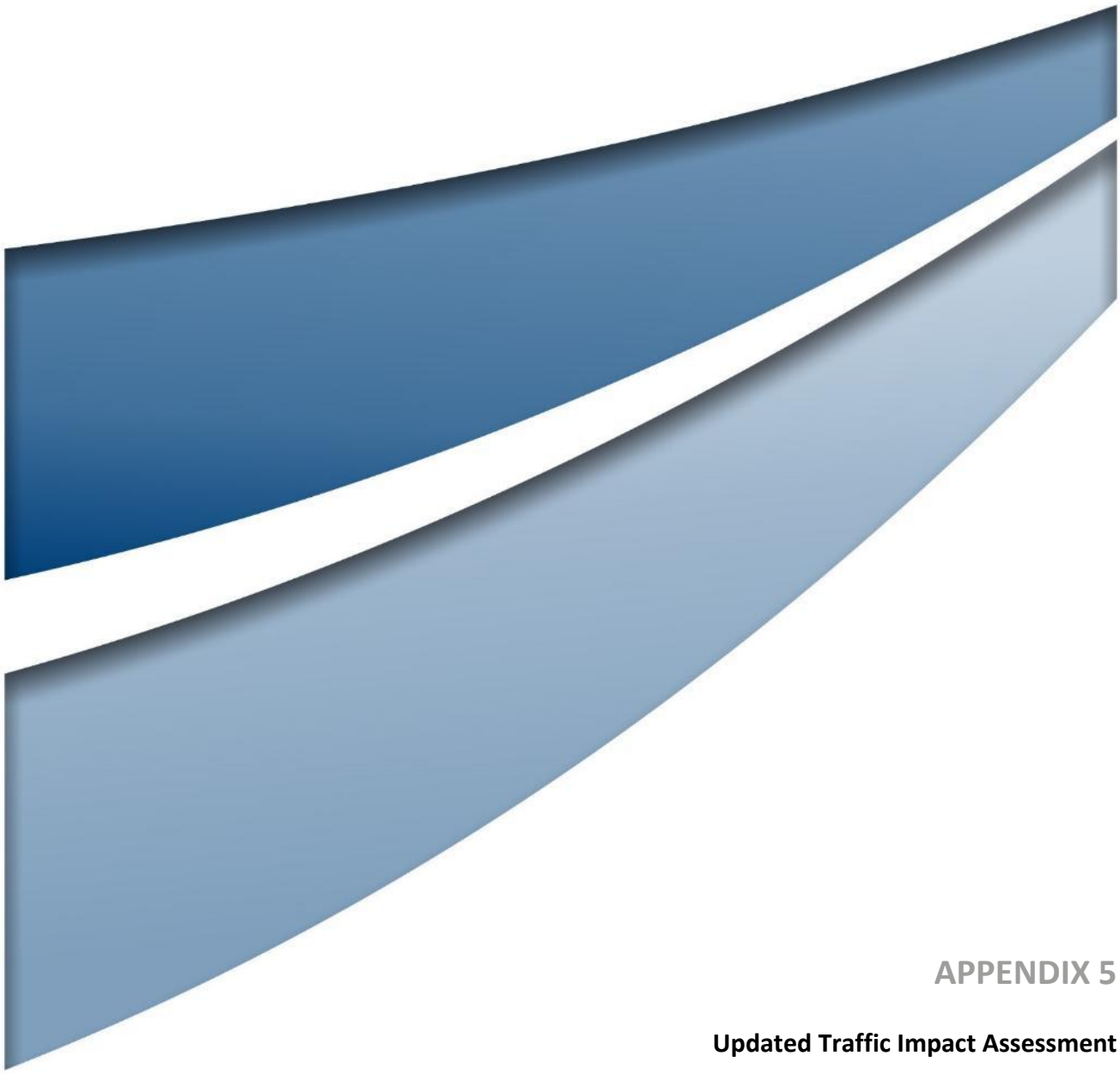

# APPENDIX 5

**Updated Traffic Impact Assessment**

# Gundary Solar Farm (SSD-48225958)

## Amended EIS Transport Impact Assessment

Prepared for:

Lightsource bp

17 June 2025

The Transport Planning Partnership

# Gundary Solar Farm (SSD-48225958)

## Amended EIS Transport Impact Assessment

Client: Lightsource bp

Version: V04

Date: 17 June 2025

TTPP Reference: 23042

**Quality Record**

| Version | Date | Prepared by | Reviewed by | Approved by | Signature |
|---|---|---|---|---|---|
| V01 | 19/02/2024 | C. Hanna | J. Rudd | J. Rudd |  |
| V02 | 01/08/2024 | J. Rudd | J. Rudd | J. Rudd |  |
| V03 | 6/06/2025 | C. Hanna | J. Rudd | J. Rudd |  |
| V04 | 17/06/2025 | C. Hanna | J. Rudd | J. Rudd |  |

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# APPENDICES

# 1 Introduction

## 1.1 Background

An Environmental Impact Statement (EIS) for Gundary Solar Farm, including a Transport Impact Assessment (TIA, 2024), was submitted to the Department of Planning, Housing and Infrastructure (DPHI), and publicly exhibited in late 2024. During the exhibition period, a total of 174 submissions were made on the Project. This included a submission from Transport for NSW (TfNSW) in relation to the TIA, 2024, which has been addressed in this report as set out in Section 1.2 below.

## 1.2 Project Overview

Lightsource Development Services Australia Pty Ltd (Lightsource bp) proposes to develop the Gundary Solar Farm (the Project) in the Southern Tablelands of New South Wales (NSW), approximately 10 kilometres (km) southeast of Goulburn within the Goulburn Mulwaree Local Government Area (LGA). The location of the Project and its regional context is presented in Figure 1.1.

The Project will involve the construction, operation, maintenance and decommissioning of a 400 Megawatt peak (MWp) solar farm with a Battery Energy Storage System (BESS) of up to 555 MWp and 1,570 Megawatt hour (MWh) capacity and associated infrastructure to connect the Project to the national electricity grid.

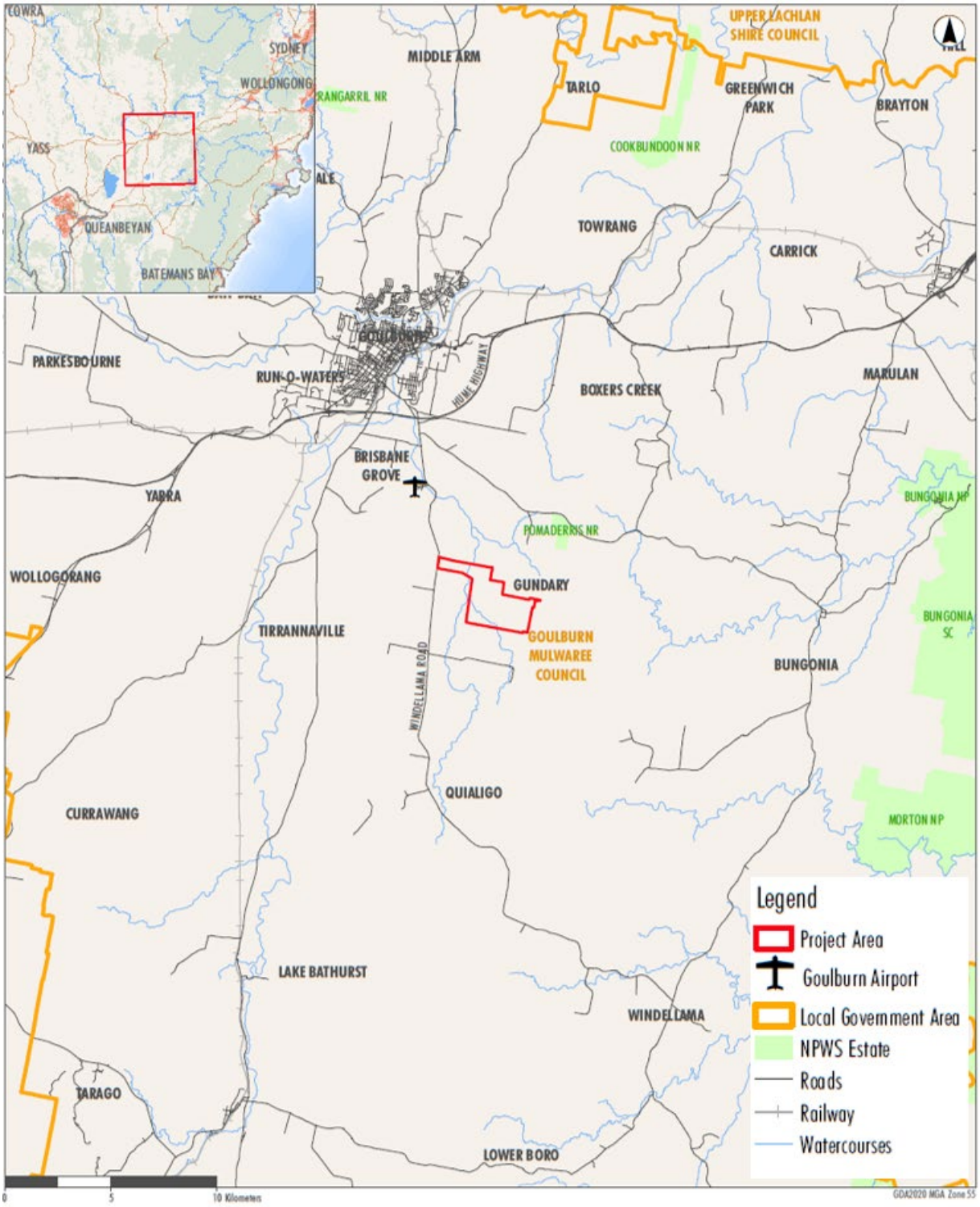
The Project will be accessed from Windellama Road off the Hume Highway, at 961 Windellama Road. Intersection works on Windellama Road are proposed as part of the Project to upgrade the Project access to accommodate heavy vehicles. The Project's conceptual layout is included in Figure 1.2.

The Project will supply electricity to the National Electricity Market (NEM), via a new onsite connection to the existing 330kV overhead transmission line traversing through the north-west corner of the Project Area. The Project will generate enough clean energy for about 133,000 homes and reduce carbon emissions by 670,000 tonnes. The BESS will have capacity to store up to 1,570 MWh of on-demand energy for supply to the grid.

The Project would be located on land zoned RU1 – Primary Production. The area surrounding the Project is characterised predominantly by agricultural lands associated with rural residential properties, small settlements, conservation areas and rural tourism. Land within and adjacent to the Project has been subject to extensive cultivation associated with historic and more recent agricultural land uses.

## Figure 1.1: Locality and Regional Context

umwelt



## Figure 1.2: Project Conceptual Layout

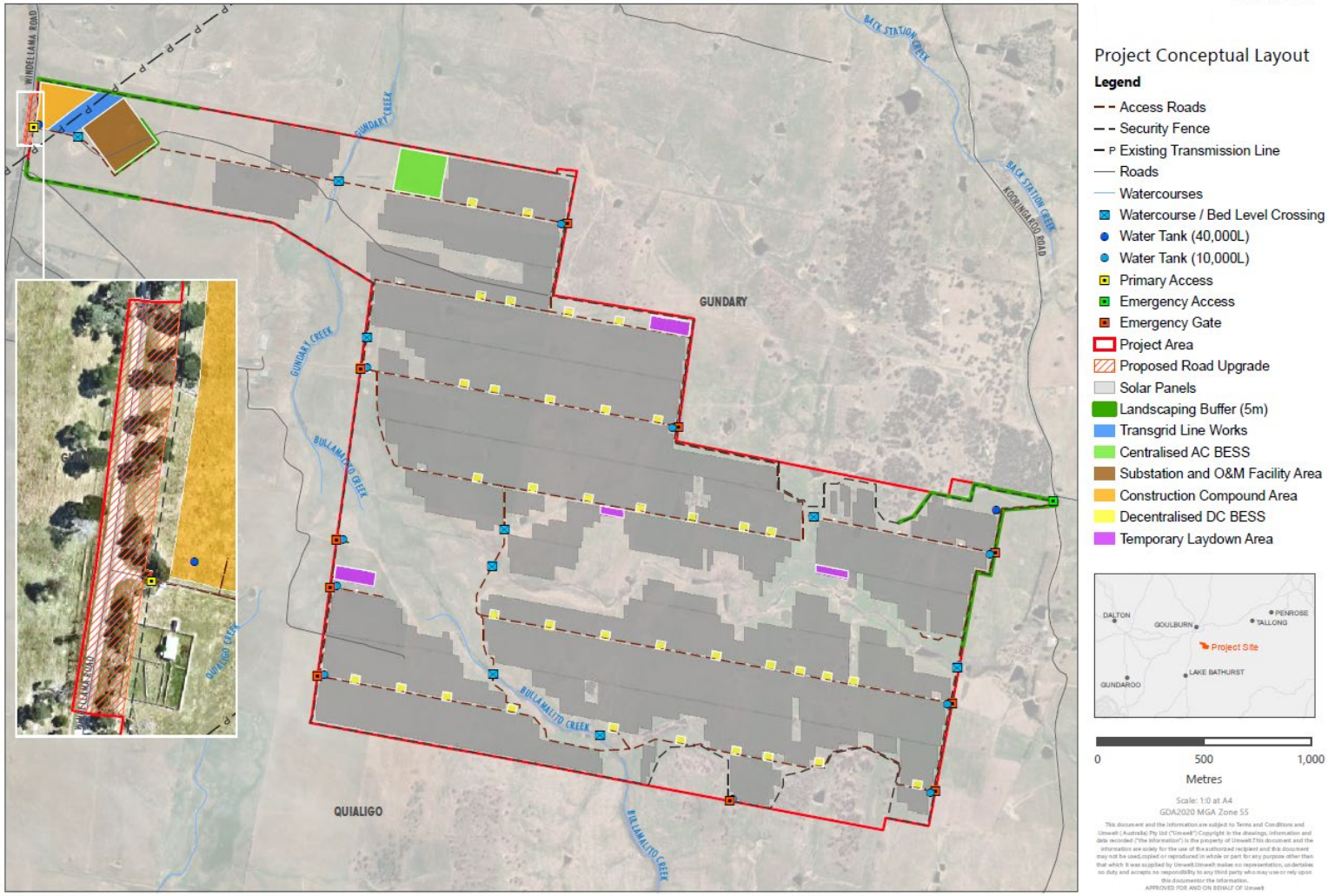



**Image Source:** ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

The Project will be developed across five freehold lots, covering an area of approximately 702 ha (the Project Area). These properties are primarily used for grazing activities. The Project Area also includes a small section of Windellama Road for proposed intersection works to upgrade the Project access to accommodate heavy vehicles. The Project infrastructure will cover approximately 512 ha (the development footprint).

The Project is expected to generate up to 400 Full Time Equivalent (FTE) jobs over the 18-to-24-month construction period with up to four FTE jobs during operation.

The Project is a State Significant Development (SSD) under the *State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP)* as the capital value of the Project is over $30 million. A development application (DA) for the Project is required to be submitted under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

## 1.3 Transport Assessment – Scope and Methodology

This Amended *Transport Impact Assessment* (TIA) report has been prepared by The Transport Planning Partnership Pty Ltd (TTPP) to accompany the Submissions report prepared as part of the SSD Application (SSD-48225958) for the Gundary Solar Farm (the Project).

This Amended TIA report presents the findings of TTPP's assessment of the traffic aspects of the Project in accordance with the Secretary's Environmental Assessment Requirements (SEARs) issued by the then Department of Planning, Industry and Environment (DPIE) on 10 November 2022. It is noted that DPIE has changed their name to the Department of Planning, Housing and Infrastructure (DPHI). DPHI will be used as the reference to the department in the following sections of this document.

Furthermore, this TIA report has been amended and updated to incorporate TfNSW's EIS response submission (11 December 2024) to the EIS.

The transport assessment undertaken by TTPP investigated the traffic implications associated with construction, operation and decommissioning of the Project.

The scope and methodology utilised by TTPP in the preparation of this TIA included the following:

- Review of background information
- Project team discussions regarding construction, operation and decommissioning phases of the project
- Consultation with Transport for NSW (TfNSW) and Goulburn Mulwaree Council (Council)
- Inspections of the Project site and surrounding road network, specifically inspections of the proposed construction vehicle routes between the Project site access and the Hume Highway

- Traffic surveys (2023) and SIDRA modelling of key intersections along the potential construction vehicle routes
- Estimated the traffic generation and distribution of Project related traffic for construction, operation and decommissioning phases of the project.
- Assessment of the potential traffic impacts, including cumulative impacts, to the surrounding road network associated with the Project and identification measures to mitigate identified implications.

## 1.4 Environmental Assessment Requirements

As noted above, the Secretary's Environmental Assessment Requirements (SEARs) were issued for the Project by (DPHI) on 10 November 2022.

The specific requirements (SEARs) for the traffic assessment and where these requirements have been addressed in this TIA report is summarised in Table 1.1.

As noted above, TfNSW has reviewed the EIS prepared by Umwelt dated 14 October 2024 and Appendix 14 – Transport Impact Assessment (TIA) prepared by TTPP dated 1 August 2024. Based on the review TfNSW provided a response and has requested additional information.

The specific requirements for further traffic related information and where these requests have been incorporated and assessed in this amended TIA report are summarised in Table 1.2.

The Goulburn Mulwaree Council (Council) has also provided a submission in response to the EIS exhibition. Traffic related comments by Council are set out in Table 1.3.

## Table 1.1: Traffic Related SEARs for the Gundary Solar Farm Project

| Traffic related SEAR | Where Addressed in This TIA Report |
|---|---|
| **DPHI** | |
| An assessment of the peak and average traffic generation, including over-dimensional vehicles / heavy vehicles requiring escort and construction worker transportation; | Section 5 |
| An assessment of the likely transport impacts to the site access route(s), site access points, any Crown land, particularly in relation to the capacity and conditions of the roads, road safety and intersection performance; | Section 2 and Section 5 |
| A cumulative impact assessment of traffic from nearby developments; and | Section 5.9 |
| Provide details of measures to mitigate and / or manage potential impacts including a schedule of all required road upgrades (including resulting from heavy vehicle and over mass / over dimensional traffic haulage routes)., road maintenance contributions, and any other traffic control measures developed in consultation with the relevant road authorities. | Section 6 |
| **TfNSW** | |
| Prepare a Traffic Impact Study | This Report |
| Strategic / Concept Design of road network improvements | Section 2.3<br>Section 5.4 |
| Reflection | Section 5.13 |
| Driver Code of Conduct | Section 6.3 |
| Consultation with TfNSW | Section 1.2 |
| **Goulburn Mulwaree Council** | |
| Safety and Route Selection for construction vehicles | Section 5.1<br>Section 5.2<br>Section 5.4<br>Section 6.3 |
| Potential damage to road network, need for maintenance and renewal plan | Section 6.4 |
| Implications of the Goulburn Floodplain | Section 5.14 |

## Table 1.2: TfNSW Response and Requests for Further Information (RFI)

| TFNSW related RFI | Where Addressed in this Amended TIA Report |
|---|---|
| **Key Issue 1 – Concept Level Route Analysis required for High Risk OSOM vehicles**<br>- Port or Point of Origin to Site route assessment for OSOM movements<br>- OSOM vehicle specifications<br>- OSOM load specifications<br>- Swept path analysis for OSOM vehicles<br>- Bridge assessments on OSOM routes<br>- Identification of at risk structures on OSOM routes and proposed mitigation measures and road upgrades<br>- Mitigation measures for known impacts to road users<br>- Identify risks to known road / rail projects on the OSOM routes<br>- Consistency with EnergyCo P2R project | Matters pertaining to the movement of OSOM vehicles for the project have been addressed by the ARES Group transport logistic specialists.<br>The TfNSW RFI's have been addressed in the Gundary Solar Farm – OSOM Route Study prepared by ARES Group (Rev1 dated 20 May 2025) |
| **Key Issue** 2 – Traffic Generation and Distribution | |
| Traffic volumes:<br>- Clarification of project generated daily and peak hour period traffic flows for each of the various stages of development.<br>- Direction splits (distribution) of construction traffic<br>- Updated SIDRA modelling to reflect revised project traffic generation<br>- Background traffic growth to be applied to existing traffic count to year of peak construction<br>- Project generated traffic to be added to each intersection that has been analysed in the TIA | Section 3<br>Section 4<br>Section 5 |
| Origin / Destination and routes to be shown for:<br>- Employee and contractor light traffic<br>- Shuttle buses<br>- Heavy vehicle traffic<br>- OSOM vehicle traffic | Section 2.4<br>Section 4<br>Section 5 |
| Merino Solar Farm to be excluded from the analysis. TfNSW only requires assessment of cumulative impacts of developments at EIS stage or where approved. As Merino Solar Farm has not yet reached EIS stage it does not need to be included in the assessment. | Noted. Merino Solar Farm proposal has been excluded from the Gundary Solar Farm traffic assessment. |
| TfNSW notes that the preferred route from the Hume Hwy to the site is Option 2. Clarity is required if this is the proposed route and is Option 1 is still being pursued. If both options are proposed, then both options are required to be assessed. | Both Option 1 and Option 2 are feasible options for the Gundary Solar Farm project. The assessment presented herein has, for assessment purposes only, considered the scenario of 100% of Gundary traffic using Option 1 and 100% using Option 2.<br>Option 2 is proposed to be the Primary option for Gundary Solar Farm construction traffic. Option 1 is the preferred OSOM route for OSOM vehicles. |
| Shuttle buses have been proposed. Further clarity is required regarding accommodation locations of workforce, routes of travel, shuttle bus locations for pick up and drop off. How will the measure be implemented to ensure that construction workers will uptake the shuttle bus transport to / from site. | Section 2.4.3<br>Section 2.4.4<br>Section 4.2 |

## Table 1.3: Goulburn Malwaree Council Response and Requests for Further Information

| Council Traffic related RFI | Where Addressed in this Amended TIA Report |
|---|---|
| Council's preference for heavy vehicle haulage is via the South Goulburn interchange (proposed Option 2 route). | Noted The OSOM movements will be via option 2.<br>Section 2.4.4<br>Section 5.1 |
| Delivery of OSOM vehicles and any heavy vehicle truck movements should be restricted to occur outside school bus hours and school drop off times in consultation with the local bus company. | Noted . OSOM and heavy vehicle truck movements will be detailed in the Traffic Management Plan.<br>See Gundary Solar Farm OSOM Route Study (ARES) |
| Council notes the proposed use of shuttle buses for construction workers. Details to be provided confirming that options are available to accommodate the workers for a shuttle bus arrangement to work effectively is required to be demonstrated. | Section 2.4.3<br>Section 2.4.4<br>Section 4.2 |
| Road pavement damage is likely to occur on proposed haulage routes and it is recommended that either road maintenance contributions be sought for the local roads used as part of the haulage route in accordance with Council's adopted plan or that the proponent enter into an agreement to undertake a preliminary dilapidation report on the roads and agree to upgrade to the required standard and repair any accelerated damage. A detailed pavement analysis will be required by Council for local roads prior to any works commencing to establish the life and condition. | Noted<br>Section 6.4 |
| Access to the development is proposed by an upgraded entry at the existing property entrance, 961 Windellama Road. As the majority of traffic during the construction and operational phases of the project will be to and from Goulburn a Basic Left Turn (BAL) treatment is proposed and is considered appropriate. Safe Intersection Sight Distance (SISD) is available on each approach to the entry point. It is proposed to construct the upgraded entry at the commencement of the project to facilitate heavy vehicle turning movements. A Section 138 Roads Act 1993 application with accompanying design plans is required to be lodged with Council as the Road Authority for assessment prior to commencement of construction. | Noted. A Section 138 will be lodged with Council at the appropriate time.<br>Section 2.3<br>Section 5.4 |

# 2 The Project

## 2.1 Project Site Location

The proposed Gundary Solar Farm (the Project) site covers approximately 702 hectares of land located some 10 km south (south-east) of the township of Goulburn.

The location of the Project site is shown in Figure 1.1.

The Project area is bounded by Windellama Road to the west and Kooringaroo Road to the north-eastern corner of the Project site. Properties to the north, east, south and west of the Project site are rural residential properties with agricultural land uses.

## 2.2 Proposed On-site Facilities

During the operational phase of the Project, the on-site facilities and infrastructure will include:

- 660,000 solar panels (approximate)
- A lithium-ion BESS to store energy generated by the Project, comprising one of the following options: 325 MWp/650 MWh centralised alternating current (AC) BESS. 230 MWp/920 MWh decentralised direct current (DC) BESS. or combined centralised AC and decentralised DC BESS with a total capacity of 555 MWp/1,570 MWh.
- Substation / Switching station with on-site connection to the existing 330kV overhead power lines
- Operation and Maintenance facilities, including staff amenities, car and shuttle bus parking and workshop
- Internal gravel access tracks, including some watercourse crossings (via culverts / bed level crossings to facilitate access across the site
- Primary access point from the existing driveway off Windellama Road, with an upgraded intersection to accommodate heavy vehicles
- Emergency access point via the existing entrance off Kooringaroo Road proposed on the east (for emergencies only)
- Perimeter security fencing, water tanks and lighting.

During construction, temporary construction facilities will be provided on-site including:

- Construction compound with office amenities, parking, storage
- Laydown areas suitable for storing plant and equipment
- Waste management facilities.

Once construction is complete, these temporary facilities will be removed from the Project site and the areas rehabilitated to their previous condition.

## 2.3 Project Area Vehicle Access

The Project's primary vehicle access is proposed to be located along the Project Area's frontage to Windellama Road.

The Project's primary access would be via the existing driveway which is located approximately halfway along the Project Area's some 460m frontage to Windellama Road as shown in Figure 2.1.

As shown in Figure 2.1, the existing driveway consists of gravel surfaced road shoulders on the turn in and turn out vehicle paths.

Intersection upgrade works are proposed for the Project's primary access at Windellama Road to facilitate access for vehicles associated with the Project's construction, operation and decommissioning stages. The proposed upgrade works are detailed in Section 5 of this TIA report.

In addition to the Project's primary access at Windellama Road, a secondary / emergency vehicle access will be provided at the Project site's existing vehicle access from Kooringaroo Road. The secondary access would only be utilised for emergencies.

Approximately 20 km of internal all weather access tracks would be constructed within the Project's development footprint to provide access to the various areas of the Project site for construction as well as on-going operations and maintenance.

The access tracks, comprising of compacted gravel, would be approximately 4 m wide with turning bays for emergency vehicles, and main access track of 6 m wide to allow for the safe delivery, unloading and installation of key components.

**Figure 2.1: Project Primary Site Access (Proposed) – Windellama Road**


Source: www.nearmap.com (accessed 5/2/24)

## 2.4 Project Construction

### 2.4.1 Duration of Works

Construction and commissioning of the Project will take approximately 18 to 24 months, with a peak period of approximately 9 months towards the middle of the construction period.

Project site preparation and Project construction is planned to commence in late 2026 or early 2027, pending environmental approvals, licensing and completion of design and procurement processes.

### 2.4.2 Construction Hours

Construction activities associated with the Project are proposed to be:

- 7am to 6pm Monday to Friday
- 8am to 1pm on Saturdays
- No works on Sunday or public holidays.

In general, no construction activities would occur on Sundays or public holidays. Exceptions to these hours would be limited to activities with low noise generation where practicable, emergency works or where required for deliveries or dispatches by an authority due to safety reasons.

Council and surrounding landholders would be notified of any foreseeable exceptions.

### 2.4.3 Construction Workforce

It is estimated that the Project will generate up to 400 Full Time Equivalent (FTE) employment opportunities during construction with approximately 250 personnel on site during peak construction with a range of different skills required.

Lightsource bp will engage an Engineering, Procurement and Construction (EPC) Contractor to deliver the Project.

The EPC Contractor will aim to engage a minimum of 5% local labour for construction and source local sub-contractors and suppliers, where possible and subject to local constraints.

Furthermore, Lightsource bp is proposing to partner with the local TAFE and other education providers to facilitate training in renewable energy employment opportunities.

The Accommodation and Employment Strategy developed through the EIS process has identified where workforce for the Project will be sourced (ie. accommodated) and travel to and from the Project site on a daily basis.

The locations of the workforce are summarised in Table 2.1.

A shuttle bus operation is proposed as part of the Project to transport workers to and from the Project site each day. As detailed further in Section 4 of this TIA report, shuttle buses will transport workers from accommodation locations outside of the Goulburn-Mulwaree LGA to and from the site. Workers within the Goulburn-Mulwaree LGA are likely use private vehicles to access the Project site.

The use of shuttle buses will reduce the number of workforce related daily vehicle movements and address issues associated with driver fatigue management.

**Table 2.1: Workforce (On Project Site) Accommodation Locations**

| Locality (LGA) | % Accommodated within Region | Number of Workers |
|---|---|---|
| Local (Gundary and immediate surrounds) | 5% | 13 |
| Goulburn-Mulwaree | 17% | 42 |
| Upper Lachlan | 11% | 27 |
| Wingecarribee | 38% | 96 |
| Yass Valley | 6% | 15 |
| Queanbeyan - Palerang | 23% | 57 |
| **Total** | **100%** | **250** |

### 2.4.4 Construction Vehicle Routes

The construction phase of the Project will generate a range of different types of construction vehicles. As is detailed further in Section 4 of this TIA report, construction vehicles can be categorised as:

- General Construction Traffic (non OSOM vehicles) – vehicles delivering materials to the Project site
- OSOM vehicles
- Workforce vehicles

The proposed routes for these vehicles accessing the Project site are set out below.

#### 2.4.4.1 *General Construction Traffic Routes*

While the exact source locations of construction materials, such as quarry products, are yet to be confirmed, viable local and regional sources would see materials being delivered to the Project site from the east, west and / or north of the Project site.

The delivery of materials would therefore access the Project via the Hume Highway.

Two transport routes for the delivery of construction materials between the Hume Highway at Goulburn and the Project site have been considered as part of the planning process.

These two route options essentially seek to utilise either the 'northern' or 'southern' Goulburn exit from the Hume Highway and then use a combination of roads to access Windellama Road and the Project site.

These two routes (see Figure 2.2) are described as:

- **Option 1**: Hume Highway - Sydney Road – Reyolds Street – Grafton Street - Sloane Street – Braidwood Road - Bungonia Road - Windellama Road
- **Option 2**: Hume Highway - Hume Street - Garroorigang Road – Sloane Street - Braidwood Road – Bungonia Road - Windellama Road.

As will be assessed further in Section 5 of this TIA report, both Option 1 and Option 2 are considered to be feasible transport routes for the delivery of construction materials.

However, through consultation with Council and TfNSW, Option 2 using the southern Goulburn Exit at the Hume Highway has been identified as the preferred transport route option for the Project.

It is proposed that the "southern" route (Option2) will be the primary construction vehicle haulage route for the Project. The "northern" (Option 1) will be a secondary route and an alternative should there be temporary constraints to haulage via Option 2. It is acknowledged that there would be time restrictions to the use of Option 1, namely no haulage during school pick-up and drop off periods (see Section 5).

#### 2.4.4.2 *OSOM Vehicle Routes*

Major solar and BESS components would be delivered to either Port Botany in Sydney or Port Kembla south of Wollongong and transported to the Project Area by truck via the Hume Highway (see Figure 2.3).

The available routes between Port Botany or Port Kembla to the Hume Highway are designated as Oversize Over Mass (OSOM) Load Carrying Vehicles Network Approved Roads.

For OSOM vehicle access between the Hume Highway and the Project site, OSOM vehicles would use the same options as general construction traffic, namely via the northern (Option 1) and southern (Option 2) Goulburn exits from the Hume Highway.

As per general construction traffic, the primary route for OSOM vehicles will be via Option 2.

Further details and assessment of the OSOM route options for the proposed haulage of OSOM components for the Project are set out in the Gundary Solar Farm - OSOM Route Study prepared by ARES Group (20/05/2025).

#### *2.4.4.3 Workforce Vehicle Routes*

Vehicles associated with the transportation of the Project's workforce to and from site will include shuttle buses and private motor vehicles. Based on the employment strategy set in Section 2.4.3) workforce vehicle movements are anticipated to be in the vast majority to and from the north of the site, using either Option 1 or Option 2 for movements between the Project site and Goulburn and beyond.

## 2.5 Operation of Project

The operational lifespan of the Project is expected to be approximately 40 years from energisation of the project, with operations commencing in approximately Q4 2027 (assuming a 18-24-month construction period). It is anticipated that up to four FTE jobs would be required during operations.

Throughout operations, ongoing maintenance of the Project Area and infrastructure will be required. The operation of the Project would be largely automatically controlled by the SCADA system with inputs from the meteorology stations and other equipment.

Planned maintenance activities would likely include:

- Routine visual inspections, general maintenance and cleaning operations of the solar arrays and substation, as required.
- Vegetation management including potential sheep grazing and the use of seeding or armouring (i.e. jute mesh) to avoid erosion.
- 24-hour site security response.
- Replacement of equipment and infrastructure, as required.
- Pest and vermin control.
- Livestock operations.

During operations regular lightweight vehicle access will be required with occasional heavy vehicles access (i.e replacing inverters, transformers or components of the BESS).

