



# **Submission to Infrastructure Australia**

**On behalf of  
Tumut and Gundagai Shire Councils**

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**GOCUP ROAD**

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## **EXECUTIVE SUMMARY**

The South West Slopes Region of NSW is unique to Australia in that timber is grown, harvested and processed locally, to its highest value added form. The product from this region, being value added locally, is especially significant to Australia's balance of payments. It contributes approximately \$1 billion in import replacement value on the Australian domestic market.

The Gocup Road is a two-lane regional road that currently carries an estimated 250 heavy vehicles and 1,250 light vehicles over its entire length each weekday.

Based on the forecast increase in the transport task associated with the expansion of VISY, the number of heavy vehicles is expected to increase to 402 heavy vehicles per weekday. The existing Gocup Road is barely adequate for the existing heavy traffic volumes but will become a significant road safety risk when the number of heavy vehicles increases by 70% each day.

A combination of insufficient funding and the simple fact that Gocup Road was never designed to carry today's and future traffic loadings demonstrates that Gocup Road is inadequate for the freight task. The advent of productivity based freight movements through the use of B-Doubles and potentially Super B's will only continue to accelerate the need for a higher standard of road.

An estimated \$50 million is required to upgrade the Gocup Road to a standard that is capable of supporting the current and future heavy vehicle transport needs of the South West Slopes timber industry. The estimate includes the development of overtaking lanes in strategic locations, in addition to extensive areas of pavement widening, realignment and rehabilitation.

Having recognised that upgrading of the route is a solution to the problem, various pre-construction activities need to be undertaken to ensure projects are packaged ready for construction should funding become available. Preconstruction activities need to be undertaken early to identify and prioritise this significant transport route.

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## **1. Gocup Road and its Strategic Significance**

### **1.1 Introduction**

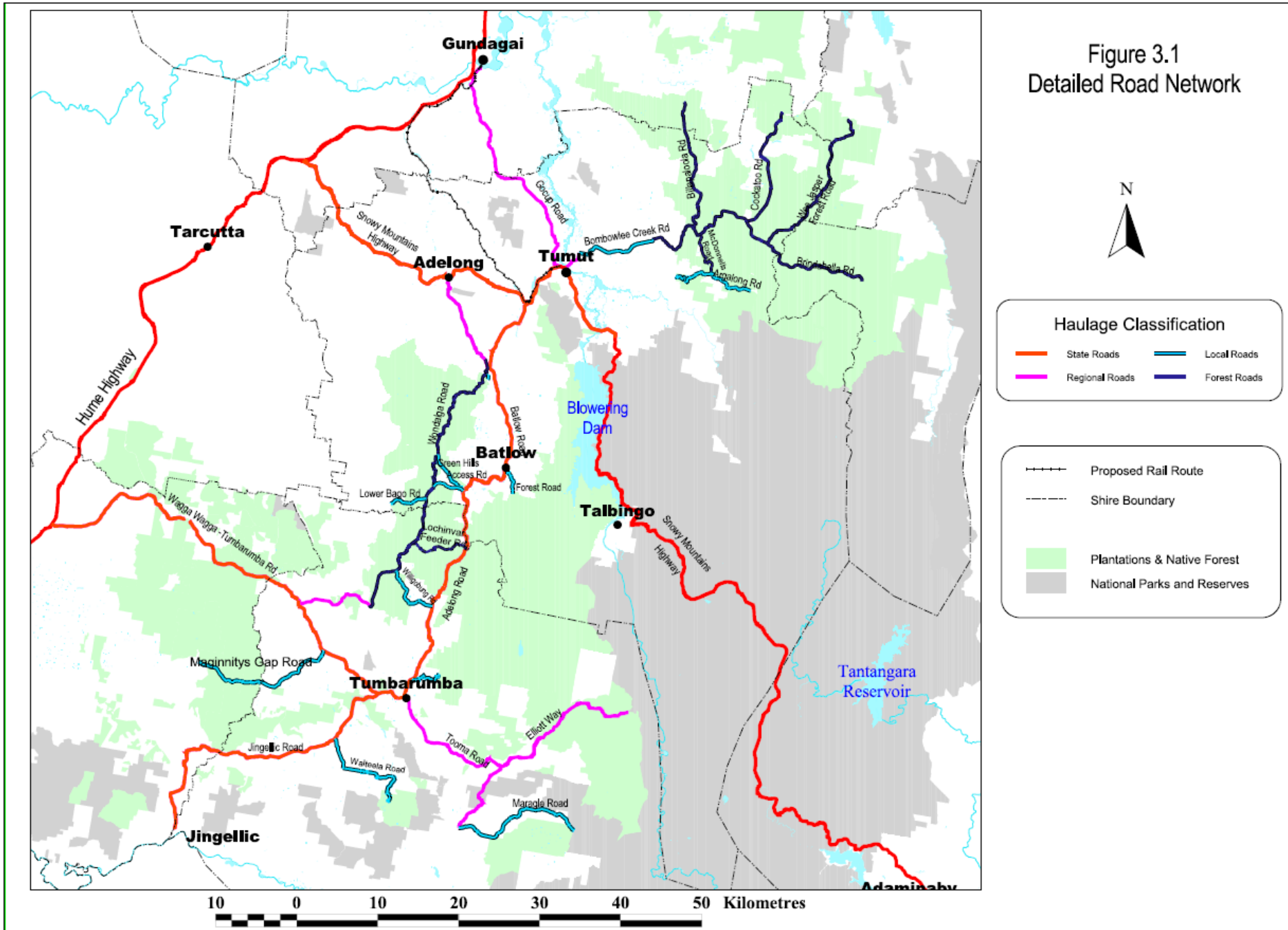
The Gocup Road is a two-lane regional road that currently carries an estimated 234 heavy vehicles and 1,229 light vehicles over its entire length each weekday.

