current funding arrangements the Council must continue to look at more efficient methods of road maintenance and renewal or alternatively reduce the level of service (ref to Figure15) showing total maintenance and renewal expenditure trend line against construction index up to 2025-26.

Any increase in the road, footpath or kerb and gutter network would attract an increase in the allocated budget and expenditure. This is assuming that the existing service levels are to be maintained.

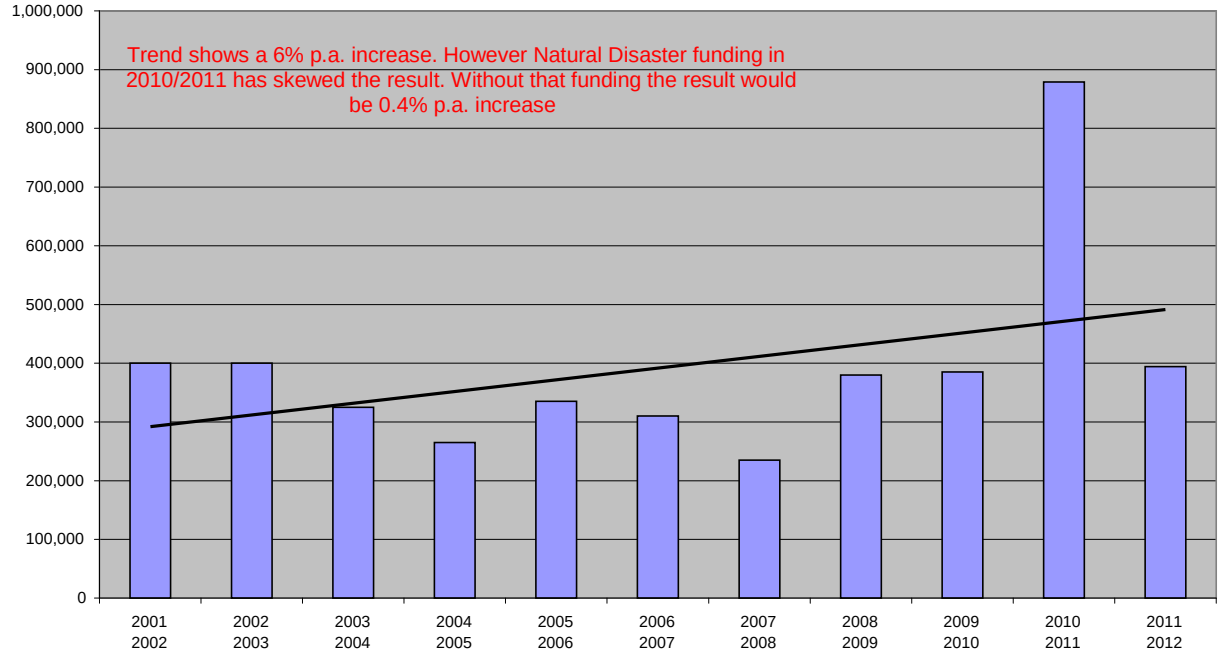
## Table 5.1a – Historical Maintenance Expenditure

| Year | Urban ($) | Rural Sealed ($) | Regional ($) | Rural Unsealed ($) | Total ($) |
|---|---|---|---|---|---|
| 11/12 | 172,000 | 394,000 | 56,000 | 151,000 | 773,000 |
| 10/11 | 170,000 | 879,500 | 54,000 | 102,000 | 1,205,000 |
| 9/10 | 152,000 | 385,000 | 52,000 | 250,000 | 839,000 |
| 8/9 | 150,000 | 380,000 | 50,000 | 150,000 | 730,000 |
| 7/8 | 126,000 | 235,000 | 43,000 | 140,000 | 544,000 |
| 6/7 | 140,000 | 310,000 | 67,000 | 140,000 | 657,000 |
| 5/6 | 140,000 | 335,000 | 66,000 | 165,000 | 706,000 |
| 4/5 | 140,000 | 265,000 | 65,000 | 130,000 | 600,000 |
| 3/4 | 191,699 | 325,000 | 123,000 | 130,000 | 769,699 |
| 2/3 | 200,000 | 400,000 | 50,000 | 100,000 | 750,000 |
| 1/2 | 250,000 | 400,000 | 50,000 | 100,000 | 800,000 |

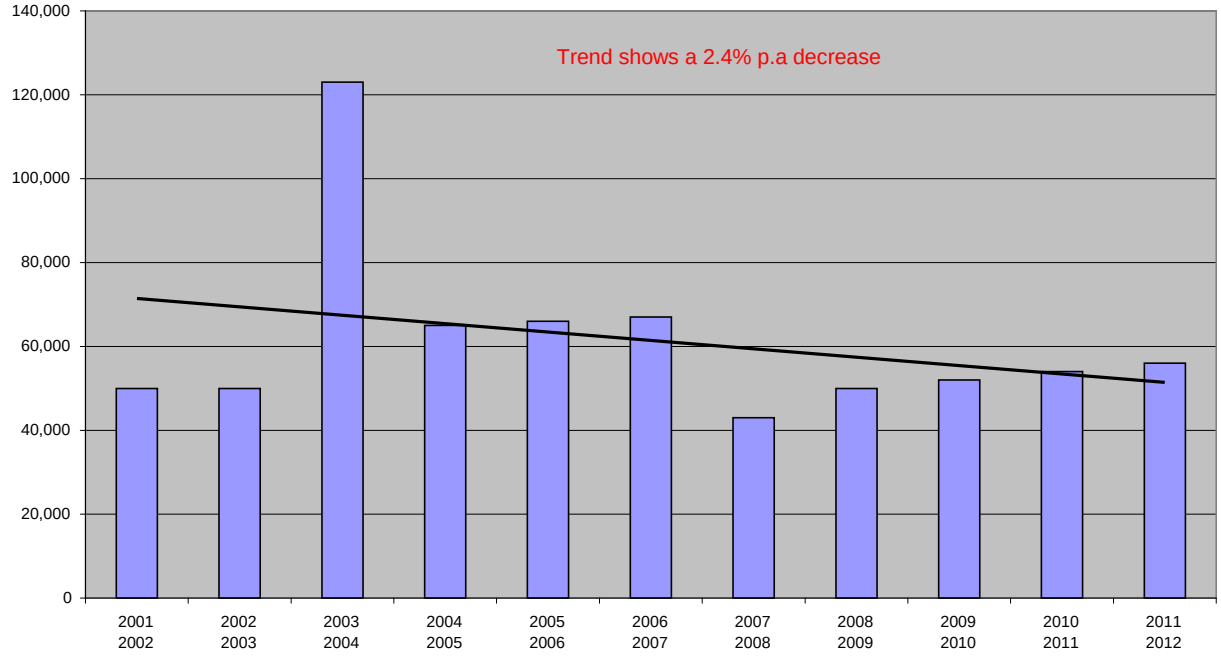
## Figure 1 - Urban Sealed Roads Maintenance Expenditure



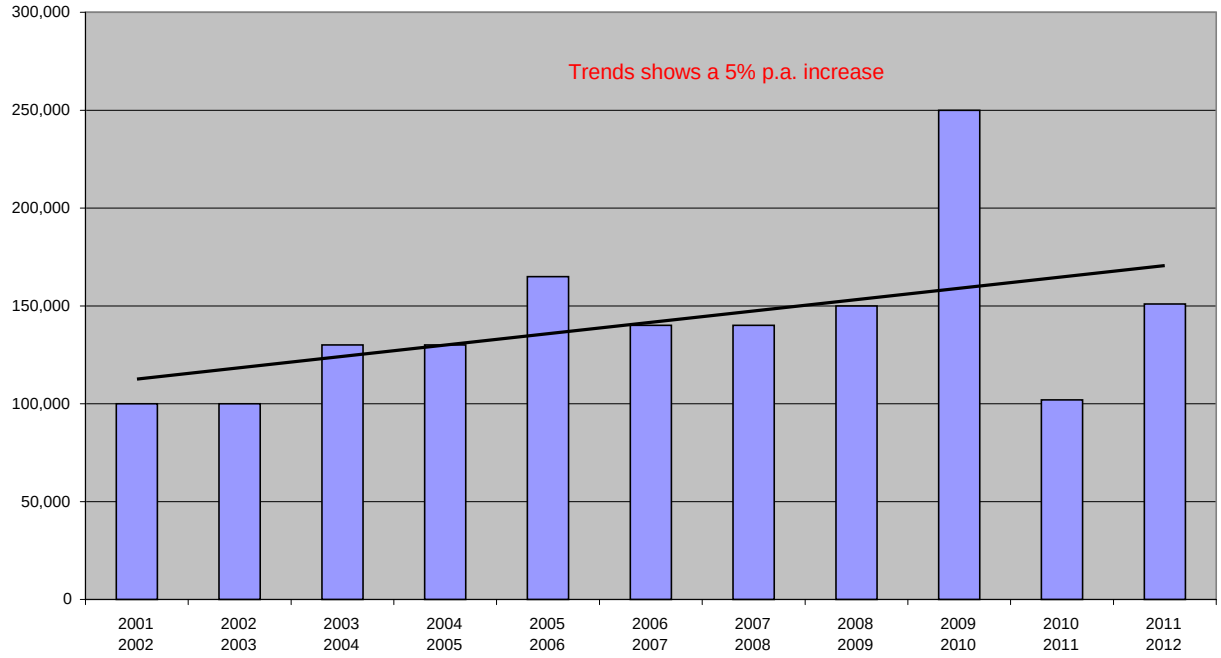

## Figure 2 - Rural Sealed Road Maintenance Expenditure



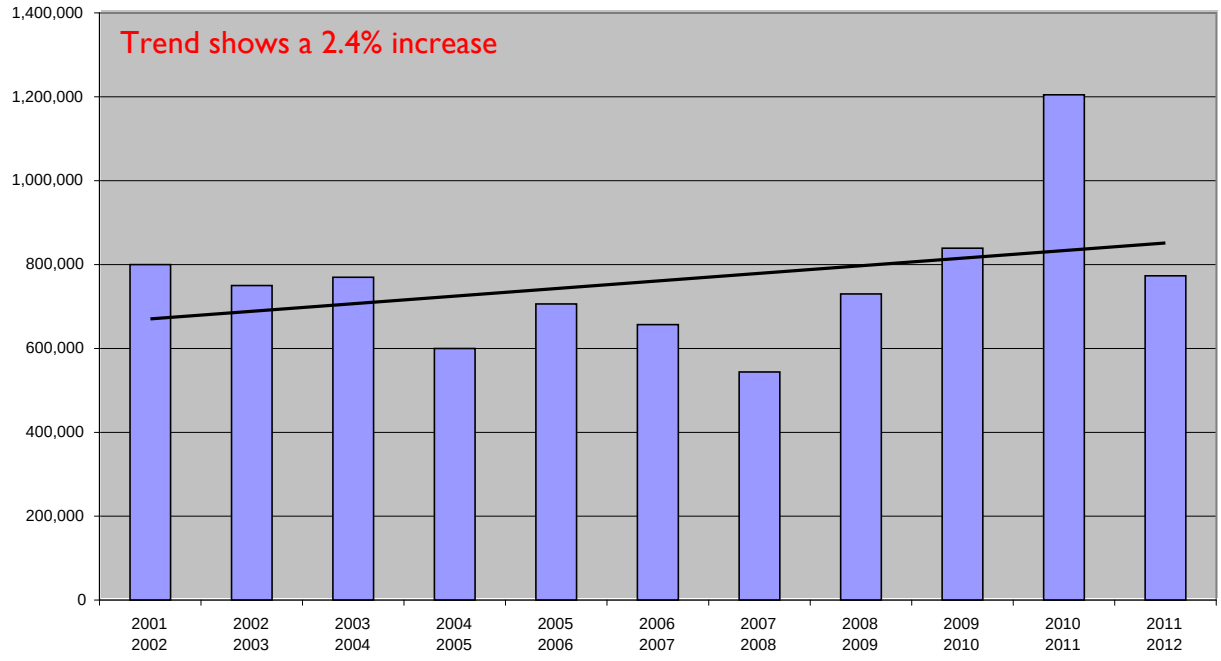
## Figure 3 - Regional Road Maintenance Expenditure




## Figure 4 - Rural Unsealed Roads Maintenance Expenditure



## Figure 5 - Total Maintenance Expenditure



## *5.2 Renewal & Capital Upgrade Plan*

### 5.2.1 Renewal Plan

JSC has produced an ***Asset Maintenance, Renewal and Capital Upgrade Plan*** which is a priority listing of works to be allocated future budgets.