## Figure 2.2: Transport Route Options - Between Hume Hwy and Project Site

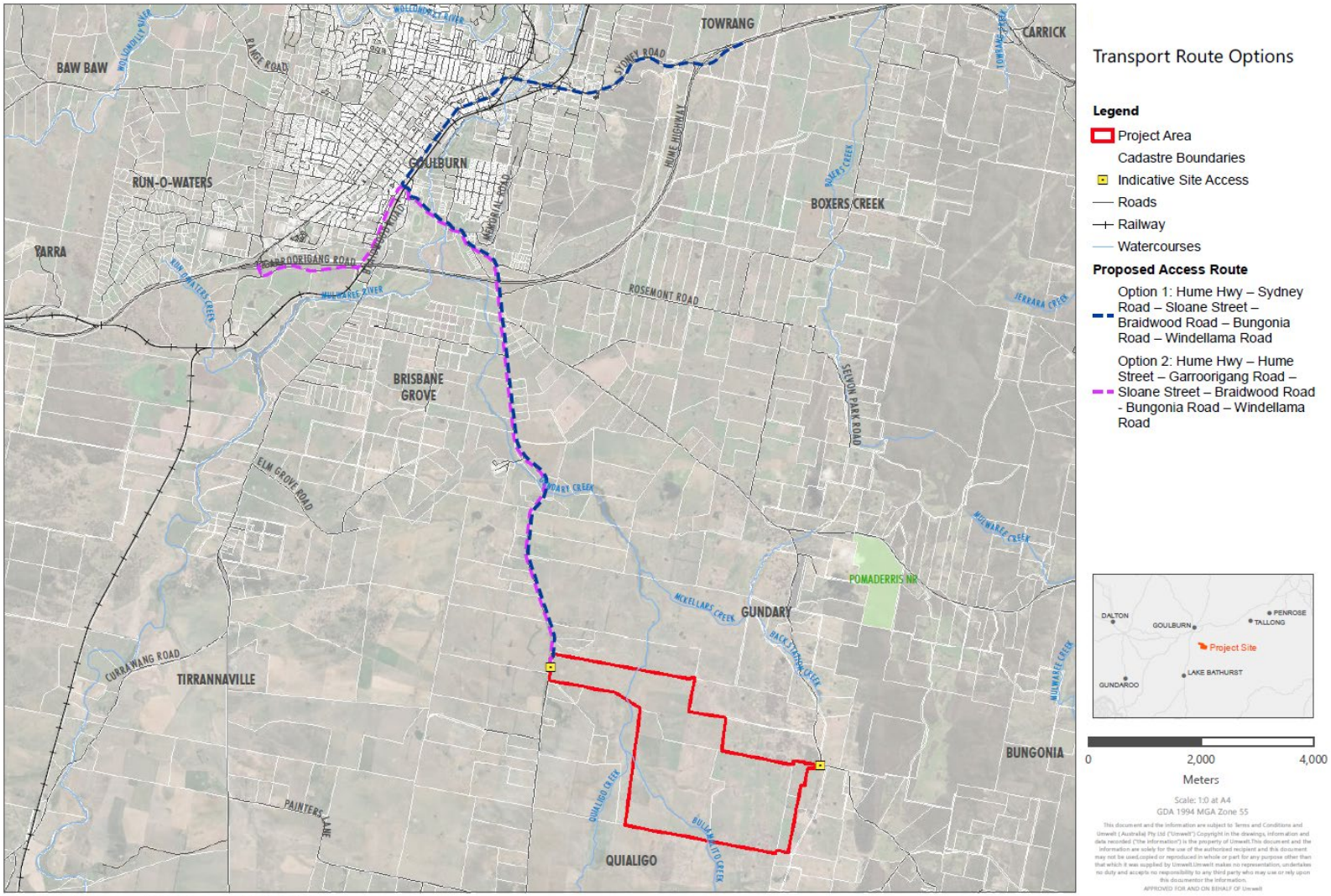
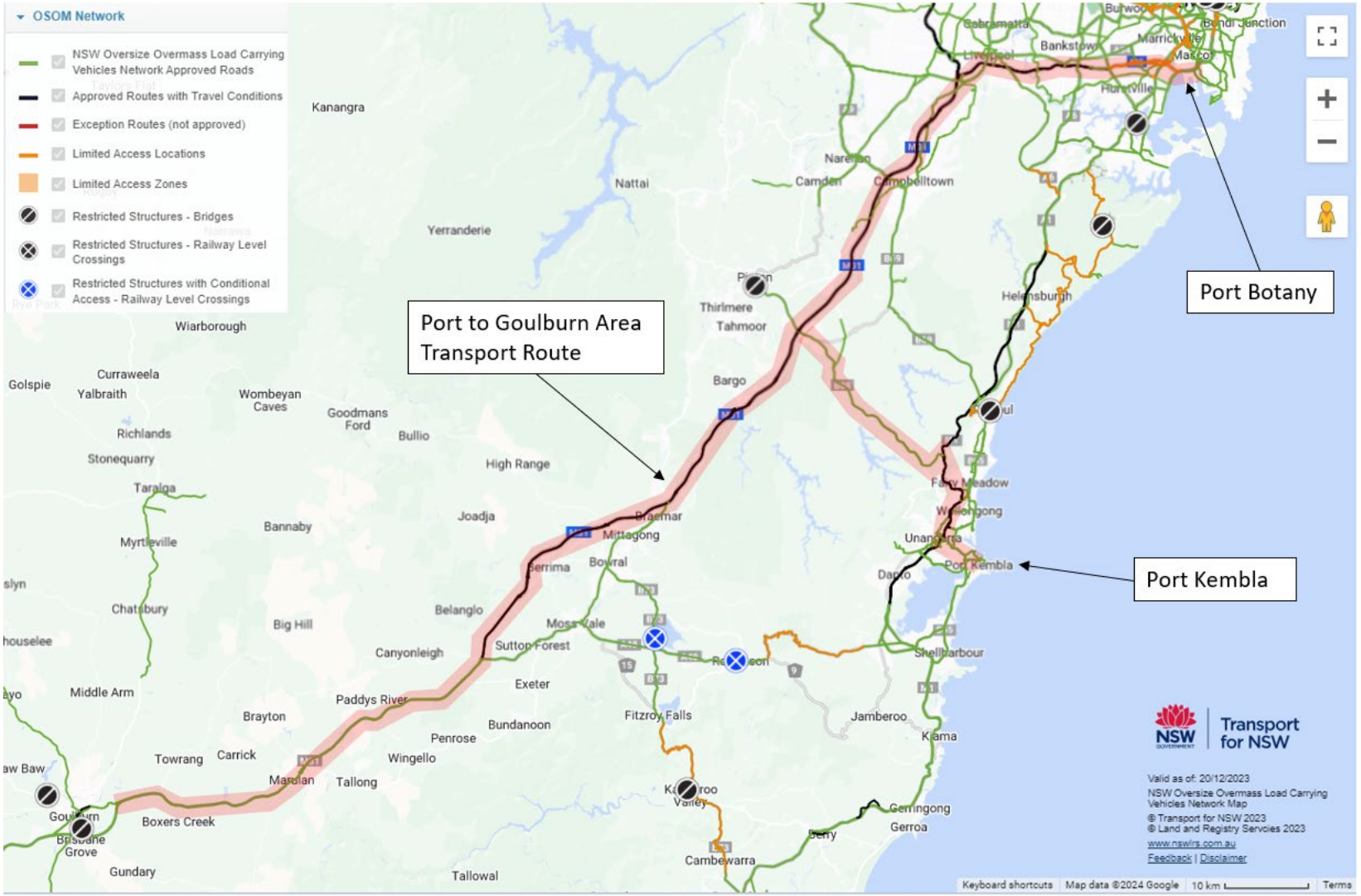



**Image Source:** ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

**Figure 2.3: Transport Route Options - Between Port(s) and Goulburn Area**



## 2.6 Decommissioning of the Project

Decommissioning of the Project will occur at the end of its operational life. It is noted that the operational life of the Project may be extended with the facility repowered to continue operation.

A decommissioning plan for the Project and associated infrastructure will be prepared in advance of decommissioning in consultation with the relevant regulatory authorities and landholders.

The basis of the plan will be that the Project and associated infrastructure are to be decommissioned in line with the applicable legislative requirements and best practice guidelines existing at that time. Should the Project be approved, the development consent for the Project will include standard conditions regarding the cessation of operations, decommissioning and rehabilitation of the Project Area.

Lightsource bp or its contractors will seek to recycle all dismantled and decommissioned infrastructure and equipment, where feasible and practicable. Structures and equipment that cannot be recycled would be disposed of at an approved waste management facility in accordance with all statutory requirements.

Vehicle movements and personnel requirements during the decommissioning phase are expected to be similar or less than with the construction phase of the Project.

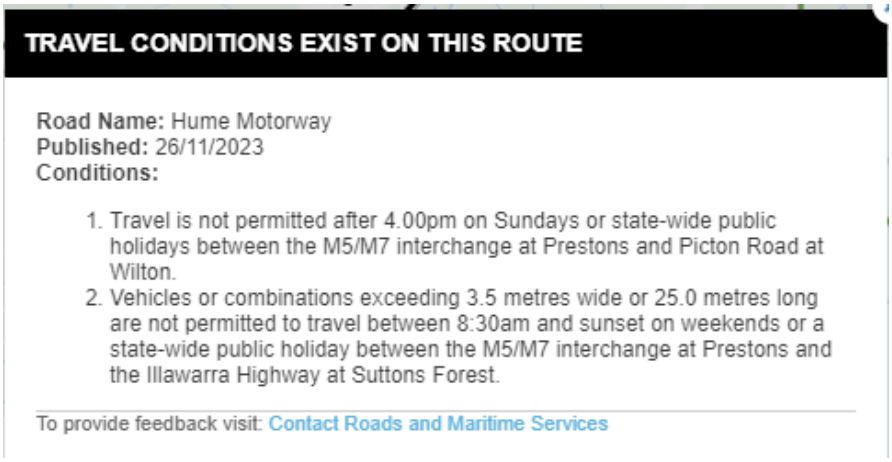
# 3 Existing Conditions

## 3.1 Road Network

The proposed transport routes for construction vehicles associated with the Project will comprise both major (National and State roads) and minor roads (Council Roads).

As shown in Figure 2.3, TfNSW approved OSOM vehicle routes are available between Port Botany and the alternative Port Kembla through to the Hume Highway and to Goulburn.

It is noted there are restricted travel times on the Hume Highway for OSOM vehicles between the M5/M7 Interchange at Prestons and the Illawarra Highway (A48). The restriction applies to the following hours:




*Source: https://maps.transport.nsw.gov.au/egeomaps/load-carrying-vehicles-network/*

For travel between the Hume Highway and the Project site, there are two potential route options, namely:

- Option 1: Hume Highway - Sydney Road – Reyolds Street – Grafton Street - Sloane Street – Braidwood Road - Bungonia Road - Windellama Road
- Option 2: Hume Highway - Hume Street - Garroorigang Road – Sloane Street - Braidwood Road – Bungonia Road - Windellama Road.

As shown in Figure 3.1, Option 1 comprises approved OSOM roads between the Hume Highway through to the intersection of Braidwood Road and Bungonia Road.

Figure 3.2, indicates that Option 2 is not a designated OSOM route between the Hume Highway and Braidwood Road.

Both Option 1 and Option 2 utilise what can be described as a bypass of Goulburn's main street (Auburn Street).

Reynolds Street, Grafton Street, Sloane Street and Garroorigang Road run between the northern and southern exits to Goulburn from the Hume Highway. This bypass route runs along the railway line at the back of the main street.

The roads forming this bypass generally provide a single travel lane in each direction.

Option 1 roads are fronted by a mixture of residential, commercial and retail land uses with a posted speed limit of 60km/h. School zones (40km/hr) apply along Reynolds Street at the St Joseph's Primary School.

Along Option 2, Garroorigang Road is signposted with an 80km/hr speed limit with rural frontages. Sloane Street has industrial frontages transitioning to residential with a sign posted speed limit of 60km/hr. Both Option 1 and Option 2 roads are generally designed to accommodate heavy vehicles with mountable roundabout treatments and wide corner radius.

Bungonia Road, between Memorial Road, is a two-lane two-way rural residential road with kerb and gutter recently constructed along one side of the road and sealed shoulder on the other. Beyond Memorial Road towards the Project site, Bungonia Road becomes a rural road with no kerb and gutter. The posted speed limit along Bungonia Road is 60 km/hr.

The Lansdowne Bridge is located on Bungonia Road and is thus located along the transport route for construction vehicles associated with the Project. The Lansdowne Bridge is identified as a 'restricted structure' by TfNSW. The capacity of the bridge to accommodate Project related construction traffic is assessed in Section 5.2 of this report.

Windellama Road is a rural two-way road with a single travel lane provided in each direction. The posted speed limit along Windellama Road at the Goulburn end is 80 km/hr increasing to 100km/hr south of the Hume Highway.

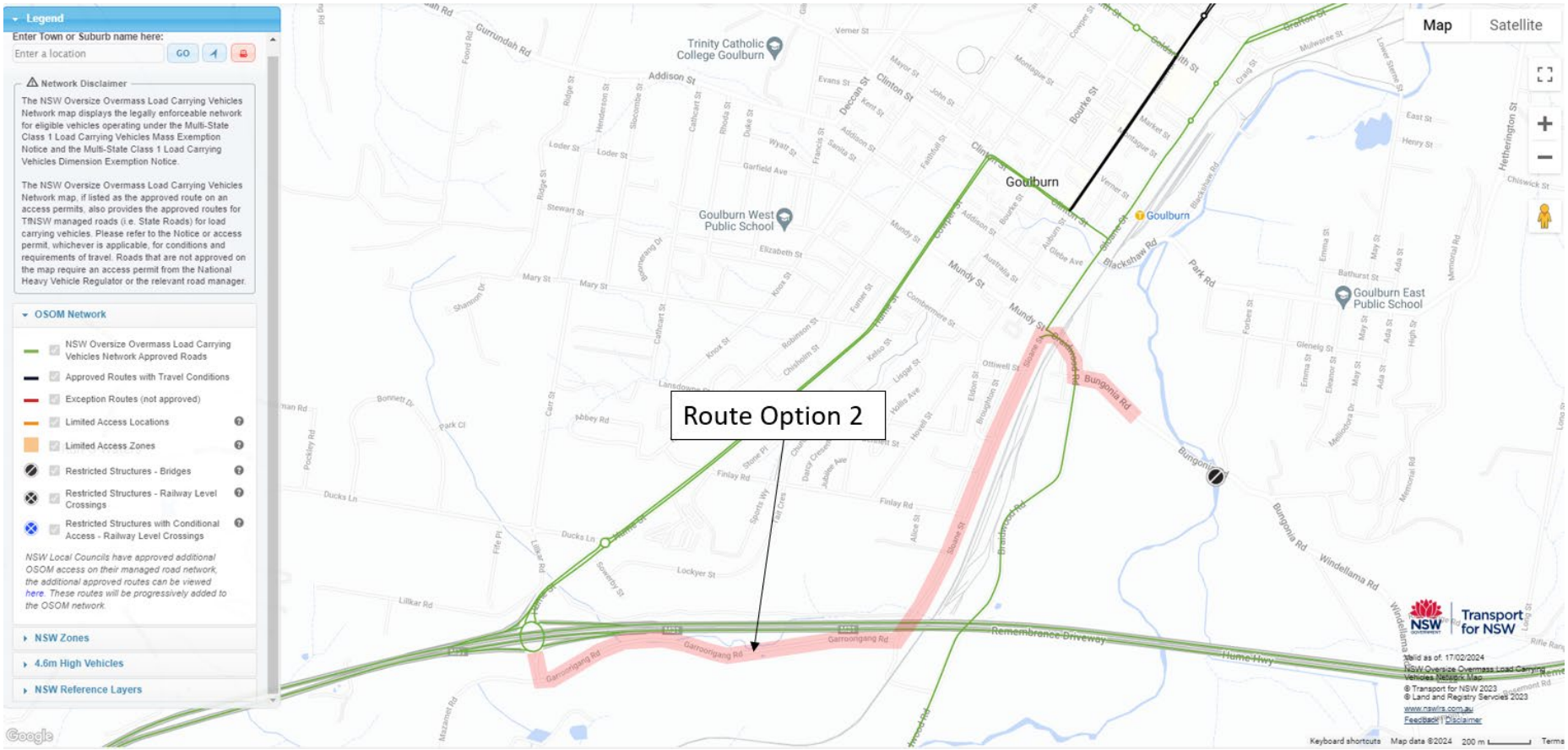
At the proposed Project site access, Windellama Road has a sealed road width of approximately 7m providing one travel lane in each direction.

## 3.2 Surveyed Road Network Traffic Flows (2023)

To facilitate the assessment of road network operation, traffic flow surveys along the proposed construction vehicle routes were undertaken by TTPP in August and September 2023.

**Figure 3.1: Transport Route Option 1 Northern Exit from Hume Highway at Goulburn**

## Figure 3.2: Transport Route Option 2 Southern Exit from Hume Highway at Goulburn



Peak period turning movement counts were undertaken at the following intersections:

1. Braidwood Road / Bungonia Road
2. Braidwood Road / Sloane Street
3. Bungonia Road / Forbes Street
4. Bungonia Road / Memorial Road
5. Hume Street / Garroorigang Road / Mazamet Road
6. Sydney Road / Union Street / Lagoon Street
7. Sloane Street / Garroorigang Road
8. Windellama Road / Rifle Range Road

An automatic tube count (ATC) was also undertaken on Windellama Road at the proposed Project site access.

The locations of the traffic surveys are shown in Figure 3.3.

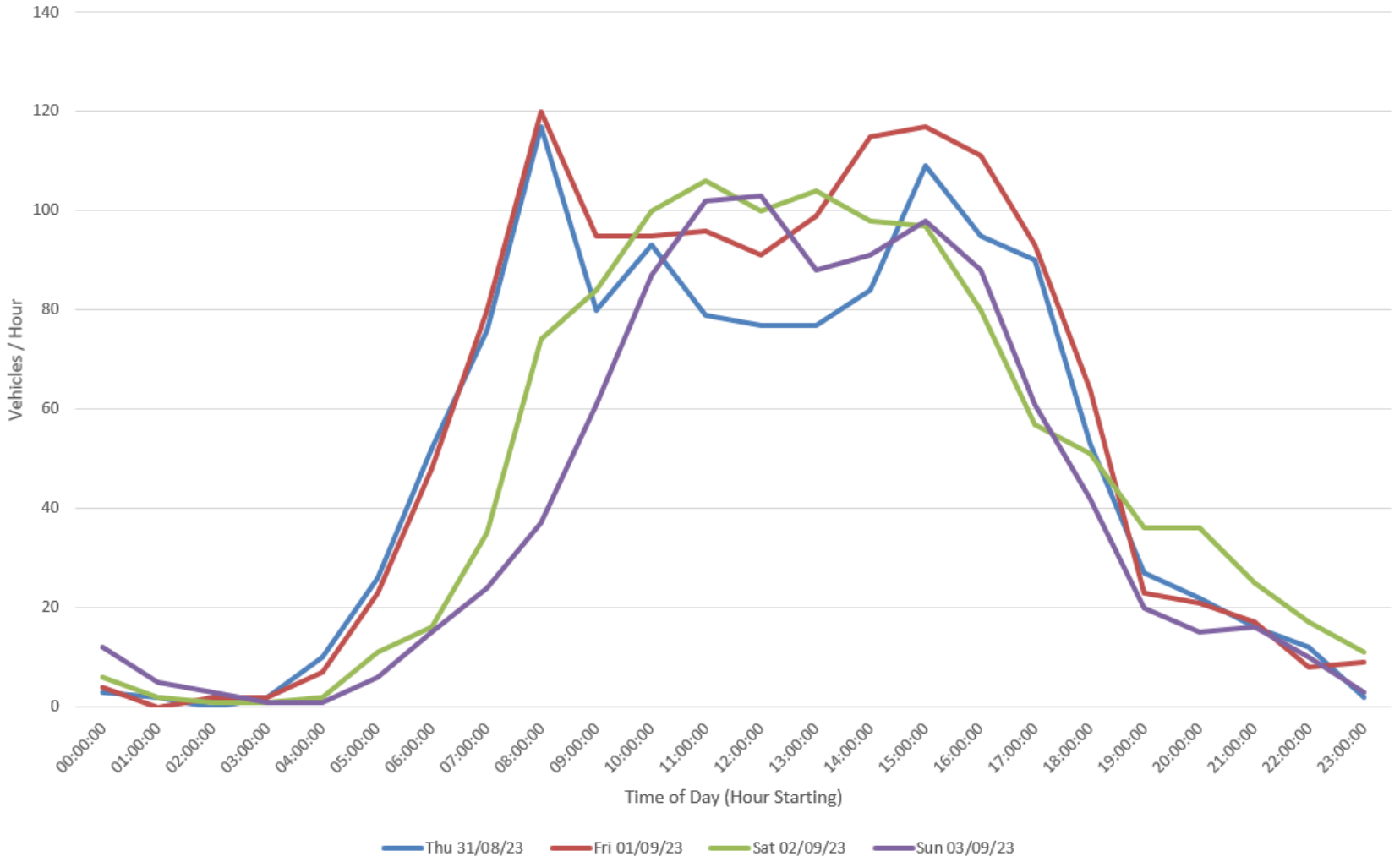
The surveyed two-way traffic flows along Windellama Road at the proposed Project site access are summarised in Figure 3.4.

The surveyed flows indicate that Windellama Road carries a maximum of 120 vehicles per hour (two-way) at the Project site access. This two-way peak occurs on weekdays between 7am-8am and between 3pm-4pm. Weekend two-way flows peak at about 100 vehicles per hour around midday.

Detailed traffic survey data is presented in Appendix A.

**Figure 3.3: TTPP Traffic Survey Locations (2023)**

**Figure 3.4: Surveyed Two-Way Traffic Flow Profile for Windellama Road at Project Site Access**



## 3.3 Road Network Operation

The operation of the key intersections along the proposed transport routes for the Project have been assessed using surveyed turning movements and SIDRA INTERSECTION (SIDRA), a computer-based modelling package which calculates intersection performance.

The commonly used measure of intersection performance, as defined by the TfNSW, is vehicle delay. SIDRA determines the average delay that vehicles encounter and provides a measure of the level of service.

Table 3.1 shows the criteria that SIDRA adopts in assessing the level of service.

**Table 3.1: SIDRA Level of Service Criteria**

| Level of Service (LoS) | Average Delay per vehicle (secs/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 signals incidents will cause excessive delays. Roundabouts require other control mode | At capacity, requires other control mode. |
| F | Greater than 70 | Unsatisfactory, requires additional capacity | Unsatisfactory, requires other control mode or major treatment |

*Reference: TfNSW Traffic Modelling Guidelines 2013, Table 14.4*

Table 3.2 presents a summary of the surveyed (2023) operation of key intersections along the Project's transport route. Full results presented in Appendix B of this report.

The SIDRA modelling results indicate that all intersections operate satisfactorily with good levels of service (i.e. LOS A – LoS D).

With the exception of the Sydney Road / Reynolds Street / Lagoon Street / Union Street intersection, all of the modelled intersections operate with minimal delays and significant intersection capacity (Los A).

It is noted that the signalised intersection at Sydney Road / Reynolds Street / Lagoon Street / Union Street experiences a level of service LoS D on weekday afternoon peaks. This was observed to be associated with the general traffic and pick up traffic associated with the Goulburn North Public School and the St Joseph's Primary School.

**Table 3.2: Intersection Operation (2023) – No Gundary Solar Farm Development**

| Intersection | | AM Peak Hour | | PM Peak Hour | | SAT Peak Hour | |
|---|---|---|---|---|---|---|---|
| ID | Name | Delay (sec) | LOS | Delay (sec) | LOS | Delay (sec) | LOS |
| 1 | Braidwood-Bungonia | 6 | A | 7 | A | 6 | A |
| 2 | Sloane-Braidwood | 15 | B | 21 | B | 16 | B |
| 3 | Bungonia-Forbes | 9 | A | 10 | A | 9 | A |
| 4 | Bungonia-Memorial | 6 | A | 6 | A | 6 | A |
| 5 | Hume-Garroorigang | 6 | A | 6 | A | 6 | A |
| 6 | Sydney Lagoon-Union-Reynolds | 35 | C | 50 | D | 35 | C |
| 7 | Sloane-Garroorigang | 6 | A | 6 | A | 6 | A |
| 8 | Windellama-Rifle Range | 6 | A | 7 | A | 6 | A |

## 3.4 Road Safety

Historic crash data has been sourced from the TfNSW Centre for Road Safety for the five year period from January 2018 to December 2022 in the vicinity of the site and specifically the proposed Project site access at Windellama Road.

The crash locations in the vicinity of the Project site are shown in Figure 3.5.

The historic crash data shows that there have been 3 crashes between 2018 and 2022 near the Project site and specifically the Project site access, 2 of which were located on the transport route to and from the Project site for construction vehicles.

Each of the 3 crashes were single vehicle 'off road' crashes, 2 crashes at night and 1 crash during wet conditions. None of the crashes involved a fatality or a serious injury.

## 3.5 Public Transport Services

Public transport services are very limited within the immediate vicinity of the Project site. Goulburn railway station is located on Sloane Street on the southern edge of the main Goulburn commercial centre.

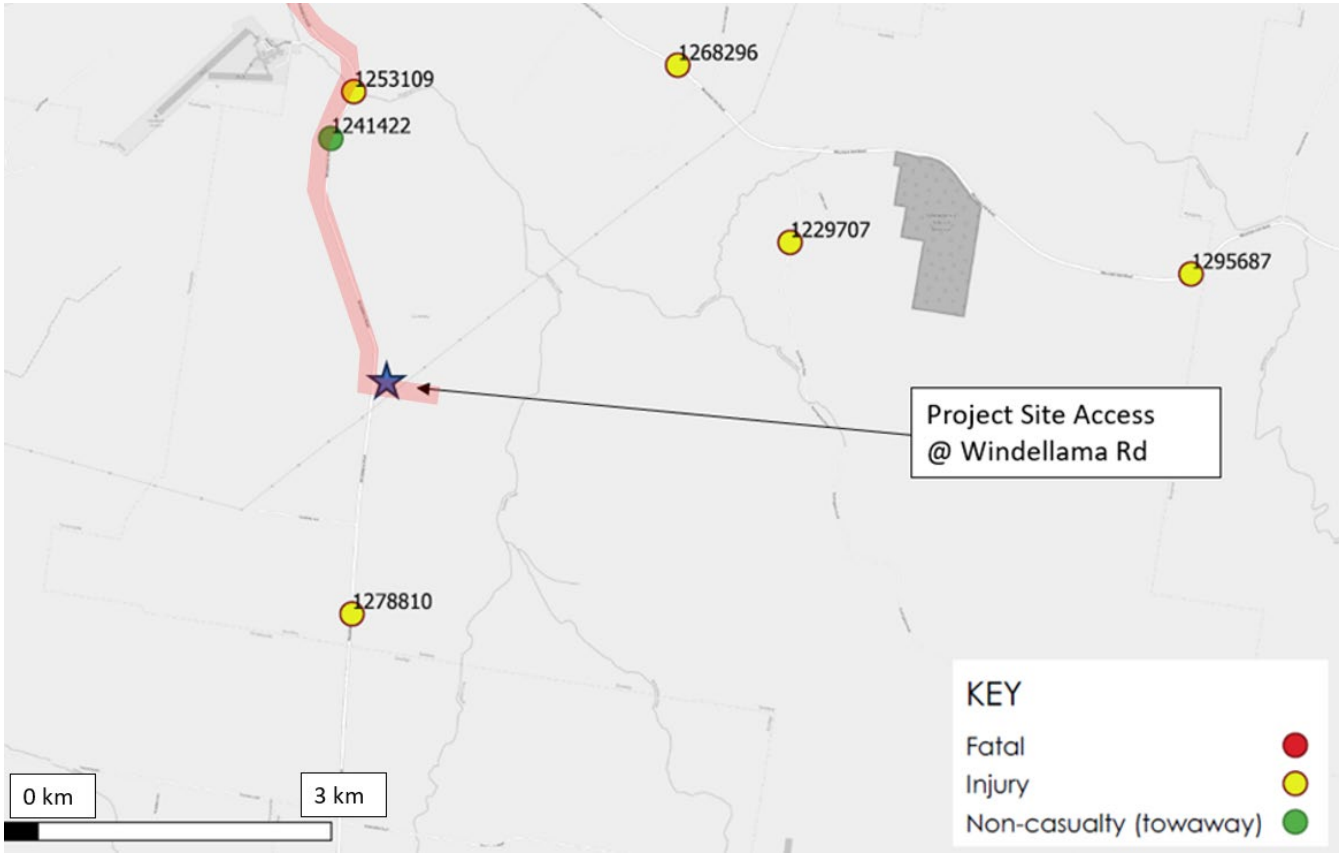
The train lines through Goulburn provide connections to Sydney, Canberra and Melbourne via the Main Southern Railway Line.

School bus services operated by Berrima Buslines and PBC Goulburn service the following school's within Goulburn:

- Goulburn North Public School
- Goulburn High School
- St Josephs Primary School
- St Peter and Pauls Primary School
- Goulburn West Public School
- Trinity College Campus
- Wollondilly Public School
- Mulwaree High School

Local bus services within the Goulburn township are provided by PBC Goulburn bus services. However, there are no designated public bus routes operating near the Project site.

## Figure 3.5: Crash Locations along Transport Route (Windellama Road) - 2018-2022




| Crash ID | Degree of crash | Year of crash | Month of crash | Day of week of crash | Two-hour intervals | Street of crash | Distance | Direction | School zone location | Type of location | Alignment | Road surface | Surface condition | Weather | Natural lighting | Other traffic control | Speed limit | Road classification (admin) | RUM - code | RUM - description | DCA - description | Key TU type | No. of traffic units involved | No. killed | No. seriously injured | No. moderately injured | No. minor-other injured |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1241422 | Non-casualty (towaway) | 2020 | September | Thursday | Unknown | WINDELLAMA | 0 | Right on the spot | No | 2-way undivided | Curved | Sealed | Dry | Fine | Darkness | No traffic controls | 100 km/h | Local | 87 | Off lft/lft bnd=>obj | Off left bend into obj | Light truck utility(from 2018) | 1 | 0 | 0 | 0 | 0 |
| 1253109 | Injury | 2020 | December | Sunday | 00:01 - 01:59 | WINDELLAMA | 720 | South | No | 2-way undivided | Straight | Sealed | Dry | Overcast | Darkness | No traffic controls | 100 km/h | Local | 71 | Off rd left => obj | Left off cway into object | Light truck utility(from 2018) | 1 | 0 | 0 | 1 | 0 |
| 1278810 | Injury | 2021 | November | Thursday | 06:00 - 07:59 | WINDELLAMA | 2000 | North | No | 2-way undivided | Straight | Sealed | Wet | Raining | Daylight | No traffic controls | 100 km/h | Local | 73 | Off rd rght => obj | Right off cway into obj | Light truck utility(from 2018) | 1 | 0 | 0 | 1 | 0 |

## 3.6 Active Transport Infrastructure

Given the rural nature of the Project site and its surrounds, there are no formal pedestrian or cyclist facilities within the vicinity of the Project site.

# 4 Project Traffic Generation Assumptions

This section of the TIA report sets out details of the assumptions used to estimate the potential traffic generation characteristics for the construction, operational and decommissioning stages of the Project.

In this report there is discussion and assessment of 'vehicle trips' generated by the proposed construction of the Project.

The RMS (now TfNSW) *Guide to Traffic Generating Developments* (2002) defines a trip as a vehicle movement from one point to another. A two-way trip is a trip in either direction between the two points. For clarity a vehicle delivering materials to the Project site and then departing the site is assessed as two vehicle trips or movements, one trip into and one trip out of the site.

## 4.1 Types of Project Related Traffic

For the purpose of the traffic assessment presented in this report, different types of traffic to be generated by the Project across the construction, operational and decommissioning stages of the Project are described as:

- General Construction Traffic (Non OSOM vehicles) for delivery of construction materials and contractor movements.
- Construction Traffic – OSOM vehicles
- Workforce vehicles (construction and operation)

General construction vehicles (non-OSOM) would include the following type of vehicles:

- Semi-trailers (19m) for the delivery of solar panels and associated components within shipping containers
- Heavy Rigid Vehicles (HRV 12.5m) or truck and dogs for delivery of building materials such gravel and building materials
- Agitators (concrete trucks)
- Vans and utilities.

OSOM vehicles will be used to transport battery and sub-station components to the Project site.

Details pertaining to the type of OSOM vehicle to be used for the Project are set out in the *OSOM Route Study* (ARES, 20/5/2025)[1]. OSOM to be used are expected to be up to 50 metres in length.

[1] *Gundary Solar Farm: OSOM Route Study*, prepared by ARES Group (20 May 2025)

An example of an OSOM vehicle with a transformer is shown in Figure 4.1.

**Figure 4.1: Typical OSOM Vehicle Transporting Transformer (47.5m long)**

Source: *Gundary Solar Farm: OSOM Route Study* ARES (20/05/2025)

Construction work force vehicles accessing the site will include a shuttle bus and passenger vehicles.

## 4.2 Construction Traffic Generation Assumptions

### 4.2.1 Daily General Construction Traffic Generation

Construction activities associated with the Project are expected to occur over a period of approximately 18 to 24 months with construction planned to commence in late 2026 or 2027.

Within this overall construction period, the level of construction activity will commence relatively low and build up to a 'peak' construction period of approximately 9 months occurring in the middle of the construction period. The level of activity will decrease towards the end of construction and commissioning.

The estimated daily two-way traffic generation of the Project during 'peak' construction is shown in Table 4.1.

**Table 4.1: Project Peak Construction Daily Traffic Generation**

| Traffic Generation by Vehicle Type | Daily Trip Inbound (to site) | Daily Trip Outbound (from site) | Total Vehicle movements per Day (Total Two Way) |
|---|---|---|---|
| **Construction Workforce** | | | |
| Cars | 38 | 38 | 76 |
| Shuttle Buses | 17 | 17 | 34 |
| **General Construction Traffic** | | | |
| Light Vehicles | 130 | 130 | 260 |
| Single Unit Truck (MRV) | 25 | 25 | 50 |
| Semi Trailer / Flat bed Truck (HRV) | 30 | 30 | 60 |
| **Total** | **240** | **240** | **480** |

The volumes of construction traffic generation for the Project have been estimated based on Lightsource bp recently constructed solar farms.

The Project will operate a shuttle bus service for construction workers travelling to and from the site.

For the purpose of this traffic assessment, it is assumed that workers located within the immediate vicinity of the Project site and within the Goulburn Mulwaree LGA will travel to and from the site in private vehicles (cars). Workers outside of the Goulburn Mulwaree LGS will be transported via shuttle buses. Car pooling arrangements are expected to occur. It has been assumed that a car occupancy of 1.7 workers / vehicle would be applied to workers living in the Goulburn Mulwaree LGA but outside of the immediate Project site area (ie. 42 workers, see Table 2.1).

The arrival and departure of heavy vehicle movements to and from the Project site will be spread out over the course of the daily construction hours.

Light and shuttle bus vehicle movements to and from the site will be concentrated at the commencement and conclusion of work force shift times.