Gocup Road serves not only the interests of Tumut but also the entire timber industry in as it is northern link of the main north-south spine road linking all the timber interests in the South West Slopes Region.

Timber production is expected to increase the heavy vehicle haulage on Gocup Road over the next few years. For Visy Pulp and Paper Pty Limited this will result from the implementation of Stage 2 of their plant development and a major increase in timber hauled from their plantations in the Macquarie timber region near Bathurst / Oberon. To more effectively manage their back-loading Visy will be hauling 60% of their export products to the port of Sydney rather than to Melbourne. Carter Holt Harvey is also anticipating strong growth in both input and finished products haulage that will impact on Gocup Road.

Based on the forecast increase in the transport task, the number of heavy vehicles is expected to increase to 402 heavy vehicles per weekday. This represents an increase of 168 heavy vehicles per day, 131 of which will be fully loaded. The existing Gocup Road is barely adequate for the existing heavy traffic volumes but will become a significant road safety risk during the working week when the number of heavy vehicles increases by 70% each day.

The regional road network servicing the timber industry includes the roads shown in Figure 1.1. Gocup Road, located at the top, centre of the map clearly indicates its strategic importance to the region, being the link from the south west slopes region to the Hume Highway and the north via Tumut and Gundagai.



## **1.2 Overview of the Timber Industry in the South West Slopes Region**

The South West Slopes Region of NSW is unique to Australia in that timber is grown, harvested and processed locally, to its highest value added form. The product from this region, being value added locally, is especially significant to Australia's balance of payments. It contributes approximately \$1 billion in import replacement value on the Australian domestic market.

Total softwood plantation area in the region currently managed by Forests NSW is around 85,000 hectares with a further 28,000 hectares owned by private interests.

Visy Pulp and Paper Pty Limited (Visy) has established a kraft pulpmill near Tumut that has an intake of around 650,000 tonnes of pulplogs and 350,000 tonnes of sawmill residue (woodchips) annually. The annual supply of pulplogs from Forests NSW is around 550,000 tonnes with the pulplogs from private forests making up the balance.

Visy is currently expanding its capacity with the construction of Stage 2 of their development. Visy draws most of its timber supply from within the region but increasingly from plantations and import products from the Bathurst / Oberon, ACT and Bombala regions.

The combined South West Slopes of NSW and North East Victoria is now the largest softwood producing area in Australia, with a combined total of more than 150,000 hectares of plantation providing more than 2,000,000 tonnes per annum of timber products to regional mills.

The region currently produces 1.6 million tonnes of softwood annually. With additional maturing plantations and the Visy Mill coming into production the total tonnage of softwood log and product haulage has increased to more than 4.4 million tonnes.

