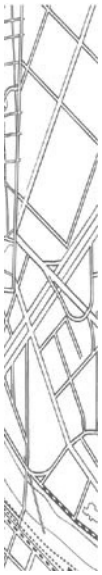

Traffic Report

Cowal Gold Mine
E42 Modification
Road Transport Assessment
July 2008

Prepared for

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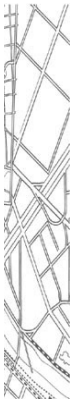


J1. Introduction

Barrick Australia Limited (Barrick) is proposing to modify a number of components of the Cowal Gold Mine (CGM), located approximately 38 kilometres (km) north-east of West Wyalong in central New South Wales (NSW) (Figure J-1). Barrick's proposal to modify the CGM is herein referred to as the E42 Modification.

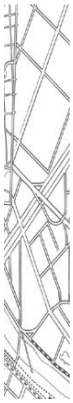
Masson Wilson Twiney Pty Ltd has been commissioned by Barrick, to prepare a road transport assessment for the E42 Modification. This road transport assessment identifies the traffic and transport impacts of the proposal and has been prepared in accordance with the requirements of the NSW Roads and Traffic Authority (RTA) guidelines[1] and relevant Austroads standards, which are identified within the report where relevant.

The report identifies that the traffic impacts of the E42 Modification would be minimal with likely traffic flow changes of small magnitude which are in the order of normal daily fluctuations in traffic volumes. No off-site infrastructure upgrades would be required to accommodate these minimal traffic increases associated with the E42 Modification.

The remainder of this report is structured as follows:

- Section J2 – describes the E42 Modification (including a description of the current and proposed mine access routes for staff movements).
- Section J3 – summarises the existing transport conditions surrounding the approved CGM.
- Section J4 – assesses the traffic impact of the E42 Modification.
- Section J5 – provides a summary and conclusions.
- Section J6 – lists the reference guidelines used within this report.

[1] Roads and Traffic Authority of New South Wales (2002) *Guide to Traffic Generating Developments*, December 2002.



J2. E42 Modification

The modified CGM is scheduled to commence in approximately Year 5 of CGM operations. The main changes to the approved CGM as a result of the E42 Modification would include those presented below:

- An increase to the operational mine life from 13 years to approximately 24 years.
- An increase in total production from approximately 76 million tonnes (Mt) of ore, to approximately 129 Mt of ore.
- An increase in the maximum ore processing rate from approximately 6.9 million tonnes per annum (Mtpa) to approximately 7.5 Mtpa.
- An increase in gold production from approximately 2.7 million ounces (Moz) of gold to approximately 3.5 Moz of gold.
- An increase in the total surface area of the open pit from approximately 70 hectares (ha) to approximately 130ha, with final pit dimensions increased from approximately 1,000 metres (m) long, 850m wide and 325m deep to approximately 1,250m long, 1,350m wide and 440m deep.
- An increase in the total volume of waste rock to be removed from the open pit from approximately 128 Mt to approximately 184 Mt.
- An increase the height and area of the northern waste emplacement to an approximate final height of relative level (RL) 275m Australian Height Datum (AHD) (increased from RL 243m AHD) and area of approximately 320ha (increased from approximately 160ha).
- An increase the height and area of the southern waste emplacement to an approximate final height of RL 255m AHD (increased from RL 223m AHD) and area of approximately 140ha (increased from approximately 120ha).
- A reduction in the height of the perimeter waste emplacement in places.
- An increase in the surface area of low grade ore stockpiles from approximately 35ha to approximately 60ha.
- An increase in the total volume of tailings produced from approximately 76 Mt to approximately 129 Mt.
- An increase in the heights of the northern and southern tailings storage facilities to a final RL of 252m (from approximately RL 233.5m AHD) and 256m (from approximately RL 241.5m AHD), respectively.
- Extraction of saline water from a saline groundwater supply borefield located within Mining Lease (ML) 1535.
- Other associated minor changes to infrastructure, plant, equipment and activities.

J2.1 E42 Modification Access Routes

The primary access to the modified CGM would be provided via the approved CGM access route (the existing access route) (Figure J-2). Deliveries and heavy vehicles would continue to access the modified CGM via the existing access route. Two additional access routes would be used by employees to access the modified CGM from Forbes and Condobolin as part of the E42 Modification (Figure J-2). Light vehicles and Barrick operated employee shuttle buses would use these routes.

J2.1.1 West Wyalong Access Route

This existing access route from West Wyalong (Figure J-2) incorporates Ungarie Road, Wamboyne Road, Blow Clear Road and Bonehams Lane to the approved CGM entrance.

J2.1.2 Forbes Access Route

Access from Forbes to the modified CGM (Figure J-2) would be via the Newell Highway, Carrawandool-Warroo Road, Bogies Island Road, Burcher Road, Wamboyne Dip Road, and Lake Cowal Road to the approved CGM entrance.

J2.1.3 Condobolin Access Route

Access from Condobolin to the modified CGM (Figure J-2) would be via the West Wyalong-Condobolin Road, Burcher Road, Wamboyne Dip Road, and Lake Cowal Road to the approved CGM entrance.

J2.2 Additional E42 Modification Employees

The E42 Modification would result in an average increase of 30 staff. Peak staff numbers would increase by a maximum of 80 staff. These peak staff numbers would relate to occasional routine maintenance shutdown periods. At such times specialist contractors are engaged by Barrick and specific accommodation is provided in nearby West Wyalong.

Table J-1 shows the proposed staff increases.

Table J-1 – Proposed Staff Increases

Project	Total Staff	
	Average	Peak
Approved CGM	320	370
Modified CGM	350	450

The current distribution of employees at the mine as follows:

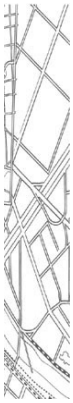
- West Wyalong 76%.
- Forbes 14%.
- Condobolin 10%.

Barrick expects that the likely distribution of additional employees would be as follows:

- West Wyalong 50%.
- Forbes 30%.
- Condobolin 20%.

This distribution of additional employees is therefore likely to result in the following additional staff numbers living in each town:

- West Wyalong 15 staff.
- Forbes 9 staff.
- Condobolin 6 staff.



J3. Existing Transport Situation

J3.1 Existing Road Network and Road Hierarchy

The definition of a formal road hierarchy allows road links to be described in terms of the functional role they fulfil within the wider road network. This allows changes to traffic volumes on the road network to be assessed within the context of the roads status within the hierarchy and hence of community expectations for it. Roads are classified according to the role they fulfil and the volume of traffic they should appropriately carry having regard to safety, efficiency and amenity considerations. The RTA [1]provides the following traffic volume ranges for the functional classification of roads:

- Arterial Road - typically a main road carrying over 15,000 vehicles per day and fulfilling a role as a major inter-regional link (over 1,500 vehicles per hour).
- Sub-arterial Road - defined as secondary inter-regional links, typically carrying volumes between 5,000 and 20,000 vehicles per day (500 to 2,000 vehicles per hour).
- Collector Road - provides a link between local roads and regional roads, typically carrying between 2,000 and 10,000 vehicles per day (250 to 1,000 vehicles per hour). At volumes greater than 5,000 vehicles per day, residential amenity begins to decline noticeably.
- Local Road - provides access to individual allotments, carrying low volumes, typically less than 2,000 vehicles per day (250 vehicles per hour).

Austroads (2003) *Rural Road Design: A Guide to The Geometric Design Of Rural Roads* provides a system for the functional classifications for rural roads as follows:

- Arterial Roads Class 1 – Those roads which form the principal avenue for communications between major regions, including direct connections between capital cities.
- Arterial Roads Class 2 – Those roads not being Class 1, whose main function is to form the principal avenue of communications for movement between:
  - a capital city and adjoining states and their capital cities;
  - a capital city and key towns; or
  - key towns.

[1] Roads and Traffic Authority of New South Wales (2002) *Guide to Traffic Generating Developments*, December 2002.

- Arterial Roads Class 3 – Those roads not being Class 1 or 2, whose main function is to form an avenue of communication for movements:
  - between important centres and the Class 1 and Class 2 roads and/or key towns;
  - between important centres; or
  - of an arterial nature within a town in a rural area.
- Local Road Class 4 – Those roads not being Class 1 to 3, whose main function is to provide access to abutting property (including property within a town in a rural area).
- Local Road Class 5 – Those roads, which provide almost exclusively for one activity or function, which cannot be assigned to Class 1 to 4.

The sub-arterial roads in the approved CGM area are regional roads and are under the care and control of various local councils, with funding assistance provided by the RTA. The local roads in the approved CGM area are under the care and control of the various local councils (predominately the Bland Shire Council).

A brief description of the key roads (within the context of the definitions outlined above) which provide access to the approved CGM and form the wider study area road network is provided below. References are provided to a series of slides contained within Attachment JA, and the relevant roads are shown diagrammatically on Figure J-3.

Newell Highway (SH17)

The Newell Highway (SH17) is an arterial road (Austroads Arterial Roads Class 1) which forms part of the National Road Network which receives Commonwealth funding. In the vicinity of the approved CGM the Newell Highway links West Wyalong and Forbes/Parkes. It provides a two lane undivided road with a sealed pavement of generally 7-8m wide with 1-2m wide sealed shoulders (Slides J-1 and J-2). The Newell Highway carries a range of traffic including heavy vehicles such as B-doubles.

West Wyalong – Condobolin Road

West Wyalong – Condobolin Road (Slides J-3 and J-4) is a sub-arterial road (Austroads Arterial Roads Class 2) that connects to Ungarie Road at its southernmost point and Condobolin at its northernmost point. It provides a two lane undivided road with a sealed pavement generally 7-8m wide with 1-2m sealed shoulders. West Wyalong – Condobolin Road carries a range of traffic including heavy vehicles such as B-doubles.

