ALKANE RESOURCES LTD

ABN: 35 000 689 216

Tomingley Gold Project

Traffic Impact Assessment

September 2011

Prepared by

FJF Group Pty Ltd

Specialist Consultant Studies Compendium

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Tomingley Gold Project

Traffic Impact Assessment

Prepared for:

R.W. Corkery & Co. Pty Limited
62 Hill Street
ORANGE NSW 2800

Tel: 02 6362 5411
Fax: 02 6361 3612
Email: orange@rwcorkery.com

On behalf of:

Alkane Resources Ltd
65 Burswood Road
BURSWOOD WA 6100

Tel: 08 9328 9411
Fax: 08 9227 8178
Email: mail@alkane.com.au

Prepared by:

FJF Group Pty Ltd
38 Vincent Road
WAGGA WAGGA
NSW 2650

Tel: 0428 410 152
Email: hayfoley@hotmail.com

September, 2011

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EXECUTIVE SUMMARY

In accordance with the key assessment requirements of the Director-General's Requirements issued by the Department of Planning for the proposed Tomingley Gold Project ("The Project"), FJF Group Pty Ltd has been engaged by Alkane Resources Ltd to undertake a traffic impact assessment.

The existing and forecast traffic environment was established through a combination of:

- an analysis of published RTA traffic count data for the local road network; and
- traffic counts completed between the 29th April and 19th May 2009.

The established existing (2009) and forecast (2020[1]) peak hour traffic figures used in this assessment are presented in **Table E1**.

Table E1
Existing and Forecast Traffic Volumes 2009 & 2020

Road	Peak hour vehicles[1] - 2009	Peak hour vehicles[1] - 2020	HV %	Growth
Newell Highway (SH 17)	300	360	33	2.3%
Tomingley - Narromine Road (MR89)	50	64	30	2%
Tomingley West Road	12	17	33	2%
Note 1: Peak hour vehicle totals are for both directions				

The traffic engineering impact on the traffic of those roads on which traffic would be generated by the Project has been assessed as being negligible. All affected roads and intersections would be expected to continue to operate satisfactorily with minimal delays and spare capacity. Even with the additional traffic generated by the Project, the Level of Service (LoS) of intersections would remain "B" or better. No intersection improvements are considered necessary as a consequence of the additional traffic generated by the Project.

The above notwithstanding, site construction activities and normal mine operation would increase the annual average daily traffic (AADT) volume on Tomingley West Road from between 60 and 70 vehicles per day (veh/day) to between 214 (mine operation) veh/day and 260 (site construction) veh/day. For roads with this level of daily traffic, the RTA Road Design Guide recommends two sealed lanes of at least 3m in width. In accordance with this recommendation, and to ensure that the Project does not adversely affect traffic or road safety on the section of Tomingley West Road to be used by Project generated traffic, the following recommendations are made.

- A suitable intersection where the Main Site Access Road intersects with Tomingley West Road should be constructed such that it complies with RTA Road Design requirements for rural access.
- An additional 2m of bitumen seal should be provided on the Tomingley West Road to achieve an overall carriageway width of 8m, i.e. 6m of sealed carriageway and 2 x 1m unsealed shoulders.

[1] 2020 represents the anticipated final year of operation of the Tomingley Gold Project.

- The centreline of the road should be marked and additional guide posts installed.
- A comprehensive Transport Management Plan for construction and normal mine operation should be developed, which would be agreed with stakeholders and implemented.
- "Narrow bridge" signage at the approaches to the culvert near the intersection of the Tomingley West Road and MR89 should be installed.
- Additional guideposts on the culvert on the Tomingley West Road near the intersection of the Tomingley West Road and MR89 should be installed.

The impact of the Project generated traffic on the road pavements of the Newell Highway and MR89 would be negligible. However, it is recommended that a pavement investigation of the Tomingley West Road be carried out to determine if pavement reconstruction is required. In addition, it is recommended that a developer agreement or contribution scheme, taking into account any road construction operations required for the Tomingley West Road, be established with Narromine Council for the ongoing maintenance of the Tomingley West Road.

To mitigate the impact of over mass and over weight deliveries to the Mine Site, a suitable intersection should be constructed on the Newell Highway that complies with RTA requirements for site access. Following site construction, this intersection would be utilised for emergency vehicle access only. An individual Traffic Control Plan would be developed and implemented for each over mass and over weight delivery.

In summary, the Project would have negligible impact on local traffic. Local roads and intersections that would be used by traffic generated by the Project are expected to continue operate satisfactorily with minimal delays and spare capacity.

Conditional on a suitable Transport Management Plan being developed, agreed with stakeholders and implemented, any traffic safety impacts of the Project would be negligible.

1 INTRODUCTION

In accordance with the key assessment requirements of the Director-General's Requirements issued by the Department of Planning for the proposed Tomingley Gold Project ("The Project"), FJF Group Pty Ltd ("FJF Group") has been engaged by Alkane Resources Ltd ("Alkane") to undertake a traffic impact assessment. **Figure 1** presents the regional and local setting of the proposed operations, identifying the roads that would be used by Project generated traffic.

The scope of the traffic impact assessment takes into consideration, but is not limited to the following.

- A description of the Project and area of potential impact, i.e. the area of assessment.
- An assessment of the local road network considering geometry, safety and pavement condition.
- An assessment of the potential impact of the Project on traffic.
- Providing recommendations as to appropriate safeguards and traffic management measures to minimise the potential impact on traffic of the Project.

FJF Group has consulted with Narromine Council and the NSW RTA during the preparation of this report. Their assistance is acknowledged.

2 PROJECT OVERVIEW

The Project incorporates three separate component areas, each of which are illustrated on **Figures 2, 3** and **4**, and described as follows.

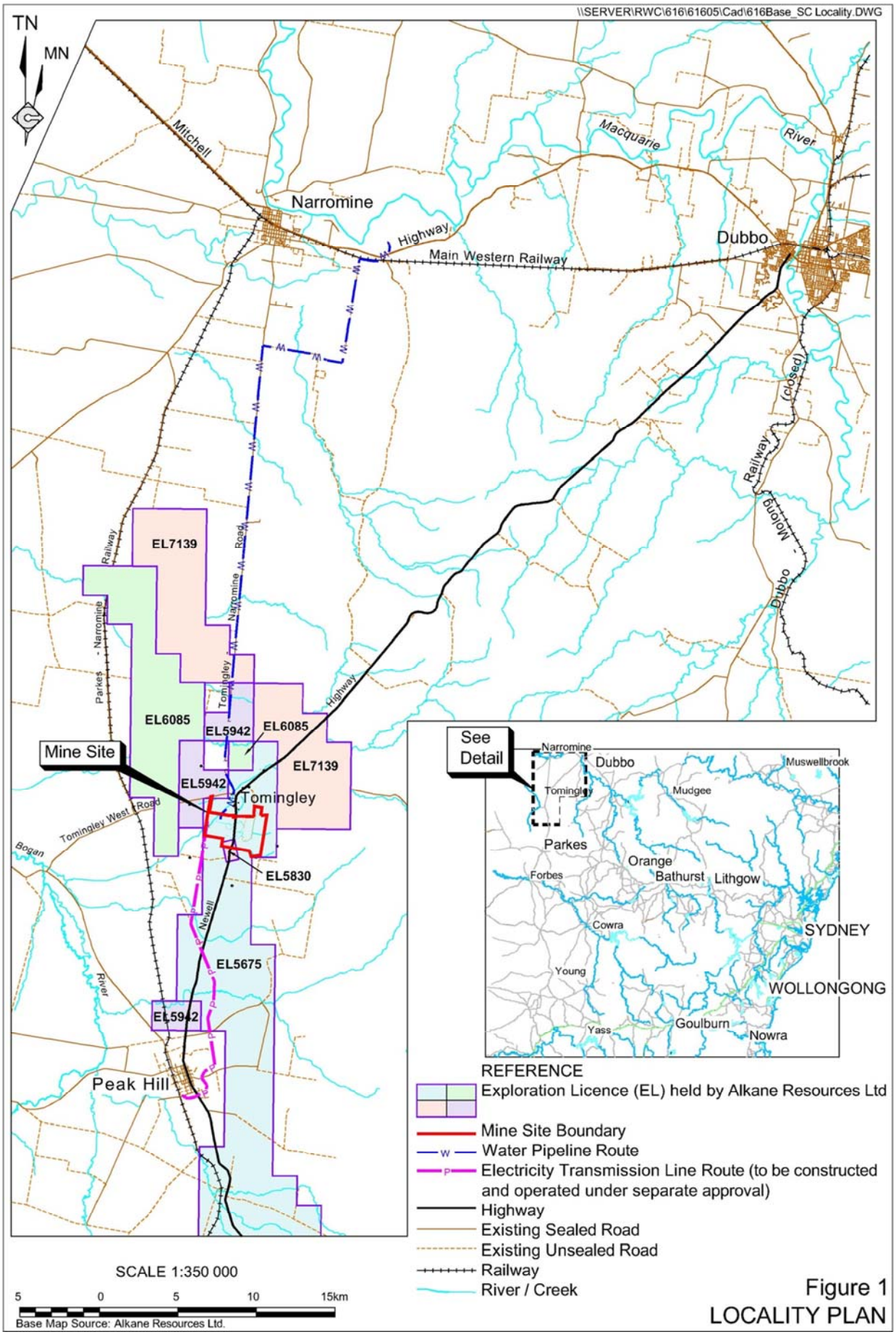
- Establishment of infrastructure required for the Project, including a water supply pipeline, an underpass beneath the Newell Highway, and vegetated amenity bunds.
- Extraction of waste rock and ore material from four open cut areas, namely:
  - Caloma Open Cut (approximately 19ha);
  - Caloma Two Open Cut (indicative design approximately 9ha);
  - Wyoming Three Open Cut (approximately 10ha); and
  - Wyoming One Open Cut (approximately 19ha).
- Extraction of waste rock and ore material from the Wyoming One Underground.
- Construction of three waste rock emplacements covering a combined area of approximately 129ha.
- Construction and use of various haul roads, including an underpass under the Newell Highway, and a run-of-mine (ROM) pad.
- Construction and use of a processing plant and office area, incorporating a crushing and grinding circuit, a standard carbon-in-leach (CIL) processing plant, site offices, workshops, ablutions facilities, stores, car parking, and associated infrastructure.

- Construction and use of a residue storage facility (approximately 49ha).
- Construction and use of a transformer and electrical distribution network within the Mine Site (from the 20km of 66kV electricity transmission line from Peak Hill to the Mine Site to be constructed under separate approval).
- Construction and use of an approximately 46km water pipeline, from a licensed bore located approximately 7km to the east of Narromine, to the Mine Site (see **Figures 3** and **4**).
- Relocation of existing items of infrastructure, including a 22kV power line which currently passes over the area of the Caloma and Caloma Two Open Cuts.
- Re-routing (node to node) of a 4.2km section of a Nextgen Network fibre optic cable (telecommunications line).
- Construction and use of ancillary infrastructure, including the Main Site Access Road and intersection with Tomingley West Road.
- Construction of soil stockpiles (for use in rehabilitation works).
- Construction of the Eastern Surface Water Diversion Structure to divert surface water flows to the east of mining and waste rock emplacement activities. Additional surface water management structures would be constructed within the Project Site to control surface water flows within the Mine Site.
- Construction and use of dewatering ponds to store water accumulating in and pumped from the open cuts.

Disturbance associated with the mining and associated activities would be progressively rehabilitated to create a geotechnically stable final landform, suitable for a final land use of nature conservation, agriculture, tourism and/or light industry.

It is noted that the design of the proposed Caloma Two Open Cut is an indicative design only, with additional drilling required to further define the mineralisation. As a result, the indicative design for the Caloma Two Open Cut presented (**Figure 2**) represents the maximum area that would be developed. The development of this maximum impact footprint has been taken into account in all other aspects of the Project, including the required capacity, layout and design of the waste rock emplacements and residue storage facility, and the life of the Project. Approval is sought for the proposed design, acknowledging that the final design of the open cut would be the same size or smaller than that displayed.

Full details of the Tomingley Gold Project are described in the Section 2 of the *Environmental Assessment*, prepared by R.W. Corkery & Co. Pty Limited.


\\SERVER\RWC\616\61605\Cad\616Base_SC Locality.DWG
TN
MN
Mitchell
Macquarie
River
Narromine
Highway
Dubbo
Main Western Railway
Railway (closed)
Molong - Dubbo
EL7139
EL6085
EL5942
EL6085
EL7139
Mine Site
EL5942
Tomingley
Tomingley West Road
Bogan
EL5830
Newell
EL5675
River
EL5942
Peak Hill
Parkes - Narromine Railway
Narromine Road
Tomingley Highway
See Detail
Narromine
Dubbo
Muswellbrook
Tomingley
Mudgee
Parkes
Orange
Forbes
Bathurst
Lithgow
Cowra
SYDNEY
Young
WOLLONGONG
Yass
Goulburn
Nowra
REFERENCE
Exploration Licence (EL) held by Alkane Resources Ltd
Mine Site Boundary
Water Pipeline Route
Electricity Transmission Line Route (to be constructed and operated under separate approval)
Highway
Existing Sealed Road
Existing Unsealed Road
Railway
River / Creek
SCALE 1:350 000
5 0 5 10 15km
Base Map Source: Alkane Resources Ltd.
Figure 1
LOCALITY PLAN

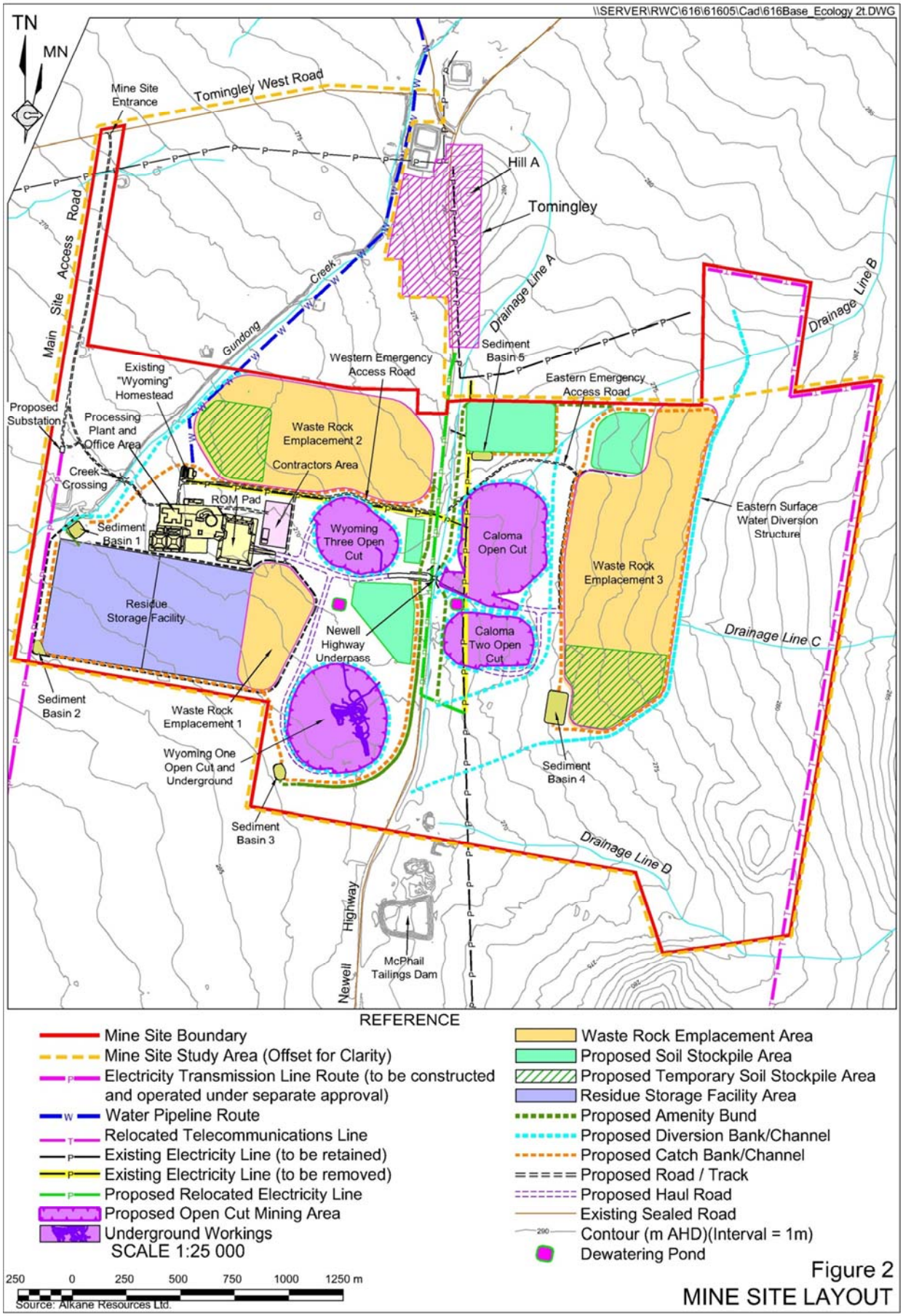


Figure 2
MINE SITE LAYOUT

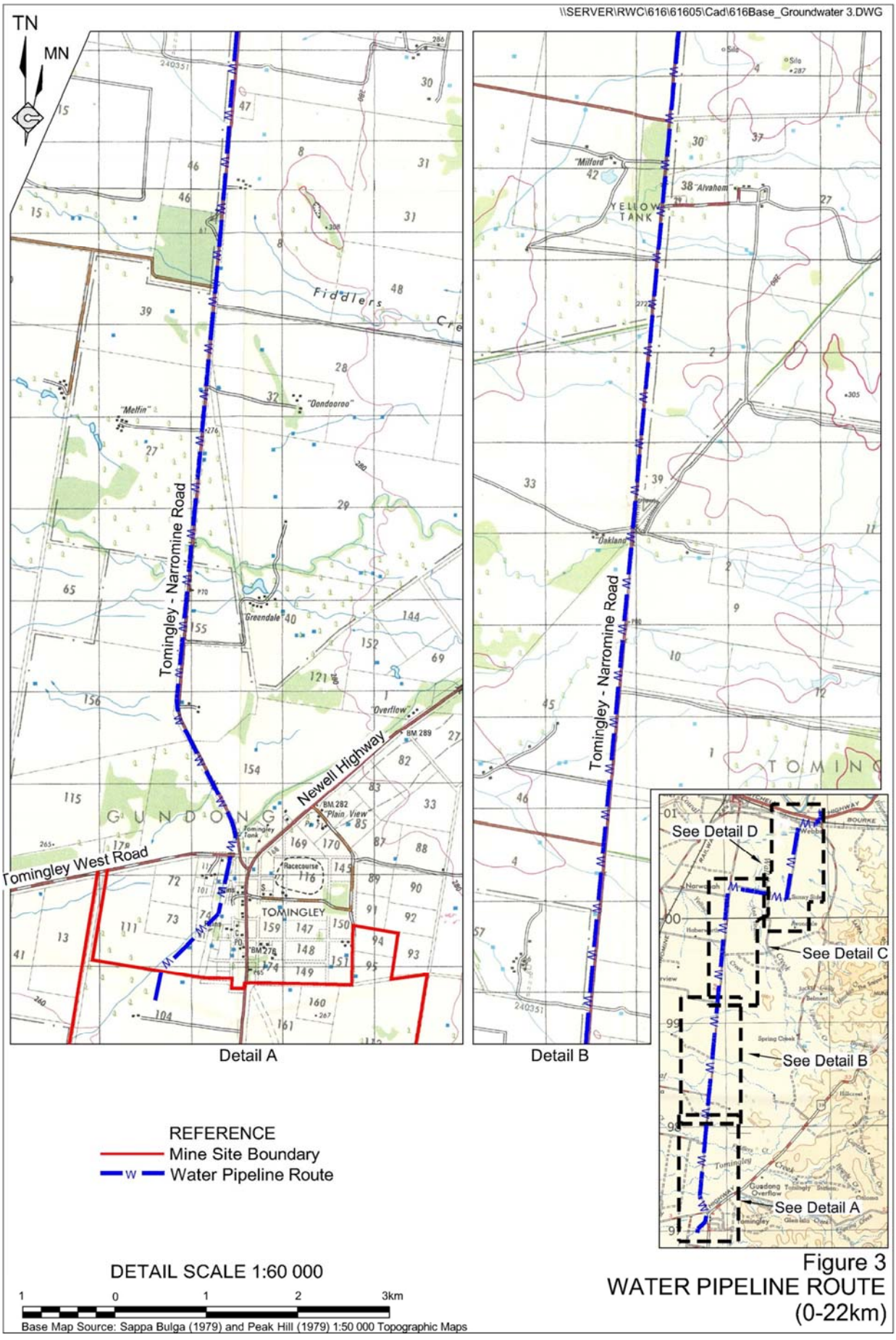


Figure 3
WATER PIPELINE ROUTE
(0-22km)

