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**PROPOSED RESIDENTIAL DEVELOPMENT
INVERNESS AVENUE
MUDGEES NSW 2352**

TRAFFIC ASSESSMENT REPORT

21 NOVEMBER 2021

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SYDNEY | ADELAIDE | BAROSSA | DARWIN | MUDGEES

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1 INTRODUCTION

Triaxial have been engaged by Tori Peter Group to prepare a traffic assessment report. The purpose of this report is to assess the traffic implications of the development proposal. This report is to be included in the development application lodged with Mid Western Regional Council.



Figure 1: Existing Site

2 PROPOSAL

2.1 DEVELOPMENT SITE

The site located at Inverness Avenue, Mudgee is to be redeveloped into residential housing. The site is currently utilised partly as a detention basin for stormwater runoff management and partly as vacant land. As part of the proposal the existing basin is to be relocated further to the North in an easement and the land is to be subdivided into 11 residential lots with a minimum lot size of 600m².

This traffic summary will account for the possibility of further development of the blocks including a potential for dual occupancy subdivision on each block (either attached or detached) with a total of 22 dwellings potentially to be developed on the site.

3 EXISTING TRAFFIC CONDITIONS

3.1 ROAD HIERARCHY – SURROUNDING ROAD NETWORK

The site is surrounded by the following roads:

- **Lions Drive** is a local road, serviced by Mid Western Regional Council, connecting the Castlereagh Highway with Broadhead Road and Robertson Street.
- **Inverness Avenue** is a local road servicing the development. Inverness Avenue currently terminates in a culdesac turning head.

The site is located 130m from the intersection of Lions Drive and Robertson Streets and approximately 1250m from the intersection of Lions Drive and the Castlereagh Highway.

3.2 EXISTING TRAFFIC VOLUMES

Existing traffic volumes along Lions Drive were obtained from the Mudgee Traffic Study. The traffic study included observed daily traffic figures from 2014 along with an estimation of future daily traffic predicted for 2032. In the absence of available traffic count data, the predicted 2032 traffic figures have been adopted for this report.

Traffic figures from the study have been shown in the table below:

	Daily Traffic 2014	Daily Traffic 2032
Lions Drive	2880	4860

Table 1: Peak hour vehicle trips observed for Lions Drive.

It is important to note that even with the increase in traffic predicted to 2032, no upgrades were recommended in the 2014 traffic study for Lions Drive to the East or West from the site. Both carriageway and intersection level of service were not expected to change to a level that would require upgrades.

3.3 EXISTING CRASH DATA

A review of the available crash data from the 5-year period 2016 – 2021 shows that there were no vehicle crashes during this period along Lions Drive or Robertson Street. The location of other nearby crashes is shown on Figure 2 below.