Ungarie Road

Ungarie Road (Slide J-5) is a sub-arterial road (Austroads Arterial Roads Class 2) that connects to Ungarie at its northernmost point and the Mid-Western Highway (SH6) to the west of West Wyalong at its southernmost point. It provides a two lane undivided road with a sealed pavement generally 7-8m wide with 1-2m sealed shoulders. Ungarie Road carries a range of traffic including heavy vehicles such as B-doubles.

Carrawandool–Warroo Road

Carrawandool–Warroo Road is a local road (Austroads Local Roads Class 4) that connects to the Newell Highway at its eastern extent via a priority controlled T-intersection (Slide J-6). On the eastern side of the Newell Highway intersection a wider sealed shoulder up to 4m is provided with additional gravel width beside which effectively forms a nearside passing bay for through vehicles to pass a right turning vehicle (Slide J-7).

Carrawandool–Warroo Road provides a sealed pavement of 6m width with 1m sealed shoulders for a distance of approximately 6.5km to the west of the Newell Highway (Slide J-8). Its western section continues as gravel track of 8m formation width (Slide J-9). A number of intersections along its length have been sealed for about 400m either side of minor side road (Slide J-10). Parkes, Forbes and Lachlan Shire Council road safety engineer confirmed that these works were undertaken in response to requests by local school bus operators, who service routes along Carrawandool-Warroo Road, to provide better traction whilst tuning at intersections.

The horizontal and vertical alignment of Carrawandool–Warroo Road on the section between Low's Road and Newell Highway is generally straight and level. At the side road intersection with Low's Road the route turns through a 90 degree bend to the north. Some 5km to the north of the Low's Road intersection the route continues as Bogies Island Road at the Warroo turn off.

Bogies Island Road

Bogies Island Road is a local road (Austroads Local Class 4) follows a series of right and left hand horizontal curves. At its northernmost point, 26.7km along the route (from Newell Highway), a left hand horizontal curve bend combines with a vertical crest curve which provides restricted forward visibility (Slide J-11). It is noted that marker posts are provided for night-time delineation of this combination of horizontal and vertical curvature.

Bogies Island Road has a dry weather surface (Slide J-12) and during wet seasons is impassable.

At its westernmost end Bogies Island Road connects to Burcher Road at the location of a left-right staggered uncontrolled intersection with the southern side road Wamboyne Dip Road and the northern side road a gravel track signed to Condobolin (Slide J-13).

Wamboyne Dip Road

Wamboyne Dip Road is a local road (Austroads Local Roads Class 4) and connects to Bogies Island Road (Slide J-14) at its northernmost point and to Wamboyne Road at its southernmost point. Some 500m to the south of Bogies Island Road it provides access to Lake Cowal Road via an uncontrolled intersection (Slide J-15). It is a dirt track of generally 8m road corridor width.

Lake Cowal Road

Lake Cowal Road is a local road (Austroads Local Roads Class 4) and provides a combination of dirt and gravel track of general 8m road corridor width. It connects to Wamboyne Dip Road via an uncontrolled intersection (slide J-15) at its northernmost point and to the mine access road (Slide J-16) at its southernmost point by via a priority controlled intersection.

The alignment has a number of horizontal curves some of which provide marker posts and advance directional signage. At some horizontal curves trees abut hard on the edge of the road formation (i.e. in the clear zone - an area adjacent to the traffic lane that should be kept free from features that would be potentially hazardous to errant vehicles) where there is no night-time delineation (Slide J-17).

Bonehams Lane

Bonehams Lane is a local road (Austroads Local Roads Class 4) and connects to Blow Clear Road at its southernmost extent via a priority controlled T-intersection. Approximately 4.5km north of Blow Clear Road the road turns through 90 degrees to continue westward as the mine access road.

Burcher Road

Burcher Road is local road (Austroads Local Roads Class 4) and connects to the West Wyalong–Condobolin Road at its westernmost extent via a priority controlled T-intersection. Approximately 10km of its western section is sealed with 6m pavement width and grass shoulders (Slide J-18). The remaining 10km along its eastern section is a combination of sealed 4m road with 1-3m wide shoulders (Slide J-19) and 8m gravel road corridor width (Slide J-20).

The horizontal alignment of the gravel section of Burcher Road is straight although there are several vertical crest curves which restrict forward visibility to a minor extent. The sealed section of Burcher Road provides a satisfactory horizontal and vertical alignment.

Through the village of Burcher a 50 kilometres per hour (kph) speed limit is posted (Slide J-21). Within the Burcher built up area a timed 40kph school zone is signed.

Existing Access Route

The existing access route comprises Ungarie Road/Wamboyne Road/Blow Clear Road/Bonehams Lane and the mine access road.

It is of recent design construction standard and provides 7-8m carriageway with 1m sealed shoulders (Slide J-22). Approximately 19km north of Ungarie Road the existing access route turns right at a crossroads intersection onto Blow Clear Road (Slide J-23). Blow Clear Road continues westbound for about 11km with similar cross-sectional characteristics as Wamboyne Road (Slide J-24) before tuning left through 90 degrees at a priority controlled intersection with Bonehams Lane. Continuing northbound for about 4km the road then turns right though 90 degrees, crosses a level crossing (Slide J-25), before continuing on as the mine access road where the speed limits reduces from 100kph to 80kph, 60kph and finally 40kph upon approach to the mine car park.

J3.2 Existing Traffic Volumes

Existing traffic data was obtained and supplemented with additional traffic count data where necessary. Table J-2 provides a summary of the daily traffic volumes. Figure J-4 indicates on a plan the location of the counts. Attachment JB contains the raw traffic data.

Table J-2 – Existing Traffic Volumes

Fig. Ref[1]	Survey Year	Road	Location	Daily Traffic Volume[2]
1	2008	Wamboyne Rd	East of Ungarie Rd	333
2	2008	Ungarie Rd	North of Wamboyne Rd	551
3	2008	Ungarie Rd	South of Wamboyne Rd	927
4	2007	Blow Clear Rd	West of Clear Ridge Rd	295[3]
5	2008	Newell Highway (SH17)	North of Carrawandool – Warroo Rd	2,548
6	2008	Burcher Road	East of West Wyalong – Condobolin Rd	46
7	2006	West Wyalong – Condobolin Rd	South of Burcher Road	117
8	2006	Main St (West Wyalong)	East of Newell Highway (SH17)	4,556
9	2006	Mid Western Highway (SH6)	West of MR57,Girral Rd	566
10	2006	Ardlethan Rd (SH17)	South of Main St	1,630
11	2006	Newell Highway (SH17)	North of Temora Road (MR57)	4,167
12	2006	Carrawandool – Warroo Rd	West of Newell Highway (SH17)	72
13	-	West Wyalong – Condobolin Rd	North of Burcher Road	163[4]

[1] Figure reference relates to Figure J4.
[2] Daily traffic volume is two-way vehicles.
[3] Data based upon two days data.
[4] Estimated.

The capacity of the roads is based on a Level of Service B criteria outlined in Austroads *Guide to Traffic Engineering Practice: Part 2 Roadway Capacity*[1].

An assessment was made of the ratio of volume to capacity (at Level of Service B) of the existing road network as shown in Table J-3.

Table J-3 – Volume to Capacity Ratios for Existing Traffic Volumes

Road	Location	Daily Traffic Volume	Daily Traffic Capacity	Volume/ Capacity Ratio
Wamboyne Rd	East of Ungarie Rd	333	4,800[1]	0.07
Ungarie Rd	North of Wamboyne Rd	551	4,800	0.11
Ungarie Rd	South of Wamboyne Rd	927	4,800	0.19
Blow Clear Rd	West of Clear Ridge Rd	295	4,800	0.06
Newell Highway (SH17)	North of Carrawandool – Warroo Rd	2,548	4,800	0.53
Burcher Road	East of West Wyalong – Condobolin Rd	46	120[2]	0.38
West Wyalong – Condobolin Rd	South of Burcher Road	117	4,800	0.02
Main St (West Wyalong)	East of Newell Highway (SH17)	4,556	4,800	0.95
Mid Western Highway (SH6)	West of MR57,Girral Rd	566	4,800	0.12
Ardlethan Rd (SH17)	South of Main St	1,630	4,800	0.34
Newell Highway (SH17)	North of Temora Road (MR57)	4,167	4,800	0.87
Carrawandool – Warroo Rd	West of Newell Highway (SH17)	72	120	0.60
West Wyalong – Condobolin Rd	North of Burcher Road	163	4,800	0.03

1 Austroads (1999) *Guide to Traffic Engineering Practice: Part 2 Roadway Capacity*: Based upon K factor of 0.10 and Level of Service B.

2 Australian Road Research Board (1985) *Source Book For Australian Roads.* An unsealed road maintained under traffic is usually considered suitable for 120 vehicles per day.

Table J-3 identifies that all the roads within the study area road network currently operate at a Level of Service B.

It is noted that Main Street (West Wyalong) east of Newell Highway (SH17) operates with a volume/capacity ratio of 0.95 based upon the Level of Service B. A satisfactory volume/capacity ratio of 0.58 would apply when a Level of Service C (capacity of 7,900) is considered.

J3.3 Existing Roads Crash History

The RTA maintains records of all vehicle crashes reported to or by the Police.

[1] Austroads (1999) *Guide to Traffic Engineering Practice: Part 2 Roadway Capacity.*

Data for the most recent five year period (2002 to 2007) was obtained and a plot showing accident data in the wider area and crash references is included within Attachment JC. A total of seven crashes were recorded representing 1.4 crashes per year spread over the various roads in the investigation area.