### 4.2.2 Peak Hour General Construction Traffic Generation

During the peak construction periods, the hourly traffic generation of the Project have been estimated as summarised in Table 4.2.

The estimated peak construction traffic flows in Table 4.2 have been used in the assessment of the operational impacts of construction traffic on the surrounding road network (see Section 5.5).

**Table 4.2: Project Peak Construction Hourly Traffic Generation**

| Intersection | Weekday AM Peak Hour (8-9am) (veh/hr) | | | Weekday PM Peak Hour (3-4pm) (veh/hr) | | | Weekend Midday (12-1pm) (veh/hr) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Light | Heavy | Total | Light | Heavy | Total | Light | Heavy | Total |
| Inbound | 68 | 6 | 74 | 13 | 6 | 19 | 42 | 6 | 48 |
| Outbound | 13 | 6 | 19 | 68 | 6 | 74 | 42 | 6 | 48 |
| **Total** | **81** | **12** | **93** | **81** | **12** | **93** | **84** | **12** | **96** |

For the purpose of the analysis, shuttle buses[2] ferrying workers to and from the Project site are assessed as light vehicles. Furthermore, peak hour traffic generation of the Project has been assumed to occur at the same time as the surrounding road network peak.

### 4.2.3 Over Size Over Mass (OSOM) Traffic Generation

With regard to OSOM vehicles, it is estimated that there will be a total of 10 x OSOM vehicle movements to and from the Project site over the entire construction of the Project (5 x OSOM loaded inbound + 5 x OSOM outbound empty vehicle trips).

OSOM movements to and from the site would be timed to occur outside of construction traffic peak hours and the surrounding road network generally.

### 4.2.4 Background Traffic on Surrounding Road Network

As detailed in Section 3.2 of this report, traffic surveys of the surrounding road network were undertaken in September 2023.

Construction traffic generated by the Project is expected to peak in 2027.

To accommodate the potential for background traffic growth between 2023 and 2027, a growth rate of 2% growth per annum has been applied to the surveyed 2023 traffic surveys.

The application of background growth thus represents a future 'base case' scenario upon which the operational implications of Project generated traffic can be assessed.

[2] Shuttle Buses = assumed capacity of 12 passengers (workers) and a driver.

## 4.3 Project Operational Stage Traffic Generation

A permanent operations and maintenance (O&M) facility would be constructed on the Project site. Once the Project is operational the O&M facility will be utilised by the operational work force.

The operational phase is estimated to run for 40 years.

Once operational, it is estimated that the Project will generate up to 10 light vehicles (cars / utilities) two-way vehicle movements per day. There would also be an occasional heavy vehicle movement for waste collection or general maintenance and deliveries.

## 4.4 Project Decommissioning Stage Traffic Generation

Decommissioning of the Project will occur at the end of the lifespan of the Project, whenever that may occur.

Traffic generation during decommissioning of the Project will include vehicles associated with the removal of equipment from the Project site and Project site rehabilitation.

Decommissioning is expected to generate some 30% less traffic than the peak construction period.

# 5 Construction Traffic Impact Assessment

This section of the report presents the findings of the assessment of traffic related aspects of the construction stage of the project.

## 5.1 General Construction Vehicle Transport Routes

As detailed in Section 2.4.4 of this report, two feasible routes have been identified for the transport of construction materials between the arterial road network at Goulburn (ie. Hume Highway) and the Project site.

Solar panel materials will be transported to the Project site from either Port Botany or Port Kembla. Both of these ports will utilise the arterial road network to access the Hume Highway and Goulburn and hence approach the site from the north.

Similarly, construction materials sourced from local quarries, water supplies etc. are expected to approach the Project site from the Hume Highway.

A 19 metre long semi trailer is expected to be the largest general construction vehicle (ie. non-OSOM vehicle) to access the site.

As shown in Figure 2.3, both Option 1 and Option 2 are approved B-double routes between the Hume Highway and the Braidwood Road / Bungonia Road intersection. As such both transport haulage routes, (Option 1 and Option 2) are approved to carry 19 metre semi-trailer construction vehicles.

Notwithstanding the above, swept path analysis for a 19m long semi-trailer vehicle has been undertaken for key intersections along the haulage routes between the Hume Highway and the Project site access at Windellama Road.

The swept path analysis is presented in Appendix C.

The swept path analysis indicated that the existing road geometry between the Hume Highway and the Project site access at Windellama Road along both Option 1 and Option 2 construction vehicle haulage routes can adequately accommodate a 19 metre long semi trailer without the need for road network upgrades.

## 5.2 OSOM Vehicle Transport Routes

It is expected that a total of 10 x OSOM two-way vehicle trips (5 x OSOM loaded vehicles to site + 5 x OSOM empty from the site) would be undertaken during the construction stage of the project.

As detailed above, these OSOM vehicles would typically be associated with the transportation of battery and transformer components to the Project site.

OSOM vehicles' likely to be used will range in length up to 50m.

A detailed OSOM vehicle routes study[3] has been undertaken by ARES Group transport logistic experts.

Whilst Option 1 has been identified by Lkightsource bp as the preferred OSOM route from the Hume Highway to the Project site, the ARES OSOM route study considered both Option 1 and Option 2 for the movement of OSOM vehicles.

The OSOM route study vehicle swept path assessment has determined that between the Hume Highway and the Project site access:

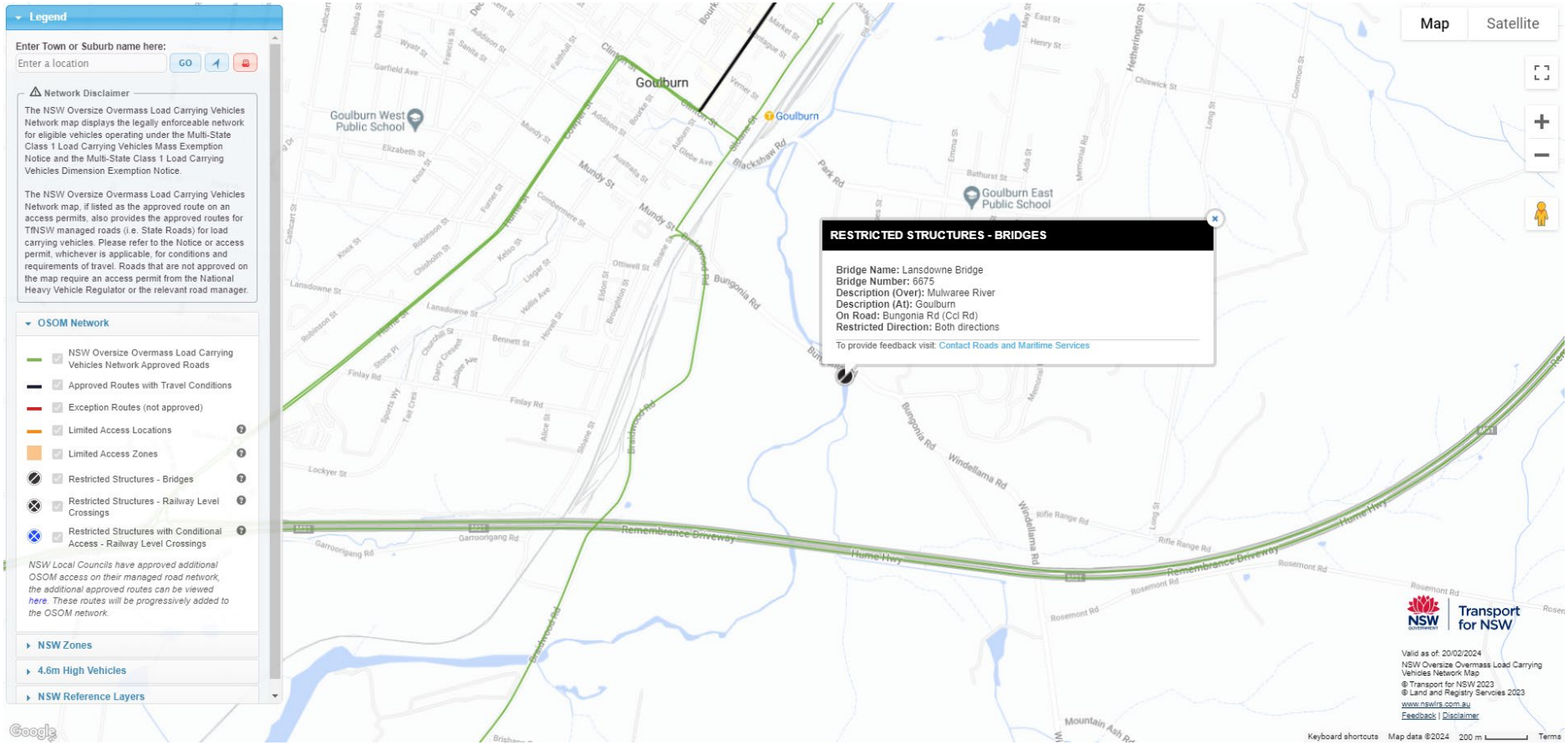
- The northern route (Option 1) can generally accommodate the geometric requirements of OSOM vehicles. However temporary traffic signal and street sign relocation will be required at the Sydney Road / Union Street intersection.
- The southern route (Option 2) can accommodate the geometric requirements of OSOM vehicles without adjustments to street furniture (ie. signs posts and kerb) between the Hume Highway and Bungonia Road. An additional area of hard stand would be required on Garroorigang Road on the approach to Sloane Street. As noted above, Option 2 is not the preferred OSOM route for the Project.
- Both options will require escort and traffic controllers to facilitate OSOM travel paths onto the opposite side of the road.
- A hard stand area will be required at the Windellama Road / Project site access intersection. The hard stand area would be additional to the intersection geometric requirements for general Project construction traffic (ie. Semi-trailer access).

OSOM vehicle loaded trips to the Project site across the entire construction period would be undertaken with appropriate traffic management measures, including pilot vehicle, warning signage and lights etc.

As shown in Figure 5.1, the OSOM mapping provided by TfNSW has identified the Lansdowne Bridge on Bungonia Road as a restricted structure. The Lansdowne Bridge is located on the transport route for construction vehicles associated with the Project.

[3] Gundary Solar Farm – OSOM Route Study prepared by ARES Group (20/05/2025)

## Figure 5.1: Lansdowne Bridge – Restricted Structure



Consultation with TfNSW has confirmed that the Lansdowne Bridge was replaced in 2019 from a timber structure to a new concrete bridge. TfNSW also confirmed that Council was now the relevant road authority for the new bridge.

Consultation with Council confirmed that with regard to the load limit of the bridge:

- Lansdowne Bridge was designed to AS5100-2004 Bridge Design with a traffic loading of SM1600.
- The design traffic speed is 70km/h (although noted that its signposted as 60km/h).
- The bridge has been designed to a Heavy Load Platform Loading of HLP320.
- Provision for HLP320 Loading is restricted to one vehicle at any one time.
- HLP320 Loading may be permitted up to +/- 1m laterally in either direction from centre of carriageway.
- OSOM vehicle speed is restricted to 10km/h when crossing the bridge.

Thus, subject to a detailed vehicle loading analysis for OSOM and implementation of the measures highlighted by Council, the upgraded bridge can accommodate OSOM vehicle associated with the project.

## 5.3 Recommended Preferred Construction Vehicle Route

Notwithstanding the above, consultation with Council and TfNSW has highlighted a preference for Project construction traffic to utilise Option 2, namely the southern Hume Highway exit and Garroorigang Road and Sloane Street (south) to access Bungonia Road and onto Windellama Road.

The utilisation of the southern route (Option 2) by general construction traffic generated by the Project will avoid more sensitive land uses including schools and a higher number of residential properties. The southern route is generally more industrial and rural than the northern route.

It is recommended that the southern route (Option 2) is adopted as the primary route for general construction traffic associated with the Project.

However, it is noted that the northern route (Option 1) is geometrically feasible and may be appropriate for the movement of construction materials on an ad hoc / occasional basis.

Notwithstanding the above, no Project related construction traffic (heavy) shall utilise Option 1 during school zone hours of operation, namely 8-9.30am and 2.30 – 4pm on school days.

With regard to the 5 x OSOM vehicle movements to the Project site, Option 1 is the preferred route and will require temporary traffic signal and street sign relocation at the Sydney Road /

Union Street intersection and additional hardstand area at the Project site access at Windellama Road.

As detailed in the *OSOM Route Study* (ARES, 20/05/2025) transport permits will need to be obtained from the National Heavy Vehicle Regulator prior to travel. This will require consultation with TfNSW and Council and will include details pertaining to the proposed routes and associated works.

## 5.4 Project Site Access – Windellama Road

### 5.4.1 Proposed Site Access Improvement Works – Concept Layout

As described in Section 2, constructed related traffic will enter and exit the Project site via the Windellama Road site access.

It is understood that proposed Project site access works at Windellama Road would be undertaken in the early stages of construction such that the improved access arrangements will be in place to accommodate construction vehicles, particularly the transportation of solar panel equipment and other materials by heavy vehicles.

It is proposed that all heavy construction vehicles will approach the Project site from the north, thereby undertaking a left turn into the Project site from Windellama Road to connect to the internal Project site road network.

Similarly, heavy construction vehicles exiting the Project site will turn right at Windellama Road and head back towards Goulburn.

It is proposed that pavement widening be provided at the Project site access to accommodate a BAL left turn treatment along the Windellama Road approach. Additionally additional pavement is proposed to accommodate appropriate turn radius for a Basic rural intersection.

Furthermore, the OSOM Route Study (ARES 20/05/2025) has identified hard stand requirements for the movement of laden OSOM vehicles into the site.

The concept design for the Project site access is shown in Figure 5.2 and Appendix D.

As shown in Figure 5.3 and Figure 5.4, the concept layout with additional pavement can adequately accommodate the turning movements (swept paths) of a 19m semi-trailer which is largest general construction vehicle expected to access the Project site during construction.

**Figure 5.2: Project Site Access Improvements - Concept Layout**

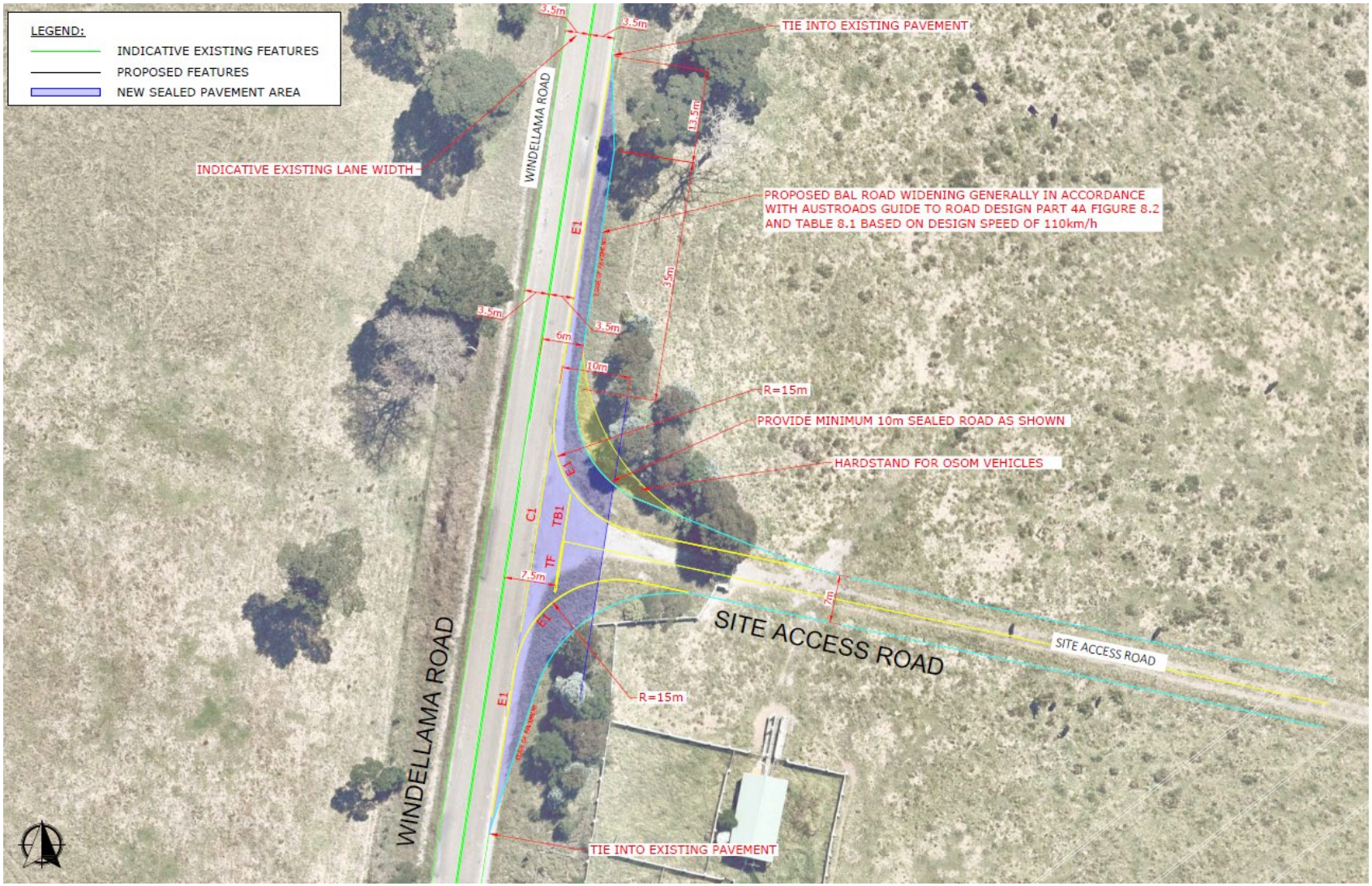


**Figure 5.3: 19m Semi Trailer Swept Path (Entry) – Project Site Access at Windellama Road**

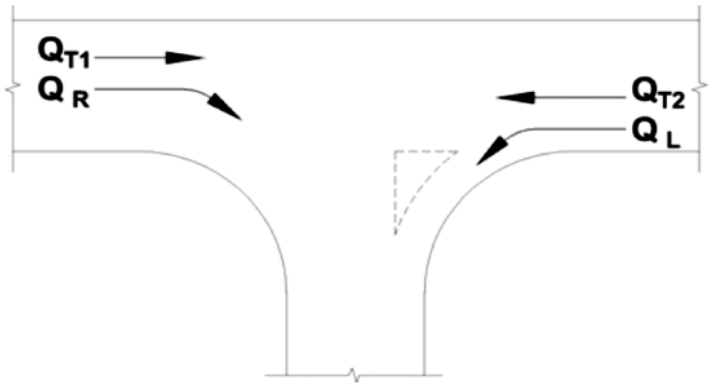
**Figure 5.4: 19m Semi Trailer Swept Path (Exit) – Project Site Access at Windellama Road**

### 5.4.2 Project Site Access Intersection Design – Turn Warrants

An assessment of the turn treatments required for the proposed Project site access point at Windellama road has been undertaken in accordance with *Austroads Guide to Road Design (AGRD) Part 4* (2017 and 2021) and *Austroads Guide to Traffic Management (AGTM) Part 6 (2020)*.

The turn treatment warrants are based on the major road traffic volumes on Windellama Road 'QM', and the volume of turning movements generated by the construction activities, 'QR' and 'QL'. The value for QR and QL have been taken from peak period construction traffic generation as estimated above in this report.

**Figure 5.5: Calculation of the Major Road Traffic Volume Parameter, QM**




| Road type | Turn type | Splitter island | $Q_M$ (veh/h) |
|---|---|---|---|
| Two-lane two-way | Right | No | = $Q_{T1}$ + $Q_{T2}$ + $Q_L$ |
| | | Yes | = $Q_{T1}$ + $Q_{T2}$ |
| | Left | Yes or no | = $Q_{T2}$ |

*Source: Austroads Guide to Traffic Management Part 6, 2020*

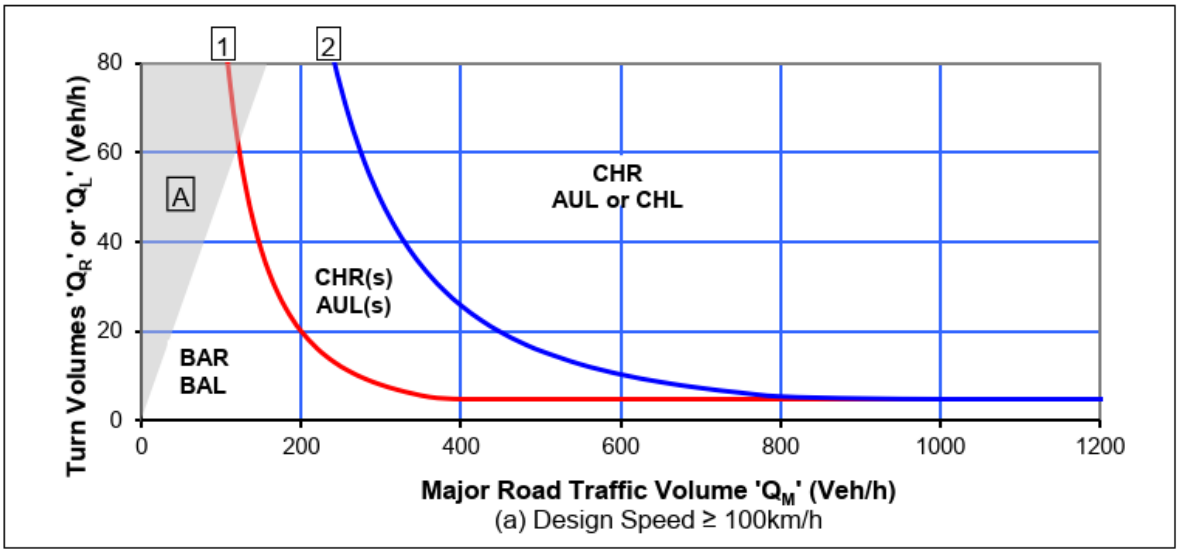
**Table 5.1: Calculation of QM**

| Road Type | Peak Period | Turn Type | Splitter Island | $Q_M$ (vph) (2027) | |
|---|---|---|---|---|---|
| Site Access at Windellama Road | | | | | |
| Two-Lane Two-Way | AM | Left ($Q_L$) = 74 | No | $Q_M = Q_{T2}$ | 48 vph |
| | PM | Left ($Q_L$) = 19 | No | $Q_M = Q_{T2}$ | 122 vph |

The turn treatment warrant assessment also considers the design speed of the road, which is typically taken as the posted speed limit plus 10 km/h; namely, the design speed for Windellama Road is 110 km/h.

Figure 5.6 shows an extract from AGTM Part 6 of the turn treatment warrants on major roads at unsignalised intersections with a design speed more than 100 km/h, which is applicable to Windellama Road.

**Figure 5.6: Warrants for Turn Treatments on Major Roads at Unsignalised Intersections**




*Source: Austroads Guide to Traffic Management Part 6, 2020*

Based on values for $Q_M$, $Q_L$ and $Q_R$ in Table 5.1 and warrants for turn treatments in Figure 5.6, the turn treatments required at a Project site access at Windellama Road would be as follows:

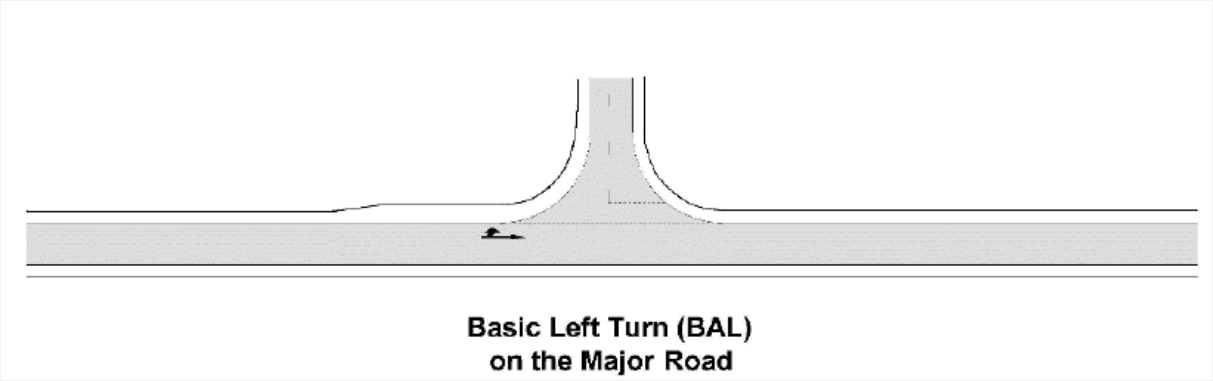
- a basic left-turn (BAL).

An indicative layout for BAL treatments as per AGRD Part 4 is provided in Figure 5.7.

It is noted that as construction vehicles shall approach from and depart to the north, construction vehicles (heavy) will not turn right into the site and thus BAR treatments are not required.

The proposed concept layout plan for the Windellama Road site access (Figure 5.2) satisfies these Austroad intersection requirements.

**Figure 5.7: Basic Left Turn (BAL)**




*Source: Austroads Guide to Traffic Management Part 6, 2020*

### 5.4.3 Project Site Access Intersection Capacity

To assess the capacity of a Project site access intersection at Windellama Road during peak construction periods a SIDRA intersection analysis was undertaken.

The intersection capacity modelling results are shown in Table 5.2.

**Table 5.2: Project Site Access Intersection Operation with Project Construction Traffic**

| Intersection | Period | 2027 Base + Construction Traffic | |
|---|---|---|---|
| | | Ave. Delay (sec) | LoS |
| Windellama Road / Project Access Intersection | Weekday Morning Peak | 28 | B |
| | Weekday Afternoon Peak | 20 | A |
| | Saturday Midday Peak | 22 | B |

The modelling shows that a Project site access intersection would perform acceptably with the construction traffic generated by the Project.

It is noted that there are other potential and proposed developments within the vicinity of the Project site. Should the construction activities overlap then there is potential for additional traffic flows within the road network.

Further details regarding potential cumulative implications to the road network are detailed in Section 5.9.

### 5.4.4 Sight Distance Assessment

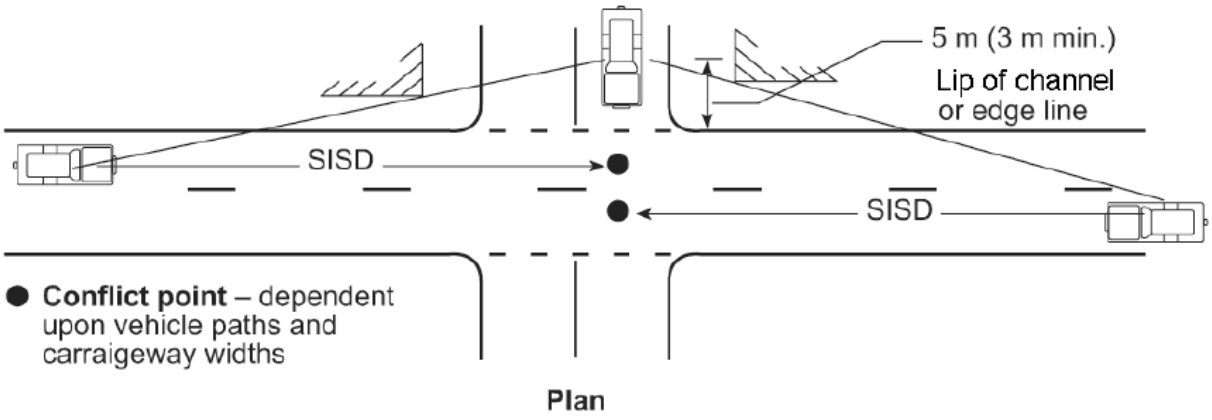
The provision of adequate distances for vehicles entering or exiting a road from another road or driveway is a key feature in the provision of safe intersection.

A review of driver sight distance at the Project site access has been undertaken in accordance with Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersection (2021) for the proposed Project site access at Windellama Road.

In assessing the available sight distances at the proposed Project site access the Safe Intersection Sight Distance (SISD) criteria as defined by Austroads has been applied.

SISD is the minimum sight distance which should be provided on the major road at any intersection. The method of calculating SISD is shown graphically in Figure 5.8

**Figure 5.8: Safe Intersection Sight Distance (SISD)**




*Source: Austroads (2021) Guide to Road Design Part 4A: Unsignalised and Signalised Intersection*

As shown in the extract from Austroads guide (see Figure 5.9), the SISD requirement increases with increasing design speed of the major road.

For the Windellama Road Project site access the design speed of 110km/h has been applied. This represents the posted speed limit (100km/h) + 10 km/h.

Based on Figure 5.9, the SISD requirement is 285 m.

The available sight distances at both of these locations exceeds 300 metres and thus complies with Austroad SISD requirements.

Thus, the proposed Project site access driveways will be located and constructed such that there is adequate entering sight distance to traffic along the frontage road.

**Figure 5.9: Available Driver Sight Distances at Windellama Road Project site Access**

| Design speed (km/h) | Based on safe intersection sight distance for cars[1] $h_1$ = 1.1; $h_2$ = 1.25, $d$ = 0.36[2]; Observation time = 3 sec | | | | | |
|---|---|---|---|---|---|---|
| | $R_T$ = 1.5 sec[3] | | $R_T$ = 2.0 sec | | $R_T$ = 2.5 sec | |
| | SISD (m) | $K$ | SISD (m) | $K$ | SISD (m) | $K$ |
| 40 | 67 | 4.9 | 73 | 6 | – | – |
| 50 | 90 | 8.6 | 97 | 10 | – | – |
| 60 | 114 | 14 | 123 | 16 | – | – |
| 70 | 141 | 22 | 151 | 25 | – | – |
| 80 | 170 | 31 | 181 | 35 | – | – |
| 90 | 201 | 43 | 214 | 49 | 226 | 55 |
| 100 | 234 | 59 | 248 | 66 | 262 | 74 |
| 110 | – | – | 285 | 87 | 300 | 97 |
| 120 | – | – | 324 | 112 | 341 | 124 |
| 130 | – | – | 365 | 143 | 383 | 157 |

## 5.5 Road Network Capacity

As detailed in Section 3.3, TTPP undertook an assessment of road network operation at key intersections along the proposed construction traffic routes namely the southern and northern Hume Hwy exits at Goulburn based on 2023 traffic surveys.

As requested by TfNSW, a background factor has been applied to 2023 surveyed traffic flows to create a Base 2027 scenario. The road network operation for the Base 2027 scenario has been assessed using the SIDRA intersection modelling software.

The estimated peak period construction traffic generation of the Project has been added to theBase 2027 traffic flows at the key intersections to represent the road network operation 'with development' scenario. These 'Base 2027 + Development' traffic flows were analysed using SIDRA and the results compared to the Base 2027 scenario to determine the level of impact associated with the Project construction.

The results of the SIDRA modelling are summarised in Table 5.3, Table 5.4 and Table 5.5. Detailed results presented in Appendix B.

The results indicate that the addition of construction traffic related to the Project will not adversely impact on the operation or Level of Service at any of the key intersections along both the northern (Option 1) and southern (Option 2) Project construction transport routes.

In summary the road network can satisfactorily accommodate the peak construction period of the proposed Project.

**Table 5.3: Intersection Operation - Base (2027)**

| | Intersection | | AM Peak Hour | | PM Peak Hour | | SAT Peak Hour | |
|---|---|---|---|---|---|---|---|---|
| | ID | Name | Delay (sec) | LOS | Delay (sec) | LOS | Delay (sec) | LOS |
| Existing + Dev to/from Sydney Rd | 1 | Braidwood-Bungonia | 7 | A | 7 | A | 6 | A |
| | 2 | Sloane-Braidwood | 14 | B | 25 | B | 17 | B |
| | 3 | Bungonia-Forbes | 9 | A | 10 | A | 9 | A |
| | 4 | Bungonia-Memorial | 6 | A | 6 | A | 6 | A |
| | 5 | Hume-Garoorigang | 6 | A | 7 | A | 6 | A |
| | 6 | Lagoon-Union | 35 | C | 54 | D | 38 | C |
| | 7 | Sloane-Garoorigang | 6 | A | 6 | A | 6 | A |
| | 8 | Windellama-Rifle Range | 7 | A | 7 | A | 7 | A |
| | 9 | Windellama-Site Access | 18 | B | 12 | A | 14 | A |

**Table 5.4: Intersection Operation - Base (2027) + Project Construction Traffic Route Option 1 (Northern Access via Sydney Road)**

| | Intersection | | AM Peak Hour | | PM Peak Hour | | SAT Peak Hour | |
|---|---|---|---|---|---|---|---|---|
| | ID | Name | Delay (sec) | LOS | Delay (sec) | LOS | Delay (sec) | LOS |
| Existing + Dev to/from Sydney Rd | 1 | Braidwood-Bungonia | 7 | A | 8 | A | 7 | A |
| | 2 | Sloane-Braidwood | 20 | B | 47 | D | 23 | B |
| | 3 | Bungonia-Forbes | 10 | A | 11 | A | 13 | A |
| | 4 | Bungonia-Memorial | 8 | A | 7 | A | 6 | A |
| | 5 | Hume-Garoorigang | 6 | A | 6 | A | 6 | A |
| | 6 | Lagoon-Union | 33 | C | 46 | D | 33 | C |
| | 7 | Sloane-Garoorigang | 6 | A | 6 | A | 6 | A |
| | 8 | Windellama-Rifle Range | 7 | A | 8 | A | 8 | A |
| | 9 | Windellama-Site Access | 18 | B | 12 | A | 14 | A |

**Table 5.5: Intersection Operation - Base (2027) + Project Construction Traffic Route Option 2 (Southern Access via Hume Street)**

| | Intersection | | AM Peak Hour | | PM Peak Hour | | SAT Peak Hour | |
|---|---|---|---|---|---|---|---|---|
| | ID | Name | Delay (sec) | LOS | Delay (sec) | LOS | Delay (sec) | LOS |
| Existing + Dev to/from Hume St | 1 | Braidwood-Bungonia | 7 | A | 8 | A | 7 | A |
| | 2 | Sloane-Braidwood | 18 | B | 25 | B | 19 | B |
| | 3 | Bungonia-Forbes | 10 | A | 11 | A | 9 | A |
| | 4 | Bungonia-Memorial | 8 | A | 7 | A | 6 | A |
| | 5 | Hume-Garoorigang | 6 | A | 7 | A | 6 | A |
| | 6 | Lagoon-Union | 35 | C | 49 | D | 35 | C |
| | 7 | Sloane-Garoorigang | 7 | A | 6 | A | 6 | A |
| | 8 | Windellama-Rifle Range | 7 | A | 8 | A | 8 | A |
| | 9 | Windellama-Site Access | 12 | A | 12 | A | 14 | A |

## 5.6 Road Safety

As documented above, the proposed Project site access arrangements at Windellama Road meet with the design requirements and safe intersection sight distances as defined by Austroads.