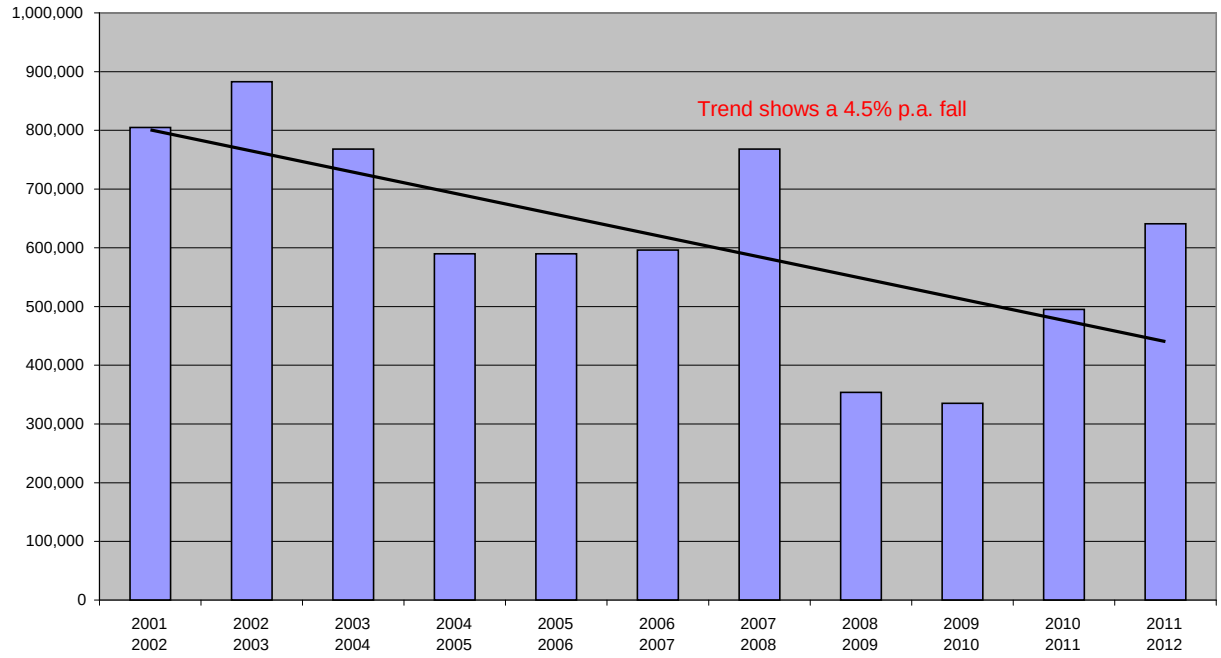
### 5.2.2 Renewal Standards

JSC uses RTA standards, Australia Standards, Aus-spec, Australian Road Research Board (ARRB) and Ausroads standards and specifications however, on occasion, has used non-specified materials and standards in an attempt to control work costs.

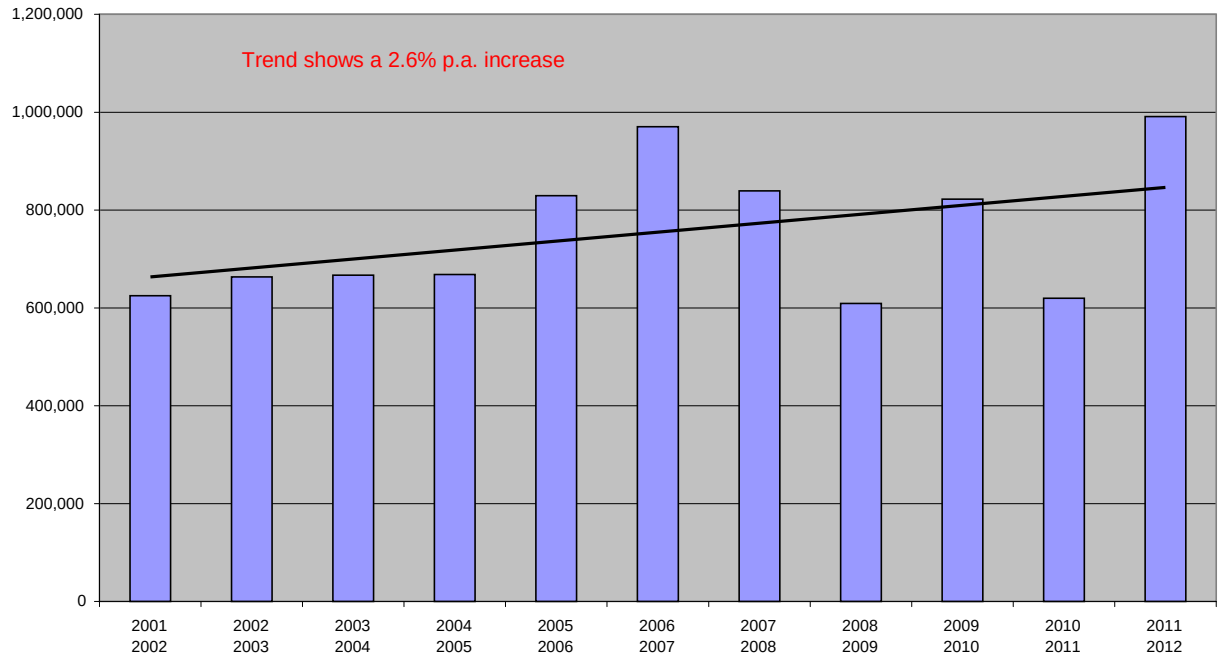
## Table 5.1b – Historical Renewal and Capital Upgrade Expenditure

| Year | Urban ($) | Rural Sealed ($) | Regional ($) | Rural Unsealed ($) | Total ($) |
|---|---|---|---|---|---|
| 11/12 | 641,000 | 991,000 | 306,000 | 310,000 | 2,248,000 |
| 10/11 | 495,000 | 620,000 | 303,000 | 117,000 | 1,535,000 |
| 9/10 | 335,000 | 822,000 | 300,000 | 250,000 | 1,707,000 |
| 8/9 | 354,000 | 609,000 | 327,000 | 136,000 | 1,426,000 |
| 7/8 | 768,000 | 839,000 | 375,000 | 240,000 | 2,222,000 |
| 6/7 | 596,000 | 970,000 | 249,000 | 272,000 | 2,087,000 |
| 5/6 | 590,000 | 829,000 | 440,000 | 193,000 | 2,052,000 |
| 4/5 | 590,000 | 668,000 | 358,000 | 282,000 | 1,898,000 |
| 3/4 | 768,000 | 667,000 | 335,000 | 110,000 | 1,880,000 |
| 2/3 | 883,000 | 663,000 | 306,000 | 100,000 | 1,952,000 |
| 1/2 | 805,000 | 625,000 | 268,000 | 124,000 | 1,822,000 |

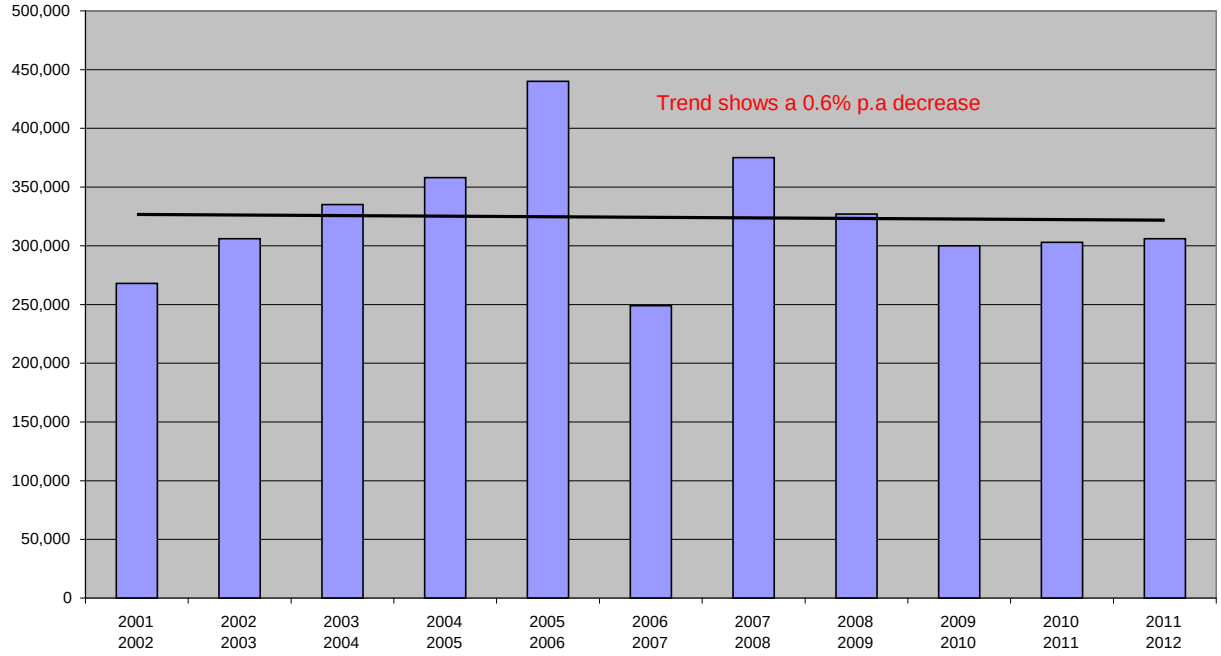
## Figure 6-Urban Sealed Roads Renewal & Capital Upgrade Expenditure