Analysis of the crash data revealed the following crash history on the mine access routes (existing and proposed):

- Accident 1: A 37 year old male motorcyclist travelling westbound along an unsealed section of Burcher Road, approximately 3km west of Wilga Vale homestead, lost control during dry daylight conditions resulting in an injury accident. No other vehicles were involved and no accident causation was determined.
- Accident 2: A 40 year old male car driver left the carriageway on a left hand bend whilst travelling north on an unsealed section of Carrawandool–Warroo Road, approximately 19.2km from the Newell Highway, and ended up in a culvert causing injury in dry, dark conditions. Excessive speed was identified as a contributory factor.
- Accident 3: A car travelling west along Blow Clear Road was involved in a right turn side swipe with another vehicle at the Wamboyne Road intersection during dry, daylight conditions. The crash was a tow-away with no injuries recorded to either vehicles occupants.
- Accident 4: A station wagon travelling west along Lake Cowal Road 2km west of Clear Ridge left the road on a right hand bend during dry daylight conditions and struck an object. The crash was a tow-away with no injuries recorded to the vehicle occupants. Excessive speed was recorded as a contributory factor.
- Accident 5: A van travelling west along Lake Cowal Road 4.3km west of Lake Cowal silo left the road on a right hand bend during dry daylight conditions and struck an object. An injury accident was recorded to the vehicle occupant. Excessive speed was recorded as a contributory factor.
- Accident 6: A B-double truck travelling south along Lake Cowal Road 60m west of Burcher struck another vehicle head on travelling in the opposite direction during dry daylight conditions. An injury accident was recorded to the vehicles occupants.
- Accident 7: A light truck travelling north along Lake Cowal Road 29km north of Wilsons Road left the road on a right hand bend during dry dark conditions. An injury accident was recorded to the vehicle occupants.

The above crashes on the mine access routes (existing and proposed) involve loss of control accidents on bends with three having excessive speeds as a contributory factor. However, the above five injury accidents and two tow away accidents over the five year period provide an average of one injury accident per year. This crash history is not considered to be significant. In particular, no black spots that require physical changes have been identified.

J3.4 Approved CGM Operation

The approved CGM currently employs an average total of 320 employees. At peak periods, for example during routine maintenance shutdown, employee numbers increase slightly with the addition of specialist maintenance contractors to peak around 370 employees. However, this is an infrequent occurrence. During these times the additional specialist contractor staff are provided accommodation in West Wyalong.

The mine employs two types of staff during a typical working day which can be categorised as administrative or operational (mining/processing). Administrative staff (which also includes management functions) work a traditional five day week and operational staff work seven days a week on a shift system. Table J-4 provides the shift start and finish times for the different categories of staff at the approved CGM.

Table J-4 - Nominal Shift Times for Different Staff Members at the Approved CGM

Staff Category	Nominal Shift Start	Nominal Shift Finish
Administrative Staff (Weekdays)	7.00am	5.00pm
Operational - Mining/Processing (Day Shift) Staff (7 days per week)	6.30am	6.30pm
Operational - Mining/Processing (Night Shift) Staff (7 days per week)	6.30pm	6.30am

The division of staff is approximately as follows:

- 70 administrative staff.
- 250 operational staff.

The operational staff are divided into four crews. A maximum of two crews (i.e. one day and one night shift) work on any one day. The remaining two crews are on break.

The distribution of the source of employees at the approved CGM is approximately as follows:

- 76% West Wyalong (approximately 240 staff).
- 14% Forbes (approximately 45 staff).
- 10% Condobolin (approximately 35 staff).

J3.5 Transport Activity Associated With Existing Mine Operation

Off-site vehicular activity associated with the approved CGM comprises the following two key components:

- Staff arrivals and departures according to shift times.
- Truck movements associated with deliveries.

J3.5.1 Staff Movements

Barrick undertook an employee travel survey in 2006 with a view to minimising the amount of private vehicle movements associated with the mine operation. In response to the travel survey, a shuttle bus operation was established for the transportation of administrative and operational staff between the approved CGM and its neighbouring towns.

The existing shuttle bus service provision is as follows:

- West Wyalong – 50 seat coach.
  - services to the approved CGM depart from West Wyalong - 5.15am, 6.15 am (Monday to Friday only) and 5.15pm; and
  - services from the approved CGM depart to West Wyalong - 6.40am, 5.00 pm (Monday to Friday only) and 6.40pm.
- Forbes – 20 seat coach.
  - services to the approved CGM depart from Forbes - 5.00am and 5.00pm; and
  - services from the approved CGM depart to Forbes - 6.40am and 6.40pm.
- Condobolin – 20 seat coach.
  - services to the approved CGM depart from Condobolin - 5.00am and 5.00pm; and
  - services from the approved CGM depart to Condobolin - 6.40am and 6.40pm.

Combined, the above shuttle bus movements provide a total of up to 14 two-way (inbound and outbound) daily off-site vehicle movements.

Barrick actively encourages staff to use the shuttle bus service or to car share. Use of the buses has proved very popular with the buses well used.

J3.5.2 Truck Movements

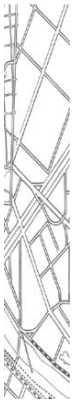
The approved CGM operation generates an average of 24 daily two-way truck movements. Truck movements occur during 7.00am to 10.00pm and are distributed evenly throughout the day. This is an average of approximately two truck movements per hour.

On an infrequent basis, there is a need for oversize deliveries. On average, this occurs once a month.

All truck movements associated with the approved CGM are via the existing access route (Section J2.1 and Figure J-2).

J3.5.3 On-Site Car Parking Provision

The on-site car park is sealed and provides a total of 67 marked car park bays (including two disabled bays) and three motorcycle spaces. The layout is satisfactory with appropriate signage and speed control devices installed. A larger area adjacent to this sealed car marked car park area provides an unsealed staff muster point plus an unmarked parking area.



J4. Potential Traffic Impact

J4.1 E42 Modification Employee Increases

The additional staff at the modified CGM (Section J2.2) would be operational staff rather than administrative. Therefore, the average increase of 30 staff would be equally split between the four operational crews. With only two crews working each day there would be a total of only 15 additional staff who would travel to and from the modified CGM each day.

Given that the peak staff numbers relate to such infrequent occurrences and that traffic associated with them would be concentrated on the high standard existing access route (Figure J-2), the impact of these peak traffic events would be minimal to non-existent and no road upgrading would be required. Rather, because of the potentially wider spread on the road network of the typical day to day (i.e. average) traffic increases, it is the average traffic increases that warrant specific investigation (i.e. one day and one night shift).

J4.2 Estimation of Additional E42 Modification Off-Site Traffic Movements

J4.2.1 Staff Movements

Additional traffic increases would arise from the movement of the additional staff. The most likely outcome is that 15 additional operational staff per day would use the existing shuttle bus service. However, for traffic assessment purposes, and as a maximum case scenario, this assessment has conservatively assumed that the additional staff would all travel by car with an average car occupancy of 1.67 persons per vehicle. Under this assessment scenario the total number of additional trips would be approximately 20 two-way daily movements.

J4.2.1 Truck Movements

The E42 Modification would increase the rate of processing slightly above current levels. As a consequence, the number of truck movements to and from the modified CGM would increase by an average of six additional daily two-way truck movements above current levels (i.e. a total of 30 two-way truck movements).

The number of oversized movements would not increase as a result of the E42 Modification, as these truck movements would use the existing access route (Figure J-2).

J4.3 Potential Traffic Impact of Additional E42 Modification Off-Site Traffic Movements

A maximum case traffic assessment has been conducted by considering three scenarios under which the additional staff would be drawn wholly from each of the three local employment centres (i.e. West Wyalong, Forbes and Condobolin), respectively.

The three scenarios assessed are as follows:

- Scenario 1 – all additional employees are sourced from West Wyalong (i.e. travel along the existing access route) and all additional truck deliveries arrive via the existing access route.
- Scenario 2 – all additional employees are sourced from Forbes (i.e. travel along the proposed Forbes access route) and all additional truck deliveries arrive via the existing access route.
- Scenario 3 – all additional employees are sourced from Condobolin (i.e. travel along the proposed Condobolin access route) and all additional truck deliveries arrive via the existing access route.

J4.3.1 Future Traffic Flows

For each scenario the additional movements were added to the existing movements on the existing access route and the two proposed access routes. The results are shown in Table J-5. The six additional two-way daily truck movements were assigned to the existing access route and the Newell Highway (SH17).

Table J-5 – Existing and Maximum Case Forecast Daily Vehicle Movements

Road	Location	Existing DTV[1]	Scenario 1 (West Wyalong) Forecast DTV[1]	Scenario 1 (West Wyalong) DTV[1] increase (vehicles)	Scenario 2 (Forbes) Forecast DTV[1]	Scenario 2 (Forbes) DTV[1] increase (vehicles)	Scenario 3 (Condobolin) Forecast DTV[1]	Scenario 3 (Condobolin) DTV[1] increase (vehicles)
Wamboyne Rd	East of Ungarie Rd	333	359	26	339	6	339	6
Ungarie Rd	North of Wamboyne Rd	551	551	0	551	0	551	0
Ungarie Rd	South of Wamboyne Rd	927	953	26	933	6	933	6
Blow Clear Rd	West of Clear Ridge Rd	295	321	26	301	6	301	6
Newell Highway (SH17)	North of Carrawandool – Warroo Rd	2,548	2,554	6	2,574	26	2,554	6
Burcher Road	East of West Wyalong – Condobolin Rd	46	46	0	46	0	66	20
West Wyalong – Condobolin Rd	South of Burcher Road	117	117	0	117	0	117	0
Main St (West Wyalong)	East of Newell Highway (SH17)	4,556	4,582	26	4,562	6	4,562	6
Mid Western Highway (SH6)	West of MR57,Girral Rd	566	566	0	566	0	566	0
Ardlethan Rd (SH17)	South of Main St	1,630	1,630	0	1,630	0	1,630	0
Newell Highway (SH17)	North of Temora Road (MR57)	4,167	4,173	6	4,173	6	4,173	6
Carrawandool – Warroo Rd	West of Newell Highway (SH17)	72	72	0	92	20	72	0
West Wyalong – Condobolin Rd	North of Burcher Road	163	163	0	163	0	183	20

[1] Daily traffic volumes.

J4.3.2 Implications of Additional Traffic on Approach Routes

Table J-5 shows that even under the maximum case traffic assessment, traffic increases for each case would be small. Forecast traffic volumes could be accommodated on the existing road network without detriment to existing traffic and would be imperceptible above the daily variations in existing traffic volumes.