This will provide a safe environment for the entry and exit of vehicles to and from the Project site.

The analysis of historical crashes within the vicinity of the Project site indicated that the rate of crashes along Windellama Road is relatively low and that there were no systemic crash locations or accident types that would indicate a particular safety issue that would be adversely impacted with additional construction traffic associated with the Project.

As detailed above, the selection of the southern Goulburn exit from the Hume Highway as the primary construction vehicle route (ie. Option 2) will avoid potential conflicts with sensitive land uses, such as the Goulburn North Primary School and St Joseph Primary School.

## 5.7 Internal Roads and Car Parking Arrangements

Suitable on-site manoeuvring areas would be available so that larger vehicles are able to safely manoeuvre into the Project site off the public road network, around the Project site and exit the Project site onto the public road network.

All vehicles would enter and exit the Project site to / from the public road network in a forward direction only.

All vehicles generated by construction staff would be accommodated within on-site parking areas.

The construction and maintenance of the solar farm will require the construction of an internal site access network to reach all the solar panel and BESS locations as well as other infrastructure.

The internal site access network will consist of private access tracks and will not be accessible to the public, ie. access will be controlled by lockable gates.

The internal site access network will generally be a minimum 3.5m – 4.0m wide with regular passing bays and turning heads as required to accommodate construction vehicles. These areas would also provide turning / manoeuvring and passing opportunities for delivery vehicles.

The internal accesses will comprise an all-weather graded surface. Ongoing operational maintenance of on-site accesses would be undertaken by the solar farm operator.

## 5.8 Public Transport, Pedestrians and Cyclists

Given the proposed weekday construction hours are from 7am to 6pm, the construction workforce trips would typically occur before 7am and after 6pm, which would generally not coincide with school bus services. Heavy vehicles would arrive and depart throughout the day. Any potential interaction with school bus operations and stops would be considered in the Construction Traffic Management Plan (CTMP) to minimise any delays, disruptions, and safety risks.

Regarding pedestrians and cyclists, the rural nature of the Project Area implies that most pedestrian and cycling activity occur within Goulburn town where there are footpaths provided. Given that the proposed construction working hours are from 7am to 6pm, the workforce vehicle trips would be outside the normal peak period for walking and cycling activity in Goulburn. The distances between towns and other major centres in the area discourages casual cycling outside of the town areas.

It is considered that with the management and mitigation measures proposed (refer to Section 6), the Project will have negligible impact in terms of pedestrian and cyclist safety.

## 5.9 Cumulative Traffic Assessment

An analysis of potential major projects and local development applications within the region surrounding the Project site has been undertaken by Umwelt in the preparation of the EIS documentation.

There is a number of proposed renewable energy projects in the region that will also utilise the Hume Highway for the transportation of construction materials to relevant project sites. However, the Hume Highway is considered to have sufficient capacity to accommodate significant increases in traffic flows.

With regard to impacts of the proposed Gundary Project transport routes, the Merino Solar Farm proposal will potentially utilise the same transport routes, thereby increasing the volume of traffic on the route if construction occurs concurrently.

However, details of the Merino Solar Farm transport routes, traffic generation and construction timing are not yet known. It is understood that the Merino project is in the 'Prepare EIS Stage' and TfNSW has instructed TTPP to remove the Merino Solar Farm from the cumulative analysis.

The SIDRA analysis for the Gundary Solar Farm project did highlight a noticeable change to the level of service at the Sloane Street / Braidwood Road intersection where project traffic utilises the northern route (Option 1).

This suggests that should both the Gundary and Merino solar farm projects (or other projects) undertake peak construction at the same time, then the southern transport route (Option 2) shall be the preferred route to reduce potential congestion at the Braidwood Road / Sloane Street intersection.

## 5.10 Operational Stage Traffic Assessment

The operational phase of the Project includes the general operation of the solar farm, with monitoring both by on-site staffing and via remote monitoring.

Aspects of the Project operation to be dealt with by on-site staff would include safety management, environmental condition monitoring, landowner management, routine servicing, malfunction rectification and site inspections.

Those functions to be overseen by remote monitoring include solar panel and BESS performance assessment, solar farm reporting, remote resetting and maintenance co-ordination.

Maintenance staff will be on-site throughout the year, making routine checks of the solar farm infrastructure on an ongoing basis. Major planned servicing would be carried out intermittently and involve up to 10 light vehicles two-way trips by staff with the occasional heavy vehicle for maintenance / deliveries.

This level of traffic generation would readily be absorbed into the spare capacity of the existing road network.

It is noted that operational traffic would continue to utilise the upgraded Project site access at Windellama Road.

## 5.11 Emergency Vehicle Access Arrangements

The proposed Project site access at Windellama Road and the existing Project site access at Kooringaroo Road will provide the Project site with alternate emergency vehicle access during construction and during operation. In addition, the perimeter fencing will have up to 10 emergency gate accesses for emergencies.

The provision of these two emergency vehicle accesses for the Project site will also facilitate general community access across the Project site in an emergency situation. That is the internal road connections between the two site accesses will facilitate an alternative evacuation path

for site personnel and the general community in the case of a bush fire and disconnection of the Kooringaroo Road connection to Mountain Ash Road and beyond.

At the northern end of Kooringaroo Road, Kooringaroo Road is sealed road with a sealed width of approximately 6 metres and unsealed shoulders.

The southern end of Kooingaroo Road near the Project site's emergency access is narrower (approximately 4m wide) with additional shoulders and of gravel construction.

The available width of 4m wide lanes plus shoulders is satisfactory for the travel path of an emergency vehicle (including fire fighting vehicles). The available road shoulders will allow vehicles to pass an emergency vehicle travelling in the opposite direction.

## 5.12 Decommissioning Stage Traffic Assessment

At the end of the Project's operational life, the Project will be decommissioned with Project infrastructure dismantled and removed for the Project site.

Traffic generation during decommissioning is estimated to be approximately 30% less than the peak traffic generation during construction.

Based on the assessment of the road capacity during the construction phase, it is envisaged that road network impacts would be minimal.

Notwithstanding the above, it is considered appropriate that a comprehensive Construction Traffic Management Plan (CTMP) would be prepared prior to the decommissioning phase in conjunction with the relevant road authorities. This would aim to ensure adequate road safety and road network operations are maintained during decommissioning of the Project site.

## 5.13 Reflection

Two road receivers (namely Windellama Road and Kooringaroo Road) and one rail receiver were assessed for glint and glare impacts through a Glint and Glare Impact Assessment (Moir, 2024) completed for the Project.

Kooringaroo Road has been assessed as having potential to experience 'Yellow' glare that exceeds the acceptable threshold of 10 hours per year. This glare occurrence is expected during the period from mid-October to March, specifically between 5:50 pm and 7:00 pm.

Vegetation screening is proposed along the northeastern boundary of the Project Area, near Kooringaroo Road, which will mitigate the potential glare impact.

## 5.14 Flooding

Flood modelling completed for the Project (WRM, 2024) show that the location of the Project access from Windellama Road is suitable in terms of flooding constraints. No flooding is predicted at the Project access point under all flood events.

# 6 Project Impact Mitigation Measures

The following sets out suggested mitigation measures to manage and / or mitigate the potential traffic and transport related impacts associated with the proposed Gundary Solar Farm project.

## 6.1 OSOM Enabling Works

Oversized and over mass (OSOM) vehicles would be governed by a detailed traffic management plan that should be developed before approval for transport is granted.

The traffic management plan will include:

- Procedures for escorts of oversized and over mass vehicles.
- Traffic control plans for temporary road closures (if necessary) to allow vehicles to cross to carriageway. Specific plans will be required for OSOM access across the Lansdowne Bridge on Bungonia Road.
- Safe work methods and strategies for working on roadways.
- Dates and times for transporting loads via OSOM vehicles.
- Location and use of rest stops and layovers along the journey.
- Communication strategy to affected communities.
- Notification and consultation of key stakeholders including:
  - Police and emergency services
  - Local Councils along the route
  - Public and School bus operators that may be affected
  - Advertising in local newspaper and media releases.
- Contact details of foreman or project manager throughout operations to be shared with emergency services and road authorities.
- Timing of operations and measures to avoid commuter peaks and school peaks through populated areas where practicable.
- Consideration of cumulative impacts of other projects along the route.
- Identification of layby areas for driver breaks and co-ordination of OSOM on site arrivals.

## 6.2 Reducing Project Related Traffic Generation

To reduce the potential number of light vehicles generated by the Project, it is recommended that the use of shuttle bus services to and from key worker accommodation sites is implemented in a manner consistent with the percentages set out in this report.

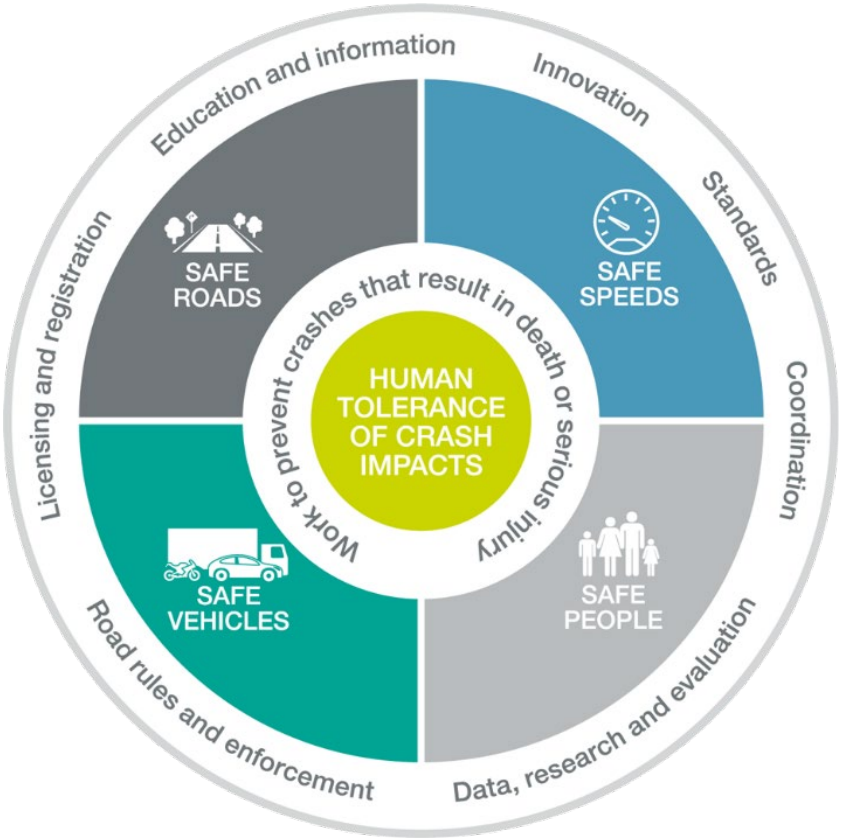
The adoption of shuttle bus transport would significantly reduce the potential volume of light vehicles and reduce the impact on the road network and improve the safety for workers and the community through driver fatigue management.

The assessment presented in this report has assumed the use of 12-seater minibuses though higher capacity vehicles should be considered if feasible to reduce the amount of traffic.

## 6.3 Road Safety

Under the safe systems approach road safety is generally improved by focussing on Safe Roads, Safe Speeds, Safe People and Safe Vehicles. The safe systems approach is summarised in Figure 6.1.

**Figure 6.1: Safe Systems Approach**




*Source: National Road Safety Strategy*

### 6.3.1 Safe People

"Safe people" can be achieved by education of workers and policies of the work site. To this end worker site induction should include driver education of the local road conditions and an adoption of a "drivers code of conduct".

This could include:

- Training on drivers respect private property and farm gates.
- Driving to the conditions on unsealed roads.
- Avoid speeding and other dangerous behaviour. Identification and communication of known road crash cluster locations. Also, identification and warning of when roads may be affected by black ice, road damage (pot-holes) and incidents.
- A drug and alcohol policy to reduce incidents of drunk and drug driving.
- Additional caution when driving at dawn and dusk of kangaroos and other wildlife.
- Driving around livestock.
- Measures to reduce the risk of workers driving while tired.

In addition, the use of shuttle bus services would reduce the number of workers driving from the Project site while tired.

### 6.3.2 Safe Vehicles

Contractors are to ensure that all vehicles used are road worthy and in good working condition with lights, brakes, tire pressure etc.

### 6.3.3 Safe Speeds

As part of managing the Project, workers would be required to drive to the conditions and respect speed limits.

### 6.3.4 Sensitive Land Uses

It is recognised that the Project may have an impact on sensitive land uses such as schools and residential precincts within townships along material delivery routes.

To minimise the impacts on schools it is recommended that temporary road closures for OSOM vehicle movements should be avoided during school peaks. To this end vehicle layovers should be identified so allow vehicles to wait until appropriate times for travel.

## 6.4 Dilapidation Survey

Dilapidation surveys covering the pavement, drainage, and bridge structures will be undertaken in consultation with TfNSW and local Councils for the proposed transport routes before and after construction. Regular inspections and consultation with local Councils and proponents would be developed. It is expected that any damage resulting from construction traffic, except normal wear and tear, would be repaired.

## 6.5 Road Authority Approvals for OSOM Vehicles

OSOM vehicles would require permits from the National Heavy Vehicle Regulator (NHVR). This replaces the approvals that were previously granted from TfNSW and councils. Applications are to be submitted to the NHVR.

# 7 Conclusions

The Gundary Solar Farm project will involve the construction and operation of a 400 MWp solar farm and battery storage system on the Project site located approximately 10km south-east of Goulburn in the Southern Highlands of NSW.

With regards to traffic and transport the construction of the Project will include:

- Construction duration of between 18 – 24 months with peak construction activity of approximately 9 months in the middle of the works
- Up to 250 personnel on site during peak construction activities
- Up to 480 two-way construction vehicle trips per day in peak construction
    - 336 light vehicle trips
    - 34 shuttle bus trips
    - 110 heavy vehicle trips
- Daily heavy vehicle trips will generally involve a range of vehicle sizes up to and including a 19m semi-trailer
- A total of 10 OSOM two-way vehicle trips are anticipated over the duration of the construction period and are associated with the delivery of battery components. The maximum length of the OSOM vehicles are expected to be a 30-50m long vehicles.

The proposed transport routes will utilise the Hume Highway to access the Project site from the selected port location (Port Botany or Port Kembla).

Two options have been identified for the transport of Project material between the Hume Highway and the Project site. The routes utilise the northern (Option 1) or the southern (Option 2) exit from the Hume Highway at Goulburn.

The two options for transport of materials to the Project site are described to be:

- Option 1: Hume Highway - Sydney Road – Reyolds Street – Grafton Street - Sloane Street – Braidwood Road - Bungonia Road - Windellama Road
- Option 2: Hume Highway - Hume Street - Garroorigang Road – Sloane Street - Braidwood Road – Bungonia Road - Windellama Road.

The geometric assessment of the transport route alternatives has demonstrated that both routes can satisfactorily accommodate the swept path movements of the proposed construction vehicle types (up to 19 meters long) without the need to adjust road infrastructure or intersection layouts with the exception of the Braidwood Road / Bungonia Road intersection.

Minor temporary modifications to street furniture (kerbs and signage) will be required to accommodate the 5 loaded OSOM vehicle deliveries of battery and substation components

to the Project site as detailed in the *Gundary Solar Farm - OSOM Route Study* prepared by ARES Group (20/05/2025).

Option 1 is designated as an approved OSOM route between the Hume Highway and Braidwood Road.

Notwithstanding the above, Option 2 has been identified by Council as the preferred route as it passes through mainly rural / industrial land uses.

Option 2 is thus recommended as the primary transport for the Project. Option 1 will be an alternative route for ad hoc and potentially OSOM vehicles.

The assessment of the road network operation demonstrated that the road network on both the potential proposed transport routes (Option 1 and Option 2 ) have sufficient capacity to accommodate the peak construction traffic generation of the Gundary Solar Farm project.

To accommodate the proposed Gundary Solar Farm project the following measures are recommended:

- Project site access intersection improvement works at the Windellama Road site access point to accommodate turning movements to and from the Project site.
- Utilisation of the southern transport route (Option 2) as the primary transport route. Construction vehicles not to utilise the northern route (Option 1) during School Zone times.
- Implementation of appropriate traffic control measures and plans for OSOM vehicle movements (5 inbound loaded + 5 outbound unloaded). This shall include the movement of OSOM vehicle over the Lansdowne Bridge on Bungonia Road.
- Implementation of the Drivers Code of Conduct detailing expectations for driver behaviour for travel to and from the Project site.
- Preparation and implementation of a detailed Construction Traffic Management Plan (CTMP) detailing how works to the Project site access and ongoing construction works will be undertaken. The CTMP shall be prepared by the proponent with the works contractor in consultation with Council.

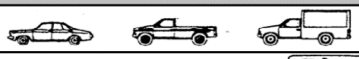
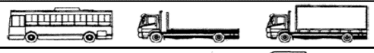
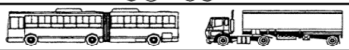
In conclusion, it is considered that with the mitigation measures set out in this report, that the construction, operation and decommissioning of the Gundary Solar Farm can be undertaken without significant adverse impacts to the operation, capacity or safety of the surrounding road network.

# Appendix A

## Traffic Surveys

| Vehicle | Class | Group | Thu 31/08/23 | Fri 01/09/23 | Sat 02/09/23 | Sun 03/09/23 |
|---|---|---|---|---|---|---|
| SV | 1 | light_veh | 927 | 1001 | 905 | 777 |
| SVT | 2 | light_veh | 56 | 85 | 71 | 56 |
| TB2 | 3 | heavy_rigid_veh | 160 | 196 | 139 | 132 |
| TB3 | 4 | heavy_rigid_veh | 18 | 11 | 1 | 4 |
| T4 | 5 | heavy_rigid_veh | 3 | 2 | 2 | 0 |
| ART3 | 6 | heavy_art_veh | 21 | 7 | 14 | 9 |
| ART4 | 7 | heavy_art_veh | 5 | 14 | 10 | 5 |
| ART5 | 8 | heavy_art_veh | 7 | 4 | 1 | 0 |
| ART6 | 9 | heavy_art_veh | 5 | 10 | 1 | 2 |
| BD | 10 | heavy_art_veh | 0 | 6 | 0 | 0 |
| DRT | 11 | heavy_art_veh | 0 | 0 | 0 | 0 |
| TRT | 12 | heavy_art_veh | 0 | 0 | 0 | 0 |
| M/C | 1 | motorcycle_veh | 2 | 4 | 6 | 4 |
| CYCLE | 1 | cycle_veh | 0 | 0 | 0 | 0 |
| ??? | N/A | unclass_veh | 0 | 0 | 0 | 0 |
| TOTAL | | | 1204 | 1340 | 1150 | 989 |

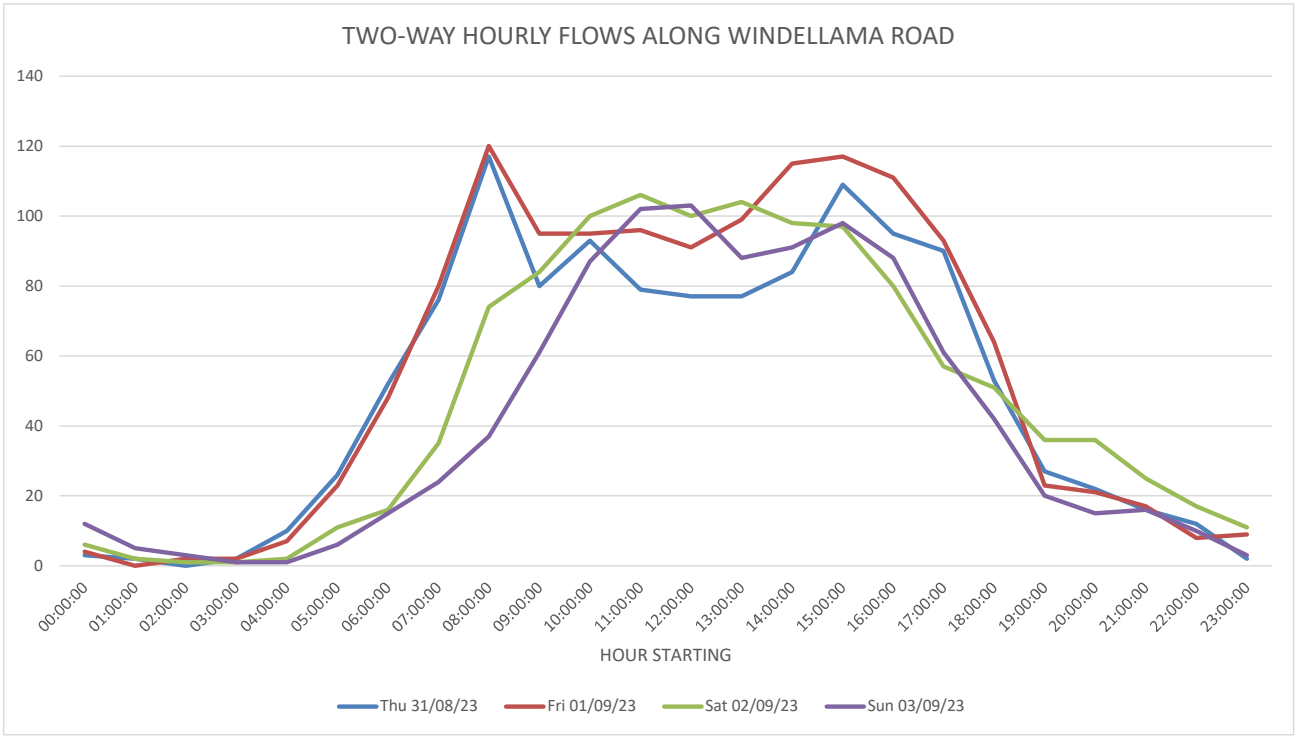
## AUSTROADS Vehicle Classification System

| Level 1 | Level 2 | | Level 3 | AUSTROADS Classification | | |
|---|---|---|---|---|---|---|
| Length (indicative) | Axles and Axle Groups | | Vehicle Type | | | |
| Type | Axles | Groups | Typical Description | Class | Parameters | Typical Configuration |
| | LIGHT VEHICLES | | | | | |
| Short up to 5.5m | | 1 or 2 | **Short** Sedan, Wagon, 4WD, Utility, Light Van, Bicycle, Motorcycle, etc | 1 | d(1) ≤ 3.2m and axles = 2 |  |
| Medium 5.5m to 14.5m | 3, 4 or 5 | 3 | **Short - Towing** Trailer, Caravan, Boat, etc | 2 | groups = 3<br>d(1) ≥ 2.1m, d(1) ≤ 3.2m,<br>d(2) ≥ 2.1m and axles = 3, 4 or 5 |  |
| | HEAVY VEHICLES | | | | | |
| | 2 | 2 | **Two Axle Truck or Bus** | 3 | d(1) > 3.2m and axles = 2 |  |
| | 3 | 2 | **Three Axle Truck or Bus** | 4 | axles = 3 and groups = 2 |  |
| | > 3 | 2 | **Four Axle Truck** | 5 | axles > 3 and groups = 2 |  |
| Long 11.5m to 19.0m | 3 | 3 | **Three Axle Articulated** Three axle articulated vehicle, or Rigid vehicle and trailer | 6 | d(1) > 3.2m, axles = 3 and groups = 3 |  |
| | 4 | > 2 | **Four Axle Articulated** Four axle articulated vehicle, or Rigid vehicle and trailer | 7 | d(2) < 2.1m or d(1) < 2.1m or d(1) > 3.2m axles = 4 and groups > 2 |  |
| | 5 | > 2 | **Five Axle Articulated** Five axle articulated vehicle, or Rigid vehicle and trailer | 8 | d(2) < 2.1m or d(1) < 2.1m or d(1) > 3.2m axles = 5 and groups > 2 |  |
| | ≥ 6 | > 2 | **Six Axle Articulated** Six axle articulated vehicle, or Rigid vehicle and trailer | 9 | axles = 6 and groups > 2 or axles > 6 and groups = 3 |  |
| Medium Combination 17.5m to 36.5m | > 6 | 4 | **B Double** B Double, or Heavy truck and trailer | 10 | groups = 4 and axles > 6 |  |
| | > 6 | 5 or 6 | **Double Road Train** Double road train, or Medium articulated vehicle and one dog trailer (M.A.D.) | 11 | groups = 5 or 6 and axles > 6 |  |
| Large Combination Over 33.0m | > 6 | > 6 | **Triple Road Train** Triple road train, or Heavy truck and three trailers | 12 | groups > 6 and axles > 6 |  |

**Definitions:**
Group: Axle group, where adjacent axles are less than 2.1m apart
Groups: Number of axle groups
Axles: Number of axles (maximum axle spacing of 10.0m)

d(1): Distance between first and second axle
d(2): Distance between second and third axle

| Hour Starting | Thu 31/08/23 | Fri 01/09/23 | Sat 02/09/23 | Sun 03/09/23 |
|---|---|---|---|---|
| **00:00:00** | 3 | 4 | 6 | 12 |
| **01:00:00** | 2 | 0 | 2 | 5 |
| **02:00:00** | 0 | 2 | 1 | 3 |
| **03:00:00** | 2 | 2 | 1 | 1 |
| **04:00:00** | 10 | 7 | 2 | 1 |
| **05:00:00** | 26 | 23 | 11 | 6 |
| **06:00:00** | 52 | 48 | 16 | 15 |
| **07:00:00** | 76 | 80 | 35 | 24 |
| **08:00:00** | 117 | 120 | 74 | 37 |
| **09:00:00** | 80 | 95 | 84 | 61 |
| **10:00:00** | 93 | 95 | 100 | 87 |
| **11:00:00** | 79 | 96 | 106 | 102 |
| **12:00:00** | 77 | 91 | 100 | 103 |
| **13:00:00** | 77 | 99 | 104 | 88 |
| **14:00:00** | 84 | 115 | 98 | 91 |
| **15:00:00** | 109 | 117 | 97 | 98 |
| **16:00:00** | 95 | 111 | 80 | 88 |
| **17:00:00** | 90 | 93 | 57 | 61 |
| **18:00:00** | 53 | 64 | 51 | 42 |
| **19:00:00** | 27 | 23 | 36 | 20 |
| **20:00:00** | 22 | 21 | 36 | 15 |
| **21:00:00** | 16 | 17 | 25 | 16 |
| **22:00:00** | 12 | 8 | 17 | 10 |
| **23:00:00** | 2 | 9 | 11 | 3 |
| **TOTAL** | **1204** | **1340** | **1150** | **989** |



| Hour Starting | light_veh | heavy_rigid_veh | heavy_art_veh | motorcycle_veh | cycle_veh | unclass_veh | total |
|---|---|---|---|---|---|---|---|
| **2023-08-31 00:00:00** | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| **2023-08-31 00:15:00** | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| **2023-08-31 00:30:00** | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| **2023-08-31 00:45:00** | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| **2023-08-31 01:00:00** | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| **2023-08-31 01:15:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-08-31 01:30:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-08-31 01:45:00** | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2023-08-31 02:00:00** | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2023-08-31 02:15:00** | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2023-08-31 02:30:00** | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2023-08-31 02:45:00** | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| **2023-08-31 03:00:00** | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| **2023-08-31 03:15:00** | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| **2023-08-31 03:30:00** | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| **2023-08-31 03:45:00** | 3 | 3 | 0 | 0 | 0 | 0 | 6 |
| **2023-08-31 04:00:00** | 6 | 4 | 0 | 0 | 0 | 0 | 10 |
| **2023-08-31 04:15:00** | 8 | 5 | 0 | 0 | 0 | 0 | 13 |
| **2023-08-31 04:30:00** | 14 | 8 | 0 | 0 | 0 | 0 | 22 |
| **2023-08-31 04:45:00** | 14 | 8 | 0 | 0 | 0 | 0 | 22 |
| **2023-08-31 05:00:00** | 15 | 11 | 0 | 0 | 0 | 0 | 26 |
| **2023-08-31 05:15:00** | 20 | 12 | 0 | 0 | 0 | 0 | 32 |
| **2023-08-31 05:30:00** | 22 | 14 | 0 | 0 | 0 | 0 | 36 |
| **2023-08-31 05:45:00** | 30 | 15 | 0 | 0 | 0 | 0 | 45 |
| **2023-08-31 06:00:00** | 38 | 13 | 1 | 0 | 0 | 0 | 52 |
| **2023-08-31 06:15:00** | 40 | 13 | 2 | 0 | 0 | 0 | 55 |
| **2023-08-31 06:30:00** | 47 | 12 | 2 | 0 | 0 | 0 | 61 |
| **2023-08-31 06:45:00** | 51 | 11 | 3 | 0 | 0 | 0 | 65 |
| **2023-08-31 07:00:00** | 58 | 15 | 3 | 0 | 0 | 0 | 76 |
| **2023-08-31 07:15:00** | 71 | 17 | 6 | 0 | 0 | 0 | 94 |
| **2023-08-31 07:30:00** | 85 | 18 | 6 | 0 | 0 | 0 | 109 |
| **2023-08-31 07:45:00** | 91 | 21 | 5 | 0 | 0 | 0 | 117 |
| **2023-08-31 08:00:00** | 93 | 19 | 5 | 0 | 0 | 0 | 117 |
| **2023-08-31 08:15:00** | 81 | 19 | 2 | 0 | 0 | 0 | 102 |
| **2023-08-31 08:30:00** | 71 | 17 | 3 | 0 | 0 | 0 | 91 |
| **2023-08-31 08:45:00** | 69 | 14 | 4 | 0 | 0 | 0 | 87 |
| **2023-08-31 09:00:00** | 62 | 15 | 3 | 0 | 0 | 0 | 80 |
| **2023-08-31 09:15:00** | 74 | 13 | 3 | 0 | 0 | 0 | 90 |
| **2023-08-31 09:30:00** | 75 | 10 | 4 | 0 | 0 | 0 | 89 |
| **2023-08-31 09:45:00** | 79 | 11 | 3 | 0 | 0 | 0 | 93 |
| **2023-08-31 10:00:00** | 81 | 9 | 3 | 0 | 0 | 0 | 93 |
| **2023-08-31 10:15:00** | 80 | 10 | 2 | 0 | 0 | 0 | 92 |
| **2023-08-31 10:30:00** | 73 | 10 | 0 | 0 | 0 | 0 | 83 |
| **2023-08-31 10:45:00** | 67 | 8 | 2 | 0 | 0 | 0 | 77 |
| **2023-08-31 11:00:00** | 68 | 7 | 4 | 0 | 0 | 0 | 79 |
| **2023-08-31 11:15:00** | 55 | 7 | 7 | 0 | 0 | 0 | 69 |
| **2023-08-31 11:30:00** | 67 | 8 | 8 | 0 | 0 | 0 | 83 |
| **2023-08-31 11:45:00** | 64 | 11 | 7 | 1 | 0 | 0 | 83 |
| **2023-08-31 12:00:00** | 58 | 12 | 6 | 1 | 0 | 0 | 77 |
| **2023-08-31 12:15:00** | 67 | 12 | 3 | 1 | 0 | 0 | 83 |
| **2023-08-31 12:30:00** | 56 | 15 | 3 | 2 | 0 | 0 | 76 |
| **2023-08-31 12:45:00** | 57 | 14 | 2 | 1 | 0 | 0 | 74 |
| **2023-08-31 13:00:00** | 60 | 14 | 2 | 1 | 0 | 0 | 77 |
| **2023-08-31 13:15:00** | 58 | 13 | 2 | 1 | 0 | 0 | 74 |
| **2023-08-31 13:30:00** | 64 | 13 | 1 | 0 | 0 | 0 | 78 |
| **2023-08-31 13:45:00** | 69 | 13 | 2 | 0 | 0 | 0 | 84 |
| **2023-08-31 14:00:00** | 70 | 13 | 1 | 0 | 0 | 0 | 84 |
| **2023-08-31 14:15:00** | 74 | 14 | 1 | 0 | 0 | 0 | 89 |
| **2023-08-31 14:30:00** | 75 | 11 | 2 | 0 | 0 | 0 | 88 |
| **2023-08-31 14:45:00** | 87 | 13 | 1 | 0 | 0 | 0 | 101 |
| **2023-08-31 15:00:00** | 92 | 16 | 1 | 0 | 0 | 0 | 109 |
| **2023-08-31 15:15:00** | 92 | 18 | 3 | 0 | 0 | 0 | 113 |
| **2023-08-31 15:30:00** | 87 | 20 | 3 | 0 | 0 | 0 | 110 |
| **2023-08-31 15:45:00** | 71 | 16 | 4 | 0 | 0 | 0 | 91 |
| **2023-08-31 16:00:00** | 78 | 11 | 6 | 0 | 0 | 0 | 95 |
| **2023-08-31 16:15:00** | 73 | 7 | 4 | 0 | 0 | 0 | 84 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **2023-08-31 16:30:00** | 80 | 8 | 4 | 0 | 0 | 0 | 92 |
| **2023-08-31 16:45:00** | 86 | 10 | 3 | 0 | 0 | 0 | 99 |
| **2023-08-31 17:00:00** | 79 | 10 | 1 | 0 | 0 | 0 | 90 |
| **2023-08-31 17:15:00** | 76 | 12 | 1 | 0 | 0 | 0 | 89 |
| **2023-08-31 17:30:00** | 72 | 7 | 0 | 0 | 0 | 0 | 79 |
| **2023-08-31 17:45:00** | 57 | 7 | 0 | 0 | 0 | 0 | 64 |
| **2023-08-31 18:00:00** | 46 | 7 | 0 | 0 | 0 | 0 | 53 |
| **2023-08-31 18:15:00** | 38 | 6 | 0 | 0 | 0 | 0 | 44 |
| **2023-08-31 18:30:00** | 26 | 6 | 0 | 0 | 0 | 0 | 32 |
| **2023-08-31 18:45:00** | 24 | 3 | 1 | 0 | 0 | 0 | 28 |
| **2023-08-31 19:00:00** | 24 | 2 | 1 | 0 | 0 | 0 | 27 |
| **2023-08-31 19:15:00** | 28 | 0 | 1 | 0 | 0 | 0 | 29 |
| **2023-08-31 19:30:00** | 25 | 0 | 1 | 0 | 0 | 0 | 26 |
| **2023-08-31 19:45:00** | 27 | 0 | 0 | 0 | 0 | 0 | 27 |
| **2023-08-31 20:00:00** | 22 | 0 | 0 | 0 | 0 | 0 | 22 |
| **2023-08-31 20:15:00** | 19 | 0 | 0 | 0 | 0 | 0 | 19 |
| **2023-08-31 20:30:00** | 22 | 0 | 0 | 0 | 0 | 0 | 22 |
| **2023-08-31 20:45:00** | 16 | 0 | 0 | 0 | 0 | 0 | 16 |
| **2023-08-31 21:00:00** | 15 | 0 | 1 | 0 | 0 | 0 | 16 |
| **2023-08-31 21:15:00** | 15 | 0 | 1 | 0 | 0 | 0 | 16 |
| **2023-08-31 21:30:00** | 10 | 0 | 1 | 0 | 0 | 0 | 11 |
| **2023-08-31 21:45:00** | 11 | 1 | 1 | 0 | 0 | 0 | 13 |
| **2023-08-31 22:00:00** | 11 | 1 | 0 | 0 | 0 | 0 | 12 |
| **2023-08-31 22:15:00** | 8 | 1 | 0 | 0 | 0 | 0 | 9 |
| **2023-08-31 22:30:00** | 6 | 1 | 0 | 0 | 0 | 0 | 7 |
| **2023-08-31 22:45:00** | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| **2023-08-31 23:00:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-08-31 23:15:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-08-31 23:30:00** | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| **2023-08-31 23:45:00** | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| **2023-09-01 00:00:00** | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| **2023-09-01 00:15:00** | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| **2023-09-01 00:30:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-01 00:45:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-01 01:00:00** | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2023-09-01 01:15:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-01 01:30:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-01 01:45:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-01 02:00:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-01 02:15:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-01 02:30:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-01 02:45:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-01 03:00:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-01 03:15:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-01 03:30:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-01 03:45:00** | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| **2023-09-01 04:00:00** | 2 | 5 | 0 | 0 | 0 | 0 | 7 |
| **2023-09-01 04:15:00** | 7 | 5 | 1 | 0 | 0 | 0 | 13 |
| **2023-09-01 04:30:00** | 9 | 8 | 1 | 0 | 0 | 0 | 18 |
| **2023-09-01 04:45:00** | 13 | 7 | 1 | 0 | 0 | 0 | 21 |
| **2023-09-01 05:00:00** | 15 | 7 | 1 | 0 | 0 | 0 | 23 |
| **2023-09-01 05:15:00** | 14 | 9 | 1 | 0 | 0 | 0 | 24 |
| **2023-09-01 05:30:00** | 25 | 11 | 2 | 0 | 0 | 0 | 38 |
| **2023-09-01 05:45:00** | 28 | 14 | 2 | 0 | 0 | 0 | 44 |
| **2023-09-01 06:00:00** | 33 | 13 | 2 | 0 | 0 | 0 | 48 |
| **2023-09-01 06:15:00** | 41 | 13 | 2 | 0 | 0 | 0 | 56 |
| **2023-09-01 06:30:00** | 44 | 9 | 1 | 0 | 0 | 0 | 54 |
| **2023-09-01 06:45:00** | 56 | 13 | 3 | 0 | 0 | 0 | 72 |
| **2023-09-01 07:00:00** | 61 | 16 | 3 | 0 | 0 | 0 | 80 |
| **2023-09-01 07:15:00** | 70 | 21 | 2 | 0 | 0 | 0 | 93 |
| **2023-09-01 07:30:00** | 81 | 30 | 3 | 0 | 0 | 0 | 114 |
| **2023-09-01 07:45:00** | 89 | 23 | 3 | 0 | 0 | 0 | 115 |
| **2023-09-01 08:00:00** | 95 | 21 | 4 | 0 | 0 | 0 | 120 |
| **2023-09-01 08:15:00** | 95 | 17 | 4 | 0 | 0 | 0 | 116 |
| **2023-09-01 08:30:00** | 87 | 15 | 4 | 0 | 0 | 0 | 106 |
| **2023-09-01 08:45:00** | 80 | 19 | 3 | 0 | 0 | 0 | 102 |
| **2023-09-01 09:00:00** | 77 | 16 | 2 | 0 | 0 | 0 | 95 |

