St Matthews High School, Mudgee

Traffic, Parking and Transport Impact Assessment

Prepared for:

TSA Management

12 May 2020

The Transport Planning Partnership

St Matthews High School, Mudgee

Traffic, Parking and Transport Impact Assessment

Client: TSA Management

Version: V02

Date: 12 May 2020

TTPP Reference: 18472

Quality Record

Version	Date	Prepared by	Reviewed by	Approved by	Signature
V01	21/04/20	Clinton Cheung, Santi Botross	Santi Botross, Ken Hollyoak	Ken Hollyoak	
V02	12/05/20	Clinton Cheung, Santi Botross	Santi Botross, Ken Hollyoak	Ken Hollyoak	

Table of Contents

1 Introduction 1
1.1 Proposal Overview 1
1.2 Purpose of the Report 2
1.3 References 4
2 Consultation with Authorities 5
3 Literature Review 6
3.1 Local Council Strategies and Plans 6
3.2 Local Council Planning Policies 6
3.3 Other Supporting Council Plans, Studies and Policies 7
3.4 NSW Government Plans 8
3.5 Other Relevant External Documents 8
4 Existing Conditions 12
4.1 Site Location 12
4.2 Road Network 13
4.3 Public Transport Services 14
4.4 Pedestrian and Cyclist Facilities 18
4.5 Existing Traffic Volumes 19
4.6 Surrounding Intersection Operation 22
4.6.1 Level of Service Criteria 22
4.6.2 Intersection Modelling Results 22
5 Mode Share of Existing Students and Staff 24
6 Proposed Development 26
6.1 Proposal Description 26
6.2 Car Parking 27
6.3 Bicycle Parking 28
6.4 Vehicle Access and Circulation 28
6.5 Service Vehicle Access 29
6.6 Public Transport 30
6.7 Pedestrian and Bicycle Access 31
6.8 Crime Prevention through Environmental Design Action Plan (CPTED) 33
6.9 Road Upgrades 33
7 Parking Assessment 35
7.1 Car Parking Requirements 35

7.1.1 State Environmental Planning Policy (Educational Establishments) 35
7.1.2 Mid-Western Regional Council Development Control Plan 35
7.1.3 First Principles Approach 38
7.2 Bicycle Parking 38
7.3 Motorcycle Parking 39
7.4 Car Park Layout 39
8 Traffic Impact Assessment 41
8.1 Rates by Roads and Maritime 41
8.2 Traffic Generation 41
8.3 Traffic Distribution 43
8.4 Traffic Impacts 47
8.4.1 Castlereagh Highway Junctions 51
9 Construction Traffic Impact 52
9.1 Construction Activity and Staging 52
9.2 Work Hours 53
9.3 Construction Staff Parking 53
9.4 Construction Vehicle Types 53
9.5 Construction Vehicle Routes 54
9.6 Construction Traffic Generation 54
9.7 Emergency Vehicles 55
9.8 Construction Traffic Management Plan 55
10 Summary and Conclusion 56

Tables

Table 1.1: SEARs Requirements and Relevant Report Sections 2
Table 1.2: Local and State Authority Requirements and Relevant Report Sections 4
Table 4.1: Roads and Maritime LoS Criteria 22
Table 4.2: Existing Road Network Performance 23
Table 5.1: High School Student and Staff Population 24
Table 5.2: Student Mode Share 24
Table 5.3: Staff Mode Share 25
Table 7.1: High School Students – Cohort Forecast 37
Table 8.1: Peak Vehicle Trips 43
Table 8.2: Scenario 0 – Existing Conditions (Base Case) 47
Table 8.3: Scenario 1 – Future Case Without Development (Year 2026) 48
Table 8.4: Scenario 2 – Future Case With Development (Year 2026) 48
Table 8.5: Scenario 3 – Future Case + 10 Years Without Development (Year 2036) 49
Table 8.6: Scenario 4 – Future Case + 10 Years With Development (Year 2036) 50
Table 9.1: Indicative Construction Staging and Duration 52
Table 9.2: Indicative Construction Traffic Generation 54

Figures

Figure 4.1: Proposed Site Location 12
Figure 4.2: Mudgee Land Zone Map 13
Figure 4.3: Regional Coach Service Map 14
Figure 4.4: Local Bus Network Map 15
Figure 4.5: AM Bus Route 17
Figure 4.6: PM Bus Route 18
Figure 4.7: Key Localised Intersections 19
Figure 4.8: AM Peak Traffic Volumes 20
Figure 4.9: PM Peak Traffic Volumes 21
Figure 6.1: Future School Site Plan 26
Figure 6.2: On-Site Parking and Bus Bay 27
Figure 6.3: Bus Swept Path at Bus Bay 28
Figure 6.4: Waste Collection Vehicle (Isuzu 7.9 m MRV) 29
Figure 6.5: Waste and Delivery Access 30
Figure 6.6: Proposed Road Upgrades 34
Figure 7.1: Afternoon Pick-up Operation 36
Figure 7.2: Car Park Circulation 39
Figure 8.1: Current Vehicle Trip Distribution 44
Figure 8.2: Future Vehicle Trip Distribution 44
Figure 8.3: AM Peak Traffic Flow Diagram 45
Figure 8.4: PM Peak Traffic Flow Diagram 46
Figure 8.5: Bunnings Mudgee Relocation 50

APPENDICES

A. CONSULTATION WITH AUTHORITIES
B. SITE PLAN
C. BUS SWEPT PATH ANALYSIS
D. ENDORSEMENT BY OGDEN'S COACHES
E. PROPOSED ROAD UPGRADES
F. SIDRA MODELLING RESULTS
G. CRASH HISTORY DATA BY ROADS AND MARITIME SERVICES

1 Introduction

1.1 Proposal Overview

A State Significant Development (SSD-9872) application is to be lodged with the NSW Department of Planning & Industry (DPI) which seeks consent for the construction of a new multi-purpose secondary education facility within the Mudgee Region that meets future demands for the developing region.

The new secondary school to be known as St Matthews Catholic High School Mudgee School will cater for 680 secondary school students (4-Stream Year 7-12) and will comprise of a cluster of five low-rise school buildings (1-2 storeys) including;

- Block A - Professional Hub (office and administration)
- Block B - Spiritual Hub (Chapel)
- Block C - Community Hub (Multi-purpose hall, Music/Dance Studio and canteen)
- Block D – STEM Research Hub (teaching spaces)
- Block E - Knowledge and Learning Hubs (General Teaching spaces)
- Yarning Circle (Outdoor learning area)
- Outdoor Student Assembly Area and COLA
- Student free play area
- Staff and student amenities
- Associated site landscaping and public domain improvements
- On-site parking and access arrangements off Bruce Road, including:
    - At-grade car park for staff, students and visitors (75 spaces, including two accessible spaces)
    - A 12-bay student drop-off and pick-up area
    - A 3-bay bus drop-off and layover area
    - Bus turning area and servicing access
    - Dedicated separate driveway for service vehicles
    - Bicycle parking for 36 bicycles.
- Associated earthworks, civil works, perimeter roadworks, fencing, services and utilities connections and augmentation, including:
    - Roadworks to Broadhead Road and Bruce Road to the full extent of the site frontages

- Roadworks to the Broadhead Road and Bruce Road intersection to cater for bus movements
- Footpath along the site frontage of Broadhead Road and suitable pedestrian crossing to connect to existing footpath.
- Stormwater infrastructure upgrades adjacent to and within the site, including new culverts and drains, levee, and bioswale.
- Connection to existing sewer line within the site
- Electrical and water connections into the site

The proposal also seeks to cater for 680 high school students at the campus by 2026. Currently, the student population at the existing high school is 373 students (in 2019). The additional students would be split across all year groups, and each year group would be progressively grown until the target year (2026).

1.2 Purpose of the Report

This report supports the Masterplan for the Proposal and has been prepared as part of an SSD Application. This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) for the Proposal, issued by DPI on 1 March 2019.

Table 1.1 lists the SEAR's requirements and the corresponding sections of the report where these are addressed.

Table 1.1: SEARs Requirements and Relevant Report Sections

Traffic and Transport	Addressed in
• accurate details of the current daily and peak hour vehicle, existing and future public transport networks and pedestrian and cycle movement provided on the road network located adjacent to the proposed development	Chapter 4
• details of estimated total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycle trips based on surveys of the existing and similar schools within the local area	Chapter 8
• the adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site, pedestrian and bicycle networks and associated infrastructure to meet the likely future demand of the proposed development	Chapter 6
• measures to integrate the development with the existing/future public transport network	Chapter 6
• the impact of trips generated by the development on nearby intersections (including but not limited to Castlereagh Highway with Lions Drive and Flat Road), with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for, and details of, upgrades or road improvement works, if required (Traffic modelling is to be undertaken using SIDRA network modelling for current and future years i.e. 10 years)	Section 4.6 & Chapter 8
• the identification of infrastructure required to ameliorate any impacts on traffic efficiency and road safety impacts associated with the proposed development, including details on improvements required to affected intersections, additional	Section 4.3 & Chapter 6

school bus routes along bus capable roads (i.e. minimum 3.5 m wide travel lanes), additional bus stops or bus bays	
• details of travel demand management measures to minimise the impact on general traffic and bus operations, including details of a location-specific sustainable travel plan (Green Travel Plan and specific Workplace travel plan) and the provision of facilities to increase the non-car mode share for travel to and from the site	Addressed in separate Green Travel Plan
• the proposed walking and cycling access arrangements and connections to public transport services	Sections 6.7 and 4.3 & Chapter 6
• the proposed access arrangements, including car and bus pick-up/drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and bicycle networks, including pedestrian crossings and refuges and speed control devices and zones	Chapters 6 & 7
• proposed bicycle parking provision, including end of trip facilities, in secure, convenient, accessible areas close to main entries incorporating lighting and passive surveillance	Section 6.3
• proposed number of on-site car parking spaces for teaching staff and visitors and corresponding compliance with existing parking codes and justification for the level of car parking provided on-site	Section 7.1
• an assessment of the cumulative on-street parking impacts of cars and bus pick-up/drop-off, staff parking and any other parking demands associated with the development	Chapter 7
• an assessment of road and pedestrian safety adjacent to the proposed development and the details of required road safety measures and personal safety in line with CPTED	Section 6.8
• emergency vehicle access, service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times)	Section 6.5
• the preparation of a preliminary Construction Traffic and Pedestrian Management Plan to demonstrate the proposed management of the impact in relation to construction traffic addressing the following: o assessment of cumulative impacts associated with other construction activities (if any) o an assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity o details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process o details of anticipated peak hour and daily construction vehicle movements to and from the site o details of on-site car parking and access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicle o details of temporary cycling and pedestrian access during construction.	Addressed in separate Construction Traffic and Pedestrian Management Plan prepared by North Construction. Preliminary construction details provided in Chapter 9

Further to the above, Roads and Maritime Services (Roads and Maritime) requires further details on specific requirements relating to their authority. These requirements are discussed throughout the report as indicated in Table 1.2.

Table 1.2: Local and State Authority Requirements and Relevant Report Sections

Traffic and Transport	Addressed in
Roads and Maritime Services	
• Given the relative isolated proposed location and lack of walking facilities, it may be a consideration that all access is to be via private car or school bus. If walking or cycling to school is desired, the applicant will need to demonstrate measures to ensure safety for students.	Section 6.7
• Access locations and treatments need to be identified and in accordance with Austroads Guide to Road Design and relevant Roads and Maritime supplements, including safe intersection sight distance (SISD).	Section 6.4

1.3 References

In preparing this report, reference has been made to the following:

- An inspection of the site and its surrounds
- Mid-Western Regional Council Local Environmental Plan (LEP) 2012
- Mid-Western Regional Council Development Control Plan (DCP) 2013
- Guide to Traffic Generating Developments (Roads and Maritime Services) 2002
- Trip Generation Surveys, Schools Analysis Report (Roads and Maritime Services) 2014
- EIS Guidelines – Road and Related Facilities (DoPI)
- Cycling Aspects of Austroads Guides
- NSW Planning Guidelines for Walking and Cycling
- Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development
- Standards Australia AS2890.3 (Bicycle Parking Facilities).
- NSW State Priorities
- Central West and Orana Regional Plan 2036
- Future Transport Strategy 2056
- State Infrastructure Strategy 2018 – 2038 Building the Momentum
- Crime Prevention Through Environmental Design (CPTED) Principles
- Healthy Urban Development Checklist (NSW Health)
- Better Placed: An integrated design policy for the built environment of New South Wales (GANSW, 2017)
- Plans for the proposed development as prepared by Alleanza
- Other documents and data as referenced in this report.

2 Consultation with Authorities

A meeting was held with Mid-Western Regional Council to discuss traffic and parking matters of the proposal, as well as the measures of the Green Travel Plan. As requested by Council, further clarity of forecasted traffic volumes has been provided in Chapter 8 of this report. Minutes of the meeting are contained in Appendix A.

Consultation with Transport for NSW (TfNSW) is underway regarding the proposal. Specific traffic matters to be discussed with TfNSW include provision of a children's crossing in the vicinity of the new school to facilitate students (and staff) travelling by active travel means to/from the site.

Furthermore, consultation with TfNSW will be had regarding an interim solution to facilitate pedestrians across Broadhead Road until the School becomes operational and the relevant crossing warrant assessments are completed, or alternate solution.

Consultation with Odgen's Coaches, the bus service provider for the region, has occurred during the design process of the future school layout and bus bay location. Ogden's have endorsed the proposed arrangement as detailed in this report. Notwithstanding this, endorsement by TfNSW will be required.

The proposal would likely require a transport route assessment for the re-routing of existing bus services and provision of new bus stops to facilitate the new school. Therefore, advice will be sought from TfNSW on the process and requirements of the transport route assessment. A description of the proposed public transport arrangement is given in Section 6.6 of this report.

3 Literature Review

3.1 Local Council Strategies and Plans

Mudgee Bike Plan 2008-2028

The Mudgee Bike Plan identifies current bicycle usage and proposes changes to the network that may encourage further bicycle usage. The Plan addresses shortfalls in the current network and identifies the need for new routes which complete any missing links and/or address future development.

The Plan states that there are two types of cycleways generally provided in Mudgee;

- On-road cycleways; recommended for confident teenage and adult cyclists who are expected to be traveling at faster speeds, and
- Off-road cycleways; Off-road facilities include off-road recreational paths and off-road commuter paths with a minimum width of 2.4 metres.

In order to create the proposed bicycle network as planned by Council, the Plan identifies the need for an off-road cycling facility on Broadhead Road, between Lions Drive and the new St Matthews School (to be funded by the School).

3.2 Local Council Planning Policies

Mid-Western Regional Council Lovel Environmental Plan (LEP) 2012

The LEP provides the statutory framework for planning with the local government area.

Regional Draft Comprehensive Land Use Strategy 2010

This strategy identifies options to achieve long-term urban and rural growth needs and informs the LEP. The strategy supports the Mid-Western Region's Vision for 2031, that is, to provide for sustainable growth and development in the region.

In Mudgee, there are limited large lots available to the north, with sufficient lots available to meet demand in the south. For residential land, infill development and the expansion of residential areas to the south-west into Caerleon and to the south towards Spring Flat are anticipated to be sufficient to meet housing demand for the next 25 years.

Development Control Plan (DCP) 2013

The DCP provides detailed guidelines and development standards to support the LEP. The guidelines encourage innovation in design and development, expedite development approvals by providing clear direction of Council's intent and criteria and provides certainty of development outcomes for developers and the community.

For new educational establishments, the DCP stipulates car parking rates for staff and senior students, drop-off/ pick-up bays spaces and bus parking provisions.

3.3 Other Supporting Council Plans, Studies and Policies

Roads Asset Management Plan 2016-2026

All industry, tourist and local transport needs in the Mid-Western Region are dependent on road infrastructure. The opening of new mines and existing mine expansions are expected to result in an increase in population and a corresponding increase in demand for support infrastructure.

Council plans to provide road services as operation, maintenance, renewal and upgrade of existing assets including roads, bridges, kerb and gutter, pathways and roundabouts. The projected outlays necessary to provide these services (covered by the Asset Management Plan) over the 10-year planning period is $152.2M. Funding would not cover all services at the desired level or new services, therefore, Council's planned services are outlined in the Roads Asset Management Plan.

Pedestrian Access and Mobility Plan

A Pedestrian Access and Mobility Plan (PAMP) was developed in 2016 as part of Mid-Western Regional Council's commitment to safe, convenient and connected pedestrian infrastructure that will encourage people to use active transport. Walking and cycling are viewed as a vital component of the NSW transportation network, allowing a cost effective, non-discriminatory mode of transport for all users.

The PAMP provides a framework for developing pedestrian routes and infrastructure to cater for future pedestrian needs, having consideration of upcoming development in Mudgee and surrounding townships. There is an emphasis on the development of commuter pathways as well as acknowledging the importance of recreational cycling for a healthy community.

Mudgee Township Traffic Management Study 2014

The Study focuses on developing a Traffic Management Plan for the growing population in the Mudgee township which was forecasted to increase to 11,470 people by 2031. It identifies required road infrastructure upgrades and informs the Section 94 developer contributions plan. Streets surrounding the subject site on Bruce Road have not been identified as having existing traffic, safety or intersection performance related issues.

3.4 NSW Government Plans

Central West Regional Transportation Plan

Actions set by the State Movement for the Mudgee region increase improvements for public transport services; including greater service frequency, extended weekday services, and infrastructure improvements such as bus stops and shelters. The Plan also addresses the need for improvements to walking and cycling infrastructure, supporting implementation of better active transport facilities around schools.

Sydney's Walking Future – Connecting People and Places 2013

The NSW Government aims to enhance the culture of walking as transport by working with local governments for planning necessary future infrastructure. With this comes developing initiatives to promote walking as a viable and attractive transport choice, especially for trips to and from work and school.

Creating a modal shift towards walking for shorter trips (up to 2km) would enable travel by other modes than single car use, having economic and health benefits for those choosing to walk.

While the Walking Futures document is Sydney-specific, the aims of prioritising planning for pedestrians in the design and construction of new transport and development projects is equally applicable within regional centres.

Sydney's Cycling Future – Cycling for Everyday Transport 2013

This document presents direction in forward-planning for cycling in Sydney. It supports the change in mode share, that is, that people are choosing to ride a bike for transport. In response to public feedback, initiatives focus on increasing the safety of cycling as well as improving convenience.

Bicycle infrastructure investment is prioritised by projects that will have the greatest impact on encourage more people to ride. This is based on a 5km riding catchment around each major centres then identifying the key destinations (centres, schools, shops etc) and key paths to major destinations. Whilst being a Sydney-centric Plan, regional centres can benefit from adopting similar planning principles.

3.5 Other Relevant External Documents

Guide to Traffic Generating Developments (Roads and Maritime Services)

This Guide outlines all aspects of traffic generation considerations relating to developments. The Guide provides information regarding traffic issues for those submitting Development Applications, and for those involved in the assessment of these applications. The overall

objective is that both parties have access to common information relevant to the development approval process.

The information provided gives background into the likely impacts of traffic from various types of developments, thereby illustrating the importance of accurate development assessment.

This Guide contains trip generation rates for various land uses, however, it does not stipulate rates for schools. In 2014, Roads and Maritime published the *Trip Generation Surveys, Schools Analysis Report* which contains trip rates for schools, including those in regional areas. Hence, this recent study has been referred to help determine traffic generation.

EIS Guidelines – Road and Related Facilities (DoPI)

This guideline identifies factors to be considered when preparing an environmental impact statement (EIS). The assessment process shall focus on key environmental issues for roads and related facilities including the strategic planning context, traffic issues and community issues.

For schools, transport and community concerns include whether the capacity of the surrounding road network is able to accommodate future traffic generation and whether the proposal likely to be compatible with surrounding existing or proposed land uses.

Cycling Aspects of Austroads Guides

The Cycling Aspects of Austroads Guides consolidates information relating to on-road bicycle facilities and provides a summary of key design information for cyclist paths, including intersections of paths with roads. This document supports national and state cycling strategies so that communities can obtain environmental, health and transport benefits that are derived from increased cycling.

This document contains provisions for bicycle access into and through new developments, treatments that assist bicycle travel, secure parking provisions and end-of-trip facilities. It also contains categories of cyclist experience levels, including school students, and suitable infrastructure to meet rider levels.

Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development

The Austroads Guide to Traffic Management Part 12 provides guidance on how to identify and manage the impacts on the road system arising from land use developments. The impacts being considered are those directly affecting road use and road users of all classes. Specifically, guidance is given on how to:

This Guide stipulates a general criteria for traffic impact assessments for new developments based on the level of impact. In the Guide, schools are deemed as "high impact" where there are to be greater than 100 vehicle trips generated in the peak hour and contains more than 100 students, and therefore, requires the preparation of a Traffic Impact Assessment.

Standards Australia AS2890.3 (Bicycle Parking Facilities)

Cycling is an increasingly popular and important mode of travel as many people are now riding for transport, exercise and recreation. The provision of secure bike parking at destination is an important factor that will encourage more people to ride.

This Standard provides a set of minimum requirements for the layout, design and security of bicycle parking facilities for planners and service providers.

Central West and Orana Regional Plan 2036

The Central West and Orana Regional Plan 2036 is a 20-year blueprint for the future of the Central West and Orana region. The vision of the plan is to create a leading diverse regional economy in NSW, with a vibrant network of centres leveraging the opportunities of being at the heart of NSW.

One of the Plan's goals is to create "*the most diverse regional economy in NSW*" by expanding education and training opportunities. This would be achieved through promoting the development of educational facilities and facilitating joint-venture opportunities for shared community and school facilities on school sites.

Transport for NSW's Future Transport Strategy 2056

By 2056, NSW will have more than 12 million residents. Regional NSW will grow by around 400,000 people by 2036 and then a further 300,000 by 2056. This growth will mean our networks will need to handle 28 million trips a day and double the current metropolitan freight loads. These challenges and opportunities highlight the importance for bold, new ideas that ensure the productivity, liveability and sustainability of communities.

The Future Transport Strategy sets the 40-year vision, directions and outcomes framework for customer mobility in NSW which will guide transport investment over the longer term. It will be delivered through a series of supporting plans for regional NSW and for Greater Sydney. It is an update of the 2012 Long Term Transport Master Plan for NSW.

State Infrastructure Strategy 2018 – 2038: Building the Momentum

The State Infrastructure Strategy 2018-2038: Building Momentum (the 2018 SIS) recommends reforms, policies and projects that respond to NSW's changing economic, social, technological and environmental outlook and build on the benefits already delivered by the largest infrastructure program in Australia.

A strategic objective of the Strategy is to deliver infrastructure to support a growing population of students and provide modern learning environments for all students.

Crime Prevention Through Environmental Design (CPTED) Principles

Crime Prevention through Environmental Design (CPTED) is a crime prevention strategy that focuses on the planning, design and structure of cities and neighbourhoods. It reduces crime opportunities by increasing the risk to offenders, increasing the effort required to commit crime, reducing opportunities for excuse making (eg spatial ambiguity is commonly used by burglars to justify trespassing) and reducing the likely rewards of criminal behaviour.

CPTED employs four key strategies, namely; surveillance, access control, space management and territorial re-enforcement. These design concepts aim to keep intruders under observation through passive surveillance, deny access to a crime target and delineate private and public spaces through use of landscaping or physical barriers, and help control vandalism/crime through well-maintained spaces.

Healthy Urban Development Checklist (NSW Health)

The purpose of the Checklist is to assist in the development of policies, plans and proposals for urban development. Future growth has been identified to possibly have both positive and negative impacts on the health of communities, and further perpetuate some existing health inequities unless carefully planned for and managed. Population growth of this scale will involve significant development of, and investment in, housing, transport, and a range of infrastructure including social infrastructure. Change of this scale can have major impacts (both positive and negative) on the health of new communities as well as those of the existing population.

Better Placed: An integrated design policy for the built environment of New South Wales (GANSW, 2017)

Better Placed has been developed by the Government Architect to deliver the strategic approach needed to ensure that as our cities and towns grow bigger they get better. One of the objectives is to create buildings and spaces with better functionality, and allow for efficiency and usability with the potential to adapt to changes over time. The policy recognises that work and education environments which are well-designed support enhanced productivity and effectiveness for organisations, and will remain valuable and well-utilised in the future.

4 Existing Conditions

4.1 Site Location

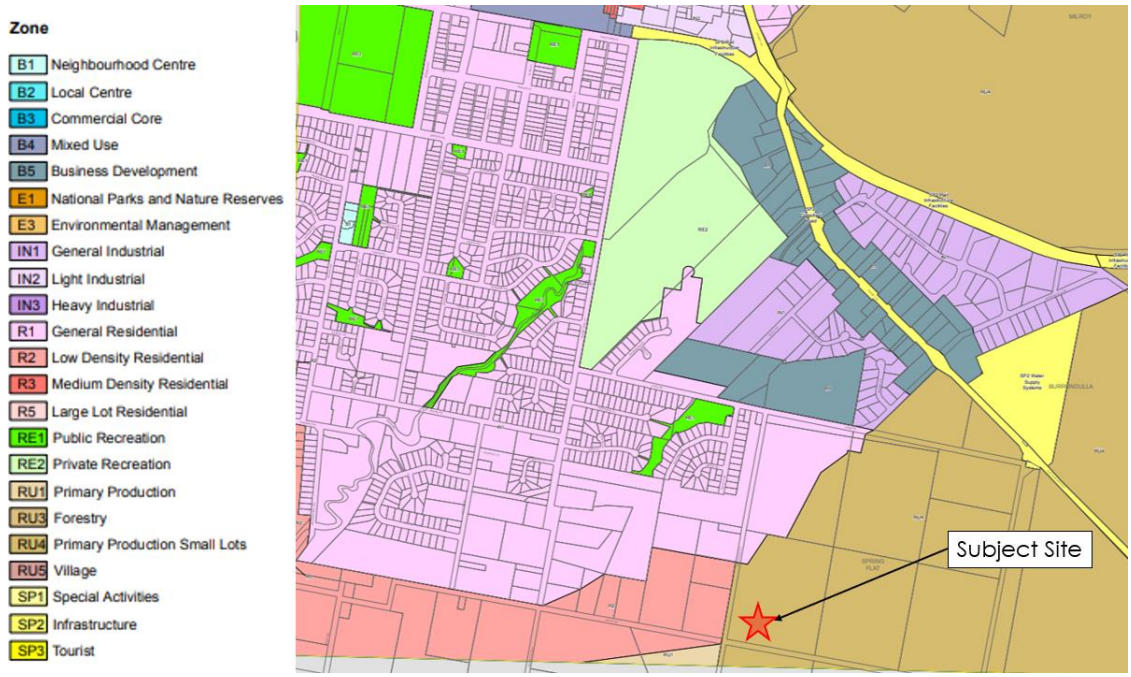
The subject site (the 'site') located at 48 Broadhead Road, Spring Flat is currently classified as greenfield land. The site is proposed to be developed to accommodate the high school portion of the existing St Matthews Catholic College.

The proposed school site is located south-east of the Mudgee township as shown in Figure 4.1. The site, which is currently vacant, is zoned as RU4 Primary production small lots. Surrounding land uses comprise R1 General residential, R2 Low density residential, B5 Business development and IN1 General industrial as illustrated in Figure 4.2.

Figure 4.1: Proposed Site Location

Basemap Source: Esri ArcGIS, viewed online 13/05/2019

Figure 4.2: Mudgee Land Zone Map



Basemap Source: Mid-Western Regional Council LEP 2012 Land Zoning map

4.2 Road Network

A network of local and state roads surrounds the subject site. A brief description of the surrounding roads is given below.

Castlereagh Highway (B55) is a State classified road that runs from north of Lithgow through north-western NSW. In the vicinity of the subject site, Castlereagh Highway is generally aligned in the north-south direction having one lane in each direction and a signposted speed of 80 km/h. In the Mudgee township the posted speed limit is reduced to 50 km/h.

Spring Flat Road functions as a two-way local road generally aligned in the north-south direction supporting a carriageway of approximately 6 m wide. It provides access to/from Castlereagh Highway in the north and to surrounding primary production zones in the south. It is a sealed road without kerb and gutter. There is no road shoulder and kerbside parking. In addition, there are no existing pedestrian footpaths along Spring Flat Road. The posted speed limit is 100 km/h.

Lions Drive is a local road generally aligned in an east-west direction providing access to residential dwellings and supports a carriageway of approximately 9 m wide. Kerb side parking is permitted on both sides of the road. In addition, there is limited pedestrian footpaths provided along Lions Drive. The posted speed limit is 50 km/h.

Bruce Road is a two-way local road which forms the southern boundary of the subject site. Bruce Road supports a carriageway of approximately 8 m wide. Between Broadhead Road

and Spring Flat Road, it is an unsealed road. There are no existing pedestrian footpaths along Bruce Road. The signposted speed limit is 50 km/h.

Broadhead Road is a local road with a north-south configuration. It forms the western boundary of the subject site and has a carriageway width between 7-8m wide. It is a sealed road without kerb and gutter, and road shoulder. There are no existing pedestrian footpaths along Broadhead Road. It has a posted speed limit of 50 km/h.

Robertson Street is a local road with a north-south alignment. It provides access to residential dwellings and Mudgee Golf Club. It is a sealed road with a posted speed limit of 50 km/h. It is noted that sections of Robertson Street, namely, surrounding the intersection with Bruce Road is without kerb and gutter. North of Lions Drive, there is kerb and gutter along the west-side of the street. Two bus stops are located on the east side of the street near the golf course entrance and north of Lions Road.

4.3 Public Transport Services

Regional Coach Services

On weekdays and weekends Countrylink operate long-distance coach services between Coonabarabran, Baradine, Gulgong and Lithgow train station which stop at Gulgong, Mudgee and Ilford. The regional coach route map is shown in Figure 4.3.

Figure 4.3: Regional Coach Service Map

Source: Transport for NSW Regional Trains and Coaches Network map

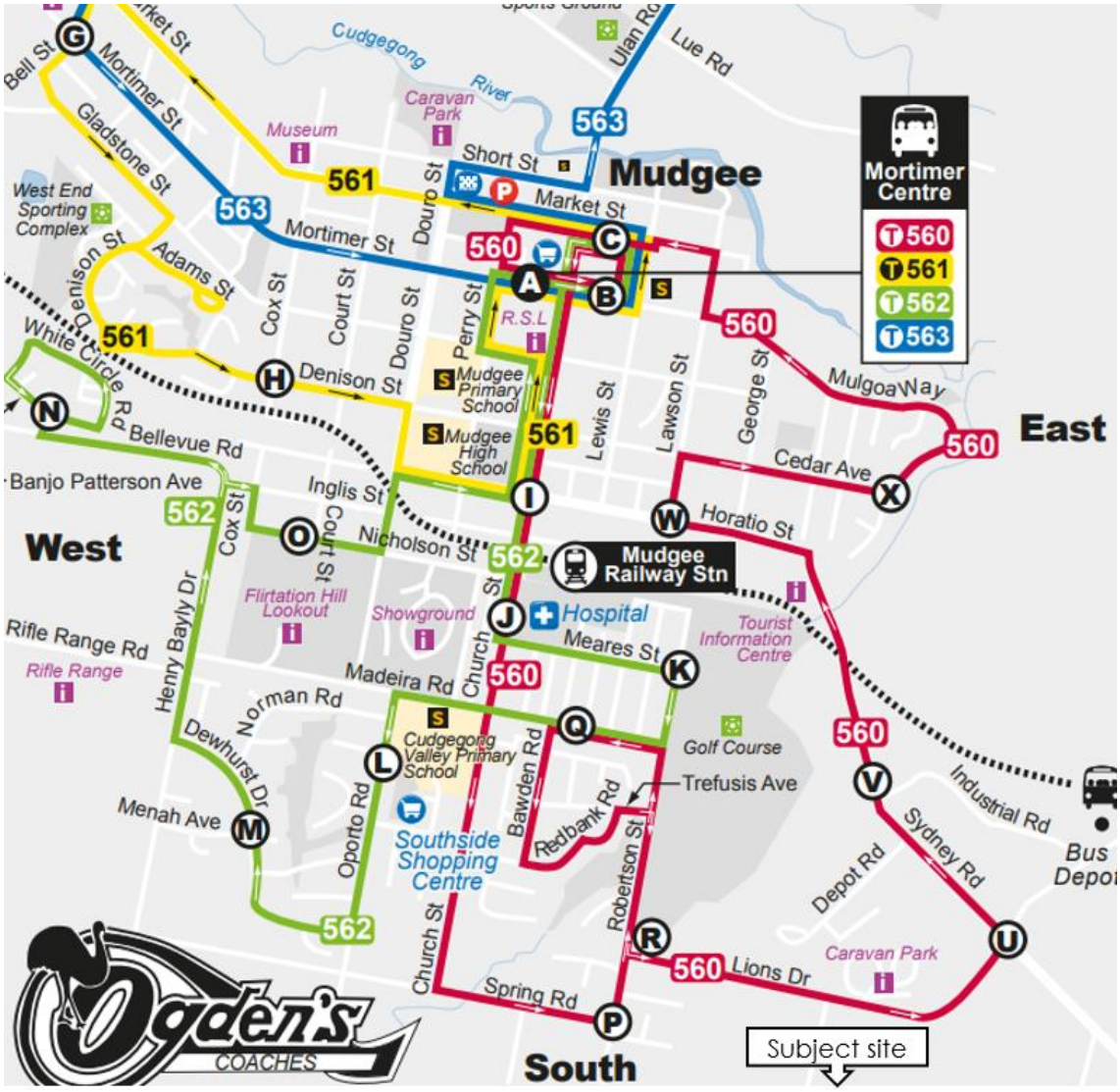
Local Public Bus Services

Local bus services in Mudgee township include:

- 560 – Mudgee east loop
- 561 – Mudgee west loop
- 562 – Mudgee south loop
- 563 – Mudgee north loop.

Buses operate on weekdays only offering two mid-morning services and two afternoon services. Bus stops nearest to the subject site are located approximately 1.6km away, and are indicted as 'P' and 'R' in Figure 4.4.

Figure 4.4: Local Bus Network Map



Source: Ogden's Coaches – Mudgee Bus Timetable

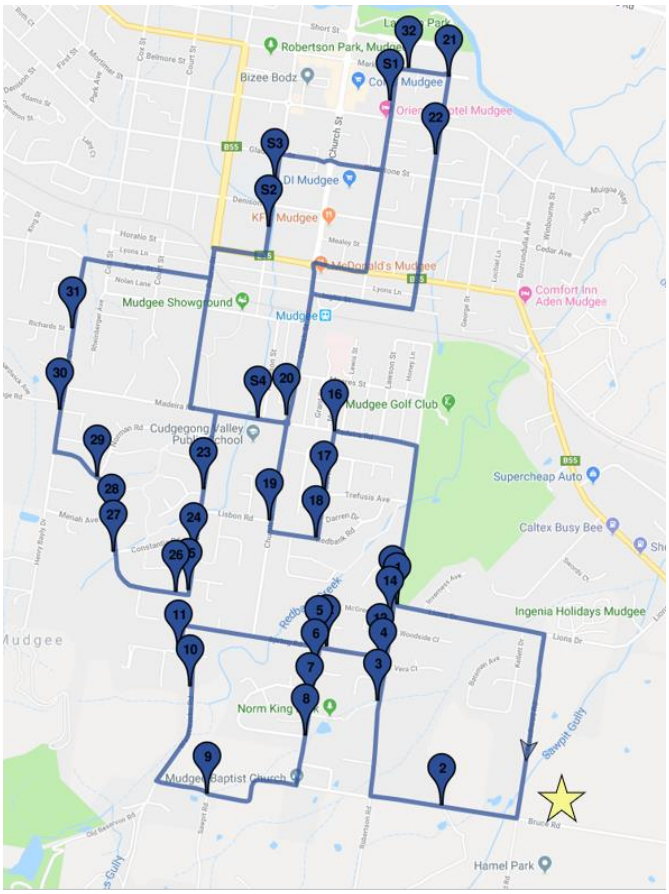
School Bus Services

Ogden's Coaches (Ogden's) also provides private bus services for schools in Mudgee. Figure 4.5 and Figure 4.6 illustrate existing morning and afternoon school bus routes in the vicinity of the subject site. Currently, bus services travel southbound on Broadhead Road along the western site frontage and turn right onto Bruce Road.

The AM bus route commences at the corner of Robertson Road/Lions Drive and travels towards Broadhead Road. The route proceeds into town and arrives at the existing Mudgee Catholic school campus at 8.44am. The PM bus route commences in town, collecting students at existing school campus at 3.33pm and then proceeds towards the south-western areas of Mudgee.

As part of the Proposal, a bus bay would be provided on the school site via Bruce Road. The proposed site layout and access arrangements are described in Chapter 6.