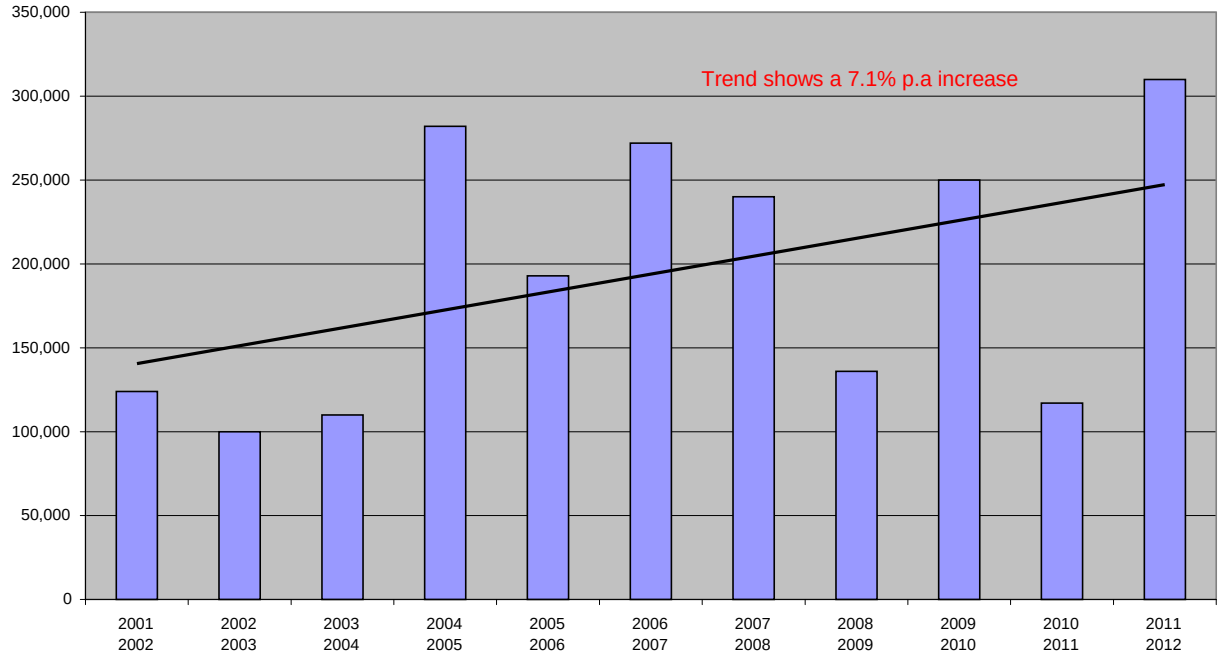

## Figure 7-Rural Sealed Roads Renewal & Capital Upgrade Expenditure



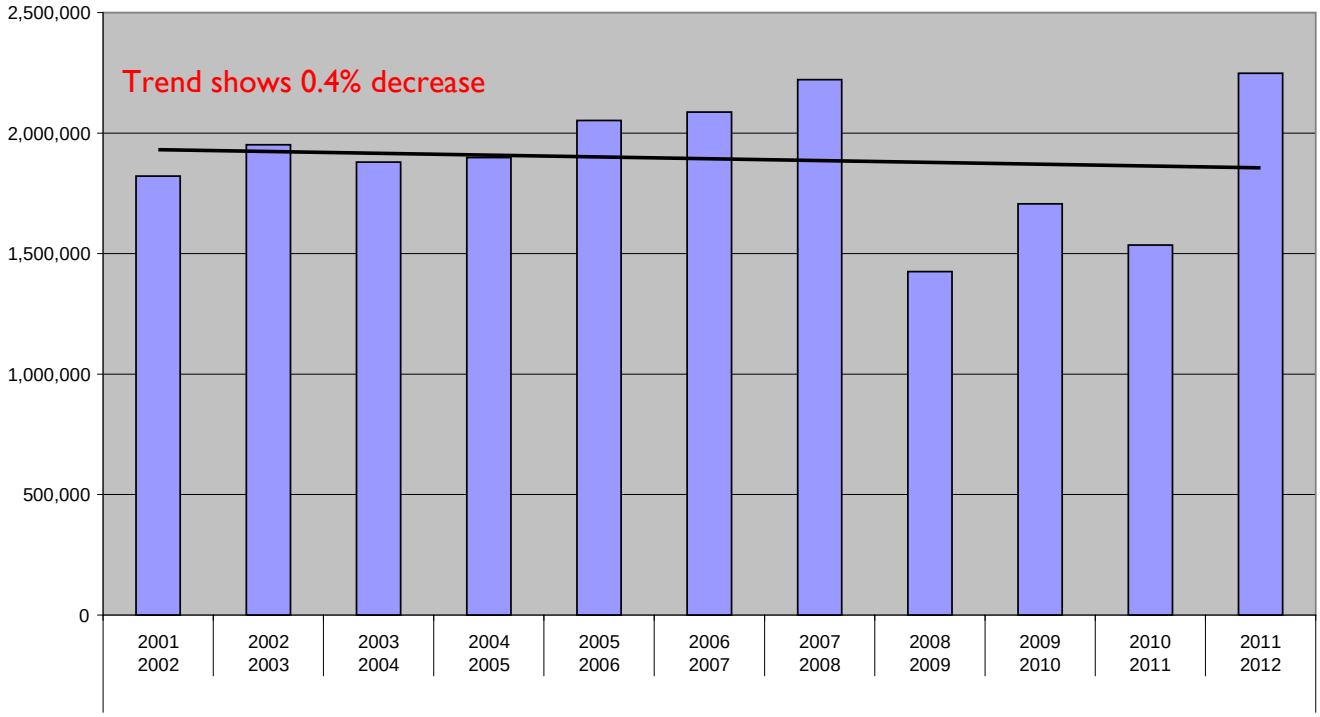
## Figure 8 - Regional Roads Renewal & Capital Upgrade Expenditure




## Figure 9-Rural Unsealed Renewal & Capital Upgrade Expenditure



## Figure 10 - Total Renewal & Capital Expenditure




**A summary of all roads related expenditure is shown in Figure 11.**

## Figure 11 - Total on all Road Assets Expenditure

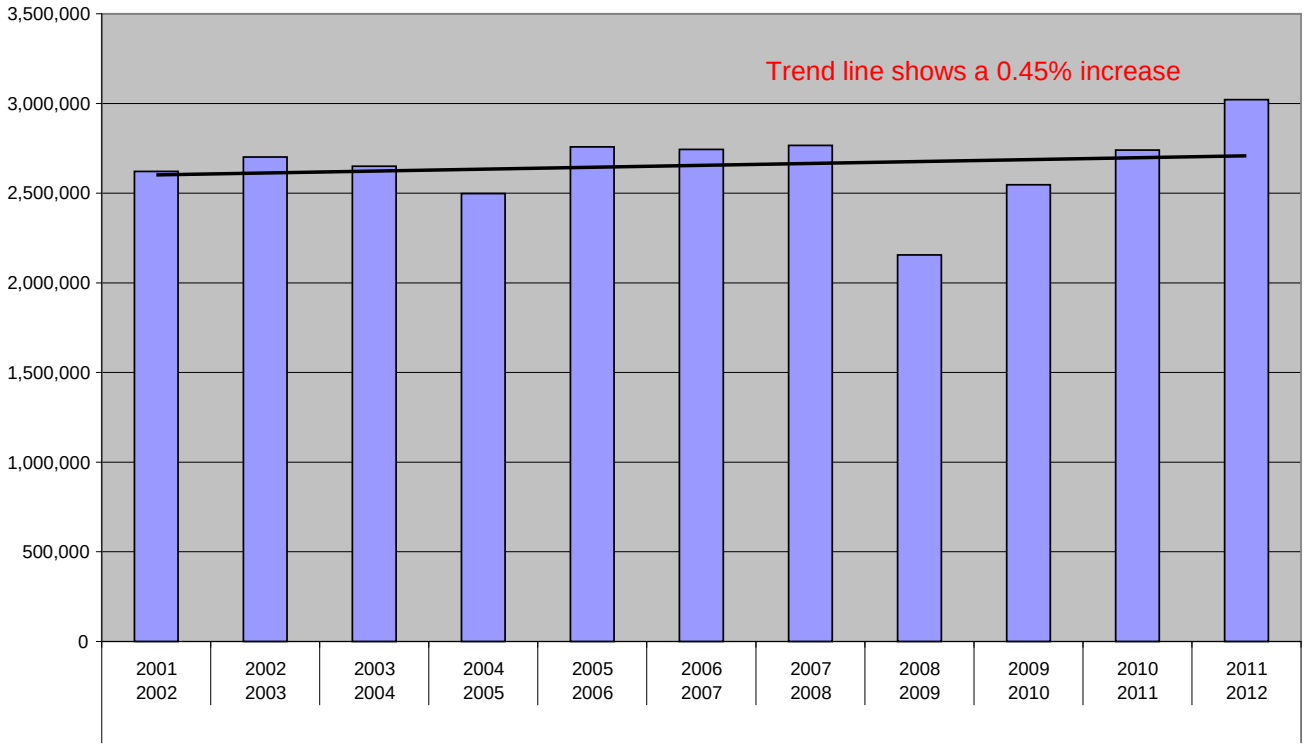


**Figure 12**
**Actual Expenditure - Local Road Network**

**Figure 13**
**Historic Indexes**

**Figure 14**
**Forecast Expenditure – Local Road Network**

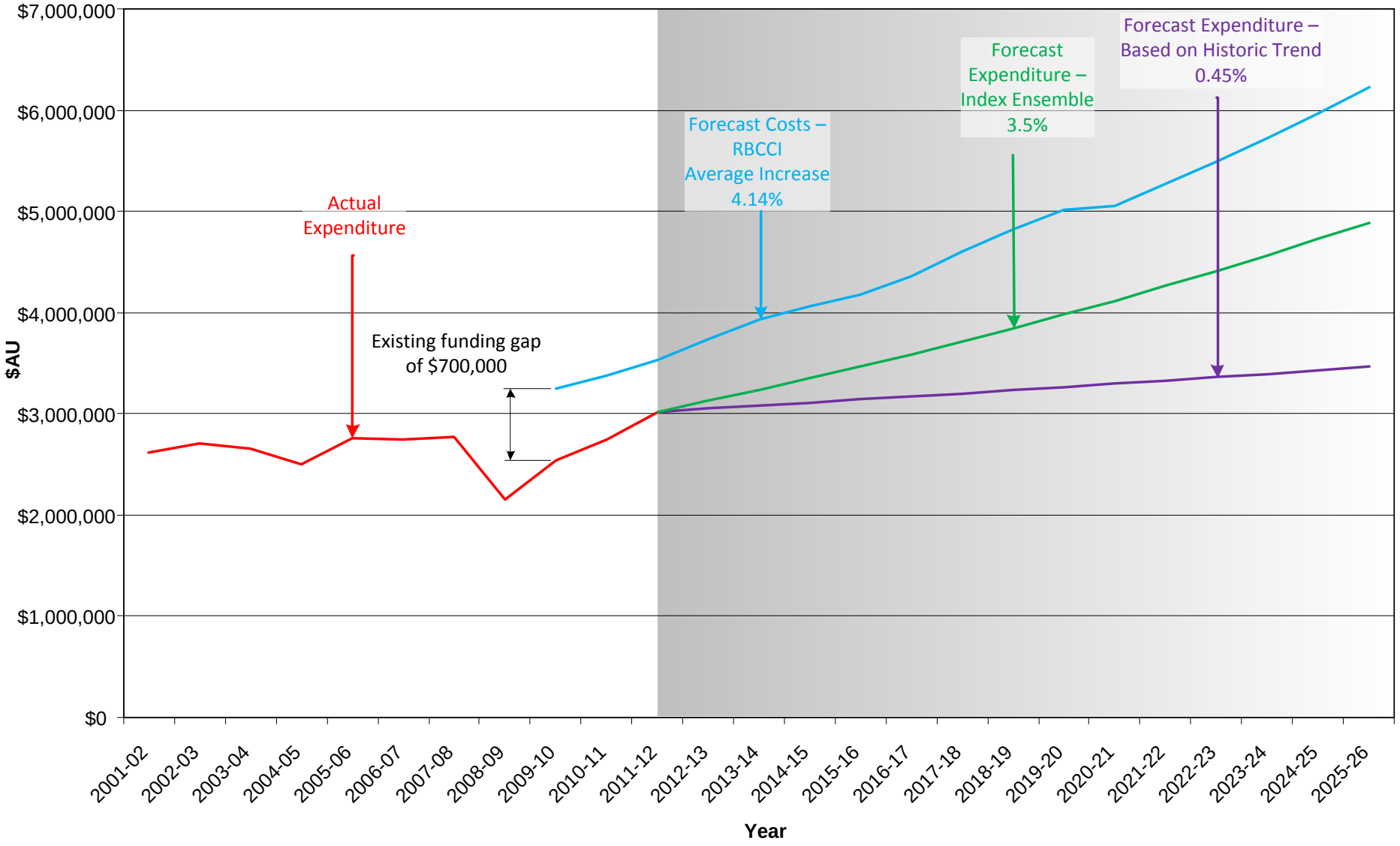
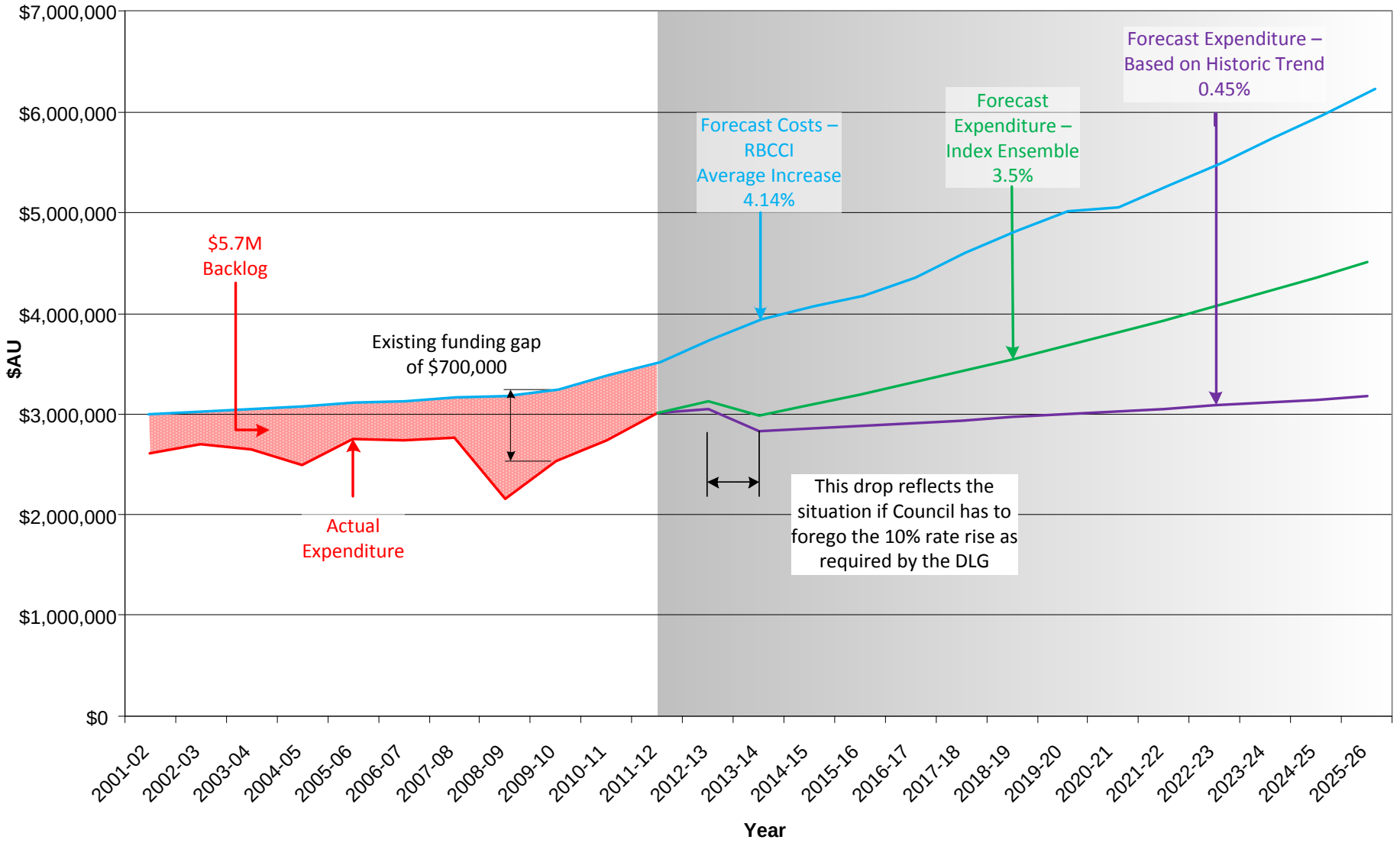