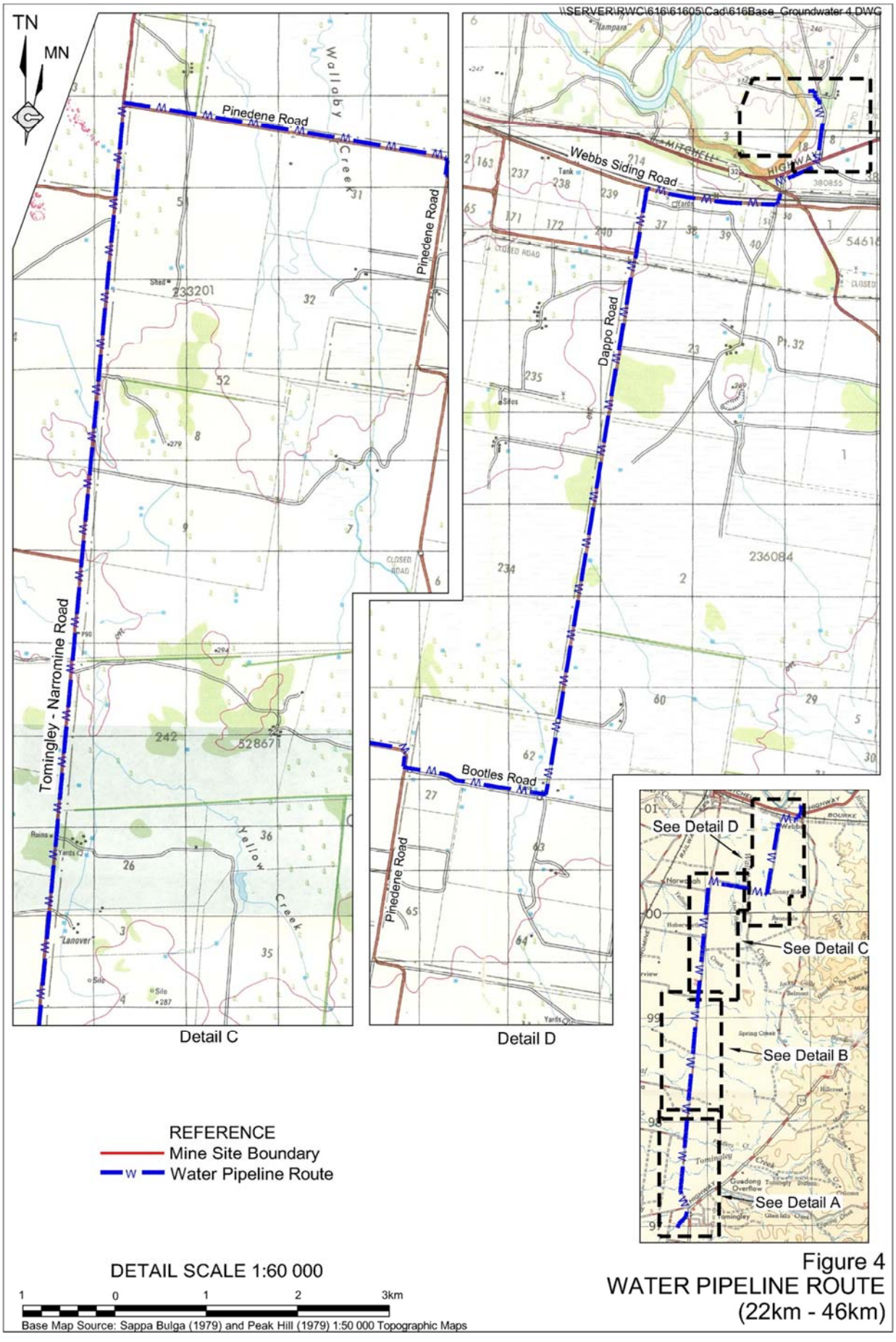


Figure 4
WATER PIPELINE ROUTE
(22km - 46km)

3 THE STUDY AREA

This report considers the following intersections and roads (referenced on **Figure 5**).

- The intersection of the Newell Highway and the Tomingley-Narromine Road (MR89)
- The intersection of MR89 and the Tomingley West Road.
- The intersection of the Tomingley West Road and the Main Site Access Road of the Mine Site (off the Tomingley West Road).
- The Newell Highway, MR89 and the Tomingley West Road.

4 EXISTING TRAFFIC ENVIRONMENT

4.1 CONDITIONS OF THE LOCAL ROAD NETWORK

4.1.1 Introduction

A physical site inspection was carried out on 20 April 2009 by Frank Foley of FJF Group to record existing site conditions.

4.1.2 Tomingley West Road

The Tomingley West Road is a local road that is a 2 lane, 2 way undivided corridor. The current sealed pavement along the carriageway is approximately 3.5m to 4m wide (refer to photo 1 in **Appendix 1**).

The posted speed limit on the Tomingley West Road is 100km/hr. Approximately 260m from the intersection with MR89, the speed limit is decreased to 60km/hr up to the intersection of the Tomingley West Road and MR89.

The pavement is generally in good condition and during the site inspection there were no visible signs of pavement failure. The condition of the road would be mostly attributable to low traffic volumes.

The existing carriageway is unmarked with the only form of delineation guide posts on the side of the road. The location of these guide posts, however, is variable with some guide posts missing.

There is a 4 cell box culvert structure approximately 100m from the intersection of the Tomingley West Road and MR89. The culvert width is approximately 6m. There are guideposts installed on each corner of the culvert (refer to photo 2 in **Appendix 1**).

4.1.3 Tomingley West Road – MR89 Intersection

The intersection of the Tomingley West Road and MR89 is a “T” intersection. The width of sealed carriageway on MR89 varies at different locations but is approximately 7m with a 1m to 2m gravel shoulder on both sides of the road. The width of sealed carriageway on the Tomingley West Road near the intersection is approximately 6m.

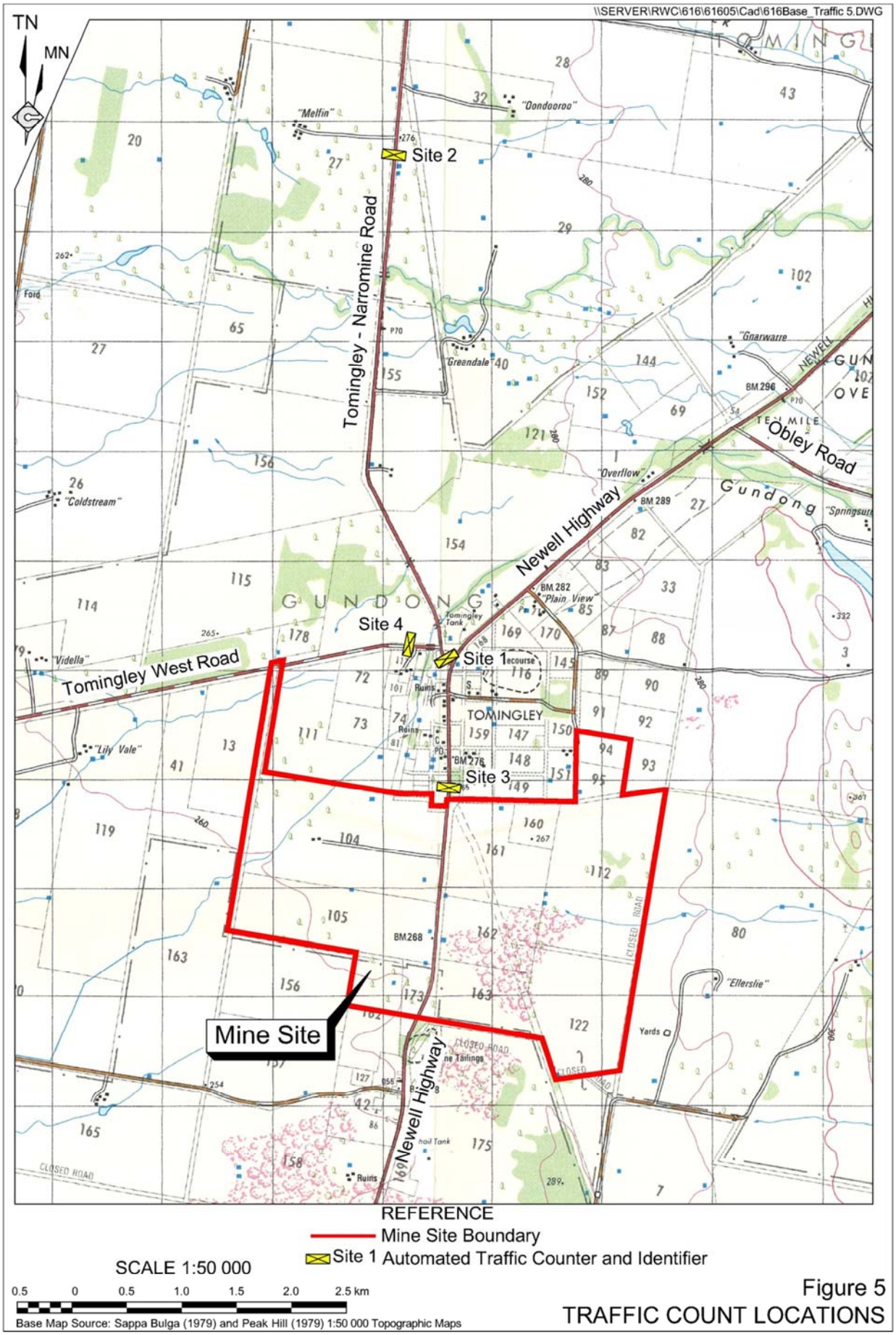


Figure 5
TRAFFIC COUNT LOCATIONS

At the time of inspection, the corner radius of sealed pavement at the intersection of the carriageways of the Tomingley West Road and MR89, did not suit the swept path of heavy vehicles. This was evident from guideposts which had been knocked over (refer to photo 3 in **Appendix 1**).

At the time of inspection, the pavement at the intersection was in poor condition with pavement failure evident (refer to photo 4 in **Appendix 1**). However, shortly after the inspection, Narromine Council commenced road works on a section of MR89 which covered the intersection of the Tomingley West Road and MR89. As of the 9th October 2009, the intersection of the Tomingley West Road and MR89 has been upgraded as a ("BA") type intersection in compliance with the RTA Road design guide (refer to photos 7 and 8 in **Appendix 1**).

Safe Intersection Sight Distance (SISD) from the Tomingley West Road along MR89 was determined to be 200m to the north and 150m to the south respectively. The desirable SISD in accordance with the RTA Road design guide is 105m for this section of road under a 60km/hr speed limit.

4.1.4 Tomingley - Narromine Road (MR89)

The Tomingley - Narromine Road (MR89) has a granular pavement with a 6.5m wide sealed carriageway and 1m to 2m wide unsealed gravel shoulders. It is a 2 lane, 2 way main road.

At the time of inspection, the pavement was in fair condition with some signs of pavement failure in various locations.

The speed limit on MR89 is 100km/hr, however decreases to 60km/hr approximately 460m from the intersection of MR89 and the Newell Highway up to the intersection of MR89 and the Newell Highway.

4.1.5 Newell Highway – MR89 Intersection

The intersection of the Newell Highway and MR89 is in the form of an AUR type intersection (in compliance with the RTA Road design guide) with a left turn auxiliary lane. At the time of inspection, the pavement at the intersection was in good condition. It was noted that lighting has been installed at the intersection.

Safe intersection sight distance from MR89 along the Newell Highway is approximately 160m to the left and 200m to the right. The speed limit on the Newell Highway which covers the intersection is currently 60km/hr. However, RTA personnel in Parkes verbally advised that the 60km/hr speed limit was to increase in the future to 80 km/hr. The desirable SISD in accordance with the RTA Road design guide is 105m for this section of road under a 60km/hr speed limit and 160m under an 80km/hr speed limit.

4.1.6 Newell Highway

The Newell Highway is a 2 lane, 2 way undivided carriageway, classified as a Federal Highway. The posted speed limit on the Newell Highway outside the village of Tomingley is 100km/hr. The posted speed limit through the township of Tomingley is 50km/hr and through the intersection of the Newell Highway and MR89 it is 60km/hr. The sealed carriageway width is 11m consisting of 2 x 3.5m wide lanes and 2 x 2m wide sealed shoulders.

4.2 EXISTING TRAFFIC VOLUMES

4.2.1 Introduction

Existing traffic volumes were established by examining and analysing historic traffic count data published by the RTA and placing 4 traffic counters on the roads surrounding the Mine Site.

4.2.2 Traffic Count Methodology

Traffic counters were placed on MR89, Tomingley West Road and the Newell Highway for a time period of 3 weeks from the 29th April to the 19th May 2009. The locations of these traffic counters (Metrocount 5600 Series units) are shown on **Figure 5**. The data from these traffic counts can be found in **Appendix 2** and is summarised in **Tables 1** to **3**.

Table 1
Traffic Counts Summary – MR89

Week starting	Average Total Daily Volume[1,2]	Light Vehicle %	Heavy Vehicle %	Max peak/hr vehicles
Site 1: 150m south of the Tomingley West Road on MR89				
27/4/09 (count commenced 29/4/09)	414	79.7%	20.3%	
4/5/09	416	77.2%	22.8%	
11/5/09	399	78.7%	21.3%	
18/5/09 (count ceased 19/5/09)	433	79.9%	20.1%	
Virtual week[3]				42.7
Site 2: 4.66km north of Tomingley West Road on MR89				
27/4/09 (count commenced 29/4/09)	404	71.1%	28.9%	
4/5/09	377	72.7%	27.3%	
11/5/09	394	72.6%	27.4%	
18/5/09 (count ceased 19/5/09)	389	78.4%	21.6%	
Virtual week				44

Note 1: Vehicle totals are for both directions
Note 2: Refer to **Appendix 2** for detailed traffic count information.
Note 3: A virtual week merges multiple weeks of data into an averaged week.

Table 2
Traffic Counts Summary – Newell Highway

Week starting	Average Total Daily Volume[1,2]	Light Vehicle %	Heavy Vehicle %	Max peak/hr vehicles
Site 3: 100m south of Tomingley Shell Service Station, Newell Highway.				
27/4/09 (count commenced 29/4/09)	2648	71.6%	28.4%	
4/5/09	2671	69.8%	30.2%	
11/5/09	2626	75%	25%	
18/5/09 (count ceased 19/5/09)	2252	83.3%	16.7%	
Virtual week[3]				286

Note 1: Vehicle totals are for both directions
Note 2: Refer to **Appendix 2** for detailed traffic count information.
Note 3: A virtual week merges multiple weeks of data into an averaged week.

Table 3
Traffic Counts Summary – Tomingley West Road

Week starting	Average Total Daily Volume[1,2]	Light Vehicle %	Heavy Vehicle %	Max peak/hr vehicles
Site 4: 130m west of MR89 on Tomingley West Road				
27/4/09 (count commenced 29/4/09)	79	74.7%	25.3%	
4/5/09	47	57.4%	42.6%	
11/5/09	Traffic Data corrupted			
18/5/09	Traffic Data corrupted			
Virtual week[3]				8

Note 1: Vehicle totals are for both directions
Note 2: Refer to **Appendix 2** for detailed traffic count information.
Note 3: A virtual week merges multiple weeks of data into an averaged week.

4.2.3 Historic RTA Data

Copies of existing traffic volumes published by the RTA are provided in full in **Appendix 2**, with **Tables 4** and **5** providing a summary of this data.

Table 4
RTA Traffic Counts: Newell Highway (SH 17)

Station No.	Road (Location)	1980 AADT	1984 AADT	1988 AADT	1992 AADT	1996 AADT	1999 AADT
93.87	At Parkes Shire Boundary			3296	3619	3964	4201
93.056	Tomingley – South of MR89, Narromine Road	2220	2890				

Source: RTA Traffic volume data for Western Region 2002

Table 5
RTA Traffic Counts: Tomingley – Narromine Road (MR 89)

Station No.	Road (Location)	1980 AADT	1984 AADT	1988 AADT	1992 AADT	1996 AADT	1999 AADT
93.184	Tomingley-North of SH17, Newell Highway	430	360				
93.876	At Yellow Tank, 16km North of Tomingley			285	382	454	437

Source: RTA Traffic volume data for Western Region 2002

4.2.4 Existing and Forecast Traffic Volumes

Based on historical traffic volume data summarised in **Tables 4** and **5**, a linear regression spreadsheet was used to forecast a growth rate of 2.3% and 0.7% for the Newell Highway and MR89 respectively. However for the purpose of this analysis a conservative growth rate of 2% was adopted for MR89 and the Tomingley West Road. The linear regression spreadsheets for the Newell Highway and MR89 are contained in **Appendix 3**.

Based on the traffic counts carried out and historical traffic count data published by the RTA, **Table 6** presents the estimated existing traffic volumes and forecast traffic volumes at the anticipated end of mining operations in 2020.

Table 6
Existing and Forecast Traffic Volumes

Road	Existing (2009)		Forecast (2020)[2,3]		Heavy Vehicle %	Growth
	Total Vehicle Volume	Peak Hour Vehicles[1]	Total Vehicle Volume	Peak Hour Vehicles[1]		
Newell Highway	2650	300	3375	380	33	2.3%
MR89	400	50	498	64	30	2%
Tomingley West Road	60	12	74	17	33	2%

Note 1: Peak hour vehicle totals are for both directions
Note 2: 2020 traffic volumes are forecast traffic volumes based on assumed growth.
Note 3: 2020 figures do not include project related traffic volumes.