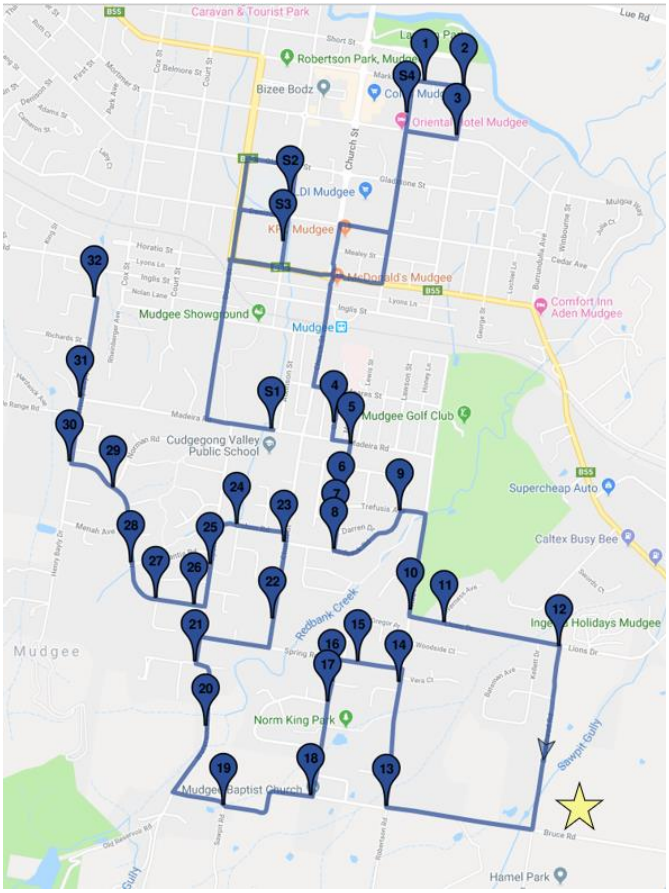
Figure 4.5: AM Bus Route



1	Cnr Robertson St/Lions Drive	8:00am
2	Bruce Rd	8:07am
3	Cnr Robertson St/Doug Gudgeon Dr	8:08am
4	140 Robertson Street	8:09am
5	Cnr Spring/Melton Roads	8:10am
6	Cnr Chappell/melton Rds	8:10am
7	25 Melton Road	8:11am
8	Cnr Macquarie Rd/Melton Rd	8:12am
9	Cnr Bruce/Sawpit Rds	8:13am
10	14 Waterworks Rd	8:15am
11	Cnr Palermo/Oporto Rds	8:15am
12	Cnr Spring Rd/Hermitage Cl	8:17am
13	Cnr Spring Rd/Robertson St	8:17am
14	Cnr Robertson St/McGreggor Pl	8:18am
15	Cnr Robertson St/Lions Dr	8:18am
16	Cnr Maderia Rd/Bawden Rd	8:20am
17	Cnr Bawden Rd/Trufusis Ave	8:21am
18	Cnr Bawden/Redbank Rds	8:22am
19	Cnr Church/Lisbon Sts	8:23am
20	Church Street Scout Hall	8:24am
S1	St Matthews Catholic School	8:27am
21	Cnr Market/Lawson Sts	8:29am
22	31 Lawson Street	8:30am
23	Oporto Road Shops	8:34am
24	29 Oporto Road	8:35am
25	39 Oporto Road	8:35am
26	53 Dewhurst Drive	8:35am
27	25 Dewhurst Drive	8:36am
28	21 Dewhurst Drive	8:36am
29	Cnr Dewhurst Dr/Norman Rd	8:37am
30	Cnr Henry Bayly Dr/Flinders Ave	8:38am
31	Cnr Henry Bayly Dr/Richards St	8:38am
S2	Mudgee High School	8:41am
S3	Mudgee Public School	8:42am
S1	St Matthews Catholic School	8:44am
32	20 Market Street	8:45am
21	Cnr Market/Lawson Sts	8:45am
S4	Cudgegong Valley Public School	8:50am
S2	Mudgee High School	8:53am
S3	Mudgee Public School	8:55am

Basemap source: Ogden's Coaches Mudgee School, viewed online 17/06/19

Figure 4.6: PM Bus Route



S1	Cudgegong Valley Public School	3:25pm
S2	Mudgee Public School	3:29pm
S3	Mudgee High School	3:31pm
S4	St Matthews Catholic School	3:33pm
1	20 Market Street	3:36pm
2	Cnr Market/Lawson Streets	3:36pm
3	Cnr Lawson/Mortimer Streets	3:37pm
4	11 Grant Street	3:41pm
5	Cnr Bawden/Maderia Rds	3:42pm
6	Cnr Bawden Rd/Trefusis Ave	3:43pm
7	Cnr Bawden Rd/Darren Dr	3:43pm
8	Cnr Bawden/Redbank Rds	3:44pm
9	Cnr Redbank Rd/Trefusis Ave	3:44pm
10	Cnr Robertson St/Lions Dr	3:46pm
11	9 Lions Drive	3:47pm
12	Cnr Lions/Broadhead Drives	3:48pm
13	Cnr Bruce Rd/Robertson St	3:50pm
14	140 Robertson Street	3:52pm
15	17 Spring Road	3:53pm
16	Cnr Melton Rd/Chappell Cl	3:53pm
17	Cnr Melton Rd/Macquarie Dr	3:54pm
18	Cnr Melton/Bruce Rds	3:55pm
19	Cnr Bruce/Sawpit Roads	3:56pm
20	26 Waterworks Rds	3:57pm
21	Cnr Oporto/Palermo Rds	3:58pm
22	278 Church Street	3:59pm
23	Cnr Church St/Redbank Rd	4:00pm
24	Cnr Lisbon St/Lynwood Ave	4:01pm
25	29 Oporto Road	4:01pm
26	53 Dewhurst Drive	4:02pm
27	Cnr Avisford Ct/Dewhurst Dr	4:03pm
28	Cnr Constantia/Dewhurst Dr	4:03pm
29	Cnr Norman Rd/Dewhurst Dr	4:04pm
30	Cnr Dewhurst/Henry Bayly Drives	4:05pm
31	Cnr Henry Bayly Dr/Maderia Rd	4:06pm
32	Cnr Henry Bayly/Baskerville Dr	4:07pm

Basemap source: Ogden's Coaches Mudgee School, viewed online 17/06/19

4.4 Pedestrian and Cyclist Facilities

The subject site is currently a greenfield site. As such, there are no existing pedestrian or cycling facilities surrounding the future school site. The nearest discontinued footpath connections are located 400 m north and west of the subject site adjacent to residential dwellings.

Proposed pedestrian and cycle facilities are discussed in Chapter 6.

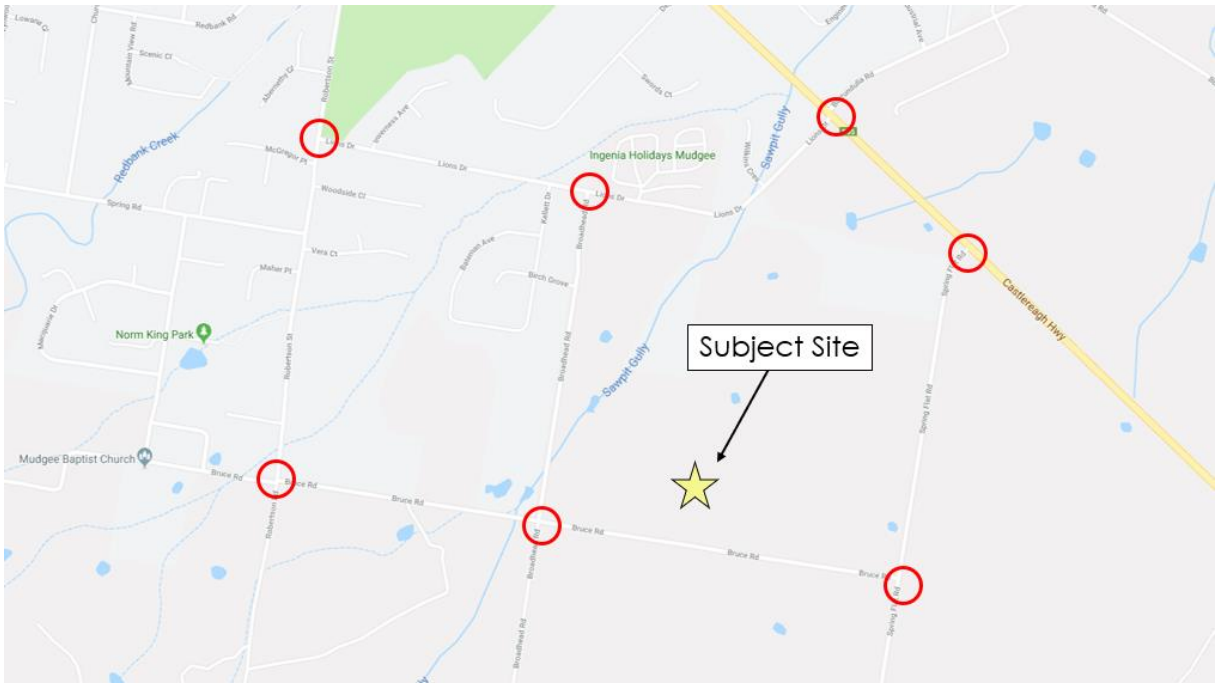
4.5 Existing Traffic Volumes

Traffic surveys were carried out in February 2019 to capture typical weekday traffic turning movements at key nearby intersections. These include priority-controlled intersections as follows:

- Castlereagh Highway/ Lions Drive/ Burrundulla Road
- Bruce Road/ Robertson Street
- Lions Drive/ Robertson Street
- Broadhead Road/ Bruce Road
- Broadhead Road/ Lions Drive
- Spring Flat Road/ Bruce Road
- Spring Flat Road/ Castlereagh Highway.

The surveyed intersections are illustrated in Figure 4.7, while AM and PM peak hourly turning movements are illustrated in Figure 4.8 and Figure 4.9, respectively.

Figure 4.7: Key Localised Intersections



Basemap Source: Google Maps, viewed online 13/05/2019

Figure 4.8: AM Peak Traffic Volumes

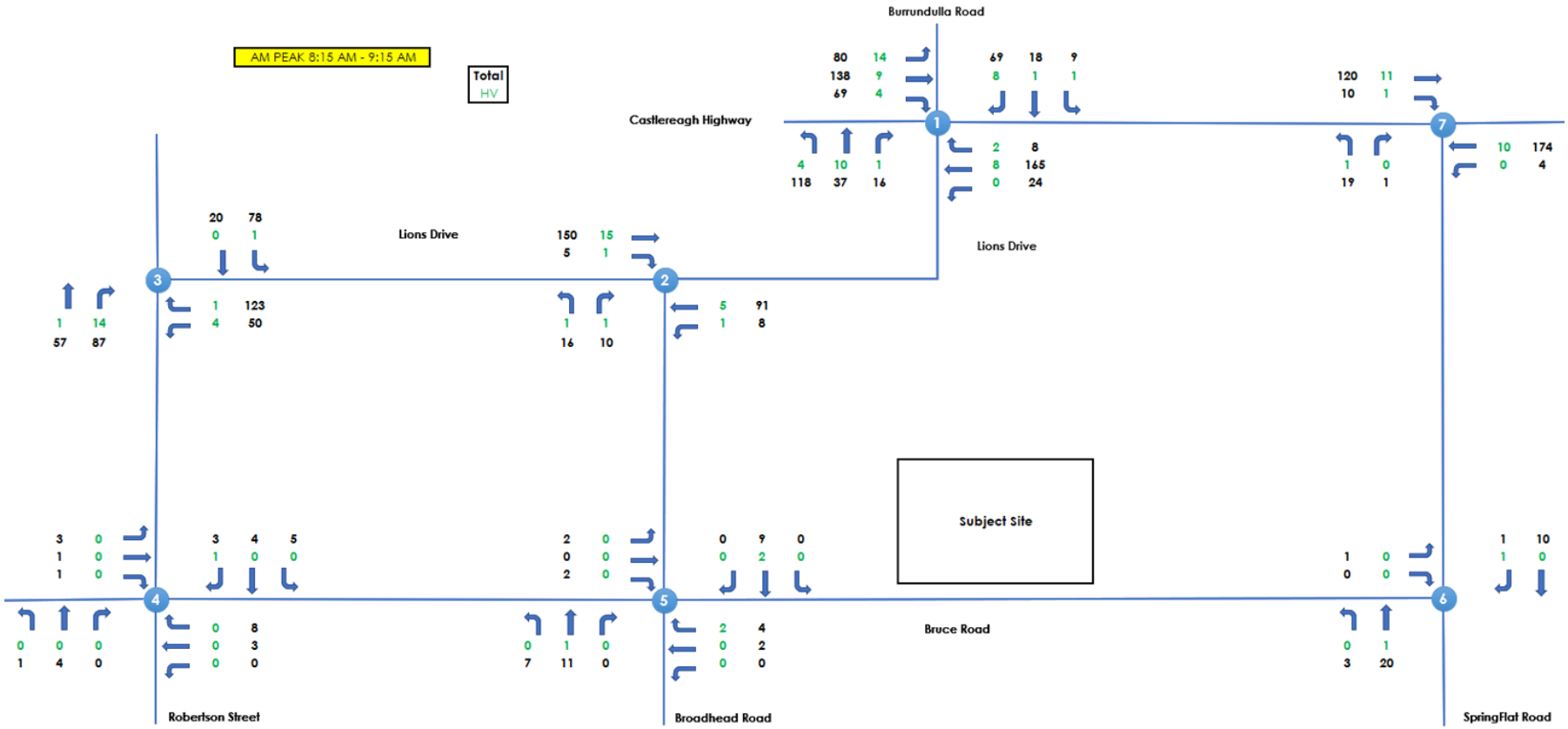
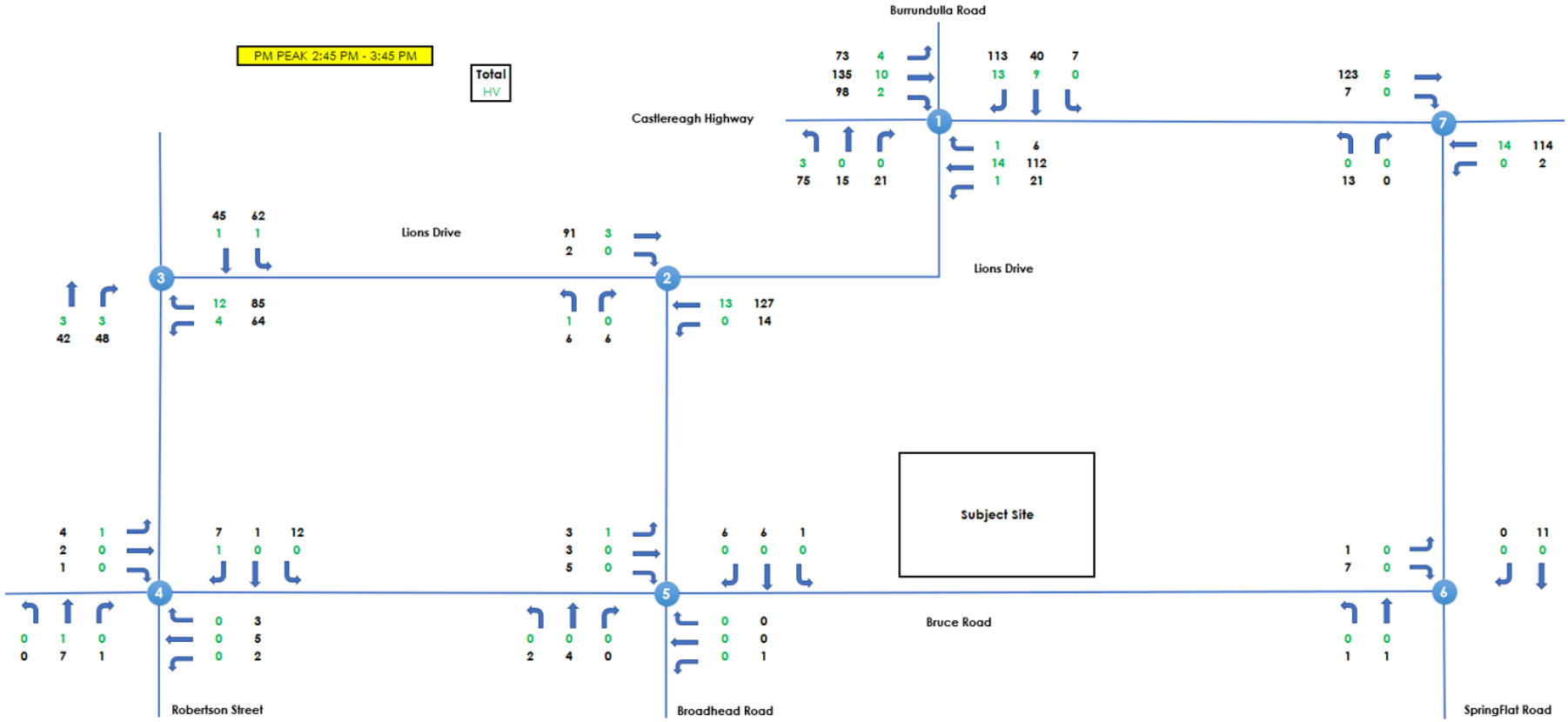


Figure 4.9: PM Peak Traffic Volumes



4.6 Surrounding Intersection Operation

Intersection capacity analysis has been undertaken using the latest version of SIDRA Network modelling software (version 8.0). Traffic modelling has been carried out to determine the performance of key nearby intersections (as identified in Figure 4.7) under various scenarios. The performance assessment criteria and modelling results are discussed herein.

4.6.1 Level of Service Criteria

Roads and Maritime uses level of service (LoS) as a measure of performance for all intersection types operating under prevailing traffic conditions. The level of service ranges from LoS A to LoS F which is directly related to the average intersection delays experienced by traffic travelling through the intersection. Performance levels ranging between LoS A to LoS D are considered to be acceptable with LoS A providing better performance than LoS D. LoS E and LoS F are considered to provide unsatisfactory intersection performance.

For priority (give way and stop sign) controlled intersections, the average delay relates to the worst movement.

Table 4.1 shows the criteria that SIDRA Network adopts in assessing the LoS.

Table 4.1: Roads and Maritime LoS Criteria

Level of Service (LoS)	Average Delay per vehicle (s/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity	At capacity, requires other control mode.
F	Greater than 70	Unsatisfactory, requires additional capacity	Unsatisfactory, requires other control mode or major treatment

4.6.2 Intersection Modelling Results

A summary of the existing AM and PM peak period traffic modelling results is provided in Table 4.2.

Table 4.2: Existing Road Network Performance

	Intersection	AM Peak			PM Peak		
		Average Delay (s)	LoS	Average Queue Length (m)	Average Delay (s)	LoS	Average Queue Length (m)
1	Castlereagh Hwy/ Lions Dr/ Burrundulla Rd	15	B	3	14	A	6
2	Broadhead Rd/ Lions Dr	6	A	0	5	A	0
3	Lions Dr/ Robertson St	6	A	2	6	A	2
4	Bruce Rd/ Robertson Rd	5	A	0	5	A	0
5	Broadhead Rd/ Bruce Rd	5	A	0	5	A	0
6	Spring Flat Rd/ Bruce Rd	9	A	0	8	A	0
7	Spring Flat Rd/ Castlereagh Hwy	9	A	1	8	A	0

Currently, key nearby intersections operate at an acceptable level of service level of service B or better with minimal delays and queue lengths. The longest delay has been modelled as 15 seconds and the longest queue being 6 m. Overall, the existing road network surrounding the subject site operates well.

5 Mode Share of Existing Students and Staff

The Masterplan seeks to increase the high school's current capacity to 680 students by 2026. Additional students would be split across all year groups from Years 7-12 so that in the future there would be 680 high students. A breakdown of the projected growth in high student numbers and associated staff numbers is given in Table 5.1.

Table 5.1: High School Student and Staff Population

Year	Students	Staff (1)
2019	373	44
2026	680	59

Notes:
(1) Full-time Equivalent Staff

High school students and staff participated in an online questionnaire which captured their current mode share when travelling to/from school. Results of the questionnaire have been summarised in Table 5.2 and Table 5.3 for students and staff, respectively.

Table 5.2: Student Mode Share

Mode Share	Proportion
Car, drop off by parent/ caregiver	41.0%
Car, as the driver	9.1%
Car, driven by another student	2.3%
Bus	33.6%
Walk	9.8%
Cycle	4.2%
Total	**100%**

The results indicate that the majority of students are driven to school by a parent (41.0%). Some students drive themselves to school, presumably students in Years 11 and 12 (9.1%) while some are driven by a peer (2.3%). Students travelling to school by bus make up 33.6%. Students who walk or cycle to school make up 9.8% and 4.2% of the population, respectively.

Table 5.3: Staff Mode Share

Mode Share	Proportion
Car, as the driver (travelled alone)	81.6%
Car-pooled with another staff member (as the driver)	5.3%
Car-pooled with another staff member (they as the driver)	2.6%
Car, dropped off by spouse/other	2.6%
Bus	2.6%
Walk	2.6%
Cycle	2.6%
Total	**100%**

The survey results indicate that staff predominately commute to school by car (81.6%). Some staff car-pooled with another staff member (5.3%). The remaining mode share is evenly proportioned with 2.6% of staff being dropped-off by their spouse/other, caught the bus, walked or cycled to school.

6 Proposed Development

6.1 Proposal Description

The Masterplan seeks to increase the current capacity of St Matthews Catholic College. The proposed increase requires the high school portion of St Matthews Catholic College to be relocated from 4 Lewis Street, Mudgee to a greenfield site at 48 Broadhead Road, Spring Flat while the primary school would remain at the existing site.

The future high school site would comprise new buildings including classrooms, library/ learning centre, multipurpose hall and prayer space. There would be an on-site car park, kiss and ride zone, and bus bay. A concept plan of the proposed site layout is shown in Figure 6.1 while full-size concept plans are provided in Appendix B.

Class times at the future high school campus would occur between 8.35am-3.05pm. Arrivals at the school site would be likely to occur from 7.45am. There would be no immediate plans for before-and-after school care services at the future school.

Figure 6.1: Future School Site Plan

Source: Alleanza Architecture Site Plan, dated 08/04/2020

6.2 Car Parking

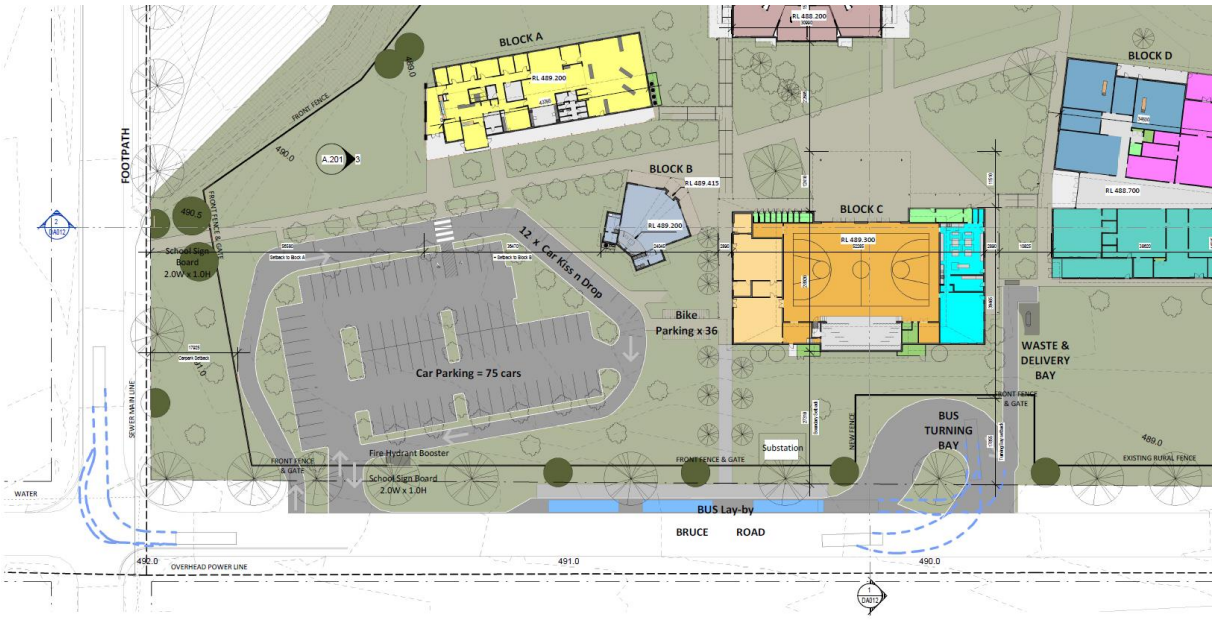
The future development would provide a car park on-site containing 75 car parking spaces for use by staff, senior students and visitors. Parking bays for staff and visitors would be marked as such. Of these spaces, two parking spaces would be provided as accessible parking spaces.

A kiss and ride zone comprising 12 marked bays would be provided on-site to be used before and after school by parents transporting students.

A bus bay would be provided on-site to accommodate three buses at any one time. The bus bay would be separate to the car park and student kiss and ride zone as shown in Figure 6.2.

There would be ample space on-site to accommodate overflow parking required for special events and significant religious services. For example, south of Block D. Such events could include fetes, major sporting events, interschool activities, examinations or key school performances. During such events, a parking management plan would be prepared and communicated to the relevant attendees.

Figure 6.2: On-Site Parking and Bus Bay



Source: Alleanza Architecture Site Plan, dated 08/04/2020

6.3 Bicycle Parking

Bicycle racks would be provided on-site as Class 3 facilities in accordance with AS2890.3 which permits bicycles to be locked to a support rail. There would be provision of 36 bicycle spaces located near key pedestrian walkways to achieve passive surveillance. The location of the bicycle spaces is shown in Figure 6.2.

It is proposed to provide two shower and change cubicles in the Administration Building for staff. Such end of trip facilities would suitably support staff who would commute by active travel means (walking and cycling).

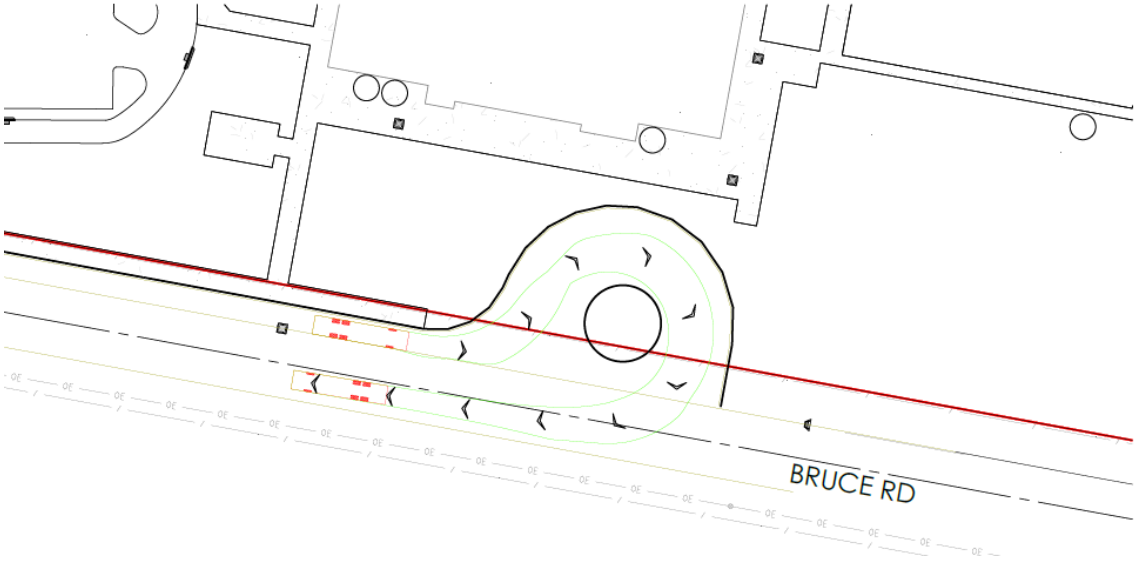
All students would be provided a secure locker for storing their belongings and riding equipment, such has their helmet and bicycle lock. Secure lockers and/or secure office space would be available to staff for storing riding equipment.

6.4 Vehicle Access and Circulation

Vehicle access to the on-site car park would be provided via Bruce Road with separate ingress and egress driveways. Vehicle movement through the car park would be in the form of one-way circulation with 5.8m-wide (minimum) aisles. The one-way circulation would facilitate vehicle flow from the car park entrance towards the kiss and ride zone the towards the car park exit.

Buses would enter the bus bay by turning left-in off Bruce Road and right-out to Bruce Road. A swept path analysis for a 12.5 m bus has been undertaken to ensure that bus turning movements could be accommodated as shown in Figure 6.3 and Appendix C.

Figure 6.3: Bus Swept Path at Bus Bay



6.5 Service Vehicle Access

Waste and delivery vehicles would include vehicles up to 8.8 m in length, namely, a medium rigid vehicle.

Like much similar size developments in Mudgee, waste collection for the school would be undertaken using a medium rigid vehicle that is 7.9 m long. Vehicle specifications of the waste collection truck are given in Figure 6.4.

Services and deliveries would be scheduled twice per week and during teaching periods, that is, between 9.30am-2.30pm which occur outside of peak school periods.

These vehicles would access the site via the turning circle near the bus bay and reverse a short distance into position to load/unload deliveries or collect waste on-site. The location of the waste/ delivery vehicle access is shown in Figure 6.5. The turning circle is designed to accommodate a 12.5 m heavy rigid vehicle (i.e. long bus) and therefore could adequately accommodate an 8.8 m medium rigid service vehicle.

Delivery and waste activities undertaken by heavy vehicles would be separate to light vehicles. Such activities would occur in their own dedicated space in the loading area, away from the car park and any high pedestrian activity areas which will improve safety.

Figure 6.4: Waste Collection Vehicle (Isuzu 7.9 m MRV)

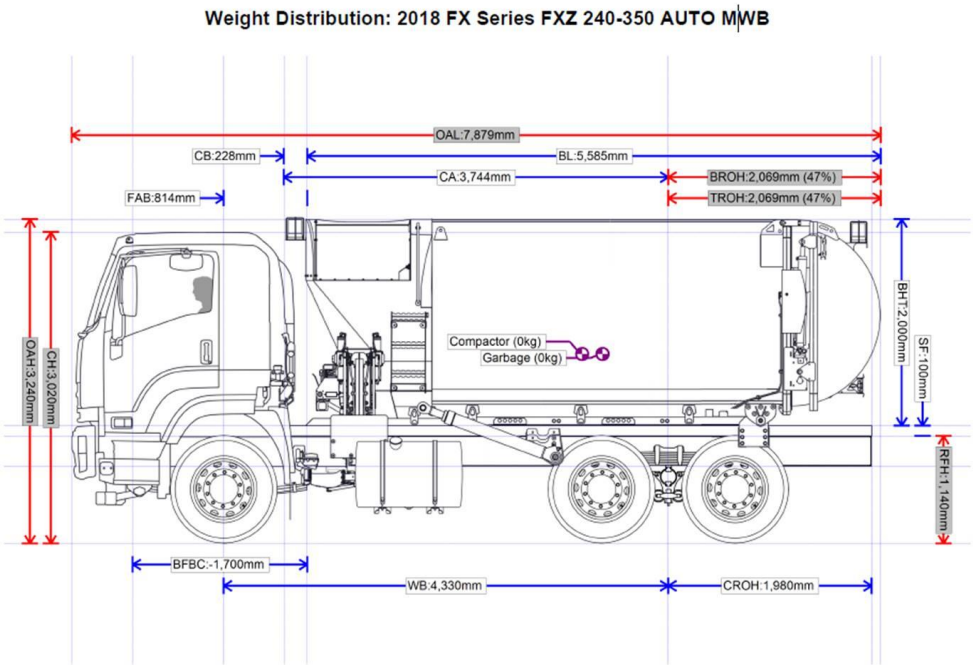


Figure 6.5: Waste and Delivery Access

6.6 Public Transport

A bus bay would be proposed on the north side Bruce Road parallel to the roadway. The proposed bus bay would accommodate three buses at one time which is in line with TfNSW's Bus Infrastructure guidelines and the Mid-Western Regional Council DCP 2013.

Ogden's, who is the school bus service provider in Mudgee, was consulted during the design process of the bus bay layout design. Ogden's has reviewed the proposed site plan and provided its endorsement for the layout. Written correspondence of Ogden's endorsement has been included in Appendix D of this report.

TfNSW has overarching authority on the operation of school bus services that Ogden's operate on its behalf, and as such, have some discretion over the routes which currently operate. Ogden's identified that a transport route assessment for the re-route of existing bus services and new bus stops would likely be required by TfNSW. The new School site would become a new stop along 16 existing school bus routes. Therefore, a review of school bus services, with regarding to driving routes and service times would be assessed separately at the discretion of TfNSW.

6.7 Pedestrian and Bicycle Access

It is proposed to provide a 2.5 m wide shared path along the eastern side of Broadhead Road which would link to the existing footpath on the western side (alongside the residential dwellings). At the connection point with the existing footpath a children's crossing is proposed to facilitate school children towards the residential area located north and west of the site.

Through early consultation with TfNSW, it is understood that a study of the children's crossing would be required following the opening of the School to identify if the crossing warrants are met. Therefore, provision of the children's crossing is subject to assessment and approval by TfNSW. Furthermore, consultation with TfNSW will be had regarding an interim solution to facilitate pedestrians across Broadhead Road until the School becomes operational and the relevant warrant assessments are completed. A suggestion by TfNSW is for a pedestrian refuge at this location.

Notwithstanding this, a preliminary review of the suitability for a children's crossing at this location has been undertaken using traffic flow and pedestrian flow forecasts as per this TIA. Its suitability has been assessed against the RMS warrants for a children's crossing.

RMS practice for a children's crossing include the following:

- *The crossing is located on local and lightly trafficked roads where in a one hour duration immediately before and after school hours the traffic flow exceeds 50 vehicles per hour in each direction and during the same hour 20 or more children cross the road within 20 m of the proposed crossing location.*

It is estimated that 51% of site-generated vehicle trips would travel via Broadhead Road as shown in Figure 8.2. During the AM and PM peak periods (also, the hour before and after school) there would be at least 80 vehicle trips per hour per direction.

The Green Travel Plan sets a target for 15%-16% of students to commute by means of active transport (walking and cycling) by implementing the infrastructure and measures to achieve modal shift. Applying a similar trip distribution that was used for traffic (51%), at least 50 students per hour would cross Broadhead Road in close proximity to the proposed crossing.

However, as per the advice of TfNSW, an automatic tube counter would be commissioned on Broadhead Road, preferably near the proposed crossing location following the opening of the school. Its purpose would be to capture traffic flows to identify vehicle volumes on an hourly basis.

Pedestrian desire lines would be able to be observed which would also guide the location of the crossing such that it would work most effectively for school students.

- *The 85th percentile speed of traffic must not exceed 60 km/h one hour before or after school hours.*

  Broadhead Road has a speed limit of 50 km/h, therefore, the 85th percentile speed is not expected to exceed 60 km/h. However, as per the advice of TfNSW, an automatic tube counter would be commissioned on Broadhead Road, preferably near the proposed crossing location following the opening of the school. Its purpose would be to capture travel speeds to identify the 85th percentile speed of traffic.

- *There is no more than one marked travel lane approaching the crossing, and must have kerb and gutter.*

  Broadhead Road is designed to have one lane of traffic on both approaches to the proposed crossing location. As part of the development, it is proposed to provide kerb and gutter along the east side of Broadhead Road (refer to Figure 6.6). The extent of kerb and gutter requirements on approach to the crossing would be disused with TfNSW.

The children's crossing would be designed in accordance with Roads and Maritime Supplements to Austroads (version 3.0) and Austroads Guide to Traffic Management Part 10. The crossing would operate before and after school on school days. Common operating periods are 8.00am-9.30am and 2.30pm-4.00pm which could be adjusted to align with the School's start and finish time.

An undertaking from the school principal to arrange the display of the Children Crossing flags or signs during and only during the specified period of operation would be required. The crossing would be presented and reviewed by Council's Traffic Committee for approval.

From the shared path to the existing footpath, pedestrians would continue onto the pathway while cyclists would divert onto the adjacent local road. Riders of all ages can cycle using the shared path. In the north, Broadhead Road and Lions Road are local, residential streets appropriate for cycling on-street by persons aged 16 and above.

In NSW, children up to the age of 16 are permitted to cycle on the footpath. A rider over the age of 16 who is supervising a bicycle rider under 16 may also ride with the young rider on the footpath. Children aged 16 or 17 can ride on the footpath when accompanied by a child under 16 and a supervising adult.

6.8 Crime Prevention through Environmental Design Action Plan (CPTED)

Natural surveillance of pedestrian and cycling pathways within the School and connecting to the public network would be achieved through use of low-lying vegetation and lighting where required. Dense foliage and inappropriate planting that could cause concealment would be avoided.

Public spaces, such as walkways and the car park are proposed to be open which would further permit natural surveillance and would not restrict sightlines.

Good signage on paths between buildings, the bus bay, kiss and ride zone, and the car park would be installed to assist people around the School.