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|---|---|---|---|---|---|---|---|
| **2023-09-01 09:15:00** | 79 | 20 | 2 | 0 | 0 | 0 | 101 |
| **2023-09-01 09:30:00** | 77 | 16 | 1 | 0 | 0 | 0 | 94 |
| **2023-09-01 09:45:00** | 74 | 16 | 1 | 1 | 0 | 0 | 92 |
| **2023-09-01 10:00:00** | 72 | 20 | 1 | 2 | 0 | 0 | 95 |
| **2023-09-01 10:15:00** | 64 | 16 | 4 | 2 | 0 | 0 | 86 |
| **2023-09-01 10:30:00** | 66 | 15 | 6 | 2 | 0 | 0 | 89 |
| **2023-09-01 10:45:00** | 67 | 16 | 6 | 1 | 0 | 0 | 90 |
| **2023-09-01 11:00:00** | 71 | 19 | 6 | 0 | 0 | 0 | 96 |
| **2023-09-01 11:15:00** | 72 | 21 | 3 | 0 | 0 | 0 | 96 |
| **2023-09-01 11:30:00** | 74 | 19 | 4 | 0 | 0 | 0 | 97 |
| **2023-09-01 11:45:00** | 77 | 16 | 4 | 0 | 0 | 0 | 97 |
| **2023-09-01 12:00:00** | 76 | 10 | 5 | 0 | 0 | 0 | 91 |
| **2023-09-01 12:15:00** | 78 | 8 | 5 | 0 | 0 | 0 | 91 |
| **2023-09-01 12:30:00** | 71 | 13 | 2 | 0 | 0 | 0 | 86 |
| **2023-09-01 12:45:00** | 74 | 13 | 2 | 0 | 0 | 0 | 89 |
| **2023-09-01 13:00:00** | 78 | 17 | 3 | 1 | 0 | 0 | 99 |
| **2023-09-01 13:15:00** | 78 | 18 | 3 | 2 | 0 | 0 | 101 |
| **2023-09-01 13:30:00** | 90 | 18 | 5 | 2 | 0 | 0 | 115 |
| **2023-09-01 13:45:00** | 88 | 21 | 5 | 2 | 0 | 0 | 116 |
| **2023-09-01 14:00:00** | 90 | 19 | 5 | 1 | 0 | 0 | 115 |
| **2023-09-01 14:15:00** | 96 | 21 | 8 | 0 | 0 | 0 | 125 |
| **2023-09-01 14:30:00** | 92 | 15 | 7 | 0 | 0 | 0 | 114 |
| **2023-09-01 14:45:00** | 91 | 12 | 8 | 0 | 0 | 0 | 111 |
| **2023-09-01 15:00:00** | 94 | 17 | 6 | 0 | 0 | 0 | 117 |
| **2023-09-01 15:15:00** | 95 | 18 | 3 | 0 | 0 | 0 | 116 |
| **2023-09-01 15:30:00** | 98 | 21 | 2 | 0 | 0 | 0 | 121 |
| **2023-09-01 15:45:00** | 105 | 19 | 0 | 0 | 0 | 0 | 124 |
| **2023-09-01 16:00:00** | 97 | 12 | 2 | 0 | 0 | 0 | 111 |
| **2023-09-01 16:15:00** | 91 | 7 | 2 | 0 | 0 | 0 | 100 |
| **2023-09-01 16:30:00** | 88 | 4 | 2 | 0 | 0 | 0 | 94 |
| **2023-09-01 16:45:00** | 78 | 5 | 3 | 0 | 0 | 0 | 86 |
| **2023-09-01 17:00:00** | 85 | 7 | 1 | 0 | 0 | 0 | 93 |
| **2023-09-01 17:15:00** | 86 | 7 | 1 | 0 | 0 | 0 | 94 |
| **2023-09-01 17:30:00** | 76 | 9 | 1 | 0 | 0 | 0 | 86 |
| **2023-09-01 17:45:00** | 73 | 7 | 0 | 0 | 0 | 0 | 80 |
| **2023-09-01 18:00:00** | 58 | 6 | 0 | 0 | 0 | 0 | 64 |
| **2023-09-01 18:15:00** | 46 | 4 | 0 | 0 | 0 | 0 | 50 |
| **2023-09-01 18:30:00** | 37 | 2 | 0 | 0 | 0 | 0 | 39 |
| **2023-09-01 18:45:00** | 24 | 3 | 0 | 0 | 0 | 0 | 27 |
| **2023-09-01 19:00:00** | 22 | 1 | 0 | 0 | 0 | 0 | 23 |
| **2023-09-01 19:15:00** | 20 | 1 | 0 | 0 | 0 | 0 | 21 |
| **2023-09-01 19:30:00** | 24 | 1 | 0 | 0 | 0 | 0 | 25 |
| **2023-09-01 19:45:00** | 24 | 0 | 0 | 0 | 0 | 0 | 24 |
| **2023-09-01 20:00:00** | 20 | 1 | 0 | 0 | 0 | 0 | 21 |
| **2023-09-01 20:15:00** | 17 | 1 | 0 | 0 | 0 | 0 | 18 |
| **2023-09-01 20:30:00** | 16 | 1 | 0 | 0 | 0 | 0 | 17 |
| **2023-09-01 20:45:00** | 18 | 2 | 0 | 0 | 0 | 0 | 20 |
| **2023-09-01 21:00:00** | 16 | 1 | 0 | 0 | 0 | 0 | 17 |
| **2023-09-01 21:15:00** | 14 | 1 | 0 | 0 | 0 | 0 | 15 |
| **2023-09-01 21:30:00** | 8 | 1 | 0 | 0 | 0 | 0 | 9 |
| **2023-09-01 21:45:00** | 6 | 1 | 0 | 0 | 0 | 0 | 7 |
| **2023-09-01 22:00:00** | 7 | 1 | 0 | 0 | 0 | 0 | 8 |
| **2023-09-01 22:15:00** | 9 | 1 | 0 | 0 | 0 | 0 | 10 |
| **2023-09-01 22:30:00** | 11 | 1 | 0 | 0 | 0 | 0 | 12 |
| **2023-09-01 22:45:00** | 11 | 0 | 0 | 0 | 0 | 0 | 11 |
| **2023-09-01 23:00:00** | 9 | 0 | 0 | 0 | 0 | 0 | 9 |
| **2023-09-01 23:15:00** | 6 | 0 | 0 | 0 | 0 | 0 | 6 |
| **2023-09-01 23:30:00** | 6 | 0 | 0 | 0 | 0 | 0 | 6 |
| **2023-09-01 23:45:00** | 3 | 1 | 0 | 0 | 0 | 0 | 4 |
| **2023-09-02 00:00:00** | 5 | 1 | 0 | 0 | 0 | 0 | 6 |
| **2023-09-02 00:15:00** | 5 | 1 | 0 | 0 | 0 | 0 | 6 |
| **2023-09-02 00:30:00** | 3 | 2 | 0 | 0 | 0 | 0 | 5 |
| **2023-09-02 00:45:00** | 3 | 1 | 0 | 0 | 0 | 0 | 4 |
| **2023-09-02 01:00:00** | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-02 01:15:00** | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-02 01:30:00** | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-02 01:45:00** | 0 | 2 | 0 | 0 | 0 | 0 | 2 |

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|---|---|---|---|---|---|---|---|
| **2023-09-02 02:00:00** | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-02 02:15:00** | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-02 02:30:00** | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2023-09-02 02:45:00** | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2023-09-02 03:00:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-02 03:15:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-02 03:30:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-02 03:45:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-02 04:00:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-02 04:15:00** | 5 | 1 | 0 | 0 | 0 | 0 | 6 |
| **2023-09-02 04:30:00** | 7 | 1 | 1 | 0 | 0 | 0 | 9 |
| **2023-09-02 04:45:00** | 8 | 1 | 2 | 0 | 0 | 0 | 11 |
| **2023-09-02 05:00:00** | 8 | 1 | 2 | 0 | 0 | 0 | 11 |
| **2023-09-02 05:15:00** | 6 | 1 | 2 | 0 | 0 | 0 | 9 |
| **2023-09-02 05:30:00** | 6 | 3 | 1 | 0 | 0 | 0 | 10 |
| **2023-09-02 05:45:00** | 9 | 4 | 0 | 0 | 0 | 0 | 13 |
| **2023-09-02 06:00:00** | 10 | 6 | 0 | 0 | 0 | 0 | 16 |
| **2023-09-02 06:15:00** | 14 | 5 | 0 | 0 | 0 | 0 | 19 |
| **2023-09-02 06:30:00** | 15 | 4 | 0 | 0 | 0 | 0 | 19 |
| **2023-09-02 06:45:00** | 20 | 6 | 0 | 0 | 0 | 0 | 26 |
| **2023-09-02 07:00:00** | 30 | 5 | 0 | 0 | 0 | 0 | 35 |
| **2023-09-02 07:15:00** | 36 | 8 | 1 | 0 | 0 | 0 | 45 |
| **2023-09-02 07:30:00** | 42 | 8 | 1 | 0 | 0 | 0 | 51 |
| **2023-09-02 07:45:00** | 48 | 6 | 1 | 0 | 0 | 0 | 55 |
| **2023-09-02 08:00:00** | 62 | 9 | 3 | 0 | 0 | 0 | 74 |
| **2023-09-02 08:15:00** | 65 | 8 | 2 | 0 | 0 | 0 | 75 |
| **2023-09-02 08:30:00** | 71 | 9 | 2 | 0 | 0 | 0 | 82 |
| **2023-09-02 08:45:00** | 84 | 11 | 3 | 0 | 0 | 0 | 98 |
| **2023-09-02 09:00:00** | 73 | 10 | 1 | 0 | 0 | 0 | 84 |
| **2023-09-02 09:15:00** | 71 | 14 | 1 | 0 | 0 | 0 | 86 |
| **2023-09-02 09:30:00** | 75 | 17 | 2 | 0 | 0 | 0 | 94 |
| **2023-09-02 09:45:00** | 70 | 19 | 4 | 0 | 0 | 0 | 93 |
| **2023-09-02 10:00:00** | 75 | 21 | 4 | 0 | 0 | 0 | 100 |
| **2023-09-02 10:15:00** | 82 | 19 | 4 | 0 | 0 | 0 | 105 |
| **2023-09-02 10:30:00** | 89 | 17 | 5 | 0 | 0 | 0 | 111 |
| **2023-09-02 10:45:00** | 87 | 14 | 2 | 0 | 0 | 0 | 103 |
| **2023-09-02 11:00:00** | 91 | 13 | 2 | 0 | 0 | 0 | 106 |
| **2023-09-02 11:15:00** | 96 | 12 | 2 | 0 | 0 | 0 | 110 |
| **2023-09-02 11:30:00** | 91 | 11 | 0 | 0 | 0 | 0 | 102 |
| **2023-09-02 11:45:00** | 93 | 11 | 1 | 0 | 0 | 0 | 105 |
| **2023-09-02 12:00:00** | 90 | 8 | 2 | 0 | 0 | 0 | 100 |
| **2023-09-02 12:15:00** | 95 | 8 | 2 | 1 | 0 | 0 | 106 |
| **2023-09-02 12:30:00** | 95 | 8 | 3 | 1 | 0 | 0 | 107 |
| **2023-09-02 12:45:00** | 86 | 8 | 3 | 1 | 0 | 0 | 98 |
| **2023-09-02 13:00:00** | 89 | 11 | 3 | 1 | 0 | 0 | 104 |
| **2023-09-02 13:15:00** | 82 | 9 | 3 | 3 | 0 | 0 | 97 |
| **2023-09-02 13:30:00** | 81 | 11 | 2 | 3 | 0 | 0 | 97 |
| **2023-09-02 13:45:00** | 94 | 11 | 2 | 5 | 0 | 0 | 112 |
| **2023-09-02 14:00:00** | 83 | 8 | 2 | 5 | 0 | 0 | 98 |
| **2023-09-02 14:15:00** | 81 | 8 | 2 | 2 | 0 | 0 | 93 |
| **2023-09-02 14:30:00** | 84 | 7 | 3 | 2 | 0 | 0 | 96 |
| **2023-09-02 14:45:00** | 76 | 9 | 2 | 0 | 0 | 0 | 87 |
| **2023-09-02 15:00:00** | 84 | 12 | 1 | 0 | 0 | 0 | 97 |
| **2023-09-02 15:15:00** | 84 | 15 | 1 | 0 | 0 | 0 | 100 |
| **2023-09-02 15:30:00** | 85 | 12 | 0 | 0 | 0 | 0 | 97 |
| **2023-09-02 15:45:00** | 80 | 9 | 0 | 0 | 0 | 0 | 89 |
| **2023-09-02 16:00:00** | 73 | 6 | 1 | 0 | 0 | 0 | 80 |
| **2023-09-02 16:15:00** | 65 | 3 | 2 | 0 | 0 | 0 | 70 |
| **2023-09-02 16:30:00** | 55 | 5 | 3 | 0 | 0 | 0 | 63 |
| **2023-09-02 16:45:00** | 51 | 5 | 3 | 0 | 0 | 0 | 59 |
| **2023-09-02 17:00:00** | 47 | 8 | 2 | 0 | 0 | 0 | 57 |
| **2023-09-02 17:15:00** | 51 | 8 | 1 | 0 | 0 | 0 | 60 |
| **2023-09-02 17:30:00** | 52 | 7 | 0 | 0 | 0 | 0 | 59 |
| **2023-09-02 17:45:00** | 49 | 6 | 0 | 0 | 0 | 0 | 55 |
| **2023-09-02 18:00:00** | 45 | 5 | 1 | 0 | 0 | 0 | 51 |
| **2023-09-02 18:15:00** | 44 | 6 | 1 | 0 | 0 | 0 | 51 |
| **2023-09-02 18:30:00** | 35 | 6 | 1 | 0 | 0 | 0 | 42 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **2023-09-02 18:45:00** | 32 | 8 | 1 | 0 | 0 | 0 | 41 |
| **2023-09-02 19:00:00** | 31 | 5 | 0 | 0 | 0 | 0 | 36 |
| **2023-09-02 19:15:00** | 28 | 3 | 0 | 0 | 0 | 0 | 31 |
| **2023-09-02 19:30:00** | 26 | 3 | 0 | 0 | 0 | 0 | 29 |
| **2023-09-02 19:45:00** | 32 | 2 | 1 | 0 | 0 | 0 | 35 |
| **2023-09-02 20:00:00** | 32 | 2 | 2 | 0 | 0 | 0 | 36 |
| **2023-09-02 20:15:00** | 26 | 2 | 2 | 0 | 0 | 0 | 30 |
| **2023-09-02 20:30:00** | 32 | 1 | 2 | 0 | 0 | 0 | 35 |
| **2023-09-02 20:45:00** | 23 | 0 | 1 | 0 | 0 | 0 | 24 |
| **2023-09-02 21:00:00** | 22 | 3 | 0 | 0 | 0 | 0 | 25 |
| **2023-09-02 21:15:00** | 22 | 4 | 0 | 0 | 0 | 0 | 26 |
| **2023-09-02 21:30:00** | 15 | 5 | 0 | 0 | 0 | 0 | 20 |
| **2023-09-02 21:45:00** | 16 | 5 | 0 | 0 | 0 | 0 | 21 |
| **2023-09-02 22:00:00** | 14 | 3 | 0 | 0 | 0 | 0 | 17 |
| **2023-09-02 22:15:00** | 12 | 3 | 0 | 0 | 0 | 0 | 15 |
| **2023-09-02 22:30:00** | 11 | 3 | 0 | 0 | 0 | 0 | 14 |
| **2023-09-02 22:45:00** | 8 | 3 | 0 | 0 | 0 | 0 | 11 |
| **2023-09-02 23:00:00** | 9 | 2 | 0 | 0 | 0 | 0 | 11 |
| **2023-09-02 23:15:00** | 7 | 1 | 0 | 0 | 0 | 0 | 8 |
| **2023-09-02 23:30:00** | 8 | 0 | 0 | 0 | 0 | 0 | 8 |
| **2023-09-02 23:45:00** | 10 | 2 | 0 | 0 | 0 | 0 | 12 |
| **2023-09-03 00:00:00** | 9 | 2 | 1 | 0 | 0 | 0 | 12 |
| **2023-09-03 00:15:00** | 7 | 2 | 1 | 0 | 0 | 0 | 10 |
| **2023-09-03 00:30:00** | 6 | 2 | 1 | 0 | 0 | 0 | 9 |
| **2023-09-03 00:45:00** | 6 | 0 | 1 | 0 | 0 | 0 | 7 |
| **2023-09-03 01:00:00** | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| **2023-09-03 01:15:00** | 7 | 0 | 0 | 0 | 0 | 0 | 7 |
| **2023-09-03 01:30:00** | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| **2023-09-03 01:45:00** | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| **2023-09-03 02:00:00** | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| **2023-09-03 02:15:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-03 02:30:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-03 02:45:00** | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| **2023-09-03 03:00:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-03 03:15:00** | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2023-09-03 03:30:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-03 03:45:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-03 04:00:00** | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **2023-09-03 04:15:00** | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| **2023-09-03 04:30:00** | 4 | 1 | 0 | 0 | 0 | 0 | 5 |
| **2023-09-03 04:45:00** | 4 | 1 | 0 | 0 | 0 | 0 | 5 |
| **2023-09-03 05:00:00** | 4 | 2 | 0 | 0 | 0 | 0 | 6 |
| **2023-09-03 05:15:00** | 3 | 2 | 0 | 0 | 0 | 0 | 5 |
| **2023-09-03 05:30:00** | 3 | 3 | 0 | 0 | 0 | 0 | 6 |
| **2023-09-03 05:45:00** | 6 | 3 | 0 | 0 | 0 | 0 | 9 |
| **2023-09-03 06:00:00** | 12 | 3 | 0 | 0 | 0 | 0 | 15 |
| **2023-09-03 06:15:00** | 13 | 3 | 1 | 0 | 0 | 0 | 17 |
| **2023-09-03 06:30:00** | 14 | 1 | 1 | 0 | 0 | 0 | 16 |
| **2023-09-03 06:45:00** | 22 | 2 | 1 | 0 | 0 | 0 | 25 |
| **2023-09-03 07:00:00** | 21 | 2 | 1 | 0 | 0 | 0 | 24 |
| **2023-09-03 07:15:00** | 24 | 4 | 0 | 0 | 0 | 0 | 28 |
| **2023-09-03 07:30:00** | 28 | 7 | 0 | 0 | 0 | 0 | 35 |
| **2023-09-03 07:45:00** | 24 | 8 | 0 | 0 | 0 | 0 | 32 |
| **2023-09-03 08:00:00** | 29 | 8 | 0 | 0 | 0 | 0 | 37 |
| **2023-09-03 08:15:00** | 31 | 9 | 0 | 0 | 0 | 0 | 40 |
| **2023-09-03 08:30:00** | 31 | 10 | 0 | 0 | 0 | 0 | 41 |
| **2023-09-03 08:45:00** | 46 | 11 | 0 | 0 | 0 | 0 | 57 |
| **2023-09-03 09:00:00** | 48 | 13 | 0 | 0 | 0 | 0 | 61 |
| **2023-09-03 09:15:00** | 58 | 11 | 0 | 0 | 0 | 0 | 69 |
| **2023-09-03 09:30:00** | 72 | 12 | 0 | 0 | 0 | 0 | 84 |
| **2023-09-03 09:45:00** | 67 | 9 | 1 | 0 | 0 | 0 | 77 |
| **2023-09-03 10:00:00** | 75 | 10 | 2 | 0 | 0 | 0 | 87 |
| **2023-09-03 10:15:00** | 78 | 17 | 3 | 0 | 0 | 0 | 98 |
| **2023-09-03 10:30:00** | 82 | 14 | 4 | 0 | 0 | 0 | 100 |
| **2023-09-03 10:45:00** | 88 | 16 | 3 | 0 | 0 | 0 | 107 |
| **2023-09-03 11:00:00** | 87 | 13 | 2 | 0 | 0 | 0 | 102 |
| **2023-09-03 11:15:00** | 92 | 7 | 1 | 0 | 0 | 0 | 100 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **2023-09-03 11:30:00** | 84 | 9 | 0 | 0 | 0 | 0 | 93 |
| **2023-09-03 11:45:00** | 88 | 9 | 0 | 0 | 0 | 0 | 97 |
| **2023-09-03 12:00:00** | 91 | 11 | 0 | 1 | 0 | 0 | 103 |
| **2023-09-03 12:15:00** | 83 | 10 | 0 | 1 | 0 | 0 | 94 |
| **2023-09-03 12:30:00** | 83 | 12 | 0 | 1 | 0 | 0 | 96 |
| **2023-09-03 12:45:00** | 76 | 12 | 2 | 1 | 0 | 0 | 91 |
| **2023-09-03 13:00:00** | 73 | 13 | 2 | 0 | 0 | 0 | 88 |
| **2023-09-03 13:15:00** | 76 | 13 | 2 | 1 | 0 | 0 | 92 |
| **2023-09-03 13:30:00** | 76 | 8 | 3 | 1 | 0 | 0 | 88 |
| **2023-09-03 13:45:00** | 84 | 8 | 2 | 1 | 0 | 0 | 95 |
| **2023-09-03 14:00:00** | 84 | 4 | 2 | 1 | 0 | 0 | 91 |
| **2023-09-03 14:15:00** | 78 | 6 | 2 | 0 | 0 | 0 | 86 |
| **2023-09-03 14:30:00** | 83 | 7 | 2 | 0 | 0 | 0 | 92 |
| **2023-09-03 14:45:00** | 74 | 6 | 1 | 0 | 0 | 0 | 81 |
| **2023-09-03 15:00:00** | 84 | 13 | 1 | 0 | 0 | 0 | 98 |
| **2023-09-03 15:15:00** | 87 | 16 | 1 | 2 | 0 | 0 | 106 |
| **2023-09-03 15:30:00** | 79 | 15 | 1 | 2 | 0 | 0 | 97 |
| **2023-09-03 15:45:00** | 77 | 19 | 1 | 2 | 0 | 0 | 99 |
| **2023-09-03 16:00:00** | 68 | 17 | 1 | 2 | 0 | 0 | 88 |
| **2023-09-03 16:15:00** | 66 | 15 | 1 | 0 | 0 | 0 | 82 |
| **2023-09-03 16:30:00** | 67 | 19 | 0 | 0 | 0 | 0 | 86 |
| **2023-09-03 16:45:00** | 59 | 15 | 1 | 0 | 0 | 0 | 75 |
| **2023-09-03 17:00:00** | 45 | 14 | 2 | 0 | 0 | 0 | 61 |
| **2023-09-03 17:15:00** | 37 | 12 | 2 | 0 | 0 | 0 | 51 |
| **2023-09-03 17:30:00** | 32 | 8 | 2 | 0 | 0 | 0 | 42 |
| **2023-09-03 17:45:00** | 34 | 8 | 2 | 0 | 0 | 0 | 44 |
| **2023-09-03 18:00:00** | 37 | 4 | 1 | 0 | 0 | 0 | 42 |
| **2023-09-03 18:15:00** | 37 | 2 | 1 | 0 | 0 | 0 | 40 |
| **2023-09-03 18:30:00** | 34 | 1 | 1 | 0 | 0 | 0 | 36 |
| **2023-09-03 18:45:00** | 25 | 2 | 0 | 0 | 0 | 0 | 27 |
| **2023-09-03 19:00:00** | 18 | 2 | 0 | 0 | 0 | 0 | 20 |
| **2023-09-03 19:15:00** | 13 | 3 | 0 | 0 | 0 | 0 | 16 |
| **2023-09-03 19:30:00** | 9 | 3 | 0 | 0 | 0 | 0 | 12 |
| **2023-09-03 19:45:00** | 8 | 1 | 0 | 0 | 0 | 0 | 9 |
| **2023-09-03 20:00:00** | 13 | 2 | 0 | 0 | 0 | 0 | 15 |
| **2023-09-03 20:15:00** | 13 | 1 | 0 | 0 | 0 | 0 | 14 |
| **2023-09-03 20:30:00** | 14 | 2 | 0 | 0 | 0 | 0 | 16 |
| **2023-09-03 20:45:00** | 15 | 2 | 0 | 0 | 0 | 0 | 17 |
| **2023-09-03 21:00:00** | 15 | 1 | 0 | 0 | 0 | 0 | 16 |
| **2023-09-03 21:15:00** | 17 | 1 | 1 | 0 | 0 | 0 | 19 |
| **2023-09-03 21:30:00** | 15 | 1 | 1 | 0 | 0 | 0 | 17 |
| **2023-09-03 21:45:00** | 13 | 1 | 1 | 0 | 0 | 0 | 15 |
| **2023-09-03 22:00:00** | 7 | 2 | 1 | 0 | 0 | 0 | 10 |
| **2023-09-03 22:15:00** | 4 | 2 | 0 | 0 | 0 | 0 | 6 |
| **2023-09-03 22:30:00** | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| **2023-09-03 22:45:00** | 3 | 1 | 0 | 0 | 0 | 0 | 4 |
| **2023-09-03 23:00:00** | 3 | 0 | 0 | 0 | 0 | 0 | 3 |

**Maximum hourly count for each vehicle group**

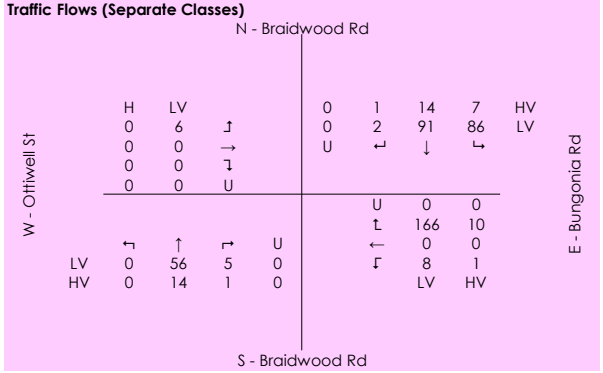
| Date | light_veh | heavy_rigid_veh | heavy_art_veh | motorcycle_veh | cycle_veh | unclass_veh | total |
|---|---|---|---|---|---|---|---|
| **Thu 31/08/23** | 93 | 21 | 8 | 2 | 0 | 0 | 117 |
| **Fri 01/09/23** | 105 | 30 | 8 | 2 | 0 | 0 | 125 |
| **Sat 02/09/23** | 96 | 21 | 5 | 5 | 0 | 0 | 112 |
| **Sun 03/09/23** | 92 | 19 | 4 | 2 | 0 | 0 | 107 |

transport planning

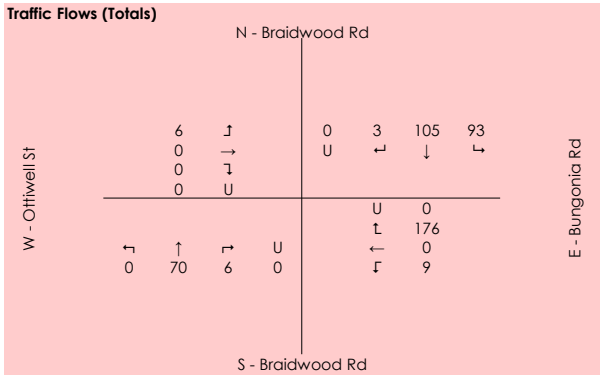
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 1 - Braidwood Rd / Bungonia Rd / Ottiwell S |
| Weather | Fine |
| Date | Thursday, 31 August 2023 |
| AM Peak | 8:30 AM |
| PM Peak | 3:30 PM |

## AM PEAK

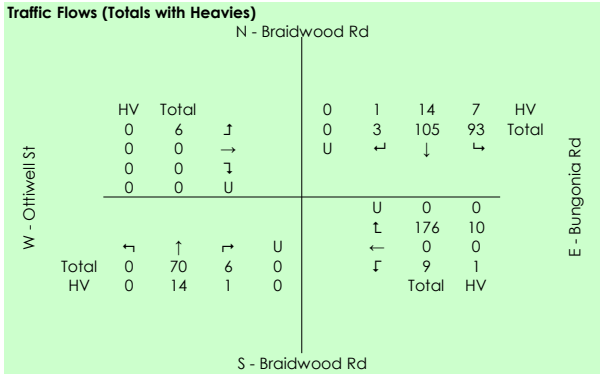
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

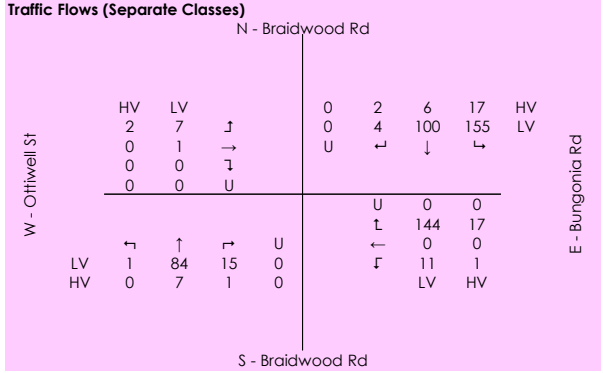



**Traffic Flows (Totals with Heavies)**

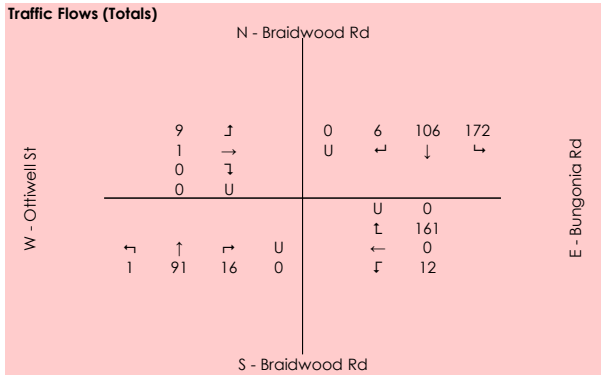



## PM PEAK

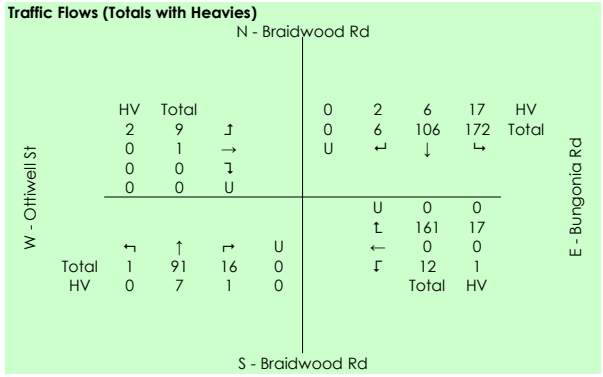
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