Further assessment was made of the ratio of volume to capacity under each scenario as summarised in Table J-6. Table J-6 shows that all roads would continue to operate at their existing Level of Service (i.e. Level of Service B).

Table J-6 – Volume to Capacity Ratios for Forecast Traffic Volumes

Road	Location	Forecast DTV[1] (All West Wyalong Employees)			Forecast DTV[1] (All Forbes Employees)			Forecast DTV[1] (All Condobolin Employees)		
		Volume	Capacity[2]	V/C Ratio	Volume	Capacity[2]	V/C Ratio	Volume	Capacity[2]	V/C Ratio
Wamboyne Rd	East of Ungarie Rd	359	4,800	0.07	339	4,800	0.07	339	4,800	0.07
Ungarie Rd	North of Wamboyne Rd	551	4,800	0.11	551	4,800	0.11	551	4,800	0.11
Ungarie Rd	South of Wamboyne Rd	953	4,800	0.20	933	4,800	0.19	933	4,800	0.19
Blow Clear Rd	West of Clear Ridge Rd	321	4,800	0.07	301	4,800	0.06	301	4,800	0.06
Newell Highway (SH17)	North of Carrawandool – Warroo Rd	2,554	4,800	0.53	2,574	4,800	0.54	2,554	4,800	0.53
Burcher Road	East of West Wyalong – Condobolin Rd	46	120	0.38	46	120	0.38	66	120	0.55
West Wyalong – Condobolin Rd	South of Burcher Road	117	4,800	0.02	117	4,800	0.02	117	4,800	0.02
Main St (West Wyalong)	East of Newell Highway (SH17)	4,582	4,800	0.95	4,562	4,800	0.95	4,562	4,800	0.95
Mid Western Highway (SH6)	West of MR57,Girral Rd	566	4,800	0.12	566	4,800	0.12	566	4,800	0.12
Ardlethan Rd (SH17)	South of Main St	1,630	4,800	0.34	1,630	4,800	0.34	1,630	4,800	0.34
Newell Highway (SH17)	North of Temora Road (MR57)	4,173	4,800	0.87	4,173	4,800	0.87	4,173	4,800	0.87
Carrawandool – Warroo Rd	West of Newell Highway (SH17)	72	120	0.60	92	120	0.77	72	120	0.60
West Wyalong – Condobolin Rd	North of Burcher Road	163	4,800	0.03	163	4,800	0.03	183	4,800	0.04

[1] Daily traffic volumes.
[2] Vehicles per day.

J4.3.3 Implications for Intersections

Austroads (2007) *Guide to Traffic Management Part 6: Interchanges, Intersections and Crossings* provides a table as an initial guide to determine the need for a detailed traffic analysis of an individual intersection. This provides thresholds below which it is certain that intersections would operate satisfactorily under "stop" or "give-way" control. The Austroads table is reproduced as Table J-7.

Table J-7 – Thresholds for the Requirement to Undertake Traffic Assessments of At-Grade Unsignalised Intersections

Major Road Type[1]	Major Road Flow (vph)[2]	Minor Road Flow (vph)[3]
Two-lane	400	250
	500	200
	650	100
Four Lane	1,000	100
	1,500	50
	2,000	25

[1] Major Road is the through route (i.e. has priority).
[2] Major Road flow includes all major road traffic with priority over minor road traffic.
[3] Minor Road design volumes include through and turning volumes.

The maximum case traffic increases would be concentrated at the following intersections at each route:

- Ungarie Road/ Wamboyne Road (West Wyalong Route).
- Newell Highway (SH17)/ Carrawandool – Warroo Road (Forbes route).
- West Wyalong – Condobolin Road/Burcher Road (Condobolin route).

These intersections form the boundary between modified CGM local road access routes and the higher order arterial road network. These intersections therefore accommodate greater traffic volumes compared to other intersections on the local road access routes. An assessment of these intersections is shown on Table J-8.

Table J-8 – Determination of Requirement to Undertake Intersection Assessment

Intersection	Two-lane Major Road Name	Major Road Forecast Volume (vph)[1]	Minor Road Name	Minor Road Forecast Volume (vph)[2]	Requirement for Intersection Assessment
Ungarie Road/ Wamboyne Road	Ungarie Road	93	Wamboyne Road	33	No
Newell Highway (SH17)/ Carrawandool – Warroo Road	Newell Highway (SH17)	255	Carrawandool – Warroo Road	7	No
West Wyalong – Condobolin Road/Burcher Road	West Wyalong – Condobolin Road	16	Burcher Road	5	No

[1] Major Road forecast peak hour volume conservatively assumed to be 10% of daily traffic volumes.
[2] Minor Road forecast peak hour volume conservatively assumed to be 10% of daily traffic volumes.

Table J-8 shows that all three intersections would continue to operate satisfactorily under "stop" or "give-way" control. No capacity improvements at intersections would therefore be required.

J4.3.4 Conclusions on Traffic Impacts

The analysis indicates that the impact of the additional traffic required for the E42 Modification would be low and no capacity improvements would be required.

J4.4 Employee Shuttle Buses

The E42 Modification would more likely increase the number of passengers using the employee shuttle buses (i.e. the additional employees would use the employee shuttle buses instead of driving). If all the additional employees utilise the existing shuttle bus services there would be an almost negligible increase in external traffic.

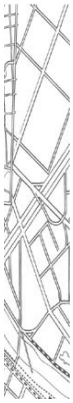
The adequacy of the current employee shuttle bus service would need to be monitored and modified as necessary once the exact distribution of the sources of the new employees was established. If required, buses with additional seating capacity would be used to transport the additional employees (i.e. the number of bus movements would remain the same).

J4.5 Road Safety Performance

There would be minimal increases in traffic volumes resulting from the E42 Modification. In consequence, no significant road safety issues are anticipated.

J4.6 Car Parking

The number of formal car park bays on-site would not increase as a result of the E42 Modification. Additional staff would be encouraged to use the shuttle bus services and the provision of additional formal parking is not expected to be necessary. However, there is the potential within the existing car park site to accommodate any occasional overspill parking.



J5. Summary and Conclusions

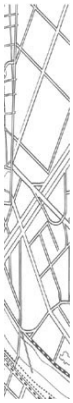
Masson Wilson Twiney Pty Ltd has been commissioned by Barrick to prepare a road transport assessment for the proposed E42 Modification.

The report is summarised as follows:

- The approved CGM is located approximately 38km north-east of the town of West Wyalong.
- Current employee numbers at the mine average about 320, of which 70 staff are in administrative roles and 250 staff are operational (mining/processing). Operational staff are divided into four crews with a maximum of two crews working the approved CGM on any one day (day and night shift).
- All current truck movements occur along the existing access route. Current truck movement numbers average about 24 two-way movements per day.
- A series of shuttle bus services link the approved CGM to the surrounding towns of West Wyalong, Forbes and Condobolin. Service times reflect the shift change times.
- The E42 Modification would increase operational staff numbers by approximately 30 staff. Peak staff numbers would increase by about 80 operational staff although this level of staffing would only occur very infrequently.
- An additional two access routes are proposed for staff use during the E42 Modification. A route to Forbes would link the modified CGM to the Newell Highway utilising sections of Lake Cowal Road, Wamboyne Dip Road, Bogies Island Road and Carrawandool – Warroo Road. A route to Condobolin would link the modified CGM to the West Wyalong – Condobolin Road utilising sections of Lake Cowal Road, Wamboyne Dip Road and Burcher Road.
- The E42 Modification is expected to generate about six additional truck movements per day on the existing access route.
- The additional employees would at most generate approximately 20 additional vehicles per day.
- This additional traffic would have minimal impact on approach routes to the modified CGM because the increase (even for maximum case) would remain within the capacity of the existing road network (including intersections).

- Most of the additional employees are expected to use company employee shuttle buses for travel to and from work. Consequently the traffic generated by the E42 Modification is expected to be less than the maximum case assessment flows used as the basis of this assessment.

It is the conclusion of this road transport assessment that the increased traffic generation resulting from the E42 Modification would be satisfactorily accommodated on the existing road network with no road improvements (including intersection upgrades) required as a result of this extra traffic.



J6. References

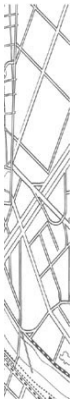
Australian Road Research Board (1985) *Source Book For Australian Roads.*

Austroads (1999) *Guide to Traffic Engineering Practice: Part 2 Roadway Capacity.*

Austroads (2003) *Rural Road Design: A Guide to the Geometric Design of Rural Roads.*

Austroads (2007) *Guide to Traffic Management Part 6: Interchange, Intersections and Crossings.*