Figures 6 to 9 present the 2009 and 2020 peak hour intersection operation of the intersections between the Newell Highway and MR89 and Tomingley West Road and MR89.

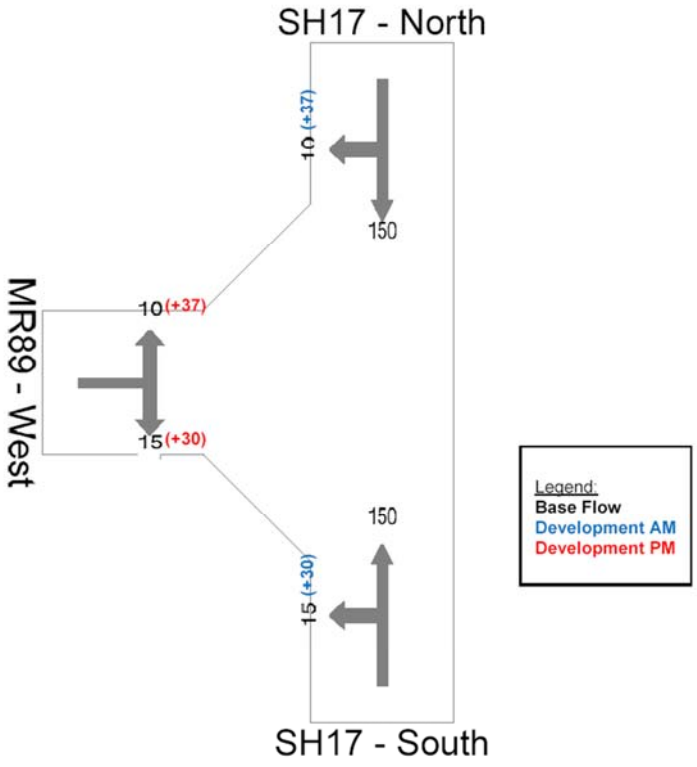


Figure 6 **Existing Peak Hour Intersection Operation – MR 89 and Newell Highway**

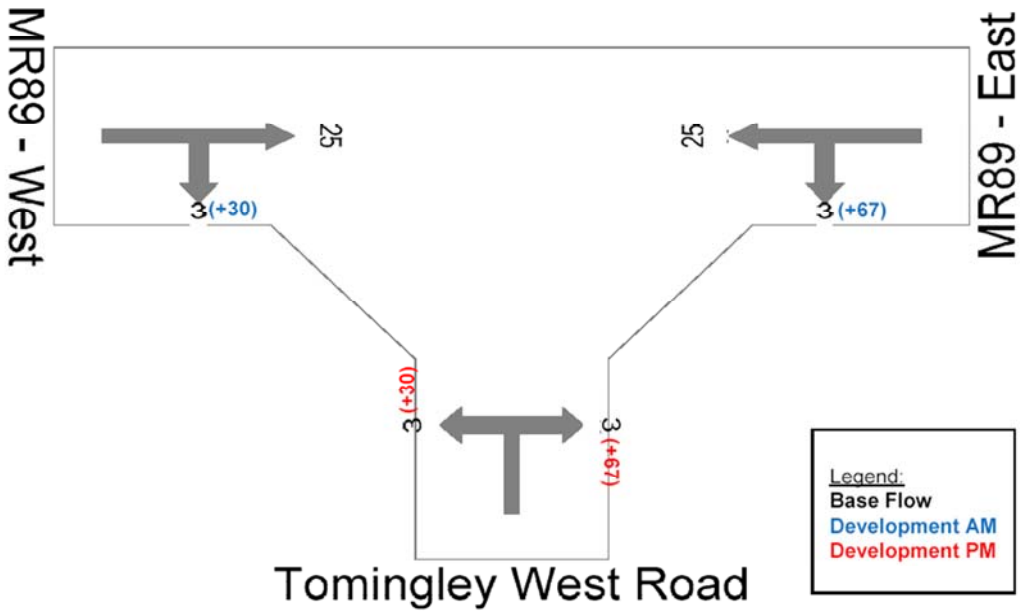


Figure 7 **Existing Peak Hour Intersection Operation – Tomingley West Road and MR89**

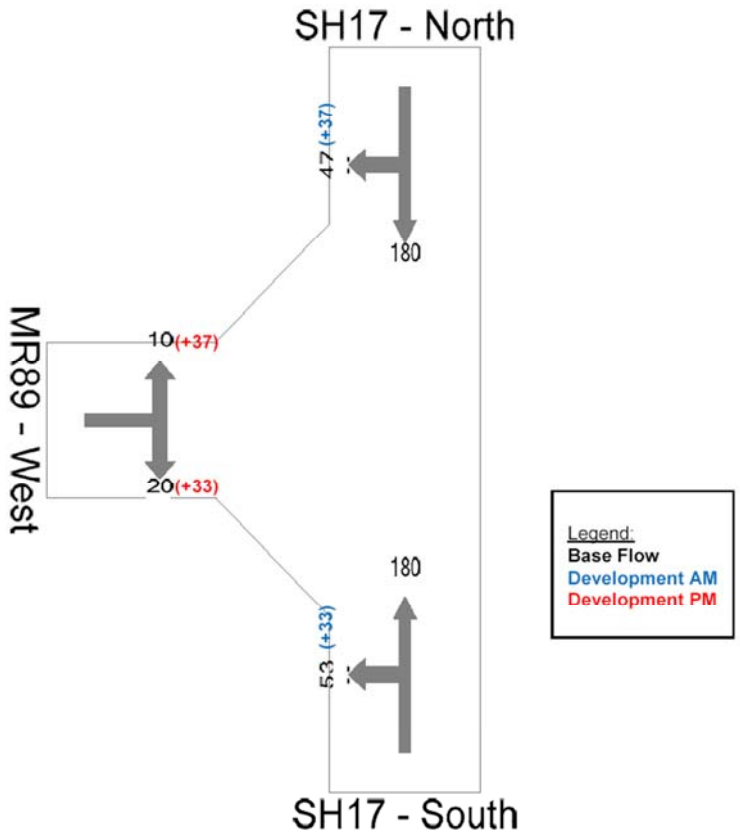


Figure 8 **Forecast Peak Hour Intersection Operation – MR 89 and Newell Highway**

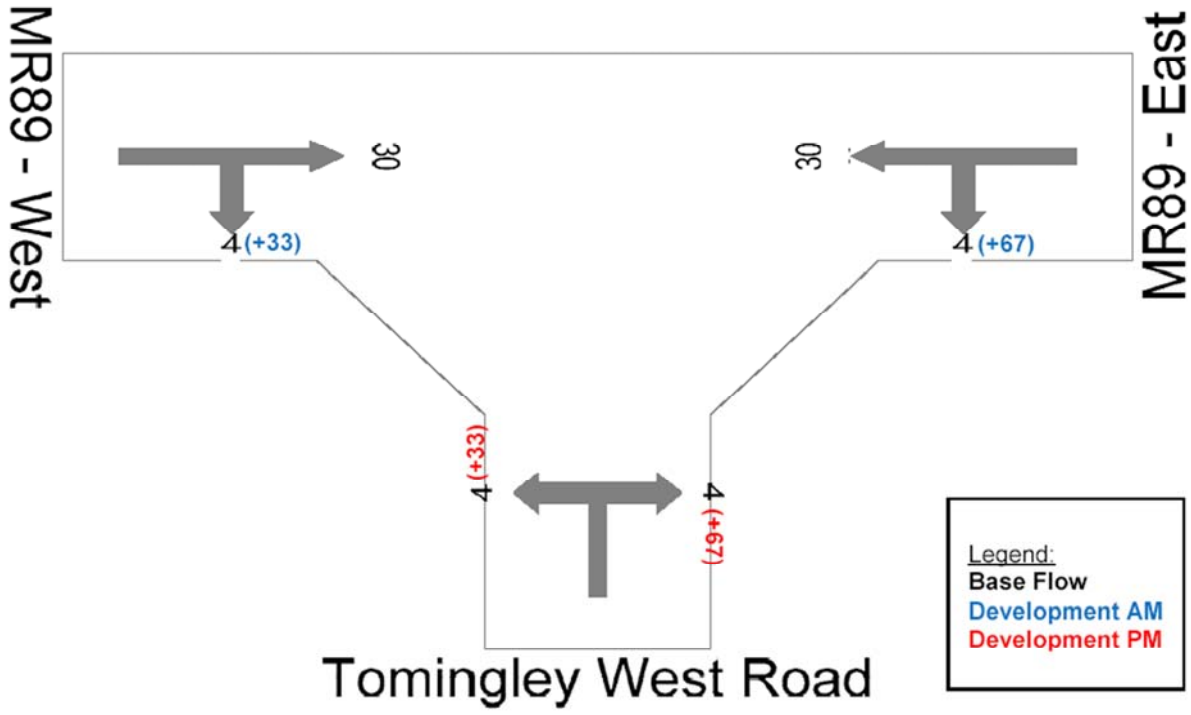


Figure 9 Peak Hour Intersection Operation – Tomingley West Road and MR89

4.2.5 Existing Intersection Performance

The performance of the two intersections, namely Newell Highway – MR89 and MR89 – Tomingley West Road, operating under the 2009 peak hour conditions shown in **Figure 6** and **Figure 7** has been assessed using the traffic modelling software SIDRA Intersection (version 3.2) program.

The key performance indicators used include level of service (LoS), delay and degree of saturation (DoS). The RTA provide general advice in their guide to "Traffic Generating Developments" on level of service. This is shown in **Table 7** below.

Table 7
Level of Service Criteria

Level of Service	Average Delay Per Vehicle (s/veh)	Give Way and Stop Signs
A	Less than 14	Good operation
B	15 to 28	Acceptable delays & spare capacity
C	29 to 42	Satisfactory but accident study required.
D	43 to 56	Near capacity and accident study required.
E	57 to 70	At capacity, requires other control mode.
F	Over 70	Over capacity

The SIDRA analysis of both intersections is provided in **Table 8**. Detailed movement summaries can be found in **Appendix 4**.

Table 8
Existing Intersection Performance

Year	Degree of Saturation (V/C)	95% Back of Queue Length (metres)	Average Delay (seconds)	Level of Service (Approach)[1,2]	Level of Service (Worst Movement)
Newell Highway and MR89					
2009	0.098	0	1.8	LoS A (SH17 NB) LoS A (SH17 SB) LoS B (MR89)	LoS B (MR89 right turn)
MR89 and Tomingley West Road					
2009	0.018	1	1.8	LoS A (MR89 WB) LoS A (MR89 EB) LoS A (TomW)	LoS A (TomW right turn)
Note 1: TomW = Tomingley West Road, SH17 = Newell Highway & MR89 = Narromine Road Note 2: NB = North Bound, SB = South Bound, EB = East Bound and WB = West Bound					

4.3 ACCIDENT STATISTICS

Accident statistics for the roads and intersections of the study area were advised by RTA Parkes. Accident statistics are based on figures kept by NSW Police and NSW RTA.

Accident statistics indicate no existing trends with road safety at intersections of the study area.

5 TRAFFIC GENERATION

5.1 INTRODUCTION

To consider the effect of the Project on traffic, the following (most adverse traffic conditions) were considered.

- Site construction in 2010 with existing background traffic volumes.
- Normal operation in 2020 with forecast background traffic volumes.
- Final land use.

5.2 SITE CONSTRUCTION

During the site construction stage, it is anticipated that the maximum work force on site at any one time would be 100 full-time equivalent positions. It has been conservatively assumed that each site construction worker would commute to and from site during a morning and afternoon peak in their own vehicle. Deliveries of plant and materials (heavy vehicle movements) would also occur during the morning and afternoon peak but would more likely be spread over the day. Refer to **Table 9** for site construction traffic volumes.

Potential sources of commuting workers to site include Parkes, Peak Hill, Dubbo and Narromine. The traffic levels presented in **Table 9** reflect the anticipated proportional representation of employees from these locations.

Table 9
Anticipated Project-related Traffic[1]

Route	Daily Traffic		Monthly Traffic	
	Light Vehicles	Heavy Vehicles[2]	Light Vehicles	Heavy Vehicles[2]
Project Construction				
Newell Highway	120	14	3600	420
Tomingley – Narromine Road[3]	60	6	1800	180
Tomingley West Road	180	20	5400	600
Project Operation				
Newell Highway	102	6	3060	180
Tomingley – Narromine Road[3]	34	2	1020	60
Tomingley West Road	136	8	4080	240
Note 1: Two vehicle movements = one return trip Note 2: Includes over size and over weight vehicles. Note 3: North of the intersection with the Tomingley West Road				
Source: Alkane Resources Ltd				

The majority of heavy vehicle deliveries during the site construction stage would come from concrete, steel or other major equipment/material deliveries. These deliveries would be sporadic dependant on the construction stage and would not be expected to last for long durations.

The percentage increase in traffic volumes due to the traffic generated from the site during site construction is shown in **Table 10**. As can be seen, the percentage increase in traffic on the Newell Highway is negligible. The percentage increase on MR89 and Tomingley West Road is noticeable, however, the overall traffic volumes would be still minor in traffic engineering terms on these two roads.

Table 10
Percentage Increase due to Project Generated Traffic

Road	Existing Daily Vehicles		+Total Daily Project Generated Traffic		% Increase Due To Project Generated Traffic		
	LV	HV	LV	HV	LV	HV	All vehicles
Construction							
Newell Highway	1775	875	120	14	6.8%	1.6%	5.1%
MR89	280	120	60	6	21.4%	5.0%	16.5%
Tomingley West Road	40	20	180	20	450.0%	100.0%	333.3%
Mine Operation							
Newell Highway	2250	1125	102	6	4.5%	0.5%	3.2%
MR89	349	149	34	2	9.7%	1.3%	7.2%
Tomingley West Road	49	25	136	8	377.6%	32.0%	294.6%

It is expected that there will be some deliveries by Restricted Access Vehicles (RAV) of over size and over mass loads during the site construction stage.

Traffic flows during peak hour during the site construction period are shown in **Figure 6** and **Figure 7**.

5.3 MINE OPERATION

During the mine operation stage, approximately 65 full-time equivalent positions would be required, with a peak workforce of up to 100 people. This would be divided approximately equally be between employees of the Proponent and the mining contractor. It has been conservatively assumed that each employee would commute to and from site during a morning and afternoon peak in their own vehicle. Deliveries of plant and materials would also occur during the morning and afternoon peak but would more likely be spread over the day. Refer to **Table 9** for anticipated mine operation traffic volumes.

Similar proportional use of the three routes to the Mine Site has been assumed as for the site construction stage.

The proportional increase in traffic volumes due to the traffic generated from the site during normal operation is shown in **Table 10**. The percentage increase in traffic on the Newell Highway is negligible. Similar to the site construction stage, the percentage increase on MR89 and Tomingley West Road is significant, however, the overall traffic volumes would again be still minor in traffic engineering terms on these two roads.

Forecast traffic flows in 2020 during peak hour during the mine operation stage are shown in **Figure 8** and **9**.

5.4 ULTIMATE LAND USE

The potential traffic volumes from ultimate land use are expected to be much lower than the construction and normal operation of the proposed development. Therefore, the traffic impact of ultimate land use is not considered further.

6 PROPOSED DEVELOPMENT IMPACT

6.1 TOMINGLEY WEST ROAD

The traffic generated by the Project would have a negligible impact on traffic on the Tomingley West Road. Despite the proposed large (proportional) increase in light and heavy vehicles using the Tomingley West Road, the overall traffic volumes would still be low from a traffic engineering perspective.

Depending on existing pavement thickness and subgrade conditions, some impact on pavement may be felt by traffic generated by the Project.

From a traffic safety perspective, the traffic generated by the Project would have an impact on traffic safety on the Tomingley West Road. Traffic safety issues to be considered and mitigated where necessary are as follows.

- Sealed carriageway width. Traffic safety issues may arise from an increase in traffic on the Tomingley West Road if oncoming vehicles are forced to move onto unsealed pavement. Although the traffic generation estimates are conservative, it is likely that the increase in traffic generated from the Project would trigger the requirement for 2 x 3m sealed lanes in accordance with *Table 3.2-4* of the *RTA Road Design Guide* (see **Table 11**).

Table 11
Recommended Lane Widths (RTA Road Design Guide Table 3.2-4)

AADT	No of lanes	Lane width
1-150	1	3.5
150-500	2	3
500-2000	2	3-3.5
>2000	2	3.5
Source: Modified after RTA Road Design Guide – Table 3.2-4		

- The location and layout of the intersection between the Main Site Access Road and Tomingley West Road.
- The 4 cell box culvert, approximately 100m from the intersection of the Tomingley West Road and MR89. The culvert width is 6m wide with guide posts on each corner. There is currently no guardrail protection.

6.2 TOMINGLEY WEST ROAD – MR89 INTERSECTION

The performance of the intersection of MR89 – Tomingley West Road, operating during both the construction stage in 2010 and the normal operation stage in 2020 as shown in **Figures 6** and **7** has been assessed using the SIDRA Intersection (version 3.2) program. The detailed SIDRA movement summary is found in **Appendix 4** and are summarised in **Table 12**. This analysis assumes that the intersection is in its current form, namely a type "BAR" intersection. The key performance indicators show that the intersection would function acceptably with additional traffic generated from the proposed development in its current layout.

Table 12
Predicted Intersection Performance: Tomingley West Road – MR89

Year	Degree of Saturation (V/C)	95% Back of Queue Length (metres)	Average Delay (seconds)	Level of Service (Approach)[1,2]	Level of Service (Worst Movement)
Construction Stage Morning Peak					
2009	0.056	2	6	LoS A (MR89 WB) LoS A (MR89 EB) LoS A (TomW)	LoS A (TomW right turn)
Construction Stage Afternoon Peak					
2009	0.17	9	7.5	LoS A (MR89 WB) LoS A (MR89 EB) LoS A (TomW)	LoS A (TomW right turn)
Normal Operation Stage Morning Peak					
2020	0.059	2	5.8	LoS A (MR89 WB) LoS A (MR89 EB) LoS A (TomW)	LoS A (TomW right turn)
Normal Operation Stage Afternoon Peak					
2020	0.127	9	7.3	LoS A (MR89 WB) LoS A (MR89 EB) LoS A (TomW)	LoS A (TomW right turn)
Note 1: TomW = Tomingley West Road, SH17 = Newell Highway & MR89 = Narromine Road Note 2: NB = North Bound, SB = South Bound, EB = East Bound and WB = West Bound					

A sensitivity analysis was carried out to determine the effect on traffic of all vehicles generated by the Project coming from either Tomingley or Narromine during the morning peak and all vehicles going to either Tomingley or Narromine during the afternoon peak respectively. In all cases, the intersections operated satisfactorily with the worst movement having a LoS A. Detailed SIDRA movement summaries for the sensitivity analysis can be found in **Appendix 4**.

6.3 TOMINGLEY-NARROMINE ROAD (MR89)

The traffic generated by the Project would have a negligible impact on traffic on MR89. Despite the relatively high percentage increase in traffic volume from the proposed Project, the road would function well with high levels of service, spare capacity and minimal delays.