6.9 Road Upgrades

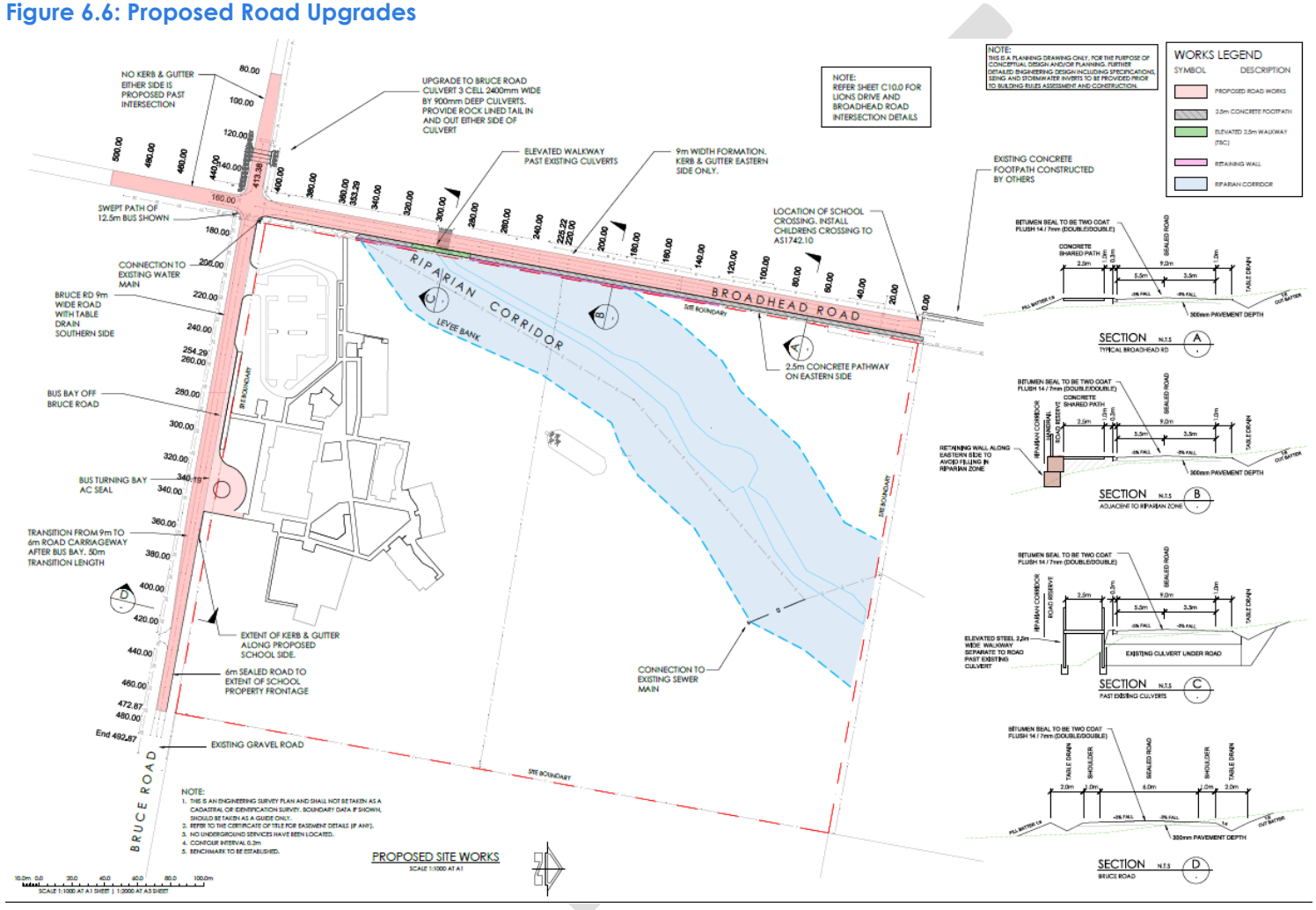
Civil works would be proposed to local roads, Broadhead Road and Bruce Road to facilitate the Proposal. Road upgrades would involve road sealing and widening to accommodate one traffic lane in each direction. Traffic lanes would have a width of 3.5 m (minimum) and the overall carriageway width would be 9 m.

The extent of the proposed upgrades on Broadhead Road, north of Bruce Road, would be up to the recently completed section of road near No. 38 Broadhead Road which measures approximately 400 m long. On Bruce Road, east of Broadhead Road, the extent of proposed works would be up to the school property frontage. The carriageway width east of the bus bay egress driveway would transition from 9 m to 6 m over a transition length of 50 m.

The intersection of Broadhead Road and Bruce Road would be widened in accordance to permit the swept path of a bus turning left from Broadhead Road to Bruce Road.

A plan indicatively showing the proposed road upgrades is provided in Figure 6.6 and Appendix E.

Figure 6.6: Proposed Road Upgrades



7 Parking Assessment

7.1 Car Parking Requirements

7.1.1 State Environmental Planning Policy (Educational Establishments)

There is no specific car parking rate under the Educational State Environmental Planning Policy (SEPP). However, generally, any car parking must not reduce the number of car parking spaces provided and/or must not contravene any existing condition of the most recent development consent relating to car parking (where applicable).

7.1.2 Mid-Western Regional Council Development Control Plan

The car parking requirements for the school has been assessed against the Mid-Western Regional Council Development Control Plan (DCP) 2013. The DCP states that the car parking for educational establishments to be provided as per the following rates:

- Provision for at least three (3) parking spaces for buses, plus
- Adequate pick-up space, plus
- 1 space per 30 m^2 GFA of "shop" area, plus
- 1 space per staff member, plus
- 1 space per 10 senior students (Year 11 and up).

Parking spaces for buses

A bus bay would be provided on-site would have capacity to accommodate three buses parked at one time, as per the DCP requirements.

Pick-up Space

As per the results of the questionnaire (Table 5.2), 41.0% of high school students are dropped-off/ picked-up at school by a parent. In the future, this would equate to 279 students being transported by a parent (41.0% x 680 students). The questionnaire also enquired about the number of students travelling in each vehicle. From this, a car occupancy rate of 1.4 students per vehicle has been deduced. Assuming a similar car occupancy rate in the future, there would be in the order of 199 cars dropping-off/picking-up students in the morning peak and afternoon peak periods, respectively.

Schools typically have a prominent afternoon peak period while the morning period tends to be smoother across the hour. Therefore, the afternoon peak has been considered as the 'worst-case' for assessing capacity of the kiss-and-ride facility herein.

Survey data collected at other high schools in NSW indicate that the average drop-off/ pick-up duration is approximately one minute per vehicle. Generally, students are collected from school within 30-minutes after the school bell (3.05pm) with the bulk of pick-up activities occurring in the initial 15-minutes after the school bell (i.e. about 70% of students being picked-up). Future pick-up operation would be expected to reflect a trend-line as shown in Figure 7.1.

The black line indicates vehicle arrivals while the red line shows the maximum number of vehicles that could be accommodated in 15 minutes across 12 bays in the kiss-and-ride facility.

It is proposed to provide 12 bays within the kiss and ride zone which would be used by parents to drop-off and pick-up students. On the basis of a standing duration of one-minute per vehicle, each bay could accommodate 15 cars in a 15-minute period. Therefore, the 12 bays could accommodate a total of 180 cars in a 15-minute period.

Figure 7.1: Afternoon Pick-up Operation

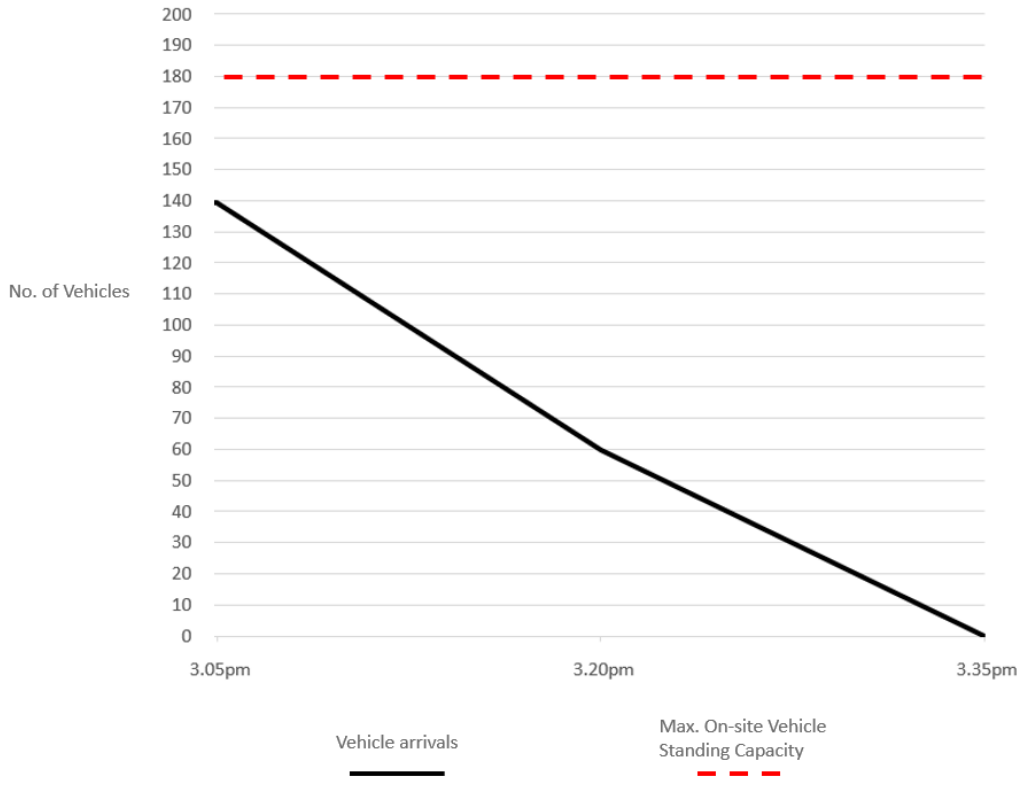


Figure 7.1 illustrates how the 199 cars would be expected to arrive and pick-up students after school. Typically, the bulk of the students would be collected in the initial 15 minutes after the school bell, gradually declining across the next 15 minutes. By 3.35pm, all pick-up activities would be expected to cease.

As shown in Figure 7.1, the peak number of cars estimated to pick-up students is expected to be in the order of 140 cars (70% of total cars). Furthermore, there is 50 m of aisle length on approach to the kiss and ride zone which could accommodate an additional 7-8 cars within the site. The layout of the kiss and ride facility which is proposed is shown in Figure 6.2.

"Shop" Parking

As part of the development, it is proposed to provide a canteen with a gross floor area (GFA) of 50 m^2. On this basis, one parking space would be provided for use by canteen assistant.

Parking for Staff and Senior Students

Based on a 59 full-time equivalent staff there would be a requirement to provide 59 staff car parking spaces on-site.

By 2026, it is anticipated that there would be 680 high school students in total, of which, 200 students would be in Year 11 and Year 12 cohorts (i.e. "senior students"). The projected growth of students per year group at the future high school is provided in Table 7.1. The DCP requires a future parking provision of 1 space per 10 senior students which equates to 20 car parking spaces.

Table 7.1: High School Students – Cohort Forecast

Enrol Year	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Total
2019	92	80	70	54	33	44	**373**
2026	120	120	120	120	100	100	**680**

The DCP does not stipulate parking rates for visitor parking, yet it has been considered for the future development. Visitors to the school would be expected during teaching times, and thus, would utilise kiss and ride bays which would be vacant outside of peak periods. Therefore, visitors attending the future high school campus could be accommodated on-site.

Collectively, the DCP would require that 80 car parking spaces are provided on-site and allocated for staff (59), the shop assistant (1) and senior students (20). Notwithstanding this, it is also noted that the DCP advises that parking provision be based on the net increase in demand for parking created by a development. As such, the car parking requirements for future development have also been assessed using a first principles approach.

7.1.3 First Principles Approach

The proportion of staff who drive and park at school comprises those who commute alone (81.6%) and those who car-pool with a colleague as the driver (5.3%). This equates to 86.8% of future staff would require a parking space, i.e.:

- 86.8% x 59 staff = 51 car parking spaces.

Of all high school students, 9.1% identify as driving and parking at school. This equates to:

- 9.1% x 200 senior students = 18 car parking spaces.

Based on mode share of existing high school students and staff, the new high school would require 69 on-site car parking spaces to accommodate future parking demand. Therefore, provision of 75 car parking spaces at the future high school campus is deemed sufficient and would not result in the need for on-street parking.

The First Principles method of estimating the site-generated parking demand is considered to be more accurate compared to Council's DCP parking rates on the basis that estimates are based on actual data from the existing School. For this reason, the 75 car parking spaces which are proposed on-site would sufficiently accommodate the future parking demand of the new high school and is considered acceptable.

7.2 Bicycle Parking

Council's DCP does not stipulate bicycle parking provisions for educational establishments. In the absence of DCP bicycle parking rates, due regard is given to Cycling Aspects of Austroads Guides. The Guide specifies a rate of 1 space per 10 students. On this basis, the recommended number of bicycle parking spaces for the future high school would be in the order of 60 spaces.

Current mode share data (Table 5.2) indicates that 4.2% of students currently cycle to school. This equates to 29 students. Therefore, provision for 60 bicycle parking spaces at the time of the school opening is considered excessive based on existing mode split and anticipated usage. As such, the bicycle parking provision of 36 spaces is considered satisfactory to accommodate future students and staff anticipated to cycle to the new campus in the opening years.

Notwithstanding this, targets have been set by the Green Travel Plan (GTP) to increase the number of students and staff who cycle to school in the future. Measures to be implemented by the school to achieve cycling mode share targets have been detailed in the GTP. Targets are likely to be supported by future residential development in Spring Flat and surrounding suburbs. To address higher bicycle mode share targets in the future, additional bicycle parking spaces could be accommodated on-site within close proximity to the 36 bicycle spaces. The layout of the proposed bicycle parking is shown in Figure 6.2.

7.3 Motorcycle Parking

Council's DCP does not stipulate parking rates for motorcycle parking. As no students and/or staff currently travel to the school by motorcycle, the provision of any motorcycle parking spaces within the future high school campus would not be required. However, further consultation with staff and students should be undertaken to understand whether any motorcycle parking spaces would be beneficial to deter them from car travel to the school. One car parking space could be converted into five motorcycle spaces if required.

7.4 Car Park Layout

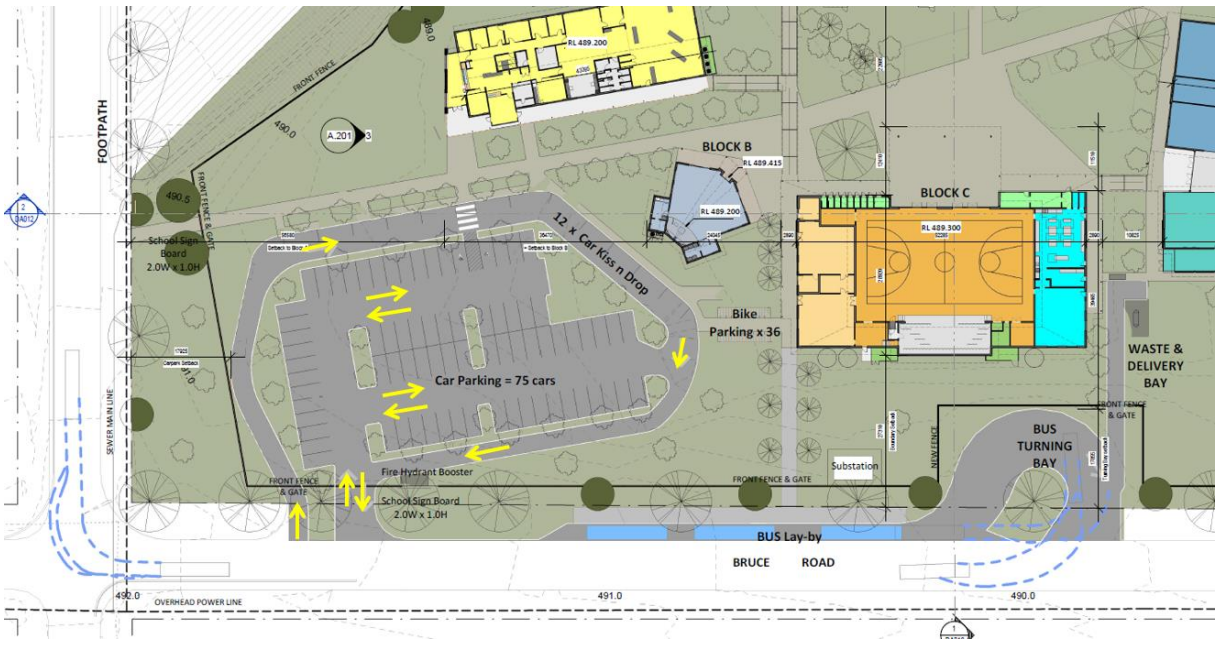
Car park circulation aisles and parking space dimensions would be provided in accordance with the Australian Standards (AS) 2890.1 Parking Facilities. Car parking facilities at schools are classified as Class 1A, that is, all-day employee parking. The circulation aisle and parking space dimensions are to be provided as follows:

- Circulation aisle width – 5.8 m (minimum)
- Parking space length – 5.4 m, and width – 2.4 m.

One-way circulation flow is proposed around the perimeter of the car park and includes a kiss and ride zone. Two-way circulation flow would be proposed within the internal aisles of the car park, as shown in Figure 7.2.

Vehicular access to the car park would be provided via a 7 m wide driveway providing ingress and egress movements. The outer circulation route/ kiss and ride zone would be accessed via a 3.5 m wide ingress driveway that is separate to the car park ingress driveway. Vehicles exiting the kiss and ride zone would leave the site via the car park egress driveway.

Figure 7.2: Car Park Circulation



In-line with TfNSW's initiatives for School Drop-off and Pick-up, this area would be signposted as 'Kiss & Ride' with 'No Parking' between 7.30am-9.00am and 2.30pm-4.00pm (the timing may be adjusted to suit school start and end times). The No Parking restriction would permit drivers to drop-off and pick-up passengers legally within a two-minute timeframe.

A driver would pull into the kerb and remain in control of the vehicle while an identified supervising adult from the school assists students to exit or enter the vehicle. As it is a high school, most (if not all students) would be able to assist themselves when entering and exiting a vehicle. However, a teacher or staff member on-duty would present to assist where required. Their role would also include supervising movements to ensure the kiss and ride facility is used correctly and is operating efficiently.

8 Traffic Impact Assessment

8.1 Rates by Roads and Maritime

The *Guide to Traffic Generating Developments* (Roads and Maritime, 2002) contains trip generation rates for various land uses. However, the Guide does not stipulate rates for schools. Roads and Maritime has carried out a recent study of schools, including those in regional areas, to determine current peak period trip rates.

The recent study, *Trip Generation Surveys, Schools Analysis Report* (Roads and Maritime Services, 2014) stipulates average vehicle trip rates for high schools in regional areas as follows:

- AM peak period – 0.35 trips per student, and
- PM peak period – 0.24 trips per student.

Adopting these rates, the proposed development would be expected to generate:

- 238 vehicle trips in the AM peak period, and
- 163 vehicle trips in the PM peak period.

As a check, the above trip generation estimates have been compared against trip generation rates calculated based on first principles, namely, the number of car parking spaces proposed at the future site. Trip generation estimates based on first principles are described in the Section 8.2.

8.2 Traffic Generation

Future trip generation has been estimated based on mode share data gathered for current high school students and staff. As per Section 7.1.2, it is estimated that trip generation during school peak periods would comprise the following:

- 199 cars driven by parents transporting students to/ from school,
- 59 staff driving and parking at the school, and
- 20 senior students driving and parking at the school.

Further to this, an assessment of travel pass eligibility for current and future students has been undertaken. The School Student Transport Scheme (SSTS) gives eligible students free or subsidised travel between home and school on NSW public transport, including buses. Students must live a minimum distance from school to be eligible for a free school travel pass. The minimum distance varies according to the year/grade. For high school students (Years 7-12), students must live a minimum of 2 km straight line distance or 2.9 km walking or further to be eligible for a free travel pass.

Due to the proposed relocation of the high school away from the Mudgee town centre, there would be a rise in the number of high school students eligible for a free travel pass as more students would reside beyond the SSTS prescribed boundary. It would result in an increase of approximately six per cent more students who would be eligible for a free travel pass.

Targets have been set by the Green Travel Plan (GTP) to increase the number of students and staff who travel to school using sustainable modes of transport. The proportion of students travelling by bus to the future school would be expected to increase by 6% while the portion of students transported by private car would decrease by about 5% and an uptake in active transport would increase by about 1%. This modal shift along with implementation of measures as detailed in the GTP would assist the School in achieving targets as set out by the GTP.

This modal shift has been considered as part of the traffic analysis herein; that is, there would be a reduction from 41% to 36% of students being transported by a parent. This equates to 175 cars transporting students to/ from school (instead of 199 cars as per Section 7.1.2).

Data gathered in early 2019 at a similar high school suggests that typical arrival and departure trends for staff and students occur as follows:

- AM Peak:
    - Staff trips – 80% of trips occur in the peak
    - Student trips – 90% of trips occur in the peak.
- PM Peak:
    - Staff trips – 10% occur in the peak
    - Student trips – 100% of all trips occur in the peak.

In recognition of this, a summary of peak vehicle trip generation during morning and afternoon peak periods are presented in Table 8.1.

It is noted that trips associated with staff and senior students would generate a single vehicle movement "in" as they enter and park at the school. Similarly, they would generate a single vehicle movement "out" when they exit the site and leave for the day. On the other hand, a parent that drops-off a student before school would generate two vehicle movements (one "in" trip plus one "out" trip). The same would occur when the student is picked-up after school. These two vehicle movements have been accounted for in in Table 8.1.

Table 8.1: Peak Vehicle Trips

Peak Period	Peak Period Vehicle Trips				RMS Rates
	Staff (59)	Senior Students (20)	Students Dropped-off/ Picked-up (175)	Total	
AM	47	18	157.5 x 2 = 315	380	238
PM	6	20	175 x 2 = 350	376	163

In order to carry out a conservative analysis, the higher trip generation estimates have been adopted in the traffic modelling scenarios herein; that is, 380 trips in the AM peak and 376 trips in the PM peak periods.

8.3 Traffic Distribution

Traffic generated by the future development has been distributed based on the current location of high school students' place of residence. Residences are generally concentrated within the Mudgee township and to the north-west of the subject site. Trip distribution based on current student place of residence data is shown in Figure 8.1.

On behalf of Mid-Western Regional Council, Ratio Consultants Pty Ltd prepared the *Population Projections Review (2005-2031) Report to Council* (dated October 2005) which states population growth rates in the Mudgee township. It estimates a population growth rate of 2.0% per annum (p.a.) between 2011-2016 based on census data, and projects a growth rate of 1.4% p.a. between 2016-2031.

It is appreciated that there is likely to be future residential development across surrounding vacant lots. Adopting a conservative growth rate, a trip proportion of 2.0% has been adopted. Having consideration of this, future trip distribution through the local road network is estimated as per Figure 8.2. The traffic flow diagram for AM and PM school peak periods are illustrated in

Figure 8.1: Current Vehicle Trip Distribution

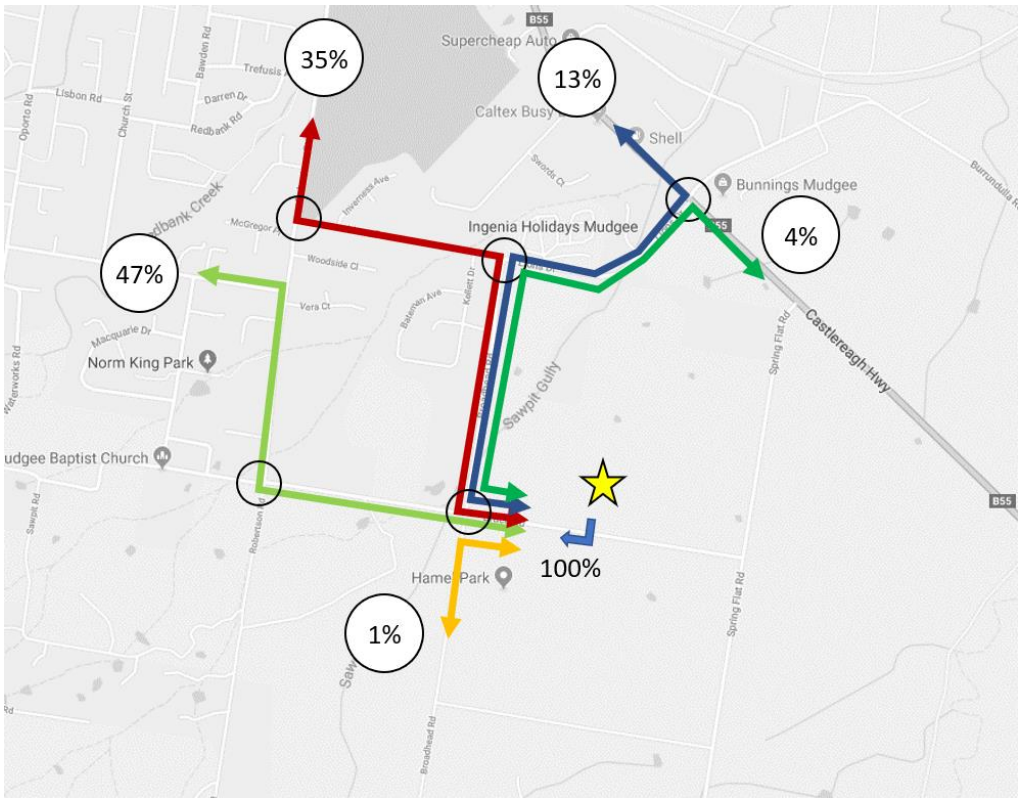


Figure 8.2: Future Vehicle Trip Distribution

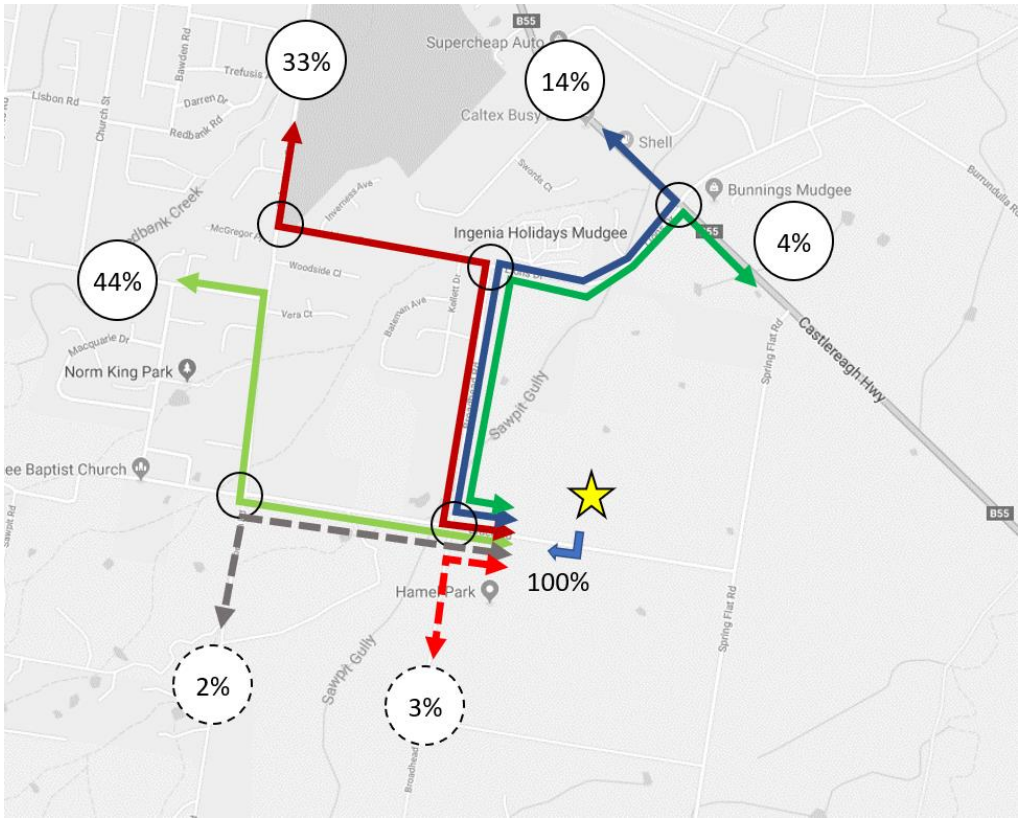


Figure 8.3: AM Peak Traffic Flow Diagram

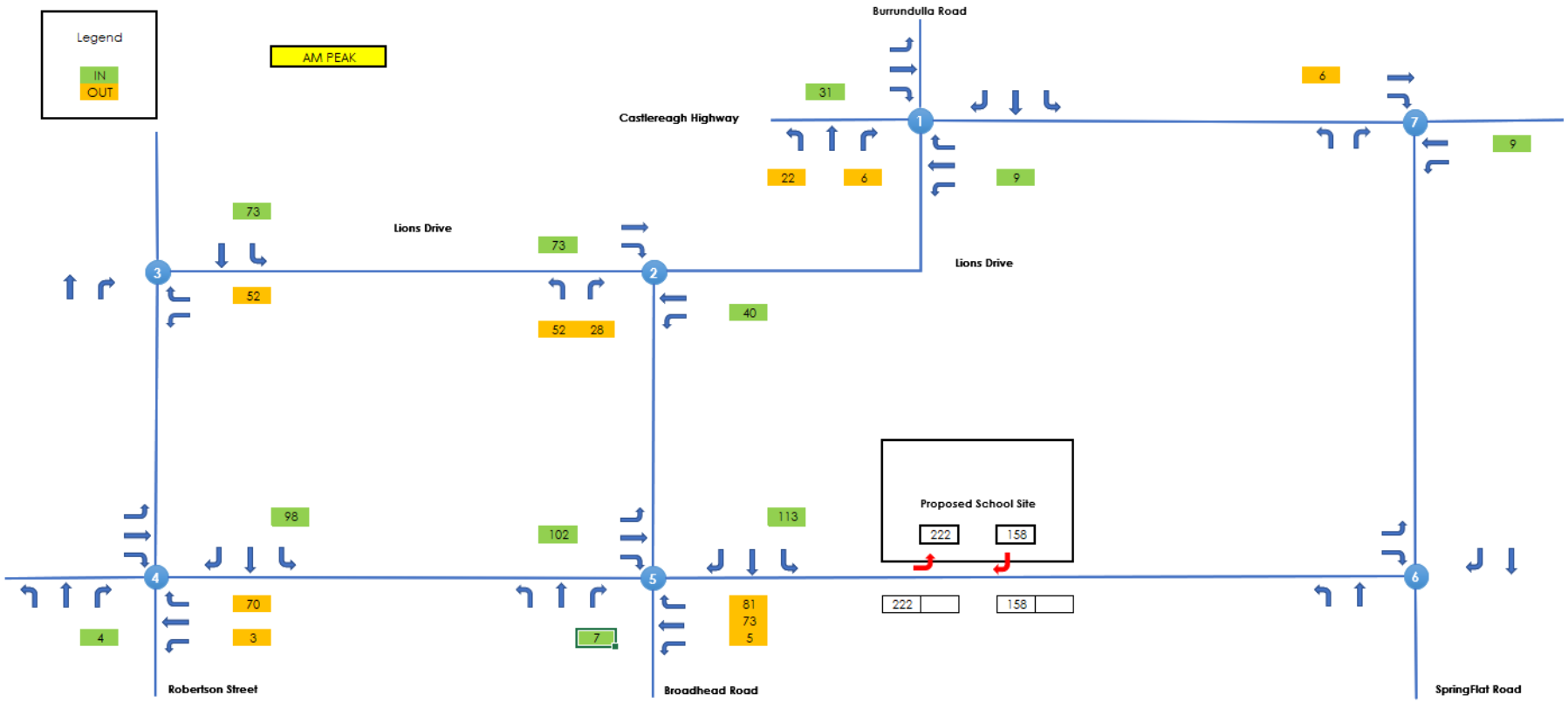
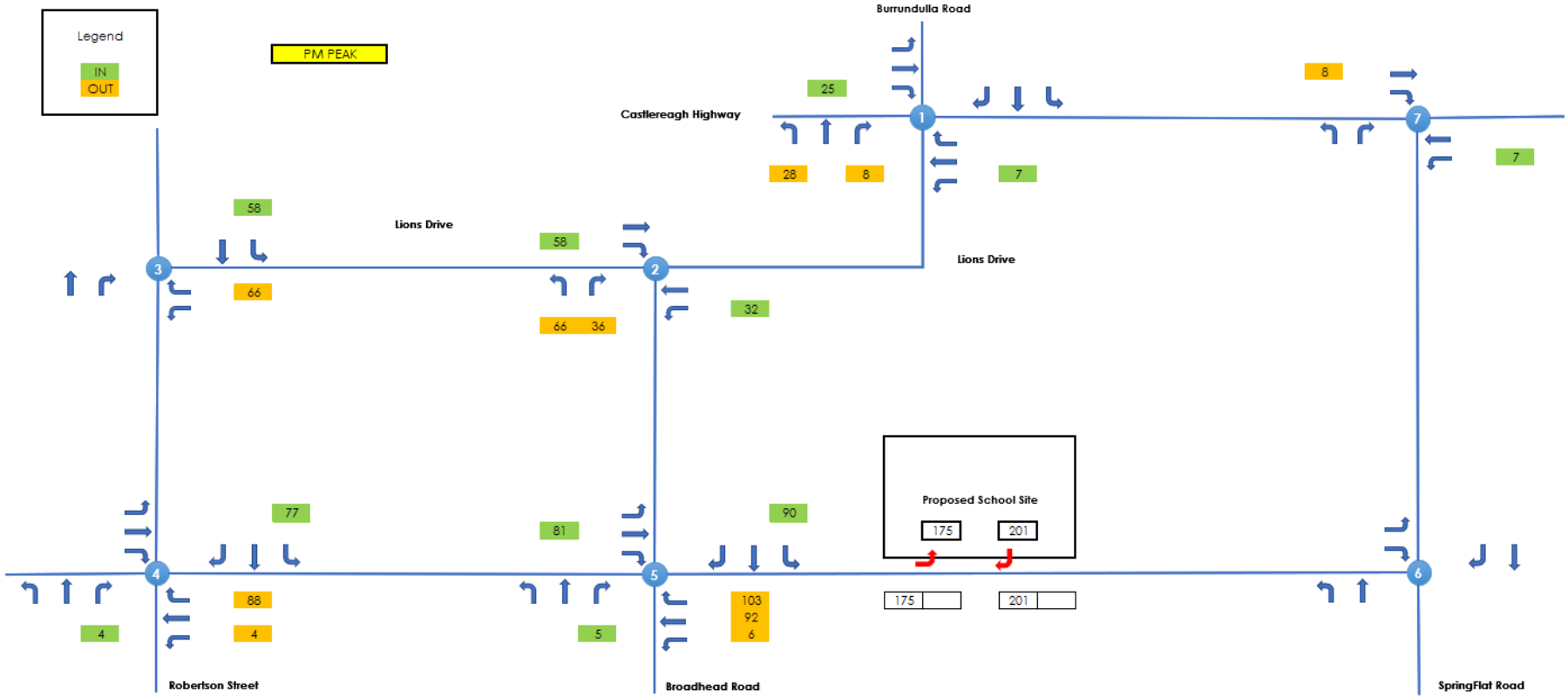


Figure 8.4: PM Peak Traffic Flow Diagram



8.4 Traffic Impacts

Traffic modelling has been carried out to assess seven intersections surrounding the subject site. SIDRA Network software, version 8.0, has been used to assess intersection performance during AM and PM peak network periods. Five scenarios have been analysed, namely:

- Scenario 0 (S0) – Existing Conditions ("Base Case") which is based on 2019 traffic data.
- Scenario 1 (S1) – Future Case Without Development Traffic, which considers 2.0% per annum background growth in Mudgee up to year 2026 (refer Section 8.3).
- Scenario 2 (S2) - Future Case With Development Traffic, which considers Scenario 1 plus traffic generation associated with the future high school.
- Scenario 3 (S3) – Future Case + 10 Years Without Development Traffic, which considers 2.0% per annum background growth in Mudgee up to year 2036 (refer Section 8.3).
- Scenario 4 (S4) – Future Case + 10 Years With Development Traffic, considers Scenario 3 plus traffic generation associated with the future high school.

SIDRA modelling results of the modelled scenarios are discussed herein while detailed modelling outputs are contained in Appendix F.

