1.0 Executive Summary

Bellingen Shire Council is a small rural council of approximately 1,600 square kilometres on the mid north coast of New South Wales. The council has a small population of approximately 12,000 people and a relatively low rate base due to large areas of State Forest and National Parks.

The local road network is the main system which links the community by providing access between properties and main road systems. This network includes extensive lengths of rural roads extending as the only access route up narrow valleys. That is, there are many roads which don’t provide a through traffic route to link with other roads and consequently access is vulnerable as large numbers of people can be isolated if the road is cut for any reason such as a damaged bridge or a landslip.

Other challenges associated with managing the road network include high rainfall, steep landforms and fast vegetation growth.

The aim of the provision of transport infrastructure is to provide safe, serviceable and convenient access throughout the Shire.

The transport network that Council is responsible for includes:

- Regional Roads (34km)
- Local Roads (531km)
- Bridges and large culverts (137)
- Footpaths (22km)
- Off street car parks (5)
- Roadside furniture
- Drainage systems (38km)

These infrastructure assets have a replacement value in the order of $455 million. A broad based assessment of Council’s finances indicates that present funding levels are likely to be insufficient to continue to provide existing services at current levels in the medium term.

This raises the issue of how Council manages the potentially higher risks that may result from the provision of lower levels of service.

In this regard Council has defined intervention levels in a policy document, the BSC Road Inspection System. The level of compliance of Council’s operations and maintenance to the intervention levels specified in the policy is monitored. In the short term, budget variations may be required to meet these standards. However, if funding cannot be maintained at the required level over the medium term, then it will be necessary for Council to revise the intervention levels to a level commensurate with the funds that can be allocated. That is, if funding levels are insufficient to meet the currently specified intervention levels, then a lower level of service will be provided.

The risks associated with this lower level of service can then be assessed and decisions made with regard to Council’s overall financial management framework.

Funding for renewals, upgrades and capital expansion are managed using Council’s project priority assessment system. It is anticipated that to achieve good asset management practices, asset renewals will require a greater emphasis in preference to upgrades and capital expansion as a result of this asset management plan. One obvious and immediate concern that needs to be addressed is the need to allocate increased funding for renewal of bitumen sealed surfaces on existing roads.
2.0 Introduction

This Road Asset Management Plan (RAMP) has been prepared to formalise the process of providing the framework to guide the financial and physical requirements for the long term operational performance of Council's transport infrastructure assets.

The RAMP encompasses previous plans and strategies developed by Council. This version of the RAMP will deal with the following elements of the transport infrastructure network in detail:

- public road network: road formation, road pavement, road wearing surface
- bridges and large culverts
- footpaths and cycleways
- car parks (off street)
- ancillary road facilities: roadside furniture (signage, linemarking, safety fencing) traffic facilities (round-a-bouts, medians, thresholds), retaining walls, bicycle racks, bus shelters, seats.
- road drainage systems: table drains, small culverts, kerb and gutter, subsoil drainage, relief drainage pits pipes and headwalls and trunk drainage systems including pipes and formed open channels providing drainage from the road network to the receiving waters.

The RAMP aims to provide succinct information for the general community to understand Council's objectives for the provision of a network of appropriate and sustainable transport infrastructure throughout the Shire.

The plan is referred to as the RAMP because Council's primary involvement with the management of transport in Bellingen Shire is related to the public road network. However it is important to appreciate the connection this system has with the wider transport infrastructure.

The RAMP will be regularly reviewed and updated to improve the quality and accuracy of the information as it relates to Council's transport infrastructure.

3.0 Strategic and Corporate Planning

Bellingen Shire Council's Mission Statement is:

“to enhance our community's lifestyle and protect our unique environment through effective leadership, community involvement and commitment to service”.

Council has developed a Management Plan for a five year horizon and aims to achieve this Mission through the following objectives:

- Protect, preserve and enhance the unique environment of Bellingen Shire,
- Promote environmentally sensitive economic and industrial development,
- Develop, improve and maintain a safe and efficient transportation network throughout the Shire,
- Promote the development of tourism and tourist facilities without degrading the natural environment,
- Enhance the quality of life through the provision of a safe and healthy living, working and recreational environment.
Council has adopted an Asset Management Policy which recognises the responsibility for an extensive range of community infrastructure assets. The task of allocating Council’s available resources, to ensure that these assets provide the required service for the community, is ongoing and is subject to regular review. There is a constant need to balance the available resources to optimise the outcomes and use of these assets. An Asset Management Strategy has been developed to guide this process.