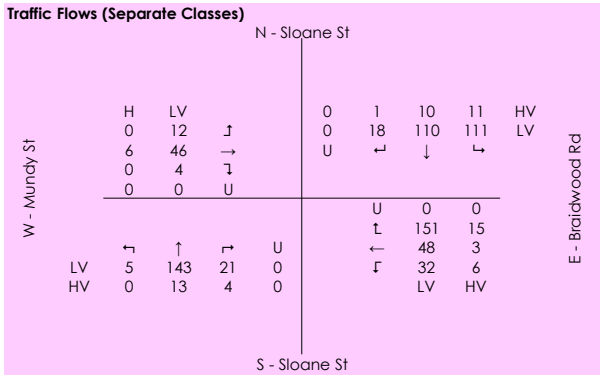


transport planning

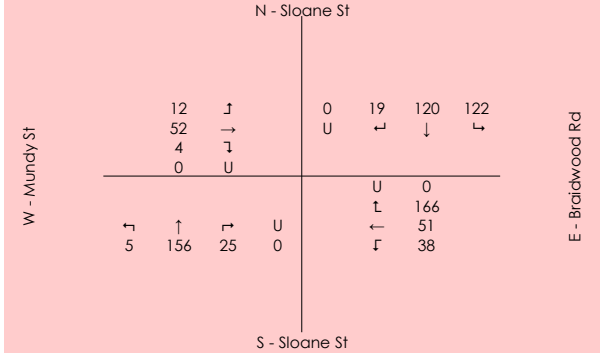
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 2 - Sloane St / Braidwood Rd / Mundy St |
| Weather | Fine |
| Date | Thursday, 31 August 2023 |
| AM Peak | 8:30 AM |
| PM Peak | 3:30 PM |

## AM PEAK

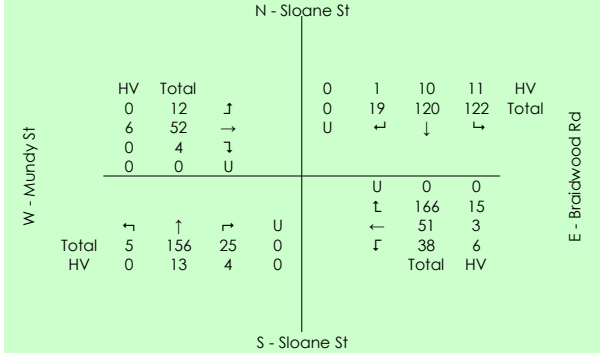
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

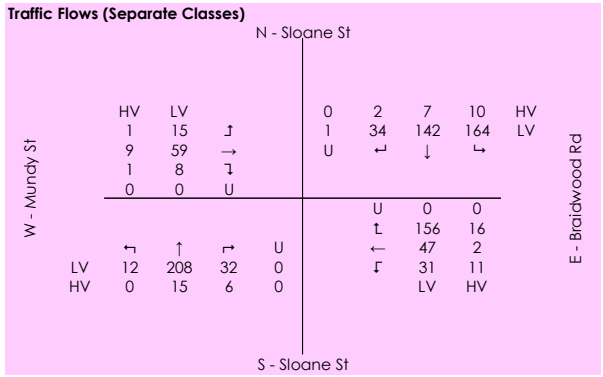



**Traffic Flows (Totals with Heavies)**

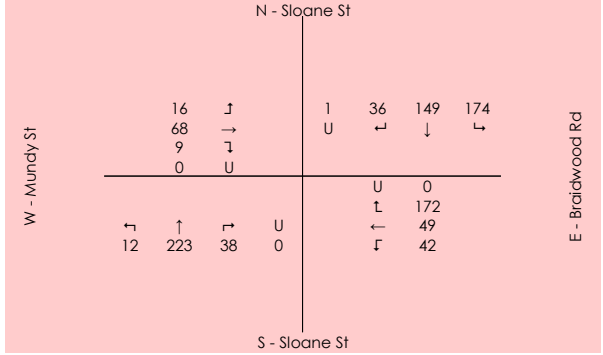



## PM PEAK

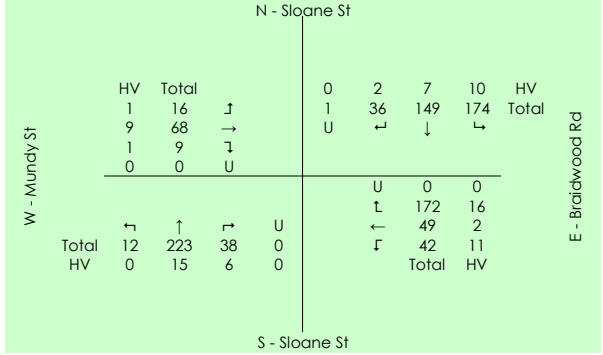
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

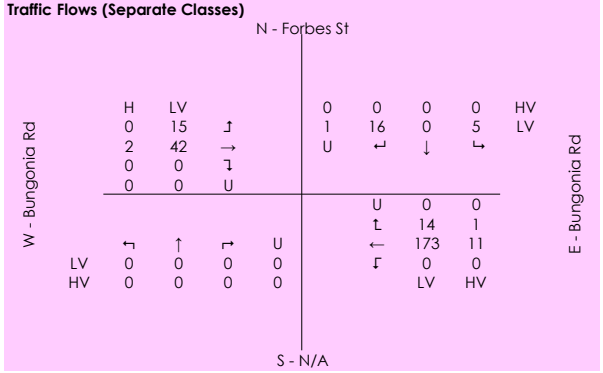


transport planning

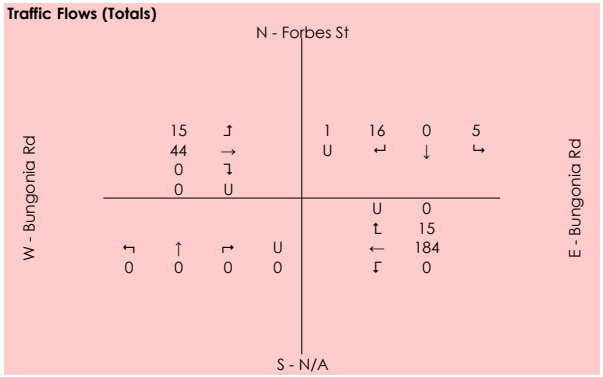
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 3 - Bungonia Rd / Forbes St |
| Weather | Fine |
| Date | Thursday, 31 August 2023 |
| AM Peak | 8:00 AM |
| PM Peak | 3:30 PM |

## AM PEAK

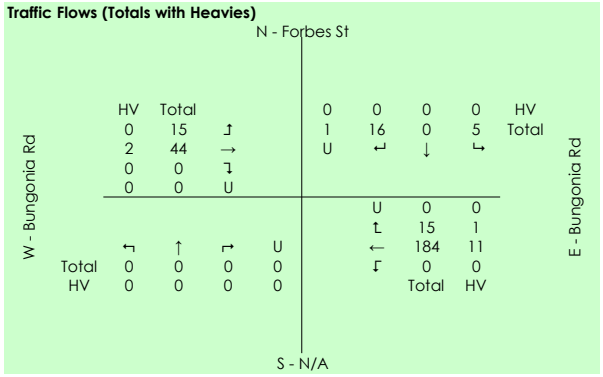
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

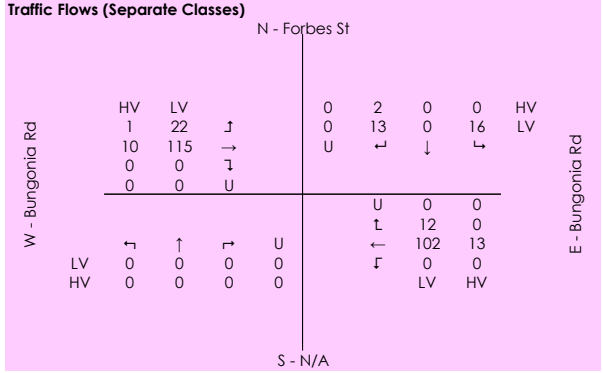



**Traffic Flows (Totals with Heavies)**

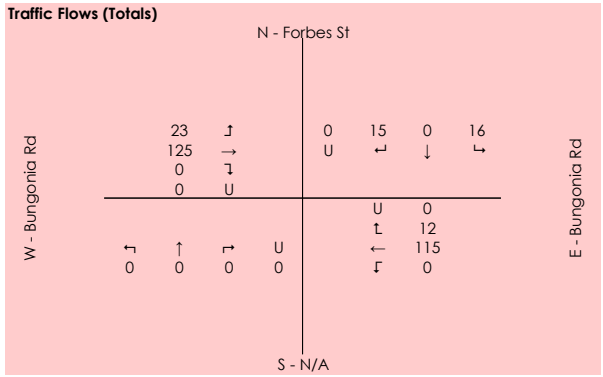



## PM PEAK

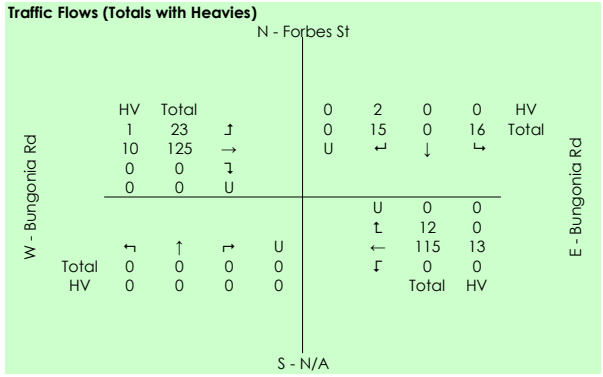
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

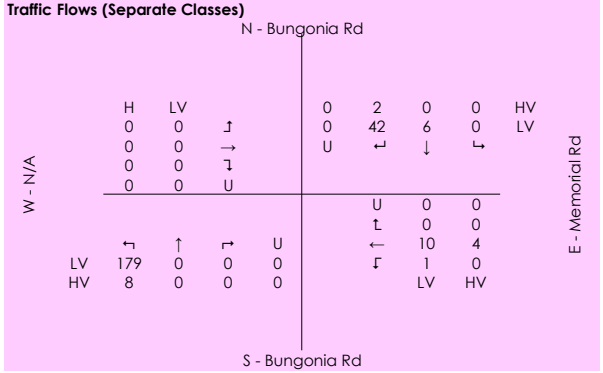


transport planning

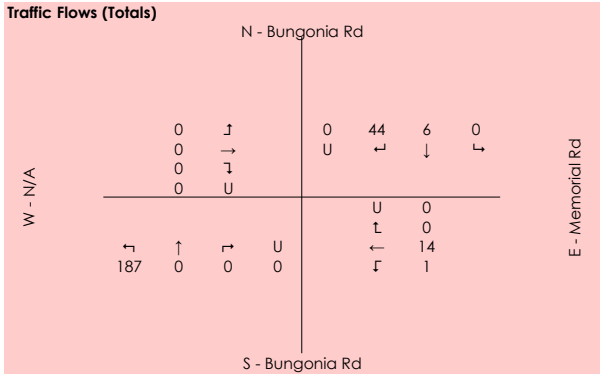
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 4 - Bungonia Rd / Memorial Rd |
| Weather | Fine |
| Date | Thursday, 31 August 2023 |
| AM Peak | 8:00 AM |
| PM Peak | 3:30 PM |

## AM PEAK

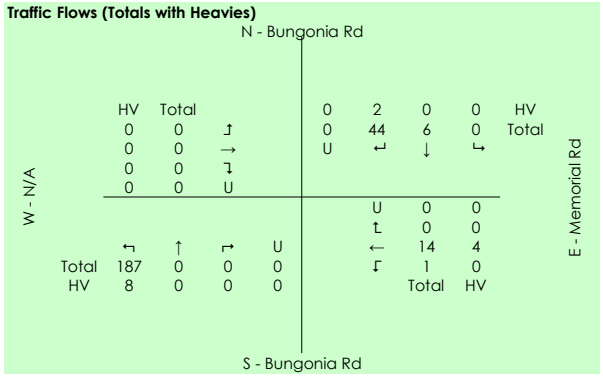
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

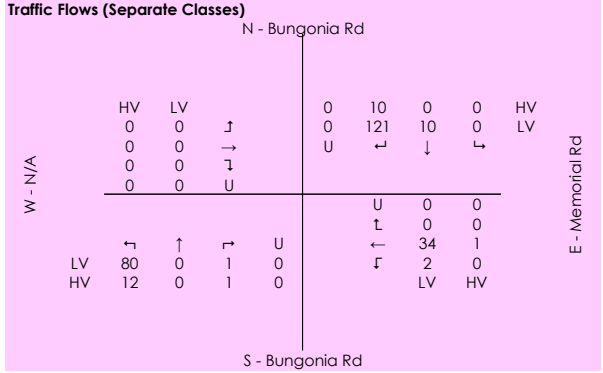



**Traffic Flows (Totals with Heavies)**

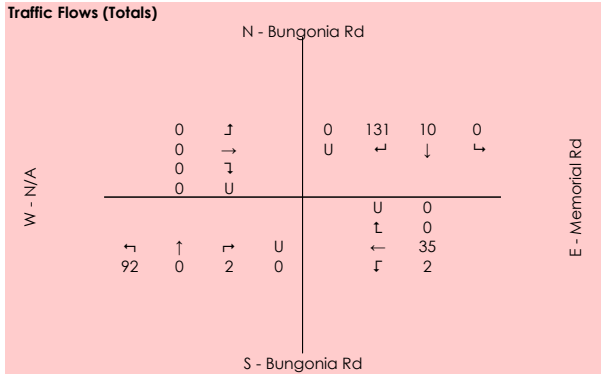



## PM PEAK

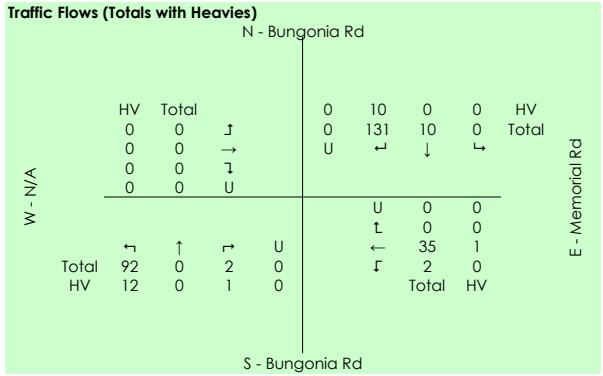
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

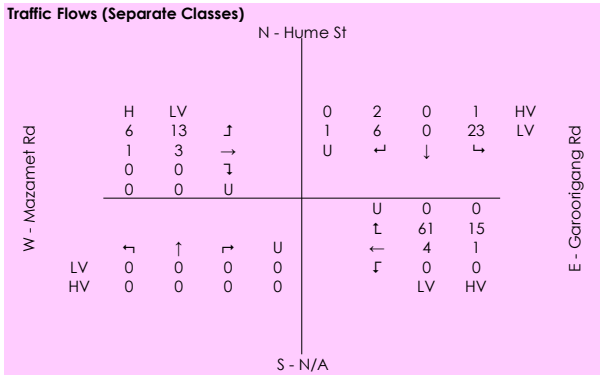


transport planning

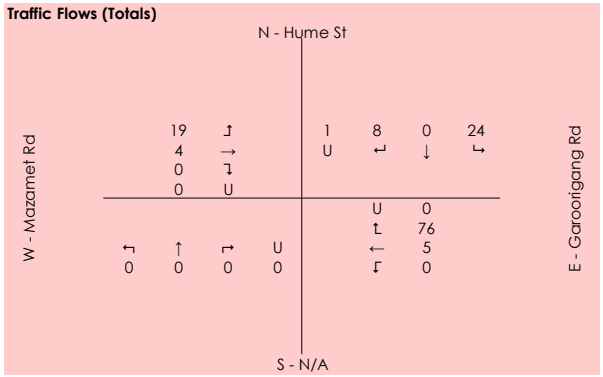
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 5 - Hume St / Garoorigang Rd / Mazamet R |
| Weather | Fine |
| Date | Thursday, 31 August 2023 |
| AM Peak | 7:45 AM |
| PM Peak | 3:30 PM |

## AM PEAK

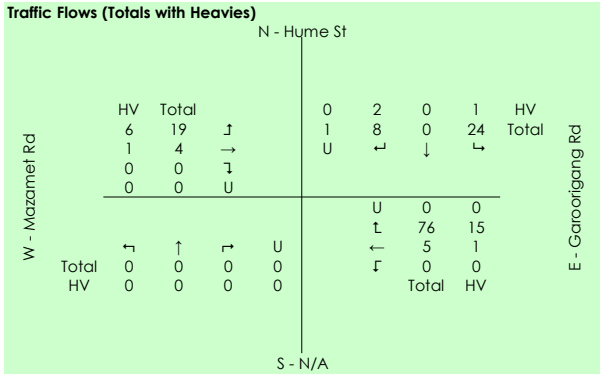
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

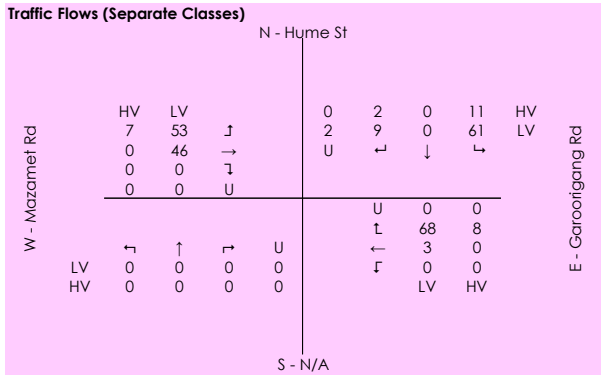



**Traffic Flows (Totals with Heavies)**

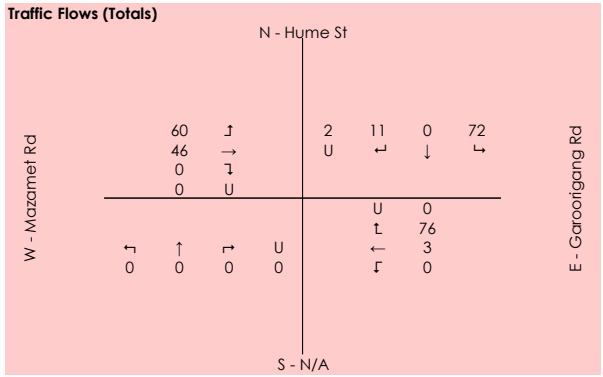



## PM PEAK

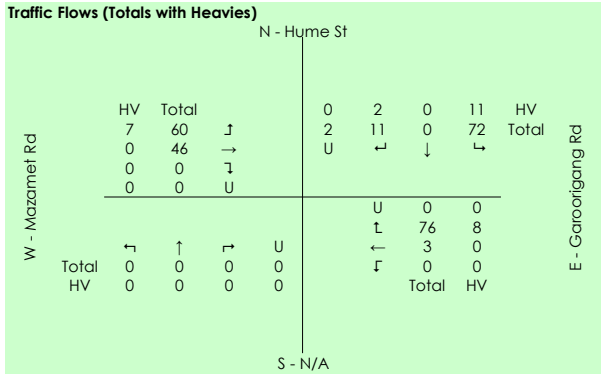
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

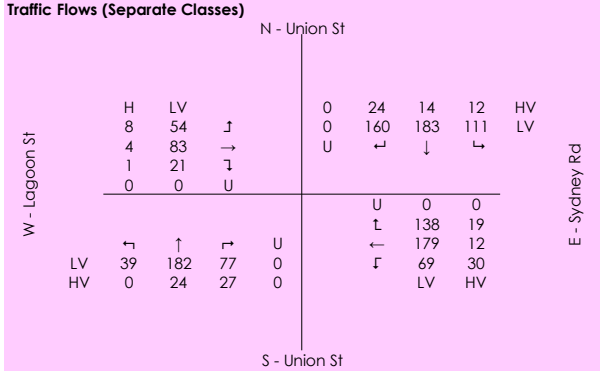


transport planning

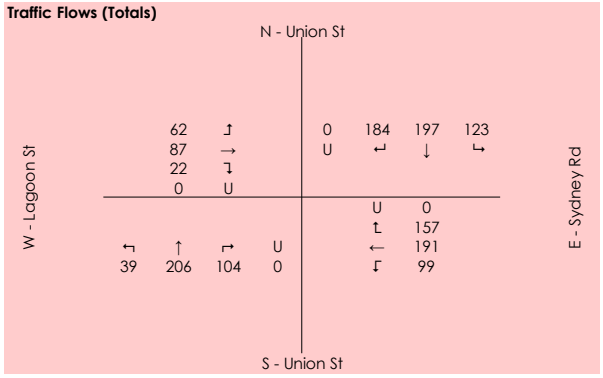
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 6 - Sydney Rd / Union St / Lagoon St |
| Weather | Fine |
| Date | Thursday, 31 August 2023 |
| AM Peak | 8:15 AM |
| PM Peak | 3:15 PM |

## AM PEAK

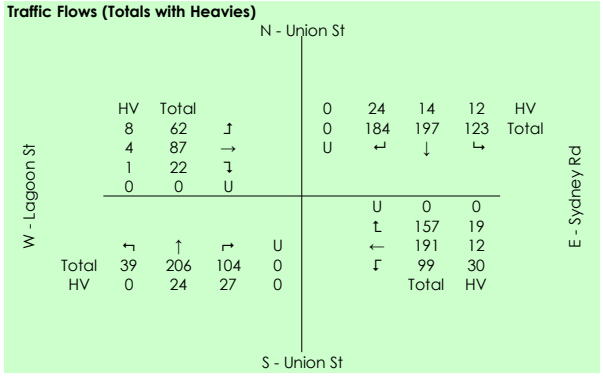
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

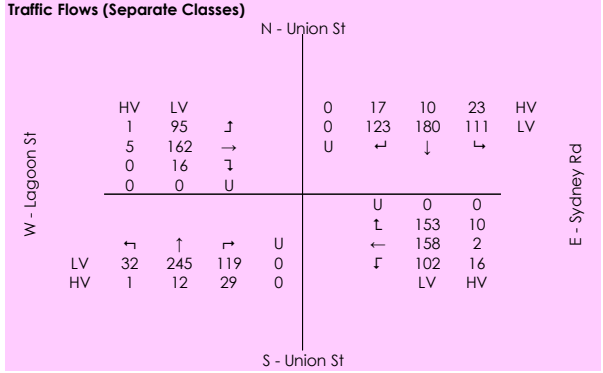



**Traffic Flows (Totals with Heavies)**

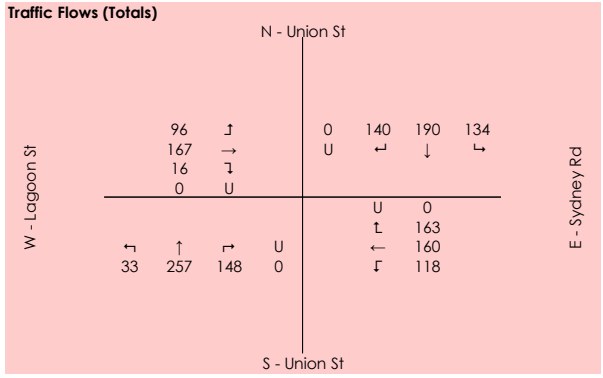



## PM PEAK

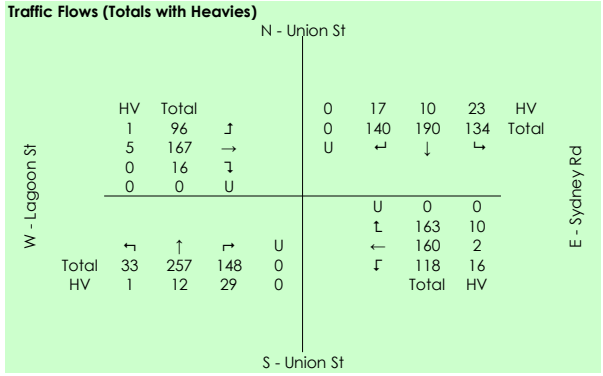
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

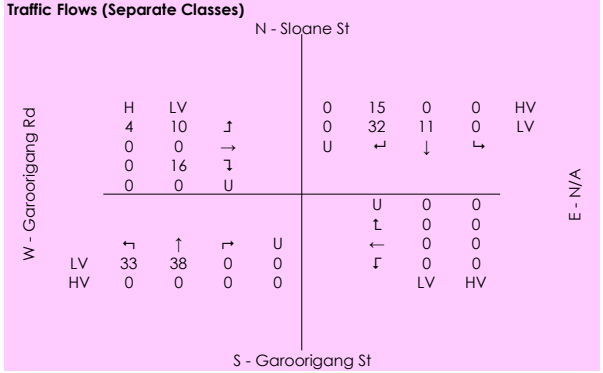


transport planning

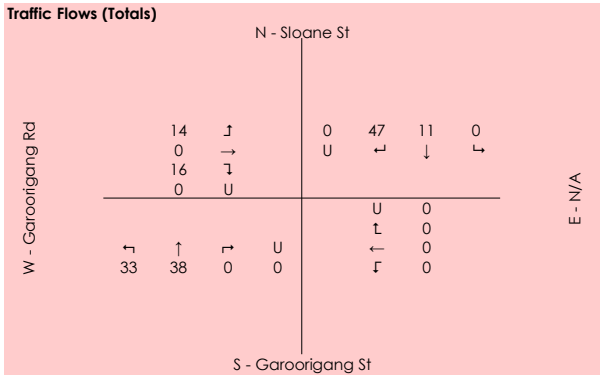
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 7 - Sloane St / Garoorigang St / Garoorigan |
| Weather | Fine |
| Date | Thursday, 31 August 2023 |
| AM Peak | 7:45 AM |
| PM Peak | 3:30 PM |

## AM PEAK

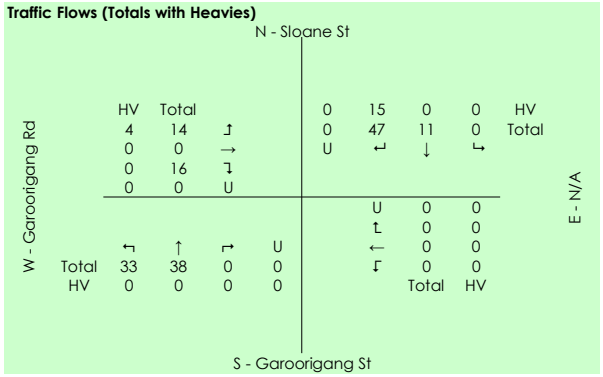
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

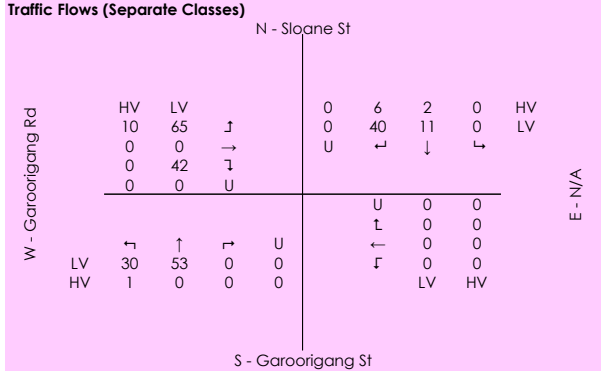



**Traffic Flows (Totals with Heavies)**

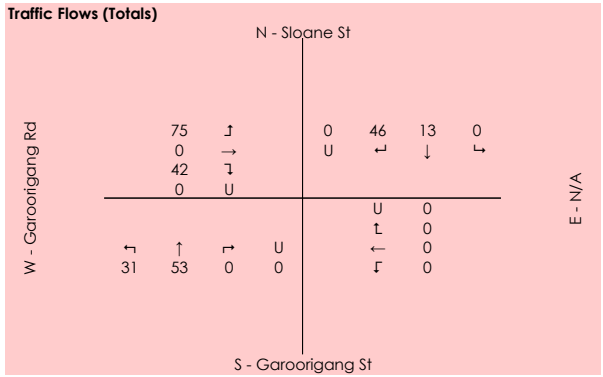



## PM PEAK

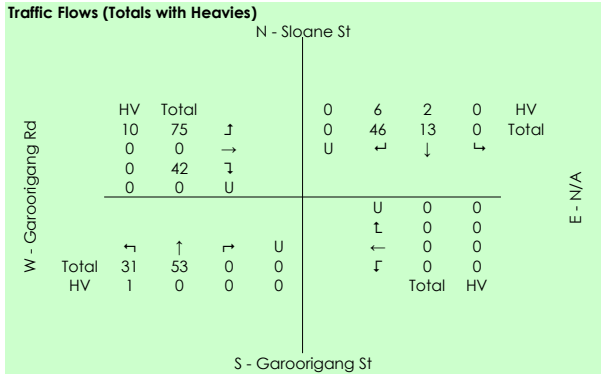
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

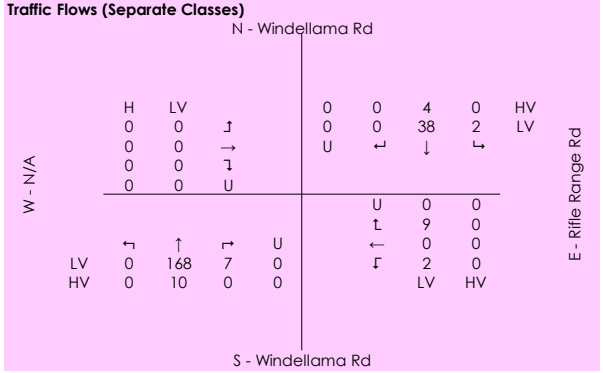


transport planning

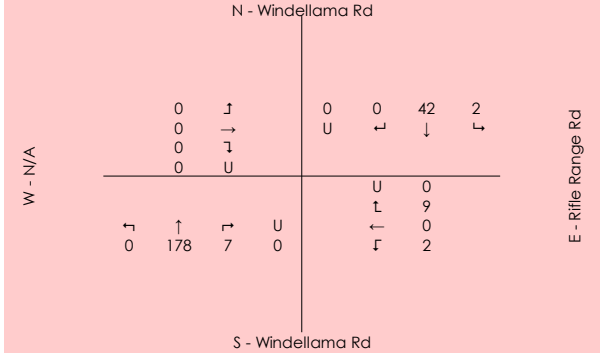
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 8 - Windellama Rd / Rifle Range Rd |
| Weather | Fine |
| Date | Thursday, 31 August 2023 |
| AM Peak | 7:45 AM |
| PM Peak | 3:30 PM |

## AM PEAK

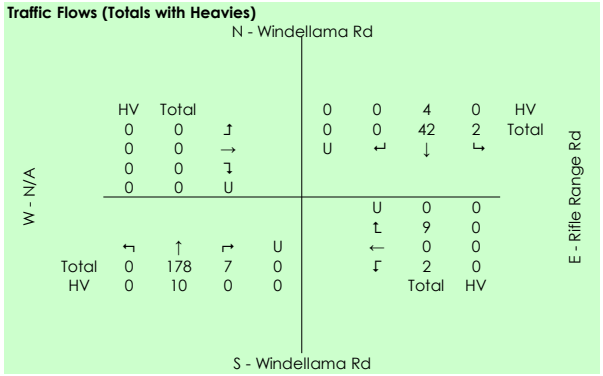
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

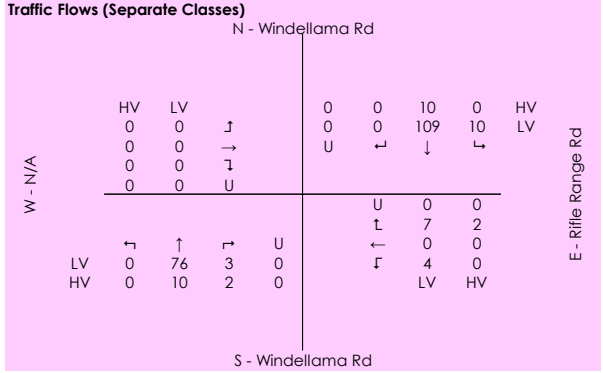



**Traffic Flows (Totals with Heavies)**

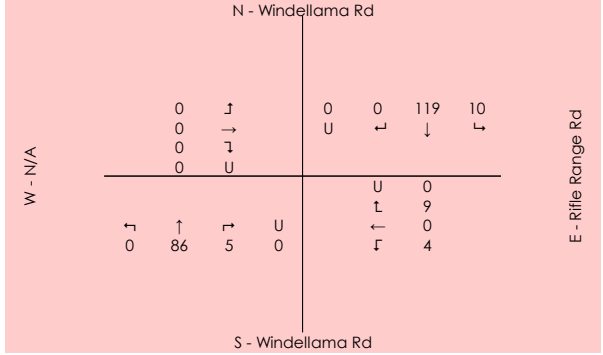



## PM PEAK

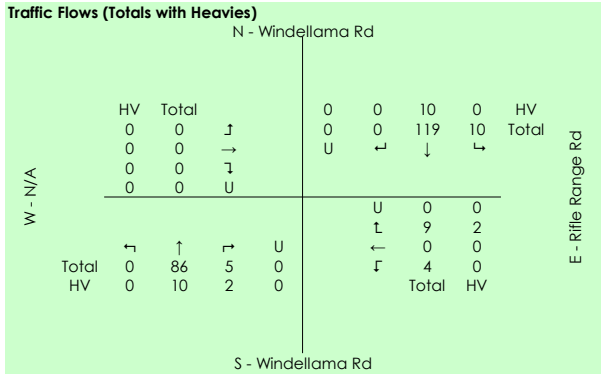
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