Table 8.2: Scenario 0 – Existing Conditions (Base Case)

Intersection		AM Peak			PM Peak		
		Average Delay (s)	LoS	Average Queue Length (m)	Average Delay (s)	LoS	Average Queue Length (m)
1	Castlereagh Hwy/ Lions Dr/ Burrundulla Rd	15	B	3	14	A	6
2	Broadhead Rd/ Lions Dr	6	A	0	5	A	0
3	Lions Dr/ Robertson St	6	A	2	6	A	2
4	Bruce Rd/ Robertson Rd	5	A	0	5	A	0
5	Broadhead Rd/ Bruce Rd	5	A	0	5	A	0
6	Spring Flat Rd/ Bruce Rd	9	A	0	8	A	0
7	Spring Flat Rd/ Castlereagh Hwy	9	A	1	8	A	0

Table 8.3: Scenario 1 – Future Case Without Development (Year 2026)

	Intersection	AM Peak			PM Peak		
		Average Delay (s)	LoS	Average Queue Length (m)	Average Delay (s)	LoS	Average Queue Length (m)
1	Castlereagh Hwy/ Lions Dr/ Burrundulla Rd	18	B	4	17	B	8
2	Broadhead Rd/ Lions Dr	6	A	0	6	A	0
3	Lions Dr/ Robertson St	6	A	2	6	A	2
4	Bruce Rd/ Robertson Rd	5	A	0	5	A	0
5	Broadhead Rd/ Bruce Rd	5	A	0	5	A	0
6	Spring Flat Rd/ Bruce Rd	9	A	0	8	A	0
7	Spring Flat Rd/ Castlereagh Hwy	9	A	0	8	A	0

Having consideration for a population growth factor of 2.0% per annum, the future local road network would be expected to operate at level of services A and B. Background growth would result in an increase in average delay of up to three seconds per vehicle for the worst-performing movement. This is the maximum increase in average delay and would occur at the critical intersection, namely Castlereagh Highway/ Lions Drive/ Burrundulla Road. In the PM peak, the three-second increase would result in the level of service to shift from A to B. Notwithstanding this, the intersection would operate at a level of service B which remains a good level of performance.

Table 8.4: Scenario 2 – Future Case With Development (Year 2026)

	Intersection	AM Peak			PM Peak		
		Average Delay (s)	LoS	Average Queue Length (m)	Average Delay (s)	LoS	Average Queue Length (m)
1	Castlereagh Hwy/ Lions Dr/ Burrundulla Rd	20	B	5	19	B	9
2	Broadhead Rd/ Lions Dr	6	A	2	6	A	1
3	Lions Dr/ Robertson St	6	A	3	6	A	3
4	Bruce Rd/ Robertson Rd	5	A	1	5	A	1
5	Broadhead Rd/ Bruce Rd	6	A	2	6	A	2
6	Spring Flat Rd/ Bruce Rd	9	A	0	8	A	0
7	Spring Flat Rd/ Castlereagh Hwy	9	A	0	8	A	0

Modelling results indicate that the proposed development is not expected to adversely impact the future performance of the local road network. Having consideration of background growth (Scenarios 1 and 2), nearby intersections are expected to continue to operate at an acceptable level of service B or better during school AM and PM peak periods.

Additional trips generated by the proposal would result in a marginal increase for average delay per vehicle at some intersections. For the worst-performing movement (at Castlereagh Highway/ Lions Drive/ Burrundulla Road) the average delay would increase from 17-18 seconds (Scenario 1) to 20-21 seconds (Scenario 2). Whilst noting a shift in average delay, this movement would operate at a level of service B which is a good service level.

It is noted that the worst-performing movement relates to the right turn movement from Burrundulla Road to Castlereagh Highway. As such, it is not related to the right turn movement from Castlereagh Highway to Lions Drive which forms a key route for vehicles accessing the future school (i.e. dark blue route in Figure 8.2). Detailed SIDRA modelling results for Scenario 2 indicate the average delay for the right turn to Lions Drive would be up to five seconds in the road network peak periods. Queue lengths would be up to 1 m long which is less than a one-vehicle queue, thus, there would be no issue for traffic storage capacity in the turning bay.

In addition to the above scenarios, plus 10-year future (2036) scenarios have been assessed with development traffic and without development traffic. A summary of the modelling results is given in Table 8.5 and Table 8.6, respectively.

Table 8.5: Scenario 3 – Future Case + 10 Years Without Development (Year 2036)

	Intersection	AM Peak			PM Peak		
		Average Delay (s)	LoS	Average Queue Length (m)	Average Delay (s)	LoS	Average Queue Length (m)
1	Castlereagh Hwy/ Lions Dr/ Burrundulla Rd	25	B	7	24	B	13
2	Broadhead Rd/ Lions Dr	6	A	0	6	A	0
3	Lions Dr/ Robertson St	6	A	3	6	A	2
4	Bruce Rd/ Robertson Rd	5	A	0	5	A	0
5	Broadhead Rd/ Bruce Rd	5	A	0	5	A	0
6	Spring Flat Rd/ Bruce Rd	9	A	0	8	A	0
7	Spring Flat Rd/ Castlereagh Hwy	9	A	0	9	A	0

Table 8.6: Scenario 4 – Future Case + 10 Years With Development (Year 2036)

	Intersection	AM Peak			PM Peak		
		Average Delay (s)	LoS	Average Queue Length (m)	Average Delay (s)	LoS	Average Queue Length (m)
1	Castlereagh Hwy/ Lions Dr/ Burrundulla Rd	28	B	7	28	B	15
2	Broadhead Rd/ Lions Dr	7	A	2	6	A	1
3	Lions Dr/ Robertson St	6	A	3	6	A	3
4	Bruce Rd/ Robertson Rd	5	A	1	5	A	1
5	Broadhead Rd/ Bruce Rd	6	A	2	6	A	2
6	Spring Flat Rd/ Bruce Rd	9	A	0	8	A	0
7	Spring Flat Rd/ Castlereagh Hwy	10	A	0	9	A	0

The 10-year future scenario modelling results indicate that the proposed development is not expected to adversely impact the future performance of the local road network. Having consideration of background growth (Scenarios 3 and 4), nearby intersections would continue to operate at a level of service B or better during peak periods.

Detailed SIDRA modelling results for Scenario 4 indicate that the average delay and queue length for the right turn movement from Castlereagh Highway to Lions Drive would remain unchanged. Notwithstanding this, it is also understood that the Bunnings Warehouse Mudgee is seeking to relocate to the south side of Castlereagh Highway as shown in Figure 8.5. As such, relocation of the Bunnings site may impact the future operation of the nearby intersection. However, the extent of the impact would not be known until a traffic impact assessment for the development is completed by the Proponent.

Figure 8.5: Bunnings Mudgee Relocation

8.4.1 Castlereagh Highway Junctions

Through the SSD consultation process, Council raised some concerns regarding unsafe gaps for turning movements at two intersections of Castlereagh Highway; namely, with Lions Drive/ Burrundulla Road and Spring Flat Road. Whilst the SIDRA modelling identifies these junctions to be the busiest of all those assessed, both intersection still operate at acceptable levels of service A and B across all tested scenarios.

At the time of the traffic surveys, TTPP staff undertook inspections of the road network operation at the intersections. As observed on-site, there are frequent gaps in the major road traffic stream (Castlereagh Highway) which provide sufficient opportunities for turning movements to and from minor streets (Lions Drive, Burrundulla Road and Spring Flat Road). Also, the duration of gaps in the major road traffic stream provide sufficient time for turning vehicles to complete manoeuvres without impeding the major traffic stream. During peak periods, TTPP observed no instances of near-misses or difficulties experienced by vehicles undertaking turning movements.

Roads and Maritime crash history data has also been analysed for the most recent five-year period. Between 1 October 2013 to 30 September 2018 (most recent date for collated data by RMS), there has been one crash recorded in the vicinity of these junctions. The crash involved a vehicle colliding with an animal on Castlereagh Highway. Overall, there have been no significant incidents recorded at the intersections. Crash data files are contained in Appendix G of this report.

Overall, the proposed development is not expected to cause any noticeable impacts on the performance and safety of the local road network. Delays to vehicles travelling on the surrounding network would be minor and would not cause any noticeable impacts on the road network performance.

9 Construction Traffic Impact

A detailed Construction Traffic Management Plan would be prepared prior to the commencement of construction activities. However, a preliminary review of the construction details for the project are set out below.

It is noted that without the engagement of contractors, finalised design or any authority approvals the below information is indicative only.

9.1 Construction Activity and Staging

Construction works for the proposal are expected to commence in June 2021 and take place over approximately 17 months. The planned construction staging, indicative dates and duration of works to be carried out are given in Table 9.1.

Once a construction contractor has been engaged, the construction staging and timing will be refined and details of construction activities will be provided.

Table 9.1: Indicative Construction Staging and Duration

Stage	Start	Duration
Site establishment	June 2021	1 week
Excavation	June 2021	3 months
Construction	September 2021	6 months
Fit-out/ Finishes & Commissioning	February 2022	9 months
External Works & Civil Works (concurrent with fit-out/ finishes and commissioning)	May 2022	6 months

All works during construction are proposed to be undertaken wholly within the site. The estimated construction footprint equates to less than 20% of the total site area available.

No work zone is proposed on-street as all works would be accommodated within the site boundary.

There is no demolition works required due to the greenfield nature of the site. During the excavation stage, the balance of cut to fill of material on-site has been designed to be optimised in order to mitigate costs. Therefore, it is not proposed to haul material from the site for disposal and the import of of engineered materials would be limited as much as possible.

9.2 Work Hours

It is proposed that construction works be only undertaken during the approved hours consistent with any relevant consent conditions. At this stage, the proposed development has not been approved, however, it is expected there will be a consent condition stipulating similar work hours to the following:

- 7:00am – 6:00pm, Monday to Friday
- 7:00am – 4:00pm, Saturday
- No work to be undertaken on Sundays or Public Holidays.

Any works outside the above work hours (as amended by the relevant consent conditions) will be subject to a separate application to Council.

9.3 Construction Staff Parking

There is ample space on-site to fully accommodate all parking demand associated with construction workers and sub-contractors within the boundary of the site. Parking on-street would not be permitted, nor would it be required.

All construction staff employed directly by the contractor and all sub-contractors would be informed where to park on-site through the use of directional signage upon entry to the site.

Staff would be encouraged to car-pool if travelling from the same area or on-the-way to/from the site to reduce the traffic impact on the surrounding road network.

9.4 Construction Vehicle Types

Construction vehicles likely to be generated by the proposed construction activities in each stage would include the following:

- Excavation:
    - Equipment to be floated to and from the site by semi-trailer.
    - Site works anticipated to be a balanced cut to fill exercise so that the majority of excavated material remains on-site.
    - Various deliveries for maintenance of equipment on-site and materials for inground services to be undertaken with semi-trailers, rigid trucks or utility vehicles.
- Construction/ Structural:
    - Equipment and/or materials to be delivered by semi-trailer, rigid trucks or utility vehicles.
    - Concrete to be delivered in concrete agitator and pumped with concrete pump.
    - A mobile crane would be setup within the site.

- Fit-Out and Finishing Works:
    - Equipment and/or materials to be delivered by semi-trailer, rigid trucks or utility vehicles.
- External Works & Civil Works:
    - Earthmoving equipment to be floated to and from the site by semi-trailer.
    - Equipment and/or materials to be delivered by semi-trailer, rigid trucks or utility vehicles.
    - Concrete to be delivered in concrete agitator and pumped with concrete pump.

9.5 Construction Vehicle Routes

Construction vehicles would generally have origins and destinations throughout the Mid-Western Region. To minimise the impact of construction traffic on local streets, dedicated construction routes will be developed to provide the shortest distances to/from the arterial road network.

The construction vehicle routes to and from the site are likely to be made via Castlereagh Highway and Bruce Road. Construction vehicles would travel northbound or southbound on Castlereagh Highway and turn onto Bruce Road and travel westbound towards the site. From Bruce Road vehicles would turn right to enter the site and turn left to exit the site back onto Bruce Road. When leaving the site vehicles would travel eastbound towards Castlereagh Highway.

9.6 Construction Traffic Generation

The anticipated construction vehicle movements associated with each stage of construction are summarised in Table 9.2.

Table 9.2: Indicative Construction Traffic Generation

Construction Stage	Daily Vehicle Trips (Two-way)	Hourly Vehicle Trips (Two-way)
Excavation	20	1 – 2
Construction	30 – 40 Peak construction: During concrete pours, can be up to 200 trips per day	2 – 4 Peak construction: During concrete pours, can be up to 20 trips per hour
Fit-out/ Finishes & Commissioning	40 – 60	4 – 6
External Works & Civil Works (concurrent with fit-out/ finishes and commissioning)	40 – 60	4 – 6

Typical construction activities are anticipated to generate up to 60 vehicle trips per day. Based on an 11-hour working day, this would equate to an average of six vehicle trips in an hour which would have a minor impact to the operation of nearby intersections.

During the peak construction period, it is anticipated that there would be up to 200 two-way vehicle movements per day or 20 vehicles per hour. Such vehicle movements are only anticipated on days of concrete pours due to the delivery of concrete. Pour volumes have yet to be determined however it is expected that there would be less than 20 major concrete pours on-site during the structural phase.

Peak construction vehicle movements would occur outside commuter peak periods to minimise the traffic impact and delay to the road network.

It is noted that without the engagement of contractors, finalised design or any authority approvals the above traffic volumes are indicative only. Therefore, construction traffic volumes may be further refined by the time a Construction Traffic Management Plan is to be prepared. The Construction Traffic Management Plan would detail the predicted construction traffic volumes and appropriately assess the impact of constriction vehicles on the surrounding road network.

9.7 Emergency Vehicles

No special provisions for emergency service vehicles are required as part of the proposed construction works. Emergency vehicle access shall be maintained at all times.

9.8 Construction Traffic Management Plan

A site-specific Construction Traffic Management Plan is to be submitted to TfNSW and Mid-Western Regional Council to appropriately detail the staging, timing and activities during the construction phase, indicate the designated haul routes, explain traffic control measures to be implemented at the site and assess the construction traffic volumes.

10 Summary and Conclusion

This study details our assessment of the traffic, parking and transport implications associated with the proposed development. The key findings of this report are presented below.

- It is proposed as part of this SSD to relocate the existing high school component of St Matthew's College in Mudgee and construct new facilities at the site in Spring Flat to support the high school.
- The proposal seeks to increase the current capacity of the high school from 373 students (in 2019) to 680 students (by 2026). The additional students would be split across all year groups, and each year group would be progressively grown until the target year (2026).
- Mode share data gathered from students at staff currently attending the school has been used to estimate the number of car trips expected to be generated by the proposal during school peak periods. An estimated 380 trips in the morning school peak period and 376 trips in the afternoon school peak hour period would be added to the surrounding road network.
- Traffic modelling analysis results indicate that the surrounding road network currently operates at a good level of service with minimal average delays during school peak periods.
- The impact of additional car trips generated by the proposal have been assessed in 2026 (school opening year) and 2036 (school opening year plus 10 years) with consideration for background traffic growth. In future scenarios, the road network would continue to operate satisfactorily with negligible impacts on intersection performance.
- A first principles method has been used to estimate parking demand of the proposed development. A total of 75 car parking spaces would be provided on-site which would accommodate staff, senior students and visitors to the school.
- Bicycle racks for 36 bicycles would be on-site. A Green Travel Plan has been prepared which aims to encourage a shift away from car use and towards sustainable modes, including public transport and active travel.
- A kiss and ride zone would be provided on-site, comprising 12 car bays which would facilitate all future drop-off/ pick-up activities.

Overall, the proposed development is not expected to have an adverse impact on the local road network given that all parking would be provided on-site and drop-off/pick-up activities would be accommodated wholly within the site.

Measures as outlined in the GTP seek to further reduce any traffic impacts generated by the proposal, and encourage mode shift towards more sustainable transport.

Appendix A

Consultation with Authorities

TSA

Minutes.

Meeting Title:	Mid-Western Regional Council St Matthews
Date:	21st January 2020
Time:	11:30am – 12:30pm
Location:	86 Market Street, Mudgee
Attendees:	Oliver Klein (OK)
	Julie Robertson (JR)
	Garry Hemsworth (GH)
	Lindsay Dunstan (LD)
	David Webster (DW)
	Mark Chase (MC)
	Darren Cooke (DC)
	Santi Botross (SB)
	Jim Disher (JD)
	Cassandra Naccarella (CN)
	Emma Bunn (EB)
Apologies:	Nil
Distribution:	All

Item	Description	Responsible	Date
1.0	General		
	• OK opened the meeting with around the table introductions and establishing meeting intentions to discuss the amendments to the site plan to address traffic demands and civil works response.	Note	-
	• DC provided an overview of the proposed site plans since last council consultation in August 2019 taking on board council comments and recommendations in that meeting. Key focus areas for the project since have been the intersection of Lions and Broadhead Roads and Bruce and Broadhead Roads to ensure they are trafficable for buses and increased inflow of vehicles to the development area. At a minimum the project has proposed 9m roads with curb and gutter in additional to 2.5m footpaths that service bicycles for majority of the site frontage. Works to existing site infrastructure have been taken into consideration and upgrades such a level 1 design for the site frontage section of Bruce road to provide power alongside culvert upgrades have all be documented.	Note	-
2.0	Traffic		
	• To address concerns around increase traffic to the area the project undertook discussions with Ogdens bus service obtaining an in-principle agreement to extend existing services running down Broadhead Road and provide a bus turn around bay on Bruce Road that allows the buses to drop students off and loop back up Broadhead Road. Odgens have advised further discussions will occur with RMS as required to finalised the change in bus routes and required timetable changes to suit.	Note	-
	• SB discussed the data presented in the TIA report, using the existing student population living locations. This data was captured in Term 1 2019 once routine had returned to the area. This data was then used to map the key travel paths to and from the site. The project compared raw data with RMS trip calculation predictions, choosing to utilise the raw data to ensure accuracy in modelling as RMS predictions presented much lower.	Note	-

	• The data collated identified that the increase in traffic to the site had no impact to the levels of services at key surrounding intersections (all maintaining A/B service levels) alongside crash data not presenting any critical issues.	Note	-
	• The TIA report notes that the raw data provided insight into the fact that more students will have access to public bus passes. Furthermore, the identified growth area to the south of the development will encourage more active travel routes to the school when compared with the CBD site. Where public transport and active transport modes are unable to be utilised, a kiss n drop facility has been incorporated into the onsite carparking design in addition to several carparks for visitors, staff and students to mitigate any requirement for on street parking.	Note	-
3.0	Council queries and responses		
	JR – With the increase in number of students gaining access to bus passes, how does this impact bus timetabling and how long it takes to get to and from locations, for example from school to after-school sport or activities elsewhere in Mudgee? - Response; SB – Ogdens coordinates bus route timetabling with RMS as this is currently at their discretion.	Note	-
	GH – Queried whether the increase in traffic flow through Spring Flat Road and Bruce Road would be greater than documented? - Response SB - this is an accurate representation of the figures collated from the raw data alongside additional dialogue with the school	Note	-
	GH – What Intersection upgrade requirements are posed for the project? GH noted input from RMS in regards to the Lions Road/Castlereagh Highway intersection would be advised for inclusion within the TIA. GH further advised Mudgee community is currently lobbying for a roundabout at the intersection. - Response JD - Lions drive will be widened to suit required sweep paths - Response SB – Future traffic modelling of the school opening year and opening year + 10 years shows this intersection to operate at a Level of Service B with acceptable delays and spare capacity which is in-line with RMS' Level of Service criteria. As has been assessed, future site-generated traffic does warrant the need for a roundabout. It is noted that the relocated Bunnings site would be directly impacting this intersection, consultation is occurring to share traffic data between the projects to achieve best outcome.	Note	-
	DW – Does the increased traffic demand require a manned crossing point? - Response; SB to confirm requirements for manned children's crossing for secondary school redevelopments and the proximity to site entrance before proposing a location on the documents.	SB	11/02/20
	DW – Traffic inflow from west of Bruce and Robertson Roads is of concern given the increase in vehicles travelling on this route and current road condition with no further development earmarked at the western end of Bruce Road. At a minimum shoulder upgrades to facilitate a 6m width on Robertson Road would be required. Furthermore, DW requested the TIA report section 8.3 is updated to capture number of vehicles the % figures relate to. CN and MC noted this option is extremely unpalatable for the project and poses a financial tipping point for the project	SB	11/02/20
	DW – How is traffic overflow along Bruce Road proposed to be managed? - Response; SB there are school management solutions that can be consider such as drive to school passes etc alongside informal parking options on the school site. Council confirmed crushed rock is suitable for informal parking rather than full handstand.	Note	-

3.0	Civil Infrastructure		
	DW – Footpath would be preferred on project side of the road to keep services near houses and a more orderly approach taken to footpath upgrades if they are then the responsibility of each lot owner reducing out of sequence development. DW further noted a DA has been lodged for 30 residential (living earth) units adjacent to the site.	JD	11/02/20
	- Response JD - The riparian zone alongside the culvert has been the driving reason behind works along the development frontage being reduced. Not to mention road alignment would be a concern around the culvert zone however, shall further investigate options to address request to mitigate out of sequence development.	Note	-
	- **Post Meeting Minute: revised civil documentation attached to these MM capturing Broadhead Road relocation of footpath and kerb to the east along with Extension of Bruce Road to extent of the Eastern Boundary**		
	GH – Does the current proposal consider the change in road widths existing on Broadhead Road?	DC/JD	11/02/20
	- Response DC/JD - The proposal takes into account the change in road widths and proposed works commence at the widest point on Broadhead Road.		
	GH – What mitigation measures are posed along Bruce Road past the bus bay? There is a concern that this will generate dust and management by Council would be required, as such it would be requested that the full site frontage past the bus bay is also upgraded with a minimum road width of 6m.	JD	11/02/20
	DW – Noted contributions currently have no room for movement due to required upgrades to water and sewer in the development area as a result of increased occupancy in the region. Main concerns are as per the below;		
	- Water pipe sizes and development sequencing of the water network within the area is currently being review for upgrades	Note	-
	- Sewer lines are currently at capacity and with upgrades to the mains being a priority.		
	- JD noted updated plans for sewer and water are available and current civil documentation is reflective of the latest plans to ensure all connection points work in with existing infrastructure.	JD	11/02/20
4.0	Project Next Steps		
	Sewer Line – Project request Council provide a sewer connection within the riparian zone to mitigate project needing to put in a pump station through a Private works arrangement.		
	- Application process GH to confirm with JD and OK application timing, cost of works and cost of application	GD	13/02/20
	- MC confirmed the timing of the works would likely need to be in the next 12months.	Note	-
	Council advised further commentary is able to be provided on discussions to date and considerations for the project to make prior to submission. Comments to be issued to OK.	Council	13/02/20

NOTE:
THIS IS A PLANNING DRAWING ONLY. FOR THE PURPOSE OF CONCEPTUAL DESIGN AND/OR PLANNING. FURTHER DETAILED ENGINEERING DESIGN INCLUDING SPECIFICATIONS, SIZING AND STORMWATER INVERTS TO BE PROVIDED PRIOR TO BUILDING RULES ASSESSMENT AND CONSTRUCTION.

WORKS LEGEND

SYMBOL	DESCRIPTION
	PROPOSED ROAD WORKS
	2.5m CONCRETE FOOTPATH
	ELEVATED 2.5m WALKWAY (TBC)
	RIPARIAN CORRIDOR

NO KERB & GUTTER EITHER SIDE IS PROPOSED PAST INTERSECTION

UPGRADE TO BRUCE ROAD CULVERT 3 CELL 2400mm WIDE BY 900mm DEEP CULVERTS. PROVIDE ROCK LINED TAIL IN AND OUT EITHER SIDE OF CULVERT

ELEVATED WALKWAY PAST EXISTING CULVERTS

9m WIDTH FORMATION. KERB & GUTTER EASTERN SIDE ONLY.

EXISTING CONCRETE FOOTPATH CONSTRUCTED BY OTHERS

LOCATION OF SCHOOL CROSSING. INSTALL CHILDRENS CROSSING TO AS1742.10

SWEPT PATH OF 12.5m BUS SHOWN

CONNECTION TO EXISTING WATER MAIN

BRUCE RD 9m WIDE ROAD WITH TABLE DRAIN SOUTHERN SIDE

BUS BAY OFF BRUCE ROAD

BUS TURNING BAY AC SEAL

TRANSITION FROM 9m TO 6m ROAD CARRIAGEWAY AFTER BUS BAY. 50m TRANSITION LENGTH

EXTENT OF KERB & GUTTER ALONG PROPOSED SCHOOL SIDE.

6m SEALED ROAD TO EXTENT OF SCHOOL PROPERTY FRONTAGE

EXISTING GRAVEL ROAD

2.5m CONCRETE PATHWAY ON EASTERN SIDE

CONNECTION TO EXISTING SEWER MAIN

NOTE:
INTERNAL SCHOOL LAYOUT INDICATIVE ONLY

BROADHEAD ROAD

BRUCE ROAD

RIPARIAN CORRIDOR

LEVEE BANK

SITE BOUNDARY

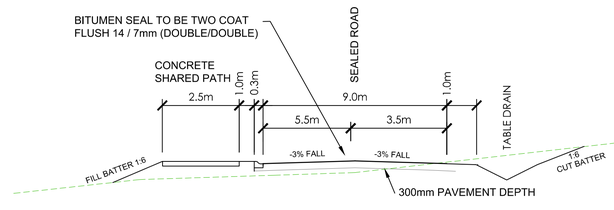
80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00 254.29 260.00 280.00 300.00 320.00 340.19 340.00 360.00 380.00 400.00 420.00 440.00 460.00 472.87 480.00 End 492.87

500.00 480.00 460.00 440.00 413.38 400.00 380.00 360.00 353.29 340.00 320.00 300.00 280.00 260.00 240.00 225.22 220.00 200.00 180.00 160.00 140.00 120.00 100.00 80.00 60.00 40.00 20.00 0.00

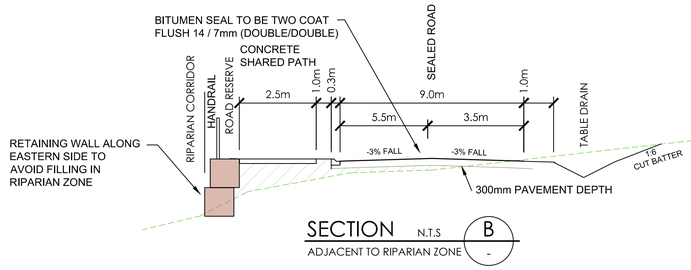
NOTE:
1. THIS IS AN ENGINEERING SURVEY PLAN AND SHALL NOT BE TAKEN AS A CADASTRAL OR IDENTIFICATION SURVEY. BOUNDARY DATA IF SHOWN, SHOULD BE TAKEN AS A GUIDE ONLY.
2. REFER TO THE CERTIFICATE OF TITLE FOR EASEMENT DETAILS (IF ANY).
3. NO UNDERGROUND SERVICES HAVE BEEN LOCATED.
4. CONTOUR INTERVAL 0.2m
5. BENCHMARK TO BE ESTABLISHED.

10.0m 0.0 20.0 40.0 60.0 80.0 100.0m
SCALE 1:1000 AT A1 SHEET | 1:2000 AT A3 SHEET

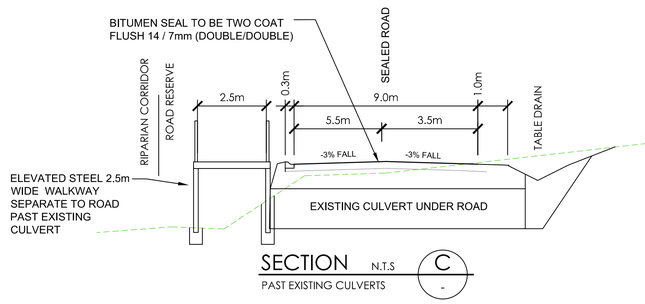
PROPOSED SITE WORKS
SCALE 1:1000 AT A1



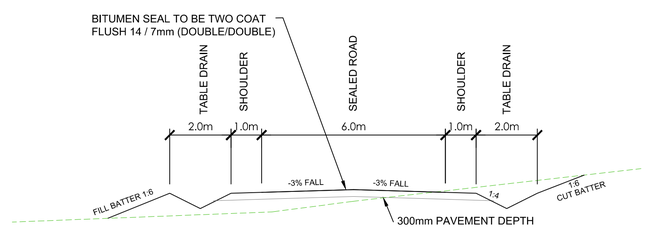
SECTION N.T.S A
TYPICAL BROADHEAD RD



SECTION N.T.S B
ADJACENT TO RIPARIAN ZONE



SECTION N.T.S C
PAST EXISTING CULVERTS



SECTION N.T.S D
BRUCE ROAD

ISSUED FOR INFORMATION 07.02.20 A JI.D.
AMENDMENTS DATE ISSUE BY

NOT FOR CONSTRUCTION

ARCHITECT
ALLEANZA ARCHITECTURE

CLIENT
TSA MANAGEMENT
LEVEL 15, 207 KENT ST
SYDNEY, NSW, 2000
TSA MANAGEMENT

PROJECT
PROPOSED SCHOOL
LOT 40 BROADHEAD ROAD
MUDGEE, NSW, 2850

DESIGNED	DRAWN	DATE	SIZE	CAD REF
JI.D.	JO.M.	MAY '19	A1	TX13843.00 - C01

TRIAXIAL CONSULTING
COMPLEX PROBLEMS RESOLVED SIMPLY
1300 874 294 | TRIAXIAL.COM.AU
46 MARKET STREET, MUDGEE NSW 2850
PO BOX 1075, MUDGEE NSW 2850
ADELAIDE | BAROSSA | DARWIN | MUDGEE | PARRAMATTA | SYDNEY

DRAWING TITLE
PROPOSED SITE WORKS AND ROAD SECTIONS

PROJECT No.	DRAWING No.	ISSUE
TX13843.00 -	C2.2	A

Appendix B

Site Plan

© COPYRIGHT 2019

Dimensions take precedence over scaling. Do not measure off drawings as print sizes may vary.

keyplan

SITE AREA = 12.34 HA

EXTENT OF WORKS AREA HIGHLIGHTED

purpose of issue	by	date	issue no.
SSDA Issue, levels adjusted, dims added	BLC	01.04.20	15
GA NSW Issue	BLC	20.03.20	14
Trees adjusted to Arborist Reports	BLC	05.03.20	13
Preliminary SSDA Review	BLC	28.02.20	12
Site Plan, Block B & F adjusted	BLC	19.09.19	11
Block B & F adjusted	BLC	30.08.19	10
Access adjust, dis car added	BLC	31.07.19	9
SSDA Documentation 90% Completion	DO	03.06.19	8
Block Labels Added, Artefact Removed	DO	27.5.19	7
Carpark, paths, Block B Adjusted	BLC	22.05.19	6

architect

ALLEANZA ARCHITECTURE

NOMINATED ARCHITECT : CHARLES GLANVILLE NSW REGISTRATION No. 3130

CATHOLIC EDUCATION DIOCESE OF BATHURST

TSA MANAGEMENT

project

ST MATTHEW'S CATHOLIC SCHOOL

address

Corner of BROADHEAD and BRUCE RD. MUDGEE
Lot 40 of DP 756894

STATE SIGNIFICANT DEVELOPMENT APPLICATION

north

drawn:	EJ
checked:	BLC
verified:	CG
sheet size:	**A1**
scale:	1 : 1000

graphic scale 6

SITE PLAN

sheet

project no.	sheet no.	issue
18150	DA008	15

Original Sheet Size A1 - 841 x 594mm 7/04/2020 11:26:02 AM C:\Users\bcooper.ALLEANZA\Documents\18190_Mudgee Site (Central)_bcm.cooperAUAV.rvt

© COPYRIGHT 2019

Dimensions take precedence over scaling. Do not measure off drawings as print sizes may vary.

keyplan

- Administration
- Building Services
- Chapel
- Enclosed Circulation
- GLA-Secondary
- Multi-Purpose Hall
- Performing Arts
- Pupil Facilites
- Resource Centre
- TAS
- TAS Science
- TAS-Food Technology
- Visual Arts

SSDA Issue, Legend Updated	BLC	03.04.20	21
SSDA Issue, levels adjusted, dims added	BLC	01.04.20	20
GA NSW Issue	BLC	20.03.20	19
Bike Parking adjusted, Block F becomes B	BLC	12.03.20	18
Block A & C updated	BLC	31.01.20	17
General building, pathways & Blocks A & E revised	BLC	30.01.20	16
Buildings adjusted for Landscaping	BLC	17.01.20	15
Car Park Bus Bay separation increased	BLC	16.12.19	14
Amended Alternative Car Park	BLC	12.12.19	13
purpose of issue	by	date	issue no.

architect

ALLEANZA ARCHITECTURE

NOMINATED ARCHITECT : CHARLES GLANVILLE NSW REGISTRATION No. 3130

CATHOLIC EDUCATION DIOCESE OF BATHURST

TSA MANAGEMENT

project

ST MATTHEW'S CATHOLIC SCHOOL

address

Corner of BROADHEAD and BRUCE RD. MUDGEE
Lot 40 of DP 756894

STATE SIGNIFICANT DEVELOPMENT APPLICATION

drawn:	BLC
checked:	CG
verified:	CG
sheet size:	**A1**
scale:	1 : 500

north

graphic scale 6

PART SITE PLAN

sheet

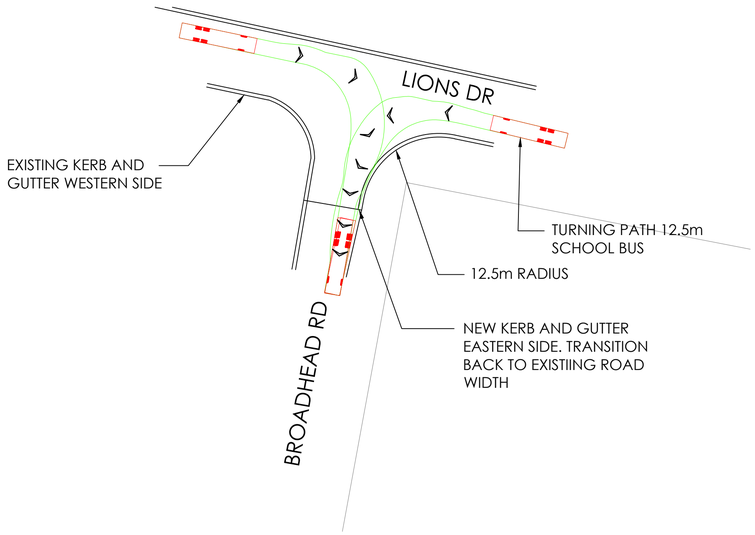
project no.	sheet no.	issue
18150	DA009	21

PART SITE PLAN
1 : 500

Original Sheet Size A1 - 841 x 594mm 7/04/2020 11:26:07 AM C:\Users\bcooper.ALLEANZA\Documents\18150_Mudgee Site (Central)_bcm.cooper.rvt

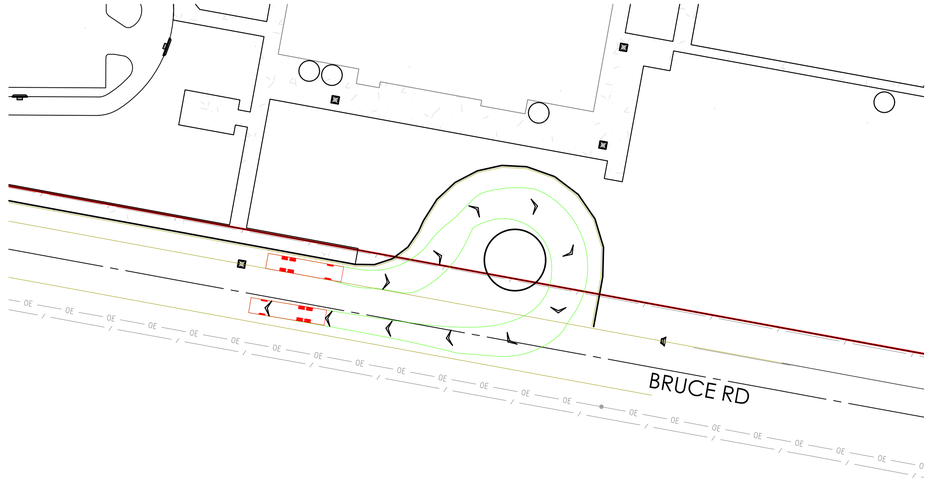
Appendix C

Bus Swept Path Analysis



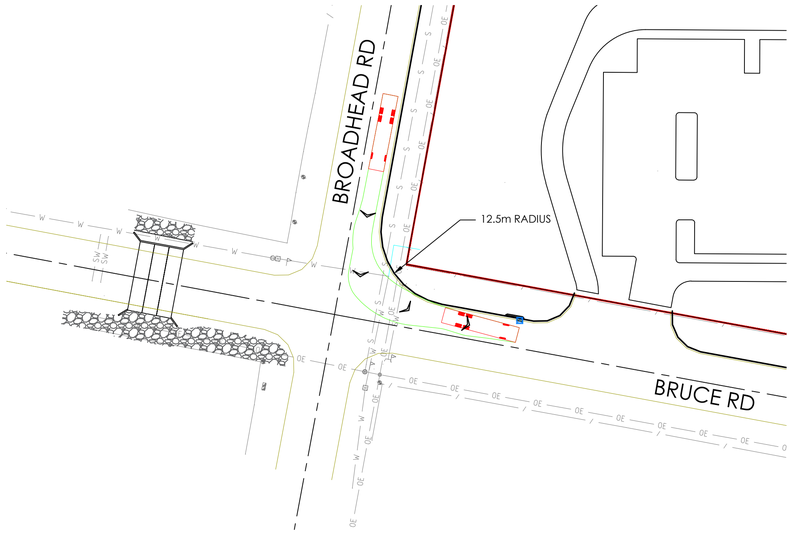
BUS ACCESS TO BROADHEAD RD FROM LIONS DRIVE

SCALE 1:500 AT A1



BUS TURN BAY

SCALE 1:500 AT A1



BRUCE RD - BROADHEAD RD INTERSECTION

SCALE 1:500 AT A1

VEHICLE SIMULATION NOTES:

1. VEHICLE SWEPT PATH ANALYSIS MODELLING CARRIED OUT USING CIVIL3D 2019 VEHICLE TRACKING MODULE. DESIGN VEHICLE USED IS:
   - 1.1. SINGLE UNIT TRUCK/BUS (12.5m) AUSTROADS 2013.
2. SWEPT PATH ANALYSIS IN LINE WITH AGRD 04 - 2009 IN PARTICULAR SECTION 5.6.2 AND 5.6.3 WITH 0.5m BUFFER TO CENTRELINES.