Council is responsible for the public roads within the Shire of Bellingen. These roads provide the basic transportation link between properties, businesses, community facilities and other transport infrastructure particularly highways and railways and ultimately airports and seaports. This RAMP has been developed to meet the principles and requirements defined in the Asset Management Policy and Strategy.

3.1 Operational Framework

There are a number of operational strategies, committees, policies and plans which form a part of the overall asset management framework for public transport infrastructure assets as briefly outlined below:

- Council has a Local Traffic Committee which is involved with the regulatory framework for road transport assets.
- Council has a number of policies which influence road asset management. The main policies are the BSC Road Inspection Policy, the Footpath Inspection Policy and the Policy for the Erection of Fingerboard Directional Signage for Tourist Oriented Businesses within Bellingen Shire.
- Council is a member of the Mid North Weight of Loads Group. The aim of this group is to educate the trucking industry on the appropriate use of the road network for transporting freight. The group also has a regulatory role to enforce legal loading of vehicles. This is an important component of Council’s road management system and is essential to ensure the road pavements are being used appropriately to enable the road to perform its proposed function and meet the expected design life.
- Council adopted a Roadside Management Plan in 1998 which provides a long term plan of management for activities impacting on the roadside environment.
- Council adopted a Bicycle Plan and Pedestrian Accessibility and Mobility Plan (PAMP) in October 2006. This PAMP aims to rationalise and provide a strategic program for the improvement of the footpath and cycleway network within the three urban centers of the Shire.
- The Northern Rivers Catchment Management Authority (NRMCA) has also developed a draft LGA Rural Roads and Roadsides Land Management Strategic Plan to facilitate a standard and consistent approach to rural road and roadside management in order to achieve environmental, social and economic outcomes.
- Forests NSW and Council have developed a haulage strategy aimed at minimising the use of public roads for logging transportation. This is achieved by rationalisation of internal forest roads within plantation areas and development of minimum length of public roads gazetted for B Double use.
3.2 Funding Sources

Council primarily funds its activities from property rates and federal and state government grants. Details are provided in the annual management plan and budget. Road maintenance and improvements are currently funded from general rates, federal financial assistance grant, various grants from Roads and Maritime Services (RMS) (including the Regional Road Block Grant, the Regional Road Supplementary Grant, the Traffic Facilities Grant, the Repair Program Grant), the Special Rate Levy, developer contributions and other grants such as the Roads To Recovery Program.

Some funding is available under the Section 94 Road Contribution Plan for developer contributions associated with new developments. This plan needs periodic revision to cater for changes in the rate of development and was last reviewed on 1 July 2009. The Section 94 Road Contribution Plan is referred to in relation to increased demand for transport assets and can be used in a limited way to supplement infrastructure improvements as required.

Some funds are available under Rural Fire Service fire mitigation grants for fire trails on public road reserves which are not provided for private property access, although some properties do gain access via these trails. Grants are made available from time to time for maintenance and repairs to these fire trails through the Fire Mitigation Fund.

4.0 Asset Management Systems

Council’s assets have been managed using a number of separate systems in each division and section. One future objective of Council will be to integrate these separate systems into an overall corporate system. This RAMP provides details of the various systems used for transportation assets.

4.1 Asset Records

Council has maintained a number of Asset Registers for various assets.

Roads were originally recorded in loose leaf paper form based on information collected in the field. The information recorded included a road name and number, status, length, description of the starting point and finishing point of the road, sealed and unsealed lengths and the chainage and size of culverts.

Council then recorded the road assets on the SMEC pavement management system in the mid 1990s. The field information was collected by a casual employee (Greg Nelson) and input into the SMEC pavement management system with the original field sheets maintained in a folder. The SMEC pavement management system needed a major upgrade before the year 2000 as problems with the compliance of the system with “Y2K” changes were expected. The road asset system was then transferred to an Excel spreadsheet which has subsequently been converted into an MS Access Database system and this system is still currently in use.

Bridge assets were originally recorded on a spreadsheet. This information has been transferred into an Access Database to enable bridge information to be managed in a more effective manner. The basic information records the bridge name, number, road, location, and details of the bridge structure such as materials, spans, lengths and widths.