6.4 NEWELL HIGHWAY – MR89 INTERSECTION

The performance of the intersection of Newell Highway – MR89 intersection, operating during both the construction stage and the normal operation stage in 2020 as shown on **Figures 6** and **7** and has been assessed using the SIDRA Intersection (version 3.2) program. These assessments are summarised in **Table 13**. This assumes that the intersection is in its current form, namely a type "AUR" intersection with a left turn auxiliary lane. The key performance indicators show that the intersection would function acceptably with additional traffic generated from the proposed development in its current layout with the worst movement being LOS B.

Table 13

Predicted Intersection Performance: Newell Highway – MR89

Year	Degree of Saturation (V/C)	95% Back of Queue Length (metres)	Average Delay (seconds)	Level of Service (Approach)[1,2]	Level of Service (Worst Movement)
Construction Stage Morning Peak					
2009	0.098	3	3.2	LoS A (SH17 NB) LoS A (SH17 SB) LoS B (MR89)	LoS B (MR89 right turn)
Construction Stage Afternoon Peak					
2009	0.217	10	3.9	LoS A (SH17 NB) LoS A (SH17 SB) LoS B (MR89)	LoS B (MR89 right turn)
Normal Operation Stage Morning Peak					
2020	0.118	4	3.3	LoS A (SH17 NB) LoS A (SH17 SB) LoS B (MR89)	LoS B (MR89 right turn)
Normal Operation Stage Afternoon Peak					
2020	0..286	14	4.3	LoS A (SH17 NB) LoS A (SH17 SB) LoS B (MR89)	LoS B (MR89 right turn)
Note 1: TomW = Tomingley West Road, SH17 = Newell Highway & MR89 = Narromine Road Note 2: NB = North Bound, SB = South Bound, EB = East Bound and WB = West Bound					

A sensitivity analysis was carried out to determine the effect on traffic of either all vehicles generated by the Project coming from either Dubbo or Tomingley/Parkes during the morning peak and all vehicles going to either Dubbo or Tomingley/Parkes during the afternoon peak respectively. There was no change from the existing acceptable base condition of LOS A for the Newell Highway and LOS B for MR89. Detailed SIDRA movement summaries for the sensitivity analysis can be found in **Appendix 4**.

6.5 NEWELL HIGHWAY

The traffic generated by the Project would have a negligible impact on traffic on Newell Highway. The relative increase in traffic volumes from the proposed Project would negligible and the Newell Highway would function well with high levels of service, spare capacity and minimal delays.

Alkane proposes to construct an intersection on the Newell Highway for over mass and over weight vehicles during the site construction stage. In addition, this intersection would be utilised by emergency vehicles to access site from the Newell Highway during the normal operation stage. This intersection would be constructed to comply with relevant RTA requirements for site access.

7 MITIGATION OF TRAFFIC IMPACTS

7.1 ROADS AND INTERSECTIONS OF THE STUDY AREA

As discussed in Section 6.1.2, the traffic engineering impact of the Project on the traffic of the study area would be negligible. Roads and intersections of the study area would be expected to operate satisfactorily with minimal delays and spare capacity. Therefore, no intersection improvements would be required.

It is noted that the intersection of the Tomingley West Road and MR89 has been constructed by Narromine Council as a type "BA" intersection following a site inspection on the 9th October, 2009. It is also noted that the additional widened section has been bitumen sealed to provide additional safety for vehicles passing a right turn vehicle.

Based on forecast traffic volumes, *Figure 4.5.12* of the *RTA Road Design Guide* recommends a "BA" type intersection. A "BA" type intersection with the additional bitumen sealed width exceeds the standards of a "BA" type intersection, therefore, no intersection improvements would be required (refer to photo 7 in **Appendix 2**).

The above notwithstanding, site construction activities and normal mine operation would increase the annual average daily traffic (AADT) volume on Tomingley West Road from between 60 and 70 vehicles per day (veh/day) to between 214 (mine operation) and 260 (site construction). For roads with this level of daily traffic, the RTA Road Design Guide recommends two sealed lanes of at least 3m in width. In accordance with this recommendation, and to ensure that the Project does not adversely affect traffic or road safety on the section of Tomingley West Road to be used by Project generated traffic, the following recommendations are made.

- A suitable intersection where the Main Site Access intersects with Tomingley West Road should be constructed such that it complies with RTA Road Design requirements for rural access.
- An additional 2m of bitumen seal should be provided on the Tomingley West Road to achieve an overall carriageway width of 8m, i.e. 6m of sealed carriageway and 2 x 1m unsealed shoulders.
- The centreline of the road should be marked and additional guide posts installed.

- A comprehensive Transport Management Plan for construction and normal mine operation should be developed, which would be agreed with stakeholders and implemented.
- "Narrow bridge" signage at the approaches to the culvert near the intersection of the Tomingley West Road and MR89 should be installed.
- Additional guideposts on the culvert on the Tomingley West Road near the intersection of the Tomingley West Road and MR89 should be installed

In addition, Alkane would implement a comprehensive Transport Management Plan for construction and normal operation to ensure that impacts of the proposed development would be minimised. The Transport Management Plan would provide for the following.

- Safe driving practices/procedures for crossing the narrow culvert near the intersection of the Tomingley West Road and MR89.
- Community information and awareness program of traffic activities. This could include press releases, specific newsletters and letter drops to neighbouring residents.
- Signposting of MR89 and the Tomingley West road with heavy vehicle and construction signage during the site construction stage.
- Restrictions on the timing of large equipment and material deliveries.
- Establishment of an inspection and maintenance program for the local road network to ensure conditions of roads are maintained.
- Driver code of conduct with disciplinary action for non-compliance.
- Emergency, accident, incident, complaint or non-compliance response and reporting.
- Training requirements.
- Audit and review.

7.2 ROAD PAVEMENTS OF THE STUDY AREA

To mitigate the impact of the traffic generated by the Project on the road pavement of the Tomingley West Road as well as to address concerns from Narromine Council it is proposed to carry out a geotechnical investigation of pavement depths, materials and subgrade conditions. From this it can be determined if the existing pavement has the required strength to handle the increase in traffic volumes or if the pavement will need to be modified and strengthened. Should the pavement require strengthening, it would be reconstructed from the Main Site Access Road to the intersection of the Tomingley West Road and MR89, a length of approximately 1.6km.

In addition, it is recommended that a developer agreement or contribution scheme, taking into account any road construction operations required for the Tomingley West Road, be established with Narromine Council for the ongoing maintenance of the Tomingley West Road.

7.3 RESTRICTED ACCESS VEHICLES

To mitigate the impact of Restricted Access Vehicles (RAVs), an individual Traffic Control Plan would be developed for each over mass and over weight delivery. The individual Traffic Control Plan would address the following issues.

- NSW RTA and NSW Police permit requirements.
- Use of escort vehicles where necessary.
- Any localised pavement strengthening or road widening requirements for the particular delivery.
- Provision of traffic controllers where difficult or unsafe manoeuvres are required.
- Restriction on times of delivery of over mass or over weight deliveries.

8 CONCLUSION

In summary, the Project would have negligible impact on local traffic. Roads and intersections of the study area would be expected to operate satisfactorily with minimal delays and spare capacity.

Conditional on a suitable Transport Management Plan being developed, agreed with stakeholders and implemented, any traffic safety impacts of the proposed development would have a negligible impact.

APPENDICES

(No. of pages including blank pages = 73)

Appendix 1 Photos

Appendix 2 Detailed Traffic Count Data

Appendix 3 Traffic Projection Spreadsheet

Appendix 4 Sidra Movement Summary

Appendix 5 Director General's Requirements

Note: Appendices 2 and 4 are only provided on the Project CD

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Appendix 1

Photos

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Photo 1. Tomingley West Road (20/4/09)	Photo 2. Culvert over Gundong Creek on Tomingley West Road near the intersection of Narromine Road (20/4/09)
	
Photo 3. Intersection of Tomingley West Road and Narromine Road (Taken from Tomingley West Road looking towards Narromine Road – 20/4/09)	Photo 4. Intersection of Tomingley West Road and Narromine Road (Taken from Narromine Road looking towards the Newell Highway – 20/4/09)
	
Photo 5. Intersection of Newell Highway and Narromine Road (Taken from the Newell Highway looking towards Tomingley – 20/4/09)	Photo 6. Intersection of Newell Highway and Narromine Road (Taken from the Newell Highway looking towards Narromine Road – 20/4/09)

	
Photo 7. Intersection of Tomingley West Road and Narromine Road (Taken from Narromine Road looking towards the Newell Highway – 19/5/09) (compare with Photo 4).	Photo 8. Intersection of Tomingley West Road and Narromine Road (Taken from Tomingley West road looking towards Narromine Road – 16/10/09) (compare with Photo 3).

Appendix 2

Detailed Traffic Count Data

Note: A copy of Appendix 2 is available on the Project CD

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MetroCount Traffic Executive
Daily Classes

DailyClass-86 -- English (ENA)

Datasets:	
Site:	**[Narromine Road] A - 150m South of Tomingley West Road M.Swindle & A. Yeo.**
Direction:	5 - South bound A>B, North bound B>A., **Lane:** 0
Survey Duration:	13:00 Wednesday, 29 April 2009 => 16:10 Tuesday, 19 May 2009
File:	G:\Infrastructure\MetrocountV314\Tomingley\Narromine Road east of rworks 19May2009.EC0 (Plus)
Identifier:	P083J0KF MC56-L4 [MC55] (c)Microcom 19Sep03
Algorithm:	Factory default
Data type:	Axle sensors - Paired (Class/Speed/Count)
Profile:	
Filter time:	**13:00 Wednesday, 29 April 2009 => 16:10 Tuesday, 19 May 2009**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	North, East, South, West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (AustRoads94)
Units:	Metric (meter, kilometer, m/s, km/h, kg, tonne)
In profile:	Vehicles = 8321 / 8396 (99.11%)

Daily Classes

Monday, 27 April 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Tue*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Wed*	137	7	18	9	0	1	0	3	8	14	0	0	197
(%)	69.5	3.6	9.1	4.6	0.0	0.5	0.0	1.5	4.1	7.1	0.0	0.0	
Thu	289	22	33	6	2	4	2	6	37	31	0	0	432
(%)	66.9	5.1	7.6	1.4	0.5	0.9	0.5	1.4	8.6	7.2	0.0	0.0	
Fri	326	31	48	4	1	1	2	3	23	24	1	0	464
(%)	70.3	6.7	10.3	0.9	0.2	0.2	0.4	0.6	5.0	5.2	0.2	0.0	
Sat	280	39	27	4	0	0	2	1	21	13	1	0	388
(%)	72.2	10.1	7.0	1.0	0.0	0.0	0.5	0.3	5.4	3.4	0.3	0.0	
Sun	312	29	9	0	2	2	2	0	11	7	0	0	374
(%)	83.4	7.8	2.4	0.0	0.5	0.5	0.5	0.0	2.9	1.9	0.0	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week													
	301	29	28	2	0	1	2	2	23	18	0	0	414
(%)	72.7	7.0	6.8	0.5	0.0	0.2	0.5	0.5	5.6	4.3	0.0	0.0	
Weekdays													
	307	26	40	5	1	2	1	4	30	27	0	0	448
(%)	68.5	5.8	8.9	1.1	0.2	0.4	0.2	0.9	6.7	6.0	0.0	0.0	
Weekend													
	295	33	17	1	0	0	1	0	16	10	0	0	381
(%)	77.4	8.7	4.5	0.3	0.0	0.0	0.3	0.0	4.2	2.6	0.0	0.0	

* - Incomplete

Daily Classes

Monday, 4 May 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	285	36	37	6	1	1	3	2	25	25	1	0	422
(%)	67.5	8.5	8.8	1.4	0.2	0.2	0.7	0.5	5.9	5.9	0.2	0.0	
Tue	280	18	29	10	8	3	1	4	29	23	1	0	406
(%)	69.0	4.4	7.1	2.5	2.0	0.7	0.2	1.0	7.1	5.7	0.2	0.0	
Wed	297	30	23	6	7	0	1	4	42	36	1	0	447
(%)	66.4	6.7	5.1	1.3	1.6	0.0	0.2	0.9	9.4	8.1	0.2	0.0	
Thu	258	14	31	15	1	2	2	4	14	28	0	0	369
(%)	69.9	3.8	8.4	4.1	0.3	0.5	0.5	1.1	3.8	7.6	0.0	0.0	
Fri	316	16	55	11	6	2	2	7	11	18	0	0	444
(%)	71.2	3.6	12.4	2.5	1.4	0.5	0.5	1.6	2.5	4.1	0.0	0.0	
Sat	318	27	47	6	0	3	2	3	10	2	1	0	419
(%)	75.9	6.4	11.2	1.4	0.0	0.7	0.5	0.7	2.4	0.5	0.2	0.0	
Sun	319	34	13	2	0	1	1	3	15	20	0	0	408
(%)	78.2	8.3	3.2	0.5	0.0	0.2	0.2	0.7	3.7	4.9	0.0	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week													
	296	25	33	7	2	1	1	3	20	21	0	0	416
(%)	71.2	6.0	7.9	1.7	0.5	0.2	0.2	0.7	4.8	5.0	0.0	0.0	
Weekdays													
	286	22	34	9	4	1	1	3	23	25	0	0	416
(%)	68.8	5.3	8.2	2.2	1.0	0.2	0.2	0.7	5.5	6.0	0.0	0.0	
Weekend													
	318	30	30	3	0	1	1	3	12	11	0	0	413
(%)	77.0	7.3	7.3	0.7	0.0	0.2	0.2	0.7	2.9	2.7	0.0	0.0	

* - Incomplete

Daily Classes

Monday, 11 May 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	286	29	30	8	2	1	3	3	16	22	0	0	400
(%)	71.5	7.2	7.5	2.0	0.5	0.3	0.8	0.8	4.0	5.5	0.0	0.0	
Tue	271	20	37	6	2	1	2	3	23	35	1	0	401
(%)	67.6	5.0	9.2	1.5	0.5	0.2	0.5	0.7	5.7	8.7	0.2	0.0	
Wed	262	25	35	7	1	0	1	1	36	14	0	0	382
(%)	68.6	6.5	9.2	1.8	0.3	0.0	0.3	0.3	9.4	3.7	0.0	0.0	
Thu	273	28	41	12	2	0	2	4	29	29	0	0	420
(%)	65.0	6.7	9.8	2.9	0.5	0.0	0.5	1.0	6.9	6.9	0.0	0.0	
Fri	281	35	29	4	1	0	2	1	13	8	0	0	374
(%)	75.1	9.4	7.8	1.1	0.3	0.0	0.5	0.3	3.5	2.1	0.0	0.0	
Sat	336	30	25	0	7	2	3	2	18	3	0	0	426
(%)	78.9	7.0	5.9	0.0	1.6	0.5	0.7	0.5	4.2	0.7	0.0	0.0	
Sun	308	28	27	1	1	1	4	4	15	7	0	0	396
(%)	77.8	7.1	6.8	0.3	0.3	0.3	1.0	1.0	3.8	1.8	0.0	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week													
	287	27	31	5	1	0	2	1	20	16	0	0	399
(%)	71.9	6.8	7.8	1.3	0.3	0.0	0.5	0.3	5.0	4.0	0.0	0.0	
Weekdays													
	274	26	33	6	1	0	1	1	22	21	0	0	394
(%)	69.5	6.6	8.4	1.5	0.3	0.0	0.3	0.3	5.6	5.3	0.0	0.0	
Weekend													
	321	28	25	0	4	1	3	3	16	4	0	0	410
(%)	78.3	6.8	6.1	0.0	1.0	0.2	0.7	0.7	3.9	1.0	0.0	0.0	

* - Incomplete

Daily Classes

Monday, 18 May 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	320	26	33	2	1	0	3	3	26	18	1	0	433
(%)	73.9	6.0	7.6	0.5	0.2	0.0	0.7	0.7	6.0	4.2	0.2	0.0	
Tue*	216	14	21	13	2	0	2	7	26	18	0	0	319
(%)	67.7	4.4	6.6	4.1	0.6	0.0	0.6	2.2	8.2	5.6	0.0	0.0	
Wed*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Thu*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fri*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sat*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sun*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week													
	320	26	33	2	1	0	3	3	26	18	1	0	433
(%)	73.9	6.0	7.6	0.5	0.2	0.0	0.7	0.7	6.0	4.2	0.2	0.0	
Weekdays													
	320	26	33	2	1	0	3	3	26	18	1	0	433
(%)	73.9	6.0	7.6	0.5	0.2	0.0	0.7	0.7	6.0	4.2	0.2	0.0	

Weekend No complete days.