**Figure 15**
**Forecast Expenditure & Costs - Rate Variation Rescinded**
**Local Road Network**



### 5.2.3 Summary of Future Costs

Modelling carried out by JRA Consultants for the IPWEA using JSC figures show that the Council is underfunding roads renewal by $700,000 pa. This means that the long term sustainability of Council Road network is in question.

It is expected that costs will increase at the road and bridge construction cost index rate. Unless there is a new method of funding roads developed in the near future JSC will not be able to sustain its road network for the long term. In an attempt to close the gap JSC has worked hard to reduce costs with plant efficiency, close haul gravel, staff skills etc.

## *5.3 Method Two*

Utilising Jeff Roorda and Associates Asset Management for Small Communities computer software package.

This method and the following graphs are the result of analysis done by JRA (Jeff Roorda & Associates) using their financial modeling technique based on Council's asset register and depreciation schedules.

The financial projections are shown in Figure 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets), net disposal expenditure and estimated budget funding.

Note that all costs are shown in 2012 dollar values.

An important factor that forms part of this analysis is the expected life of the asset and the time of construction of the asset. Both of these figures in many cases are at this stage a best guess.

JSC has in the past nominated that road pavements will last 100 years, seals 20 years and gravel resheets 15 years. Council has also valued these road components with the lowest value that is still acceptable to our accounting process. This has been carried out to keep our depreciation to a minimum and assist keeping our operating budget in surplus. The problem this has created with regards to asset management is that many of our pavement renewals don't affect the model for a further fifty or sixty years. At that time many of these roads will have a huge financial impact on Councils finances as they will all need renewing at a similar time.

**Council also needs to maintain the sustainability index above one to average finances required over a long period of time instead of large peaks and troughs as well to maintain a stable workforce and match the "Roads to Recovery" expenditure formula.**

The sustainability index Figure 17a on page 33 shows Junee Shire Council is only slightly below the sustainability line over the long term and for the short term 5 and 10 year period we are above the sustainability line which means in simple terms that we are spending more money than is required to satisfy the whole of life of the asset.

This analysis however, is based on the assumption that the service levels Council are providing at present are satisfactory. This is the case with regard to maintenance of the road assets however Council has already determined that we have 200km of roads that don't meet current established service levels and over the long term need to be renewed at a higher standard than they are at present. If Council is to work towards addressing the 200km of roads that don't meet current agreed service levels then the sustainability index line should be something above 1.

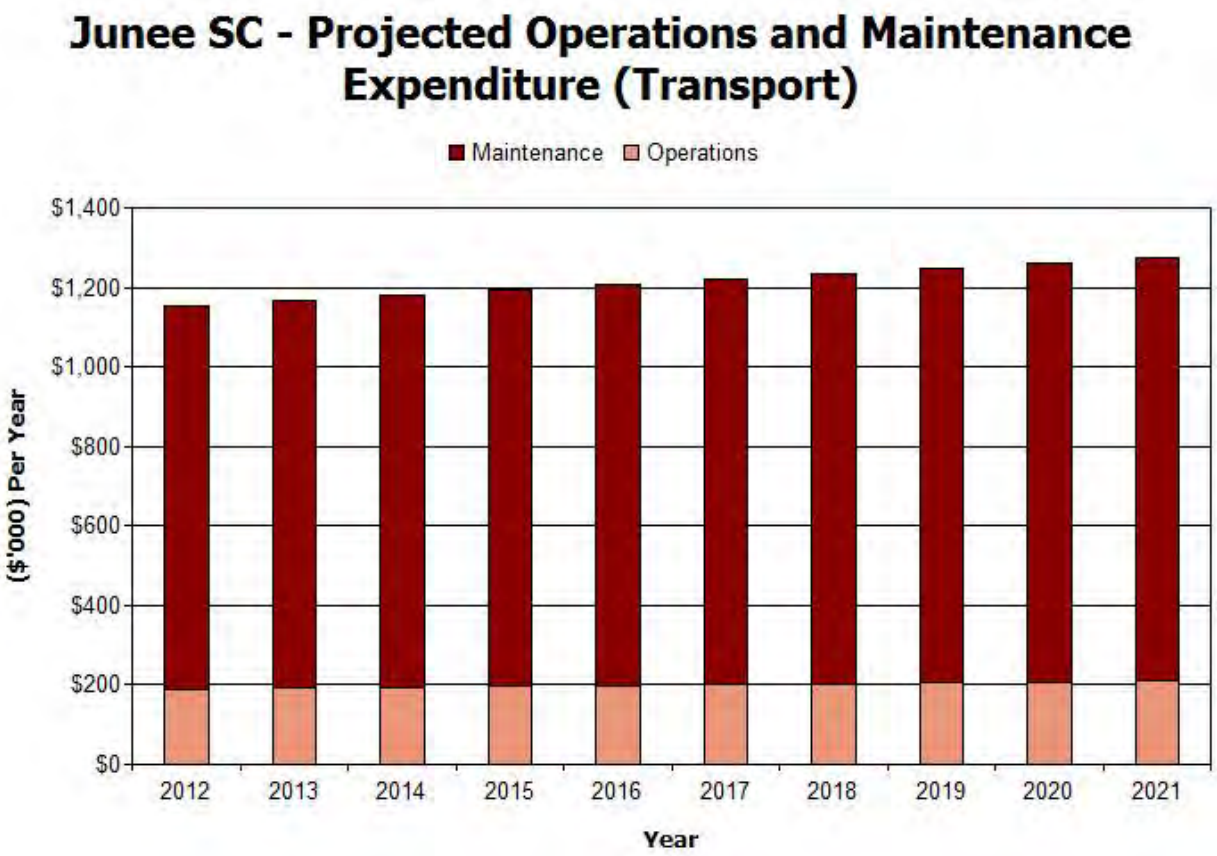



*Figure 16: Projected Operations and Maintenance Expenditure (Transport)*

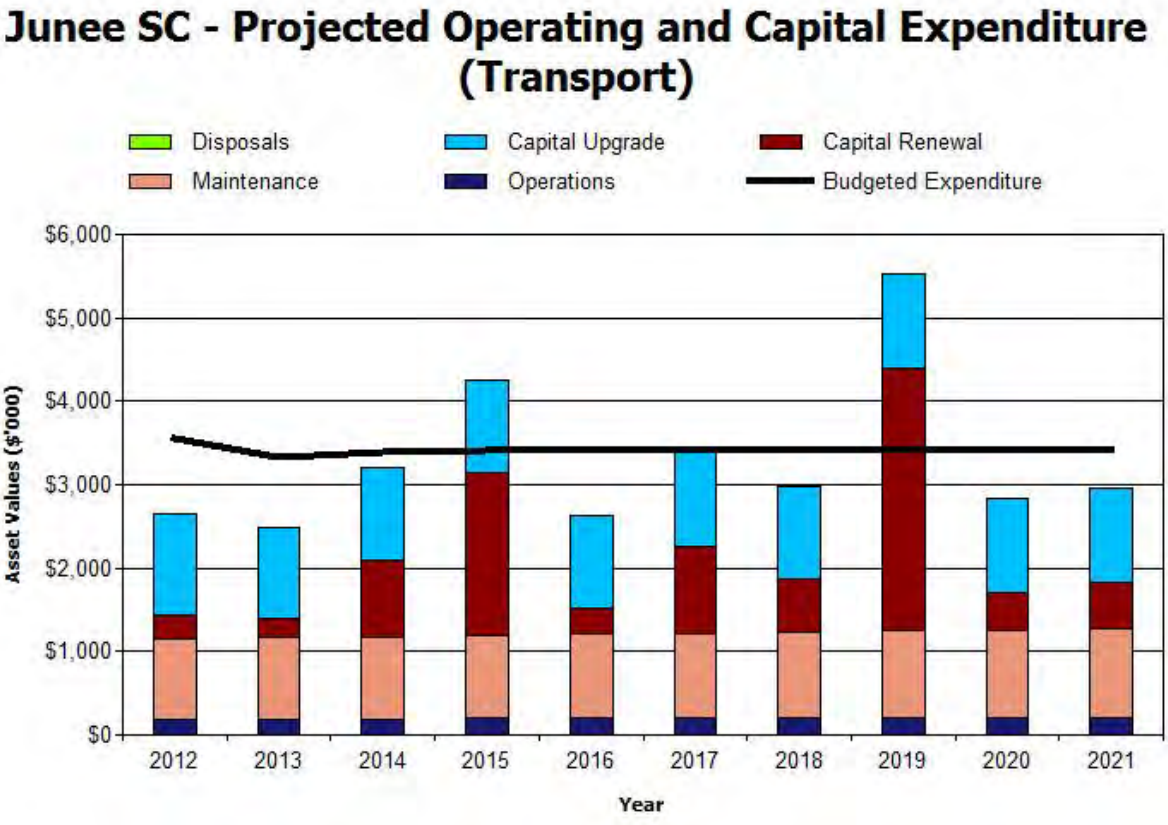



*Figure 17: Projected Operating and Capital Expenditure and Budget*

### 5.3.1 Financial sustainability in service delivery

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

***Long term - Life Cycle Cost***

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the longest asset life. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation expense). The life cycle cost for the services covered in this asset management plan is $2,464,000 per year (operations and maintenance expenditure plus depreciation expense in year 1).

Life cycle costs can be compared to life cycle expenditure to give an indicator of sustainability in service provision. Life cycle expenditure includes operations, maintenance and capital renewal expenditure in year 1. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure at the start of the plan is $2,337,000 (operations and maintenance expenditure plus budgeted capital renewal expenditure in year 1).

**A shortfall between life cycle cost and life cycle expenditure is the life cycle gap.**

**The life cycle gap for services covered by this asset management plan is -$127,000 per year (-ve = gap, +ve = surplus).**

**Life cycle expenditure is 94.8% of life cycle costs giving a life cycle sustainability index of 0.95.**

**The life cycle costs and life cycle expenditure comparison highlights any difference between present outlays and the average cost of providing the service over the long term. If the life cycle expenditure is less than that life cycle cost, it is most likely that outlays will need to be increased or cuts in services made in the future.**

Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and long term financial plan.

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

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

These projected expenditures may be compared to budgeted expenditures in the 10 year period to identify any funding 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 $2,178,000 per year.