Roads and Traffic Authority (2002) *Guide to Traffic Generating Developments.*



FIGURES

SITE LOCATION

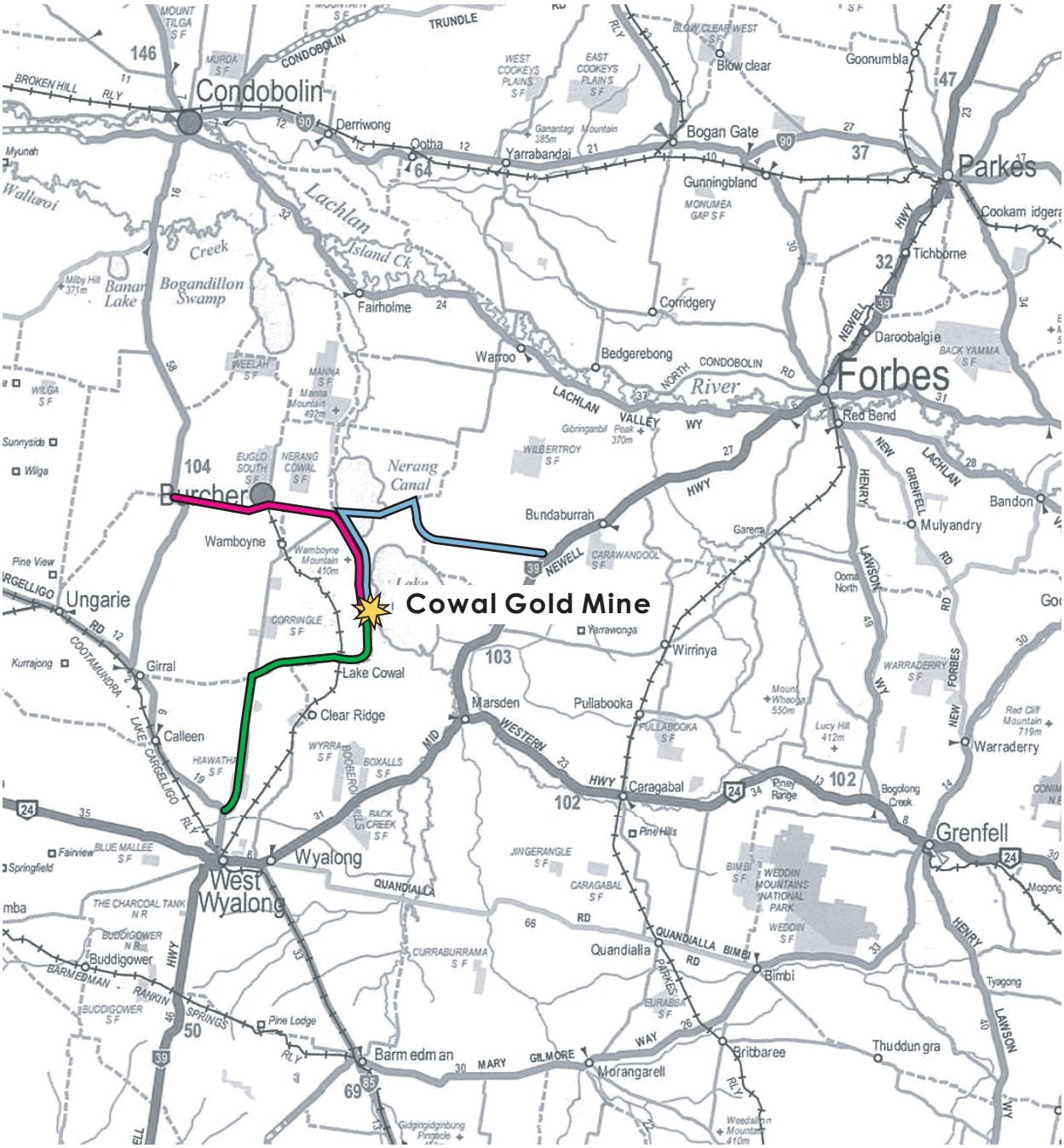
COWAL GOLD MINE E42 MODIFICATION ROAD TRANSPORT ASSESSMENT

North

MINE ACCESS ROUTES

COWAL GOLD MINE E42 MODIFICATION ROAD TRANSPORT ASSESSMENT

North



Key

- Existing Mine Access Route
- Proposed Mine Route (Condobolin)
- Proposed Mine Route (Forbes)

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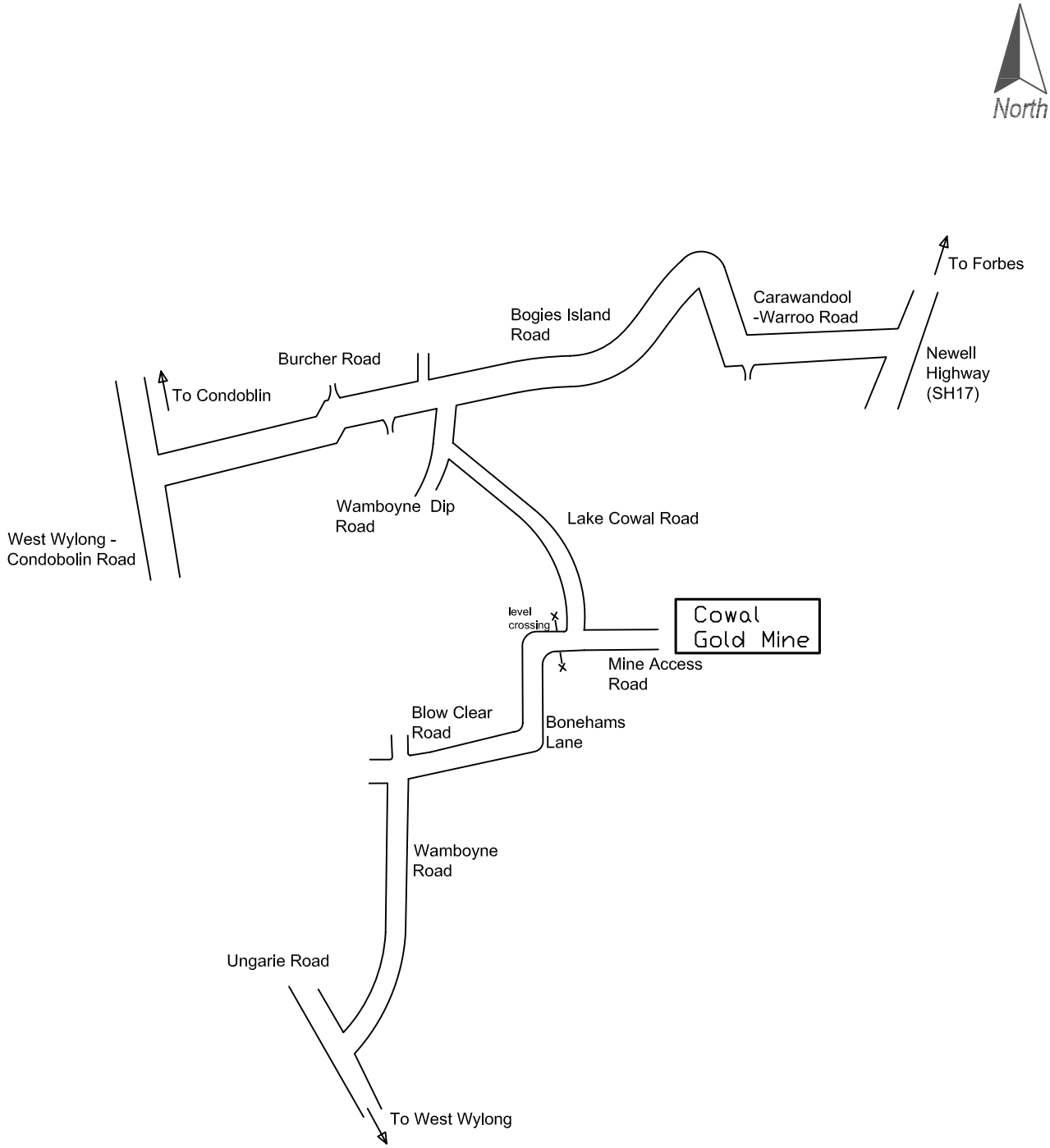
Figure J-2

EXISTING LOCAL ROAD NETWORK

COWAL GOLD MINE E42 MODIFICATION ROAD TRANSPORT ASSESSMENT



Scale: N.T.S.@A4

Diagramatic Layout Only

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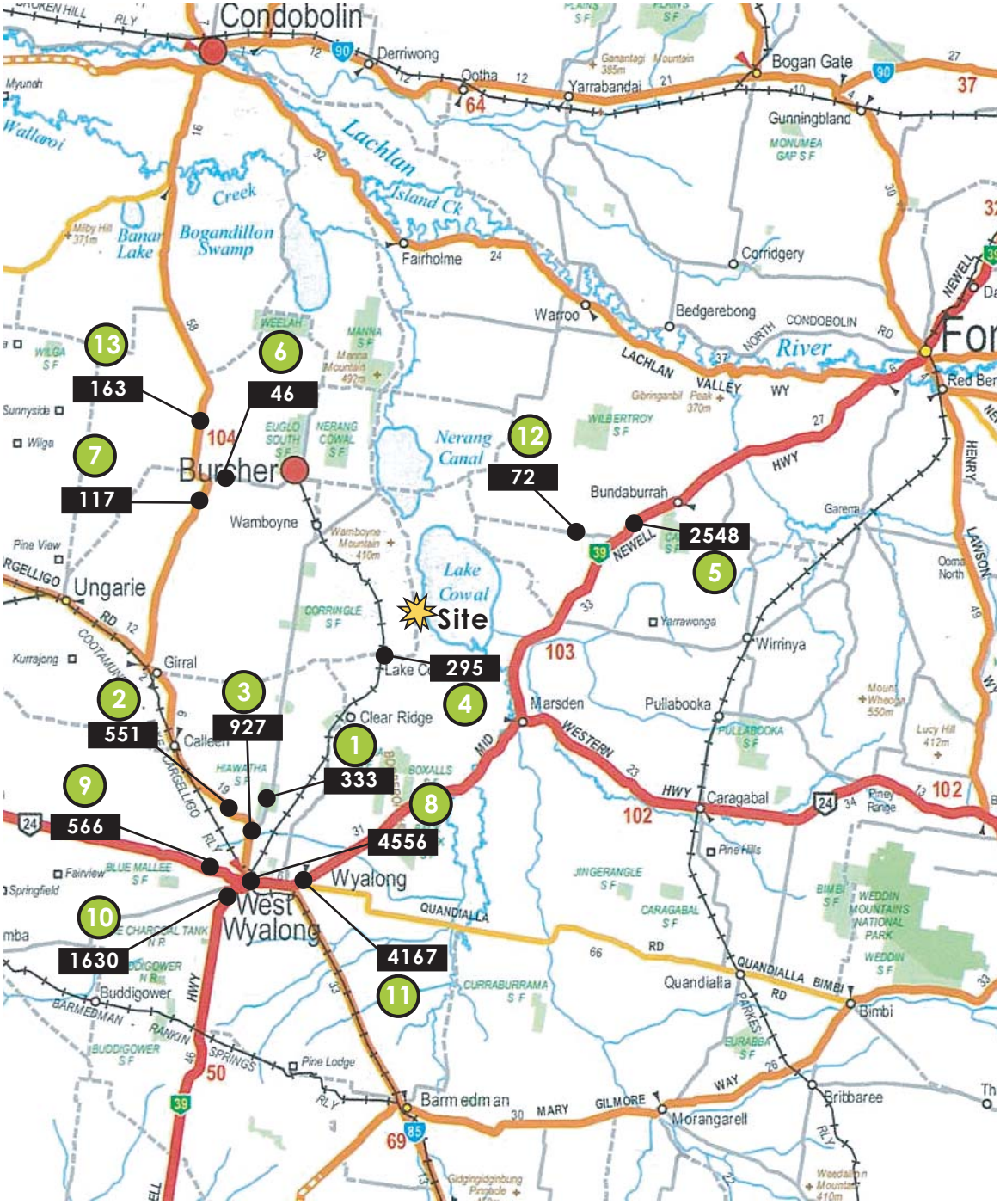
Figure J-3

EXISTING TRAFFIC VOLUMES

COWAL GOLD MINE E42 MODIFICATION ROAD TRANSPORT ASSESSMENT



Key

11	Count Reference
3627	Average Daily Traffic (vehs)

Note:

1. For count details refer to Table J-2 of Report.

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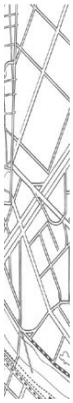
Figure J-4



Attachment JA - Slides

Newell Highway (SH17) J-01

Looking north from Carrawandool - Warroo Road.