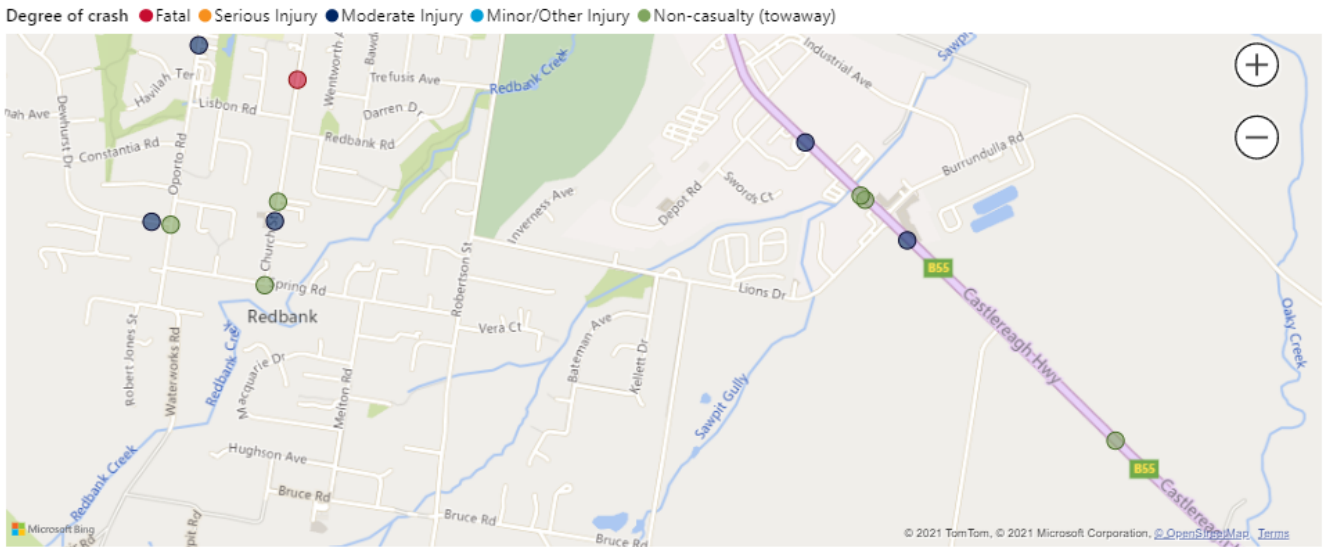


Figure 2: Crash data near the site showing 2 crashes from 2016-2021. No crashes in the area surrounding the proposed development.

The closest vehicle crashes recorded near the development site were along the Castlereagh Highway, which experiences a far greater volume of both daily and peak hour traffic. Crashes were recorded adjacent to retail and industrial sites fronting the highway.

4 EXPECTED TRAFFIC GENERATION

The expected traffic increase generated by the development is shown in the table below. The traffic generation rates have been calculated using Austroads Guide to Traffic Management Part 12 – Traffic Impacts of Development.

Number of Dwellings	Daily Vehicle Trips	Peak Hour Vehicle Trips
22	198	19

Table 1: Expected traffic generation from the development.

Traffic Distribution

It is expected that the traffic distribution throughout the local road network as per the Mudgee Traffic Study 2014.

The traffic study gives the following breakdown of expected traffic distribution:

Table 4.3: Trip Distribution of Residential Developments

Destinations	Arrival	Departure	Arrival	Departure
CBD 1	14%	18%	175	121
CBD 2	14%	18%	175	121
Industrial 1 E of Sydney Rd	12%	6%	158	40
Industrial 2 W of Sydney Rd	10%	5%	127	32
Industrial 3 Hill End Rd	12%	6%	158	40
Residential north of railway	5%	7%	70	48
Residential south of railway	5%	7%	70	48
Internal to subdivision	11%	14%	140	97
External Routes				
Sydney Rd, south of Lions Dr	5%	7%	70	48
Ulan Rd, N of Henry Lawson	9%	12%	117	81
Castlereagh Rd, W of Hill End	2%	2%	23	16
Total	100%	100%	1,285	692

Figure 3: Mudgee Traffic Study Table 4.3 expected trip distribution.

As can be seen from the above table the expected traffic distribution would be 72% of vehicle trips heading towards Mudgee CBD (West along Lions Drive), with the remaining 28% of trips heading East towards the Castlereagh Highway.

We have assumed that all industrial areas will be accessed via Lions Drive/Castlereagh Highway, as well as assuming that all internal subdivision trips are added to the Mudgee CBD total, to be conservative, rather than internal to the subdivision, as such a short trip would likely be on foot. Using these percentage breakdowns, the traffic expected in daily and peak hour trips is shown in the table below:

	Lions Drive West	Lions Drive East
Daily Trips	143	55
Peak hr Trips	14	5

Table 2: Expected traffic generation from the development in vehicles along Lions Drive

Expected Impact

Road carriageway level of service is also not expected to be impacted, as the traffic generation figures calculated for this subdivision are well within the carriageway level of service triggers as defined in the Austroads Guide to Traffic Management Part 3, which gives a mid-block capacity of a typical urban road as 900 vehicles per hour.

The proposed impact on the existing residential road network along Lions Drive to the East and West is proposed to be minimal, with only 14 and 5 vehicle trips per hour added to the existing peak hour volumes in the Westerly and Easterly directions respectively.

Impact of Future Development

The Mudgee South area has several developments planned for the near future, which will have a cumulative effect on the performance of roadways and intersections in the vicinity of this development.

The largest of these developments is the construction of a new secondary school, the new St Matthews Catholic Secondary School. The new school is to be located on the corner of Bruce Road and Broadhead Road. St Matthews has undertaken a comprehensive traffic study that has nominated minor upgrades required to the Lions Drive / Broadhead Road and Lions Drive / Robertson Street intersections that will increase the safety to road users at these intersections.

5 SUMMARY

In summary, the proposed development of Inverness Avenue with potentially 22 new residences will see a minor increase in traffic on the surrounding road network. The increase will not trigger the need for upgrades to existing infrastructure as discussed in the 2014 Mudgee Traffic Study.