Estimated (budget) operations, maintenance and capital renewal funding is $2,289,000 per year giving a 10 year funding excess of $111,000 per year and a 10 year sustainability indicator of 1.05. This indicates that Council has 105% of the projected expenditures needed to provide the services documented in the asset management plan.

***Medium Term – 5 year financial planning period***

The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is $1,944,000 per year.

Estimated (budget) operations, maintenance and capital renewal funding is $2,289,000 per year giving a 5 year funding excess of $343,000. This is 118% of projected expenditures giving a 5 year sustainability indicator of 1.2.

***Financial Sustainability Indicators***

Figure 17A shows the financial sustainability indicators over the 10 year planning period and for the long term life cycle.

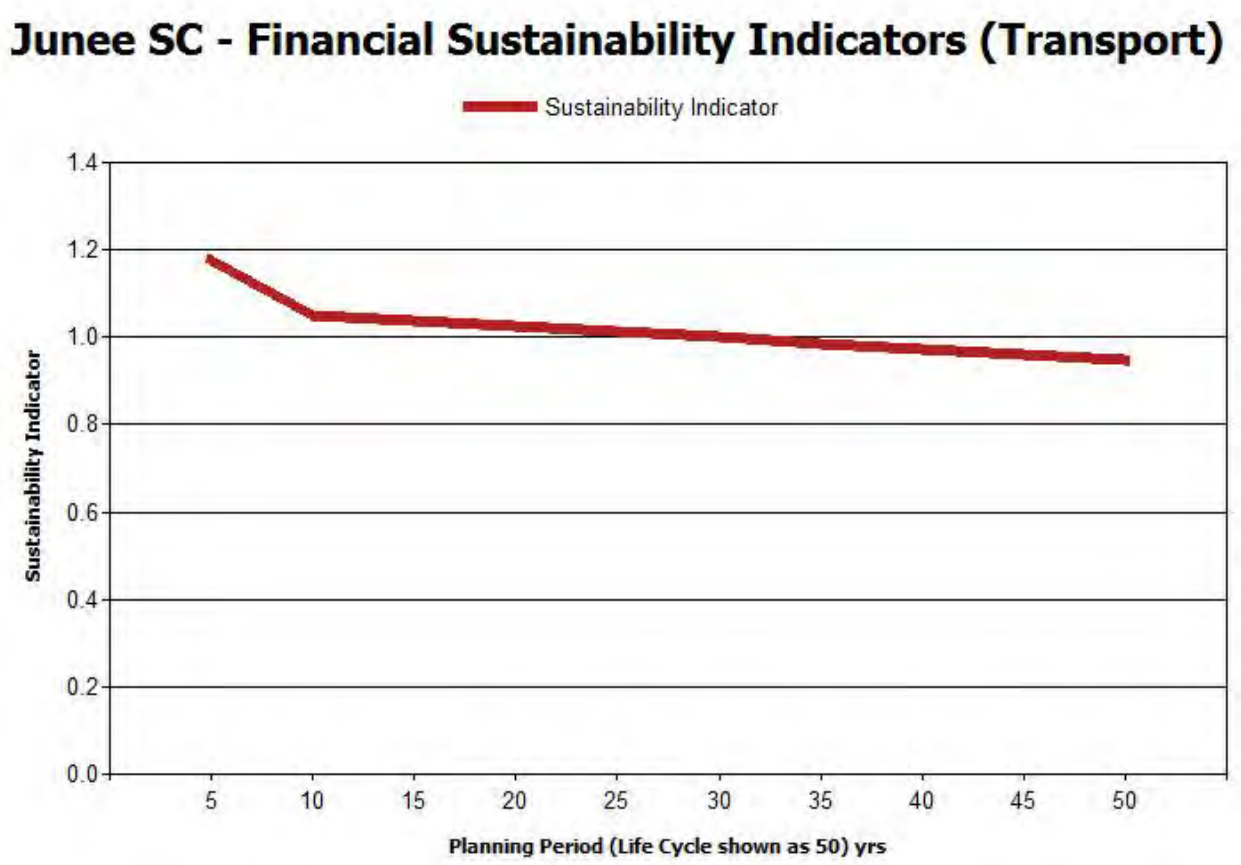



***Figure 17A: Financial Sustainability Indicators***

Roorda modelling works on the basis that a sustainability indicator of 1 means Council is expending sufficient funds to offset the average rate of required renewal. An indicator above 1 could mean Council is spending excess funds. An indicator number below 1 means Council is under spending and is allowing the roads to deteriorate over the long term.

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

Figure 18 shows the projected asset renewals in the 10-year planning period from Appendix B. The projected asset renewals are compared to budgeted renewal expenditure in the capital works program and capital renewal expenditure in year 1 of the planning period in Figure 18.

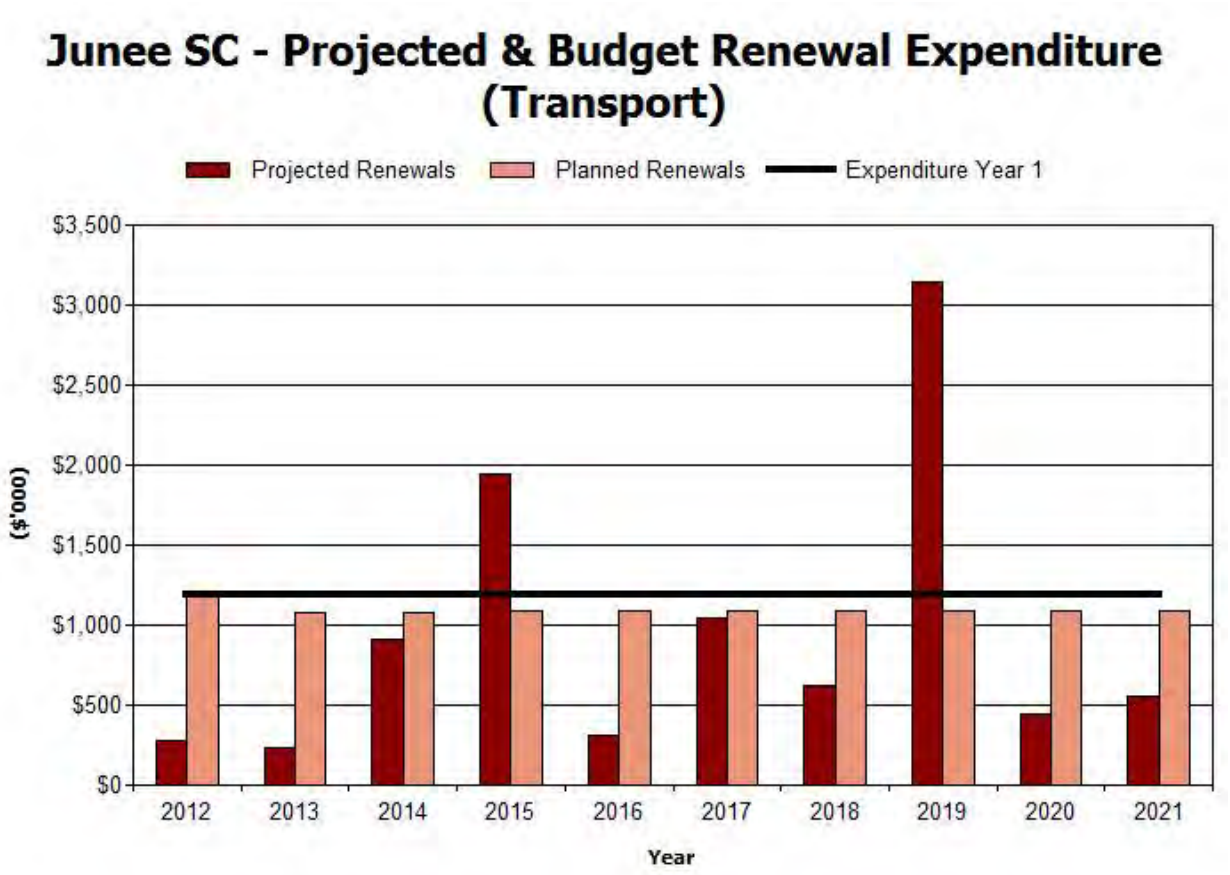



***Figure 18: Projected and Budgeted Renewal Expenditure***

## *5.4 Cash Flow Forecasts to Year 2026*

Cash flow forecasts have been modelled and are described in this section. Figure14 for method one and Figure 17 for method two depicts the future cash flow needs.

For a clearer understanding and ease of depicting future cash flow graphically we have combined JSC's expenditure on Urban Streets and Rural sealed and unsealed road. JSC has the flexibility to move funds between the road areas for both maintenance and renewal.

## *5.5 Funding Strategy*

### 5.5.1 Provide Details of How Expenditure will be Funded

It is anticipated that existing funding sources will continue to fund road asset management activities. Funding sources include:

- Council revenue
- Section 94A Contributions
- Roads and Traffic Authority/State Government (*Repair Program, Block Grant and Blackspot Program)*
- Federal Government *(Roads to Recovery and Blackspot Programs)*
- Federal Assistance Grants
- Councils Stormwater Levy

The Roads to Recovery Program and Blackspot Program have provided JSC with much needed funds in recent years. Of concern though is the reliance on these funds to meet the expected financial commitment of asset replacement. It is clear that without these funding sources, JSC is in no way able to meet its asset renewal program.

### 5.5.2 Planning required to smooth out cash flow

**Year-to-year cash flow variation will not be a problem for Junee Shire Council.**

Road asset maintenance works will be carried out at current service levels with yearly variations caused by seasonal events made up by reducing the capital renewal and upgrade program or from additional disaster relief funding.

JSC resources - i.e. labour and machinery - are at present well matched to current expenditure regardless as to whether it is spent on maintenance or capital. The fact that many of JSC's road assets are in excess of 50 years old the need for renewal and upgrade is required at present and well into the future. JSC inability to increase road funding and its need to maintain current staffing and other resources to be an effective service provider, necessitates the need to have a smooth cash flow into the future, preferably increasing at an annual rate matching the road and bridge construction cost index.

## *5.6 Valuation Forecasts*

Fair value accounting requires JSC to value (and consequently depreciate) its assets using a method that accurately reflects the consumption of the asset.

Junee Shire Council is using the straight line method of depreciation and even though this method does not accurately depict the true rate of deterioration of a road it is sufficient for the purposes of Local Government Accounting and Asset Management. To overcome some of the shortfalls of this method Council will revalue is road infrastructure on a regular basis, say five years.

JSC completed road valuations using fair value in 2008/2009.

### 5.6.1 Forecast of Future Value of Asset and Valuation Methodology

JSC will revalue its Road Assets every five years using the "Fair Value" methodology.