*** - Incomplete**

MetroCount Traffic Executive
Daily Classes

DailyClass-89 -- English (ENA)

Datasets:	
Site:	**[Narromine Road] 4660m North of Tomingley West Road M.Swindle & A. Yeo.**
Direction:	5 - South bound A>B, North bound B>A., **Lane:** 0
Survey Duration:	13:00 Wednesday, 29 April 2009 => 14:41 Tuesday, 19 May 2009
File:	G:\Infrastructure\MetrocountV314\Tomingley\Narromine Road west of rdworks 19May2009.EC0 (Plus)
Identifier:	AE48CJQG MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default
Data type:	Axle sensors - Paired (Class/Speed/Count)
Profile:	
Filter time:	**13:00 Wednesday, 29 April 2009 => 14:41 Tuesday, 19 May 2009**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	North, East, South, West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (AustRoads94)
Units:	Metric (meter, kilometer, m/s, km/h, kg, tonne)
In profile:	Vehicles = 7872 / 7915 (99.46%)

Daily Classes

Monday, 27 April 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Tue*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Wed*	114	7	19	35	2	4	0	1	12	12	2	0	208
(%)	54.8	3.4	9.1	16.8	1.0	1.9	0.0	0.5	5.8	5.8	1.0	0.0	
Thu	248	19	33	44	4	4	3	5	35	31	0	0	426
(%)	58.2	4.5	7.7	10.3	0.9	0.9	0.7	1.2	8.2	7.3	0.0	0.0	
Fri	271	24	42	45	5	4	4	3	22	23	0	0	443
(%)	61.2	5.4	9.5	10.2	1.1	0.9	0.9	0.7	5.0	5.2	0.0	0.0	
Sat	237	38	30	47	4	2	3	1	21	14	1	0	398
(%)	59.5	9.5	7.5	11.8	1.0	0.5	0.8	0.3	5.3	3.5	0.3	0.0	
Sun	284	28	12	4	1	1	1	1	9	8	0	0	349
(%)	81.4	8.0	3.4	1.1	0.3	0.3	0.3	0.3	2.6	2.3	0.0	0.0	
Average daily volume													
Entire week													
	260	27	29	34	3	2	2	2	21	18	0	0	404
(%)	64.4	6.7	7.2	8.4	0.7	0.5	0.5	0.5	5.2	4.5	0.0	0.0	
Weekdays													
	259	21	37	44	4	3	3	4	28	26	0	0	434
(%)	59.7	4.8	8.5	10.1	0.9	0.7	0.7	0.9	6.5	6.0	0.0	0.0	
Weekend													
	260	33	20	25	2	1	1	1	14	11	0	0	373
(%)	69.7	8.8	5.4	6.7	0.5	0.3	0.3	0.3	3.8	2.9	0.0	0.0	

* - Incomplete

Daily Classes

Monday, 4 May 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	249	29	31	12	2	1	6	2	27	22	0	0	381
(%)	65.4	7.6	8.1	3.1	0.5	0.3	1.6	0.5	7.1	5.8	0.0	0.0	
Tue	231	19	21	30	7	3	0	4	29	25	1	0	370
(%)	62.4	5.1	5.7	8.1	1.9	0.8	0.0	1.1	7.8	6.8	0.3	0.0	
Wed	242	31	25	14	3	1	2	5	50	34	1	0	408
(%)	59.3	7.6	6.1	3.4	0.7	0.2	0.5	1.2	12.3	8.3	0.2	0.0	
Thu	240	13	36	19	1	2	2	2	28	25	2	0	370
(%)	64.9	3.5	9.7	5.1	0.3	0.5	0.5	0.5	7.6	6.8	0.5	0.0	
Fri	236	21	36	16	3	4	4	3	28	21	2	0	374
(%)	63.1	5.6	9.6	4.3	0.8	1.1	1.1	0.8	7.5	5.6	0.5	0.0	
Sat	277	25	21	14	0	3	2	4	12	4	1	0	363
(%)	76.3	6.9	5.8	3.9	0.0	0.8	0.6	1.1	3.3	1.1	0.3	0.0	
Sun	284	33	10	8	1	1	2	3	13	20	1	0	376
(%)	75.5	8.8	2.7	2.1	0.3	0.3	0.5	0.8	3.5	5.3	0.3	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week													
	250	24	24	16	2	2	2	3	26	21	0	0	377
(%)	66.3	6.4	6.4	4.2	0.5	0.5	0.5	0.8	6.9	5.6	0.0	0.0	
Weekdays													
	239	22	29	18	2	2	2	3	32	24	0	0	380
(%)	62.9	5.8	7.6	4.7	0.5	0.5	0.5	0.8	8.4	6.3	0.0	0.0	
Weekend													
	280	28	15	11	0	2	1	3	12	12	0	0	369
(%)	75.9	7.6	4.1	3.0	0.0	0.5	0.3	0.8	3.3	3.3	0.0	0.0	

* - Incomplete

Daily Classes

Monday, 11 May 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	255	31	35	13	1	5	2	2	14	21	0	0	379
(%)	67.3	8.2	9.2	3.4	0.3	1.3	0.5	0.5	3.7	5.5	0.0	0.0	
Tue	260	19	33	54	2	5	2	8	21	23	1	0	428
(%)	60.7	4.4	7.7	12.6	0.5	1.2	0.5	1.9	4.9	5.4	0.2	0.0	
Wed	251	19	56	37	3	5	2	4	39	10	2	0	428
(%)	58.6	4.4	13.1	8.6	0.7	1.2	0.5	0.9	9.1	2.3	0.5	0.0	
Thu	237	27	39	22	1	7	3	1	38	25	2	0	402
(%)	59.0	6.7	9.7	5.5	0.2	1.7	0.7	0.2	9.5	6.2	0.5	0.0	
Fri	241	28	29	7	1	5	5	0	35	8	1	0	360
(%)	66.9	7.8	8.1	1.9	0.3	1.4	1.4	0.0	9.7	2.2	0.3	0.0	
Sat	321	26	26	2	2	3	3	4	25	7	0	0	419
(%)	76.6	6.2	6.2	0.5	0.5	0.7	0.7	1.0	6.0	1.7	0.0	0.0	
Sun	272	24	18	6	0	1	3	2	13	9	0	0	348
(%)	78.2	6.9	5.2	1.7	0.0	0.3	0.9	0.6	3.7	2.6	0.0	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week													
	262	24	33	19	1	4	2	2	26	13	0	0	394
(%)	66.5	6.1	8.4	4.8	0.3	1.0	0.5	0.5	6.6	3.3	0.0	0.0	
Weekdays													
	248	24	37	26	1	5	2	2	29	17	0	0	398
(%)	62.3	6.0	9.3	6.5	0.3	1.3	0.5	0.5	7.3	4.3	0.0	0.0	
Weekend													
	296	25	21	4	1	1	2	2	19	7	0	0	383
(%)	77.3	6.5	5.5	1.0	0.3	0.3	0.5	0.5	5.0	1.8	0.0	0.0	

* - Incomplete

Daily Classes

Monday, 18 May 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	280	25	32	5	1	1	2	3	22	18	0	0	389
(%)	72.0	6.4	8.2	1.3	0.3	0.3	0.5	0.8	5.7	4.6	0.0	0.0	
Tue*	137	14	21	9	0	3	5	4	38	22	0	0	253
(%)	54.2	5.5	8.3	3.6	0.0	1.2	2.0	1.6	15.0	8.7	0.0	0.0	
Wed*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Thu*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fri*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sat*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sun*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week													
	280	25	32	5	1	1	2	3	22	18	0	0	389
(%)	72.0	6.4	8.2	1.3	0.3	0.3	0.5	0.8	5.7	4.6	0.0	0.0	
Weekdays													
	280	25	32	5	1	1	2	3	22	18	0	0	389
(%)	72.0	6.4	8.2	1.3	0.3	0.3	0.5	0.8	5.7	4.6	0.0	0.0	

Weekend No complete days.

*** - Incomplete**

MetroCount Traffic Executive
Daily Classes

DailyClass-91 -- English (ENA)

Datasets:

Site:	**[Newell Highway] B - Tomingley 100m South of Shell Service Station M. Swindle & A. Yeo.**
Direction:	5 - South bound A>B, North bound B>A., **Lane:** 0
Survey Duration:	12:00 Wednesday, 29 April 2009 => 14:05 Tuesday, 19 May 2009
File:	G:\Infrastructure\MetrocountV314\Tomingley\Newell Highway19May2009.EC0 (Plus)
Identifier:	R275RRPV MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**12:00 Wednesday, 29 April 2009 => 14:05 Tuesday, 19 May 2009**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	North, East, South, West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (AustRoads94)
Units:	Metric (meter, kilometer, m/s, km/h, kg, tonne)
In profile:	Vehicles = 53674 / 54770 (98.00%)

Daily Classes

Monday, 27 April 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Tue*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Wed*	1071	100	82	43	3	4	9	20	129	235	4	0	1700
(%)	63.0	5.9	4.8	2.5	0.2	0.2	0.5	1.2	7.6	13.8	0.2	0.0	
Thu	1750	191	135	83	16	8	20	37	284	431	11	0	2966
(%)	59.0	6.4	4.6	2.8	0.5	0.3	0.7	1.2	9.6	14.5	0.4	0.0	
Fri	1813	166	137	54	7	7	23	32	180	318	5	0	2742
(%)	66.1	6.1	5.0	2.0	0.3	0.3	0.8	1.2	6.6	11.6	0.2	0.0	
Sat	1712	217	85	23	4	3	12	22	196	321	4	0	2599
(%)	65.9	8.3	3.3	0.9	0.2	0.1	0.5	0.8	7.5	12.4	0.2	0.0	
Sun	1556	179	59	37	10	4	14	12	149	264	3	0	2287
(%)	68.0	7.8	2.6	1.6	0.4	0.2	0.6	0.5	6.5	11.5	0.1	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week	1707	188	103	49	8	5	16	25	201	332	5	0	2648
(%)	64.5	7.1	3.9	1.9	0.3	0.2	0.6	0.9	7.6	12.5	0.2	0.0	
Weekdays	1781	178	136	68	11	7	21	34	231	374	7	0	2853
(%)	62.4	6.2	4.8	2.4	0.4	0.2	0.7	1.2	8.1	13.1	0.2	0.0	
Weekend	1633	198	72	29	6	3	13	16	172	292	3	0	2442
(%)	66.9	8.1	2.9	1.2	0.2	0.1	0.5	0.7	7.0	12.0	0.1	0.0	

* - Incomplete

Daily Classes

Monday, 4 May 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	1557	217	125	54	10	13	19	25	205	287	4	0	2516
(%)	61.9	8.6	5.0	2.1	0.4	0.5	0.8	1.0	8.1	11.4	0.2	0.0	
Tue	1491	174	119	56	14	4	21	34	232	442	5	0	2592
(%)	57.5	6.7	4.6	2.2	0.5	0.2	0.8	1.3	9.0	17.1	0.2	0.0	
Wed	1826	145	126	59	8	0	19	33	276	459	4	0	2955
(%)	61.8	4.9	4.3	2.0	0.3	0.0	0.6	1.1	9.3	15.5	0.1	0.0	
Thu	1745	156	137	52	13	6	14	23	261	452	10	0	2869
(%)	60.8	5.4	4.8	1.8	0.5	0.2	0.5	0.8	9.1	15.8	0.3	0.0	
Fri	1780	195	93	56	19	6	15	20	184	316	2	0	2686
(%)	66.3	7.3	3.5	2.1	0.7	0.2	0.6	0.7	6.9	11.8	0.1	0.0	
Sat	1745	197	70	39	8	5	13	24	177	355	4	0	2637
(%)	66.2	7.5	2.7	1.5	0.3	0.2	0.5	0.9	6.7	13.5	0.2	0.0	
Sun	1659	162	55	32	13	5	17	20	170	310	5	0	2448
(%)	67.8	6.6	2.2	1.3	0.5	0.2	0.7	0.8	6.9	12.7	0.2	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week													
	1685	178	103	49	12	4	16	25	214	374	4	0	2671
(%)	63.1	6.7	3.9	1.8	0.4	0.1	0.6	0.9	8.0	14.0	0.1	0.0	
Weekdays													
	1679	176	119	55	12	5	17	27	231	390	5	0	2723
(%)	61.7	6.5	4.4	2.0	0.4	0.2	0.6	1.0	8.5	14.3	0.2	0.0	
Weekend													
	1701	179	62	35	10	5	14	22	173	332	4	0	2542
(%)	66.9	7.0	2.4	1.4	0.4	0.2	0.6	0.9	6.8	13.1	0.2	0.0	

* - Incomplete

Daily Classes

Monday, 11 May 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	1620	188	116	53	8	10	26	27	141	274	2	0	2465
(%)	65.7	7.6	4.7	2.2	0.3	0.4	1.1	1.1	5.7	11.1	0.1	0.0	
Tue	2595	145	116	60	7	3	16	35	273	423	7	1	3681
(%)	70.5	3.9	3.2	1.6	0.2	0.1	0.4	1.0	7.4	11.5	0.2	0.0	
Wed	2254	186	144	53	12	6	23	35	224	379	11	0	3327
(%)	67.7	5.6	4.3	1.6	0.4	0.2	0.7	1.1	6.7	11.4	0.3	0.0	
Thu	2150	188	140	57	14	7	24	31	266	430	7	0	3314
(%)	64.9	5.7	4.2	1.7	0.4	0.2	0.7	0.9	8.0	13.0	0.2	0.0	
Fri	1998	186	106	44	6	3	18	28	170	283	5	0	2847
(%)	70.2	6.5	3.7	1.5	0.2	0.1	0.6	1.0	6.0	9.9	0.2	0.0	
Sat	567	19	14	15	2	1	1	6	40	42	2	0	709
(%)	80.0	2.7	2.0	2.1	0.3	0.1	0.1	0.8	5.6	5.9	0.3	0.0	
Sun	1606	110	55	19	4	6	8	6	79	149	7	0	2049
(%)	78.4	5.4	2.7	0.9	0.2	0.3	0.4	0.3	3.9	7.3	0.3	0.0	
Average daily volume													
Entire week													
	1826	145	98	42	6	4	16	23	170	282	5	0	2626
(%)	69.5	5.5	3.7	1.6	0.2	0.2	0.6	0.9	6.5	10.7	0.2	0.0	
Weekdays													
	2122	178	123	53	9	5	20	31	214	357	6	0	3126
(%)	67.9	5.7	3.9	1.7	0.3	0.2	0.6	1.0	6.8	11.4	0.2	0.0	
Weekend													
	1086	64	34	16	3	3	4	5	59	95	4	0	1378
(%)	78.8	4.6	2.5	1.2	0.2	0.2	0.3	0.4	4.3	6.9	0.3	0.0	

* - Incomplete

Daily Classes

Monday, 18 May 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	1802	75	103	33	6	8	13	20	83	106	3	0	2252
(%)	80.0	3.3	4.6	1.5	0.3	0.4	0.6	0.9	3.7	4.7	0.1	0.0	
Tue*	1715	39	45	31	7	12	4	9	69	101	1	0	2033
(%)	84.4	1.9	2.2	1.5	0.3	0.6	0.2	0.4	3.4	5.0	0.0	0.0	
Wed*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Thu*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fri*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sat*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sun*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week													
	1802	75	103	33	6	8	13	20	83	106	3	0	2252
(%)	80.0	3.3	4.6	1.5	0.3	0.4	0.6	0.9	3.7	4.7	0.1	0.0	
Weekdays													
	1802	75	103	33	6	8	13	20	83	106	3	0	2252
(%)	80.0	3.3	4.6	1.5	0.3	0.4	0.6	0.9	3.7	4.7	0.1	0.0	

Weekend No complete days.

* - Incomplete

MetroCount Traffic Executive
Daily Classes

DailyClass-93 -- English (ENA)

Datasets:

Site:	**[Tomingley West Road] D - 130m West of Narromine Road Mathew Swindle & Andrew Yeo**
Direction:	8 - East bound A>B, West bound B>A., **Lane:** 0
Survey Duration:	13:00 Wednesday, 29 April 2009 => 15:00 Tuesday, 19 May 2009
File:	G:\Infrastructure\MetrocountV314\Tomingley\Tomingley West Road19May2009.EC0 (Plus)
Identifier:	W914KEWW MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**13:00 Wednesday, 29 April 2009 => 15:00 Tuesday, 19 May 2009**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	North, East, South, West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (AustRoads94)
Units:	Metric (meter, kilometer, m/s, km/h, kg, tonne)
In profile:	Vehicles = 706 / 711 (99.30%)

Daily Classes

Monday, 27 April 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Tue*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Wed*	27	0	8	2	0	0	0	0	0	0	0	0	37
(%)	73.0	0.0	21.6	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Thu	49	2	19	2	2	0	0	2	6	2	0	0	84
(%)	58.3	2.4	22.6	2.4	2.4	0.0	0.0	2.4	7.1	2.4	0.0	0.0	
Fri	86	2	21	0	0	1	1	0	1	0	0	0	112
(%)	76.8	1.8	18.8	0.0	0.0	0.9	0.9	0.0	0.9	0.0	0.0	0.0	
Sat	51	3	15	0	0	0	0	1	0	0	0	0	70
(%)	72.9	4.3	21.4	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	
Sun	48	1	3	0	0	0	0	0	1	1	0	0	54
(%)	88.9	1.9	5.6	0.0	0.0	0.0	0.0	0.0	1.9	1.9	0.0	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week													
	58	1	14	0	0	0	0	0	2	0	0	0	79
(%)	73.4	1.3	17.7	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	
Weekdays													
	67	2	20	0	0	0	0	1	3	0	0	0	97
(%)	69.1	2.1	20.6	0.0	0.0	0.0	0.0	1.0	3.1	0.0	0.0	0.0	
Weekend													
	49	2	8	0	0	0	0	0	0	0	0	0	62
(%)	79.0	3.2	12.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

* - Incomplete

Daily Classes

Monday, 4 May 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	55	5	18	1	0	0	0	0	2	1	0	0	82
(%)	67.1	6.1	22.0	1.2	0.0	0.0	0.0	0.0	2.4	1.2	0.0	0.0	
Tue	47	2	8	2	0	0	1	2	2	2	0	0	66
(%)	71.2	3.0	12.1	3.0	0.0	0.0	1.5	3.0	3.0	3.0	0.0	0.0	
Wed	58	2	11	2	0	0	0	2	15	4	1	0	95
(%)	61.1	2.1	11.6	2.1	0.0	0.0	0.0	2.1	15.8	4.2	1.1	0.0	
Thu	34	2	18	20	0	0	2	2	2	3	0	0	83
(%)	41.0	2.4	21.7	24.1	0.0	0.0	2.4	2.4	2.4	3.6	0.0	0.0	
Fri	6	0	3	4	0	0	0	0	0	0	0	0	13
(%)	46.2	0.0	23.1	30.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sat	0	0	1	0	0	0	0	0	0	0	0	0	1
(%)	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sun	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week	27	0	8	4	0	0	0	0	2	0	0	0	47
(%)	57.4	0.0	17.0	8.5	0.0	0.0	0.0	0.0	4.3	0.0	0.0	0.0	
Weekdays	39	2	11	5	0	0	0	0	3	1	0	0	67
(%)	58.2	3.0	16.4	7.5	0.0	0.0	0.0	0.0	4.5	1.5	0.0	0.0	
Weekend	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

* - Incomplete

Daily Classes

Monday, 11 May 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	0	0	0	2	0	0	0	0	0	0	0	0	2
(%)	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Tue	1	0	1	0	0	0	0	0	0	0	0	0	2
(%)	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Wed	0	0	0	1	0	0	0	0	0	0	0	0	1
(%)	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Thu	1	0	0	0	0	0	0	0	0	0	0	0	1
(%)	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fri	1	0	0	0	0	0	0	0	0	0	0	0	1
(%)	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sat	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sun	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week	0	0	0	0	0	0	0	0	0	0	0	0	1
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekdays	0	0	0	0	0	0	0	0	0	0	0	0	1
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekend	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

* - Incomplete

Daily Classes

Monday, 18 May 2009

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	1	0	0	0	0	0	0	0	0	0	0	0	1
(%)	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Tue*	0	0	0	1	0	0	0	0	0	0	0	0	1
(%)	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Wed*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Thu*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fri*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sat*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sun*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Average daily volume

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Entire week	1	0	0	0	0	0	0	0	0	0	0	0	1
(%)	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weekdays	1	0	0	0	0	0	0	0	0	0	0	0	1
(%)	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Weekend No complete days.