NOTE:
THIS IS A PRELIMINARY OR PLANNING DRAWING ONLY, FOR THE PURPOSE OF CONCEPTUAL DESIGN AND/OR PLANNING. FURTHER DETAILED ENGINEERING DESIGN INCLUDING SPECIFICATIONS, SIZING AND STORMWATER INVERTS TO BE PROVIDED PRIOR TO BUILDING RULES ASSESSMENT AND CONSTRUCTION.

5.0m 0.0 10.0 20.0 30.0 40.0 50.0m

SCALE 1:500 AT A1 SHEET | 1:1000 AT A3 SHEET

AMENDMENTS	DATE	ISSUE	BY
ISSUED FOR INFORMATION	25.03.20	D	JI.D.
ISSUED FOR INFORMATION	10.03.20	C	JI.D.
ISSUED FOR INFORMATION	25.11.19	B	JI.D.
ISSUED FOR INFORMATION	18.11.19	A	JI.D.

NOT FOR CONSTRUCTION

ARCHITECT
ALLEANZA ARCHITECTURE

CLIENT
TSA MANAGEMENT
LEVEL 15, 207 KENT ST
SYDNEY, NSW, 2000
TSA MANAGEMENT

PROJECT
PROPOSED SCHOOL
LOT 40 BROADHEAD ROAD
MUDGEE, NSW, 2850

DESIGNED	DRAWN	DATE	SIZE	CAD REF
JI.D.	JO.M.	MAY '19	A1	TX13843.00 - C1.0

TRIAXIAL CONSULTING
COMPLEX PROBLEMS RESOLVED SIMPLY

1300 874 294 | TRIAXIAL.COM.AU

46 MARKET STREET, MUDGEE NSW 2850
PO BOX 1075, MUDGEE NSW 2850

ADELAIDE | BAROSSA | DARWIN | MUDGEE | PARRAMATTA | SYDNEY

DRAWING TITLE
VEHICLE SIMULATION PLAN

PROJECT No.	DRAWING No.	ISSUE
TX13843.00 -	C10.0	D

Appendix D

Endorsement by Ogden's Coaches

Santi Botross

Subject: RE: Proposal for new St Matthews School - Mudgee (Broadhead and Bruce Roads)

From: Jeff Neill - Ogdens Coaches <jneill@ogdenscoaches.com.au>
Sent: Wednesday, 8 January 2020 11:52 AM
To: Mark Chase <Mark.Chase@north.com.au>
Cc: 'Emma Bunn' <Emma.Bunn@tsamgt.com>; Kristie Jones <Kristie.Jones@north.com.au>; 'Kim Jeffery' <kim@ogdenscoaches.com.au>; 'Eddie Ogden' <eddie@ogdenscoaches.com.au>
Subject: RE: Proposal for new St Matthews School - Mudgee (Broadhead and Bruce Roads)

Hi Mark,

I have reviewed the attached plans, I feel these are a significant improvement and address almost all the issues we discussed. The two buses approaching from the East will be re-routed to approach the school the same direction as all other services. This will be easy enough to achieve.

Ogden's Coaches agree and will support this application.

Regards

From: Mark Chase [mailto:Mark.Chase@north.com.au]
Sent: Tuesday, 7 January 2020 5:31 PM
To: jneill@ogdenscoaches.com.au
Cc: Emma Bunn <Emma.Bunn@tsamgt.com>; Kristie Jones <Kristie.Jones@north.com.au>
Subject: Proposal for new St Matthews School - Mudgee (Broadhead and Bruce Roads)

Jeff

Thankyou for your time on the phone today.

As discussed, we have taken on board the issues raised in our previous discussions with you regarding to the safe and efficient operation of bus services on the proposed new school site located on the corner of Broadhead and Bruce Roads.

We have also needed to address the broader traffic related issues pertaining to the access and egress of private vehicles from the site (inc the kiss and drop zones); as well as the general flow of traffic around the site, the constraints of services infrastructure and the functional requirements of the school.

As a result of these many factors, in conjunction with the design team and the traffic engineer we have prepared the attached site plan.

The key changes are fairly obvious ….

- Relocation of bus drop off and pickup point to Bruce Road with a new Bus Lay by and a dedicated bus turning bay to allow buses to re-enter Bruce Road 'upstream' of the main school carpark
- Relocation of the carpark and kiss n drop entry and egress to closer to the intersection
- Maintaining physical separation of bus zone and private vehicle entry/egress points

I trust that you will appreciate that this solution addresses the majority of stakeholder issues equitably.

Can you please contact me to discuss any specific concerns you may have. As discussed we would appreciate an in principle endorsement of this concept from your company so that we can progress the design and discussions with the relevant regulatory authorities.
We will keep you abreast of these discussions as they develop so that we can ensure we are able to deliver an appropriate outcome for all stakeholders.

Regards

Mark Chase

Mark Chase
Design & Construct Manager
North Construction & Building Pty Ltd

north
BUILDING WITH TRUST®

(02) 4323 2633
0412 224 964
L5, Suite 501, 1 Bryant Drive, Tuggerah NSW 2259
L1, 163 Lambton Road, Broadmeadow NSW 2292
PO Box 3517, Tuggerah NSW 2259
ABN 15 147 507 702
www.north.com.au

MASTER BUILDERS NEWCASTLE
COMMERCIAL BUILDER OF THE YEAR
2011, 2016 & 2017

THE UNIVERSITY OF NEWCASTLE AUSTRALIA
MOST VALUED PARTNER 2018
STUDENT ENGAGEMENT AWARDS

AUSTRALIAN TRAINING AWARDS 2018
2018 NATIONAL WINN
MEDIUM EMPLOYER OF THE YEAR AW
www.australiantrainingawards.gov.au

This message is intended for the addressee named and may contain confidential information. If you are not the intended recipient, please delete it and notify the sender. Views expressed in are those of the individual sender, and are not necessarily the views of their organisation. Please consider the environment before printing.

Message protected by MailGuard: e-mail anti-virus, anti-spam and content filtering.
http://www.mailguard.com.au

Report this message as spam

Appendix E

Proposed Road Upgrades

NOTE:
THIS IS A PLANNING DRAWING ONLY, FOR THE PURPOSE OF CONCEPTUAL DESIGN AND/OR PLANNING. FURTHER DETAILED ENGINEERING DESIGN INCLUDING SPECIFICATIONS, SIZING AND STORMWATER INVERTS TO BE PROVIDED PRIOR TO BUILDING RULES ASSESSMENT AND CONSTRUCTION.

NOTE:
REFER SHEET C10.0 FOR LIONS DRIVE AND BROADHEAD ROAD INTERSECTION DETAILS

WORKS LEGEND

SYMBOL	DESCRIPTION
	PROPOSED ROAD WORKS
	2.5m CONCRETE FOOTPATH
	ELEVATED 2.5m WALKWAY (TBC)
	RETAINING WALL
	RIPARIAN CORRIDOR

NO KERB & GUTTER EITHER SIDE IS PROPOSED PAST INTERSECTION

UPGRADE TO BRUCE ROAD CULVERT 3 CELL 2400mm WIDE BY 900mm DEEP CULVERTS. PROVIDE ROCK LINED TAIL IN AND OUT EITHER SIDE OF CULVERT

ELEVATED WALKWAY PAST EXISTING CULVERTS

9m WIDTH FORMATION. KERB & GUTTER EASTERN SIDE ONLY.

EXISTING CONCRETE FOOTPATH CONSTRUCTED BY OTHERS

LOCATION OF SCHOOL CROSSING. INSTALL CHILDRENS CROSSING TO AS1742.10

SWEPT PATH OF 12.5m BUS SHOWN

CONNECTION TO EXISTING WATER MAIN

BRUCE RD 9m WIDE ROAD WITH TABLE DRAIN SOUTHERN SIDE

BUS BAY OFF BRUCE ROAD

BUS TURNING BAY AC SEAL

TRANSITION FROM 9m TO 6m ROAD CARRIAGEWAY AFTER BUS BAY. 50m TRANSITION LENGTH

EXTENT OF KERB & GUTTER ALONG PROPOSED SCHOOL SIDE.

6m SEALED ROAD TO EXTENT OF SCHOOL PROPERTY FRONTAGE

EXISTING GRAVEL ROAD

2.5m CONCRETE PATHWAY ON EASTERN SIDE

CONNECTION TO EXISTING SEWER MAIN

RIPARIAN CORRIDOR

LEVEE BANK

SITE BOUNDARY

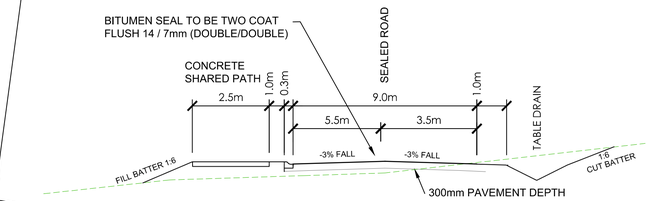
BROADHEAD ROAD

BRUCE ROAD

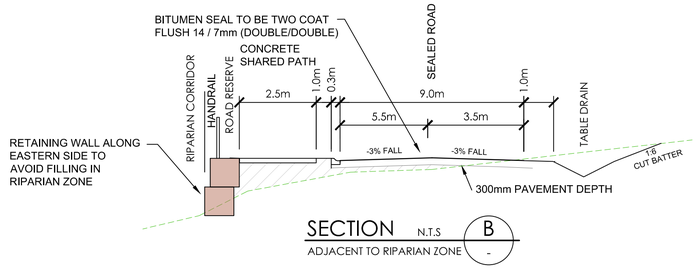
NOTE:
1. THIS IS AN ENGINEERING SURVEY PLAN AND SHALL NOT BE TAKEN AS A CADASTRAL OR IDENTIFICATION SURVEY. BOUNDARY DATA IF SHOWN, SHOULD BE TAKEN AS A GUIDE ONLY.
2. REFER TO THE CERTIFICATE OF TITLE FOR EASEMENT DETAILS (IF ANY).
3. NO UNDERGROUND SERVICES HAVE BEEN LOCATED.
4. CONTOUR INTERVAL 0.2m
5. BENCHMARK TO BE ESTABLISHED.

10.0m 0.0 20.0 40.0 60.0 80.0 100.0m
SCALE 1:1000 AT A1 SHEET | 1:2000 AT A3 SHEET

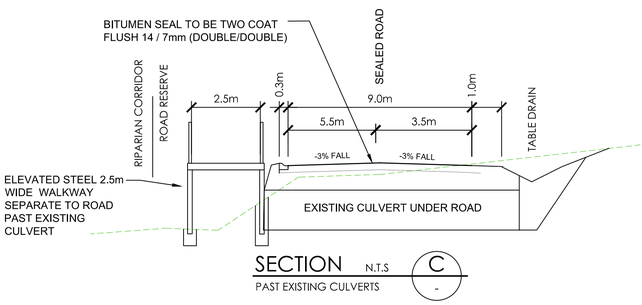
PROPOSED SITE WORKS
SCALE 1:1000 AT A1



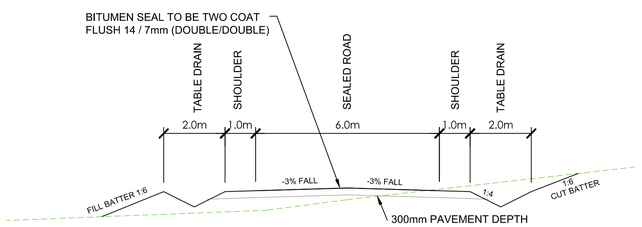
SECTION N.T.S A
TYPICAL BROADHEAD RD



SECTION N.T.S B
ADJACENT TO RIPARIAN ZONE



SECTION N.T.S C
PAST EXISTING CULVERTS



SECTION N.T.S D
BRUCE ROAD

ISSUED FOR INFORMATION	17.01.20	H	JI.D.
ISSUED FOR INFORMATION	15.01.20	G	JI.D.
ISSUED FOR INFORMATION	13.01.20	F	JI.D.
ISSUED FOR INFORMATION	10.03.20	I	JI.D.
AMENDMENTS	DATE	ISSUE	BY

NOT FOR CONSTRUCTION

ARCHITECT
ALLEANZA ARCHITECTURE

CLIENT
TSA MANAGEMENT
LEVEL 15, 207 KENT ST
SYDNEY, NSW, 2000
TSA MANAGEMENT

PROJECT
PROPOSED SCHOOL
LOT 40 BROADHEAD ROAD
MUDGEE, NSW, 2850

DESIGNED	DRAWN	DATE	SIZE	CAD REF
JI.D.	JO.M.	MAY '19	A1	TX13843.00 - C01

TRIAXIAL CONSULTING
COMPLEX PROBLEMS RESOLVED SIMPLY

1300 874 294 | TRIAXIAL.COM.AU

46 MARKET STREET, MUDGEE NSW 2850
PO BOX 1075, MUDGEE NSW 2850

ADELAIDE | BAROSSA | DARWIN | MUDGEE | PARRAMATTA | SYDNEY

DRAWING TITLE
PROPOSED SITE WORKS AND ROAD SECTIONS

PROJECT No.	DRAWING No.	ISSUE
TX13843.00 -	C2.1	I

Appendix F

SIDRA Modelling Results

USER REPORT FOR NETWORK SITE

Project: 18472_Mudgee EX BASE

Template: Intersection Summary

Site: 101 [[exAM] Castlereagh Hwy-Lions Dr-Burrundulla Rd]

Network: 1 [AM EX BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lions Drive-S														
1	L2	124	3.4	124	3.4	0.112	5.4	LOS A	0.2	1.2	0.28	0.55	0.28	46.5
2	T1	39	27.0	39	27.0	0.123	10.3	LOS A	0.2	1.6	0.59	0.76	0.59	44.5
3	R2	17	6.3	17	6.3	0.123	9.8	LOS A	0.2	1.6	0.59	0.76	0.59	41.8
Approach		180	8.8	180	8.8	0.123	6.9	LOS A	0.2	1.6	0.38	0.61	0.38	45.8
East: Castlereagh Highway-E														
4	L2	25	0.0	25	0.0	0.014	6.3	LOS A	0.0	0.0	0.00	0.59	0.00	40.1
5	T1	174	4.8	174	4.8	0.092	2.3	LOS A	0.0	0.0	0.00	0.40	0.00	70.5
6	R2	8	25.0	8	25.0	0.006	6.1	LOS A	0.0	0.1	0.27	0.55	0.27	45.2
Approach		207	5.1	207	5.1	0.092	2.9	NA	0.0	0.1	0.01	0.43	0.01	67.3
North: Burrundulla Rd-N														
7	L2	9	11.1	9	11.1	0.009	5.3	LOS A	0.0	0.1	0.24	0.50	0.24	43.5
8	T1	19	5.6	19	5.6	0.246	9.0	LOS A	0.4	3.1	0.67	0.85	0.72	36.8
9	R2	73	11.6	73	11.6	0.246	14.6	LOS B	0.4	3.1	0.67	0.85	0.72	42.0
Approach		101	10.4	101	10.4	0.246	12.7	LOS A	0.4	3.1	0.63	0.82	0.68	41.4
West: Castlereagh Highway-W														
10	L2	84	17.5	84	17.5	0.051	4.5	LOS A	0.0	0.0	0.00	0.46	0.00	47.7
11	T1	145	6.5	145	6.5	0.078	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	73	5.8	73	5.8	0.049	5.2	LOS A	0.1	0.6	0.29	0.53	0.29	43.3
Approach		302	9.4	302	9.4	0.078	2.5	NA	0.1	0.6	0.07	0.25	0.07	47.6
All Vehicles		791	8.3	791	8.3	0.246	4.9	NA	0.4	3.1	0.20	0.45	0.20	48.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[exAM] Broadhead Rd-Lions Dr]

Network: 1 [AM EX BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead Rd-S														
1	L2	17	6.3	17	6.3	0.023	4.9	LOS A	0.0	0.2	0.20	0.52	0.20	45.9
3	R2	11	10.0	11	10.0	0.023	5.7	LOS A	0.0	0.2	0.20	0.52	0.20	45.9
Approach		27	7.7	27	7.7	0.023	5.2	LOS A	0.0	0.2	0.20	0.52	0.20	45.9
East: Lions Dr-E														
4	L2	8	12.5	8	12.5	0.056	4.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
5	T1	96	5.5	96	5.5	0.056	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		104	6.1	104	6.1	0.056	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.7
West: Lions Dr-W														
11	T1	158	10.0	158	10.0	0.090	0.0	LOS A	0.0	0.1	0.02	0.02	0.02	49.7
12	R2	5	20.0	5	20.0	0.090	5.2	LOS A	0.0	0.1	0.02	0.02	0.02	49.7
Approach		163	10.3	163	10.3	0.090	0.2	NA	0.0	0.1	0.02	0.02	0.02	49.7
All Vehicles		295	8.6	295	8.6	0.090	0.7	NA	0.0	0.2	0.03	0.07	0.03	49.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[exAM] Lions Dr-Robertson St]

Network: 1 [AM EX BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson St-S														
2	T1	60	1.8	60	1.8	0.095	0.3	LOS A	0.2	1.4	0.21	0.32	0.21	47.0
3	R2	92	16.1	92	16.1	0.095	5.1	LOS A	0.2	1.4	0.21	0.32	0.21	41.6
Approach		152	10.4	152	10.4	0.095	3.2	NA	0.2	1.4	0.21	0.32	0.21	45.1
East: Lions Dr-E														
4	L2	53	8.0	53	8.0	0.157	4.7	LOS A	0.2	1.7	0.10	0.55	0.10	32.2
6	R2	129	0.8	129	0.8	0.157	5.5	LOS A	0.2	1.7	0.10	0.55	0.10	43.6
Approach		182	2.9	182	2.9	0.157	5.3	LOS A	0.2	1.7	0.10	0.55	0.10	42.4
North: Robertson St-N														
7	L2	82	1.3	82	1.3	0.055	4.6	LOS A	0.0	0.0	0.00	0.42	0.00	45.5
8	T1	21	0.0	21	0.0	0.055	0.0	LOS A	0.0	0.0	0.00	0.42	0.00	45.5
Approach		103	1.0	103	1.0	0.055	3.6	NA	0.0	0.0	0.00	0.42	0.00	45.5
All Vehicles		437	5.1	437	5.1	0.157	4.2	NA	0.2	1.7	0.12	0.44	0.12	44.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[exAM] Bruce Rd-Robertson St]

Network: 1 [AM EX BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson-S														
1	L2	1	0.0	1	0.0	0.003	4.6	LOS A	0.0	0.0	0.02	0.18	0.02	48.5
2	T1	4	0.0	4	0.0	0.003	0.0	LOS A	0.0	0.0	0.02	0.18	0.02	47.9
3	R2	1	0.0	1	0.0	0.003	4.6	LOS A	0.0	0.0	0.02	0.18	0.02	47.9
Approach		6	0.0	6	0.0	0.003	1.5	NA	0.0	0.0	0.02	0.18	0.02	48.1
East: Bruce Rd-E														
4	L2	1	0.0	1	0.0	0.011	4.6	LOS A	0.0	0.1	0.05	0.52	0.05	47.1
5	T1	3	0.0	3	0.0	0.011	3.2	LOS A	0.0	0.1	0.05	0.52	0.05	47.2
6	R2	8	0.0	8	0.0	0.011	4.6	LOS A	0.0	0.1	0.05	0.52	0.05	45.8
Approach		13	0.0	13	0.0	0.011	4.3	LOS A	0.0	0.1	0.05	0.52	0.05	46.4
North: Robertson St-N														
7	L2	5	0.0	5	0.0	0.007	4.6	LOS A	0.0	0.1	0.02	0.36	0.02	46.8
8	T1	4	0.0	4	0.0	0.007	0.0	LOS A	0.0	0.1	0.02	0.36	0.02	48.2
9	R2	3	33.3	3	33.3	0.007	4.9	LOS A	0.0	0.1	0.02	0.36	0.02	46.8
Approach		13	8.3	13	8.3	0.007	3.1	NA	0.0	0.1	0.02	0.36	0.02	47.4
West: Bruce Rd-W														
10	L2	3	0.0	3	0.0	0.004	4.6	LOS A	0.0	0.0	0.03	0.51	0.03	44.7
11	T1	1	0.0	1	0.0	0.004	3.2	LOS A	0.0	0.0	0.03	0.51	0.03	44.7
12	R2	1	0.0	1	0.0	0.004	4.6	LOS A	0.0	0.0	0.03	0.51	0.03	46.3
Approach		5	0.0	5	0.0	0.004	4.3	LOS A	0.0	0.0	0.03	0.51	0.03	45.2
All Vehicles		37	2.9	37	2.9	0.011	3.4	NA	0.0	0.1	0.03	0.40	0.03	46.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[exAM] Broadhead Rd-Bruce Rd]

Network: 1 [AM EX BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead-S														
1	L2	7	0.0	7	0.0	0.011	4.6	LOS A	0.0	0.0	0.01	0.23	0.01	47.4
2	T1	12	9.1	12	9.1	0.011	0.0	LOS A	0.0	0.0	0.01	0.23	0.01	47.4
3	R2	1	0.0	1	0.0	0.011	4.6	LOS A	0.0	0.0	0.01	0.23	0.01	47.4
Approach		20	5.3	20	5.3	0.011	1.9	NA	0.0	0.0	0.01	0.23	0.01	47.4
East: Bruce Rd-E														
4	L2	1	0.0	1	0.0	0.007	4.6	LOS A	0.0	0.1	0.08	0.50	0.08	47.7
5	T1	2	0.0	2	0.0	0.007	3.3	LOS A	0.0	0.1	0.08	0.50	0.08	47.0
6	R2	4	50.0	4	50.0	0.007	5.2	LOS A	0.0	0.1	0.08	0.50	0.08	47.0
Approach		7	28.6	7	28.6	0.007	4.6	LOS A	0.0	0.1	0.08	0.50	0.08	47.1
North: Broadhead Rd-N														
7	L2	1	0.0	1	0.0	0.007	4.6	LOS A	0.0	0.0	0.02	0.10	0.02	49.1
8	T1	9	22.2	9	22.2	0.007	0.0	LOS A	0.0	0.0	0.02	0.10	0.02	49.4
9	R2	1	0.0	1	0.0	0.007	4.6	LOS A	0.0	0.0	0.02	0.10	0.02	49.1
Approach		12	18.2	12	18.2	0.007	0.8	NA	0.0	0.0	0.02	0.10	0.02	49.4
West: Bruce Rd-W														
10	L2	2	0.0	2	0.0	0.004	4.6	LOS A	0.0	0.0	0.06	0.51	0.06	45.7
11	T1	1	0.0	1	0.0	0.004	3.3	LOS A	0.0	0.0	0.06	0.51	0.06	45.7
12	R2	2	0.0	2	0.0	0.004	4.7	LOS A	0.0	0.0	0.06	0.51	0.06	46.7
Approach		5	0.0	5	0.0	0.004	4.4	LOS A	0.0	0.0	0.06	0.51	0.06	46.2
All Vehicles		44	11.9	44	11.9	0.011	2.4	NA	0.0	0.1	0.03	0.27	0.03	47.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[exAM] Spring Flat Rd-Bruce Rd]

Network: 1 [AM EX BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	3	0.0	3	0.0	0.013	7.8	LOS A	0.0	0.0	0.00	0.09	0.00	94.5
2	T1	21	5.0	21	5.0	0.013	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	94.5
Approach		24	4.3	24	4.3	0.013	1.0	NA	0.0	0.0	0.00	0.09	0.00	94.5
North: Spring Flat Rd-N														
8	T1	11	0.0	11	0.0	0.007	0.0	LOS A	0.0	0.0	0.03	0.11	0.03	98.3
9	R2	1	100.0	1	100.0	0.007	8.9	LOS A	0.0	0.0	0.03	0.11	0.03	97.2
Approach		12	9.1	12	9.1	0.007	1.5	NA	0.0	0.0	0.03	0.11	0.03	98.2
West: Bruce Rd-W														
10	L2	1	100.0	1	100.0	0.002	5.1	LOS A	0.0	0.0	0.09	0.50	0.09	46.6
12	R2	1	0.0	1	0.0	0.002	4.7	LOS A	0.0	0.0	0.09	0.50	0.09	54.4
Approach		2	50.0	2	50.0	0.002	5.0	LOS A	0.0	0.0	0.09	0.50	0.09	51.0
All Vehicles		38	8.3	38	8.3	0.013	1.2	NA	0.0	0.0	0.01	0.12	0.01	89.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[exAM] Castlereagh Hwy-Spring Flat Rd]

Network: 1 [AM EX BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	20	5.3	20	5.3	0.016	7.6	LOS A	0.0	0.2	0.28	0.59	0.28	65.1
3	R2	1	0.0	1	0.0	0.016	8.5	LOS A	0.0	0.2	0.28	0.59	0.28	69.8
Approach		21	5.0	21	5.0	0.016	7.7	LOS A	0.0	0.2	0.28	0.59	0.28	65.5
East: Castlereagh Hwy-E														
4	L2	4	0.0	4	0.0	0.100	7.8	LOS A	0.0	0.0	0.00	0.02	0.00	98.9
5	T1	183	5.7	183	5.7	0.100	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	98.9
Approach		187	5.6	187	5.6	0.100	0.2	NA	0.0	0.0	0.00	0.02	0.00	98.9
West: Castlereagh Hwy-W														
11	T1	126	9.2	126	9.2	0.069	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	11	10.0	11	10.0	0.007	8.3	LOS A	0.0	0.1	0.30	0.60	0.30	59.8
Approach		137	9.2	137	9.2	0.069	0.6	NA	0.0	0.1	0.02	0.05	0.02	97.8
All Vehicles		345	7.0	345	7.0	0.100	0.8	NA	0.0	0.2	0.03	0.06	0.03	94.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR NETWORK SITE

Project: 18472_Mudgee EX BASE | **Template: Intersection Summary**

Site: 101 [[exPM] Castlereagh Hwy-Lions Dr-Burrundulla Rd] | Network: 3 [PM EX BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lions Drive														
1	L2	79	4.0	79	4.0	0.068	5.1	LOS A	0.1	0.7	0.22	0.52	0.22	46.6
2	T1	16	0.0	16	0.0	0.070	7.7	LOS A	0.1	0.7	0.54	0.69	0.54	45.5
3	R2	22	0.0	22	0.0	0.070	9.1	LOS A	0.1	0.7	0.54	0.69	0.54	42.9
Approach		117	2.7	117	2.7	0.070	6.2	LOS A	0.1	0.7	0.33	0.57	0.33	46.0
East: Castlereagh Highway-E														
4	L2	22	4.8	22	4.8	0.012	6.3	LOS A	0.0	0.0	0.00	0.59	0.00	40.1
5	T1	118	12.5	118	12.5	0.065	2.3	LOS A	0.0	0.0	0.00	0.40	0.00	67.1
6	R2	6	16.7	6	16.7	0.004	6.0	LOS A	0.0	0.1	0.26	0.55	0.26	45.4
Approach		146	11.5	146	11.5	0.065	3.0	NA	0.0	0.1	0.01	0.44	0.01	63.9
North: Burrundulla Rd														
7	L2	7	14.3	7	14.3	0.007	5.3	LOS A	0.0	0.1	0.24	0.50	0.24	43.5
8	T1	42	22.5	42	22.5	0.368	10.9	LOS A	0.8	6.0	0.66	0.90	0.85	37.1
9	R2	119	11.5	119	11.5	0.368	13.7	LOS A	0.8	6.0	0.66	0.90	0.85	42.2
Approach		168	14.4	168	14.4	0.368	12.7	LOS A	0.8	6.0	0.64	0.88	0.82	41.4
West: Castlereagh Highway-W														
10	L2	77	5.5	77	5.5	0.043	4.4	LOS A	0.0	0.0	0.00	0.46	0.00	47.8
11	T1	142	7.4	142	7.4	0.077	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	103	2.0	103	2.0	0.065	5.0	LOS A	0.1	0.9	0.24	0.52	0.24	43.5
Approach		322	5.2	322	5.2	0.077	2.7	NA	0.1	0.9	0.08	0.28	0.08	47.3
All Vehicles		754	8.1	754	8.1	0.368	5.5	NA	0.8	6.0	0.23	0.49	0.27	47.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[exPM] Broadhead Rd-Lions Dr]

Network: 3 [PM EX BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead Rd-S														
1	L2	6	16.7	6	16.7	0.011	5.2	LOS A	0.0	0.1	0.25	0.53	0.25	45.8
3	R2	6	0.0	6	0.0	0.011	5.4	LOS A	0.0	0.1	0.25	0.53	0.25	45.8
Approach		13	8.3	13	8.3	0.011	5.3	LOS A	0.0	0.1	0.25	0.53	0.25	45.8
East: Lions Dr-E														
4	L2	15	0.0	15	0.0	0.081	4.6	LOS A	0.0	0.0	0.00	0.05	0.00	49.5
5	T1	134	10.2	134	10.2	0.081	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	49.5
Approach		148	9.2	148	9.2	0.081	0.5	NA	0.0	0.0	0.00	0.05	0.00	49.5
West: Lions Dr-W														
11	T1	96	3.3	96	3.3	0.052	0.0	LOS A	0.0	0.0	0.01	0.01	0.01	49.8
12	R2	2	0.0	2	0.0	0.052	5.0	LOS A	0.0	0.0	0.01	0.01	0.01	49.8
Approach		98	3.2	98	3.2	0.052	0.1	NA	0.0	0.0	0.01	0.01	0.01	49.8
All Vehicles		259	6.9	259	6.9	0.081	0.6	NA	0.0	0.1	0.02	0.06	0.02	49.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[exPM] Lions Dr-Robertson St]

Network: 3 [PM EX BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson St-S														
2	T1	44	7.1	44	7.1	0.056	0.3	LOS A	0.1	0.7	0.20	0.29	0.20	47.1
3	R2	51	6.3	51	6.3	0.056	5.0	LOS A	0.1	0.7	0.20	0.29	0.20	42.0
Approach		95	6.7	95	6.7	0.056	2.8	NA	0.1	0.7	0.20	0.29	0.20	45.6
East: Lions Dr-E														
4	L2	67	6.3	67	6.3	0.132	4.8	LOS A	0.2	1.5	0.15	0.54	0.15	32.5
6	R2	89	14.1	89	14.1	0.132	5.5	LOS A	0.2	1.5	0.15	0.54	0.15	43.3
Approach		157	10.7	157	10.7	0.132	5.2	LOS A	0.2	1.5	0.15	0.54	0.15	41.5
North: Robertson St-N														
7	L2	65	1.6	65	1.6	0.060	4.6	LOS A	0.0	0.0	0.00	0.31	0.00	46.6
8	T1	47	2.2	47	2.2	0.060	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	46.6
Approach		113	1.9	113	1.9	0.060	2.7	NA	0.0	0.0	0.00	0.31	0.00	46.6
All Vehicles		364	6.9	364	6.9	0.132	3.8	NA	0.2	1.5	0.12	0.40	0.12	44.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[exPM] Bruce Rd-Robertson St]

Network: 3 [PM EX BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson-S														
1	L2	1	0.0	1	0.0	0.005	4.6	LOS A	0.0	0.0	0.02	0.12	0.02	48.7
2	T1	7	14.3	7	14.3	0.005	0.0	LOS A	0.0	0.0	0.02	0.12	0.02	48.4
3	R2	1	0.0	1	0.0	0.005	4.6	LOS A	0.0	0.0	0.02	0.12	0.02	48.4
Approach		9	11.1	9	11.1	0.005	1.0	NA	0.0	0.0	0.02	0.12	0.02	48.5
East: Bruce Rd-E														
4	L2	2	0.0	2	0.0	0.008	4.6	LOS A	0.0	0.1	0.02	0.50	0.02	47.4
5	T1	5	0.0	5	0.0	0.008	3.3	LOS A	0.0	0.1	0.02	0.50	0.02	47.4
6	R2	3	0.0	3	0.0	0.008	4.7	LOS A	0.0	0.1	0.02	0.50	0.02	46.2
Approach		11	0.0	11	0.0	0.008	3.9	LOS A	0.0	0.1	0.02	0.50	0.02	47.2
North: Robertson St-N														
7	L2	13	0.0	13	0.0	0.012	4.6	LOS A	0.0	0.1	0.04	0.50	0.04	45.4
8	T1	1	0.0	1	0.0	0.012	0.0	LOS A	0.0	0.1	0.04	0.50	0.04	47.4
9	R2	7	14.3	7	14.3	0.012	4.7	LOS A	0.0	0.1	0.04	0.50	0.04	46.4
Approach		21	5.0	21	5.0	0.012	4.4	NA	0.0	0.1	0.04	0.50	0.04	46.0
West: Bruce Rd-W														
10	L2	4	25.0	4	25.0	0.005	4.8	LOS A	0.0	0.1	0.04	0.50	0.04	44.8
11	T1	2	0.0	2	0.0	0.005	3.3	LOS A	0.0	0.1	0.04	0.50	0.04	44.8
12	R2	1	0.0	1	0.0	0.005	4.7	LOS A	0.0	0.1	0.04	0.50	0.04	46.4
Approach		7	14.3	7	14.3	0.005	4.3	LOS A	0.0	0.1	0.04	0.50	0.04	45.2
All Vehicles		48	6.5	48	6.5	0.012	3.6	NA	0.0	0.1	0.03	0.42	0.03	46.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[exPM] Broadhead Rd-Bruce Rd]

Network: 3 [PM EX BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead-S														
1	L2	2	0.0	2	0.0	0.004	4.6	LOS A	0.0	0.0	0.02	0.23	0.02	47.4
2	T1	4	0.0	4	0.0	0.004	0.0	LOS A	0.0	0.0	0.02	0.23	0.02	47.4
3	R2	1	0.0	1	0.0	0.004	4.6	LOS A	0.0	0.0	0.02	0.23	0.02	47.4
Approach		7	0.0	7	0.0	0.004	2.0	NA	0.0	0.0	0.02	0.23	0.02	47.4
East: Bruce Rd-E														
4	L2	1	0.0	1	0.0	0.002	4.6	LOS A	0.0	0.0	0.04	0.50	0.04	47.7
5	T1	1	0.0	1	0.0	0.002	3.2	LOS A	0.0	0.0	0.04	0.50	0.04	47.0
6	R2	1	0.0	1	0.0	0.002	4.7	LOS A	0.0	0.0	0.04	0.50	0.04	47.0
Approach		3	0.0	3	0.0	0.002	4.2	LOS A	0.0	0.0	0.04	0.50	0.04	47.3
North: Broadhead Rd-N														
7	L2	1	0.0	1	0.0	0.007	4.6	LOS A	0.0	0.1	0.03	0.29	0.03	47.9
8	T1	6	0.0	6	0.0	0.007	0.0	LOS A	0.0	0.1	0.03	0.29	0.03	48.7
9	R2	6	0.0	6	0.0	0.007	4.6	LOS A	0.0	0.1	0.03	0.29	0.03	47.9
Approach		14	0.0	14	0.0	0.007	2.5	NA	0.0	0.1	0.03	0.29	0.03	48.4
West: Bruce Rd-W														
10	L2	3	33.3	3	33.3	0.009	4.9	LOS A	0.0	0.1	0.04	0.51	0.04	45.9
11	T1	3	0.0	3	0.0	0.009	3.2	LOS A	0.0	0.1	0.04	0.51	0.04	45.9
12	R2	5	0.0	5	0.0	0.009	4.6	LOS A	0.0	0.1	0.04	0.51	0.04	46.8
Approach		12	9.1	12	9.1	0.009	4.3	LOS A	0.0	0.1	0.04	0.51	0.04	46.4
All Vehicles		36	2.9	36	2.9	0.009	3.1	NA	0.0	0.1	0.03	0.37	0.03	47.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[exPM] Spring Flat Rd-Bruce Rd]

Network: 3 [PM EX BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	1	0.0	1	0.0	0.001	7.8	LOS A	0.0	0.0	0.00	0.34	0.00	82.5
2	T1	1	0.0	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	82.5
Approach		2	0.0	2	0.0	0.001	3.9	NA	0.0	0.0	0.00	0.34	0.00	82.5
North: Spring Flat Rd-N														
8	T1	12	0.0	12	0.0	0.007	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	98.6
9	R2	1	0.0	1	0.0	0.007	7.4	LOS A	0.0	0.0	0.00	0.06	0.00	97.8
Approach		13	0.0	13	0.0	0.007	0.6	NA	0.0	0.0	0.00	0.06	0.00	98.6
West: Bruce Rd-W														
10	L2	1	100.0	1	100.0	0.007	5.0	LOS A	0.0	0.1	0.02	0.54	0.02	46.7
12	R2	7	0.0	7	0.0	0.007	4.6	LOS A	0.0	0.1	0.02	0.54	0.02	54.5
Approach		8	12.5	8	12.5	0.007	4.7	LOS A	0.0	0.1	0.02	0.54	0.02	53.8
All Vehicles		23	4.5	23	4.5	0.007	2.4	NA	0.0	0.1	0.01	0.26	0.01	73.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[exPM] Castlereagh Hwy-Spring Flat Rd]