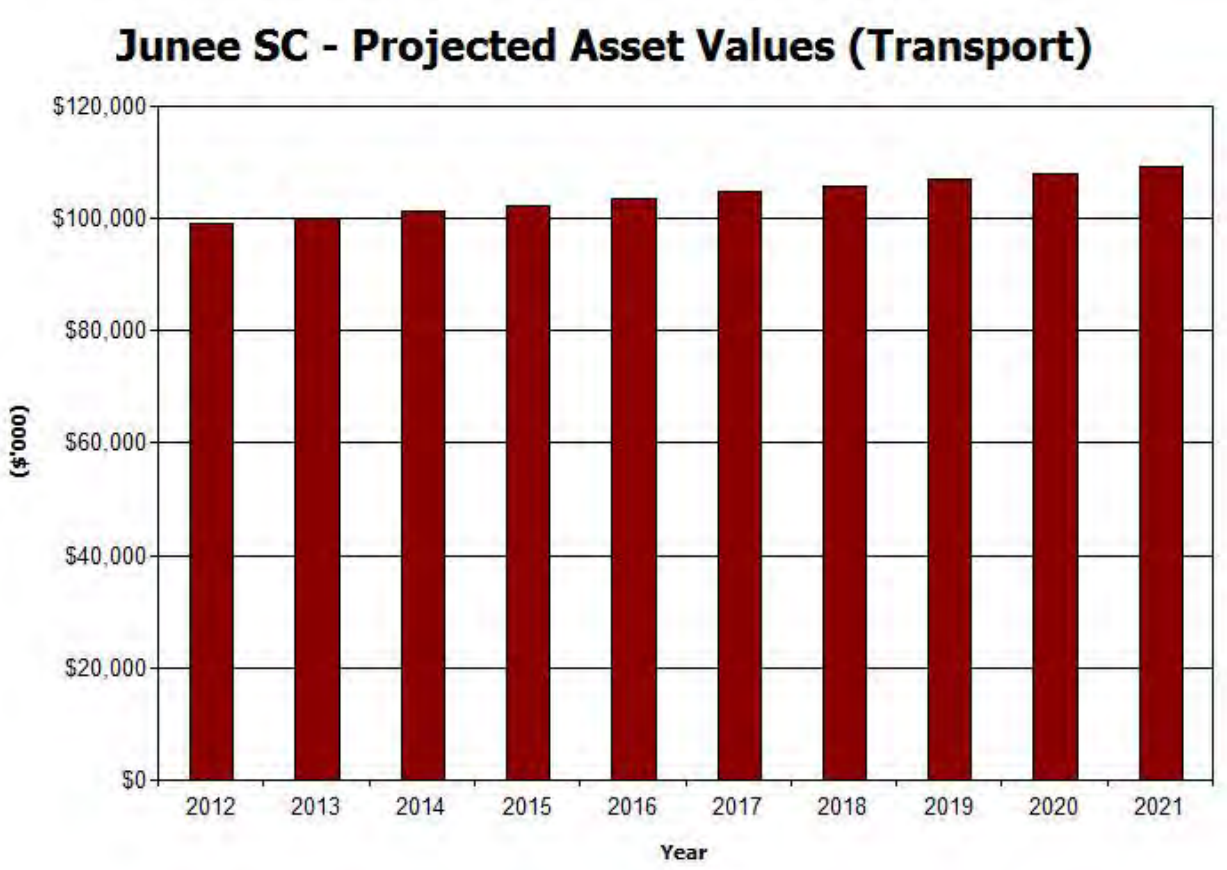



***Figure 19 – Projected Asset Values (Transport)***

### 5.6.2 Forecast of Depreciation

Depreciation in this plan has been calculated using a fair value methodology. Each asset's remaining life has been estimated from a condition survey and historical records. Calculations of remaining life have been directly linked to this.

Depreciation has been calculated from the remaining life and the replacement cost.

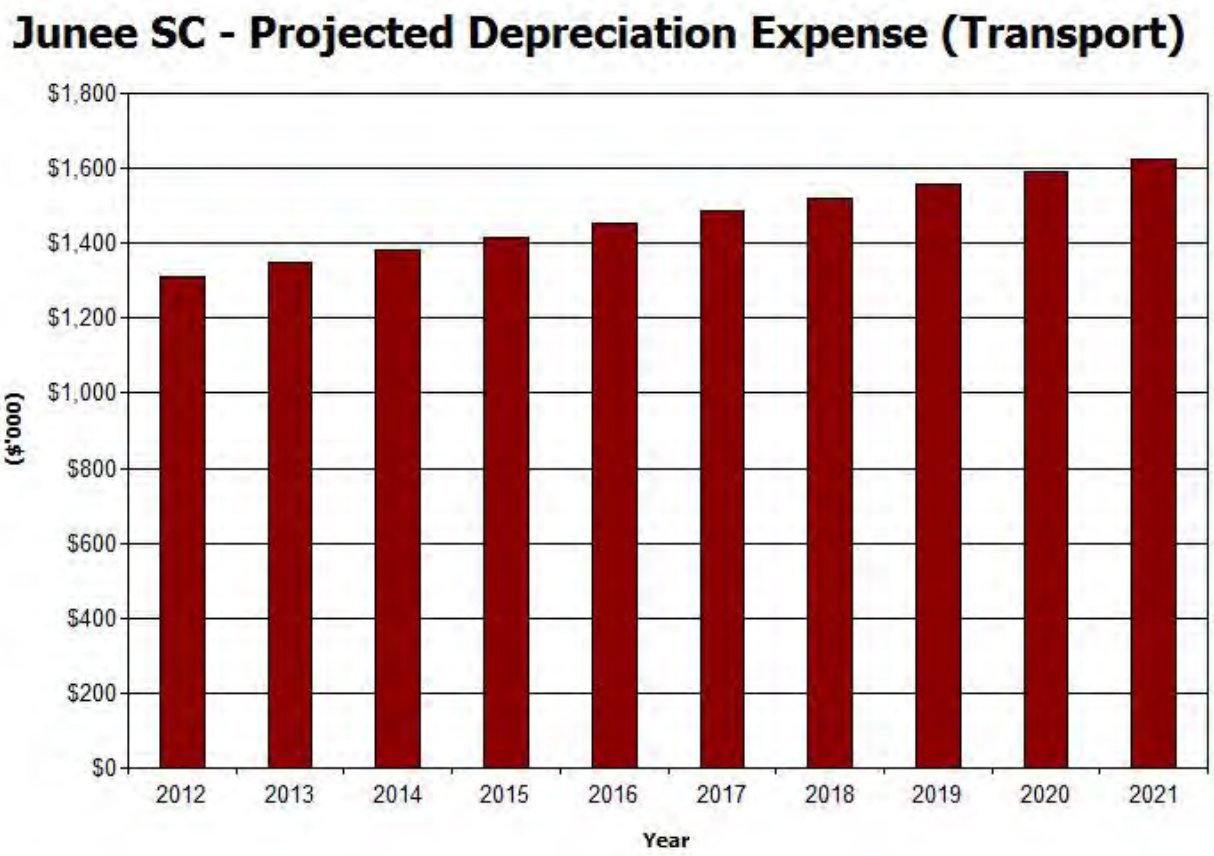



*Figure 20: Projected Depreciation Expense (Transport)*

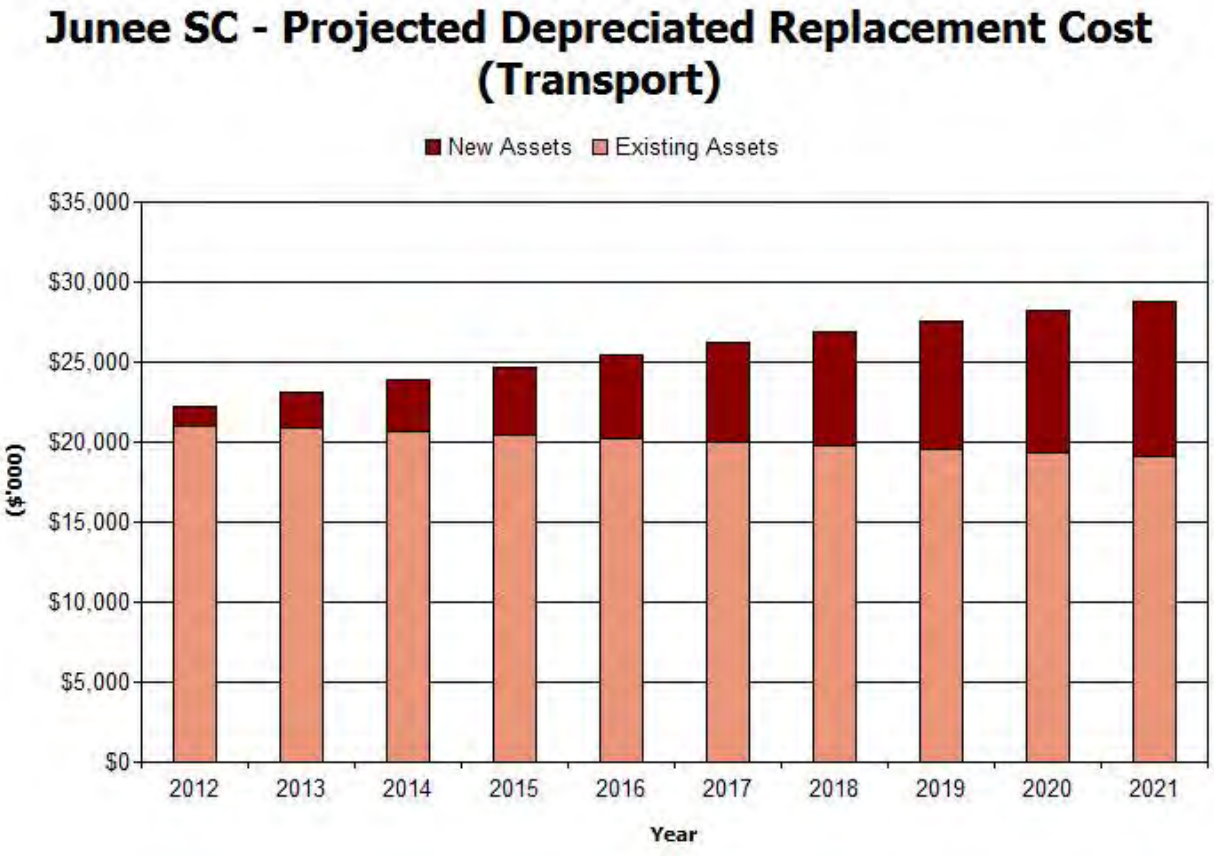



*Figure 21: Projected Depreciation Replacement Cost (Transport)*

## *5.7 Key Assumptions Made in Financial Forecasts*

1. That the present service level provided by Junee Shire Council is accepted by the community as adequate meaning that past trends in expenditure for maintenance have been correct or close to correct.

2. That the Council's resources, labour and plant are at correct levels to provide the current levels of service.

3. That funding sources such as

   A Roads to Recovery
   B Block Grant
   C Federal Assistant Grant
   D Repair Program
   E Black Spot Funding

   will be maintained and indexed to a minimum of CPI and preferably to the Road and Bridge Construction Cost Index.

4. That some roads that are at present 60 years old, can be maintained adequately to well past their assumed life of 100 years. Based on the Council's long term financial plan the funds that are available for road renewal will mean some of JSC roads will need to last to 150 years or more.

## *5.8 Creation/Acquisition/Augmentation Plan*

### 5.8.1 Selection Criteria

New roads are acquired through the release of newly created subdivisions. Minor portions of land are also acquired for road realignment.

### 5.8.2 Standards and Specification

JSC uses RTA standards, Australia Standards, Aus-spec, Australian Road Research Board (ARRB) and Ausroads standards and specifications however, on occasion, has used non-specified materials and standards in an attempt to control work costs.

### 5.8.3 Summary of Future Costs from New Development or Expansion of the network.

Additional costs associated with gaining assets are assumed to be at the same rate/m2 as existing costs. The extent of new roads however is unknown. JSC's development and planning staff encourage road lengths to be minimised in new subdivisions while still maintaining a minimum level of service. New roads created will mostly be at the cost of the developer.

## *5.9 Risk Plan*

The establishment, identification, analysis, evaluation and monitoring of risks are documented in the *"Road Network Risk Management Policy and Procedures"*. Appendix 4. This document analyses the risk that it may have to the community.

## *5.10 Disposal Plan*

JSC disposes of unused sections of road reserve when requested by adjoining property owners and providing the road does not provide legal access to other property owners. It is rare that any constructed road would be disposed of while it is still serving residents.

Local landholders who adjoin unused Council public roads are encouraged to lease the roads or purchase them. Either way, the end result is to remove the financial responsibility for the road from Council.

# 6 ASSET MANAGEMENT PRACTICES

## *6.1 Accounting Financial Systems*

### 6.1.1 Details of Accounting System and any Changes as a Consequence of the Asset Management Plan

Council's CIVICA based *"Authority"* system is used for accounting and cost management. There are no plans to change the accounting system as it functions suitably. Council also uses Excel spreadsheet for its asset register as well as *"Reflect"* Road Maintenance Systems and GIS Map Info and Exponaire to facilitate Asset Management.

### 6.1.2 Difference Between Maintenance, Renewal and New Works Expenditure

Maintenance expenditures are logged against the Recurrent Budget with new works logged against the Capital Budget. Both budgets and expenditures are contained within the Council's accounting system called *"Authority"*.

### 6.1.3 Provide Details of Accounting Standards/Guidelines that Must be Complied With

There will be no exceptions to the regulatory requirements such as:

- Local Government Code of Accounting Practice
- Local Government Act and Regulations
- Applicable Accounting Standards
- Local Government Asset Accounting Manual

## *6.2 Asset Management Systems*

### 6.2.1 Type of Data Available on Assets to Help Asset Management Decision Making

JSC holds all assets on an Excel spread sheet register. JSC has had GIS capture of all of its road network as of mid 2006. In conjunction with this GIS, attributes such as road width, segment length, pavement type, pavement condition, kerb and gutter, and footpath have been captured.