*** - Incomplete**

MetroCount Traffic Executive
Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-85 – English (ENA)

Datasets:

Site:	**[Narromine Road] A - 150m South of Tomingley West Road M.Swindle & A. Yeo.**
Direction:	5 - South bound A>B, North bound B>A., **Lane:** 0
Survey Duration:	13:00 Wednesday, 29 April 2009 => 16:10 Tuesday, 19 May 2009
File:	G:\Infrastructure\MetrocountV314\Tomingley\Narromine Road east of rworks 19May2009.EC0 (Plus)
Identifier:	P083J0KF MC56-L4 [MC55] (c)Microcom 19Sep03
Algorithm:	Factory default
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**13:00 Wednesday, 29 April 2009 => 16:10 Tuesday, 19 May 2009**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	North, East, South, West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (AustRoads94)
Units:	Metric (meter, kilometer, m/s, km/h, kg, tonne)
In profile:	Vehicles = 8321 / 8396 (99.11%)

Weekly Vehicle Counts (Virtual Week)

Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages 1 - 5	Averages 1 - 7
0000-0100	2.0	1.7	1.5	2.3	1.7	2.0	2.7	1.9	2.0
0100-0200	0.3	0.3	1.0	1.0	1.0	1.0	2.3	0.7	1.0
0200-0300	1.3	1.3	1.0	1.3	2.0	0.3	1.7	1.4	1.3
0300-0400	1.0	1.0	2.5	2.0	0.3	0.3	0.7	1.3	1.1
0400-0500	2.3	2.3	3.5	2.7	2.0	1.3	3.3	2.5	2.5
0500-0600	5.3	5.3	4.0	5.0	4.3	2.3	1.3	4.9	4.0
0600-0700	14.7	13.0	13.0	12.7	7.7	7.7	2.3	12.1	10.0
0700-0800	34.7	30.3	30.5	30.7	30.3	18.3	13.7	31.4	26.8
0800-0900	**40.3<**	26.7	33.5	**35.7<**	29.0	28.0	17.3	**33.0<**	29.9
0900-1000	26.3	31.0	35.5	30.3	29.0	**31.0<**	28.7	30.1	30.0
1000-1100	29.3	**33.7<**	**36.5<**	31.7	**32.0<**	30.3	28.7	32.4	**31.5<**
1100-1200	32.0	30.0	25.0	24.0	26.3	30.7	**29.7<**	27.6	28.4
1200-1300	29.0	26.3	25.5	27.3	30.3	27.3	24.7	27.9	27.3
1300-1400	26.3	32.0	25.7	27.0	28.7	30.7	25.3	27.9	28.0
1400-1500	28.3	26.3	30.0	23.0	28.3	27.7	**40.0<**	27.2	29.1
1500-1600	31.7	28.3	30.0	27.0	32.7	38.3	33.7	29.9	31.7
1600-1700	30.0	27.7	**33.7<**	**39.3<**	**34.0<**	**42.7<**	35.3	**32.9<**	**34.7<**
1700-1800	**32.3<**	**33.5<**	32.7	28.3	31.7	29.0	38.3	31.6	32.2
1800-1900	18.0	20.5	16.0	20.7	30.0	18.0	21.3	21.1	20.6
1900-2000	10.0	11.5	9.7	10.7	15.7	18.3	16.0	11.5	13.2
2000-2100	9.3	7.0	7.3	8.3	11.0	12.3	11.0	8.7	9.6
2100-2200	5.7	8.0	8.0	7.3	11.3	6.7	6.7	8.1	7.7
2200-2300	5.3	4.5	4.0	5.7	4.7	4.0	5.3	4.9	4.8
2300-2400	2.7	2.0	3.0	3.0	3.3	2.7	2.7	2.9	2.8
Totals									
0700-1900	358.3	346.3	354.5	345.0	362.3	352.0	336.7	352.9	350.1
0600-2200	398.0	385.8	392.5	384.0	408.0	397.0	372.7	393.4	390.5
0600-0000	406.0	392.3	399.5	392.7	416.0	403.7	380.7	401.1	398.1
0000-0000	418.3	404.3	413.0	407.0	427.3	411.0	392.7	413.7	409.9
AM Peak	0800	1000	1000	0800	1000	0900	1100		
	40.3	33.7	36.5	35.7	32.0	31.0	29.7		
PM Peak	1700	1700	1600	1600	1600	1600	1400		
	32.3	33.5	33.7	39.3	34.0	42.7	40.0		

* - No data.

MetroCount Traffic Executive
Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-88 -- English (ENA)

Datasets:	
Site:	**[Narromine Road] 4660m North of Tomingley West Road M.Swindle & A. Yeo.**
Direction:	5 - South bound A>B, North bound B>A., **Lane:** 0
Survey Duration:	13:00 Wednesday, 29 April 2009 => 14:41 Tuesday, 19 May 2009
File:	G:\Infrastructure\MetrocountV314\Tomingley\Narromine Road west of rdworks 19May2009.EC0 (Plus)
Identifier:	AE48CJQG MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default
Data type:	Axle sensors - Paired (Class/Speed/Count)
Profile:	
Filter time:	**13:00 Wednesday, 29 April 2009 => 14:41 Tuesday, 19 May 2009**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	North, East, South, West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (AustRoads94)
Units:	Metric (meter, kilometer, m/s, km/h, kg, tonne)
In profile:	Vehicles = 7872 / 7915 (99.46%)

Weekly Vehicle Counts (Virtual Week)

Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages 1 - 5	Averages 1 - 7
0000-0100	3.3	1.7	0.5	2.3	1.3	2.0	3.0	1.9	2.1
0100-0200	0.7	0.3	1.0	0.7	0.7	1.0	1.3	0.6	0.8
0200-0300	1.0	1.3	0.5	1.3	1.3	0.3	2.3	1.1	1.2
0300-0400	1.0	1.0	2.0	2.0	0.3	0.0	1.0	1.2	1.0
0400-0500	2.7	2.3	4.0	3.7	2.0	1.7	2.3	2.9	2.6
0500-0600	4.7	4.3	4.5	4.3	4.3	2.3	1.7	4.4	3.7
0600-0700	14.3	10.7	11.5	10.7	8.0	9.3	3.0	11.0	9.6
0700-0800	26.7	21.3	28.5	25.0	29.7	13.7	12.7	26.1	22.2
0800-0900	**42.7<**	32.0	33.5	31.3	28.0	31.0	15.0	**33.5<**	30.4
0900-1000	24.0	33.7	**44.0<**	**33.0<**	26.0	**34.0<**	25.7	31.3	30.9
1000-1100	25.7	34.3	37.5	30.7	31.0	29.3	24.0	31.4	30.0
1100-1200	31.3	**36.7<**	30.5	29.7	**31.7<**	32.7	**26.3<**	32.1	**31.3<**
1200-1300	30.0	26.3	**35.0<**	32.0	28.3	30.0	22.7	**30.0<**	28.9
1300-1400	24.3	32.0	29.3	31.0	31.3	27.7	21.7	29.6	28.2
1400-1500	27.3	24.7	32.7	27.0	24.7	22.3	**40.0<**	27.3	28.4
1500-1600	**32.3<**	21.0	34.3	24.3	**32.3<**	34.7	28.3	29.4	30.1
1600-1700	20.7	**33.5<**	28.3	**34.0<**	29.7	**38.3<**	32.3	28.9	**30.9<**
1700-1800	26.3	26.5	28.0	25.7	23.3	23.3	37.3	25.9	27.3
1800-1900	13.7	21.0	15.3	19.0	25.7	17.0	17.7	18.8	18.4
1900-2000	8.0	9.0	7.7	10.0	10.7	16.0	15.3	9.1	11.1
2000-2100	7.3	6.0	5.7	6.7	9.7	12.0	9.3	7.1	8.2
2100-2200	5.7	8.0	6.3	7.3	7.3	6.0	5.7	6.9	6.5
2200-2300	6.7	3.0	4.0	5.3	3.3	6.3	5.0	4.6	4.9
2300-2400	2.7	3.5	1.0	2.3	1.7	2.3	4.0	2.1	2.5
Totals									
0700-1900	325.0	343.0	377.0	342.7	341.7	334.0	303.7	344.3	336.7
0600-2200	360.3	376.7	408.2	377.3	377.3	377.3	337.0	378.4	372.0
0600-0000	369.7	383.2	413.2	385.0	382.3	386.0	346.0	385.1	379.4
0000-0000	383.0	394.2	425.7	399.3	392.3	393.3	357.7	397.3	390.8
AM Peak	0800	1100	0900	0900	1100	0900	1100		
	42.7	36.7	44.0	33.0	31.7	34.0	26.3		
PM Peak	1500	1600	1200	1600	1500	1600	1400		
	32.3	33.5	35.0	34.0	32.3	38.3	40.0		

* - No data.

MetroCount Traffic Executive
Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-90 -- English (ENA)

Datasets:

Site:	**[Newell Highway] B - Tomingley 100m South of Shell Service Station M. Swindle & A. Yeo.**
Direction:	5 - South bound A>B, North bound B>A., **Lane:** 0
Survey Duration:	12:00 Wednesday, 29 April 2009 => 14:05 Tuesday, 19 May 2009
File:	G:\Infrastructure\MetrocountV314\Tomingley\Newell Highway19May2009.EC0 (Plus)
Identifier:	R275RRPV MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**12:00 Wednesday, 29 April 2009 => 14:05 Tuesday, 19 May 2009**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	North, East, South, West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (AustRoads94)
Units:	Metric (meter, kilometer, m/s, km/h, kg, tonne)
In profile:	Vehicles = 53674 / 54770 (98.00%)

Weekly Vehicle Counts (Virtual Week)

Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages 1 - 5	Averages 1 - 7
0000-0100	20.0	51.3	43.0	42.7	24.7	31.3	44.3	35.9	36.5
0100-0200	19.7	30.0	38.0	25.3	20.3	28.0	24.3	25.9	25.9
0200-0300	11.0	37.7	26.5	28.7	21.0	14.7	19.0	24.9	22.4
0300-0400	13.3	36.3	32.5	27.0	19.0	25.7	19.7	25.1	24.4
0400-0500	15.0	43.0	27.0	34.0	24.3	22.7	15.7	28.8	25.9
0500-0600	30.0	60.7	57.0	49.7	54.3	22.3	18.7	49.9	41.0
0600-0700	68.3	99.3	98.5	95.3	90.7	43.3	52.0	89.9	77.2
0700-0800	108.0	150.3	152.5	145.7	130.0	75.0	90.0	136.2	120.1
0800-0900	**187.3<**	182.0	211.0	202.3	182.7	112.3	120.3	191.8	169.2
0900-1000	151.3	**213.0<**	**277.5<**	235.0	189.0	**142.0<**	153.0	**208.6<**	**190.3<**
1000-1100	155.0	204.0	221.5	**241.0<**	**190.3<**	136.3	166.3	201.0	186.1
1100-1200	151.7	201.0	242.0	211.0	188.3	134.0	**186.0<**	195.7	185.0
1200-1300	159.0	210.0	226.7	**227.3<**	186.3	130.7	156.0	201.9	185.1
1300-1400	158.7	**286.3<**	196.0	220.7	171.7	124.7	156.7	206.7	187.8
1400-1500	**175.0<**	156.7	**235.7<**	210.7	192.0	133.7	169.3	194.0	181.9
1500-1600	167.3	276.5	221.0	210.3	200.0	130.3	163.7	**210.6<**	**191.6<**
1600-1700	158.0	225.0	198.0	207.3	**213.0<**	**140.3<**	**199.0<**	198.5	189.8
1700-1800	146.0	197.5	177.0	183.0	180.7	116.7	144.7	175.4	161.9
1800-1900	118.3	117.5	128.3	132.0	144.0	85.3	100.3	128.8	118.0
1900-2000	91.3	85.0	79.7	86.3	95.0	70.0	74.0	87.6	83.0
2000-2100	84.0	91.0	71.3	76.7	71.3	77.7	63.0	78.0	75.7
2100-2200	97.3	74.5	65.0	62.7	68.0	71.3	61.0	73.4	71.3
2200-2300	69.7	69.0	63.0	56.3	55.7	61.7	35.3	62.3	58.1
2300-2400	55.7	74.5	47.7	38.7	46.0	51.7	29.0	50.9	47.8
Totals									
0700-1900	1835.7	2419.8	2487.2	2426.3	2168.0	1461.3	1805.3	2249.1	2066.8
0600-2200	2176.7	2769.7	2801.7	2747.3	2493.0	1723.7	2055.3	2578.0	2373.9
0600-0000	2302.0	2913.2	2912.3	2842.3	2594.7	1837.0	2119.7	2691.2	2479.8
0000-0000	2411.0	3172.2	3136.3	3049.7	2758.3	1981.7	2261.3	2881.6	2656.0
AM Peak	0800	0900	0900	1000	1000	0900	1100		
	187.3	213.0	277.5	241.0	190.3	142.0	186.0		
PM Peak	1400	1300	1400	1200	1600	1600	1600		
	175.0	286.3	235.7	227.3	213.0	140.3	199.0		

* - No data.

MetroCount Traffic Executive
Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-92 -- English (ENA)

Datasets:

Site:	**[Tomingley West Road] D - 130m West of Narromine Road Mathew Swindle & Andrew Yeo**
Direction:	8 - East bound A>B, West bound B>A., **Lane**: 0
Survey Duration:	13:00 Wednesday, 29 April 2009 => 15:00 Tuesday, 19 May 2009
File:	G:\Infrastructure\MetrocountV314\Tomingley\Tomingley West Road19May2009.EC0 (Plus)
Identifier:	W914KEWW MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**13:00 Wednesday, 29 April 2009 => 15:00 Tuesday, 19 May 2009**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	North, East, South, West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (AustRoads94)
Units:	Metric (meter, kilometer, m/s, km/h, kg, tonne)
In profile:	Vehicles = 706 / 711 (99.30%)

Weekly Vehicle Counts (Virtual Week)

Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages 1 - 5	Averages 1 - 7
0000-0100	0.0	0.0	0.5	0.3	0.0	0.0	0.0	0.1	0.1
0100-0200	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.1
0200-0300	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.1
0300-0400	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0400-0500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0500-0600	0.0	0.3	0.5	0.0	0.0	0.0	0.0	0.1	0.1
0600-0700	1.0	0.7	0.0	1.7	0.3	1.7	0.3	0.8	0.8
0700-0800	3.0	**3.0<**	3.0	5.3	3.7	1.0	**1.7<**	**3.6<**	**3.0<**
0800-0900	1.7	1.7	**4.0<**	**7.0<**	**3.7<**	**1.7<**	1.0	3.6	2.9
0900-1000	2.0	2.7	3.0	3.7	3.3	0.3	1.0	2.9	2.3
1000-1100	**3.0<**	1.0	2.0	3.0	2.0	1.0	1.3	2.2	1.9
1100-1200	1.0	2.0	3.5	3.3	3.3	1.0	1.0	2.6	2.1
1200-1300	2.0	2.3	2.0	6.0	3.7	0.7	2.0	3.3	2.7
1300-1400	1.7	0.3	2.0	4.7	2.0	2.7	1.0	2.1	2.0
1400-1500	0.7	1.3	3.3	3.3	1.3	1.0	0.3	2.0	1.6
1500-1600	1.0	1.0	4.3	4.3	3.3	3.3	**3.3<**	2.8	3.0
1600-1700	3.3	**3.5<**	**8.3<**	**6.3<**	**5.3<**	**4.7<**	1.3	**5.5<**	**4.8<**
1700-1800	**4.3<**	2.0	6.3	4.7	4.3	1.7	1.0	4.5	3.5
1800-1900	1.7	3.0	2.3	1.3	2.0	0.7	1.0	2.0	1.6
1900-2000	0.7	0.0	1.3	0.7	1.7	1.3	0.0	0.9	0.8
2000-2100	0.7	0.5	2.0	0.0	0.0	0.0	0.7	0.6	0.6
2100-2200	0.0	0.0	0.7	0.0	0.7	0.7	0.0	0.3	0.3
2200-2300	0.7	0.5	0.0	0.0	0.3	0.3	1.0	0.3	0.4
2300-2400	0.0	0.5	1.3	0.0	0.7	0.0	0.0	0.5	0.3
Totals									
0700-1900	25.3	23.8	44.2	53.0	38.0	19.7	16.0	37.1	31.4
0600-2200	27.7	25.0	48.2	55.3	40.7	23.3	17.0	39.8	33.9
0600-0000	28.3	26.0	49.5	55.3	41.7	23.7	18.0	40.6	34.7
0000-0000	28.3	26.3	50.5	56.0	42.0	23.7	18.0	41.0	35.0
AM Peak	1000	0700	0800	0800	0800	0800	0700		
	3.0	3.0	4.0	7.0	3.7	1.7	1.7		
PM Peak	1700	1600	1600	1600	1600	1600	1500		
	4.3	3.5	8.3	6.3	5.3	4.7	3.3		

* - No data.

Appendix 3

Traffic Projection Spreadsheet

Note: A colour version of Appendix 3 is available on the Project CD

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TRAFFIC PROJECTION

01-Jun-09

LOCATION: Narromine Road MR89

STATION: 93.134 Hwy Tomingley - N of SH17, Newell
93.876 Tomingley At Yellow Tank, 16 km N of

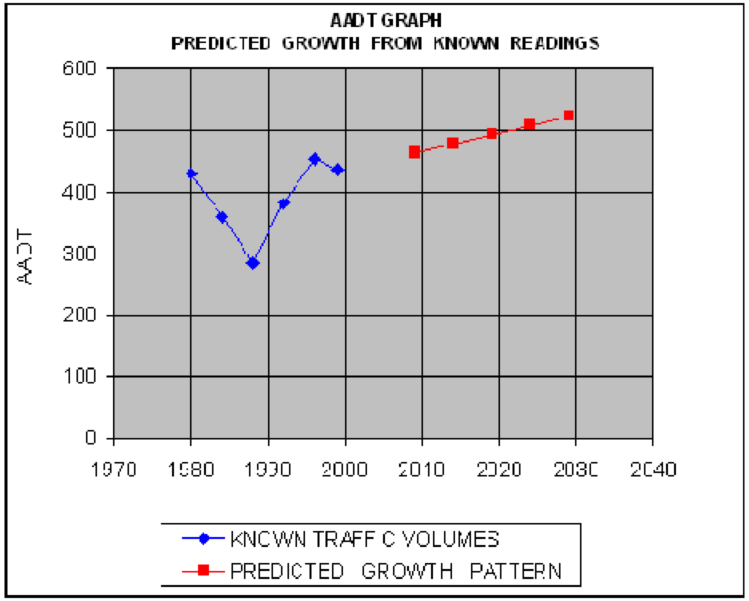
YEAR	AADT
1980	430
1984	360
1988	286
1992	382
1996	464
1999	437

STRAIGHT LINE REGRESSION EQUATION:

3 X + 434

Where X is number of years after 1999

ANNUAL INCREASE: 0.70%



TRAFFIC PROJECTIONS			% HEAVY	AXLES PER
YEAR	AADT	VEHICLES	VEHICLES	HEAVY
2009	464	410	5	7.5
2014	479	420	6	7.6
2019	494	430	6	7.6
2024	509	460	6	7.6
2029	524	460	6	7.6

Axles per Heavy
Road Train 11 + B-Double 9 = average 8.5
B-Double 9 + Semi 6 = average 7.5
Semi 6 + Single unit 3 = average 4.5

TRAFFIC PROJECTION

01-Jun-09

LOCATION: Newell Highway SH 17

STATION: 93.87 A: Parkes Shire Boundary
Tomingley S of MR89, 93.066 Narromine Road
Tomingley - E of MR89, 93.054 Narromine Road