Network: 3 [PM EX BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
EXISTING BASE
Site Category: 2019 Existing Base
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	14	0.0	14	0.0	0.010	7.3	LOS A	0.0	0.1	0.22	0.58	0.22	65.5
3	R2	1	0.0	1	0.0	0.010	8.0	LOS A	0.0	0.1	0.22	0.58	0.22	70.5
Approach		15	0.0	15	0.0	0.010	7.3	LOS A	0.0	0.1	0.22	0.58	0.22	66.0
East: Castlereagh Hwy-E														
4	L2	2	0.0	2	0.0	0.068	7.8	LOS A	0.0	0.0	0.00	0.01	0.00	99.1
5	T1	120	12.3	120	12.3	0.068	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.1
Approach		122	12.1	122	12.1	0.068	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.1
West: Castlereagh Hwy-W														
11	T1	129	4.1	129	4.1	0.068	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	7	0.0	7	0.0	0.005	7.7	LOS A	0.0	0.1	0.23	0.60	0.23	60.5
Approach		137	3.8	137	3.8	0.068	0.4	NA	0.0	0.1	0.01	0.03	0.01	98.5
All Vehicles		274	7.3	274	7.3	0.068	0.7	NA	0.0	0.1	0.02	0.05	0.02	95.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR NETWORK SITE

Project: 18472_Mudgee 2026 BASE

Template: Intersection Summary

Site: 101 [[AM 2026 BASE] Castlereagh Hwy-Lions Dr-Burrundulla Rd]

Network: 1 [AM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lions Drive														
1	L2	142	3.0	142	3.0	0.131	5.5	LOS A	0.2	1.4	0.31	0.56	0.31	46.5
2	T1	44	23.8	44	23.8	0.153	11.5	LOS A	0.2	1.9	0.62	0.80	0.62	44.0
3	R2	19	5.6	19	5.6	0.153	10.9	LOS A	0.2	1.9	0.62	0.80	0.62	41.1
Approach		205	7.7	205	7.7	0.153	7.3	LOS A	0.2	1.9	0.41	0.63	0.41	45.6
East: Castlereagh Highway-E														
4	L2	28	0.0	28	0.0	0.015	6.3	LOS A	0.0	0.0	0.00	0.59	0.00	40.1
5	T1	198	4.3	198	4.3	0.104	2.3	LOS A	0.0	0.0	0.00	0.40	0.00	70.8
6	R2	9	22.2	9	22.2	0.007	6.1	LOS A	0.0	0.1	0.29	0.56	0.29	45.2
Approach		236	4.5	236	4.5	0.104	2.9	NA	0.0	0.1	0.01	0.43	0.01	67.5
North: Burrundulla Rd														
7	L2	11	10.0	11	10.0	0.010	5.3	LOS A	0.0	0.1	0.26	0.51	0.26	43.4
8	T1	22	4.8	22	4.8	0.323	11.1	LOS A	0.6	4.3	0.73	0.93	0.90	34.7
9	R2	83	10.1	83	10.1	0.323	17.9	LOS B	0.6	4.3	0.73	0.93	0.90	40.6
Approach		116	9.1	116	9.1	0.323	15.5	LOS B	0.6	4.3	0.69	0.89	0.84	39.9
West: Castlereagh Highway-W														
10	L2	96	15.4	96	15.4	0.057	4.5	LOS A	0.0	0.0	0.00	0.46	0.00	47.7
11	T1	165	5.7	165	5.7	0.089	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	83	5.1	83	5.1	0.057	5.3	LOS A	0.1	0.8	0.31	0.54	0.31	43.2
Approach		344	8.3	344	8.3	0.089	2.5	NA	0.1	0.8	0.08	0.26	0.08	47.6
All Vehicles		901	7.2	901	7.2	0.323	5.4	NA	0.6	4.3	0.21	0.47	0.23	48.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2026 BASE] Broadhead Rd-Lions Dr]

Network: 1 [AM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead Rd														
1	L2	19	5.6	19	5.6	0.026	4.9	LOS A	0.0	0.3	0.22	0.53	0.22	45.9
3	R2	12	9.1	12	9.1	0.026	5.9	LOS A	0.0	0.3	0.22	0.53	0.22	45.9
Approach		31	6.9	31	6.9	0.026	5.3	LOS A	0.0	0.3	0.22	0.53	0.22	45.9
East: Lions Dr-E														
4	L2	9	11.1	9	11.1	0.063	4.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
5	T1	109	4.8	109	4.8	0.063	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		119	5.3	119	5.3	0.063	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.7
West: Lions Dr-W														
11	T1	180	8.8	180	8.8	0.102	0.0	LOS A	0.0	0.1	0.02	0.02	0.02	49.7
12	R2	6	16.7	6	16.7	0.102	5.2	LOS A	0.0	0.1	0.02	0.02	0.02	49.7
Approach		186	9.0	186	9.0	0.102	0.2	NA	0.0	0.1	0.02	0.02	0.02	49.7
All Vehicles		336	7.5	336	7.5	0.102	0.7	NA	0.0	0.3	0.03	0.07	0.03	49.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2026 BASE] Lions Dr-Robertson St]

Network: 1 [AM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson St-S														
2	T1	68	1.5	68	1.5	0.108	0.4	LOS A	0.2	1.6	0.23	0.32	0.23	46.9
3	R2	104	14.1	104	14.1	0.108	5.1	LOS A	0.2	1.6	0.23	0.32	0.23	41.5
Approach		173	9.1	173	9.1	0.108	3.2	NA	0.2	1.6	0.23	0.32	0.23	45.0
East: Lions Dr-E														
4	L2	60	7.0	60	7.0	0.182	4.7	LOS A	0.3	2.0	0.12	0.55	0.12	32.0
6	R2	147	0.7	147	0.7	0.182	5.7	LOS A	0.3	2.0	0.12	0.55	0.12	43.5
Approach		207	2.5	207	2.5	0.182	5.4	LOS A	0.3	2.0	0.12	0.55	0.12	42.3
North: Robertson St-N														
7	L2	94	1.1	94	1.1	0.063	4.6	LOS A	0.0	0.0	0.00	0.42	0.00	45.5
8	T1	24	0.0	24	0.0	0.063	0.0	LOS A	0.0	0.0	0.00	0.42	0.00	45.5
Approach		118	0.9	118	0.9	0.063	3.6	NA	0.0	0.0	0.00	0.42	0.00	45.5
All Vehicles		498	4.4	498	4.4	0.182	4.2	NA	0.3	2.0	0.13	0.44	0.13	43.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2026 BASE] Bruce Rd-Robertson St]

Network: 1 [AM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson-S														
1	L2	1	0.0	1	0.0	0.004	4.6	LOS A	0.0	0.0	0.02	0.16	0.02	48.6
2	T1	5	0.0	5	0.0	0.004	0.0	LOS A	0.0	0.0	0.02	0.16	0.02	48.2
3	R2	1	0.0	1	0.0	0.004	4.6	LOS A	0.0	0.0	0.02	0.16	0.02	48.2
Approach		7	0.0	7	0.0	0.004	1.3	NA	0.0	0.0	0.02	0.16	0.02	48.3
East: Bruce Rd-E														
4	L2	1	0.0	1	0.0	0.012	4.6	LOS A	0.0	0.1	0.06	0.52	0.06	47.1
5	T1	3	0.0	3	0.0	0.012	3.2	LOS A	0.0	0.1	0.06	0.52	0.06	47.1
6	R2	9	0.0	9	0.0	0.012	4.7	LOS A	0.0	0.1	0.06	0.52	0.06	45.7
Approach		14	0.0	14	0.0	0.012	4.3	LOS A	0.0	0.1	0.06	0.52	0.06	46.3
North: Robertson St-N														
7	L2	6	0.0	6	0.0	0.009	4.6	LOS A	0.0	0.1	0.02	0.34	0.02	46.9
8	T1	5	0.0	5	0.0	0.009	0.0	LOS A	0.0	0.1	0.02	0.34	0.02	48.3
9	R2	3	33.3	3	33.3	0.009	4.9	LOS A	0.0	0.1	0.02	0.34	0.02	46.9
Approach		15	7.1	15	7.1	0.009	3.0	NA	0.0	0.1	0.02	0.34	0.02	47.5
West: Bruce Rd-W														
10	L2	3	0.0	3	0.0	0.004	4.6	LOS A	0.0	0.0	0.03	0.51	0.03	44.7
11	T1	1	0.0	1	0.0	0.004	3.2	LOS A	0.0	0.0	0.03	0.51	0.03	44.7
12	R2	1	0.0	1	0.0	0.004	4.6	LOS A	0.0	0.0	0.03	0.51	0.03	46.3
Approach		5	0.0	5	0.0	0.004	4.3	LOS A	0.0	0.0	0.03	0.51	0.03	45.2
All Vehicles		41	2.6	41	2.6	0.012	3.3	NA	0.0	0.1	0.04	0.39	0.04	46.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2026 BASE] Broadhead Rd-Bruce Rd]

Network: 1 [AM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead-S														
1	L2	8	0.0	8	0.0	0.012	4.6	LOS A	0.0	0.0	0.01	0.22	0.01	47.4
2	T1	14	7.7	14	7.7	0.012	0.0	LOS A	0.0	0.0	0.01	0.22	0.01	47.4
3	R2	1	0.0	1	0.0	0.012	4.6	LOS A	0.0	0.0	0.01	0.22	0.01	47.4
Approach		23	4.5	23	4.5	0.012	1.9	NA	0.0	0.0	0.01	0.22	0.01	47.4
East: Bruce Rd-E														
4	L2	1	0.0	1	0.0	0.008	4.6	LOS A	0.0	0.1	0.09	0.51	0.09	47.6
5	T1	2	0.0	2	0.0	0.008	3.3	LOS A	0.0	0.1	0.09	0.51	0.09	46.9
6	R2	5	40.0	5	40.0	0.008	5.1	LOS A	0.0	0.1	0.09	0.51	0.09	46.9
Approach		8	25.0	8	25.0	0.008	4.6	LOS A	0.0	0.1	0.09	0.51	0.09	47.0
North: Broadhead Rd-N														
7	L2	1	0.0	1	0.0	0.007	4.6	LOS A	0.0	0.0	0.02	0.09	0.02	49.2
8	T1	11	20.0	11	20.0	0.007	0.0	LOS A	0.0	0.0	0.02	0.09	0.02	49.5
9	R2	1	0.0	1	0.0	0.007	4.6	LOS A	0.0	0.0	0.02	0.09	0.02	49.2
Approach		13	16.7	13	16.7	0.007	0.8	NA	0.0	0.0	0.02	0.09	0.02	49.5
West: Bruce Rd-W														
10	L2	2	0.0	2	0.0	0.004	4.6	LOS A	0.0	0.0	0.07	0.51	0.07	45.7
11	T1	1	0.0	1	0.0	0.004	3.3	LOS A	0.0	0.0	0.07	0.51	0.07	45.7
12	R2	2	0.0	2	0.0	0.004	4.7	LOS A	0.0	0.0	0.07	0.51	0.07	46.7
Approach		5	0.0	5	0.0	0.004	4.4	LOS A	0.0	0.0	0.07	0.51	0.07	46.2
All Vehicles		49	10.6	49	10.6	0.012	2.3	NA	0.0	0.1	0.03	0.27	0.03	48.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2026 BASE] Spring Flat Rd-Bruce Rd]

Network: 1 [AM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	3	0.0	3	0.0	0.014	7.8	LOS A	0.0	0.0	0.00	0.08	0.00	95.1
2	T1	24	4.3	24	4.3	0.014	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	95.1
Approach		27	3.8	27	3.8	0.014	0.9	NA	0.0	0.0	0.00	0.08	0.00	95.1
North: Spring Flat Rd-N														
8	T1	12	0.0	12	0.0	0.007	0.0	LOS A	0.0	0.0	0.03	0.10	0.03	98.4
9	R2	1	100.0	1	100.0	0.007	8.9	LOS A	0.0	0.0	0.03	0.10	0.03	97.4
Approach		13	8.3	13	8.3	0.007	1.4	NA	0.0	0.0	0.03	0.10	0.03	98.3
West: Bruce Rd-W														
10	L2	1	100.0	1	100.0	0.002	5.1	LOS A	0.0	0.0	0.10	0.50	0.10	46.5
12	R2	1	0.0	1	0.0	0.002	4.7	LOS A	0.0	0.0	0.10	0.50	0.10	54.3
Approach		2	50.0	2	50.0	0.002	5.0	LOS A	0.0	0.0	0.10	0.50	0.10	51.0
All Vehicles		42	7.5	42	7.5	0.014	1.1	NA	0.0	0.0	0.01	0.11	0.01	90.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2026 BASE] Castlereagh Hwy-Spring Flat Rd]

Network: 1 [AM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	23	4.5	23	4.5	0.019	7.7	LOS A	0.0	0.2	0.30	0.59	0.30	65.0
3	R2	1	0.0	1	0.0	0.019	8.8	LOS A	0.0	0.2	0.30	0.59	0.30	69.7
Approach		24	4.3	24	4.3	0.019	7.7	LOS A	0.0	0.2	0.30	0.59	0.30	65.3
East: Castlereagh Hwy-E														
4	L2	5	0.0	5	0.0	0.113	7.8	LOS A	0.0	0.0	0.00	0.02	0.00	98.8
5	T1	208	5.1	208	5.1	0.113	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	98.8
Approach		214	4.9	214	4.9	0.113	0.2	NA	0.0	0.0	0.00	0.02	0.00	98.8
West: Castlereagh Hwy-W														
11	T1	144	8.0	144	8.0	0.078	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	12	9.1	12	9.1	0.008	8.3	LOS A	0.0	0.1	0.32	0.60	0.32	59.6
Approach		156	8.1	156	8.1	0.078	0.6	NA	0.0	0.1	0.02	0.04	0.02	97.8
All Vehicles		394	6.1	394	6.1	0.113	0.8	NA	0.0	0.2	0.03	0.06	0.03	94.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR NETWORK SITE

Project: 18472_Mudgee 2026 BASE

Template: Intersection Summary

Site: 101 [[PM 2026 BASE] Castlereagh Hwy-Lions Dr-Burrundulla Rd]

Network: 3 [PM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lions Drive														
1	L2	91	3.5	91	3.5	0.079	5.2	LOS A	0.1	0.8	0.24	0.53	0.24	46.6
2	T1	18	0.0	18	0.0	0.088	8.6	LOS A	0.1	0.9	0.57	0.73	0.57	45.1
3	R2	25	0.0	25	0.0	0.088	10.1	LOS A	0.1	0.9	0.57	0.73	0.57	42.3
Approach		134	2.4	134	2.4	0.088	6.6	LOS A	0.1	0.9	0.35	0.59	0.35	45.8
East: Castlereagh Highway-E														
4	L2	25	4.2	25	4.2	0.014	6.3	LOS A	0.0	0.0	0.00	0.59	0.00	40.1
5	T1	135	10.9	135	10.9	0.074	2.3	LOS A	0.0	0.0	0.00	0.40	0.00	67.7
6	R2	7	14.3	7	14.3	0.005	6.1	LOS A	0.0	0.1	0.28	0.55	0.28	45.4
Approach		167	10.1	167	10.1	0.074	3.1	NA	0.0	0.1	0.01	0.44	0.01	64.4
North: Burrundulla Rd														
7	L2	8	0.0	8	0.0	0.007	5.2	LOS A	0.0	0.1	0.25	0.51	0.25	43.5
8	T1	48	19.6	48	19.6	0.467	13.4	LOS A	1.1	8.2	0.72	0.99	1.07	35.1
9	R2	136	10.1	136	10.1	0.467	16.9	LOS B	1.1	8.2	0.72	0.99	1.07	40.8
Approach		193	12.0	193	12.0	0.467	15.5	LOS B	1.1	8.2	0.70	0.97	1.03	39.9
West: Castlereagh Highway-W														
10	L2	87	4.8	87	4.8	0.049	4.4	LOS A	0.0	0.0	0.00	0.46	0.00	47.8
11	T1	162	6.5	162	6.5	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	118	1.8	118	1.8	0.075	5.0	LOS A	0.1	1.0	0.26	0.52	0.26	43.5
Approach		367	4.6	367	4.6	0.087	2.7	NA	0.1	1.0	0.08	0.28	0.08	47.3
All Vehicles		861	7.0	861	7.0	0.467	6.2	NA	1.1	8.2	0.25	0.51	0.32	46.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2026 BASE] Broadhead Rd-Lions Dr]

Network: 3 [PM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead Rd														
1	L2	7	14.3	7	14.3	0.013	5.2	LOS A	0.0	0.1	0.27	0.53	0.27	45.7
3	R2	7	0.0	7	0.0	0.013	5.5	LOS A	0.0	0.1	0.27	0.53	0.27	45.7
Approach		15	7.1	15	7.1	0.013	5.4	LOS A	0.0	0.1	0.27	0.53	0.27	45.7
East: Lions Dr-E														
4	L2	17	0.0	17	0.0	0.092	4.6	LOS A	0.0	0.0	0.00	0.05	0.00	49.5
5	T1	153	9.0	153	9.0	0.092	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	49.5
Approach		169	8.1	169	8.1	0.092	0.5	NA	0.0	0.0	0.00	0.05	0.00	49.5
West: Lions Dr-W														
11	T1	109	2.9	109	2.9	0.059	0.0	LOS A	0.0	0.0	0.01	0.01	0.01	49.8
12	R2	2	0.0	2	0.0	0.059	5.1	LOS A	0.0	0.0	0.01	0.01	0.01	49.8
Approach		112	2.8	112	2.8	0.059	0.1	NA	0.0	0.0	0.01	0.01	0.01	49.8
All Vehicles		296	6.0	296	6.0	0.092	0.6	NA	0.0	0.1	0.02	0.06	0.02	49.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2026 BASE] Lions Dr-Robertson St]

Network: 3 [PM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson St-S														
2	T1	51	6.3	51	6.3	0.065	0.3	LOS A	0.1	0.8	0.22	0.29	0.22	47.1
3	R2	58	5.5	58	5.5	0.065	5.0	LOS A	0.1	0.8	0.22	0.29	0.22	41.9
Approach		108	5.8	108	5.8	0.065	2.8	NA	0.1	0.8	0.22	0.29	0.22	45.6
East: Lions Dr-E														
4	L2	77	5.5	77	5.5	0.152	4.8	LOS A	0.2	1.8	0.17	0.54	0.17	32.4
6	R2	102	12.4	102	12.4	0.152	5.6	LOS A	0.2	1.8	0.17	0.54	0.17	43.3
Approach		179	9.4	179	9.4	0.152	5.3	LOS A	0.2	1.8	0.17	0.54	0.17	41.4
North: Robertson St-N														
7	L2	75	1.4	75	1.4	0.069	4.6	LOS A	0.0	0.0	0.00	0.31	0.00	46.6
8	T1	54	2.0	54	2.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	46.6
Approach		128	1.6	128	1.6	0.069	2.7	NA	0.0	0.0	0.00	0.31	0.00	46.6
All Vehicles		416	6.1	416	6.1	0.152	3.8	NA	0.2	1.8	0.13	0.40	0.13	44.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2026 BASE] Bruce Rd-Robertson St]

Network: 3 [PM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson-S														
1	L2	1	0.0	1	0.0	0.006	4.6	LOS A	0.0	0.0	0.02	0.11	0.02	48.8
2	T1	8	12.5	8	12.5	0.006	0.0	LOS A	0.0	0.0	0.02	0.11	0.02	48.6
3	R2	1	0.0	1	0.0	0.006	4.6	LOS A	0.0	0.0	0.02	0.11	0.02	48.6
Approach		11	10.0	11	10.0	0.006	0.9	NA	0.0	0.0	0.02	0.11	0.02	48.6
East: Bruce Rd-E														
4	L2	2	0.0	2	0.0	0.009	4.6	LOS A	0.0	0.1	0.02	0.50	0.02	47.4
5	T1	6	0.0	6	0.0	0.009	3.3	LOS A	0.0	0.1	0.02	0.50	0.02	47.4
6	R2	3	0.0	3	0.0	0.009	4.7	LOS A	0.0	0.1	0.02	0.50	0.02	46.2
Approach		12	0.0	12	0.0	0.009	3.9	LOS A	0.0	0.1	0.02	0.50	0.02	47.2
North: Robertson St-N														
7	L2	15	0.0	15	0.0	0.014	4.6	LOS A	0.0	0.1	0.04	0.50	0.04	45.4
8	T1	1	0.0	1	0.0	0.014	0.0	LOS A	0.0	0.1	0.04	0.50	0.04	47.3
9	R2	8	12.5	8	12.5	0.014	4.7	LOS A	0.0	0.1	0.04	0.50	0.04	46.4
Approach		24	4.3	24	4.3	0.014	4.4	NA	0.0	0.1	0.04	0.50	0.04	46.0
West: Bruce Rd-W														
10	L2	5	20.0	5	20.0	0.006	4.8	LOS A	0.0	0.1	0.05	0.50	0.05	44.7
11	T1	2	0.0	2	0.0	0.006	3.3	LOS A	0.0	0.1	0.05	0.50	0.05	44.7
12	R2	1	0.0	1	0.0	0.006	4.7	LOS A	0.0	0.1	0.05	0.50	0.05	46.3
Approach		8	12.5	8	12.5	0.006	4.4	LOS A	0.0	0.1	0.05	0.50	0.05	45.1
All Vehicles		55	5.8	55	5.8	0.014	3.6	NA	0.0	0.1	0.03	0.42	0.03	46.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2026 BASE] Broadhead Rd-Bruce Rd]

Network: 3 [PM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead-S														
1	L2	2	0.0	2	0.0	0.004	4.6	LOS A	0.0	0.0	0.02	0.20	0.02	47.7
2	T1	5	0.0	5	0.0	0.004	0.0	LOS A	0.0	0.0	0.02	0.20	0.02	47.7
3	R2	1	0.0	1	0.0	0.004	4.6	LOS A	0.0	0.0	0.02	0.20	0.02	47.7
Approach		8	0.0	8	0.0	0.004	1.7	NA	0.0	0.0	0.02	0.20	0.02	47.7
East: Bruce Rd-E														
4	L2	1	0.0	1	0.0	0.002	4.6	LOS A	0.0	0.0	0.05	0.50	0.05	47.7
5	T1	1	0.0	1	0.0	0.002	3.2	LOS A	0.0	0.0	0.05	0.50	0.05	47.0
6	R2	1	0.0	1	0.0	0.002	4.7	LOS A	0.0	0.0	0.05	0.50	0.05	47.0
Approach		3	0.0	3	0.0	0.002	4.2	LOS A	0.0	0.0	0.05	0.50	0.05	47.3
North: Broadhead Rd-N														
7	L2	1	0.0	1	0.0	0.009	4.6	LOS A	0.0	0.1	0.04	0.29	0.04	47.9
8	T1	7	0.0	7	0.0	0.009	0.0	LOS A	0.0	0.1	0.04	0.29	0.04	48.7
9	R2	7	0.0	7	0.0	0.009	4.6	LOS A	0.0	0.1	0.04	0.29	0.04	47.9
Approach		16	0.0	16	0.0	0.009	2.4	NA	0.0	0.1	0.04	0.29	0.04	48.4
West: Bruce Rd-W														
10	L2	3	33.3	3	33.3	0.010	4.9	LOS A	0.0	0.1	0.05	0.51	0.05	45.8
11	T1	3	0.0	3	0.0	0.010	3.2	LOS A	0.0	0.1	0.05	0.51	0.05	45.8
12	R2	6	0.0	6	0.0	0.010	4.7	LOS A	0.0	0.1	0.05	0.51	0.05	46.8
Approach		13	8.3	13	8.3	0.010	4.4	LOS A	0.0	0.1	0.05	0.51	0.05	46.4
All Vehicles		40	2.6	40	2.6	0.010	3.0	NA	0.0	0.1	0.04	0.36	0.04	47.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2026 BASE] Spring Flat Rd-Bruce Rd]

Network: 3 [PM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	1	0.0	1	0.0	0.001	7.8	LOS A	0.0	0.0	0.00	0.34	0.00	82.5
2	T1	1	0.0	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	82.5
Approach		2	0.0	2	0.0	0.001	3.9	NA	0.0	0.0	0.00	0.34	0.00	82.5
North: Spring Flat Rd-N														
8	T1	14	0.0	14	0.0	0.008	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	98.8
9	R2	1	0.0	1	0.0	0.008	7.4	LOS A	0.0	0.0	0.00	0.05	0.00	98.1
Approach		15	0.0	15	0.0	0.008	0.5	NA	0.0	0.0	0.00	0.05	0.00	98.8
West: Bruce Rd-W														
10	L2	1	100.0	1	100.0	0.008	5.0	LOS A	0.0	0.1	0.02	0.54	0.02	46.7
12	R2	8	0.0	8	0.0	0.008	4.6	LOS A	0.0	0.1	0.02	0.54	0.02	54.5
Approach		9	11.1	9	11.1	0.008	4.7	LOS A	0.0	0.1	0.02	0.54	0.02	53.8
All Vehicles		26	4.0	26	4.0	0.008	2.3	NA	0.0	0.1	0.01	0.25	0.01	73.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2026 BASE] Castlereagh Hwy-Spring Flat Rd]

Network: 3 [PM 2026 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2026 BASE
Site Category: 2026 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	16	0.0	16	0.0	0.012	7.3	LOS A	0.0	0.1	0.23	0.58	0.23	65.4
3	R2	1	0.0	1	0.0	0.012	8.3	LOS A	0.0	0.1	0.23	0.58	0.23	70.4
Approach		17	0.0	17	0.0	0.012	7.4	LOS A	0.0	0.1	0.23	0.58	0.23	65.9
East: Castlereagh Hwy-E														
4	L2	2	0.0	2	0.0	0.076	7.8	LOS A	0.0	0.0	0.00	0.01	0.00	99.2
5	T1	137	10.8	137	10.8	0.076	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.2
Approach		139	10.6	139	10.6	0.076	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.2
West: Castlereagh Hwy-W														
11	T1	147	3.6	147	3.6	0.077	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	8	0.0	8	0.0	0.005	7.8	LOS A	0.0	0.1	0.25	0.60	0.25	60.4
Approach		156	3.4	156	3.4	0.077	0.4	NA	0.0	0.1	0.01	0.03	0.01	98.5
All Vehicles		312	6.4	312	6.4	0.077	0.7	NA	0.0	0.1	0.02	0.05	0.02	95.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR NETWORK SITE

Project: 18472_Mudgee 2036 BASE_191204

Template: Intersection Summary

Site: 101 [[AM 2036 BASE] Castlereagh Hwy-Lions Dr-Burrundulla Rd]

Network: 1 [AM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lions Drive														
1	L2	166	2.5	166	2.5	0.159	5.7	LOS A	0.2	1.8	0.35	0.58	0.35	46.4
2	T1	53	20.0	53	20.0	0.209	13.7	LOS A	0.3	2.6	0.69	0.84	0.71	43.2
3	R2	22	4.8	22	4.8	0.209	12.8	LOS A	0.3	2.6	0.69	0.84	0.71	39.7
Approach		241	6.6	241	6.6	0.209	8.1	LOS A	0.3	2.6	0.45	0.66	0.46	45.2
East: Castlereagh Highway-E														
4	L2	34	0.0	34	0.0	0.018	6.3	LOS A	0.0	0.0	0.00	0.59	0.00	40.1
5	T1	233	3.6	233	3.6	0.122	2.3	LOS A	0.0	0.0	0.00	0.40	0.00	71.1
6	R2	12	18.2	12	18.2	0.009	6.2	LOS A	0.0	0.1	0.31	0.56	0.31	45.2
Approach		278	3.8	278	3.8	0.122	2.9	NA	0.0	0.1	0.01	0.43	0.01	67.7
North: Burrundulla Rd														
7	L2	13	8.3	13	8.3	0.012	5.4	LOS A	0.0	0.1	0.29	0.52	0.29	43.3
8	T1	25	4.2	25	4.2	0.459	15.4	LOS B	0.9	6.5	0.82	1.03	1.18	31.1
9	R2	97	8.7	97	8.7	0.459	24.6	LOS B	0.9	6.5	0.82	1.03	1.18	38.0
Approach		135	7.8	135	7.8	0.459	21.1	LOS B	0.9	6.5	0.77	0.98	1.09	37.3
West: Castlereagh Highway-W														
10	L2	113	13.1	113	13.1	0.066	4.5	LOS A	0.0	0.0	0.00	0.46	0.00	47.7
11	T1	195	4.9	195	4.9	0.104	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	97	4.3	97	4.3	0.069	5.4	LOS A	0.1	0.9	0.34	0.55	0.34	43.1
Approach		404	7.0	404	7.0	0.104	2.5	NA	0.1	0.9	0.08	0.26	0.08	47.6
All Vehicles		1058	6.2	1058	6.2	0.459	6.3	NA	0.9	6.5	0.24	0.49	0.28	47.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2036 BASE] Broadhead Rd-Lions Dr]

Network: 1 [AM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead Rd														
1	L2	22	4.8	22	4.8	0.031	5.0	LOS A	0.0	0.3	0.24	0.54	0.24	45.8
3	R2	14	7.7	14	7.7	0.031	6.1	LOS A	0.0	0.3	0.24	0.54	0.24	45.8
Approach		36	5.9	36	5.9	0.031	5.4	LOS A	0.0	0.3	0.24	0.54	0.24	45.8
East: Lions Dr-E														
4	L2	12	9.1	12	9.1	0.074	4.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.6
5	T1	128	4.1	128	4.1	0.074	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	49.6
Approach		140	4.5	140	4.5	0.074	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.6
West: Lions Dr-W														
11	T1	212	7.5	212	7.5	0.119	0.0	LOS A	0.0	0.2	0.02	0.02	0.02	49.7
12	R2	7	14.3	7	14.3	0.119	5.2	LOS A	0.0	0.2	0.02	0.02	0.02	49.7
Approach		219	7.7	219	7.7	0.119	0.2	NA	0.0	0.2	0.02	0.02	0.02	49.7
All Vehicles		395	6.4	395	6.4	0.119	0.7	NA	0.0	0.3	0.03	0.08	0.03	49.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2036 BASE] Lions Dr-Robertson St]

Network: 1 [AM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson St-S														
2	T1	80	1.3	80	1.3	0.127	0.4	LOS A	0.3	1.9	0.26	0.33	0.26	46.8
3	R2	123	12.0	123	12.0	0.127	5.2	LOS A	0.3	1.9	0.26	0.33	0.26	41.2
Approach		203	7.8	203	7.8	0.127	3.3	NA	0.3	1.9	0.26	0.33	0.26	44.8
East: Lions Dr-E														
4	L2	71	6.0	71	6.0	0.222	4.7	LOS A	0.3	2.5	0.13	0.56	0.13	31.5
6	R2	174	0.6	174	0.6	0.222	5.9	LOS A	0.3	2.5	0.13	0.56	0.13	43.3
Approach		244	2.2	244	2.2	0.222	5.6	LOS A	0.3	2.5	0.13	0.56	0.13	42.1
North: Robertson St-N														
7	L2	111	1.0	111	1.0	0.074	4.6	LOS A	0.0	0.0	0.00	0.42	0.00	45.5
8	T1	28	0.0	28	0.0	0.074	0.0	LOS A	0.0	0.0	0.00	0.42	0.00	45.5
Approach		139	0.8	139	0.8	0.074	3.6	NA	0.0	0.0	0.00	0.42	0.00	45.5
All Vehicles		586	3.8	586	3.8	0.222	4.3	NA	0.3	2.5	0.15	0.45	0.15	43.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2036 BASE] Bruce Rd-Robertson St]

Network: 1 [AM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson-S														
1	L2	1	0.0	1	0.0	0.004	4.6	LOS A	0.0	0.0	0.02	0.16	0.02	48.6
2	T1	5	0.0	5	0.0	0.004	0.0	LOS A	0.0	0.0	0.02	0.16	0.02	48.2
3	R2	1	0.0	1	0.0	0.004	4.6	LOS A	0.0	0.0	0.02	0.16	0.02	48.2
Approach		7	0.0	7	0.0	0.004	1.3	NA	0.0	0.0	0.02	0.16	0.02	48.3
East: Bruce Rd-E														
4	L2	1	0.0	1	0.0	0.014	4.6	LOS A	0.0	0.1	0.07	0.51	0.07	47.1
5	T1	4	0.0	4	0.0	0.014	3.2	LOS A	0.0	0.1	0.07	0.51	0.07	47.1
6	R2	12	0.0	12	0.0	0.014	4.7	LOS A	0.0	0.1	0.07	0.51	0.07	45.7
Approach		17	0.0	17	0.0	0.014	4.3	LOS A	0.0	0.1	0.07	0.51	0.07	46.3
North: Robertson St-N														
7	L2	7	0.0	7	0.0	0.010	4.6	LOS A	0.0	0.1	0.03	0.37	0.03	46.7
8	T1	5	0.0	5	0.0	0.010	0.0	LOS A	0.0	0.1	0.03	0.37	0.03	48.1
9	R2	4	25.0	4	25.0	0.010	4.8	LOS A	0.0	0.1	0.03	0.37	0.03	46.9
Approach		17	6.3	17	6.3	0.010	3.2	NA	0.0	0.1	0.03	0.37	0.03	47.3
West: Bruce Rd-W														
10	L2	4	0.0	4	0.0	0.004	4.6	LOS A	0.0	0.0	0.03	0.51	0.03	44.6
11	T1	1	0.0	1	0.0	0.004	3.3	LOS A	0.0	0.0	0.03	0.51	0.03	44.6
12	R2	1	0.0	1	0.0	0.004	4.6	LOS A	0.0	0.0	0.03	0.51	0.03	46.3
Approach		6	0.0	6	0.0	0.004	4.4	LOS A	0.0	0.0	0.03	0.51	0.03	45.1
All Vehicles		47	2.2	47	2.2	0.014	3.5	NA	0.0	0.1	0.04	0.41	0.04	46.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2036 BASE] Broadhead Rd-Bruce Rd]

Network: 1 [AM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead-S														
1	L2	9	0.0	9	0.0	0.014	4.6	LOS A	0.0	0.0	0.01	0.22	0.01	47.5
2	T1	16	6.7	16	6.7	0.014	0.0	LOS A	0.0	0.0	0.01	0.22	0.01	47.5
3	R2	1	0.0	1	0.0	0.014	4.6	LOS A	0.0	0.0	0.01	0.22	0.01	47.5
Approach		26	4.0	26	4.0	0.014	1.8	NA	0.0	0.0	0.01	0.22	0.01	47.5
East: Bruce Rd-E														
4	L2	1	0.0	1	0.0	0.009	4.6	LOS A	0.0	0.1	0.10	0.50	0.10	47.7
5	T1	3	0.0	3	0.0	0.009	3.3	LOS A	0.0	0.1	0.10	0.50	0.10	46.9
6	R2	5	40.0	5	40.0	0.009	5.2	LOS A	0.0	0.1	0.10	0.50	0.10	46.9
Approach		9	22.2	9	22.2	0.009	4.5	LOS A	0.0	0.1	0.10	0.50	0.10	47.1
North: Broadhead Rd-N														
7	L2	1	0.0	1	0.0	0.008	4.6	LOS A	0.0	0.0	0.02	0.08	0.02	49.3
8	T1	13	16.7	13	16.7	0.008	0.0	LOS A	0.0	0.0	0.02	0.08	0.02	49.6
9	R2	1	0.0	1	0.0	0.008	4.6	LOS A	0.0	0.0	0.02	0.08	0.02	49.3
Approach		15	14.3	15	14.3	0.008	0.7	NA	0.0	0.0	0.02	0.08	0.02	49.5
West: Bruce Rd-W														
10	L2	3	0.0	3	0.0	0.006	4.6	LOS A	0.0	0.1	0.07	0.51	0.07	45.6
11	T1	1	0.0	1	0.0	0.006	3.3	LOS A	0.0	0.1	0.07	0.51	0.07	45.6
12	R2	3	0.0	3	0.0	0.006	4.7	LOS A	0.0	0.1	0.07	0.51	0.07	46.6
Approach		7	0.0	7	0.0	0.006	4.5	LOS A	0.0	0.1	0.07	0.51	0.07	46.2
All Vehicles		58	9.1	58	9.1	0.014	2.3	NA	0.0	0.1	0.03	0.26	0.03	48.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2036 BASE] Spring Flat Rd-Bruce Rd]