Newell Highway (SH17) J-02

Looking south from Carrawandool - Warroo Road.

West Wyalong - Condobolin Road J-03

Looking south from Burcher Road

West Wyalong - Condobolin Road J-04

Looking north from Burcher Road.

Ungarie Road J-05

Looking north to Wamboyne Road

Carrawandool - Warroo Road J-06

Looking west to Newell Highway

Newell Highway J-07

Eastern shoulder at Carrawandool - Warroo Road intersection looking north

Carrawandool - Warroo Road J-08

Looking west from Newell Highway.

Carrawandool - Warroo Road **J-09**

Start of gravel track

Carrawandool - Warroo Road **J-10**

Sealed intersection to Warroo

Bogies Island Road J-11

Looking West at the poor horizontal and vertical alignment

Bogies Island Road J-12

Dry track with surface ruts

Bogies Island Road J-13

Looking west upon approach to Wamboyne Dip Road

Wamboyne Dip Road J-14

Looking south from Bogies Island Road

Wamboyne Dip Road J-15

Looking south to Lake Cowal Road intersection

Lake Cowal Road J-16

Looking south to mine access road

Lake Cowal Road J-17

Looking north at tree on the outside of a horizontal curve with no night time delineation

Burcher Road J-18

Looking west to the the Wyalong - Condobolin Road

Burcher Road J-19

Looking west along a sealed 4m wide section

Burcher Road J-20

Looking west along a gravel section

Burcher Road J-21

Looking west at the gateway entry feature to Burcher village

Wamboyne Road J-22

Looking north

Wamboyne Road J-23

Looking north to Blow Clear Road intersection (on right)

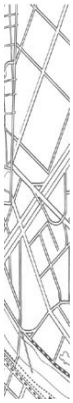
Blow Clear Road J-24

Looking east from Bonehams Lane

Mine Access Road

J-25

Looking west to Level crossing from Bonehams Lane



Attachment JB - Traffic Data

(Source: Riverina Road Services, CFE Information Technologies and Forbes Shire Council)

Road No	Road Name	Classification	Start Date	End Date	Year	Location	Location Description	Lane Surveyed	AADT	V/L/D	% Heavy Vehicles
00160	Carrawandool Warroo Rd	Rural	06-Sep-07	185/9/07	2007	0.205km north of Bogies Island Rd		Both	10	5	2
00160	Carrawandool Warroo Rd	Rural	27-Nov-06	04-Dec-06	2006	0.236km west of SH17		Both	72	36	18
00160	Carrawandool Warroo Rd	Rural	20-Sep-06	28-Sep-06	2006	0.363km south of Edols Rd		Both	74	37	21
00160	Carrawandool Warroo Rd	Rural	07-Jul-06	21-Jul-06	2006	0.236km west of SH17	Near entrance RTA stockpile	Both	58	29	2
00160	Carrawandool Warroo Rd	Rural	02-Nov-98	04-Nov-98	1998		-	Both	34	17	99
00160	Carrawandool Warroo Rd	Rural	15-Oct-96	24-Oct-96	1996			Both	44	22	39
00160	Carrawandool Warroo Rd	Rural	15-Oct-96	24-Oct-96	1996			Both	72	36	49
00160	Carrawandool Warroo Rd	Rural	26-Oct-95	03-Nov-95	1995		South of Corinella Manna Rd	Both	28	14	35
00160	Carrawandool Warroo Rd	Rural	24-Nov-95	04-Dec-95	1995	0.500km west of Sinclairs Rd		Both	23	11	12
00160	Carrawandool Warroo Rd	Rural	19-Oct-95	26-Oct-95	1995		North of Bedgerebong Driftway	Both	25	13	27

Traffic Volume Data for
South West Region 2006

S	STATION	ROAD	LOCATION	MAP	1997 AADT	2000 AADT	2003 AADT	< 2005 Flag	2006 AADT	2006 Flag
	95.092	MAIN ST,SH17	WEST WYALONG-E OF S	TOWN	4204	5540		Axle Pair	4556	Axle Pair
	95.093	MID WESTERN HWY,SH6	WEST WYALONG-3KM W	44	941	992	884	Axle Pair	566	Vehicle
	95.286	MR57	AT BLAND/LACHLAN SHI	44	148	144	163	Axle Pair	117	Vehicle
	95.289	NEWELL HWY,SH17	WEST WYALONG-E OF T/	44	2683	2143	2573	Axle Pair	1630	Vehicle
*	95.377	NEWELL HWY,SH17	WYALONG-0.5K N OF MR	TOWN	3721	3991	4196	Axle Pair	4167	Axle Pair
SOURCE: http://www.rta.nsw.gov.au/trafficinformation/downloads/aadtdata_dl1.html										

Blow Clear Road Speed Survey

Access Road to Barrick Gold Mine - West Wyalong

RIVERINA ROAD SERVICES

Survey Date 22 December 2006 - 9 January 2007 (19 days)

	Western Site (150m east of Shaw's Lane intersection)								Eastern Site (200 m west of Clear Ridge Rd intersection)							
	Eastbound Traffic				Westbound Traffic				Eastbound Traffic				Westbound Traffic			
Date	E/B Average speed	E/B 85th percentile speed	West Site E/B Highest speed	Total number of E/B vehicles	W/B Average speed	W/B 85th percentile speed	West Site W/B Highest speed	Total number of W/B vehicles	E/B Average speed	E/B 85th percentile speed	East Site E/B Highest speed	Total number of E/B vehicles	W/B Average speed	W/B 85th percentile speed	East Site W/B Highest speed	Total number of W/B vehicles
Fri, 22 Dec 2006	101	108	139	*143*	103	110	141	*127*	103	113	137	*140*	97	107	123	*128*
Sat, 23 Dec 2006	103	114	130	*65*	102	118	138	*60*	104	117	135	*64*	98	107	131	*60*
Sun, 24 Dec 2006	102	113	131	*67*	104	114	146	*58*	103	113	143	*65*	99	107	154	*56*
Mon, 25 Dec 2006	106	119	158	*40*	106	116	143	*41*	106	119	154	*40*	102	109	139	*43*
Tue, 26 Dec 2006	105	109	173	*45*	102	111	144	*53*	106	114	153	*49*	97	109	131	*54*
Wed, 27 Dec 2006	102	110	123	*89*	103	108	123	*79*	103	112	125	*86*	100	107	115	*80*
Thu, 28 Dec 2006	101	107	135	*94*	103	110	141	*97*	104	111	149	*89*	100	108	118	*96*
Fri, 29 Dec 2006	99	106	122	*99*	106	117	153	*91*	102	111	128	*98*	101	109	137	*92*
Sat, 30 Dec 2006	100	107	128	*56*	105	115	144	*57*	102	112	135	*53*	101	112	119	*57*
Sun, 31 Dec 2006	101	110	119	*50*	105	116	137	*55*	104	113	123	*48*	99	109	125	*56*
Mon, 1 Jan 2007	99	105	109	*42*	103	110	125	*40*	102	109	116	*41*	102	110	120	*39*
Tue, 2 Jan 2007	100	107	123	*90*	104	113	138	*87*	102	109	128	*89*	101	110	126	*86*
Wed, 3 Jan 2007	99	106	130	*109*	103	112	128	*110*	101	109	130	*107*	99	110	122	*109*
Thu, 4 Jan 2007	99	107	119	*117*	104	113	139	*112*	102	111	126	*120*	100	110	130	*115*
Fri, 5 Jan 2007	100	108	126	*111*	105	115	133	*102*	103	112	132	*110*	98	108	120	*105*
Sat, 6 Jan 2007	101	110	137	*58*	103	114	130	*59*	102	112	135	*59*	97	107	125	*59*
Sun, 7 Jan 2007	102	112	139	*61*	103	113	132	*61*	104	114	128	*60*	97	110	120	*65*
Mon, 8 Jan 2007	102	112	139	*131*	104	112	148	*142*	104	112	146	*129*	100	110	141	*142*
Tue, 9 Jan 2007	99	107	128	*161*	105	113	135	*155*	102	113	131	*159*	99	108	123	*155*
Averages	***101.1***	***109.3***		***85.7***	***103.8***	***113.2***		***83.5***	***103.1***	***112.4***		***84.5***	***99.3***	***108.8***		***84.1***

CfeIT bob.white@cfeit.com (02) 9740 8600

Traffic Count Summary Report

Count Number 2977 Ref : **MWT** Directory Ref : **COUNTRY**

Street **NEWELL HIGHWAY, FORBES SHIRE : Between WEST WYALONG TOWNSHIP & FORBES TOWNSHIP (bidirectional) :**