### 6.2.2 Quality/ Reliability/Adequacy of the Data

The quality of the data is reasonably accurate, however making pavement life estimates and condition rating from pavement surface defects and ride quality can lead to some inaccuracy in the prediction model. Council also has the advantage of some long serving employees (> 40 years). Their expert knowledge and experience has been invaluable in creating the Asset Management Plan and Asset Maintenance renewal and Capital Upgrade plan

### 6.2.3 Software Used to Store and Analyse Data

All data is stored in Excel spreadsheets databases. This information is linked to Council's GIS *(Mapinfo)* to allow geographic representation of the information. Council also uses *Reflect* software to store all of its road maintenance activities.

### 6.2.4 Information Storage

Information is stored on JSC's server. *Reflect* Data is stored on a central service located offsite and maintained by a third party.

### 6.2.5 Frequency of Information Collection

Information for new subdivisions is collected from plans and entered into the database. Road Renewal and Upgrades are entered into the data base annually. Risk inspections are conducted regularly. Re-inspections are undertaken at regular intervals to ensure that assumptions made in this plan in relation to deterioration rates are confirmed. Refer to Reflect work processes.

## *6.3 Information Flow Requirements and Processes*

### 6.3.1 Information Flows To and From the Asset Management Plan

Condition inspections are continuing to enable assessment of the remaining life of the asset and hence allow accurate valuations and renewal costs to be calculated.

Future budget requirement are derived from the AMP.

### 6.3.2 Processes that are Used to Make Decisions on Asset Management, Replacements/Renewals and Acquisitions

- Risk Management process adopted for maintenance and renewals.
- Council's forward works program adopted for Renewal & Capital Upgrade works built by Council.
- Subdivision Development Application process with Council's Design Specification adopted for the acquisition of new assets.

### 6.3.3 Project Ranking System

The formal project ranking system is JSC's 15 year forward works program which is under constant review. Condition assessment is carried out continuously to determine if project ranking needs to be changed.

### 6.3.4 Decision Making

Decisions are made based on finances available, the forward works program (which is dependent on observed road condition and risk), community needs and agreed service levels.

## *6.4 Standards and Guidelines*

### 6.4.1 Standards and Guidelines that Influence Asset Management Attributes

Key standards and guidelines that influence Asset Management attributes include:

- Australian Accounting Standard ASB116.
- Council policies.
- Council's Design Specification and industry standards.
- Engineering design guides –
    - RTA Design Guide.
    - Australian Standards.

# 7 PLAN IMPROVEMENT AND MONITORING

## *7.1 Performance Measures*

### 7.1.1 Performance Measures for the Asset Management System

- Continuing work on the accuracy of and confidence in the Asset data collected and maintained.
- Continuing work on the overall condition rating of the asset.

### 7.1.2 How will the Effectiveness of the Asset Management Plan be Measured

The challenge of the Asset Management Plan is to match long term expenditure with service level & risk management.

- It will be measured by the level of customer service requests.
- Rise or fall of overall condition rating
- Increase or decrease of the level of risk.

## *7.2 Improvement Program*

### 7.2.1 Actions Proposed and Timetables for Improving Accuracy and Confidence in the Asset Management Plan, Indicating Responsibility for Each Action

| Item | Action | Timetable |
|---|---|---|
| 1 | Check Asset Register for accuracy | Ongoing |
| 2 | Collect roadside asset data | Ongoing |
| 3 | Make available new technologies as they become available | Ongoing |
| 4 | Re-evaluate network condition | Ongoing |
| 5 | Revalue Road Assets using "Fair Value" | 2012/2013 |
| 6 | Re-evaluate future expenditure needs from historical data & risk evaluation | Ongoing |
| 7 | Upgrade Council "Asset Maintenance, Renewal & Capital Upgrade Plan" | 2011/12 |

**Table 7.2.1a – Improvement Program**

### 7.2.2 Resources Required to Implement the Improvement Program

JSC's existing resources are all that is available at this stage to undertake the work identified in the improvement program.

## *7.3 Monitoring and Review Procedures*

### 7.3.1 Procedures and Timetable for Performance Report

Yearly performance reporting through the Integrated Planning & Reporting Process.

### 7.3.2 Timetable for External Audit and Review (of Process, Data Integrity, Level of Service)

Yearly during the Integrated Planning & Reporting Process.

# 8 REFERENCES


1. *Junee Residential Strategy*
2. *Best Practice Manual Roads*
3. *Roads A presentation to Council by the Director of Engineering to explain Road Asset Management*
4. *IPWEA Publication – NSW Local Road Construction Cost Forecast 2010 - 2020*

# 9 APPENDICES

Appendix 1 – Junee LGA Roads Hierarchy

Appendix 2 – Roads Hierarchy – Service Levels

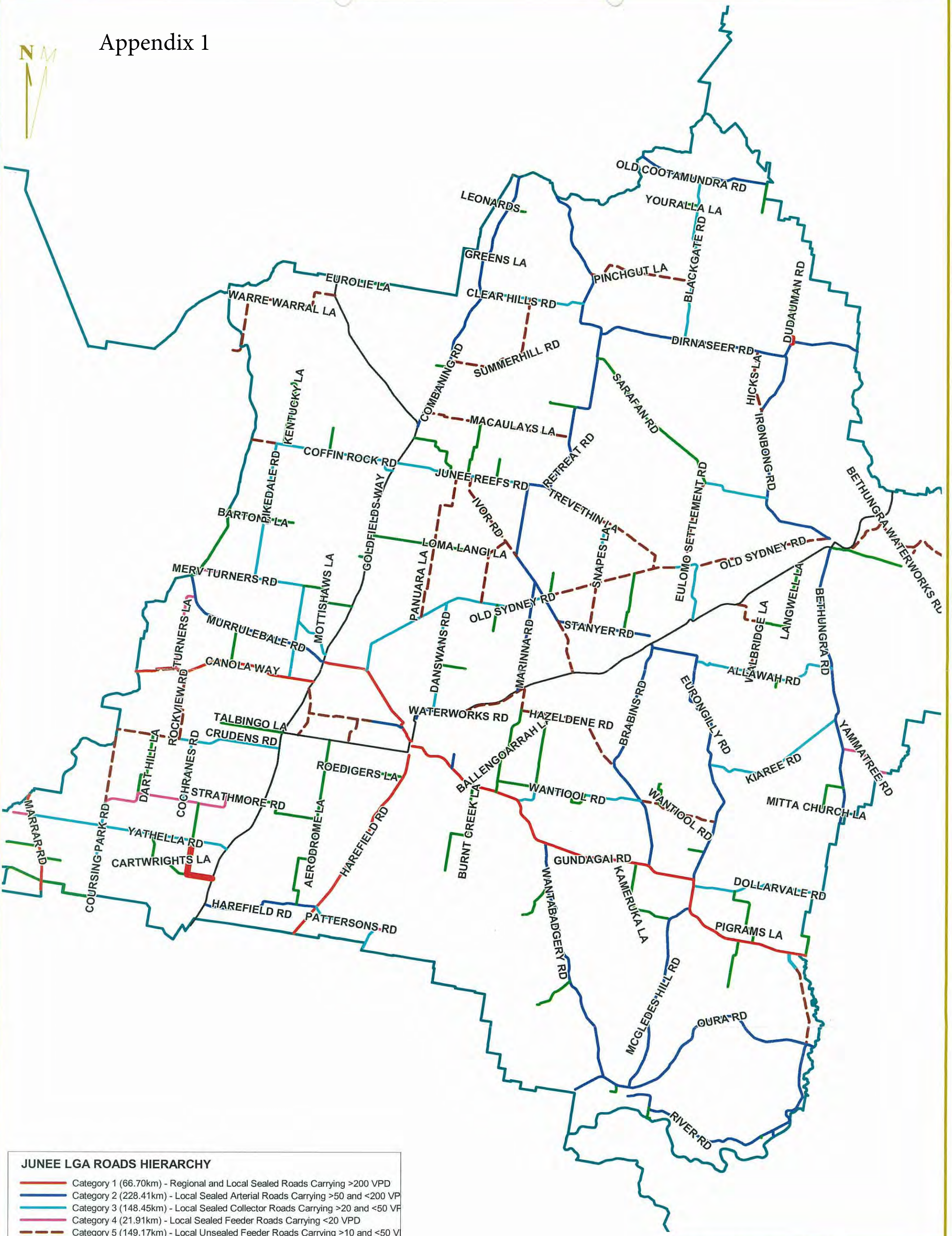
Appendix 3 – Map of Shire showing Road upgrades required for the Ethanol Plant

Appendix 4 – Road Network Risk Management Policy and Procedures

Appendix 5 – Map of Shire Roads that do not meet proposed levels of service

Appendix 6 – Risk Management Asset Inspections

Appendix 1




**JUNEE LGA ROADS HIERARCHY**

- Category 1 (66.70km) - Regional and Local Sealed Roads Carrying >200 VPD
- Category 2 (228.41km) - Local Sealed Arterial Roads Carrying >50 and <200 VP
- Category 3 (148.45km) - Local Sealed Collector Roads Carrying >20 and <50 VP
- Category 4 (21.91km) - Local Sealed Feeder Roads Carrying <20 VPD
- Category 5 (149.17km) - Local Unsealed Feeder Roads Carrying >10 and <50 V
- Other Roads (86.96km) (State and Regional)
- Category 6 (170.81km) - Local Unsealed Access Roads Carrying <10 VPD

Narelle Hobson
25 May 2011
Junee Shire Council
GDA94 UTM Zone 55

junee

Appendix 2

## ROADS HIERARCHY - SERVICE LEVELS

| Hierarchy Category | Category 1 - Regional and Local Sealed Roads Carrying >200VPD | Category 2 - Local Sealed Arterial Roads Carrying >50 and <200VPD | Category 3 - Local Sealed Collector Roads Carrying >20 and >50VPD | Category 4 - Local Sealed Feeder Roads Carrying >10 and <50VPD | Category 5 - Local Unsealed Feeder Roads Carrying >10 and <50VPD | Category 6 - Local Unsealed Access Roads Carrying <10VPD |
|---|---|---|---|---|---|---|
| Design Speed | 100KPH | 100KPH | 80KPH | 80KPH | 80KPH | 60KPH |
| Surface | SEALED | SEALED | SEALED | SEALED | GRAVEL | ALL WEATHER |
| Travel Lanes | 2 LANE | 2 LANE | 1 LANE | 1 LANE | 1 LANE | 1 LANE |
| Lane Width | 3.5 METRE | 3 METRE | 4 METRE | 4 METRE | 4 METRE | 4 METRE |
| 1m Sealed Shoulder | YES | NO | NO | NO | NO | NO |
| 1m Gravel Shoulder | YES | YES | YES | YES | YES | NO |
| Line Marking | YES | OVER CRESTS | OVER CRESTS | NO | NO | NO |
| Guideposts | YES SPACED AT 150M | YES SPACED AT 250M | YES SPACED AT 250M | ONLY AT CULVERTS AND CURVES | ONLY AT CULVERTS AND CURVES | ONLY AT DANGEROUS LOCATIONS |
| Roughness Counts | TBA | TBA | TBA | TBA | TBA | TBA |
| Causeways (Water Over Road 1:25 Year Storm Event) | NO | YES | YES | YES | YES | YES |
| Culverts (Designed to 1:25 Year Storm Event) | YES | YES | YES | YES | NO | NO |
| Signs - Crests | YES | YES | YES | YES | YES | NO |
| Signs - Curves | YES | YES | YES | YES | YES | NO |
| Signs - Advisory Speed | YES | YES | YES | YES | YES | NO |
| Vegetation Clearance - Shoulder | 6 METRE | 4 METRE | 4 METRE | 4 METRE | 4 METRE | 4 METRE |
| Vegetation Clearance - Height | 5.5 METRE | 4.6 METRE | 4.6 METRE | 4.6 METRE | 4.6 METRE | 4.6 METRE |
| Shoulder Grass Sprayed Annually | YES | YES | YES | YES | YES | YES |
| Roadside Slashing | IF REQUIRED | IF REQUIRED | IF REQUIRED | IF REQUIRED | NO | NO |
| Pothole Patching - Response Time | 2 DAYS | 1 WEEK | 1 MONTH | 3 MONTH | 6 MONTH | 12 MONTH |
| Guideposts Defect - Response Time | 3 MONTH | 6 MONTH | 6 MONTH | 12 MONTH | 12 MONTH | NA |
| Sign Defect - Response Time | 3 MONTH | 6 MONTH | 6 MONTH | 12 MONTH | 12 MONTH | NA |
| Vegetation Defect - Response Time | 1 MONTH | 6 MONTH | 6 MONTH | 12 MONTH | 12 MONTH | 24 MONTH |