Network: 1 [AM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	4	0.0	4	0.0	0.017	7.8	LOS A	0.0	0.0	0.00	0.09	0.00	94.6
2	T1	28	3.7	28	3.7	0.017	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	94.6
Approach		33	3.2	33	3.2	0.017	1.0	NA	0.0	0.0	0.00	0.09	0.00	94.6
North: Spring Flat Rd-N														
8	T1	14	0.0	14	0.0	0.008	0.0	LOS A	0.0	0.0	0.02	0.09	0.02	98.6
9	R2	1	100.0	1	100.0	0.008	9.0	LOS A	0.0	0.0	0.02	0.09	0.02	97.7
Approach		15	7.1	15	7.1	0.008	1.2	NA	0.0	0.0	0.02	0.09	0.02	98.6
West: Bruce Rd-W														
10	L2	1	100.0	1	100.0	0.002	5.2	LOS A	0.0	0.0	0.11	0.50	0.11	46.5
12	R2	1	0.0	1	0.0	0.002	4.7	LOS A	0.0	0.0	0.11	0.50	0.11	54.3
Approach		2	50.0	2	50.0	0.002	5.0	LOS A	0.0	0.0	0.11	0.50	0.11	51.0
All Vehicles		49	6.4	49	6.4	0.017	1.1	NA	0.0	0.0	0.01	0.11	0.01	91.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2036 BASE] Castlereagh Hwy-Spring Flat Rd]

Network: 1 [AM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	26	4.0	26	4.0	0.022	7.8	LOS A	0.0	0.2	0.33	0.60	0.33	64.8
3	R2	1	0.0	1	0.0	0.022	9.4	LOS A	0.0	0.2	0.33	0.60	0.33	69.6
Approach		27	3.8	27	3.8	0.022	7.9	LOS A	0.0	0.2	0.33	0.60	0.33	65.1
East: Castlereagh Hwy-E														
4	L2	5	0.0	5	0.0	0.132	7.8	LOS A	0.0	0.0	0.00	0.01	0.00	99.0
5	T1	245	4.3	245	4.3	0.132	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.0
Approach		251	4.2	251	4.2	0.132	0.2	NA	0.0	0.0	0.00	0.01	0.00	99.0
West: Castlereagh Hwy-W														
11	T1	169	6.8	169	6.8	0.091	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	14	7.7	14	7.7	0.010	8.4	LOS A	0.0	0.1	0.35	0.61	0.35	59.3
Approach		183	6.9	183	6.9	0.091	0.6	NA	0.0	0.1	0.03	0.05	0.03	97.8
All Vehicles		461	5.3	461	5.3	0.132	0.8	NA	0.0	0.2	0.03	0.06	0.03	94.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR NETWORK SITE

Project: 18472_Mudgee 2036 BASE_191204

Template: Intersection Summary

Site: 101 [[PM 2036 BASE] Castlereagh Hwy-Lions Dr-Burrundulla Rd]

Network: 3 [PM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lions Drive														
1	L2	106	3.0	106	3.0	0.095	5.3	LOS A	0.1	1.0	0.27	0.54	0.27	46.6
2	T1	21	0.0	21	0.0	0.118	10.0	LOS A	0.2	1.2	0.61	0.80	0.61	44.4
3	R2	29	0.0	29	0.0	0.118	11.6	LOS A	0.2	1.2	0.61	0.80	0.61	41.3
Approach		157	2.0	157	2.0	0.118	7.1	LOS A	0.2	1.2	0.38	0.62	0.38	45.5
East: Castlereagh Highway-E														
4	L2	29	3.6	29	3.6	0.016	6.3	LOS A	0.0	0.0	0.00	0.59	0.00	40.1
5	T1	158	9.3	158	9.3	0.086	2.3	LOS A	0.0	0.0	0.00	0.40	0.00	68.4
6	R2	8	12.5	8	12.5	0.006	6.2	LOS A	0.0	0.1	0.30	0.56	0.30	45.4
Approach		196	8.6	196	8.6	0.086	3.1	NA	0.0	0.1	0.01	0.44	0.01	65.1
North: Burrundulla Rd														
7	L2	9	0.0	9	0.0	0.009	5.3	LOS A	0.0	0.1	0.27	0.51	0.27	43.4
8	T1	57	16.7	57	16.7	0.637	19.1	LOS B	1.7	13.0	0.83	1.17	1.55	31.1
9	R2	159	8.6	159	8.6	0.637	23.9	LOS B	1.7	13.0	0.83	1.17	1.55	38.0
Approach		225	10.3	225	10.3	0.637	21.9	LOS B	1.7	13.0	0.81	1.14	1.50	36.9
West: Castlereagh Highway-W														
10	L2	103	4.1	103	4.1	0.057	4.4	LOS A	0.0	0.0	0.00	0.46	0.00	47.8
11	T1	191	5.5	191	5.5	0.102	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	138	1.5	138	1.5	0.089	5.1	LOS A	0.2	1.2	0.28	0.53	0.28	43.4
Approach		432	3.9	432	3.9	0.102	2.7	NA	0.2	1.2	0.09	0.28	0.09	47.3
All Vehicles		1009	5.9	1009	5.9	0.637	7.7	NA	1.7	13.0	0.28	0.56	0.43	45.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2036 BASE] Broadhead Rd-Lions Dr]

Network: 3 [PM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead Rd														
1	L2	8	12.5	8	12.5	0.015	5.3	LOS A	0.0	0.2	0.29	0.54	0.29	45.7
3	R2	8	0.0	8	0.0	0.015	5.7	LOS A	0.0	0.2	0.29	0.54	0.29	45.7
Approach		17	6.3	17	6.3	0.015	5.5	LOS A	0.0	0.2	0.29	0.54	0.29	45.7
East: Lions Dr-E														
4	L2	20	0.0	20	0.0	0.107	4.6	LOS A	0.0	0.0	0.00	0.05	0.00	49.5
5	T1	179	7.6	179	7.6	0.107	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	49.5
Approach		199	6.9	199	6.9	0.107	0.5	NA	0.0	0.0	0.00	0.05	0.00	49.5
West: Lions Dr-W														
11	T1	128	2.5	128	2.5	0.069	0.0	LOS A	0.0	0.1	0.02	0.01	0.02	49.8
12	R2	3	0.0	3	0.0	0.069	5.2	LOS A	0.0	0.1	0.02	0.01	0.02	49.8
Approach		132	2.4	132	2.4	0.069	0.1	NA	0.0	0.1	0.02	0.01	0.02	49.8
All Vehicles		347	5.2	347	5.2	0.107	0.6	NA	0.0	0.2	0.02	0.06	0.02	49.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2036 BASE] Lions Dr-Robertson St]

Network: 3 [PM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson St-S														
2	T1	59	5.4	59	5.4	0.076	0.4	LOS A	0.1	1.0	0.24	0.29	0.24	47.0
3	R2	67	4.7	67	4.7	0.076	5.1	LOS A	0.1	1.0	0.24	0.29	0.24	41.7
Approach		126	5.0	126	5.0	0.076	2.9	NA	0.1	1.0	0.24	0.29	0.24	45.5
East: Lions Dr-E														
4	L2	93	4.5	93	4.5	0.183	4.8	LOS A	0.3	2.2	0.19	0.55	0.19	32.1
6	R2	120	10.5	120	10.5	0.183	5.8	LOS A	0.3	2.2	0.19	0.55	0.19	43.3
Approach		213	7.9	213	7.9	0.183	5.4	LOS A	0.3	2.2	0.19	0.55	0.19	41.3
North: Robertson St-N														
7	L2	87	1.2	87	1.2	0.080	4.6	LOS A	0.0	0.0	0.00	0.31	0.00	46.6
8	T1	63	1.7	63	1.7	0.080	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	46.6
Approach		151	1.4	151	1.4	0.080	2.7	NA	0.0	0.0	0.00	0.31	0.00	46.6
All Vehicles		489	5.2	489	5.2	0.183	3.9	NA	0.3	2.2	0.15	0.41	0.15	44.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2036 BASE] Bruce Rd-Robertson St]

Network: 3 [PM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson-S														
1	L2	1	0.0	1	0.0	0.006	4.6	LOS A	0.0	0.0	0.02	0.10	0.02	48.9
2	T1	9	11.1	9	11.1	0.006	0.0	LOS A	0.0	0.0	0.02	0.10	0.02	48.7
3	R2	1	0.0	1	0.0	0.006	4.6	LOS A	0.0	0.0	0.02	0.10	0.02	48.7
Approach		12	9.1	12	9.1	0.006	0.8	NA	0.0	0.0	0.02	0.10	0.02	48.7
East: Bruce Rd-E														
4	L2	3	0.0	3	0.0	0.012	4.6	LOS A	0.0	0.1	0.01	0.50	0.01	47.3
5	T1	7	0.0	7	0.0	0.012	3.3	LOS A	0.0	0.1	0.01	0.50	0.01	47.4
6	R2	4	0.0	4	0.0	0.012	4.7	LOS A	0.0	0.1	0.01	0.50	0.01	46.2
Approach		15	0.0	15	0.0	0.012	4.0	LOS A	0.0	0.1	0.01	0.50	0.01	47.2
North: Robertson St-N														
7	L2	17	0.0	17	0.0	0.015	4.6	LOS A	0.0	0.1	0.04	0.50	0.04	45.3
8	T1	1	0.0	1	0.0	0.015	0.0	LOS A	0.0	0.1	0.04	0.50	0.04	47.3
9	R2	9	11.1	9	11.1	0.015	4.7	LOS A	0.0	0.1	0.04	0.50	0.04	46.4
Approach		27	3.8	27	3.8	0.015	4.4	NA	0.0	0.1	0.04	0.50	0.04	45.9
West: Bruce Rd-W														
10	L2	5	20.0	5	20.0	0.007	4.8	LOS A	0.0	0.1	0.05	0.49	0.05	44.9
11	T1	3	0.0	3	0.0	0.007	3.3	LOS A	0.0	0.1	0.05	0.49	0.05	44.9
12	R2	1	0.0	1	0.0	0.007	4.7	LOS A	0.0	0.1	0.05	0.49	0.05	46.4
Approach		9	11.1	9	11.1	0.007	4.3	LOS A	0.0	0.1	0.05	0.49	0.05	45.1
All Vehicles		63	5.0	63	5.0	0.015	3.6	NA	0.0	0.1	0.03	0.43	0.03	46.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2036 BASE] Broadhead Rd-Bruce Rd]

Network: 3 [PM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead-S														
1	L2	3	0.0	3	0.0	0.005	4.6	LOS A	0.0	0.0	0.02	0.24	0.02	47.3
2	T1	5	0.0	5	0.0	0.005	0.0	LOS A	0.0	0.0	0.02	0.24	0.02	47.3
3	R2	1	0.0	1	0.0	0.005	4.6	LOS A	0.0	0.0	0.02	0.24	0.02	47.3
Approach		9	0.0	9	0.0	0.005	2.0	NA	0.0	0.0	0.02	0.24	0.02	47.3
East: Bruce Rd-E														
4	L2	1	0.0	1	0.0	0.002	4.6	LOS A	0.0	0.0	0.05	0.50	0.05	47.7
5	T1	1	0.0	1	0.0	0.002	3.3	LOS A	0.0	0.0	0.05	0.50	0.05	47.0
6	R2	1	0.0	1	0.0	0.002	4.7	LOS A	0.0	0.0	0.05	0.50	0.05	47.0
Approach		3	0.0	3	0.0	0.002	4.2	LOS A	0.0	0.0	0.05	0.50	0.05	47.3
North: Broadhead Rd-N														
7	L2	1	0.0	1	0.0	0.010	4.6	LOS A	0.0	0.1	0.04	0.29	0.04	47.9
8	T1	8	0.0	8	0.0	0.010	0.0	LOS A	0.0	0.1	0.04	0.29	0.04	48.7
9	R2	8	0.0	8	0.0	0.010	4.6	LOS A	0.0	0.1	0.04	0.29	0.04	47.9
Approach		18	0.0	18	0.0	0.010	2.4	NA	0.0	0.1	0.04	0.29	0.04	48.4
West: Bruce Rd-W														
10	L2	4	25.0	4	25.0	0.013	4.8	LOS A	0.0	0.1	0.05	0.51	0.05	45.8
11	T1	4	0.0	4	0.0	0.013	3.3	LOS A	0.0	0.1	0.05	0.51	0.05	45.8
12	R2	7	0.0	7	0.0	0.013	4.7	LOS A	0.0	0.1	0.05	0.51	0.05	46.8
Approach		16	6.7	16	6.7	0.013	4.3	LOS A	0.0	0.1	0.05	0.51	0.05	46.4
All Vehicles		46	2.3	46	2.3	0.013	3.1	NA	0.0	0.1	0.04	0.37	0.04	47.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2036 BASE] Spring Flat Rd-Bruce Rd]

Network: 3 [PM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	1	0.0	1	0.0	0.001	7.8	LOS A	0.0	0.0	0.00	0.34	0.00	82.5
2	T1	1	0.0	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	82.5
Approach		2	0.0	2	0.0	0.001	3.9	NA	0.0	0.0	0.00	0.34	0.00	82.5
North: Spring Flat Rd-N														
8	T1	16	0.0	16	0.0	0.009	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	99.0
9	R2	1	0.0	1	0.0	0.009	7.4	LOS A	0.0	0.0	0.00	0.04	0.00	98.3
Approach		17	0.0	17	0.0	0.009	0.5	NA	0.0	0.0	0.00	0.04	0.00	98.9
West: Bruce Rd-W														
10	L2	1	100.0	1	100.0	0.008	5.0	LOS A	0.0	0.1	0.03	0.54	0.03	46.7
12	R2	9	0.0	9	0.0	0.008	4.6	LOS A	0.0	0.1	0.03	0.54	0.03	54.5
Approach		11	10.0	11	10.0	0.008	4.7	LOS A	0.0	0.1	0.03	0.54	0.03	53.9
All Vehicles		29	3.6	29	3.6	0.009	2.2	NA	0.0	0.1	0.01	0.24	0.01	74.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2036 BASE] Castlereagh Hwy-Spring Flat Rd]

Network: 3 [PM 2036 BASE]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 BASE
Site Category: 2036 BASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	18	0.0	18	0.0	0.014	7.4	LOS A	0.0	0.2	0.26	0.58	0.26	65.3
3	R2	1	0.0	1	0.0	0.014	8.6	LOS A	0.0	0.2	0.26	0.58	0.26	70.3
Approach		19	0.0	19	0.0	0.014	7.5	LOS A	0.0	0.2	0.26	0.58	0.26	65.7
East: Castlereagh Hwy-E														
4	L2	3	0.0	3	0.0	0.089	7.8	LOS A	0.0	0.0	0.00	0.01	0.00	99.1
5	T1	161	9.2	161	9.2	0.089	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.1
Approach		164	9.0	164	9.0	0.089	0.2	NA	0.0	0.0	0.00	0.01	0.00	99.1
West: Castlereagh Hwy-W														
11	T1	174	3.0	174	3.0	0.091	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	9	0.0	9	0.0	0.006	7.9	LOS A	0.0	0.1	0.27	0.60	0.27	60.1
Approach		183	2.9	183	2.9	0.091	0.4	NA	0.0	0.1	0.01	0.03	0.01	98.5
All Vehicles		366	5.5	366	5.5	0.091	0.7	NA	0.0	0.2	0.02	0.05	0.02	95.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR NETWORK SITE

Project: 18472_Mudgee 2026 + DEV_191125

Template: Intersection Summary

Site: 101 [[AM 2026 DEV] Castlereagh Hwy-Lions Dr-Burrundulla Rd]

Network: 1 [AM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lions Drive														
1	L2	165	2.5	165	2.5	0.153	5.5	LOS A	0.2	1.7	0.31	0.57	0.31	46.5
2	T1	44	23.8	44	23.8	0.177	12.4	LOS A	0.3	2.2	0.65	0.81	0.65	43.7
3	R2	25	4.2	25	4.2	0.177	11.5	LOS A	0.3	2.2	0.65	0.81	0.65	40.6
Approach		235	6.7	235	6.7	0.177	7.5	LOS A	0.3	2.2	0.41	0.64	0.41	45.5
East: Castlereagh Highway-E														
4	L2	38	0.0	38	0.0	0.020	6.3	LOS A	0.0	0.0	0.00	0.59	0.00	40.1
5	T1	198	4.3	198	4.3	0.104	2.3	LOS A	0.0	0.0	0.00	0.40	0.00	70.8
6	R2	9	22.2	9	22.2	0.007	6.1	LOS A	0.0	0.1	0.29	0.56	0.29	45.2
Approach		245	4.3	245	4.3	0.104	3.0	NA	0.0	0.1	0.01	0.44	0.01	67.1
North: Burrundulla Rd														
7	L2	11	10.0	11	10.0	0.010	5.3	LOS A	0.0	0.1	0.26	0.51	0.26	43.4
8	T1	22	4.8	22	4.8	0.354	12.3	LOS A	0.6	4.7	0.77	0.96	0.98	33.4
9	R2	83	10.1	83	10.1	0.354	20.2	LOS B	0.6	4.7	0.77	0.96	0.98	39.7
Approach		116	9.1	116	9.1	0.354	17.3	LOS B	0.6	4.7	0.72	0.92	0.91	39.0
West: Castlereagh Highway-W														
10	L2	96	15.4	96	15.4	0.057	4.5	LOS A	0.0	0.0	0.00	0.46	0.00	47.7
11	T1	165	5.7	165	5.7	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	116	3.6	116	3.6	0.079	5.3	LOS A	0.1	1.0	0.32	0.54	0.32	43.2
Approach		377	7.5	377	7.5	0.088	2.8	NA	0.1	1.0	0.10	0.28	0.10	47.3
All Vehicles		973	6.7	973	6.7	0.354	5.7	NA	0.6	4.7	0.23	0.48	0.25	47.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2026 DEV] Broadhead Rd-Lions Dr]

Network: 1 [AM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead Rd														
1	L2	74	1.4	74	1.4	0.097	4.9	LOS A	0.1	1.0	0.22	0.55	0.22	45.8
3	R2	41	2.6	41	2.6	0.097	6.4	LOS A	0.1	1.0	0.22	0.55	0.22	45.8
Approach		115	1.8	115	1.8	0.097	5.5	LOS A	0.1	1.0	0.22	0.55	0.22	45.8
East: Lions Dr-E														
4	L2	52	2.0	52	2.0	0.086	4.6	LOS A	0.0	0.0	0.00	0.17	0.00	48.6
5	T1	109	4.8	109	4.8	0.086	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	48.6
Approach		161	3.9	161	3.9	0.086	1.5	NA	0.0	0.0	0.00	0.17	0.00	48.6
West: Lions Dr-W														
11	T1	180	8.8	180	8.8	0.151	0.3	LOS A	0.2	1.6	0.19	0.18	0.19	47.3
12	R2	83	1.3	83	1.3	0.151	5.2	LOS A	0.2	1.6	0.19	0.18	0.19	47.3
Approach		263	6.4	263	6.4	0.151	1.8	NA	0.2	1.6	0.19	0.18	0.19	47.3
All Vehicles		539	4.7	539	4.7	0.151	2.5	NA	0.2	1.6	0.14	0.26	0.14	47.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2026 DEV] Lions Dr-Robertson St]

Network: 1 [AM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson St-S														
2	T1	68	1.5	68	1.5	0.113	0.7	LOS A	0.2	1.7	0.31	0.34	0.31	46.7
3	R2	104	14.1	104	14.1	0.113	5.5	LOS A	0.2	1.7	0.31	0.34	0.31	40.9
Approach		173	9.1	173	9.1	0.113	3.6	NA	0.2	1.7	0.31	0.34	0.31	44.6
East: Lions Dr-E														
4	L2	60	7.0	60	7.0	0.242	4.7	LOS A	0.4	2.7	0.14	0.57	0.14	31.4
6	R2	202	0.5	202	0.5	0.242	5.9	LOS A	0.4	2.7	0.14	0.57	0.14	43.3
Approach		262	2.0	262	2.0	0.242	5.7	LOS A	0.4	2.7	0.14	0.57	0.14	42.3
North: Robertson St-N														
7	L2	171	0.6	171	0.6	0.105	4.6	LOS A	0.0	0.0	0.00	0.47	0.00	45.1
8	T1	24	0.0	24	0.0	0.105	0.0	LOS A	0.0	0.0	0.00	0.47	0.00	45.1
Approach		195	0.5	195	0.5	0.105	4.0	NA	0.0	0.0	0.00	0.47	0.00	45.1
All Vehicles		629	3.5	629	3.5	0.242	4.6	NA	0.4	2.7	0.14	0.47	0.14	43.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2026 DEV] Bruce Rd-Robertson St]

Network: 1 [AM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson-S														
1	L2	1	0.0	1	0.0	0.006	4.8	LOS A	0.0	0.1	0.17	0.25	0.17	47.6
2	T1	5	0.0	5	0.0	0.006	0.2	LOS A	0.0	0.1	0.17	0.25	0.17	46.3
3	R2	4	0.0	4	0.0	0.006	4.9	LOS A	0.0	0.1	0.17	0.25	0.17	46.3
Approach		11	0.0	11	0.0	0.006	2.5	NA	0.0	0.1	0.17	0.25	0.17	46.5
East: Bruce Rd-E														
4	L2	3	0.0	3	0.0	0.084	4.6	LOS A	0.1	0.8	0.12	0.54	0.12	46.8
5	T1	3	0.0	3	0.0	0.084	3.5	LOS A	0.1	0.8	0.12	0.54	0.12	46.9
6	R2	83	0.0	83	0.0	0.084	4.9	LOS A	0.1	0.8	0.12	0.54	0.12	45.3
Approach		89	0.0	89	0.0	0.084	4.9	LOS A	0.1	0.8	0.12	0.54	0.12	45.5
North: Robertson St-N														
7	L2	109	0.0	109	0.0	0.064	4.6	LOS A	0.0	0.1	0.00	0.50	0.00	45.5
8	T1	5	0.0	5	0.0	0.064	0.0	LOS A	0.0	0.1	0.00	0.50	0.00	47.4
9	R2	3	33.3	3	33.3	0.064	4.9	LOS A	0.0	0.1	0.00	0.50	0.00	46.1
Approach		118	0.9	118	0.9	0.064	4.4	NA	0.0	0.1	0.00	0.50	0.00	45.7
West: Bruce Rd-W														
10	L2	3	0.0	3	0.0	0.004	4.6	LOS A	0.0	0.0	0.02	0.51	0.02	44.7
11	T1	1	0.0	1	0.0	0.004	3.6	LOS A	0.0	0.0	0.02	0.51	0.02	44.7
12	R2	1	0.0	1	0.0	0.004	4.7	LOS A	0.0	0.0	0.02	0.51	0.02	46.3
Approach		5	0.0	5	0.0	0.004	4.4	LOS A	0.0	0.0	0.02	0.51	0.02	45.2
All Vehicles		223	0.5	223	0.5	0.084	4.5	NA	0.1	0.8	0.06	0.51	0.06	45.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2026 DEV] Broadhead Rd-Bruce Rd]

Network: 1 [AM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead-S														
1	L2	8	0.0	8	0.0	0.016	4.8	LOS A	0.0	0.1	0.15	0.27	0.15	46.1
2	T1	14	7.7	14	7.7	0.016	0.2	LOS A	0.0	0.1	0.15	0.27	0.15	46.1
3	R2	7	0.0	7	0.0	0.016	4.9	LOS A	0.0	0.1	0.15	0.27	0.15	46.1
Approach		29	3.6	29	3.6	0.016	2.7	NA	0.0	0.1	0.15	0.27	0.15	46.1
East: Bruce Rd-E														
4	L2	5	0.0	5	0.0	0.168	4.6	LOS A	0.3	1.8	0.20	0.53	0.20	47.5
5	T1	79	0.0	79	0.0	0.168	3.6	LOS A	0.3	1.8	0.20	0.53	0.20	46.7
6	R2	91	2.3	91	2.3	0.168	5.7	LOS A	0.3	1.8	0.20	0.53	0.20	46.7
Approach		175	1.2	175	1.2	0.168	4.7	LOS A	0.3	1.8	0.20	0.53	0.20	46.7
North: Broadhead Rd-N														
7	L2	119	0.0	119	0.0	0.071	4.6	LOS A	0.0	0.0	0.00	0.49	0.00	46.7
8	T1	11	20.0	11	20.0	0.071	0.0	LOS A	0.0	0.0	0.00	0.49	0.00	47.9
9	R2	1	0.0	1	0.0	0.071	4.6	LOS A	0.0	0.0	0.00	0.49	0.00	46.7
Approach		131	1.6	131	1.6	0.071	4.2	NA	0.0	0.0	0.00	0.49	0.00	46.8
West: Bruce Rd-W														
10	L2	2	0.0	2	0.0	0.097	4.6	LOS A	0.1	1.0	0.22	0.48	0.22	46.1
11	T1	107	0.0	107	0.0	0.097	3.8	LOS A	0.1	1.0	0.22	0.48	0.22	46.1
12	R2	2	0.0	2	0.0	0.097	5.2	LOS A	0.1	1.0	0.22	0.48	0.22	46.9
Approach		112	0.0	112	0.0	0.097	3.9	LOS A	0.1	1.0	0.22	0.48	0.22	46.1
All Vehicles		446	1.2	446	1.2	0.168	4.2	NA	0.3	1.8	0.14	0.49	0.14	46.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2026 DEV] Spring Flat Rd-Bruce Rd]

Network: 1 [AM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	3	0.0	3	0.0	0.014	7.8	LOS A	0.0	0.0	0.00	0.08	0.00	95.1
2	T1	24	4.3	24	4.3	0.014	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	95.1
Approach		27	3.8	27	3.8	0.014	0.9	NA	0.0	0.0	0.00	0.08	0.00	95.1
North: Spring Flat Rd-N														
8	T1	12	0.0	12	0.0	0.007	0.0	LOS A	0.0	0.0	0.03	0.10	0.03	98.4
9	R2	1	100.0	1	100.0	0.007	8.9	LOS A	0.0	0.0	0.03	0.10	0.03	97.4
Approach		13	8.3	13	8.3	0.007	1.4	NA	0.0	0.0	0.03	0.10	0.03	98.3
West: Bruce Rd-W														
10	L2	1	100.0	1	100.0	0.002	5.1	LOS A	0.0	0.0	0.10	0.50	0.10	46.5
12	R2	1	0.0	1	0.0	0.002	4.7	LOS A	0.0	0.0	0.10	0.50	0.10	54.3
Approach		2	50.0	2	50.0	0.002	5.0	LOS A	0.0	0.0	0.10	0.50	0.10	51.0
All Vehicles		42	7.5	42	7.5	0.014	1.1	NA	0.0	0.0	0.01	0.11	0.01	90.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2026 DEV] Castlereagh Hwy-Spring Flat Rd]

Network: 1 [AM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	23	4.5	23	4.5	0.019	7.7	LOS A	0.0	0.2	0.31	0.60	0.31	65.0
3	R2	1	0.0	1	0.0	0.019	9.0	LOS A	0.0	0.2	0.31	0.60	0.31	69.7
Approach		24	4.3	24	4.3	0.019	7.8	LOS A	0.0	0.2	0.31	0.60	0.31	65.3
East: Castlereagh Hwy-E														
4	L2	5	0.0	5	0.0	0.118	7.8	LOS A	0.0	0.0	0.00	0.02	0.00	98.9
5	T1	218	4.8	218	4.8	0.118	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	98.9
Approach		223	4.7	223	4.7	0.118	0.2	NA	0.0	0.0	0.00	0.02	0.00	98.9
West: Castlereagh Hwy-W														
11	T1	151	7.7	151	7.7	0.081	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	12	9.1	12	9.1	0.008	8.4	LOS A	0.0	0.1	0.33	0.61	0.33	59.5
Approach		162	7.8	162	7.8	0.081	0.6	NA	0.0	0.1	0.02	0.04	0.02	97.9
All Vehicles		409	5.9	409	5.9	0.118	0.8	NA	0.0	0.2	0.03	0.06	0.03	94.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR NETWORK SITE

Project: 18472_Mudgee 2026 + DEV_191125

Template: Intersection Summary

Site: 101 [[PM 2026 DEV] Castlereagh Hwy-Lions Dr-Burrundulla Rd]

Network: 3 [PM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lions Drive														
1	L2	120	2.6	120	2.6	0.104	5.2	LOS A	0.2	1.1	0.25	0.53	0.25	46.6
2	T1	18	0.0	18	0.0	0.110	9.0	LOS A	0.2	1.2	0.59	0.77	0.59	44.8
3	R2	34	0.0	34	0.0	0.110	10.6	LOS A	0.2	1.2	0.59	0.77	0.59	41.8
Approach		172	1.8	172	1.8	0.110	6.7	LOS A	0.2	1.2	0.35	0.60	0.35	45.7
East: Castlereagh Highway-E														
4	L2	33	3.2	33	3.2	0.018	6.3	LOS A	0.0	0.0	0.00	0.59	0.00	40.1
5	T1	135	10.9	135	10.9	0.074	2.3	LOS A	0.0	0.0	0.00	0.40	0.00	67.7
6	R2	7	14.3	7	14.3	0.005	6.1	LOS A	0.0	0.1	0.28	0.55	0.28	45.4
Approach		175	9.6	175	9.6	0.074	3.2	NA	0.0	0.1	0.01	0.44	0.01	64.0
North: Burrundulla Rd														
7	L2	8	0.0	8	0.0	0.007	5.2	LOS A	0.0	0.1	0.25	0.51	0.25	43.5
8	T1	48	19.6	48	19.6	0.508	14.9	LOS B	1.2	9.1	0.76	1.04	1.19	33.7
9	R2	136	10.1	136	10.1	0.508	19.2	LOS B	1.2	9.1	0.76	1.04	1.19	39.9
Approach		193	12.0	193	12.0	0.508	17.5	LOS B	1.2	9.1	0.74	1.01	1.15	38.9
West: Castlereagh Highway-W														
10	L2	87	4.8	87	4.8	0.049	4.4	LOS A	0.0	0.0	0.00	0.46	0.00	47.8
11	T1	162	6.5	162	6.5	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	144	1.5	144	1.5	0.092	5.0	LOS A	0.2	1.2	0.26	0.52	0.26	43.4
Approach		394	4.3	394	4.3	0.092	2.8	NA	0.2	1.2	0.10	0.29	0.10	47.1
All Vehicles		933	6.4	933	6.4	0.508	6.6	NA	1.2	9.1	0.26	0.53	0.34	46.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2026 DEV] Broadhead Rd-Lions Dr]

Network: 3 [PM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead Rd														
1	L2	77	1.4	77	1.4	0.103	5.1	LOS A	0.2	1.1	0.28	0.56	0.28	45.7
3	R2	45	0.0	45	0.0	0.103	6.0	LOS A	0.2	1.1	0.28	0.56	0.28	45.7
Approach		122	0.9	122	0.9	0.103	5.4	LOS A	0.2	1.1	0.28	0.56	0.28	45.7
East: Lions Dr-E														
4	L2	51	0.0	51	0.0	0.110	4.6	LOS A	0.0	0.0	0.00	0.14	0.00	48.8
5	T1	153	9.0	153	9.0	0.110	0.0	LOS A	0.0	0.0	0.00	0.14	0.00	48.8
Approach		203	6.7	203	6.7	0.110	1.1	NA	0.0	0.0	0.00	0.14	0.00	48.8
West: Lions Dr-W														
11	T1	109	2.9	109	2.9	0.100	0.4	LOS A	0.2	1.1	0.24	0.21	0.24	46.9
12	R2	63	0.0	63	0.0	0.100	5.3	LOS A	0.2	1.1	0.24	0.21	0.24	46.9
Approach		173	1.8	173	1.8	0.100	2.2	NA	0.2	1.1	0.24	0.21	0.24	46.9
All Vehicles		498	3.6	498	3.6	0.110	2.6	NA	0.2	1.1	0.15	0.26	0.15	47.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2026 DEV] Lions Dr-Robertson St]

Network: 3 [PM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson St-S														
2	T1	51	6.3	51	6.3	0.067	0.5	LOS A	0.1	0.9	0.28	0.30	0.28	46.9
3	R2	58	5.5	58	5.5	0.067	5.2	LOS A	0.1	0.9	0.28	0.30	0.28	41.4
Approach		108	5.8	108	5.8	0.067	3.0	NA	0.1	0.9	0.28	0.30	0.28	45.3
East: Lions Dr-E														
4	L2	77	5.5	77	5.5	0.221	4.8	LOS A	0.4	2.6	0.20	0.56	0.20	31.9
6	R2	172	7.4	172	7.4	0.221	5.7	LOS A	0.4	2.6	0.20	0.56	0.20	43.3
Approach		248	6.8	248	6.8	0.221	5.5	LOS A	0.4	2.6	0.20	0.56	0.20	42.0
North: Robertson St-N														
7	L2	136	0.8	136	0.8	0.101	4.6	LOS A	0.0	0.0	0.00	0.38	0.00	45.9
8	T1	54	2.0	54	2.0	0.101	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	45.9
Approach		189	1.1	189	1.1	0.101	3.3	NA	0.0	0.0	0.00	0.38	0.00	45.9
All Vehicles		546	4.6	546	4.6	0.221	4.2	NA	0.4	2.6	0.15	0.45	0.15	44.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2026 DEV] Bruce Rd-Robertson St]

Network: 3 [PM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson-S														
1	L2	1	0.0	1	0.0	0.008	4.8	LOS A	0.0	0.1	0.14	0.22	0.14	47.8
2	T1	8	12.5	8	12.5	0.008	0.1	LOS A	0.0	0.1	0.14	0.22	0.14	46.6
3	R2	5	0.0	5	0.0	0.008	4.8	LOS A	0.0	0.1	0.14	0.22	0.14	46.6
Approach		15	7.1	15	7.1	0.008	2.1	NA	0.0	0.1	0.14	0.22	0.14	46.8
East: Bruce Rd-E														
4	L2	6	0.0	6	0.0	0.101	4.6	LOS A	0.1	1.0	0.04	0.55	0.04	46.9
5	T1	6	0.0	6	0.0	0.101	3.5	LOS A	0.1	1.0	0.04	0.55	0.04	46.9
6	R2	96	0.0	96	0.0	0.101	4.9	LOS A	0.1	1.0	0.04	0.55	0.04	45.4
Approach		108	0.0	108	0.0	0.101	4.8	LOS A	0.1	1.0	0.04	0.55	0.04	45.7
North: Robertson St-N														
7	L2	96	0.0	96	0.0	0.058	4.6	LOS A	0.0	0.2	0.01	0.52	0.01	45.3
8	T1	1	0.0	1	0.0	0.058	0.0	LOS A	0.0	0.2	0.01	0.52	0.01	47.3
9	R2	8	12.5	8	12.5	0.058	4.7	LOS A	0.0	0.2	0.01	0.52	0.01	46.3
Approach		105	1.0	105	1.0	0.058	4.5	NA	0.0	0.2	0.01	0.52	0.01	45.5
West: Bruce Rd-W														
10	L2	5	20.0	5	20.0	0.006	4.8	LOS A	0.0	0.1	0.04	0.50	0.04	44.8
11	T1	2	0.0	2	0.0	0.006	3.6	LOS A	0.0	0.1	0.04	0.50	0.04	44.8
12	R2	1	0.0	1	0.0	0.006	4.7	LOS A	0.0	0.1	0.04	0.50	0.04	46.3
Approach		8	12.5	8	12.5	0.006	4.5	LOS A	0.0	0.1	0.04	0.50	0.04	45.1
All Vehicles		237	1.3	237	1.3	0.101	4.5	NA	0.1	1.0	0.03	0.51	0.03	45.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2026 DEV] Broadhead Rd-Bruce Rd]

Network: 3 [PM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead-S														
1	L2	2	0.0	2	0.0	0.007	4.8	LOS A	0.0	0.1	0.17	0.29	0.17	45.9
2	T1	5	0.0	5	0.0	0.007	0.2	LOS A	0.0	0.1	0.17	0.29	0.17	45.9
3	R2	5	0.0	5	0.0	0.007	4.8	LOS A	0.0	0.1	0.17	0.29	0.17	45.9
Approach		13	0.0	13	0.0	0.007	2.9	NA	0.0	0.1	0.17	0.29	0.17	45.9
East: Bruce Rd-E														
4	L2	7	0.0	7	0.0	0.196	4.6	LOS A	0.3	2.2	0.15	0.52	0.15	47.5
5	T1	97	0.0	97	0.0	0.196	3.5	LOS A	0.3	2.2	0.15	0.52	0.15	46.8
6	R2	108	0.0	108	0.0	0.196	5.5	LOS A	0.3	2.2	0.15	0.52	0.15	46.8
Approach		213	0.0	213	0.0	0.196	4.6	LOS A	0.3	2.2	0.15	0.52	0.15	46.8
North: Broadhead Rd-N														
7	L2	96	0.0	96	0.0	0.059	4.6	LOS A	0.0	0.1	0.01	0.49	0.01	46.7
8	T1	7	0.0	7	0.0	0.059	0.0	LOS A	0.0	0.1	0.01	0.49	0.01	47.9
9	R2	7	0.0	7	0.0	0.059	4.6	LOS A	0.0	0.1	0.01	0.49	0.01	46.7
Approach		111	0.0	111	0.0	0.059	4.3	NA	0.0	0.1	0.01	0.49	0.01	46.8
West: Bruce Rd-W														
10	L2	3	33.3	3	33.3	0.083	4.9	LOS A	0.1	0.9	0.14	0.47	0.14	46.3
11	T1	88	0.0	88	0.0	0.083	3.6	LOS A	0.1	0.9	0.14	0.47	0.14	46.3
12	R2	6	0.0	6	0.0	0.083	5.2	LOS A	0.1	0.9	0.14	0.47	0.14	47.0
Approach		98	1.1	98	1.1	0.083	3.8	LOS A	0.1	0.9	0.14	0.47	0.14	46.4
All Vehicles		434	0.2	434	0.2	0.196	4.3	NA	0.3	2.2	0.11	0.50	0.11	46.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2026 DEV] Spring Flat Rd-Bruce Rd]