## **2. The current infrastructure problem**

### **2.1 Existing Road Conditions**

Gocup Road is a two-lane rural road between the towns of Tumut and Gundagai on the South West Slopes of NSW and provides the most direct link between Tumut and the Hume Highway for northbound traffic. The road is 30.1km long between Tumut and South Gundagai with a further 300m connection along Mount Street to the Hume Highway for northbound traffic.

Gocup Road is currently classified as a Regional Road under State classification and identified as MR 279. In the 2005 Roads and Traffic Authority road classification review, Tumut and Gundagai Councils made a submission to re-classify the road as a State Road. To date no advice has been received regarding the future status of the road but early indications are that Gocup Road will become a State Road.

The road was built to 1960's road design standards with horizontal and vertical alignment designed to minimise earthworks construction. Apart from recent rehabilitation where the roadway has been widened, it is generally of 6.8m wide sealed width with a 1m unsealed shoulder on both sides.

The terrain is undulating in the Tumut end of the road but quite hilly towards Gundagai. The road alignment has a sequence of curves and hills with no overtaking lanes. With the growth in the number of slow moving heavy vehicles, the inability to overtake is seen as a significant constraint to free flowing traffic and an increased safety hazard for light vehicle traffic.

## 2.2 Current Traffic Volumes

The current Monday to Friday weekday traffic volumes on Gocup Road are summarised in Table 2.1. These are based on recent traffic volumes over the entire length of the road. The weekday traffic volumes are reported because the timber haulage is undertaken mainly by contract between Monday and Friday.

Table 2.1: Weekday Traffic Volumes on Gocup Road

Council	Location	AADT <sup>(1)</sup> (2006)	No of LV per day	No of HV per day	% HV
Tumut	North of Gilmore Creek bridge, Tumut	2,015	1,451	256	15%
	Tumut / Gundagai Shire Boundary	1,770	1,229	234	16%
Gundagai	South Gundagai, near the cemetery	1,824	1,268	278	18%

Note (1): AADT is the average number of equivalent two axle vehicles as reported by the RTA. The actual number of vehicles per day is less because the heavy vehicle component of the traffic has on average more than two axles.

As expected the traffic volumes are highest on the outskirts of Tumut but a high proportion of the traffic during weekdays appears to be through-traffic. This reflects the timber haulage patterns of the three main timber companies. The percentage of heavy vehicle at the Gundagai end is relatively high and reflects the proximity of the abattoir.

The traffic figures show that 234 heavy vehicles travel the length of the route each weekday. Although not reported in the above table, there has been strong 5% per

annum growth in traffic volumes over recent years reflecting the increased activity in the timber industry around Tumut.

### **3. The impacts of Gocup Road being sub-standard**

#### **3.1 Road Infrastructure Issues**

The increased use of B-doubles by the timber industries in preference to the conventional semi-trailers has increased the efficiency of the transport task in recent years. This trend is likely to continue as other freight efficient vehicles become available in rural areas. The recent evaluation of the Super B-doubles in the Melbourne port is an example of where a longer vehicle can translate directly into productivity gains.

These freight efficient vehicles are an important technology development that will reduce the number of heavy vehicles on the road system. However, they have an impact on road design standards and pavement design. This is an issue for the local Councils in maintaining and developing the road system, particularly as the roads carrying forest products are aging and carrying loads far in excess of their original design.

Road safety is of general concern to most rural communities and the Tumut region is no exception. Many of the region's roads, including the Gocup Road, do not have any opportunities for overtaking slow moving timber vehicles. As the number of heavy vehicles increases with the growth of the timber industries, there will be increasing community concern at the impact on road safety.

The Gocup Road in particular reflects this conundrum. It is a crucial link connecting Tumut and the major timber processing operations with the Hume Highway. Any region growth in the timber industries will inevitably result in increase tonnages and number of heavy vehicles supporting the industry. To some extent, vehicle technology will reduce the number of vehicles on the road, as evidenced with the introduction of the B-double to replace the semi-trailer and in all likelihood in the future with the acceptance of such vehicles as the Super B-double, being considered at the moment. These trends are inevitable and in many respect desirable for the transport task.