Council has an Access database which records the footpath and cycleway network in the Shire. This database records the footpath location, length, width and materials.
Car park assets are recorded in an Excel spreadsheet. The basic information records the car park location, the pavement area, the length of kerb and gutter and basic details of ancillary facilities such as signage and linemarking.

Drainage system assets are recorded in an Access Database. This database records the details of drainage structures such as location, pit type, size, conduit inlet or outlet depths and details of drainage conduits, such as size, materials and length.

4.2 Valuation of Assets

Road infrastructure assets have been valued utilising the methodology and approach of Australian Accounting Standards for Financial Reporting purposes. This approach includes:

- Valuations are based on data quantified in Council’s most up to date Asset Registers.
- Current replacement values have been determined based on sound engineering estimates using current market rates for labour, plant hire, materials and contract services. Where an asset is constructed of materials which are currently not in common usage, the estimates are based on construction with current material technology which will provide an equivalent service in terms of capacity to the user.
- Asset life is determined based on the characteristics of the asset and particularly the type of construction materials used.
- Written Down Cost is determined based on the difference between the economic life of the type of asset class and the actual age of the asset when this is accurately known. If the age of the asset is not known with any degree of reliability the Written Down Cost is based on the current condition assessment of the asset and a corresponding estimated percentage of remaining useful life.
- Where the useful life of the asset is extended or reduced, the resultant impact will be on future depreciation rates and charges and will not be retrospective in accordance with appropriate accounting standards.

4.3 Asset Values

The adopted economic life of transport infrastructure asset components is summarized as follows:

**Regional Roads:**
- Road formation: geological time (no depreciation)
- Road pavement (sealed): 60 years
- Road wearing surface (sealed):
  - Bitumen seal: 15 years
  - Asphalt surface: 15 years

**Local Roads (low traffic volume):**
- Road formation: geological time (no depreciation)
- Road pavement (sealed): 75 years
- Road pavement (unsealed): 25 years
- Road wearing surface (sealed):
  - Bitumen seal: 20 years
  - Asphalt surface: 15 years
Bridges and large culverts:
- Concrete: 75 years
- Steel: 60 years
- Timber piles: 75 years
- Timber Girders: 40 years
- Timber deck: 20 years

Footpaths:
- Concrete: 100 years
- Pavers: 50 years
- Asphalt: 30 years

Drainage Systems:
- Concrete: 100 years

Roadside Furniture:
- Signs: 15 years
- Safety fencing: 20 years
- Concrete medians: 100 years

Car Parks:
- Formation: geological time (no depreciation)
- Pavement: 75 years
- Wearing surface
  - Bitumen seal: 20 years
  - Asphalt surface: 15 years

As an interim measure for use in determining an annual depreciation amount in the financial statements an average life has been adopted for bridges of 60 years, car parks 60 years and kerb and gutter 100 years.

When the date of provision of an asset is not known the remaining life will be calculated based on the assessed condition rating of the asset component. The following remaining asset life shall be adopted:

<table>
<thead>
<tr>
<th>Condition Rating</th>
<th>Remaining Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Good</td>
<td>95%</td>
</tr>
<tr>
<td>Good</td>
<td>75%</td>
</tr>
<tr>
<td>Fair</td>
<td>50%</td>
</tr>
<tr>
<td>Poor</td>
<td>25%</td>
</tr>
<tr>
<td>Very Poor</td>
<td>1 year</td>
</tr>
</tbody>
</table>

It should be noted that the life of road pavements is subject to a large degree of uncertainty. There is current research being undertaken to improve the knowledge and understanding of the deterioration of road pavements which will in turn lead to improvements in the management of these assets.

Similarly the life of bitumen seals is not easily determined although they have a much shorter life than road pavements. Current research is aimed at determining the degree of oxidation of the bitumen matrix.
5.0 Levels of Service

The transport infrastructure assets can provide varying levels of service. This section describes the functions of each asset class and the factors influencing the level of service that can be provided and forms the basis for determining an appropriate level of service having regard to financial constraints.

A number of management systems for various components of the transport infrastructure network have been developed by Council over time. These systems as well as forming the basic asset register for different classes of assets are also used as operational management tools.