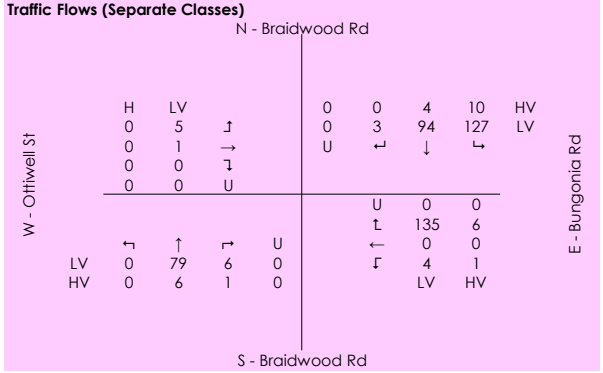


transport planning

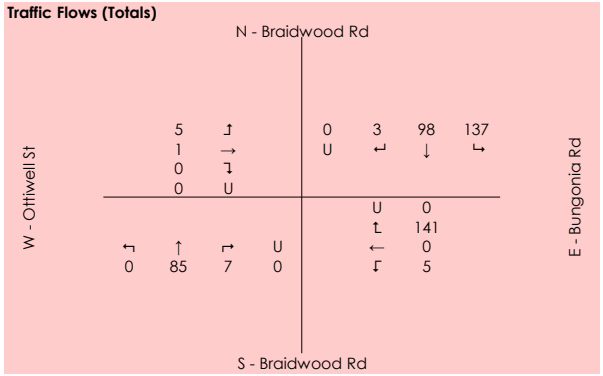
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 1 - Braidwood Rd / Bungonia Rd / Ottiwell S |
| Weather | Fine |
| Date | Saturday, 1 January 2022 |
| AM Peak | 10:45 AM |
| PM Peak | 12:30 PM |

## AM PEAK

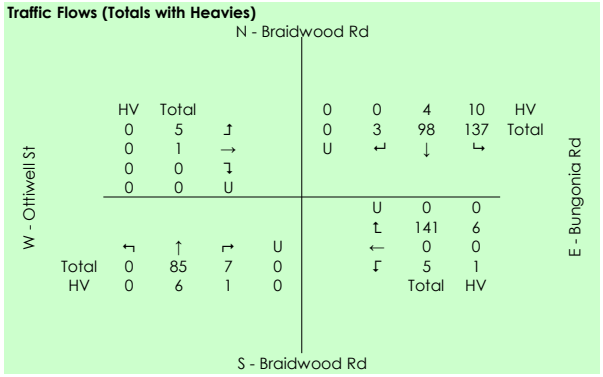
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

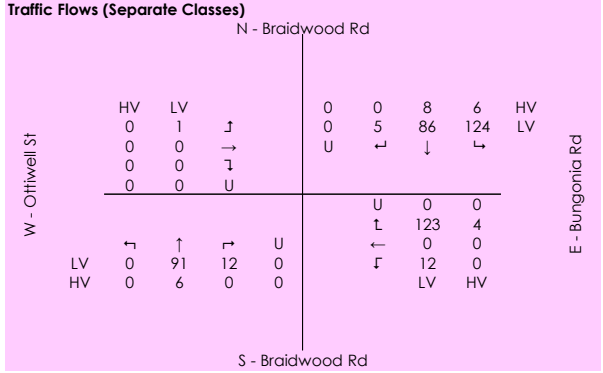



**Traffic Flows (Totals with Heavies)**

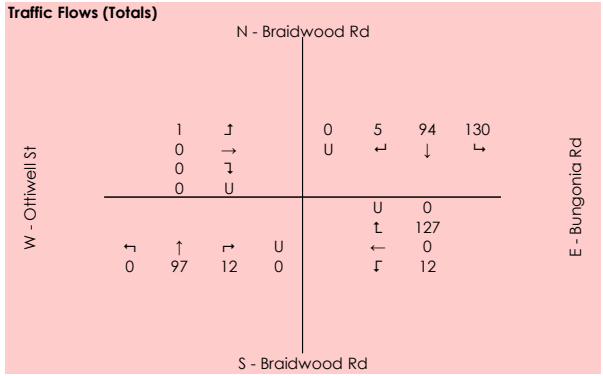



## PM PEAK

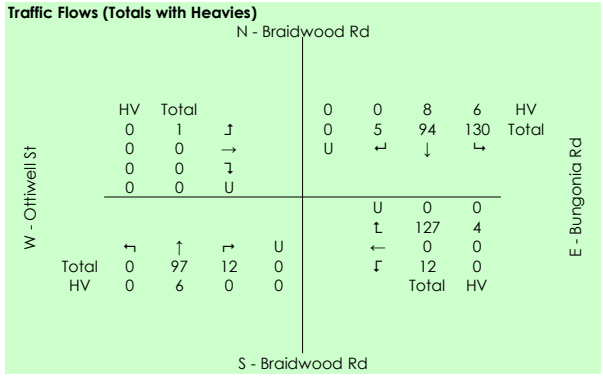
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

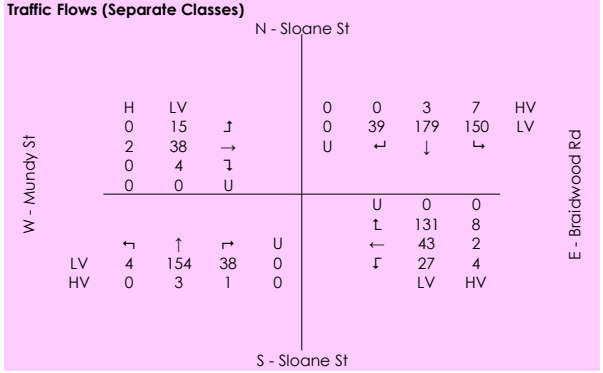


transport planning

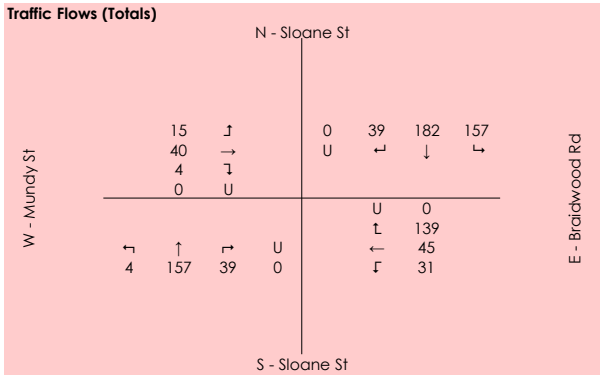
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 2 - Sloane St / Braidwood Rd / Mundy St |
| Weather | Fine |
| Date | Saturday, 1 January 2022 |
| AM Peak | 11:45 AM |
| PM Peak | 12:00 PM |

## AM PEAK

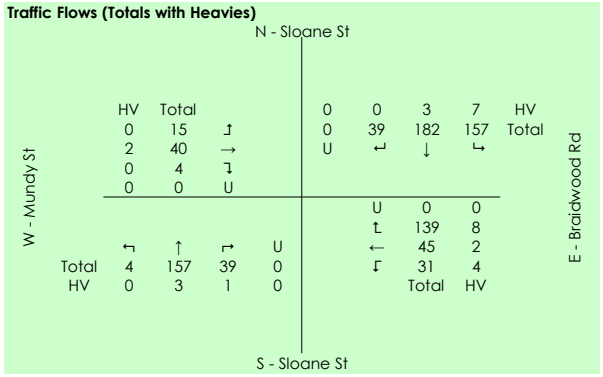
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

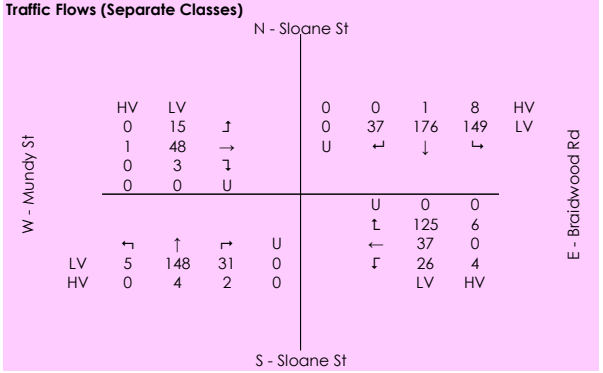



**Traffic Flows (Totals with Heavies)**

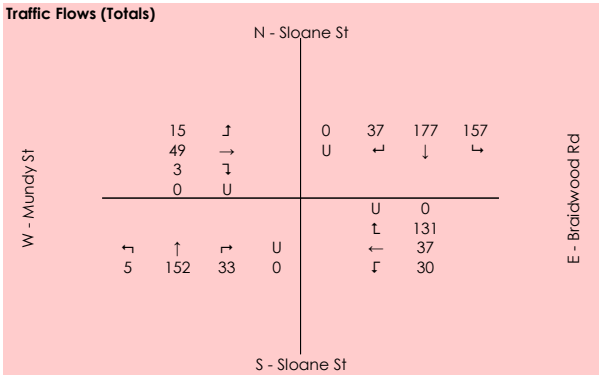



## PM PEAK

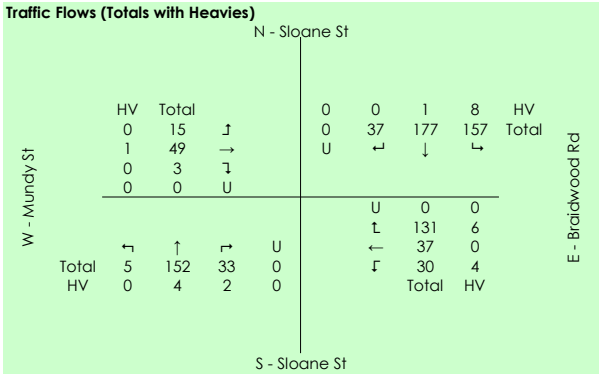
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

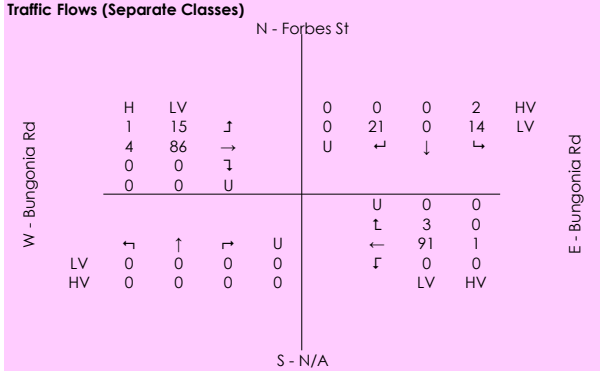


transport planning

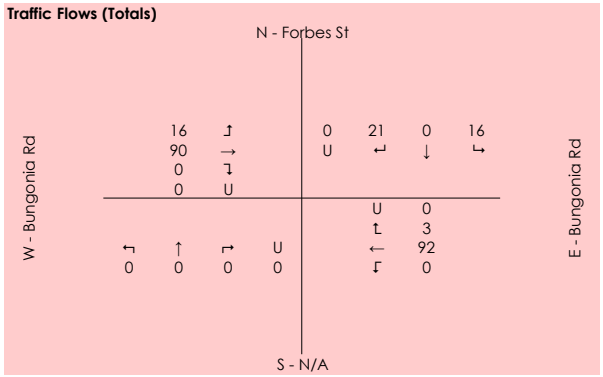
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 3 - Bungonia Rd / Forbes St |
| Weather | Fine |
| Date | Saturday, 1 January 2022 |
| AM Peak | 10:45 AM |
| PM Peak | 12:30 PM |

## AM PEAK

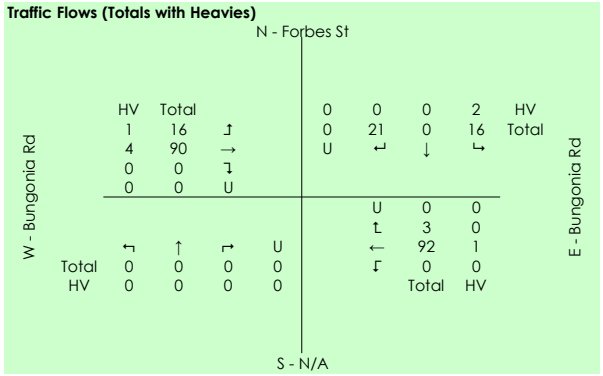
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

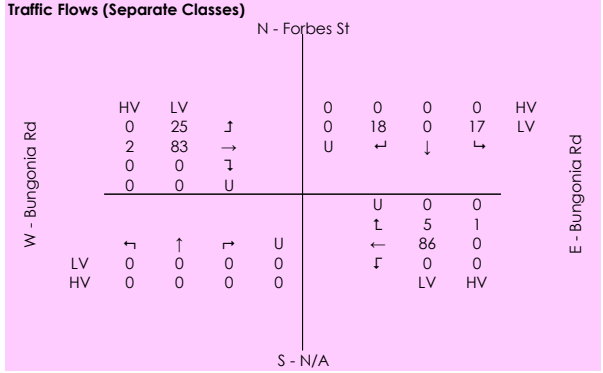



**Traffic Flows (Totals with Heavies)**

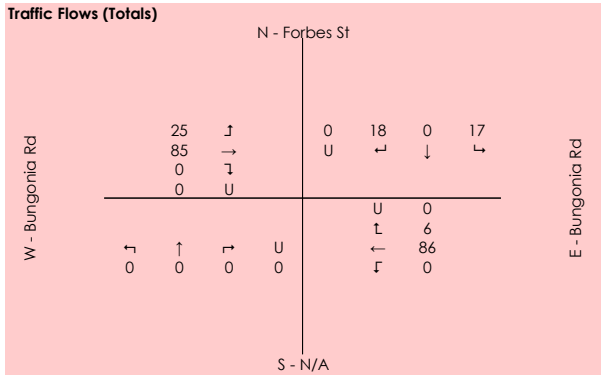



## PM PEAK

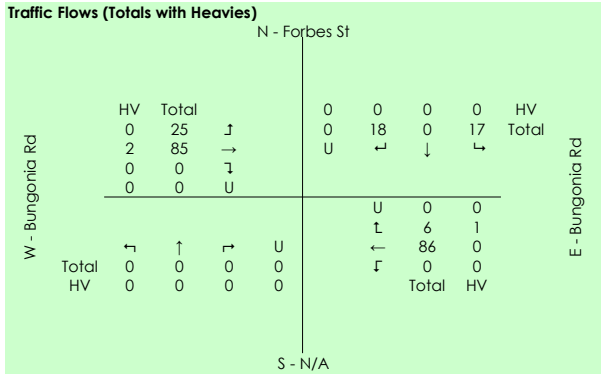
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

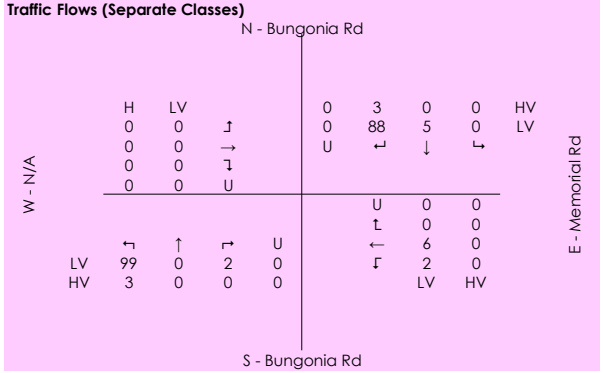


transport planning

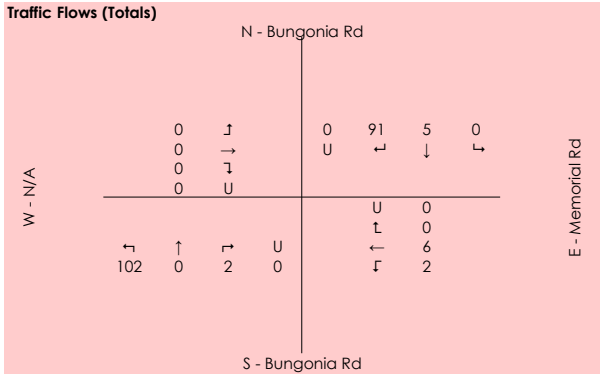
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 4 - Bungonia Rd / Memorial Rd |
| Weather | Fine |
| Date | Saturday, 1 January 2022 |
| AM Peak | 11:15 AM |
| PM Peak | 1:00 PM |

## AM PEAK

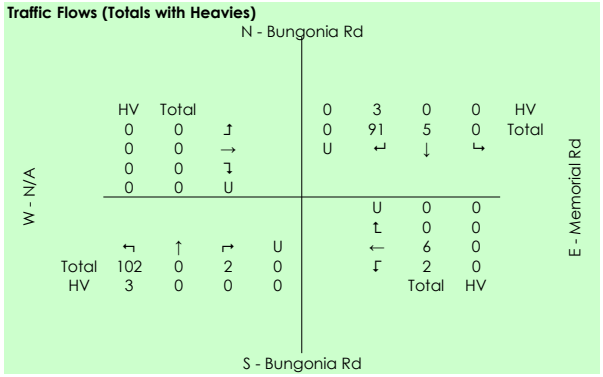
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

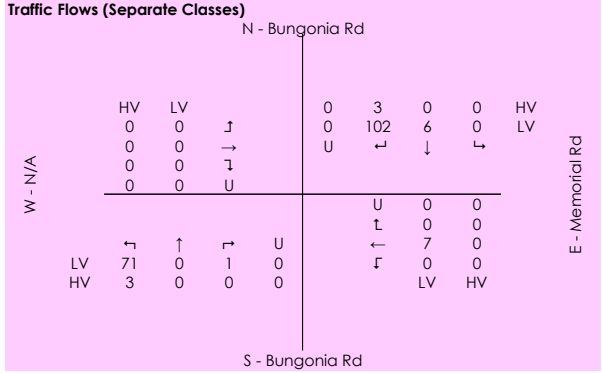



**Traffic Flows (Totals with Heavies)**

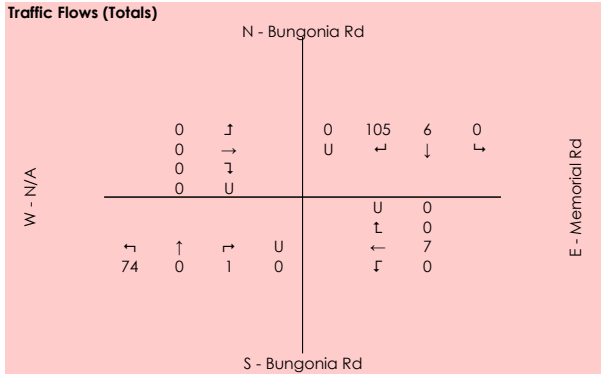



## PM PEAK

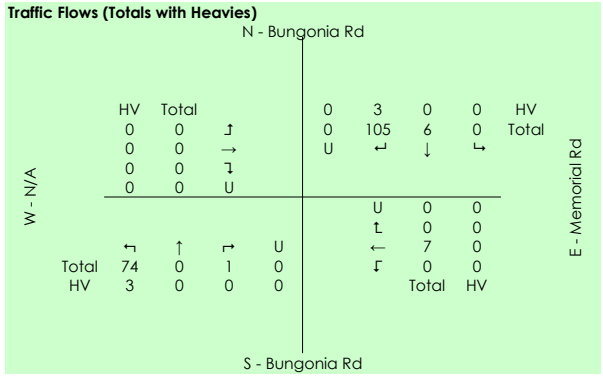
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

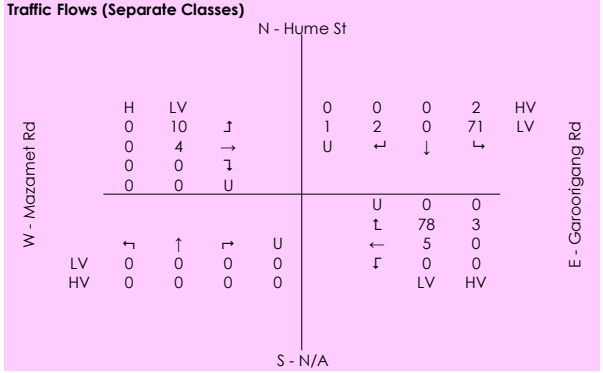


transport planning

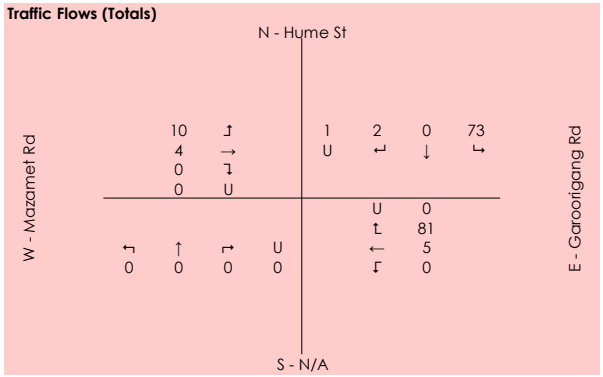
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 5 - Hume St / Garoorigang Rd / Mazamet R |
| Weather | Fine |
| Date | Saturday, 1 January 2022 |
| AM Peak | 11:45 AM |
| PM Peak | 12:00 PM |

## AM PEAK

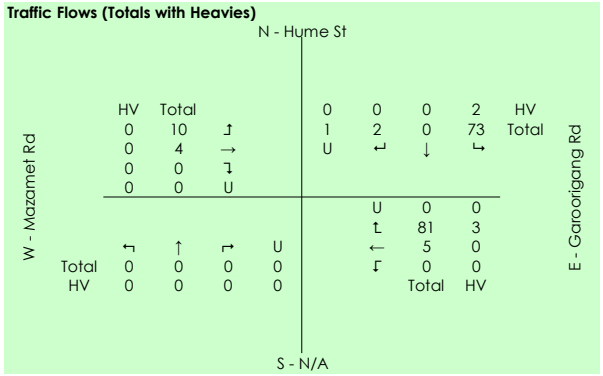
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

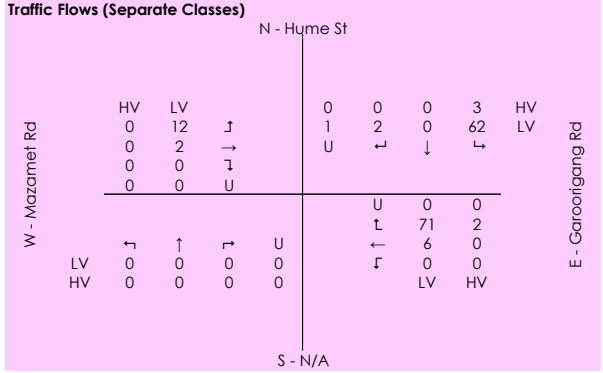



**Traffic Flows (Totals with Heavies)**

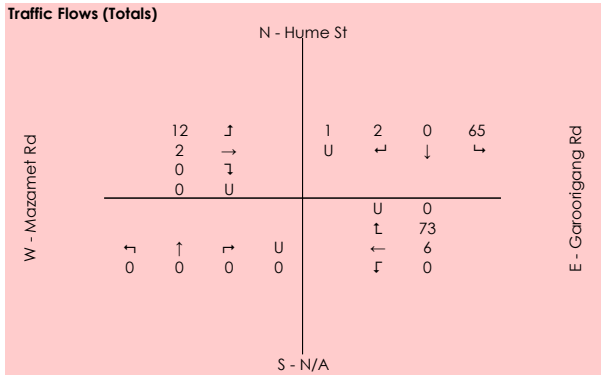



## PM PEAK

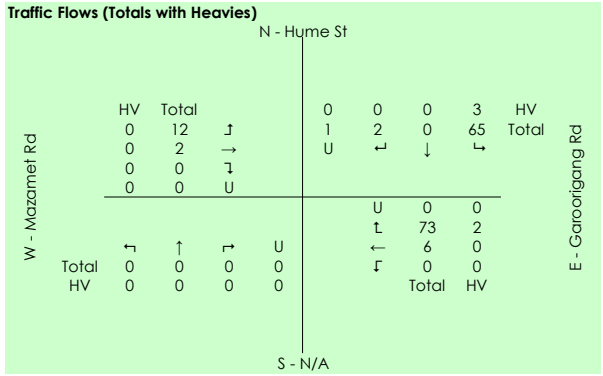
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

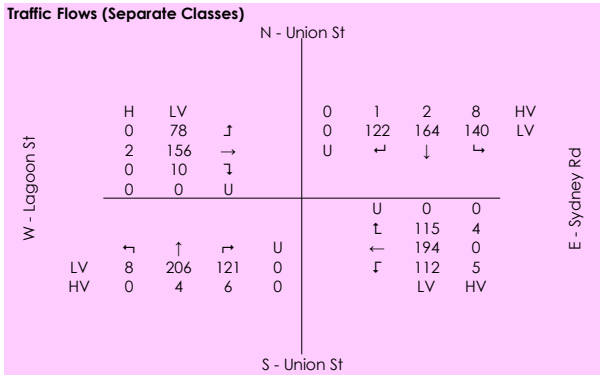


transport planning

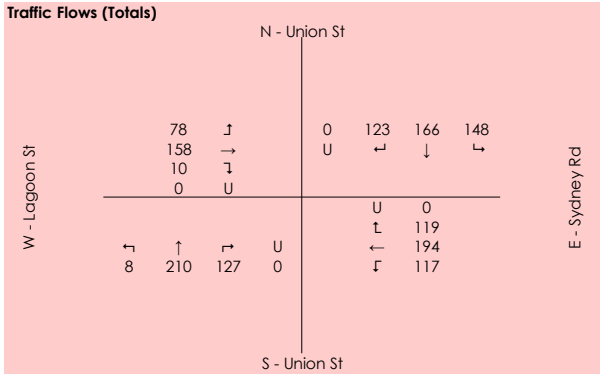
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 6 - Sydney Rd / Union St / Lagoon St |
| Weather | Fine |
| Date | Saturday, 1 January 2022 |
| AM Peak | 11:15 AM |
| PM Peak | 1:00 PM |

## AM PEAK

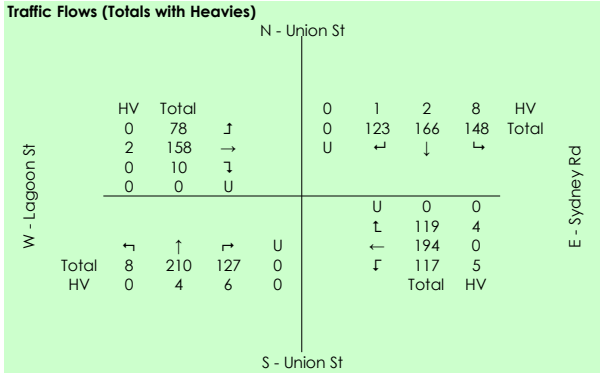
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

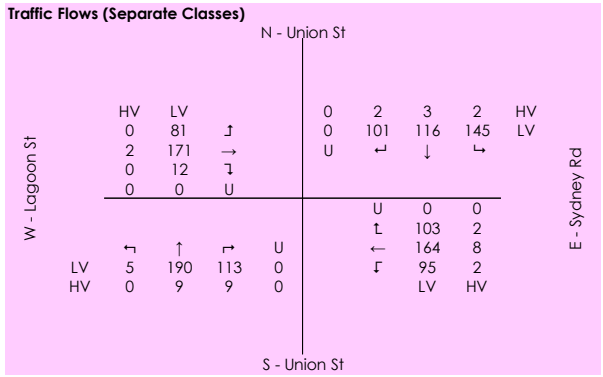



**Traffic Flows (Totals with Heavies)**

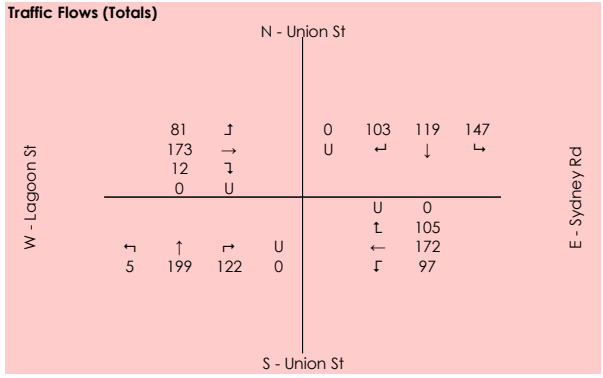



## PM PEAK

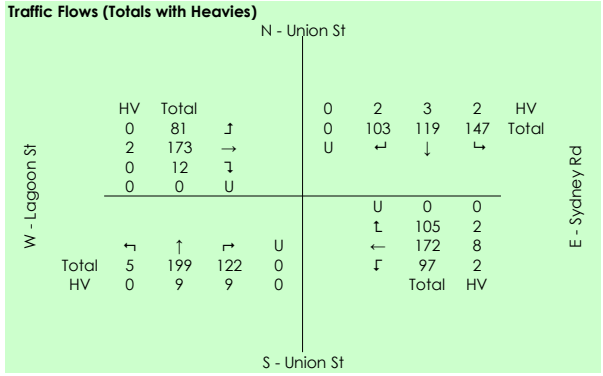
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

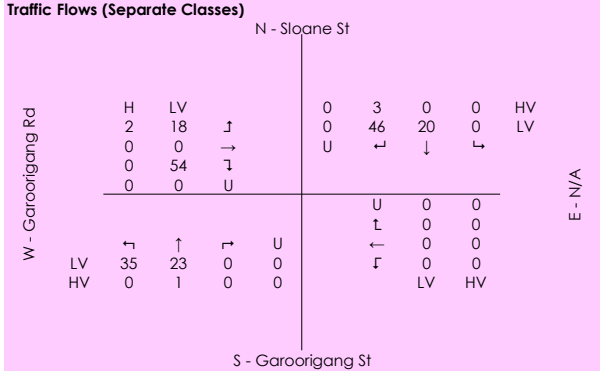


transport planning

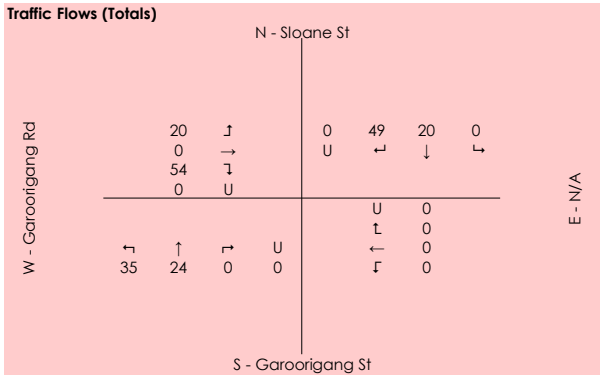
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 7 - Sloane St / Garoorigang St / Garoorigan |
| Weather | Fine |
| Date | Saturday, 1 January 2022 |
| AM Peak | 11:45 AM |
| PM Peak | 12:00 PM |

## AM PEAK

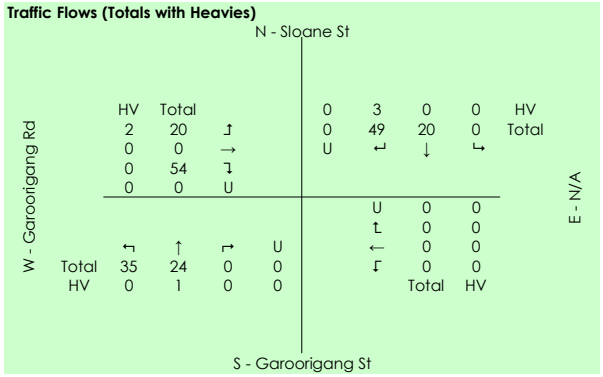
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

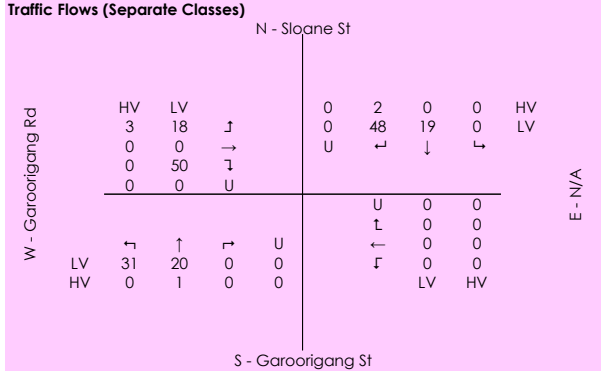



**Traffic Flows (Totals with Heavies)**

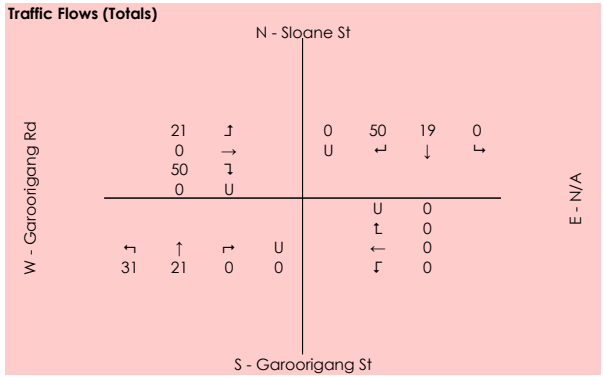



## PM PEAK

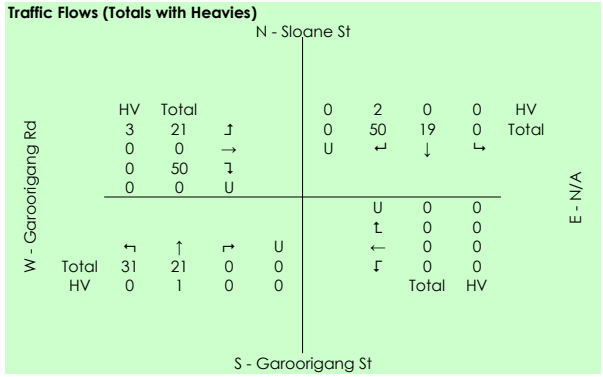
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**