The challenge for the local Councils is to meet the challenge with a solution that does not materially impact on road safety. Roads need to be wide enough for the heavy vehicles to travel safely and there needs to be sufficient passing opportunities for them to mix safely with light vehicles. This is essentially a matter of road engineering design.

### **3.2 Future haulage on Gocup Road**

After consultation with Visy, it became clear that there will be significant increases in heavy vehicle traffic on Gocup Road as this company implements proposed changes to their timber supply and transport logistics arrangements.

Visy currently hauls 203,000 tonnes of finished timber products (5800 trips) by B-double to Sydney each year. These trips are back-loaded from Sydney to Tumut with waste paper. All these trips use Gocup Road.

A further 52,000 tonnes of waste paper (1,490 trips) are hauled by road from Sydney to Tumut each year. A certain percentage of these trips are back-loaded with general freight.

Visy also hauls 76,000 tonnes of wood (logs or chips) along the Gocup Road from their forests in the Bathurst / Oberon region. This equates to 2,170 trips per year. A number of these trips would be back-loaded with general freight.

The total Visy operation currently involves 4,230 loaded B-double trips from Gundagai to Tumut along Gocup Road each year. At least 570 and maybe as much as 1,500 of these trips return loaded along the Gocup Road, assuming 25% back-loading of waste paper imports.

Visy also currently transports 245,000 tonnes (7,000 trips) of finished timber products by B-double for export through the Melbourne port each year. This haulage currently uses the Snowy Mountains Highway to access the Hume Highway. Visy is intending to divert 150,000 tonnes of these timber products to the Sydney port to take advantage of the potential back-loading with wood (logs or chips) originating from its Bathurst / Oberon forest operations. This will increase the number of loaded B-double trips between Tumut and Gundagai from an estimated 1,500 to 5,800 each year.

The change in export logistics will not affect the number of loaded B-doubles from Gundagai and Tumut as the returning trips will either be back-loading waste product or wood (logs or chips) or will be returning empty. An estimate number of 630 trips per year will return empty.

Stage 2 of the Visy development will increase the number of loaded B-double trips between Tumut and Gundagai from 5,800 to 13,800 and between Gundagai and Tumut from 4,230 to 23,900 each year. The increase in wood (logs and chips) in Stage 2 of the Visy development will have a major impact on both traffic lanes of the Gocup Road but particularly the lane from Gundagai to Tumut. Whilst there will be few empty return loads for the Gundagai to Tumut lane, the additional import of wood (logs or chips) will result in an estimated 11,700 empty return loads between Tumut and Gundagai or an average of 47 vehicles per weekday.

A summary of the current and future haulage implications of Visy’s plans is shown in Table 3.1.

Table 3.1: Transport Impact of Visy’s Expansion Plans

Stage	Tonnage, tones pa		Loaded B-double Trips pa	
	Tumut to Gundagai	Gundagai to Tumut	Tumut to Gundagai	Gundagai to Tumut
Current	52,000	148,000	1,486	4,229
Redirection of export to Sydney	202,000	148,000	5,771	4,229
Stage 2 development	450,000	838,000	13,771	23,943

Based on the forecast increase in the transport task for local companies, the number of heavy vehicles using the Gocup Road on a weekday will increase from 234 to 402 heavy vehicles per day. This represents an increase of 168 heavy vehicles per day, 131 of which will be fully loaded.

The existing Gocup Road is barely adequate for the existing heavy traffic volumes but will become a significant road safety risk during the working week when the number of heavy vehicles increases by 70% each day.

#### 4. How did the Gocup Road problem come about?

Gocup Road is aging having been built to the design standards of the 1960’s and to minimise earthworks. These older pavements are carrying loads in excess of their original design capacities. Conventional haulage trucks in the 1960s were rigid 12-tonne capacity with semi-trailers being introduced in the 1970’s. Trucks now range up to 42.5 tonne for standard semi trailers, 47 tonne for overload permitted semi-trailers and 62.5 tonne for B-doubles.

The introduction of permitted heavier loading for vehicles has served to accelerate the deterioration of already overstressed road pavements. The increased weights permitted has increased the equivalent axle loading per unit weight carried by approximately 35% resulting in an increase in the required design pavement thickness (and cost) for new works.