Appendix 3

# Local Road Network that would require upgrading to service Ethanol Plant

Proposed Ethanol Plant

MIMOSA
RULEBALE
YATHELLA
BRUCEDALE
BOMEN
EUNANOREENYA
OURA
WALLACETOWN
HAREFIELD
MARINNA
OLD JUNEE
JUNEE
ERIN VALE
DIRNASEER
JUNEE REEFS
WANTIOOL
ILLABO
EURONGILLY
WANTABADGERY
BETHUNGRA

BUTTS LANE
BLACKGATE 17M RD
EMERYS LANE
GREENS LANE
COMBANING RD
PINCHGUT LANE
DUDAUMAN RD
CLEAR HILLS RD
WARRE WARRAL LANE
EUROLLIE
DIRNASEER RD
NOORLA LANE
SUMMERHILL RD
HICKS LANE
AMAROO LANE
KENTUCKY LANE
BREMEERS LANE
MACAULAYS LANE
COFFIN ROCK LANE
CHURCH LANE
COWLED LANE
EULOMO SETTLEMENT RD
BARTONS LANE
LOMA LANGI LANE
SNAPES LANE
MERV TURNERS LANE
MOTTISHAWS LANE
GOLDFIELDS WAY
HILLSIDE LANE
MARINNA RD
WOODPACK LANE
GREGORYS LANE
STOREYS LANE
WALBRIDGE LANE
LANGWELL LANE
BARNES ST
COOLAMON RD
ALFRED ST
BLACK ST
MILLBANK LANE
DANSWANS LANE
WORNES GATE LANE S
ALLAWAH RD
BETHUNGRA RD
ROCKVIEW RD
MOSS RD
WATERWORKS RD
TALBINGO LANE
PARK LANE
GERRIC ST
ALBERT ST
BALLANGOARAH LANE
BRABINS RD
EURONGILLY RD
KIAREE LANE
MITTA CHURCH RD
DARTHILL LANE
COCHRANES RD
OLYMPIC HWY
DAVIES LANE
AERODROME LANE
HAREFIELD RD
BURNT CREEK LANE
OADES LANE
MEES LANE
WAROO LANE
GUNDAGAI RD
MCKENZIES RD
BAYLIS LANE
MYRNONG LANE
BOMEN RD
PATTERSONS RD
ALSTONVILLE LANE
WANTABADGERY RD
KAMEROOKA LANE
COMMENS LANE
BILLABONG RD
OIVI LANE
SKELTONS RD
OURA RD
BOUNDARY RD
BULGAN ST

Toni Hambilton
17 June 2011
Junee Shire Council
GDA94 UTM Zone 55

junee

Appendix 4

**JUNEE SHIRE COUNCIL**
**POLICY REGISTER**

**SUBJECT:** ROAD NETWORK RISK MANAGEMENT

**POLICY TITLE:** ROAD NETWORK RISK MANAGEMENT POLICY

---

## 1.0 OBJECTIVE

To provide a systematic method of identification, evaluation and prioritisation of maintenance works on JSC's road network that will assist the Council's decision making process in its annual budget formulation.

To establish procedures that provide a simple, systematic and readily usable risk management approach to the maintenance of public roads and road related infrastructure and to determine road maintenance methods within road reserves under the care and control of Council.

## 2.0 BACKGROUND

Due to financial restraints JSC is unable to allocate sufficient funds to allow maintenance of its Road Network without consideration of resource limits.

In order to minimise the potential hazards to road users, JSC has developed a risk management approach to maintenance of JSC's road network.

JSC has recognised that potential hazards to road users resulting in public liability claims or injuries, place a significant burden on the community. JSC believes it should endeavour to manage the road network to assist in minimising these potential hazards.

The procedures developed for this purpose are derived from industry best practice as documented in the "Statewide Mutual Best Practice Manual – Road Network Risk Management".

## 3.0 SCOPE

This policy and associated procedures covers all maintenance and capital works on roads and road related infrastructure including, but not limited to, road pavements, road surfaces, bridges, causeways, footpaths, kerb and guttering, stormwater drainage, signs, safety barriers and any other physical item that has a foreseeable impact on the safety and amenity of road users within the road reserves under the care and control of the Council.

## 4.0 POLICY

This policy, together with the related operational procedures, provides the guidelines for identifying the location, nature, inspection frequency, treatment options and repair priorities of potential hazards to users of the Road Network. The implementation of this policy aims to minimise public liability exposure and provide a best value service to the community in relation to provision of road infrastructure services.

## 5.0 BUDGETING

The Council will assess in formulating its annual road budget (in the context of its overall budget), the appropriate allocation of funding to maintenance works in such a way as to generally achieve the best possible long term overall condition of the road network.

The Council will allocate human and financial resources in order to conduct inspections and assessments for the implementation of the policy and procedures within Council's budget constraints.

## 6.0 RELATED DOCUMENTS

Refer to the "Road Network Inspection and Maintenance Procedure Manual" which details related documents and the processes and procedures that need to be followed to ensure the principles of this Policy are adhered to in the day to day operation and management of Councils Road Network.

## 7.0 DURATION AND REVIEW

The policy and the associated operational procedures will be reviewed periodically as required.

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OFFICE USE ONLY:

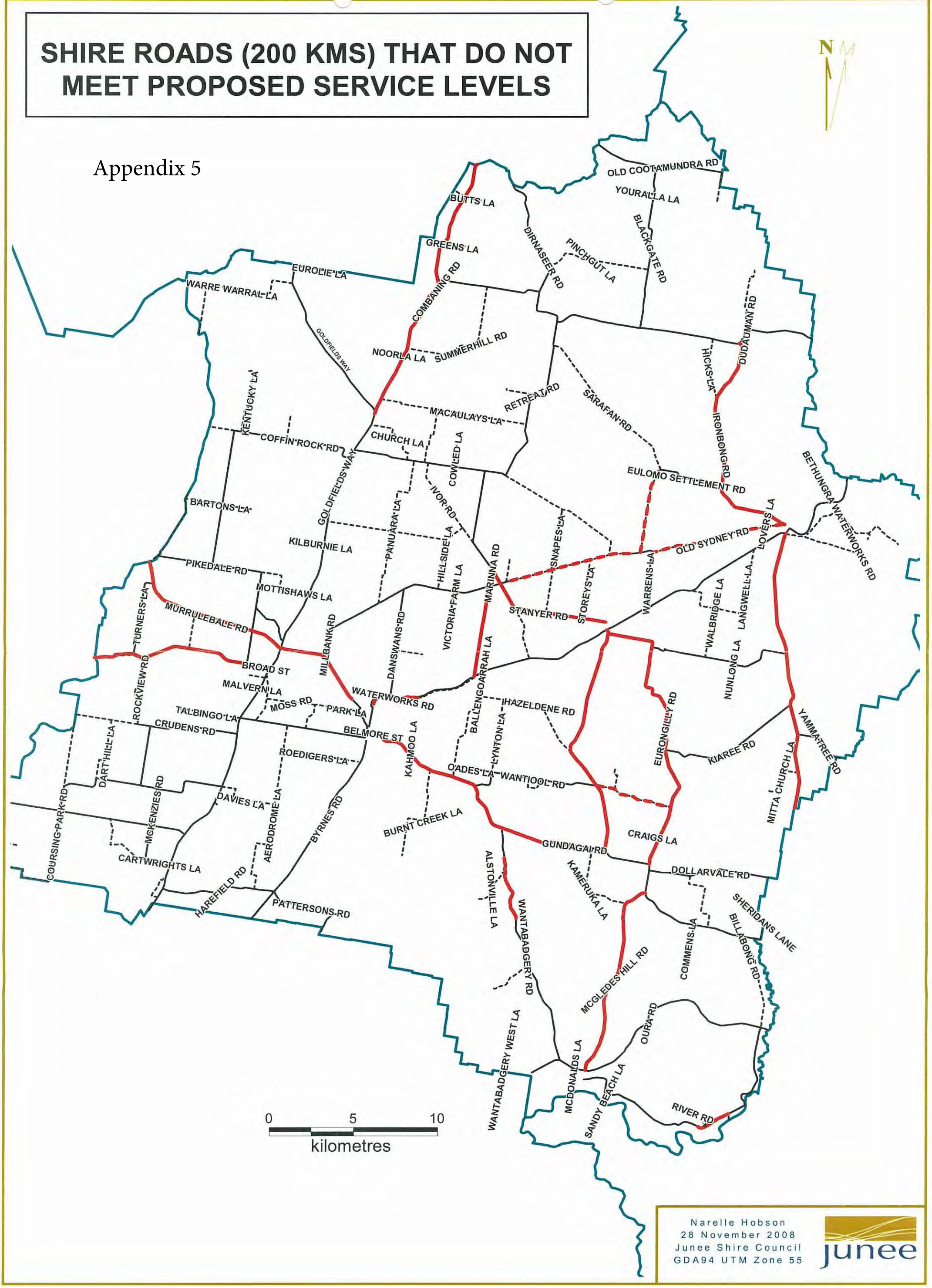
**FILE REF NO:**

**DATE ADOPTED:** **21 JUNE 2011**

**MINUTE NO:** **09.06.11**

# SHIRE ROADS (200 KMS) THAT DO NOT MEET PROPOSED SERVICE LEVELS

Appendix 5




Narelle Hobson
28 November 2008
Junee Shire Council
GDA94 UTM Zone 55

junee

Appendix 6

**JUNEE SHIRE COUNCIL**

**POLICY REGISTER**

**SUBJECT:** **RISK MANAGEMENT**

**POLICY TITLE:** **ASSET INSPECTIONS**

**OBJECTIVE:** To safeguard and enhance community assets and limit exposure to loss from litigation and prosecution.

**POLICY:**

To safeguard and enhance community assets and to limit exposure to loss from litigation and prosecution, Junee Shire Council has recognised the need for a system of inspection and reporting for infrastructure assets under its control. This involves the regular and documented inspection of Council assets and recording of their condition with any defects discovered to be actioned by the responsible officer of Council.

To support this desire, Council has adopted a systematic risk management approach to control all areas of risk within the organisation, incorporating the principles of the Risk Management Standard AS/NZS 4360:1999.

The infrastructure assets to be inspected include:

- roads,
- footpaths,
- bridges and culverts,
- street trees,
- street lighting,
- parks and recreational areas,
- playground equipment,
- swimming pool and recreation centre facilities,
- signage used as remote supervision,
- public toilet facilities and rest areas,
- stormwater systems and drainage structures,
- waste disposal facilities including waste transfer stations and landfills,
- sewerage systems,
- Council owned or operated buildings,
- gravel pits and quarries and,
- vacant land.

An Asset Inspection procedure has been developed / will be developed for each of these asset categories.

**Levels of Responsibility**

**General Manager** is responsible for ensuring the Asset Inspection policy is developed and implemented to protect and enhance the total assets of the Shire and reduce the exposure to litigation.

**Departmental Managers** are responsible for the implementation of this policy on Asset Inspection and the associated procedure within their respective departments.

All **Council Supervisors** are responsible for the continued support of this policy and the Asset Inspection system by the exercise of constant vigilance in the observation of faults, hazards and potential hazards in Council assets during the normal performance of their duties.

All **Council employees** are responsible for the protection of Council assets in the performance of their normal duties and in the timely reporting of faults, hazards or potential hazards they may observe whilst performing their duties.

**Risk Assessment Process**

Identified faults and hazards shall be noted in accordance with the respective Asset Inspection procedure and reported to nominated officers of Council. These faults and hazards will be evaluated using the Risk Management principles of AS/NZS 4360:1999:

- Hazard Identification;
- Risk assessment; and
- Risk elimination or control.
- Monitor and review.

The details of Asset Inspection schedules and frequencies, intervention levels and response times, reporting and corrective action responsibilities, resource allocation, employee training needs and review and auditing processes are addressed in detail in the Risk Management Asset Inspection Procedures that support this policy.

Council will implement this Asset Inspection Policy subject to budgetary constraints.

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**ADOPTED:** 19 October 2004
**MIN. NO:** 11.1004