Location North of Carrawandool-Warroo Road *Carriageway*

TOTAL COUNT MATRIX

Start Date	10-MAY-08
Start Time	100
Duration	7 DAYS
Interval	1 HOUR

Weekly 50th Percentile Speed	100
Weekly 85th Percentile Speed	109
Five Day AADT	2639
Seven Day AADT	2548

	MON 12TH	TUE 13TH	WED 14TH	THU 15TH	FRI 16TH	SAT 10TH	SUN 11TH	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	25	51	36	46	38	35	37	**196**	**39**	**268**	**38**
1am - 2am	14	41	36	42	19	41	41	**152**	**30**	**234**	**33**
2am - 3am	8	60	57	24	32	22	20	**181**	**36**	**223**	**32**
3am - 4am	5	52	57	38	48	59	17	**200**	**40**	**276**	**39**
4am - 5am	12	39	45	59	59	44	14	**214**	**43**	**272**	**39**
5am - 6am	21	89	52	58	61	60	42	**281**	**56**	**383**	**55**
6am - 7am	37	72	106	113	82	79	59	**410**	**82**	**548**	**78**
7am - 8am	66	165	129	124	97	112	91	**581**	**116**	**784**	**112**
8am - 9am	94	148	183	187	157	149	134	**769**	**154**	**1052**	**150**
9am - 10am	**125**	216	222	**242**	154	181	115	**959**	**192**	**1255**	**179**
10am - 11am	94	**220**	198	221	150	**185**	**186**	**883**	**177**	**1254**	**179**
11am - Midday	124	216	**243**	234	**182**	144	153	**999**	**200**	**1296**	**185**
Midday - 1pm	101	181	**222**	163	159	147	167	**826**	**165**	**1140**	**163**
1pm - 2pm	138	199	179	**199**	144	136	175	**859**	**172**	**1170**	**167**
2pm - 3pm	141	**219**	182	179	114	**154**	173	**835**	**167**	**1162**	**166**
3pm - 4pm	**147**	162	148	187	**176**	134	**176**	**820**	**164**	**1130**	**161**
4pm - 5pm	**147**	175	186	196	130	126	166	**834**	**167**	**1126**	**161**
5pm - 6pm	125	159	129	146	134	115	114	**693**	**139**	**922**	**132**
6pm - 7pm	103	123	100	121	95	95	97	**542**	**108**	**734**	**105**
7pm - 8pm	84	111	87	98	97	91	60	**477**	**95**	**628**	**90**
8pm - 9pm	63	107	84	62	70	76	55	**386**	**77**	**517**	**74**
9pm - 10pm	63	127	103	98	72	88	59	**463**	**93**	**610**	**87**
10pm - 11pm	65	84	72	63	53	84	47	**337**	**67**	**468**	**67**
11pm - Midnight	72	74	53	54	46	51	33	**299**	**60**	**383**	**55**
Total	**1874**	**3090**	**2909**	**2954**	**2369**	**2408**	**2231**	**13196**	**2639**	**17835**	**2547**

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Traffic Count Summary Report

Count Number	**2939**	Ref : **MWT**	Directory Ref : **COUNTRY**
Street	**BURCHER ROAD, LAKE COWAL : Between WEST WYALONG-CONDOBOLIN ROAD & NEWELL HIGHWAY (bidirectional) :**		
Location	Near intersection with West Wyalong-Condoboline Road (refer map)		*Carriageway*

TOTAL COUNT MATRIX

Start Date	10-MAY-08
Start Time	100
Duration	7 DAYS
Interval	1 HOUR

Weekly 50th Percentile Speed	61
Weekly 85th Percentile Speed	76
Five Day AADT	53
Seven Day AADT	46

	MON *12TH*	TUE *13TH*	WED *14TH*	THU *15TH*	FRI *16TH*	SAT *10TH*	SUN *11TH*	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	0	0	0	0	0	0	1	**0**	**0**	**1**	**0**
1am - 2am	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**
2am - 3am	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**
3am - 4am	0	0	0	0	0	0	1	**0**	**0**	**1**	**0**
4am - 5am	1	1	1	0	0	0	2	**3**	**1**	**5**	**1**
5am - 6am	2	1	2	0	0	0	1	**5**	**1**	**6**	**1**
6am - 7am	2	0	4	**9**	2	0	2	**17**	**3**	**19**	**3**
7am - 8am	1	3	5	4	**6**	0	**4**	**19**	**4**	**23**	**3**
8am - 9am	**5**	**5**	1	3	4	1	1	**18**	**4**	**20**	**3**
9am - 10am	3	1	**10**	3	3	0	2	**20**	**4**	**22**	**3**
10am - 11am	3	3	2	2	5	**2**	1	**15**	**3**	**18**	**3**
11am - Midday	1	2	1	3	1	1	0	**8**	**2**	**9**	**1**
Midday - 1pm	1	1	3	1	3	2	3	**9**	**2**	**14**	**2**
1pm - 2pm	**5**	4	4	4	1	1	0	**18**	**4**	**19**	**3**
2pm - 3pm	3	2	6	3	**9**	2	**4**	**23**	**5**	**29**	**4**
3pm - 4pm	2	**10**	5	2	4	1	2	**23**	**5**	**26**	**4**
4pm - 5pm	4	0	**10**	**10**	4	**4**	**4**	**28**	**6**	**36**	**5**
5pm - 6pm	**5**	6	4	3	7	**4**	1	**25**	**5**	**30**	**4**
6pm - 7pm	2	4	2	2	4	1	2	**14**	**3**	**17**	**2**
7pm - 8pm	1	2	5	2	3	**4**	0	**13**	**3**	**17**	**2**
8pm - 9pm	0	1	0	0	3	1	2	**4**	**1**	**7**	**1**
9pm - 10pm	1	0	0	0	0	1	0	**1**	**0**	**2**	**0**
10pm - 11pm	0	0	0	0	2	0	0	**2**	**0**	**2**	**0**
11pm - Midnight	0	0	0	0		0	0	**0**	**0**	**0**	**0**
Total	**42**	**46**	**65**	**51**	**61**	**25**	**33**	**265**	**53**	**323**	**46**

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Traffic Count Summary Report

Count Number 2473 Ref : **CFE** Directory Ref : **REGION MAP**

Street **WEST WYALONG-CONDOBOLIN ROAD, UNGARIE STREET : Between MID WESTERN HIGHWAY & SPY HILL (bidirectional) :**

Location On Main Road about 3 Kms from Dumaresq Street *Carriageway*

TOTAL COUNT MATRIX

Start Date	29-JAN-08
Start Time	100
Duration	7 DAYS
Interval	1 HOUR

Weekly 50th Percentile Speed	98
Weekly 85th Percentile Speed	112
Five Day AADT	1051
Seven Day AADT	927

	MON *4TH*	TUE *29TH*	WED *30TH*	THU *31ST*	FRI *1ST*	SAT *2ND*	SUN *3RD*	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	1	9	3	5	3	6	3	**21**	**4**	**30**	**4**
1am - 2am	0	0	1	3	5	0	1	**9**	**2**	**10**	**1**
2am - 3am	6	3	5	6	0	1	0	**20**	**4**	**21**	**3**
3am - 4am	0	0	1	1	0	0	0	**2**	**0**	**2**	**0**
4am - 5am	5	5	5	5	11	1	4	**31**	**6**	**36**	**5**
5am - 6am	41	55	57	61	52	25	30	**266**	**53**	**321**	**46**
6am - 7am	**81**	**81**	**87**	**101**	**93**	42	31	**443**	**89**	**516**	**74**
7am - 8am	53	**81**	62	52	60	50	13	**308**	**62**	**371**	**53**
8am - 9am	71	65	73	79	62	35	**38**	**350**	**70**	**423**	**60**
9am - 10am	56	63	64	88	72	40	31	**343**	**69**	**414**	**59**
10am - 11am	56	61	51	62	57	49	28	**287**	**57**	**364**	**52**
11am - Midday	60	66	58	54	59	**51**	37	**297**	**59**	**385**	**55**
Midday - 1pm	50	67	66	64	60	44	38	**307**	**61**	**389**	**56**
1pm - 2pm	51	60	45	54	50	42	38	**260**	**52**	**340**	**49**
2pm - 3pm	77	53	61	73	60	31	32	**324**	**65**	**387**	**55**
3pm - 4pm	76	72	60	84	75	40	32	**367**	**73**	**439**	**63**
4pm - 5pm	61	77	84	96	74	43	40	**392**	**78**	**475**	**68**
5pm - 6pm	**87**	**99**	**97**	**112**	**107**	47	**53**	**502**	**100**	**602**	**86**
6pm - 7pm	67	60	83	80	57	**48**	40	**347**	**69**	**435**	**62**
7pm - 8pm	21	35	23	34	26	30	23	**139**	**28**	**192**	**27**
8pm - 9pm	13	16	14	14	23	19	19	**80**	**16**	**118**	**17**
9pm - 10pm	8	14	6	17	24	12	9	**69**	**14**	**90**	**13**
10pm - 11pm	9	7	6	14	9	15	7	**45**	**9**	**67**	**10**
11pm - Midnight	9	14	6	12	7	7	6	**48**	**10**	**61**	**9**
Total	**959**	**1063**	**1018**	**1171**	**1046**	**678**	**553**	**5257**	**1051**	**6488**	**926**

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Traffic Count Summary Report

Count Number 2475 Ref : **RHE8** Directory Ref : **REGION MAP**

Street **WAMBOYNE ROAD, WEST WYALONG : Between WEST WYALONG-CONDOLON ROAD & WAMBOYNE LOCALITY NEAR COWAL LAKES (bidirect**

Location Site No.1, about 6 KMS north of Dumaresq Street, Property known as "Windstone" *Carriageway*

TOTAL COUNT MATRIX

Start Date	29-JAN-08
Start Time	100
Duration	7 DAYS
Interval	1 HOUR

Weekly 50th Percentile Speed	102
Weekly 85th Percentile Speed	110
Five Day AADT	387
Seven Day AADT	333