5.1 Public Road Network

The performance of the road network is mainly dependent on the physical use of the system and environmental effects. The main factors relating the physical use of the network include traffic volumes, number and type of heavy vehicles, overloaded vehicles, public transport (buses), speed of traffic and property access.

Environmental effects include wet weather (rainfall frequency, intensity and duration, including flooding), sunlight radiation, hot and cold temperatures, growth of vegetation, river erosion, slope stability and potentially sea level changes.

There are three basic asset components of the road network, as follows:

1. Road formation: The road formation includes the formation for the road carriageway up to the sub-grade level. It includes cut and fill batters and private property access formations within the road reserve but excludes retaining wall structures.
2. Road pavement: Road pavements include the structural component of the road which supports the traffic loading and transfers the vehicular load to the subgrade.
3. Road wearing surface: Road wearing surfaces provide the running surface for traffic. For the purpose of asset management some road types do not have a wearing surface such as unsealed gravel roads and concrete roads.

Council’s road network has been classified into a hierarchy based on function and, at a basic level, are classified as State Roads, Regional Roads or Local Roads. Although Bellingen Shire Council is the Roads Authority under the Roads Act 1993 for all public roads within the Shire, it is a requirement under the Roads Act that any work on a classified road needs the concurrence of the NSW Roads and Traffic Authority.

The following roads are classified roads within Bellingen Shire:

- Pacific Highway (State Highway 10, SH10)
- Waterfall Way (Main Road 76, MR76)
- Tyringham Road (Main Road 119, MR119)
- Coramba Road (Main Road 469, MR469)

Of these classified roads the Pacific Highway and Waterfall Way are State Roads and Tyringham Road and Coramba Road are Regional Roads.

State Road assets are considered to be the responsibility of the Roads and Traffic Authority (RTA). The RTA maintains the road carriageway and directly related traffic facilities on State Roads. Council is the Roads Authority for these roads and generally has maintenance responsibility for other features in the road reserve, such as the road verge and footways.
Council undertakes work on Waterfall Way under a Road Maintenance Council Contract (RMCC) under which Council has an active role in assessing requirements for upgrades and improvement works. Regional Road and Local Road assets are considered to be the full responsibility of Council. Council has determined a defined road network for which routine maintenance is budgeted for and undertaken. However, there are other roads on public road reserves usually either used by 1 or 2 properties or used as fire trails for which Council does not carry out routine maintenance. If a request for maintenance is received for these roads the request is considered on its merits and any work requires a specific allocation of funds by Council. These roads are not currently included on the road asset register. It is intended that these assets will be recorded in the asset register as resources permit however this is currently a low priority and has low relevance with regard to financial asset management but more relevance with regard to risk management.

There are also other roads which are not included in the asset management plan including Crown Roads, Forestry Roads, roads through national parks and private roads. Some of these roads are available for access by the community but any Council involvement in the management of these facilities is considered on an individual merit basis.

The road network within the Shire is made up of:

<table>
<thead>
<tr>
<th>Asset Type</th>
<th>Asset Manager</th>
<th>Length (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highways</td>
<td>RTA</td>
<td>13</td>
</tr>
<tr>
<td>State Roads</td>
<td>RTA</td>
<td>70</td>
</tr>
<tr>
<td>Regional Roads</td>
<td>Bellingen Shire Council</td>
<td>34</td>
</tr>
<tr>
<td>Local Roads</td>
<td>Bellingen Shire Council</td>
<td>531</td>
</tr>
</tbody>
</table>

The roads for which Council has responsibility are divided by function based on rural or non rural roads and traffic volumes as follows:

**Category 1**
- Rural Roads with ADT of 0 to 100 vehicles per day
- Non Rural Roads with ADT of 0 to 500 vehicles per day

**Category 2**
- Rural Roads with ADT between 100 and 250 vehicles per day
- Non Rural Roads with ADT between 500 and 1,000 vehicles per day

**Category 3**
- Rural Roads with ADT greater than 250 vehicles per day
- Non Rural Roads with ADT greater than 1,000 vehicles per day

The road network has developed over many decades and consequently the standard of roads varies enormously with the topography having had a large impact on the standard of road provided. Most of the terrain within the Shire area is very hilly and consequently many roads have been constructed with steep vertical grades, tight horizontal curves and narrow formation widths, although Council does aim to achieve the road standards set out in Aus-Spec No 1 Design Specifications, specifically Tables D1-5 for residential areas and Table D1-8 for rural residential and rural areas.
5.2 Bridges and Large Culverts

Bridges and large culverts are relatively large structures which carry the road over physical features such as watercourses, roads and railway lines.