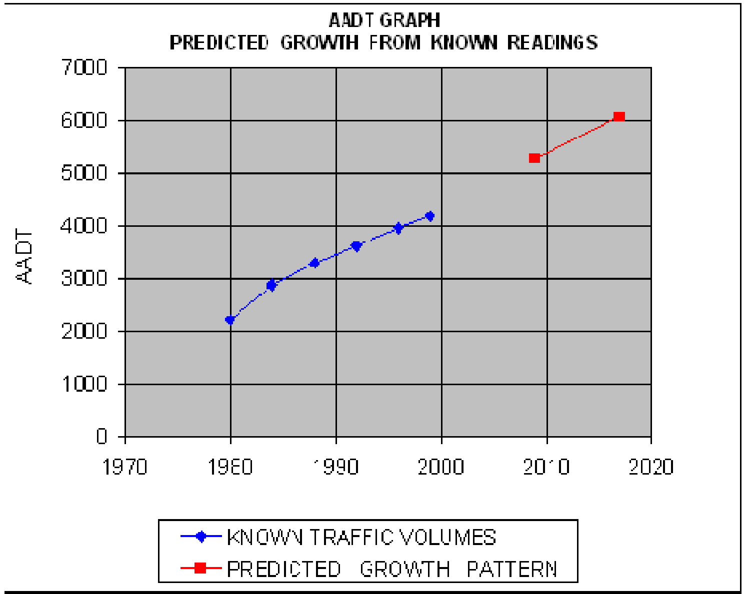
YEAR	AADT
1980	2220
1984	2890
1988	3290
1992	3619
1996	3904
1999	4201

STRAIGHT LINE REGRESSION EQUATION:

100 X + 4281

Where X is number of years after 1999

ANNUAL INCREASE: 2.30%



TRAFFIC PROJECTIONS			% HEAVY	AXLES PER
YEAR	AADT	VEHICLES	VEHICLES	HEAVY
2009	5281	2890	30	7.5
2017	6081	3330	30	7.5

Axles per Heavy
Road Train 11 + B-Double 9 = average 8.5
B-Double 9 + Semi 3 = average 7.5
Semi 6 + Single unit 3 = average 4.5

Appendix 4

SIDRA Movement Summary

Note: A copy of Appendix 4 is only available on the Project CD

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SIDRA INTERSECTION

Movement Summary

SH17 and MR89

2017 Base+Sen PM - Parkes

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	21	28.6	0.014	9.3	LOS A	0	0.00	0.67	49.0
2	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
Approach		**211**	**32.7**	**0.118**	**0.9**	**LOS A**		**0.00**	**0.07**	**58.7**
SH17 - North										
8	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
9	R	11	30.0	0.012	11.3	LOS A	1	0.39	0.66	46.9
Approach		**200**	**33.0**	**0.118**	**0.6**	**LOS A**	**1**	**0.02**	**0.03**	**59.2**
MR89 - West										
10	L	11	30.0	0.500	26.7	LOS B	30	0.75	1.01	35.2
12	R	127	29.9	0.494	26.9	LOS B	30	0.75	1.05	35.0
Approach		**137**	**29.9**	**0.495**	**26.9**	**LOS B**	**30**	**0.75**	**1.05**	**35.1**
All Vehicles		**548**	**32.1**	**0.500**	**7.3**	**Not Applicable**	**30**	**0.19**	**0.30**	**50.4**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

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SIDRA INTERSECTION

Movement Summary

SH17 and MR89

2017 Base+Sen AM - Parkes

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	127	29.9	0.083	9.3	LOS A	0	0.00	0.67	49.0
2	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
Approach		**317**	**31.9**	**0.118**	**3.7**	**LOS A**		**0.00**	**0.27**	**55.0**
SH17 - North										
8	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
9	R	11	30.0	0.014	12.4	LOS A	1	0.47	0.70	45.8
Approach		**200**	**33.0**	**0.118**	**0.6**	**LOS A**	**1**	**0.02**	**0.03**	**59.1**
MR89 - West										
10	L	11	30.0	0.105	19.4	LOS B	4	0.62	0.76	39.9
12	R	21	28.6	0.106	19.6	LOS B	4	0.62	0.88	39.8
Approach		**31**	**29.0**	**0.106**	**19.5**	**LOS B**	**4**	**0.62**	**0.84**	**39.8**
All Vehicles		**548**	**32.1**	**0.118**	**3.5**	**Not Applicable**	**4**	**0.04**	**0.22**	**55.2**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

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SIDRA INTERSECTION

Movement Summary

SH17 and MR89

2017 Base+Sen PM - Dubbo

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	21	28.6	0.014	9.3	LOS A	0	0.00	0.67	49.0
2	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
Approach		**211**	**32.7**	**0.118**	**0.9**	**LOS A**		**0.00**	**0.07**	**58.7**
SH17 - North										
8	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
9	R	11	30.0	0.012	11.3	LOS A	1	0.39	0.66	46.9
Approach		**200**	**33.0**	**0.118**	**0.6**	**LOS A**	**1**	**0.02**	**0.03**	**59.2**
MR89 - West										
10	L	117	29.9	0.248	13.3	LOS A	11	0.49	0.74	44.9
12	R	21	28.6	0.247	13.5	LOS A	11	0.49	0.84	44.7
Approach		**138**	**29.7**	**0.248**	**13.4**	**LOS A**	**11**	**0.49**	**0.76**	**44.8**
All Vehicles		**549**	**32.1**	**0.248**	**3.9**	**Not Applicable**	**11**	**0.13**	**0.23**	**54.6**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

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SIDRA INTERSECTION

Movement Summary

SH17 and MR89

2017 Base+Sen AM - Dubbo

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	21	28.6	0.014	9.3	LOS A	0	0.00	0.67	49.0
2	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
Approach		**211**	**32.7**	**0.118**	**0.9**	**LOS A**		**0.00**	**0.07**	**58.7**
SH17 - North										
8	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
9	R	117	29.9	0.141	11.6	LOS A	7	0.42	0.72	46.6
Approach		**307**	**31.9**	**0.141**	**4.4**	**LOS A**	**7**	**0.16**	**0.27**	**54.1**
MR89 - West										
10	L	11	30.0	0.119	21.2	LOS B	5	0.63	0.73	38.6
12	R	21	28.6	0.119	21.4	LOS B	5	0.63	0.88	38.5
Approach		**31**	**29.0**	**0.119**	**21.3**	**LOS B**	**5**	**0.63**	**0.83**	**38.5**
All Vehicles		**549**	**32.1**	**0.141**	**4.0**	**Not Applicable**	**7**	**0.13**	**0.23**	**54.5**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

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SIDRA INTERSECTION

Movement Summary

SH17 and MR89

2017 Base+Dev PM

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	21	28.6	0.014	9.3	LOS A	0	0.00	0.67	49.0
2	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
Approach		**211**	**32.7**	**0.118**	**0.9**	**LOS A**		**0.00**	**0.07**	**58.7**
SH17 - North										
8	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
9	R	11	30.0	0.012	11.3	LOS A	1	0.39	0.66	46.9
Approach		**200**	**33.0**	**0.118**	**0.6**	**LOS A**	**1**	**0.02**	**0.03**	**59.2**
MR89 - West										
10	L	49	30.0	0.286	18.0	LOS B	14	0.59	0.80	40.9
12	R	56	30.4	0.286	18.1	LOS B	14	0.59	0.90	40.8
Approach		**106**	**30.2**	**0.286**	**18.1**	**LOS B**	**14**	**0.59**	**0.85**	**40.9**
All Vehicles		**517**	**32.3**	**0.286**	**4.3**	**Not Applicable**	**14**	**0.13**	**0.21**	**54.1**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

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SIDRA INTERSECTION

Movement Summary

SH17 and MR89

2017 Base+Dev AM

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	56	30.4	0.037	9.3	LOS A	0	0.00	0.67	49.0
2	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
Approach		**246**	**32.5**	**0.118**	**2.1**	**LOS A**		**0.00**	**0.15**	**57.1**
SH17 - North										
8	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
9	R	49	30.0	0.064	11.8	LOS A	3	0.43	0.71	46.4
Approach		**240**	**32.5**	**0.118**	**2.5**	**LOS A**	**3**	**0.09**	**0.15**	**56.6**
MR89 - West										
10	L	11	30.0	0.106	19.4	LOS B	4	0.60	0.73	39.9
12	R	21	28.6	0.106	19.6	LOS B	4	0.60	0.88	39.8
Approach		**31**	**29.0**	**0.106**	**19.5**	**LOS B**	**4**	**0.60**	**0.83**	**39.8**
All Vehicles		**517**	**32.3**	**0.118**	**3.3**	**Not Applicable**	**4**	**0.08**	**0.19**	**55.4**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

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SIDRA INTERSECTION

Movement Summary

SH17 and MR89

2017 Base

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	21	28.6	0.014	9.3	LOS A	0	0.00	0.67	49.0
2	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
Approach		**211**	**32.7**	**0.118**	**0.9**	**LOS A**		**0.00**	**0.07**	**58.7**
SH17 - North										
8	T	189	33.2	0.118	0.0	LOS A	0	0.00	0.00	60.0
9	R	11	30.0	0.012	11.3	LOS A	1	0.39	0.66	46.9
Approach		**200**	**33.0**	**0.118**	**0.6**	**LOS A**	**1**	**0.02**	**0.03**	**59.2**
MR89 - West										
10	L	11	30.0	0.093	17.5	LOS B	4	0.57	0.71	41.4
12	R	21	28.6	0.092	17.6	LOS B	4	0.57	0.86	41.2
Approach		**31**	**29.0**	**0.092**	**17.6**	**LOS B**	**4**	**0.57**	**0.81**	**41.3**
All Vehicles		**442**	**32.6**	**0.118**	**1.9**	**Not Applicable**	**4**	**0.05**	**0.10**	**57.2**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

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Site: 2017 Base
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SIDRA INTERSECTION

Movement Summary

SH17 and MR89

2009 Base+Sen PM - Parkes

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	16	31.2	0.011	9.3	LOS A	0	0.00	0.67	49.0
2	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
Approach		**174**	**32.8**	**0.098**	**0.9**	**LOS A**		**0.00**	**0.06**	**58.8**
SH17 - North										
8	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
9	R	11	30.0	0.011	11.0	LOS A	0	0.35	0.65	47.2
Approach		**168**	**32.7**	**0.098**	**0.7**	**LOS A**	**0**	**0.02**	**0.04**	**59.1**
MR89 - West										
10	L	11	30.0	0.400	21.0	LOS B	23	0.66	0.87	38.7
12	R	121	29.8	0.394	21.2	LOS B	23	0.66	0.97	38.6
Approach		**131**	**29.8**	**0.394**	**21.2**	**LOS B**	**23**	**0.66**	**0.96**	**38.6**
All Vehicles		**473**	**31.9**	**0.400**	**6.4**	**Not Applicable**	**23**	**0.19**	**0.30**	**51.5**

Symbols which may appear in this table:

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Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

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SIDRA INTERSECTION

Movement Summary

SH17 and MR89

2009 Base+Sen AM - Parkes

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	121	29.8	0.079	9.3	LOS A	0	0.00	0.67	49.0
2	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
Approach		**279**	**31.5**	**0.098**	**4.0**	**LOS A**		**0.00**	**0.29**	**54.7**
SH17 - North										
8	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
9	R	11	30.0	0.013	12.0	LOS A	1	0.44	0.68	46.2
Approach		**168**	**32.7**	**0.098**	**0.7**	**LOS A**	**1**	**0.03**	**0.04**	**59.0**
MR89 - West										
10	L	11	30.0	0.074	16.8	LOS B	3	0.56	0.71	41.9
12	R	16	31.2	0.074	17.0	LOS B	3	0.56	0.86	41.7
Approach		**26**	**30.8**	**0.074**	**16.9**	**LOS B**	**3**	**0.56**	**0.80**	**41.8**
All Vehicles		**473**	**31.9**	**0.098**	**3.6**	**Not Applicable**	**3**	**0.04**	**0.23**	**55.2**

Symbols which may appear in this table:

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- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

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Movement Summary

SH17 and MR89

2009 Base+Sen PM - Dubbo

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	16	31.2	0.011	9.3	LOS A	0	0.00	0.67	49.0
2	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
Approach		**174**	**32.8**	**0.098**	**0.9**	**LOS A**		**0.00**	**0.06**	**58.8**
SH17 - North										
8	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
9	R	11	30.0	0.011	11.0	LOS A	0	0.35	0.65	47.2
Approach		**168**	**32.7**	**0.098**	**0.7**	**LOS A**	**0**	**0.02**	**0.04**	**59.1**
MR89 - West										
10	L	116	30.2	0.211	12.2	LOS A	10	0.43	0.70	45.9
12	R	16	31.2	0.211	12.4	LOS A	10	0.43	0.82	45.8
Approach		**132**	**30.3**	**0.211**	**12.2**	**LOS A**	**10**	**0.43**	**0.72**	**45.9**
All Vehicles		**474**	**32.1**	**0.211**	**4.0**	**Not Applicable**	**10**	**0.13**	**0.24**	**54.6**

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Following Queue
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Movement Summary

SH17 and MR89

2009 Base+Sen AM - Dubbo

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	16	31.2	0.011	9.3	LOS A	0	0.00	0.67	49.0
2	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
Approach		**174**	**32.8**	**0.098**	**0.9**	**LOS A**		**0.00**	**0.06**	**58.8**
SH17 - North										
8	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
9	R	116	30.2	0.132	11.2	LOS A	6	0.38	0.70	47.0
Approach		**274**	**31.8**	**0.132**	**4.7**	**LOS A**	**6**	**0.16**	**0.30**	**53.7**
MR89 - West										
10	L	11	30.0	0.083	18.2	LOS B	3	0.55	0.68	40.8
12	R	16	31.2	0.082	18.3	LOS B	3	0.55	0.86	40.7
Approach		**26**	**30.8**	**0.082**	**18.3**	**LOS B**	**3**	**0.55**	**0.79**	**40.7**
All Vehicles		**474**	**32.1**	**0.132**	**4.1**	**Not Applicable**	**6**	**0.12**	**0.24**	**54.5**

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Following Queue
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Movement Summary

SH17 and MR89

2009 Base+Dev PM

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	16	31.2	0.011	9.3	LOS A	0	0.00	0.67	49.0
2	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
Approach		**174**	**32.8**	**0.098**	**0.9**	**LOS A**		**0.00**	**0.06**	**58.8**
SH17 - North										
8	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
9	R	11	30.0	0.011	11.0	LOS A	0	0.35	0.65	47.2
Approach		**168**	**32.7**	**0.098**	**0.7**	**LOS A**	**0**	**0.02**	**0.04**	**59.1**
MR89 - West										
10	L	49	30.0	0.216	14.9	LOS B	10	0.51	0.71	43.5
12	R	47	29.8	0.217	15.1	LOS B	10	0.51	0.85	43.3
Approach		**97**	**29.9**	**0.216**	**15.0**	**LOS B**	**10**	**0.51**	**0.78**	**43.4**
All Vehicles		**439**	**32.1**	**0.217**	**3.9**	**Not Applicable**	**10**	**0.12**	**0.21**	**54.6**

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Movement Summary

SH17 and MR89

2009 Base+Dev AM

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	47	29.8	0.031	9.3	LOS A	0	0.00	0.67	49.0
2	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
Approach		**205**	**32.2**	**0.098**	**2.1**	**LOS A**		**0.00**	**0.15**	**57.1**
SH17 - North										
8	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
9	R	47	29.8	0.056	11.3	LOS A	2	0.39	0.69	46.8
Approach		**205**	**32.2**	**0.098**	**2.6**	**LOS A**	**2**	**0.09**	**0.16**	**56.4**
MR89 - West										
10	L	11	30.0	0.073	16.6	LOS B	3	0.54	0.69	42.0
12	R	16	31.2	0.073	16.8	LOS B	3	0.54	0.85	41.9
Approach		**26**	**30.8**	**0.073**	**16.7**	**LOS B**	**3**	**0.54**	**0.79**	**41.9**
All Vehicles		**436**	**32.1**	**0.098**	**3.2**	**Not Applicable**	**3**	**0.07**	**0.19**	**55.6**

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Following Queue
- Density for continuous movement

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Movement Summary

SH17 and MR89

2009 Base

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
SH17 - South										
1	L	16	31.2	0.011	9.3	LOS A	0	0.00	0.67	49.0
2	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
Approach		**174**	**32.8**	**0.098**	**0.9**	**LOS A**		**0.00**	**0.06**	**58.8**
SH17 - North										
8	T	158	32.9	0.098	0.0	LOS A	0	0.00	0.00	60.0
9	R	11	30.0	0.011	11.0	LOS A	0	0.35	0.65	47.2
Approach		**168**	**32.7**	**0.098**	**0.7**	**LOS A**	**0**	**0.02**	**0.04**	**59.1**
MR89 - West										
10	L	11	30.0	0.065	15.2	LOS B	3	0.50	0.67	43.2
12	R	16	31.2	0.065	15.4	LOS B	3	0.50	0.81	43.0
Approach		**26**	**30.8**	**0.065**	**15.4**	**LOS B**	**3**	**0.50**	**0.76**	**43.1**
All Vehicles		**368**	**32.6**	**0.098**	**1.8**	**Not Applicable**	**3**	**0.05**	**0.10**	**57.4**

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- Density for continuous movement

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SIDRA INTERSECTION

Movement Summary

MR89 and Tomingley West Road

2017 Base+Sen PM Tomingley

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	4	40.0	0.200	11.2	LOS A	11	0.30	0.59	47.3
3	R	109	40.0	0.200	11.7	LOS A	11	0.30	0.68	46.9
Approach		**115**	**40.0**	**0.199**	**11.6**	**LOS A**	**11**	**0.30**	**0.67**	**47.0**
MR89 - East										
4	L	4	0.0	0.021	8.2	LOS A	0	0.00	0.67	49.0
5	T	32	29.0	0.021	0.0	LOS A	0	0.00	0.00	60.0
Approach		**35**	**25.7**	**0.021**	**0.9**	**LOS A**		**0.00**	**0.08**	**58.5**
MR89 - West										
11	T	32	29.0	0.022	0.1	LOS A	1	0.12	0.00	58.3
12	R	4	0.0	0.022	8.6	LOS A	1	0.12	0.65	48.1
Approach		**35**	**25.7**	**0.022**	**1.1**	**LOS A**	**1**	**0.12**	**0.07**	**56.9**
All Vehicles		**185**	**34.6**	**0.200**	**7.6**	**Not Applicable**	**11**	**0.21**	**0.45**	**50.5**

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x = 1.00 for Short Lane with resulting Excess Flow
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- Based on density for continuous movements

Following Queue
- Density for continuous movement

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SIDRA INTERSECTION

Movement Summary

MR89 and Tomingley West Road

2017 Base+Sen AM Tomingley

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	4	40.0	0.016	11.1	LOS A	1	0.28	0.60	47.4
3	R	4	40.0	0.016	11.5	LOS A	1	0.28	0.67	47.1
Approach		**10**	**40.0**	**0.016**	**11.3**	**LOS A**	**1**	**0.28**	**0.64**	**47.2**
MR89 - East										
4	L	109	0.0	0.078	8.2	LOS A	0	0.00	0.67	49.0
5	T	32	29.0	0.078	0.0	LOS A	0	0.00	0.00	60.0
Approach		**140**	**6.4**	**0.078**	**6.4**	**LOS A**		**0.00**	**0.52**	**51.0**
MR89 - West										
11	T	32	29.0	0.022	0.5	LOS A	1	0.25	0.00	56.6
12	R	4	0.0	0.022	9.0	LOS A	1	0.25	0.64	47.6
Approach		**35**	**25.7**	**0.022**	**1.5**	**LOS A**	**1**	**0.25**	**0.07**	**55.4**
All Vehicles		**185**	**11.9**	**0.078**	**5.7**	**Not Applicable**	**1**	**0.06**	**0.44**	**51.6**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