As Gocup Road is classified as a regional road, limited funding has been made available by the Roads and Traffic Authority through both the Block Grant and REPAIR programs. Block Grant funding has only ever been sufficient to undertake routine maintenance activities and REPAIR funding has been allocated in some years for minor rehabilitation projects.

An initiative of State Government was to allocate \$4 million over a period of 4 years to be used at the discretion of both Tumut and Gundagai Shire Councils for

the purposes of rehabilitation projects. These funds have since been exhausted on bridge replacements and selected pavement rehabilitation projects.

A combination of insufficient funding and the simple fact that Gocup Road was never designed to carry today's and future traffic loadings demonstrates that Gocup Road is inadequate for the freight task. The advent of productivity based freight movements through the use of B-Doubles and potentially Super B's will only continue to accelerate the need for a higher standard of road.

## **5. How can the inadequacies of Gocup Road be addressed?**

### **5.1 The minimum standard**

The minimum standard to cater for projected future traffic growth, in particular heavy vehicle movements, and aimed at improving road safety is to widen the entire length of Gocup Road to a minimum 2-lane road standard and overtaking lanes at five critical locations. This standard would provide a safe travelling standard for minimum cost but would invariably result in some delays for light vehicles along the route.

The following design cross section would be adopted for a 2-lane situation;

- 2 x 3.5m wide traffic lanes (3 x 3.5m in the case of the 3 lane standard)
- 2m wide shoulders each side, sealed for 1m

### **5.2 Capital works for a 2-lane standard**

An estimated \$50 million is required to upgrade the Gocup Road to the 2-lane rural road standard with overtaking opportunities at five locations. Two overtaking lanes are proposed for the Tumut Council section and three for the Gundagai Council section. The estimate includes the rehabilitation of extensive lengths of the road.

The estimates also allow for 15% of construction costs for traffic management and 6% for engineering overheads, such as project management. The estimates are based on current 2008 dollars.

The breakdown of the estimate by work type and Council is given in Tables 5.1 and 5.2.

Table 5.1: Capital Works Estimate

<b>Work Type</b>	<b>Description of Works</b>	<b>Cost, \$</b>
Road Widening and Overtaking Lanes	Reconstruct, widen and rehabilitate between Snowy Mountains Highway and Tumut / Gundagai Shire Boundary	\$15,320,110
	Reconstruct, widen and rehabilitate between Tumut / Gundagai Shire Boundary and Mount Street, South Gundagai	\$25,889,312
	<b>Total</b>	<b>\$41,209,422</b>
Intersections	Major construction of a roundabout at intersection with the Snowy Mountains Highway at Tumut	\$3,735,000
	Upgrade intersection with six local access roads in Tumut section	\$809,400
	Upgrade intersection in Mount Street, South Gundagai and connection to the Hume Highway	\$800,000
	<b>Total</b>	<b>\$5,344,400</b>
Bridgeworks	Replace Gilmore Creek Bridge, north of Tumut	\$1,215,000
	<b>Total</b>	<b>\$1,215,000</b>
Miscellaneous	Construct school bus pull off areas	\$758,800
	Relocation of utilities	\$615,860
	Survey and design	\$1,328,000
	Land acquisition	\$0
	<b>Total</b>	<b>\$2,702,660</b>
<b>Total</b>		<b>\$50,471,482</b>

Table 5.2: Capital Works Estimate by Council

<b>Council</b>	<b>Cost, \$</b>	<b>%</b>
Tumut	\$22,207,452	44%
Gundagai	\$28,264,030	56%
<b>Total</b>	<b>\$50,471,482</b>	

## **6. Given the situation, what should be done first?**

Having recognised the above proposal as the solution to the issue, various pre-construction activities need to be undertaken to ensure projects are packaged ready for construction once funding becomes available. Pre-construction activities for the entire route length include;

- Project evaluations and the use of modelling techniques to identify priorities
- Benefit cost analysis
- Environmental studies
- Geotechnical investigation
- Survey and design

## **7. References**

LGinfo Group, April 2005. *Regional Transport Plan for the Timber Industry in the South West Slopes of NSW.*

PEECE Consulting, May 2008. *Engineering Assessment of Gocup Road between Tumut and Gundagai, version 2.2.*

Tumut Shire Council, 2005. *Submission to the Road Classification Review Panel on Main Road 279 – Gocup Road.*