The majority of bridges on Local Roads cross watercourses. A large number of bridges were constructed many decades ago using locally available timber. Typically the structures only provide for a single lane of traffic and often have poor alignments on the road approaches. Many bridges are also constructed at low levels in flood prone areas and are regularly cut during flood events.

As bridges deteriorate they are repaired under a bridge maintenance program. Some bridges deteriorate to such an extent that replacement is required. Council aims to replace deteriorated bridges with structures that are durable and have a long life cycle. The replacement structures are assessed with the aim of providing a higher level of service. In particular it is considered desirable to provide a replacement structure with two lanes of traffic with improved approach alignments and to provide the structure at a level which improves access during flood events where feasible.

5.3 Footpaths

It is desirable to have a footpath network which provides safe and serviceable pedestrian access to community and commercial facilities. Generally, factors which influence levels of service are width, crossfall, longitudinal grade, type of surface, evenness of surface, drainage and provision of accessible ramps. Currently the limited available funds are utilised to remove or repair localized defects. Resources will need to be dedicated to developing a program to reconstruct substandard footpath facilities to bring them up to current standards.

5.4 Car Parks

Car park assets include off street public car parks but excludes on street parking facilities which are treated as part of the road network.

Car park assets are divided into the same basic components as roads for valuation purposes (ie: formation, pavement and wearing surface. In addition there are other components including kerb and gutter, linemarking, signage and other traffic facilities).

Generally, car parks are expected to provide convenient and safe parking for vehicles but also need to enable the regulation of fair and equitable parking for the public. The issues that influence the level of service for car parks include the provision of a sound, well drained pavement with clear linemarking and signage.

5.5 Roadside Furniture and Traffic Facilities

This class of asset includes regulatory signs, warning signs, guidance signs, linemarking, safety fencing, retaining walls, traffic medians and traffic devices such as round-a-bouts, thresholds, speed humps, traffic mirrors, bus shelters, street lights and bike racks.

More work needs to be done in the future to comprehensively record these assets. From an accounting point of view the value of roadside furniture and traffic facility assets is relatively low and is not considered to be material with regard to the financial statements.

However, these assets are important for the level of service provided for the transport network. Appropriately provided and maintained traffic facilities, regulatory signs and warning signs assist in the provision of a safe, serviceable and equitable traffic environment.
In addition, guidance signs assist the public in finding desired locations and facilities. Council receives many requests for additional signs. However, a proliferation of signs can be confusing for motorists and the focus is on providing a well-maintained system of street name and geographical location signs. Requests for additional signs are considered in accordance with the “Policy for the Erection of Fingerboard Directional Signage for Tourist Oriented Businesses within Bellingen Shire”.

5.6 Drainage Systems

Drainage systems as they relate to transport infrastructure include table drains, small culverts, kerb and gutter, and relief drainage systems.

The primary function of drainage systems relating to transport infrastructure is to protect the asset from damage which can result when stormwater flow is uncontrolled. In performing this function the drainage system also needs to protect adjacent private property and provide a reasonable level of service to road users.

Drainage systems need to deal with rainfall which has varying frequencies of intensity and duration. The level of service of the drainage system involves the extent of protection provided to the infrastructure for these varying events and is reliant on the frequency of maintenance.

In performing this role, the drainage system needs to be able to control drainage in a manner which does not jeopardise adjacent property and which provides an appropriate level of service for users. The aim is to provide a level of protection as defined by the standards contained in Australian Rainfall and Runoff (AR&R). In particular, it is considered appropriate to adopt the principles of minor flow paths and major flow paths as follows:

- Minor flows to cater for 20% Annual Exceedance Probability (AEP)
- Major flows to cater for 1% Annual Exceedance Probability (AEP)

6.0 Future Demand

Population growth in Bellingen is generally low and does not have a significant impact on the management of transport assets. Council developed a Growth Management Strategy which was endorsed by the Department of Planning on 21 April 2007. Based on this strategy, the rate of growth is not expected to change substantially over the next 20 years.

Consequently, the growth in subdivisional and residential development is not expected to greatly increase the need for transport infrastructure. Development will either be limited by the available capacity within existing infrastructure or additional capacity will need to be provided to enable such development to proceed.