Network: 3 [PM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	1	0.0	1	0.0	0.001	7.8	LOS A	0.0	0.0	0.00	0.34	0.00	82.5
2	T1	1	0.0	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	82.5
Approach		2	0.0	2	0.0	0.001	3.9	NA	0.0	0.0	0.00	0.34	0.00	82.5
North: Spring Flat Rd-N														
8	T1	14	0.0	14	0.0	0.008	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	98.8
9	R2	1	0.0	1	0.0	0.008	7.4	LOS A	0.0	0.0	0.00	0.05	0.00	98.1
Approach		15	0.0	15	0.0	0.008	0.5	NA	0.0	0.0	0.00	0.05	0.00	98.8
West: Bruce Rd-W														
10	L2	1	100.0	1	100.0	0.008	5.0	LOS A	0.0	0.1	0.02	0.54	0.02	46.7
12	R2	8	0.0	8	0.0	0.008	4.6	LOS A	0.0	0.1	0.02	0.54	0.02	54.5
Approach		9	11.1	9	11.1	0.008	4.7	LOS A	0.0	0.1	0.02	0.54	0.02	53.8
All Vehicles		26	4.0	26	4.0	0.008	2.3	NA	0.0	0.1	0.01	0.25	0.01	73.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2026 DEV] Castlereagh Hwy-Spring Flat Rd]

Network: 3 [PM 2026 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
Site Category: 2026 DEV CASE
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	16	0.0	16	0.0	0.012	7.3	LOS A	0.0	0.1	0.23	0.58	0.23	65.4
3	R2	1	0.0	1	0.0	0.012	8.4	LOS A	0.0	0.1	0.23	0.58	0.23	70.4
Approach		17	0.0	17	0.0	0.012	7.4	LOS A	0.0	0.1	0.23	0.58	0.23	65.9
East: Castlereagh Hwy-E														
4	L2	9	0.0	9	0.0	0.080	7.8	LOS A	0.0	0.0	0.00	0.04	0.00	97.0
5	T1	137	10.8	137	10.8	0.080	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	97.0
Approach		146	10.1	146	10.1	0.080	0.5	NA	0.0	0.0	0.00	0.04	0.00	97.0
West: Castlereagh Hwy-W														
11	T1	156	3.4	156	3.4	0.082	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	8	0.0	8	0.0	0.005	7.8	LOS A	0.0	0.1	0.25	0.60	0.25	60.3
Approach		164	3.2	164	3.2	0.082	0.4	NA	0.0	0.1	0.01	0.03	0.01	98.5
All Vehicles		327	6.1	327	6.1	0.082	0.8	NA	0.0	0.1	0.02	0.06	0.02	95.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR NETWORK SITE

Project: 18472_Mudgee 2036 + DEV_191204

Template: Intersection Summary

Site: 101 [[AM 2036 DEV] Castlereagh Hwy-Lions Dr-Burrundulla Rd]

Network: 1 [AM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lions Drive														
1	L2	189	2.2	189	2.2	0.181	5.7	LOS A	0.3	2.0	0.35	0.59	0.35	46.4
2	T1	53	20.0	53	20.0	0.240	15.1	LOS B	0.4	3.1	0.72	0.87	0.78	42.6
3	R2	28	3.7	28	3.7	0.240	13.9	LOS A	0.4	3.1	0.72	0.87	0.78	39.0
Approach		271	5.8	271	5.8	0.240	8.4	LOS A	0.4	3.1	0.46	0.67	0.48	45.0
East: Castlereagh Highway-E														
4	L2	43	0.0	43	0.0	0.023	6.3	LOS A	0.0	0.0	0.00	0.59	0.00	40.1
5	T1	233	3.6	233	3.6	0.122	2.3	LOS A	0.0	0.0	0.00	0.40	0.00	71.1
6	R2	12	18.2	12	18.2	0.009	6.2	LOS A	0.0	0.1	0.31	0.56	0.31	45.2
Approach		287	3.7	287	3.7	0.122	3.0	NA	0.0	0.1	0.01	0.44	0.01	67.3
North: Burrundulla Rd														
7	L2	13	8.3	13	8.3	0.012	5.4	LOS A	0.0	0.1	0.29	0.52	0.29	43.3
8	T1	25	4.2	25	4.2	0.506	17.7	LOS B	1.0	7.2	0.85	1.06	1.27	29.5
9	R2	97	8.7	97	8.7	0.506	28.2	LOS B	1.0	7.2	0.85	1.06	1.27	36.7
Approach		135	7.8	135	7.8	0.506	24.1	LOS B	1.0	7.2	0.80	1.01	1.18	36.0
West: Castlereagh Highway-W														
10	L2	113	13.1	113	13.1	0.066	4.5	LOS A	0.0	0.0	0.00	0.46	0.00	47.7
11	T1	195	4.9	195	4.9	0.104	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	129	3.3	129	3.3	0.091	5.4	LOS A	0.2	1.2	0.35	0.56	0.35	43.1
Approach		437	6.5	437	6.5	0.104	2.8	NA	0.2	1.2	0.10	0.28	0.10	47.3
All Vehicles		1129	5.8	1129	5.8	0.506	6.7	NA	1.0	7.2	0.25	0.50	0.30	47.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2036 DEV] Broadhead Rd-Lions Dr]

Network: 1 [AM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead Rd														
1	L2	77	1.4	77	1.4	0.105	5.0	LOS A	0.2	1.1	0.25	0.56	0.25	45.7
3	R2	43	2.4	43	2.4	0.105	6.7	LOS A	0.2	1.1	0.25	0.56	0.25	45.7
Approach		120	1.8	120	1.8	0.105	5.6	LOS A	0.2	1.1	0.25	0.56	0.25	45.7
East: Lions Dr-E														
4	L2	54	2.0	54	2.0	0.097	4.6	LOS A	0.0	0.0	0.00	0.16	0.00	48.7
5	T1	128	4.1	128	4.1	0.097	0.0	LOS A	0.0	0.0	0.00	0.16	0.00	48.7
Approach		182	3.5	182	3.5	0.097	1.4	NA	0.0	0.0	0.00	0.16	0.00	48.7
West: Lions Dr-W														
11	T1	212	7.5	212	7.5	0.170	0.3	LOS A	0.2	1.7	0.19	0.16	0.19	47.5
12	R2	84	1.3	84	1.3	0.170	5.3	LOS A	0.2	1.7	0.19	0.16	0.19	47.5
Approach		296	5.7	296	5.7	0.170	1.7	NA	0.2	1.7	0.19	0.16	0.19	47.5
All Vehicles		598	4.2	598	4.2	0.170	2.4	NA	0.2	1.7	0.15	0.24	0.15	47.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2036 DEV] Lions Dr-Robertson St]

Network: 1 [AM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson St-S														
2	T1	80	1.3	80	1.3	0.134	0.7	LOS A	0.3	2.0	0.33	0.34	0.33	46.6
3	R2	123	12.0	123	12.0	0.134	5.5	LOS A	0.3	2.0	0.33	0.34	0.33	40.6
Approach		203	7.8	203	7.8	0.134	3.6	NA	0.3	2.0	0.33	0.34	0.33	44.4
East: Lions Dr-E														
4	L2	71	6.0	71	6.0	0.285	4.7	LOS A	0.5	3.3	0.16	0.58	0.16	30.9
6	R2	228	0.5	228	0.5	0.285	6.2	LOS A	0.5	3.3	0.16	0.58	0.16	43.1
Approach		299	1.8	299	1.8	0.285	5.9	LOS A	0.5	3.3	0.16	0.58	0.16	42.1
North: Robertson St-N														
7	L2	187	0.6	187	0.6	0.116	4.6	LOS A	0.0	0.0	0.00	0.46	0.00	45.2
8	T1	28	0.0	28	0.0	0.116	0.0	LOS A	0.0	0.0	0.00	0.46	0.00	45.2
Approach		216	0.5	216	0.5	0.116	4.0	NA	0.0	0.0	0.00	0.46	0.00	45.2
All Vehicles		718	3.1	718	3.1	0.285	4.7	NA	0.5	3.3	0.16	0.48	0.16	43.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2036 DEV] Bruce Rd-Robertson St]

Network: 1 [AM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson-S														
1	L2	1	0.0	1	0.0	0.006	4.8	LOS A	0.0	0.1	0.18	0.25	0.18	47.6
2	T1	5	0.0	5	0.0	0.006	0.2	LOS A	0.0	0.1	0.18	0.25	0.18	46.3
3	R2	4	0.0	4	0.0	0.006	4.9	LOS A	0.0	0.1	0.18	0.25	0.18	46.3
Approach		11	0.0	11	0.0	0.006	2.5	NA	0.0	0.1	0.18	0.25	0.18	46.5
East: Bruce Rd-E														
4	L2	3	0.0	3	0.0	0.087	4.6	LOS A	0.1	0.9	0.12	0.54	0.12	46.8
5	T1	4	0.0	4	0.0	0.087	3.5	LOS A	0.1	0.9	0.12	0.54	0.12	46.9
6	R2	85	0.0	85	0.0	0.087	4.9	LOS A	0.1	0.9	0.12	0.54	0.12	45.3
Approach		93	0.0	93	0.0	0.087	4.9	LOS A	0.1	0.9	0.12	0.54	0.12	45.5
North: Robertson St-N														
7	L2	112	0.0	112	0.0	0.066	4.6	LOS A	0.0	0.1	0.00	0.51	0.00	45.5
8	T1	5	0.0	5	0.0	0.066	0.0	LOS A	0.0	0.1	0.00	0.51	0.00	47.4
9	R2	4	25.0	4	25.0	0.066	4.8	LOS A	0.0	0.1	0.00	0.51	0.00	46.2
Approach		121	0.9	121	0.9	0.066	4.4	NA	0.0	0.1	0.00	0.51	0.00	45.7
West: Bruce Rd-W														
10	L2	4	0.0	4	0.0	0.004	4.6	LOS A	0.0	0.0	0.02	0.52	0.02	44.7
11	T1	1	0.0	1	0.0	0.004	3.6	LOS A	0.0	0.0	0.02	0.52	0.02	44.7
12	R2	1	0.0	1	0.0	0.004	4.7	LOS A	0.0	0.0	0.02	0.52	0.02	46.3
Approach		6	0.0	6	0.0	0.004	4.4	LOS A	0.0	0.0	0.02	0.52	0.02	45.1
All Vehicles		231	0.5	231	0.5	0.087	4.5	NA	0.1	0.9	0.06	0.51	0.06	45.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2036 DEV] Broadhead Rd-Bruce Rd]

Network: 1 [AM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead-S														
1	L2	9	0.0	9	0.0	0.018	4.8	LOS A	0.0	0.2	0.14	0.26	0.14	46.3
2	T1	16	6.7	16	6.7	0.018	0.2	LOS A	0.0	0.2	0.14	0.26	0.14	46.3
3	R2	7	0.0	7	0.0	0.018	4.9	LOS A	0.0	0.2	0.14	0.26	0.14	46.3
Approach		33	3.2	33	3.2	0.018	2.6	NA	0.0	0.2	0.14	0.26	0.14	46.3
East: Bruce Rd-E														
4	L2	5	0.0	5	0.0	0.170	4.6	LOS A	0.3	1.8	0.21	0.53	0.21	47.5
5	T1	80	0.0	80	0.0	0.170	3.6	LOS A	0.3	1.8	0.21	0.53	0.21	46.7
6	R2	91	2.3	91	2.3	0.170	5.8	LOS A	0.3	1.8	0.21	0.53	0.21	46.7
Approach		176	1.2	176	1.2	0.170	4.8	LOS A	0.3	1.8	0.21	0.53	0.21	46.7
North: Broadhead Rd-N														
7	L2	119	0.0	119	0.0	0.072	4.6	LOS A	0.0	0.0	0.00	0.48	0.00	46.7
8	T1	13	16.7	13	16.7	0.072	0.0	LOS A	0.0	0.0	0.00	0.48	0.00	47.9
9	R2	1	0.0	1	0.0	0.072	4.6	LOS A	0.0	0.0	0.00	0.48	0.00	46.7
Approach		133	1.6	133	1.6	0.072	4.1	NA	0.0	0.0	0.00	0.48	0.00	46.9
West: Bruce Rd-W														
10	L2	3	0.0	3	0.0	0.099	4.6	LOS A	0.1	1.0	0.22	0.49	0.22	46.1
11	T1	107	0.0	107	0.0	0.099	3.8	LOS A	0.1	1.0	0.22	0.49	0.22	46.1
12	R2	3	0.0	3	0.0	0.099	5.2	LOS A	0.1	1.0	0.22	0.49	0.22	46.9
Approach		114	0.0	114	0.0	0.099	3.9	LOS A	0.1	1.0	0.22	0.49	0.22	46.1
All Vehicles		455	1.2	455	1.2	0.170	4.2	NA	0.3	1.8	0.15	0.49	0.15	46.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2036 DEV] Spring Flat Rd-Bruce Rd]

Network: 1 [AM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	4	0.0	4	0.0	0.017	7.8	LOS A	0.0	0.0	0.00	0.09	0.00	94.6
2	T1	28	3.7	28	3.7	0.017	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	94.6
Approach		33	3.2	33	3.2	0.017	1.0	NA	0.0	0.0	0.00	0.09	0.00	94.6
North: Spring Flat Rd-N														
8	T1	14	0.0	14	0.0	0.008	0.0	LOS A	0.0	0.0	0.02	0.09	0.02	98.6
9	R2	1	100.0	1	100.0	0.008	9.0	LOS A	0.0	0.0	0.02	0.09	0.02	97.7
Approach		15	7.1	15	7.1	0.008	1.2	NA	0.0	0.0	0.02	0.09	0.02	98.6
West: Bruce Rd-W														
10	L2	1	100.0	1	100.0	0.002	5.2	LOS A	0.0	0.0	0.11	0.50	0.11	46.5
12	R2	1	0.0	1	0.0	0.002	4.7	LOS A	0.0	0.0	0.11	0.50	0.11	54.3
Approach		2	50.0	2	50.0	0.002	5.0	LOS A	0.0	0.0	0.11	0.50	0.11	51.0
All Vehicles		49	6.4	49	6.4	0.017	1.1	NA	0.0	0.0	0.01	0.11	0.01	91.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[AM 2036 DEV] Castlereagh Hwy-Spring Flat Rd]

Network: 1 [AM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	26	4.0	26	4.0	0.022	7.8	LOS A	0.0	0.2	0.33	0.61	0.33	64.8
3	R2	1	0.0	1	0.0	0.022	9.5	LOS A	0.0	0.2	0.33	0.61	0.33	69.6
Approach		27	3.8	27	3.8	0.022	7.9	LOS A	0.0	0.2	0.33	0.61	0.33	65.1
East: Castlereagh Hwy-E														
4	L2	5	0.0	5	0.0	0.137	7.8	LOS A	0.0	0.0	0.00	0.01	0.00	99.0
5	T1	255	4.1	255	4.1	0.137	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.0
Approach		260	4.0	260	4.0	0.137	0.2	NA	0.0	0.0	0.00	0.01	0.00	99.0
West: Castlereagh Hwy-W														
11	T1	176	6.6	176	6.6	0.095	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	14	7.7	14	7.7	0.010	8.5	LOS A	0.0	0.1	0.35	0.61	0.35	59.2
Approach		189	6.7	189	6.7	0.095	0.6	NA	0.0	0.1	0.03	0.04	0.03	97.9
All Vehicles		477	5.1	477	5.1	0.137	0.8	NA	0.0	0.2	0.03	0.06	0.03	94.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR NETWORK SITE

Project: 18472_Mudgee 2036 + DEV_191204

Template: Intersection Summary

Site: 101 [[PM 2036 DEV] Castlereagh Hwy-Lions Dr-Burrundulla Rd]

Network: 3 [PM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
AM PEAK 8:15 - 9:15 AM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lions Drive														
1	L2	136	2.3	136	2.3	0.120	5.3	LOS A	0.2	1.3	0.27	0.54	0.27	46.6
2	T1	21	0.0	21	0.0	0.145	10.5	LOS A	0.2	1.5	0.64	0.82	0.64	44.1
3	R2	38	0.0	38	0.0	0.145	12.3	LOS A	0.2	1.5	0.64	0.82	0.64	40.8
Approach		195	1.6	195	1.6	0.145	7.2	LOS A	0.2	1.5	0.38	0.63	0.38	45.5
East: Castlereagh Highway-E														
4	L2	37	2.9	37	2.9	0.020	6.3	LOS A	0.0	0.0	0.00	0.59	0.00	40.1
5	T1	158	9.3	158	9.3	0.086	2.3	LOS A	0.0	0.0	0.00	0.40	0.00	68.4
6	R2	8	12.5	8	12.5	0.006	6.2	LOS A	0.0	0.1	0.30	0.56	0.30	45.4
Approach		203	8.3	203	8.3	0.086	3.2	NA	0.0	0.1	0.01	0.44	0.01	64.7
North: Burrundulla Rd														
7	L2	9	0.0	9	0.0	0.009	5.3	LOS A	0.0	0.1	0.27	0.51	0.27	43.4
8	T1	57	16.7	57	16.7	0.695	22.4	LOS B	1.9	14.8	0.87	1.25	1.78	29.1
9	R2	159	8.6	159	8.6	0.695	28.3	LOS B	1.9	14.8	0.87	1.25	1.78	36.4
Approach		225	10.3	225	10.3	0.695	25.8	LOS B	1.9	14.8	0.84	1.22	1.71	35.3
West: Castlereagh Highway-W														
10	L2	103	4.1	103	4.1	0.057	4.4	LOS A	0.0	0.0	0.00	0.46	0.00	47.8
11	T1	191	5.5	191	5.5	0.102	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	164	1.3	164	1.3	0.106	5.1	LOS A	0.2	1.4	0.29	0.53	0.29	43.3
Approach		458	3.7	458	3.7	0.106	2.8	NA	0.2	1.4	0.10	0.30	0.10	47.1
All Vehicles		1081	5.6	1081	5.6	0.695	8.5	NA	1.9	14.8	0.29	0.58	0.47	44.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2036 DEV] Broadhead Rd-Lions Dr]

Network: 3 [PM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead Rd														
1	L2	78	1.4	78	1.4	0.108	5.2	LOS A	0.2	1.2	0.31	0.57	0.31	45.6
3	R2	46	0.0	46	0.0	0.108	6.3	LOS A	0.2	1.2	0.31	0.57	0.31	45.6
Approach		124	0.8	124	0.8	0.108	5.6	LOS A	0.2	1.2	0.31	0.57	0.31	45.6
East: Lions Dr-E														
4	L2	54	0.0	54	0.0	0.125	4.6	LOS A	0.0	0.0	0.00	0.13	0.00	48.9
5	T1	179	7.6	179	7.6	0.125	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	48.9
Approach		233	5.9	233	5.9	0.125	1.1	NA	0.0	0.0	0.00	0.13	0.00	48.9
West: Lions Dr-W														
11	T1	128	2.5	128	2.5	0.112	0.4	LOS A	0.2	1.2	0.24	0.19	0.24	47.0
12	R2	64	0.0	64	0.0	0.112	5.4	LOS A	0.2	1.2	0.24	0.19	0.24	47.0
Approach		193	1.6	193	1.6	0.112	2.1	NA	0.2	1.2	0.24	0.19	0.24	47.0
All Vehicles		549	3.3	549	3.3	0.125	2.5	NA	0.2	1.2	0.15	0.25	0.15	47.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2036 DEV] Lions Dr-Robertson St]

Network: 3 [PM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson St-S														
2	T1	59	5.4	59	5.4	0.079	0.6	LOS A	0.1	1.1	0.30	0.30	0.30	46.8
3	R2	67	4.7	67	4.7	0.079	5.3	LOS A	0.1	1.1	0.30	0.30	0.30	41.3
Approach		126	5.0	126	5.0	0.079	3.1	NA	0.1	1.1	0.30	0.30	0.30	45.2
East: Lions Dr-E														
4	L2	91	4.7	91	4.7	0.253	4.8	LOS A	0.4	3.1	0.22	0.57	0.22	31.6
6	R2	189	6.7	189	6.7	0.253	6.0	LOS A	0.4	3.1	0.22	0.57	0.22	43.2
Approach		280	6.0	280	6.0	0.253	5.6	LOS A	0.4	3.1	0.22	0.57	0.22	41.8
North: Robertson St-N														
7	L2	148	0.7	148	0.7	0.113	4.6	LOS A	0.0	0.0	0.00	0.38	0.00	46.0
8	T1	63	1.7	63	1.7	0.113	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	46.0
Approach		212	1.0	212	1.0	0.113	3.2	NA	0.0	0.0	0.00	0.38	0.00	46.0
All Vehicles		618	4.1	618	4.1	0.253	4.3	NA	0.4	3.1	0.16	0.45	0.16	43.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2036 DEV] Bruce Rd-Robertson St]

Network: 3 [PM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Robertson-S														
1	L2	1	0.0	1	0.0	0.009	4.8	LOS A	0.0	0.1	0.14	0.21	0.14	47.9
2	T1	9	11.1	9	11.1	0.009	0.1	LOS A	0.0	0.1	0.14	0.21	0.14	46.8
3	R2	5	0.0	5	0.0	0.009	4.8	LOS A	0.0	0.1	0.14	0.21	0.14	46.8
Approach		16	6.7	16	6.7	0.009	2.0	NA	0.0	0.1	0.14	0.21	0.14	47.0
East: Bruce Rd-E														
4	L2	7	0.0	7	0.0	0.104	4.6	LOS A	0.1	1.0	0.03	0.55	0.03	46.9
5	T1	7	0.0	7	0.0	0.104	3.5	LOS A	0.1	1.0	0.03	0.55	0.03	46.9
6	R2	97	0.0	97	0.0	0.104	5.0	LOS A	0.1	1.0	0.03	0.55	0.03	45.4
Approach		112	0.0	112	0.0	0.104	4.8	LOS A	0.1	1.0	0.03	0.55	0.03	45.7
North: Robertson St-N														
7	L2	98	0.0	98	0.0	0.059	4.6	LOS A	0.0	0.2	0.01	0.52	0.01	45.3
8	T1	1	0.0	1	0.0	0.059	0.0	LOS A	0.0	0.2	0.01	0.52	0.01	47.3
9	R2	9	11.1	9	11.1	0.059	4.7	LOS A	0.0	0.2	0.01	0.52	0.01	46.3
Approach		108	1.0	108	1.0	0.059	4.5	NA	0.0	0.2	0.01	0.52	0.01	45.5
West: Bruce Rd-W														
10	L2	5	20.0	5	20.0	0.007	4.8	LOS A	0.0	0.1	0.04	0.50	0.04	44.9
11	T1	3	0.0	3	0.0	0.007	3.6	LOS A	0.0	0.1	0.04	0.50	0.04	44.9
12	R2	1	0.0	1	0.0	0.007	4.7	LOS A	0.0	0.1	0.04	0.50	0.04	46.4
Approach		9	11.1	9	11.1	0.007	4.4	LOS A	0.0	0.1	0.04	0.50	0.04	45.2
All Vehicles		245	1.3	245	1.3	0.104	4.5	NA	0.1	1.0	0.03	0.51	0.03	45.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2036 DEV] Broadhead Rd-Bruce Rd]

Network: 3 [PM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Broadhead-S														
1	L2	3	0.0	3	0.0	0.008	4.8	LOS A	0.0	0.1	0.17	0.31	0.17	45.7
2	T1	5	0.0	5	0.0	0.008	0.2	LOS A	0.0	0.1	0.17	0.31	0.17	45.7
3	R2	5	0.0	5	0.0	0.008	4.8	LOS A	0.0	0.1	0.17	0.31	0.17	45.7
Approach		14	0.0	14	0.0	0.008	3.0	NA	0.0	0.1	0.17	0.31	0.17	45.7
East: Bruce Rd-E														
4	L2	7	0.0	7	0.0	0.196	4.6	LOS A	0.3	2.2	0.16	0.52	0.16	47.5
5	T1	97	0.0	97	0.0	0.196	3.5	LOS A	0.3	2.2	0.16	0.52	0.16	46.8
6	R2	108	0.0	108	0.0	0.196	5.5	LOS A	0.3	2.2	0.16	0.52	0.16	46.8
Approach		213	0.0	213	0.0	0.196	4.6	LOS A	0.3	2.2	0.16	0.52	0.16	46.8
North: Broadhead Rd-N														
7	L2	96	0.0	96	0.0	0.061	4.6	LOS A	0.0	0.2	0.01	0.49	0.01	46.7
8	T1	8	0.0	8	0.0	0.061	0.0	LOS A	0.0	0.2	0.01	0.49	0.01	47.9
9	R2	8	0.0	8	0.0	0.061	4.6	LOS A	0.0	0.2	0.01	0.49	0.01	46.7
Approach		113	0.0	113	0.0	0.061	4.2	NA	0.0	0.2	0.01	0.49	0.01	46.8
West: Bruce Rd-W														
10	L2	4	25.0	4	25.0	0.086	4.8	LOS A	0.1	0.9	0.12	0.48	0.12	46.3
11	T1	89	0.0	89	0.0	0.086	3.7	LOS A	0.1	0.9	0.12	0.48	0.12	46.3
12	R2	7	0.0	7	0.0	0.086	5.2	LOS A	0.1	0.9	0.12	0.48	0.12	47.0
Approach		101	1.0	101	1.0	0.086	3.8	LOS A	0.1	0.9	0.12	0.48	0.12	46.4
All Vehicles		440	0.2	440	0.2	0.196	4.3	NA	0.3	2.2	0.11	0.49	0.11	46.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2036 DEV] Spring Flat Rd-Bruce Rd]

Network: 3 [PM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	1	0.0	1	0.0	0.001	7.8	LOS A	0.0	0.0	0.00	0.34	0.00	82.5
2	T1	1	0.0	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	82.5
Approach		2	0.0	2	0.0	0.001	3.9	NA	0.0	0.0	0.00	0.34	0.00	82.5
North: Spring Flat Rd-N														
8	T1	16	0.0	16	0.0	0.009	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	99.0
9	R2	1	0.0	1	0.0	0.009	7.4	LOS A	0.0	0.0	0.00	0.04	0.00	98.3
Approach		17	0.0	17	0.0	0.009	0.5	NA	0.0	0.0	0.00	0.04	0.00	98.9
West: Bruce Rd-W														
10	L2	1	100.0	1	100.0	0.008	5.0	LOS A	0.0	0.1	0.03	0.54	0.03	46.7
12	R2	9	0.0	9	0.0	0.008	4.6	LOS A	0.0	0.1	0.03	0.54	0.03	54.5
Approach		11	10.0	11	10.0	0.008	4.7	LOS A	0.0	0.1	0.03	0.54	0.03	53.9
All Vehicles		29	3.6	29	3.6	0.009	2.2	NA	0.0	0.1	0.01	0.24	0.01	74.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [[PM 2036 DEV] Castlereagh Hwy-Spring Flat Rd]

Network: 3 [PM 2036 DEV]

18472 St Matthews Catholic College, Mudgee
PM PEAK 2:45 - 3:45 PM
2036 DEV
Site Category: 2036 DEV
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Spring Flat Rd-S														
1	L2	18	0.0	18	0.0	0.014	7.4	LOS A	0.0	0.2	0.26	0.58	0.26	65.3
3	R2	1	0.0	1	0.0	0.014	8.7	LOS A	0.0	0.2	0.26	0.58	0.26	70.3
Approach		19	0.0	19	0.0	0.014	7.5	LOS A	0.0	0.2	0.26	0.58	0.26	65.7
East: Castlereagh Hwy-E														
4	L2	11	0.0	11	0.0	0.093	7.8	LOS A	0.0	0.0	0.00	0.04	0.00	97.2
5	T1	161	9.2	161	9.2	0.093	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	97.2
Approach		172	8.6	172	8.6	0.093	0.5	NA	0.0	0.0	0.00	0.04	0.00	97.2
West: Castlereagh Hwy-W														
11	T1	182	2.9	182	2.9	0.095	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	9	0.0	9	0.0	0.006	7.9	LOS A	0.0	0.1	0.28	0.60	0.28	60.0
Approach		192	2.7	192	2.7	0.095	0.4	NA	0.0	0.1	0.01	0.03	0.01	98.6
All Vehicles		382	5.2	382	5.2	0.095	0.8	NA	0.0	0.2	0.02	0.06	0.02	95.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix G

Crash History Data by Roads and Maritime Services

Mudgee TTPP Crash Data Request

Crash Data Period, Latest 5 years finalised: 1 October 2013 to 30 September 2018

Castlereagh Hwy, Lions Dr, Robertson St, Bruce Rd, Spring Flat Rd & Broadhead Rd, Mudgee

Crashlink

Detailed Crash Report

Transport for NSW
Centre for Road Safety

Crash No.	Data Source	Date	Day of Week	Time	Distance	ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash-Detailed	Killed	Seriously Inj.	Moderately Inj.	Minor/Other Inj.	Uncateg'd Inj.	Factors	S	F
Western Region																										
Mid-Western Regional LGA																										
Mudgee																										
Castlereagh Hwy																										
1104799	S	11/06/2016	Sat	17:30	100 m	N LIONS DR	2WY	STR	Fine	Dry	50	1	CAR	M46	S in CASTLEREAGH HWY	Unk	Proceeding in lane	NC	0	0	0	0	0			
E118590001							RUM	67	Struck animal				Kangaroo													

Report Totals: Crashes: 1 Fatal Crashes(FC): 0 Serious Injury Crashes(SC): 0 Moderate Injury Crashes(MC): 0 Minor/Other Injury Crashes(OC): 0 Uncategorised Injury Crashes(UC): 0 Non-Casualty Crashes(NC): 1

Killed(K): 0 Seriously Injured(S): 0 Moderately Injured(M): 0 Minor/Other Injured(O): 0 Uncategorised Injured(U): 0

Crashid dataset TTPP Mudgee Crash Data Request - Castlereagh Hwy, Lions Dr, Robertson St, Bruce Rd, Spring Flat Rd & Broadhead Rd, Mudgee 01.10.2013-30.09.2018
Crash self reporting, including self reported injuries began Oct 2014. Trends from 2014 are expected to vary from previous yrs. More unknowns are expected in self reported data.
Reporting yrs 1996-2004 & 2018 Q4 onwards contain uncategorised inj crashes.

Summary Crash Report

# Crash Type		
Car Crash	1	100.0%
Light Truck Crash	0	0.0%
Rigid Truck Crash	0	0.0%
Articulated Truck Crash	0	0.0%
'Heavy Truck Crash	*(0)*	*(0.0%)*
Bus Crash	0	0.0%
"Heavy Vehicle Crash	*(0)*	*(0.0%)*
Emergency Vehicle Crash	0	0.0%
Motorcycle Crash	0	0.0%
Pedal Cycle Crash	0	0.0%
Pedestrian Crash	0	0.0%

' Rigid or Artic. Truck " Heavy Truck or Heavy Bus
These categories are NOT mutually exclusive

Location Type		
*Intersection	0	0.0%
Non intersection	1	100.0%

* Up to 10 metres from an intersection

Collision Type		
Single Vehicle	1	100.0%
Multi Vehicle	0	0.0%

Road Classification		
Freeway/Motorway	0	0.0%
State Highway	1	100.0%
Other Classified Road	0	0.0%
Unclassified Road	0	0.0%

Contributing Factors		
Speeding	0	0.0%
Fatigue	0	0.0%

Weather		
Fine	1	100.0%
Rain	0	0.0%
Overcast	0	0.0%
Fog or mist	0	0.0%
Other	0	0.0%

Road Surface Condition		
Wet	0	0.0%
Dry	1	100.0%
Snow or ice	0	0.0%

Natural Lighting		
Dawn	0	0.0%
Daylight	1	100.0%
Dusk	0	0.0%
Darkness	0	0.0%

Crash Movement		
Intersection, adjacent approaches	0	0.0%
Head-on (not overtaking)	0	0.0%
Opposing vehicles; turning	0	0.0%
U-turn	0	0.0%
Rear-end	0	0.0%
Lane change	0	0.0%
Parallel lanes; turning	0	0.0%
Vehicle leaving driveway	0	0.0%
Overtaking; same direction	0	0.0%
Hit parked vehicle	0	0.0%
Hit railway train	0	0.0%
Hit pedestrian	0	0.0%
Permanent obstruction on road	0	0.0%
Hit animal	1	100.0%
Off road, on straight	0	0.0%
Off road on straight, hit object	0	0.0%
Out of control on straight	0	0.0%
Off road, on curve	0	0.0%
Off road on curve, hit object	0	0.0%
Out of control on curve	0	0.0%
Other crash type	0	0.0%

Speed Limit					
40 km/h or less	0	0.0%	80 km/h zone	0	0.0%
50 km/h zone	1	100.0%	90 km/h zone	0	0.0%
60 km/h zone	0	0.0%	100 km/h zone	0	0.0%
70 km/h zone	0	0.0%	110 km/h zone	0	0.0%

~ 07:30-09:30 or 14:30-17:00 on school days	~ 40km/h or less	0	0.0%	~ School Travel Time Involvement	0	0.0%

Day of the Week												
Monday	0	0.0%	Wednesday	0	0.0%	Friday	0	0.0%	Sunday	0	0.0%	WEEKEND	1 **********
Tuesday	0	0.0%	Thursday	0	0.0%	Saturday	1 **********		WEEKDAY	0	0.0%		

CRASHES	1	
Fatal	0	0.0%
Serious inj.	0	0.0%
Moderate inj.	0	0.0%
Minor/Other inj.	0	0.0%
Uncategorised inj.	0	0.0%
Non-casualty	1	100.0%

Self Reported Crash	1	100%

Time Group		% of Day	
00:01 - 02:59	0	0.0%	12.5%
03:00 - 04:59	0	0.0%	8.3%
05:00 - 05:59	0	0.0%	4.2%
06:00 - 06:59	0	0.0%	4.2%
07:00 - 07:59	0	0.0%	4.2%
08:00 - 08:59	0	0.0%	4.2%
09:00 - 09:59	0	0.0%	4.2%
10:00 - 10:59	0	0.0%	4.2%
11:00 - 11:59	0	0.0%	4.2%
12:00 - 12:59	0	0.0%	4.2%
13:00 - 13:59	0	0.0%	4.2%
14:00 - 14:59	0	0.0%	4.2%
15:00 - 15:59	0	0.0%	4.2%
16:00 - 16:59	0	0.0%	4.2%
17:00 - 17:59	1 **********		4.2%
18:00 - 18:59	0	0.0%	4.2%
19:00 - 19:59	0	0.0%	4.2%
20:00 - 21:59	0	0.0%	8.3%
22:00 - 24:00	0	0.0%	8.3%

Street Lighting Off/Nil		% of Dark
0	of 0	in Dark 0.0%

CASUALTIES	0	
Killed	0	0.0%
Seriously inj.	0	0.0%
Moderately inj.	0	0.0%
Minor/Other inj.	0	0.0%
Uncategorised inj.	0	0.0%
^ Unrestrained	0	0.0%

^ Belt fitted but not worn, No restraint fitted to position OR No helmet worn

Crashes	Casualties
1	2016 0

McLean Periods		% Week	
A	0	0.0%	17.9%
B	0	0.0%	7.1%
C	0	0.0%	17.9%
D	0	0.0%	3.5%
E	0	0.0%	3.6%
F	0	0.0%	10.7%
G	0	0.0%	7.1%
H	1	100.0%	7.1%
I	0	0.0%	12.5%
J	0	0.0%	10.7%

#Holiday Periods																		
New Year	0	0.0%	Easter	0	0.0%	Queen's BD	1 **********		Christmas	0	0.0%	Easter SH	0	0.0%	Sept./Oct. SH	0	0.0%	
Aust. Day	0	0.0%	Anzac Day	0	0.0%	Labour Day	0	0.0%	January SH	0	0.0%	June/July SH	0	0.0%	December SH	0	0.0%	

Crashid dataset TTPP Mudgee Crash Data Request - Castlereagh Hwy, Lions Dr, Robertson St, Bruce Rd, Spring Flat Rd & Broadhead Rd, Mudgee 01.10.2013-30.09.2018

Note: Crash self reporting, including self reported injuries began Oct 2014. Trends from 2014 are expected to vary from previous yrs. More unknowns are expected in self reported data. Reporting yrs 1996-2004 & 2018 Q4 onwards contain uncategorised inj crashes.

Percentages are percentages of all crashes. Unknown values for each category are not shown on this report.

The Transport Planning Partnership
Suite 402 Level 4, 22 Atchison Street
St Leonards NSW 2065

P.O. Box 237
St Leonards NSW 1590

02 8437 7800

info@ttpp.net.au

www.ttpp.net.au