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SIDRA INTERSECTION

Movement Summary

MR89 and Tomingley West Road

2017 Base+Sen PM Narromine

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	109	40.0	0.139	10.1	LOS A	7	0.16	0.63	48.3
3	R	4	40.0	0.139	10.5	LOS A	7	0.16	0.69	48.0
Approach		**115**	**40.0**	**0.139**	**10.1**	**LOS A**	**7**	**0.16**	**0.63**	**48.2**
MR89 - East										
4	L	4	0.0	0.021	8.2	LOS A	0	0.00	0.67	49.0
5	T	32	29.0	0.021	0.0	LOS A	0	0.00	0.00	60.0
Approach		**35**	**25.7**	**0.021**	**0.9**	**LOS A**		**0.00**	**0.08**	**58.5**
MR89 - West										
11	T	32	29.0	0.022	0.1	LOS A	1	0.12	0.00	58.3
12	R	4	0.0	0.022	8.6	LOS A	1	0.12	0.65	48.1
Approach		**35**	**25.7**	**0.022**	**1.1**	**LOS A**	**1**	**0.12**	**0.07**	**56.9**
All Vehicles		**185**	**34.6**	**0.139**	**6.7**	**Not Applicable**	**7**	**0.12**	**0.42**	**51.4**

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Following Queue
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Movement Summary

MR89 and Tomingley West Road

2017 Base+Sen AM Narromine

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	4	40.0	0.017	11.4	LOS A	1	0.19	0.60	47.1
3	R	4	40.0	0.017	11.8	LOS A	1	0.19	0.69	46.8
Approach		**10**	**40.0**	**0.017**	**11.6**	**LOS A**	**1**	**0.19**	**0.65**	**46.9**
MR89 - East										
4	L	4	0.0	0.021	8.2	LOS A	0	0.00	0.67	49.0
5	T	32	29.0	0.021	0.0	LOS A	0	0.00	0.00	60.0
Approach		**35**	**25.7**	**0.021**	**0.9**	**LOS A**		**0.00**	**0.08**	**58.5**
MR89 - West										
11	T	32	29.0	0.097	0.2	LOS A	4	0.13	0.00	58.3
12	R	109	0.0	0.098	8.6	LOS A	4	0.13	0.65	48.1
Approach		**140**	**6.4**	**0.098**	**6.7**	**LOS A**	**4**	**0.13**	**0.51**	**50.1**
All Vehicles		**185**	**11.9**	**0.098**	**5.9**	**Not Applicable**	**4**	**0.11**	**0.43**	**51.3**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

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Movement Summary

MR89 and Tomingley West Road

2017 Base+ Dev PM

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	39	41.0	0.179	10.8	LOS A	9	0.23	0.61	47.7
3	R	75	40.0	0.179	11.3	LOS A	9	0.23	0.68	47.3
Approach		**114**	**40.4**	**0.179**	**11.1**	**LOS A**	**9**	**0.23**	**0.66**	**47.5**
MR89 - East										
4	L	4	0.0	0.021	8.2	LOS A	0	0.00	0.67	49.0
5	T	32	29.0	0.021	0.0	LOS A	0	0.00	0.00	60.0
Approach		**35**	**25.7**	**0.021**	**0.9**	**LOS A**		**0.00**	**0.08**	**58.5**
MR89 - West										
11	T	32	29.0	0.022	0.1	LOS A	1	0.12	0.00	58.3
12	R	4	0.0	0.022	8.6	LOS A	1	0.12	0.65	48.1
Approach		**35**	**25.7**	**0.022**	**1.1**	**LOS A**	**1**	**0.12**	**0.07**	**56.9**
All Vehicles		**184**	**34.8**	**0.179**	**7.3**	**Not Applicable**	**9**	**0.17**	**0.44**	**50.9**

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- Density for continuous movement

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Movement Summary

MR89 and Tomingley West Road

2017 Base+Dev AM

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	4	40.0	0.016	11.2	LOS A	1	0.26	0.60	47.3
3	R	4	40.0	0.016	11.6	LOS A	1	0.26	0.68	47.0
Approach		**10**	**40.0**	**0.016**	**11.4**	**LOS A**	**1**	**0.26**	**0.64**	**47.1**
MR89 - East										
4	L	75	0.0	0.059	8.2	LOS A	0	0.00	0.67	49.0
5	T	32	29.0	0.059	0.0	LOS A	0	0.00	0.00	60.0
Approach		**106**	**8.5**	**0.059**	**5.8**	**LOS A**		**0.00**	**0.47**	**51.7**
MR89 - West										
11	T	32	29.0	0.049	0.4	LOS A	2	0.21	0.00	57.1
12	R	39	0.0	0.049	8.9	LOS A	2	0.21	0.64	47.8
Approach		**70**	**12.9**	**0.049**	**5.1**	**LOS A**	**2**	**0.21**	**0.36**	**51.5**
All Vehicles		**186**	**11.8**	**0.059**	**5.8**	**Not Applicable**	**2**	**0.09**	**0.44**	**51.4**

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Following LOS
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Following Queue
- Density for continuous movement

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Movement Summary

MR89 and Tomingley West Road

2017 Base

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	4	40.0	0.015	10.5	LOS A	1	0.18	0.61	48.1
3	R	4	40.0	0.015	10.9	LOS A	1	0.18	0.66	47.8
Approach		**10**	**40.0**	**0.015**	**10.7**	**LOS A**	**1**	**0.18**	**0.64**	**47.9**
MR89 - East										
4	L	4	0.0	0.021	8.2	LOS A	0	0.00	0.67	49.0
5	T	32	29.0	0.021	0.0	LOS A	0	0.00	0.00	60.0
Approach		**35**	**25.7**	**0.021**	**0.9**	**LOS A**		**0.00**	**0.08**	**58.5**
MR89 - West										
11	T	32	29.0	0.022	0.1	LOS A	1	0.12	0.00	58.3
12	R	4	0.0	0.022	8.6	LOS A	1	0.12	0.65	48.1
Approach		**35**	**25.7**	**0.022**	**1.1**	**LOS A**	**1**	**0.12**	**0.07**	**56.9**
All Vehicles		**80**	**27.5**	**0.022**	**2.2**	**Not Applicable**	**1**	**0.08**	**0.15**	**56.3**

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Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

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SIDRA INTERSECTION

Movement Summary

MR89 and Tomingley West Road

2009 Base+Sen PM Tomingley

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	3	33.3	0.188	11.0	LOS A	10	0.27	0.59	47.5
3	R	108	39.8	0.188	11.4	LOS A	10	0.27	0.67	47.2
Approach		**111**	**39.6**	**0.188**	**11.4**	**LOS A**	**10**	**0.27**	**0.67**	**47.2**
MR89 - East										
4	L	3	0.0	0.018	8.2	LOS A	0	0.00	0.67	49.0
5	T	26	30.8	0.018	0.0	LOS A	0	0.00	0.00	60.0
Approach		**29**	**27.6**	**0.018**	**0.8**	**LOS A**		**0.00**	**0.07**	**58.6**
MR89 - West										
11	T	26	30.8	0.018	0.1	LOS A	1	0.11	0.00	58.5
12	R	3	0.0	0.018	8.6	LOS A	1	0.11	0.65	48.2
Approach		**29**	**27.6**	**0.018**	**1.0**	**LOS A**	**1**	**0.11**	**0.07**	**57.2**
All Vehicles		**169**	**35.5**	**0.188**	**7.8**	**Not Applicable**	**10**	**0.20**	**0.46**	**50.4**

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Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

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SIDRA INTERSECTION

Movement Summary

MR89 and Tomingley West Road

2009 Base+Sen AM Tomingley

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	3	33.3	0.009	10.8	LOS A	0	0.25	0.60	47.7
3	R	3	33.3	0.009	11.2	LOS A	0	0.25	0.65	47.4
Approach		**6**	**33.3**	**0.009**	**11.0**	**LOS A**	**0**	**0.25**	**0.63**	**47.6**
MR89 - East										
4	L	108	0.0	0.074	8.2	LOS A	0	0.00	0.67	49.0
5	T	26	30.8	0.074	0.0	LOS A	0	0.00	0.00	60.0
Approach		**134**	**6.0**	**0.074**	**6.6**	**LOS A**		**0.00**	**0.54**	**50.8**
MR89 - West										
11	T	26	30.8	0.018	0.5	LOS A	1	0.24	0.00	56.7
12	R	3	0.0	0.018	8.9	LOS A	1	0.24	0.64	47.7
Approach		**29**	**27.6**	**0.018**	**1.4**	**LOS A**	**1**	**0.24**	**0.07**	**55.6**
All Vehicles		**169**	**10.7**	**0.074**	**5.9**	**Not Applicable**	**1**	**0.05**	**0.46**	**51.4**

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SIDRA INTERSECTION

Movement Summary

MR89 and Tomingley West Road

2009 Base+Sen PM Narromine

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	108	39.8	0.132	10.0	LOS A	6	0.14	0.63	48.3
3	R	3	33.3	0.130	10.4	LOS A	6	0.14	0.68	48.1
Approach		**111**	**39.6**	**0.132**	**10.0**	**LOS A**	**6**	**0.14**	**0.63**	**48.3**
MR89 - East										
4	L	3	0.0	0.018	8.2	LOS A	0	0.00	0.67	49.0
5	T	26	30.8	0.018	0.0	LOS A	0	0.00	0.00	60.0
Approach		**29**	**27.6**	**0.018**	**0.8**	**LOS A**		**0.00**	**0.07**	**58.6**
MR89 - West										
11	T	26	30.8	0.018	0.1	LOS A	1	0.11	0.00	58.5
12	R	3	0.0	0.018	8.6	LOS A	1	0.11	0.65	48.2
Approach		**29**	**27.6**	**0.018**	**1.0**	**LOS A**	**1**	**0.11**	**0.07**	**57.2**
All Vehicles		**169**	**35.5**	**0.132**	**6.9**	**Not Applicable**	**6**	**0.11**	**0.44**	**51.2**

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Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

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Movement Summary

MR89 and Tomingley West Road

2009 Base+Sen AM Narromine

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	3	33.3	0.009	11.1	LOS A	0	0.16	0.61	47.5
3	R	3	33.3	0.009	11.5	LOS A	0	0.16	0.69	47.1
Approach		**6**	**33.3**	**0.009**	**11.3**	**LOS A**	**0**	**0.16**	**0.65**	**47.3**
MR89 - East										
4	L	3	0.0	0.018	8.2	LOS A	0	0.00	0.67	49.0
5	T	26	30.8	0.018	0.0	LOS A	0	0.00	0.00	60.0
Approach		**29**	**27.6**	**0.018**	**0.8**	**LOS A**		**0.00**	**0.07**	**58.6**
MR89 - West										
11	T	26	30.8	0.094	0.1	LOS A	4	0.11	0.00	58.4
12	R	108	0.0	0.094	8.6	LOS A	4	0.11	0.65	48.2
Approach		**134**	**6.0**	**0.093**	**6.9**	**LOS A**	**4**	**0.11**	**0.53**	**49.9**
All Vehicles		**169**	**10.7**	**0.094**	**6.0**	**Not Applicable**	**4**	**0.10**	**0.45**	**51.1**

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Movement Summary

MR89 and Tomingley West Road

2009 Base+ Dev PM

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	38	39.5	0.170	10.6	LOS A	9	0.21	0.61	47.9
3	R	74	39.7	0.169	11.1	LOS A	9	0.21	0.68	47.6
Approach		**111**	**39.6**	**0.169**	**10.9**	**LOS A**	**9**	**0.21**	**0.65**	**47.7**
MR89 - East										
4	L	3	0.0	0.018	8.2	LOS A	0	0.00	0.67	49.0
5	T	26	30.8	0.018	0.0	LOS A	0	0.00	0.00	60.0
Approach		**29**	**27.6**	**0.018**	**0.8**	**LOS A**		**0.00**	**0.07**	**58.6**
MR89 - West										
11	T	26	30.8	0.018	0.1	LOS A	1	0.11	0.00	58.5
12	R	3	0.0	0.018	8.6	LOS A	1	0.11	0.65	48.2
Approach		**29**	**27.6**	**0.018**	**1.0**	**LOS A**	**1**	**0.11**	**0.07**	**57.2**
All Vehicles		**169**	**35.5**	**0.170**	**7.5**	**Not Applicable**	**9**	**0.16**	**0.45**	**50.8**

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Movement Summary

MR89 and Tomingley West Road

2009 Base+Dev AM

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	3	33.3	0.009	10.9	LOS A	0	0.24	0.60	47.6
3	R	3	33.3	0.009	11.3	LOS A	0	0.24	0.66	47.3
Approach		**6**	**33.3**	**0.009**	**11.1**	**LOS A**	**0**	**0.24**	**0.63**	**47.5**
MR89 - East										
4	L	74	0.0	0.056	8.2	LOS A	0	0.00	0.67	49.0
5	T	26	30.8	0.056	0.0	LOS A	0	0.00	0.00	60.0
Approach		**100**	**8.0**	**0.056**	**6.1**	**LOS A**		**0.00**	**0.49**	**51.4**
MR89 - West										
11	T	26	30.8	0.045	0.4	LOS A	2	0.21	0.00	57.2
12	R	38	0.0	0.045	8.8	LOS A	2	0.21	0.64	47.8
Approach		**64**	**12.5**	**0.045**	**5.4**	**LOS A**	**2**	**0.21**	**0.38**	**51.3**
All Vehicles		**170**	**10.6**	**0.056**	**6.0**	**Not Applicable**	**2**	**0.09**	**0.46**	**51.2**

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Movement Summary

MR89 and Tomingley West Road

2009 Base

Give-way

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Tomingley West Road										
1	L	3	33.3	0.008	10.2	LOS A	0	0.16	0.61	48.3
3	R	3	33.3	0.008	10.7	LOS A	0	0.16	0.66	48.0
Approach		**6**	**33.3**	**0.008**	**10.5**	**LOS A**	**0**	**0.16**	**0.63**	**48.1**
MR89 - East										
4	L	3	0.0	0.018	8.2	LOS A	0	0.00	0.67	49.0
5	T	26	30.8	0.018	0.0	LOS A	0	0.00	0.00	60.0
Approach		**29**	**27.6**	**0.018**	**0.8**	**LOS A**		**0.00**	**0.07**	**58.6**
MR89 - West										
11	T	26	30.8	0.018	0.1	LOS A	1	0.11	0.00	58.5
12	R	3	0.0	0.018	8.6	LOS A	1	0.11	0.65	48.2
Approach		**29**	**27.6**	**0.018**	**1.0**	**LOS A**	**1**	**0.11**	**0.07**	**57.2**
All Vehicles		**64**	**28.1**	**0.018**	**1.8**	**Not Applicable**	**1**	**0.06**	**0.12**	**56.8**

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Appendix 5

Director General's Requirements

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Coverage of Director-General's Requirements

Government Agency	Paraphrased Requirement	Relevant Section(s)
	GENERAL	
	• **Traffic** – including a detailed description of the measures that would be implemented during construction and operation to minimise impacts on the Newell Highway and Tomingley West Road;	Whole document
	TRAFFIC	
RTA (28/08/09)	• Existing traffic volumes of the Newell Highway (HW17) including traffic type break up, peak volumes, peak times and future growth rates.	Section 4, Appendix 2
	• A Traffic Impact Study detailing expected vehicle types, volumes and movements during both construction and operation. The study is to be broken down into peak and general times.	Section 5 Section 6 (Appendix 4, sensitivity analysis)
	• Intersection treatments and mitigation measures to cater for predicted traffic impacts. This is to include any required temporary or staged treatments and other measures. Treatments are to be provided for any proposed new junctions as well as any other temporary junctions or existing intersection upgrades. The intersections are to cater for all heavy and over dimensional vehicles that will be accessing the development. Intersection design will be assessed on RTA Road Design Guide requirements.	Section 6 Section 7
	• This traffic study should also address internal traffic movement and parking facilities.	By others
	• A formal agreement in the form of a Works Authorisation Deed or deed of agreement will be required between the developer and the RTA. Other ancillary works including an underbore of the Mitchell Highway for a water pipeline and two crossings of the Newell Highway for 66kV electrical transmission lie would also be covered by this Deed.	By others
	• A Road Occupancy Licence is required prior to any works commencing within 3m of the travel lanes of the Newell Highway. This can be obtained by contacting Mr Paul Maloney on 02 6861 1686. Submission of a traffic control plan is required as part of this licence.	By others
	Newell Highway Underpass	
	• The proponent will be required to construct a sidetrack of the Newell Highway to cater for two-way traffic during construction of the proposed underpass. Sidetrack requirements are to be designed to 90km/h standard with an 80km/h speed zone throughout in accordance with the RTA Road Design Guide. The sidetrack is to be a minimum 9m width seal and verge with edge line marking. The pavement is to be minimum 400mm pavement thickness; the pavement design is to be approved by the RTA. The sidetrack is also to be designed to cater for oversized loads up to 8m wide that travel the Highway. This sidetrack should be included in the Part 3A assessment by Department of Planning	By others
	• Typical cross section width of the Newell Highway at the underpass is to cater for 2x3.5m travel lanes, 1.2m central median, 2m sealed shoulders, with allowance for approved safety barriers (to AS 5100 where appropriate) and verges behind the barriers in accordance with the RTA Road Design Guide.	By others
	• The pavement design for the Newell Highway is to be to the satisfaction of the RTA.	By others

Coverage of Director-General's Requirements

Government Agency	Paraphrased Requirement	Relevant Section(s)
TRAFFIC		
RTA (28/08/09)	• The applicant is to demonstrate proposed method for drainage of the underpass structure and associated works to ensure that the Highway will not be compromised.	By others
	• The applicant will be responsible for maintenance and subsequent removal of the proposed underpass structure at the completion of the mine operation and will be required to lodge a security deposit/bond adjusted annually for CPI increase as part of the Deed to ensure this.	By others
	Culvert Augmentation Works	
	• Any required upgrade of existing Highway drainage structures is to be at full cost to the developer.	By others
	• A sidetrack of the Newell Highway will be required to conduct culvert augmentation works. The sidetrack pavement width and depth is as per the above requirements for the underpass sidetrack.	By others
	• Hydrological analysis for the impact on existing Highway drainage structures is to be provided to the RTA for assessment.	By others
	Paraphrased Requirement	Relevant Section(s)
CUMULATIVE IMPACTS		
DECCW 28/08/09	Identify the extent that the receiving environment is already stressed by existing development and background levels of emissions to which this proposal will contribute.	By others
	Assess the impact of the proposal against the long term air, noise and water quality objectives for the area or region.	By others
	Identify infrastructure requirements flowing from the proposal (eg. water and sewerage services, transport infrastructure upgrades).	By others
	Assess likely impacts from such additional infrastructure and measures reasonably available to the proponent to contain such requirements or mitigate their impacts (eg. travel demand management strategies).	By others