	MON *4TH*	TUE *29TH*	WED *30TH*	THU *31ST*	FRI *1ST*	SAT *2ND*	SUN *3RD*	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	1	0	3	2	0	1	0	**6**	**1**	**7**	**1**
1am - 2am	0	0	0	0	0	0	1	**0**	**0**	**1**	**0**
2am - 3am	4	2	3	0	0	1	0	**9**	**2**	**10**	**1**
3am - 4am	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**
4am - 5am	2	4	2	3	5	1	2	**16**	**3**	**19**	**3**
5am - 6am	33	36	41	47	46	23	**24**	**203**	**41**	**250**	**36**
6am - 7am	**54**	**54**	**57**	**62**	**57**	**33**	17	**284**	**57**	**334**	**48**
7am - 8am	17	19	20	13	16	16	6	**85**	**17**	**107**	**15**
8am - 9am	16	22	20	20	20	12	4	**98**	**20**	**114**	**16**
9am - 10am	15	16	13	12	18	9	4	**74**	**15**	**87**	**12**
10am - 11am	17	16	7	13	19	16	5	**72**	**14**	**93**	**13**
11am - Midday	14	12	16	12	20	6	4	**74**	**15**	**84**	**12**
Midday - 1pm	16	17	17	8	23	9	6	**81**	**16**	**96**	**14**
1pm - 2pm	18	15	7	12	17	16	7	**69**	**14**	**92**	**13**
2pm - 3pm	21	10	15	15	17	6	7	**78**	**16**	**91**	**13**
3pm - 4pm	14	17	10	15	18	7	4	**74**	**15**	**85**	**12**
4pm - 5pm	14	23	24	32	23	12	10	**116**	**23**	**138**	**20**
5pm - 6pm	**58**	**46**	**65**	**64**	**54**	24	**22**	**287**	**57**	**333**	**48**
6pm - 7pm	44	38	45	49	32	**27**	**22**	**208**	**42**	**257**	**37**
7pm - 8pm	6	15	4	10	6	5	6	**41**	**8**	**52**	**7**
8pm - 9pm	5	7	6	4	6	3	2	**28**	**6**	**33**	**5**
9pm - 10pm	3	4	2	6	5	2	3	**20**	**4**	**25**	**4**
10pm - 11pm	3	0	3	3	0	6	1	**9**	**2**	**16**	**2**
11pm - Midnight	0	0	2	0	3	1	1	**5**	**1**	**7**	**1**
Total	**375**	**373**	**382**	**402**	**405**	**236**	**158**	**1937**	**387**	**2331**	**333**

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Traffic Count Summary Report

Count Number 2472 Ref : **CFE** Directory Ref : **REGION MAP**

Street **WEST WYALONG-CONDOBOLIN ROAD, UNGARIE STREET : Between MID WESTERN HIGHWAY & SPY HILL (bidirectional) :**

Location On Main Road about 6 KMS north of Dumaresq Street *Carriageway*

TOTAL COUNT MATRIX

Start Date	29-JAN-08
Start Time	100
Duration	7 DAYS
Interval	1 HOUR

Weekly 50th Percentile Speed	100
Weekly 85th Percentile Speed	109
Five Day AADT	621
Seven Day AADT	551

	MON *4TH*	TUE *29TH*	WED *30TH*	THU *31ST*	FRI *1ST*	SAT *2ND*	SUN *3RD*	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	0	8	2	4	1	5	2	**15**	**3**	**22**	**3**
1am - 2am	0	0	3	3	6	0	0	**12**	**2**	**12**	**2**
2am - 3am	2	0	3	6	0	0	0	**11**	**2**	**11**	**2**
3am - 4am	0	0	0	1	0	0	0	**1**	**0**	**1**	**0**
4am - 5am	2	1	2	0	4	0	2	**9**	**2**	**11**	**2**
5am - 6am	5	14	11	13	7	3	6	**50**	**10**	**59**	**8**
6am - 7am	28	32	29	40	32	11	9	**161**	**32**	**181**	**26**
7am - 8am	35	51	36	32	**42**	30	11	**196**	**39**	**237**	**34**
8am - 9am	**48**	48	**51**	59	**42**	21	30	**248**	**50**	**299**	**43**
9am - 10am	40	32	48	**72**	39	28	20	**231**	**46**	**279**	**40**
10am - 11am	43	45	39	47	40	29	19	**214**	**43**	**262**	**37**
11am - Midday	45	**57**	36	42	41	**40**	**33**	**221**	**44**	**294**	**42**
Midday - 1pm	31	47	46	52	46	**35**	22	**222**	**44**	**279**	**40**
1pm - 2pm	34	50	38	35	29	23	30	**186**	**37**	**239**	**34**
2pm - 3pm	50	43	46	65	43	24	25	**247**	**49**	**296**	**42**
3pm - 4pm	**51**	48	44	**67**	**59**	34	**32**	**269**	**54**	**335**	**48**
4pm - 5pm	50	**55**	**61**	54	45	27	25	**265**	**53**	**317**	**45**
5pm - 6pm	26	45	35	43	38	18	29	**187**	**37**	**234**	**33**
6pm - 7pm	24	16	27	27	25	17	17	**119**	**24**	**153**	**22**
7pm - 8pm	10	18	18	19	18	21	12	**83**	**17**	**116**	**17**
8pm - 9pm	5	10	7	6	15	17	11	**43**	**9**	**71**	**10**
9pm - 10pm	5	6	6	10	11	10	4	**38**	**8**	**52**	**7**
10pm - 11pm	5	5	2	7	11	6	6	**30**	**6**	**42**	**6**
11pm - Midnight	10	8	4	17	6	4	4	**45**	**9**	**53**	**8**
Total	**549**	**639**	**594**	**721**	**600**	**403**	**349**	**3103**	**620**	**3855**	**550**

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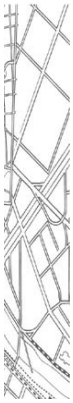
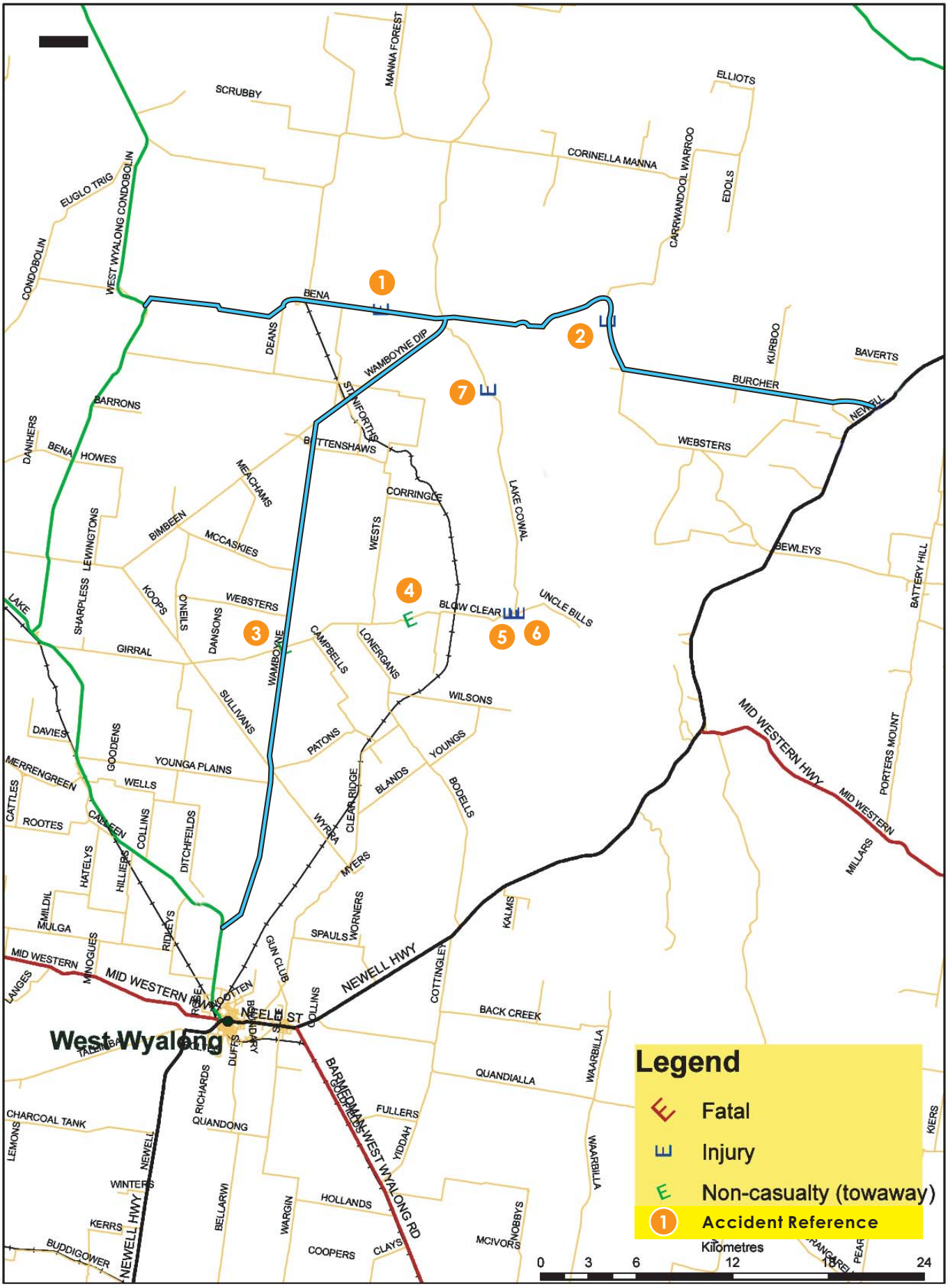


Attachment JC - Crash History Plot

CRASH HISTORY 2003-2007



Note: Plan supplied by NSW RTA