The Section 94 Road Contribution Plan is periodically reviewed and this document is referred to when considering transport infrastructure requirements in relation to new development.

7.0 Risk Management

In accordance with Council’s risk management systems, risks associated with Council’s road network have been identified and strategies proposed to mitigate these identified risks as provided in Table 1.
<table>
<thead>
<tr>
<th>Risk Details</th>
<th>Likelihood</th>
<th>Consequence</th>
<th>Risk Rating</th>
<th>Treatment Strategy</th>
<th>Risk Assessment after treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate funding for renewal and maintenance resulting in deterioration of asset and decrease in levels of service</td>
<td>Likely</td>
<td>High</td>
<td>High</td>
<td>Ensure priority to asset maintenance and renewal is given through the budget process. Regularly revise four year rolling program of road improvements.</td>
<td>Unlikely High Medium</td>
</tr>
<tr>
<td>Inadequate funding for maintenance resulting in exposure to public liability</td>
<td>Likely</td>
<td>High</td>
<td>High</td>
<td>Regularly revise use and appropriateness of BSC Road Inspection Policy</td>
<td>Possible Medium Medium</td>
</tr>
<tr>
<td>Inadequate identification and/or incomplete asset registers</td>
<td>Possible</td>
<td>High</td>
<td>High</td>
<td>Progressively reassess and update asset registers.</td>
<td>Unlikely Medium Medium</td>
</tr>
</tbody>
</table>
8.0 Life Cycle Management

Local Government has a responsibility to ensure that assets under its management will function and meet the community needs and expectations on a long term basis, for both present and future generations. The management role includes the need to maintain the assets in a safe and serviceable condition and exercising a reasonable duty of care.

There is a general expectation within the community for ongoing improvements to the existing transport infrastructure. This is evidenced by requests received for upgrades and improvements particularly for roads, footpaths and cycleways. However, there is a significant gap between this desired standard and the existing standard because of the way the road network has developed over time. The resources required to upgrade the existing network to meet the current standards are not available so, consequently a program to carry out improvements based on merit has been developed.

There is a trade off between undertaking improvement projects to address identified safety needs or to achieve a desired level of service and undertaking rehabilitation and renewal of existing infrastructure. Consequently the improvement program includes rehabilitation projects as well as improvement projects and the asset management aspect of rehabilitation or renewal of existing assets is a significant criterion in the priority assessment of these projects. The tradeoff between asset renewal and safety or serviceability improvements is addressed by the assessment process for the road improvement list of works. Factors are weighted in an attempt to produce a balanced rolling program which is responsive to the community's needs.

As life cycle management is further developed it is anticipated that there will be a greater emphasis on asset renewal at the expense of asset improvement. This RAMP aims to assist with this assessment process by including life cycle asset management principles to forecast funding requirements and it is proposed to develop this funding profile over 10 year period.

There are two fundamental criteria, which are taken into account when determining the levels of service for asset replacement cycles and asset management. In an economic context an asset should be replaced when the annualised cost of its replacement exceeds it's written down cost. This needs to be balanced by the second criteria, which relates to the level of service provided by the asset against the level of service expected by users of the asset. This will in turn enable the relationship between level of service of asset functionality with asset maintenance and the cost of the level of service (price/quality) to be determined and then evaluated in consultation with the community to determine the optimum level of service that the community is prepared to pay for.

8.1 Performance Monitoring of Assets

One of Council's objectives is to develop, improve and maintain a safe and efficient transportation network throughout the Shire. This RAMP is aimed at achieving this objective by managing transport assets appropriate to determined service levels. The consequences of asset failure will impact on this objective.

A number of inspection systems have been developed to monitor the service levels provided for various components of the transportation network. A brief outline of these inspection systems is outlined in this section.

Council has developed the BSC Road Inspection System which details the inspection regime to be carried out of the road network and specifies the intervention level for the repair of identified defects. Bridges and large culverts are inspected under the bridge maintenance program. Maintenance repairs,
replacement of bridge components and bridge restoration or replacements are determined from this inspection regime. Council has adopted a Footpath Inspection Policy. All constructed footpaths are inspected under this policy and defect repairs scheduled accordingly. No formal detailed inspection system has yet been developed for car parks, traffic facilities or drainage systems. Detailed inspections are carried out as problems are identified during the normal road inspections, as problems are identified during large storm events or as reported by the general public and maintenance or repairs carried out under the road maintenance program.

One significant aspect to the level of service that can be provided is the amount of funding allocated to maintenance. Council allocates funds for maintenance based on an historical budget which has a standard percentage variation each year. It is evident based on community requests that this budget is inadequate for the desired level of service and further work needs to be undertaken in this area to enable consultation with the community on the level of service that can be provided within financial constraints.

In the meantime risks will be managed by use of the Bellingen Shire Council Road Inspection System. It should be noted that some short term budget variations may be required to meet the intervention standards determined for this system. If, in the longer term, financial constraints are such that the current intervention standards cannot be achieved then this system will need to be revised with the aim of utilising the available funds to optimise the minimisation of risks to the public.

8.2 Financial Management

The Current Replacement Value and Written Down Cost of the transport infrastructure assets will be calculated every third year. The Finance Section will track maintenance expenditure, capital renewal and capital expansion costs for each component of the asset as described in this plan on an annual basis based on actual expenditure. These costs will then be reconciled with the Current Replacement Value and Written Down Costs calculated for the assets overall on a three yearly cycle.

The annual depreciation expense calculated for each asset component gives a broad prediction of future funding requirements. The annual depreciation based on the 2010 Current Replacement Cost for various asset components is given in Table 2.

When the annual depreciation amounts are compared to recent capital budgets for road infrastructure assets it is apparent that current funding is below what would be required for the long term rehabilitation or renewal of road infrastructure. Consequently it is perceived that there is funding gap which will impact on the level of service which can be provided for these assets in the future.

This funding gap needs further analysis in the light of the comments provided in this RAMP relating to the uncertainty of economic life predictions of assets. In the meantime, overall road infrastructure asset renewal and improvement selection is managed by the use of Council’s List of Shire Road Improvement Projects and the associated method of prioritising projects utilising the available funds.
Table 2: Asset Values

<table>
<thead>
<tr>
<th>Asset Values (2010)</th>
<th>Economic life (yrs)</th>
<th>Current Replacement Value ($ x 1,000)</th>
<th>Written Down Cost ($ x 1,000)</th>
<th>Annual Depreciation ($ x 1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Roads</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>formation</td>
<td>N/A</td>
<td>11,330</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>pavement</td>
<td>60</td>
<td>23,035</td>
<td>14,481</td>
<td>384</td>
</tr>
<tr>
<td>wearing surface</td>
<td>15</td>
<td>1,028</td>
<td>68</td>
<td>69</td>
</tr>
<tr>
<td>Local Roads</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>formation</td>
<td>N/A</td>
<td>199,461</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>pavement (sealed)</td>
<td>75</td>
<td>120,954</td>
<td>92,722</td>
<td>1,764</td>
</tr>
<tr>
<td>pavement (unsealed)</td>
<td>25</td>
<td>25,784</td>
<td>12,892</td>
<td>2,687</td>
</tr>
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<td>Bridges and Culverts</td>
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<td>timber</td>
<td>40</td>
<td>14,460</td>
<td>8,904</td>
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<tr>
<td>other than timber</td>
<td>60</td>
<td>13,696</td>
<td>9,765</td>
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<td>Footpaths</td>
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<td>Carparks</td>
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<td>539</td>
<td>290</td>
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<tr>
<td>Drainage</td>
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<td>kerb and gutter</td>
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<td>14,846</td>
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<td>Roadside furniture</td>
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<td>Not yet determined</td>
<td>Not yet determined</td>
<td>Not yet determined</td>
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<td>and traffic facilities</td>
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9.0 Monitoring and Review

This RAMP will require refinement and regular updating and reviewing.

The main refinements proposed are:

- To provide a more comprehensive link between the required level of maintenance expenditure on transport assets to provide ongoing specified levels of service. This will then enable community consultation to be undertaken to assist in the resolution of community expectations and financial constraints.
- To undertake more detailed monitoring and improve the knowledge of asset life which will assist in financial planning for rehabilitation or renewal of assets.

Council’s Road Asset Manager will be responsible for the ongoing maintenance of the plan and updating the relevant asset registers. The asset registers are to be updated by the end of each financial year.

The Road Asset Manager will also undertake a comprehensive review of the RAMP every five years.