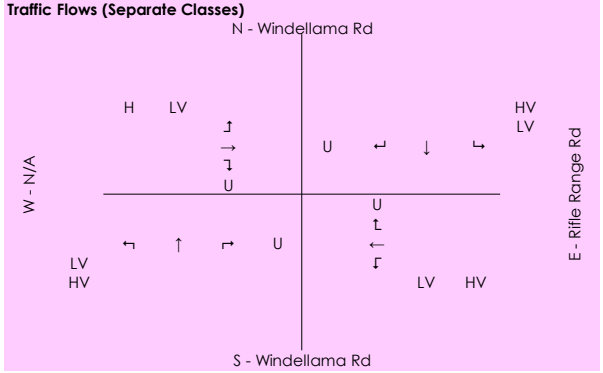


transport planning

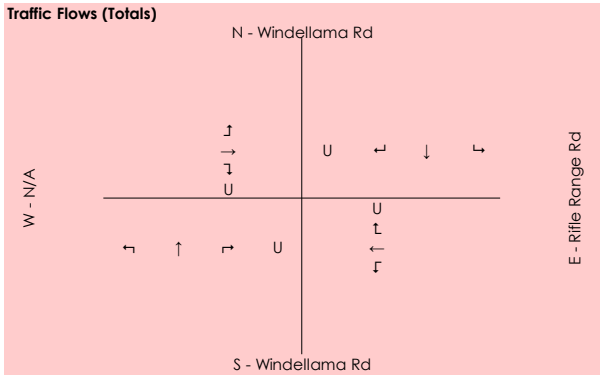
| | |
|---|---|
| Job Number | 23042 |
| Intersection | 8 - Windellama Rd / Rifle Range Rd |
| Weather | Fine |
| Date | Saturday, 2 September 2023 |
| AM Peak | #N/A |
| PM Peak | #N/A |

## AM PEAK

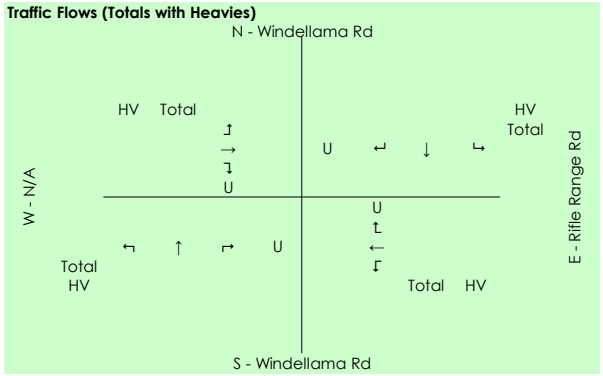
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**

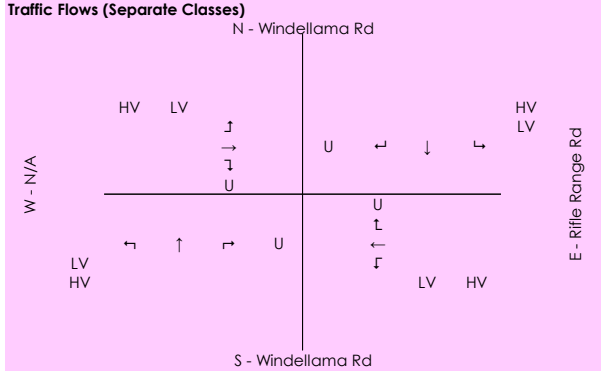



**Traffic Flows (Totals with Heavies)**

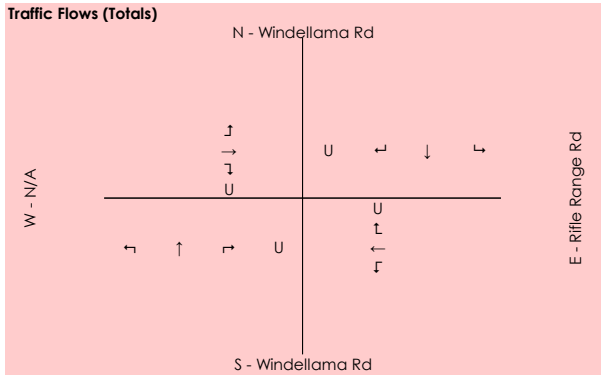



## PM PEAK

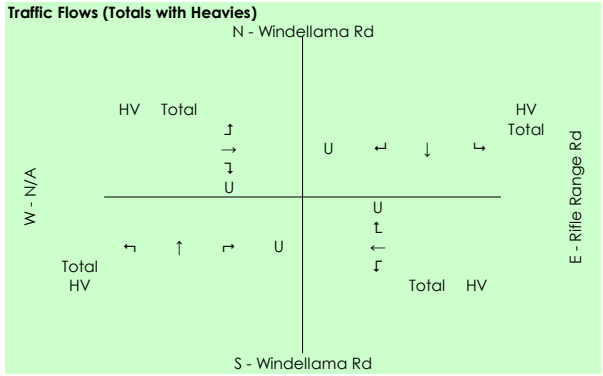
**Traffic Flows (Separate Classes)**




**Traffic Flows (Totals)**




**Traffic Flows (Totals with Heavies)**



# Appendix B

## SIDRA Intersection Analysis Results

# MOVEMENT SUMMARY

## Site: 1 [1. AM_Braidwood-Bungonia (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.048 | 5.9 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 25.3 |
| 2 | T1 | All MCs | 74 | 20.0 | 74 | 20.0 | 0.048 | 0.0 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 58.1 |
| 3 | R2 | All MCs | 6 | 16.7 | 6 | 16.7 | 0.048 | 6.0 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 44.8 |
| Approach | | | 81 | 19.5 | 81 | 19.5 | 0.048 | 0.6 | NA | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 56.8 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 9 | 11.1 | 9 | 11.1 | 0.007 | 4.5 | LOS A | 0.0 | 0.2 | 0.21 | 0.51 | 0.21 | 34.5 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.226 | 4.1 | LOS A | 0.9 | 6.3 | 0.39 | 0.65 | 0.39 | 33.5 |
| 6 | R2 | All MCs | 185 | 5.7 | 185 | 5.7 | 0.226 | 5.7 | LOS A | 0.9 | 6.3 | 0.39 | 0.65 | 0.39 | 39.7 |
| Approach | | | 196 | 5.9 | 196 | 5.9 | 0.226 | 5.7 | LOS A | 0.9 | 6.3 | 0.38 | 0.64 | 0.38 | 39.6 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 98 | 7.5 | 98 | 7.5 | 0.127 | 5.7 | LOS A | 0.5 | 3.8 | 0.04 | 0.26 | 0.04 | 37.4 |
| 8 | T1 | All MCs | 111 | 13.3 | 111 | 13.3 | 0.127 | 0.0 | LOS A | 0.5 | 3.8 | 0.04 | 0.26 | 0.04 | 53.1 |
| 9 | R2 | All MCs | 3 | 33.3 | 3 | 33.3 | 0.127 | 6.0 | LOS A | 0.5 | 3.8 | 0.04 | 0.26 | 0.04 | 36.9 |
| Approach | | | 212 | 10.9 | 212 | 10.9 | 0.127 | 2.7 | NA | 0.5 | 3.8 | 0.04 | 0.26 | 0.04 | 44.8 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.2 | 0.18 | 0.53 | 0.18 | 42.9 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 4.9 | LOS A | 0.0 | 0.2 | 0.18 | 0.53 | 0.18 | 31.5 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 6.4 | LOS A | 0.0 | 0.2 | 0.18 | 0.53 | 0.18 | 35.8 |
| Approach | | | 8 | 0.0 | 8 | 0.0 | 0.006 | 5.7 | LOS A | 0.0 | 0.2 | 0.18 | 0.53 | 0.18 | 41.2 |
| All Vehicles | | | 497 | 10.2 | 497 | 10.2 | 0.226 | 3.6 | NA | 0.9 | 6.3 | 0.18 | 0.38 | 0.18 | 44.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. AM_Sloane-Braidwood (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 40 | 15.8 | 40 | 15.8 | 0.436 | 11.1 | LOS A | 2.5 | 19.1 | 0.59 | 1.00 | 0.80 | 37.7 |
| 5 | T1 | All MCs | 54 | 5.9 | 54 | 5.9 | 0.436 | 12.8 | LOS A | 2.5 | 19.1 | 0.59 | 1.00 | 0.80 | 38.5 |
| 6 | R2 | All MCs | 175 | 9.0 | 175 | 9.0 | 0.436 | 14.7 | LOS B | 2.5 | 19.1 | 0.59 | 1.00 | 0.80 | 38.1 |
| Approach | | | 268 | 9.4 | 268 | 9.4 | 0.436 | 13.7 | LOS A | 2.5 | 19.1 | 0.59 | 1.00 | 0.80 | 38.1 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 128 | 9.0 | 128 | 9.0 | 0.172 | 6.0 | LOS A | 0.8 | 5.8 | 0.19 | 0.33 | 0.19 | 47.6 |
| 8 | T1 | All MCs | 126 | 8.3 | 126 | 8.3 | 0.172 | 0.3 | LOS A | 0.8 | 5.8 | 0.19 | 0.33 | 0.19 | 52.1 |
| 9 | R2 | All MCs | 20 | 5.3 | 20 | 5.3 | 0.172 | 6.2 | LOS A | 0.8 | 5.8 | 0.19 | 0.33 | 0.19 | 46.4 |
| Approach | | | 275 | 8.4 | 275 | 8.4 | 0.172 | 3.4 | NA | 0.8 | 5.8 | 0.19 | 0.33 | 0.19 | 49.4 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 13 | 0.0 | 13 | 0.0 | 0.090 | 8.7 | LOS A | 0.3 | 2.5 | 0.41 | 0.95 | 0.41 | 41.2 |
| 11 | T1 | All MCs | 55 | 11.5 | 55 | 11.5 | 0.090 | 10.6 | LOS A | 0.3 | 2.5 | 0.41 | 0.95 | 0.41 | 40.5 |
| 12 | R2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.090 | 10.3 | LOS A | 0.3 | 2.5 | 0.41 | 0.95 | 0.41 | 40.4 |
| Approach | | | 72 | 8.8 | 72 | 8.8 | 0.090 | 10.2 | LOS A | 0.3 | 2.5 | 0.41 | 0.95 | 0.41 | 40.6 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.111 | 6.0 | LOS A | 0.2 | 1.6 | 0.09 | 0.13 | 0.09 | 51.8 |
| 2 | T1 | All MCs | 164 | 8.3 | 164 | 8.3 | 0.111 | 0.1 | LOS A | 0.2 | 1.6 | 0.09 | 0.13 | 0.09 | 57.2 |
| 3 | R2 | All MCs | 26 | 16.0 | 26 | 16.0 | 0.111 | 6.2 | LOS A | 0.2 | 1.6 | 0.09 | 0.13 | 0.09 | 48.1 |
| Approach | | | 196 | 9.1 | 196 | 9.1 | 0.111 | 1.1 | NA | 0.2 | 1.6 | 0.09 | 0.13 | 0.09 | 55.5 |
| All Vehicles | | | 811 | 9.0 | 811 | 9.0 | 0.436 | 6.9 | NA | 2.5 | 19.1 | 0.32 | 0.56 | 0.39 | 45.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. AM_Bungonia-Forbes (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 194 | 6.0 | 194 | 6.0 | 0.113 | 0.0 | LOS A | 0.1 | 0.8 | 0.03 | 0.05 | 0.03 | 59.3 |
| 6 | R2 | All MCs | 16 | 6.7 | 16 | 6.7 | 0.113 | 5.7 | LOS A | 0.1 | 0.8 | 0.03 | 0.05 | 0.03 | 55.4 |
| Approach | | | 209 | 6.0 | 209 | 6.0 | 0.113 | 0.4 | NA | 0.1 | 0.8 | 0.03 | 0.05 | 0.03 | 59.0 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.004 | 8.2 | LOS A | 0.0 | 0.1 | 0.13 | 0.90 | 0.13 | 48.5 |
| 9 | R2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.019 | 8.7 | LOS A | 0.1 | 0.4 | 0.33 | 0.87 | 0.33 | 50.7 |
| Approach | | | 22 | 0.0 | 22 | 0.0 | 0.019 | 8.5 | LOS A | 0.1 | 0.4 | 0.28 | 0.88 | 0.28 | 50.3 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 16 | 0.0 | 16 | 0.0 | 0.033 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.15 | 0.00 | 56.2 |
| 11 | T1 | All MCs | 46 | 4.5 | 46 | 4.5 | 0.033 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.15 | 0.00 | 58.1 |
| Approach | | | 62 | 3.4 | 62 | 3.4 | 0.033 | 1.4 | NA | 0.0 | 0.0 | 0.00 | 0.15 | 0.00 | 57.5 |
| All Vehicles | | | 294 | 5.0 | 294 | 5.0 | 0.113 | 1.3 | NA | 0.1 | 0.8 | 0.04 | 0.13 | 0.04 | 57.7 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. AM_Bungonia-Memorial (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 197 | 4.3 | 197 | 4.3 | 0.107 | 5.4 | LOS A | 0.0 | 0.0 | 0.00 | 0.59 | 0.00 | 47.8 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.107 | 5.4 | LOS A | 0.0 | 0.0 | 0.00 | 0.59 | 0.00 | 48.6 |
| Approach | | | 198 | 4.3 | 198 | 4.3 | 0.107 | 5.4 | NA | 0.0 | 0.0 | 0.00 | 0.59 | 0.00 | 47.8 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.017 | 5.6 | LOS A | 0.1 | 0.5 | 0.17 | 0.54 | 0.17 | 48.2 |
| 6a | R1 | All MCs | 15 | 28.6 | 15 | 28.6 | 0.017 | 6.4 | LOS A | 0.1 | 0.5 | 0.17 | 0.54 | 0.17 | 41.7 |
| Approach | | | 16 | 26.7 | 16 | 26.7 | 0.017 | 6.3 | LOS A | 0.1 | 0.5 | 0.17 | 0.54 | 0.17 | 42.2 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 44 | 0.0 | 44 | 0.0 | 0.027 | 5.3 | LOS A | 0.0 | 0.2 | 0.00 | 0.59 | 0.00 | 46.9 |
| 29a | R1 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.027 | 5.0 | LOS A | 0.0 | 0.2 | 0.00 | 0.59 | 0.00 | 48.8 |
| Approach | | | 51 | 0.0 | 51 | 0.0 | 0.027 | 5.3 | NA | 0.0 | 0.2 | 0.00 | 0.59 | 0.00 | 47.1 |
| All Vehicles | | | 264 | 4.8 | 264 | 4.8 | 0.107 | 5.4 | NA | 0.1 | 0.5 | 0.01 | 0.59 | 0.01 | 47.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. AM_Hume-Garoorigang (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 5 | 20.0 | 5 | 20.0 | 0.053 | 0.1 | LOS A | 0.2 | 2.0 | 0.10 | 0.53 | 0.10 | 55.0 |
| 6 | R2 | All MCs | 80 | 19.7 | 80 | 19.7 | 0.053 | 5.8 | LOS A | 0.2 | 2.0 | 0.10 | 0.53 | 0.10 | 47.7 |
| Approach | | | 85 | 19.8 | 85 | 19.8 | 0.053 | 5.4 | NA | 0.2 | 2.0 | 0.10 | 0.53 | 0.10 | 48.3 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 25 | 4.2 | 25 | 4.2 | 0.021 | 5.6 | LOS A | 0.1 | 0.6 | 0.03 | 0.56 | 0.03 | 49.1 |
| 9 | R2 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.021 | 5.5 | LOS A | 0.1 | 0.6 | 0.03 | 0.56 | 0.03 | 49.0 |
| Approach | | | 32 | 3.3 | 32 | 3.3 | 0.021 | 5.6 | LOS A | 0.1 | 0.6 | 0.03 | 0.56 | 0.03 | 49.1 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 20 | 31.6 | 20 | 31.6 | 0.016 | 5.9 | LOS A | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 48.5 |
| 11 | T1 | All MCs | 4 | 25.0 | 4 | 25.0 | 0.016 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 55.9 |
| Approach | | | 24 | 30.4 | 24 | 30.4 | 0.016 | 4.9 | NA | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 50.1 |
| All Vehicles | | | 141 | 17.9 | 141 | 17.9 | 0.053 | 5.4 | NA | 0.2 | 2.0 | 0.07 | 0.53 | 0.07 | 48.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. AM_Lagoon-Union (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 112 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 41 | 0.0 | 41 | 0.0 | 0.661 | 49.7 | LOS D | 13.1 | 99.6 | 0.97 | 0.82 | 0.97 | 26.2 |
| 2 | T1 | All MCs | 217 | 11.7 | 217 | 11.7 | * 0.661 | 44.1 | LOS D | 13.1 | 99.6 | 0.97 | 0.82 | 0.97 | 24.2 |
| 3 | R2 | All MCs | 109 | 26.0 | 109 | 26.0 | 0.119 | 16.6 | LOS B | 2.6 | 22.2 | 0.47 | 0.68 | 0.47 | 43.6 |
| Approach | | | 367 | 14.6 | 367 | 14.6 | 0.661 | 36.5 | LOS C | 13.1 | 99.6 | 0.82 | 0.78 | 0.82 | 30.1 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 104 | 30.3 | 104 | 30.3 | 0.256 | 22.8 | LOS B | 5.7 | 47.7 | 0.73 | 0.71 | 0.73 | 36.9 |
| 5 | T1 | All MCs | 201 | 6.3 | 201 | 6.3 | 0.256 | 33.9 | LOS C | 6.2 | 47.7 | 0.77 | 0.66 | 0.77 | 35.6 |
| 6 | R2 | All MCs | 165 | 12.1 | 165 | 12.1 | * 0.429 | 39.1 | LOS C | 7.3 | 56.3 | 0.84 | 0.80 | 0.84 | 28.2 |
| Approach | | | 471 | 13.6 | 471 | 13.6 | 0.429 | 33.3 | LOS C | 7.3 | 56.3 | 0.79 | 0.72 | 0.79 | 33.3 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 129 | 9.8 | 129 | 9.8 | * 0.617 | 42.3 | LOS C | 15.9 | 118.8 | 0.91 | 0.81 | 0.91 | 28.5 |
| 8 | T1 | All MCs | 207 | 7.1 | 207 | 7.1 | 0.617 | 35.8 | LOS C | 15.9 | 118.8 | 0.91 | 0.81 | 0.91 | 26.5 |
| 9 | R2 | All MCs | 194 | 13.0 | 194 | 13.0 | 0.375 | 38.8 | LOS C | 8.4 | 65.0 | 0.83 | 0.79 | 0.83 | 19.4 |
| Approach | | | 531 | 9.9 | 531 | 9.9 | 0.617 | 38.5 | LOS C | 15.9 | 118.8 | 0.88 | 0.80 | 0.88 | 24.7 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 65 | 12.9 | 65 | 12.9 | 0.057 | 12.0 | LOS A | 1.2 | 9.0 | 0.35 | 0.65 | 0.35 | 34.3 |
| 11 | T1 | All MCs | 92 | 4.6 | 92 | 4.6 | 0.075 | 28.1 | LOS B | 1.7 | 12.5 | 0.73 | 0.55 | 0.73 | 36.5 |
| 12 | R2 | All MCs | 23 | 4.5 | 23 | 4.5 | 0.079 | 39.8 | LOS C | 1.0 | 7.1 | 0.79 | 0.71 | 0.79 | 27.8 |
| Approach | | | 180 | 7.6 | 180 | 7.6 | 0.079 | 23.8 | LOS B | 1.7 | 12.5 | 0.60 | 0.61 | 0.60 | 34.6 |
| All Vehicles | | | 1548 | 11.9 | 1548 | 11.9 | 0.661 | 34.7 | LOS C | 15.9 | 118.8 | 0.81 | 0.75 | 0.81 | 29.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 | Full | 11 | 12 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| North: Union St | | | | | | | | | | | | |
| P3 | Full | 11 | 12 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| West: Lagoon St | | | | | | | | | | | | |
| P4 | Full | 2 | 2 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| All Pedestrians | | 25 | 26 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. AM_Sloane-Garoorigang (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 35 | 0.0 | 35 | 0.0 | 0.039 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 54.7 |
| 2 | T1 | All MCs | 40 | 0.0 | 40 | 0.0 | 0.039 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 57.2 |
| Approach | | | 75 | 0.0 | 75 | 0.0 | 0.039 | 2.6 | NA | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 56.0 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.042 | 0.3 | LOS A | 0.2 | 1.6 | 0.19 | 0.47 | 0.19 | 55.1 |
| 9 | R2 | All MCs | 49 | 31.9 | 49 | 31.9 | 0.042 | 6.1 | LOS A | 0.2 | 1.6 | 0.19 | 0.47 | 0.19 | 51.6 |
| Approach | | | 61 | 25.9 | 61 | 25.9 | 0.042 | 5.0 | NA | 0.2 | 1.6 | 0.19 | 0.47 | 0.19 | 52.2 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 15 | 28.6 | 15 | 28.6 | 0.025 | 6.0 | LOS A | 0.1 | 0.7 | 0.14 | 0.55 | 0.14 | 51.2 |
| 12 | R2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.025 | 5.9 | LOS A | 0.1 | 0.7 | 0.14 | 0.55 | 0.14 | 51.5 |
| Approach | | | 32 | 13.3 | 32 | 13.3 | 0.025 | 5.9 | LOS A | 0.1 | 0.7 | 0.14 | 0.55 | 0.14 | 51.3 |
| All Vehicles | | | 167 | 11.9 | 167 | 11.9 | 0.042 | 4.1 | NA | 0.2 | 1.6 | 0.09 | 0.40 | 0.09 | 53.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. AM_Windellama-Rifle (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 187 | 5.6 | 187 | 5.6 | 0.104 | 0.0 | LOS A | 0.0 | 0.3 | 0.01 | 0.02 | 0.01 | 59.7 |
| 3 | R2 | All MCs | 7 | 0.0 | 7 | 0.0 | 0.104 | 5.5 | LOS A | 0.0 | 0.3 | 0.01 | 0.02 | 0.01 | 56.9 |
| Approach | | | 195 | 5.4 | 195 | 5.4 | 0.104 | 0.2 | NA | 0.0 | 0.3 | 0.01 | 0.02 | 0.01 | 59.6 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.010 | 5.6 | LOS A | 0.0 | 0.2 | 0.21 | 0.56 | 0.21 | 52.3 |
| 6 | R2 | All MCs | 9 | 0.0 | 9 | 0.0 | 0.010 | 6.3 | LOS A | 0.0 | 0.2 | 0.21 | 0.56 | 0.21 | 52.1 |
| Approach | | | 12 | 0.0 | 12 | 0.0 | 0.010 | 6.2 | LOS A | 0.0 | 0.2 | 0.21 | 0.56 | 0.21 | 52.1 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 6 | 66.7 | 6 | 66.7 | 0.026 | 6.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 54.1 |
| 8 | T1 | All MCs | 40 | 0.0 | 40 | 0.0 | 0.026 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 59.7 |
| Approach | | | 46 | 9.1 | 46 | 9.1 | 0.026 | 0.9 | NA | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 58.9 |
| All Vehicles | | | 253 | 5.8 | 253 | 5.8 | 0.104 | 0.6 | NA | 0.0 | 0.3 | 0.02 | 0.06 | 0.02 | 59.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. PM_Braidwood-Bungonia (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.063 | 5.9 | LOS A | 0.1 | 0.8 | 0.08 | 0.12 | 0.08 | 24.9 |
| 2 | T1 | All MCs | 96 | 7.7 | 96 | 7.7 | 0.063 | 0.1 | LOS A | 0.1 | 0.8 | 0.08 | 0.12 | 0.08 | 56.9 |
| 3 | R2 | All MCs | 17 | 6.3 | 17 | 6.3 | 0.063 | 5.9 | LOS A | 0.1 | 0.8 | 0.08 | 0.12 | 0.08 | 43.9 |
| Approach | | | 114 | 7.4 | 114 | 7.4 | 0.063 | 1.0 | NA | 0.1 | 0.8 | 0.08 | 0.12 | 0.08 | 55.2 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 13 | 8.3 | 13 | 8.3 | 0.009 | 4.5 | LOS A | 0.0 | 0.3 | 0.21 | 0.51 | 0.21 | 34.8 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.236 | 4.5 | LOS A | 0.9 | 6.7 | 0.45 | 0.69 | 0.45 | 32.1 |
| 6 | R2 | All MCs | 169 | 10.6 | 169 | 10.6 | 0.236 | 6.5 | LOS A | 0.9 | 6.7 | 0.45 | 0.69 | 0.45 | 37.7 |
| Approach | | | 183 | 10.3 | 183 | 10.3 | 0.236 | 6.4 | LOS A | 0.9 | 6.7 | 0.43 | 0.68 | 0.43 | 37.6 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 181 | 9.9 | 181 | 9.9 | 0.185 | 5.8 | LOS A | 0.9 | 6.5 | 0.08 | 0.34 | 0.08 | 36.4 |
| 8 | T1 | All MCs | 112 | 5.7 | 112 | 5.7 | 0.185 | 0.1 | LOS A | 0.9 | 6.5 | 0.08 | 0.34 | 0.08 | 51.4 |
| 9 | R2 | All MCs | 6 | 33.3 | 6 | 33.3 | 0.185 | 6.2 | LOS A | 0.9 | 6.5 | 0.08 | 0.34 | 0.08 | 36.1 |
| Approach | | | 299 | 8.8 | 299 | 8.8 | 0.185 | 3.6 | NA | 0.9 | 6.5 | 0.08 | 0.34 | 0.08 | 41.3 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 9 | 22.2 | 9 | 22.2 | 0.009 | 5.9 | LOS A | 0.0 | 0.3 | 0.21 | 0.53 | 0.21 | 38.5 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.009 | 5.0 | LOS A | 0.0 | 0.3 | 0.21 | 0.53 | 0.21 | 31.3 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.009 | 6.6 | LOS A | 0.0 | 0.3 | 0.21 | 0.53 | 0.21 | 35.6 |
| Approach | | | 12 | 18.2 | 12 | 18.2 | 0.009 | 5.9 | LOS A | 0.0 | 0.3 | 0.21 | 0.53 | 0.21 | 37.9 |
| All Vehicles | | | 607 | 9.2 | 607 | 9.2 | 0.236 | 4.0 | NA | 0.9 | 6.7 | 0.19 | 0.40 | 0.19 | 42.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. PM_Sloane-Braidwood (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 44 | 26.2 | 44 | 26.2 | 0.579 | 13.8 | LOS A | 3.8 | 29.5 | 0.73 | 1.13 | 1.26 | 33.2 |
| 5 | T1 | All MCs | 52 | 4.1 | 52 | 4.1 | 0.579 | 16.9 | LOS B | 3.8 | 29.5 | 0.73 | 1.13 | 1.26 | 34.8 |
| 6 | R2 | All MCs | 181 | 9.3 | 181 | 9.3 | 0.579 | 20.7 | LOS B | 3.8 | 29.5 | 0.73 | 1.13 | 1.26 | 34.3 |
| Approach | | | 277 | 11.0 | 277 | 11.0 | 0.579 | 18.9 | LOS B | 3.8 | 29.5 | 0.73 | 1.13 | 1.26 | 34.2 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 183 | 5.7 | 183 | 5.7 | 0.241 | 6.1 | LOS A | 1.2 | 8.7 | 0.26 | 0.37 | 0.26 | 47.6 |
| 8 | T1 | All MCs | 157 | 4.7 | 157 | 4.7 | 0.241 | 0.5 | LOS A | 1.2 | 8.7 | 0.26 | 0.37 | 0.26 | 51.2 |
| 9 | R2 | All MCs | 38 | 5.6 | 38 | 5.6 | 0.241 | 6.6 | LOS A | 1.2 | 8.7 | 0.26 | 0.37 | 0.26 | 45.6 |
| Approach | | | 378 | 5.3 | 378 | 5.3 | 0.241 | 3.9 | NA | 1.2 | 8.7 | 0.26 | 0.37 | 0.26 | 48.7 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 17 | 6.3 | 17 | 6.3 | 0.153 | 9.4 | LOS A | 0.6 | 4.3 | 0.51 | 0.99 | 0.51 | 39.0 |
| 11 | T1 | All MCs | 72 | 13.2 | 72 | 13.2 | 0.153 | 12.2 | LOS A | 0.6 | 4.3 | 0.51 | 0.99 | 0.51 | 39.1 |
| 12 | R2 | All MCs | 9 | 11.1 | 9 | 11.1 | 0.153 | 13.3 | LOS A | 0.6 | 4.3 | 0.51 | 0.99 | 0.51 | 37.6 |
| Approach | | | 98 | 11.8 | 98 | 11.8 | 0.153 | 11.9 | LOS A | 0.6 | 4.3 | 0.51 | 0.99 | 0.51 | 38.9 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 13 | 0.0 | 13 | 0.0 | 0.163 | 6.1 | LOS A | 0.3 | 2.6 | 0.11 | 0.15 | 0.11 | 51.4 |
| 2 | T1 | All MCs | 235 | 6.7 | 235 | 6.7 | 0.163 | 0.1 | LOS A | 0.3 | 2.6 | 0.11 | 0.15 | 0.11 | 56.7 |
| 3 | R2 | All MCs | 40 | 15.8 | 40 | 15.8 | 0.163 | 6.3 | LOS A | 0.3 | 2.6 | 0.11 | 0.15 | 0.11 | 47.9 |
| Approach | | | 287 | 7.7 | 287 | 7.7 | 0.163 | 1.3 | NA | 0.3 | 2.6 | 0.11 | 0.15 | 0.11 | 55.0 |
| All Vehicles | | | 1040 | 8.1 | 1040 | 8.1 | 0.579 | 7.9 | NA | 3.8 | 29.5 | 0.37 | 0.57 | 0.51 | 43.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. PM_Bungonia-Forbes (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 121 | 11.3 | 121 | 11.3 | 0.075 | 0.1 | LOS A | 0.1 | 0.6 | 0.06 | 0.08 | 0.06 | 58.9 |
| 6 | R2 | All MCs | 13 | 0.0 | 13 | 0.0 | 0.075 | 6.0 | LOS A | 0.1 | 0.6 | 0.06 | 0.08 | 0.06 | 55.5 |
| Approach | | | 134 | 10.2 | 134 | 10.2 | 0.075 | 0.6 | NA | 0.1 | 0.6 | 0.06 | 0.08 | 0.06 | 58.6 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.013 | 8.5 | LOS A | 0.1 | 0.4 | 0.24 | 0.86 | 0.24 | 48.5 |
| 9 | R2 | All MCs | 16 | 13.3 | 16 | 13.3 | 0.020 | 9.5 | LOS A | 0.1 | 0.5 | 0.35 | 0.89 | 0.35 | 50.0 |
| Approach | | | 33 | 6.5 | 33 | 6.5 | 0.020 | 9.0 | LOS A | 0.1 | 0.5 | 0.29 | 0.88 | 0.29 | 49.3 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 24 | 4.3 | 24 | 4.3 | 0.084 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 56.5 |
| 11 | T1 | All MCs | 132 | 8.0 | 132 | 8.0 | 0.084 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 58.8 |
| Approach | | | 156 | 7.4 | 156 | 7.4 | 0.084 | 0.9 | NA | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 58.3 |
| All Vehicles | | | 322 | 8.5 | 322 | 8.5 | 0.084 | 1.6 | NA | 0.1 | 0.6 | 0.05 | 0.17 | 0.05 | 57.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. PM_Bungonia-Memorial (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 97 | 13.0 | 97 | 13.0 | 0.057 | 5.5 | LOS A | 0.0 | 0.2 | 0.02 | 0.59 | 0.02 | 46.3 |
| 3 | R2 | All MCs | 2 | 50.0 | 2 | 50.0 | 0.057 | 6.3 | LOS A | 0.0 | 0.2 | 0.02 | 0.59 | 0.02 | 41.2 |
| Approach | | | 99 | 13.8 | 99 | 13.8 | 0.057 | 5.5 | NA | 0.0 | 0.2 | 0.02 | 0.59 | 0.02 | 46.2 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.036 | 5.6 | LOS A | 0.1 | 0.8 | 0.18 | 0.54 | 0.18 | 48.6 |
| 6a | R1 | All MCs | 37 | 2.9 | 37 | 2.9 | 0.036 | 5.7 | LOS A | 0.1 | 0.8 | 0.18 | 0.54 | 0.18 | 46.2 |
| Approach | | | 39 | 2.7 | 39 | 2.7 | 0.036 | 5.7 | LOS A | 0.1 | 0.8 | 0.18 | 0.54 | 0.18 | 46.3 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 138 | 7.6 | 138 | 7.6 | 0.082 | 5.4 | LOS A | 0.1 | 0.5 | 0.00 | 0.59 | 0.00 | 45.4 |
| 29a | R1 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.082 | 5.0 | LOS A | 0.1 | 0.5 | 0.00 | 0.59 | 0.00 | 48.8 |
| Approach | | | 148 | 7.1 | 148 | 7.1 | 0.082 | 5.4 | NA | 0.1 | 0.5 | 0.00 | 0.59 | 0.00 | 45.7 |
| All Vehicles | | | 286 | 8.8 | 286 | 8.8 | 0.082 | 5.5 | NA | 0.1 | 0.8 | 0.03 | 0.58 | 0.03 | 46.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. PM_Hume-Garoorigang (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.054 | 0.4 | LOS A | 0.2 | 1.9 | 0.23 | 0.54 | 0.23 | 54.6 |
| 6 | R2 | All MCs | 80 | 10.5 | 80 | 10.5 | 0.054 | 6.0 | LOS A | 0.2 | 1.9 | 0.23 | 0.54 | 0.23 | 47.8 |
| Approach | | | 83 | 10.1 | 83 | 10.1 | 0.054 | 5.7 | NA | 0.2 | 1.9 | 0.23 | 0.54 | 0.23 | 48.1 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 76 | 15.3 | 76 | 15.3 | 0.064 | 5.9 | LOS A | 0.3 | 2.0 | 0.14 | 0.54 | 0.14 | 48.0 |
| 9 | R2 | All MCs | 12 | 18.2 | 12 | 18.2 | 0.064 | 6.4 | LOS A | 0.3 | 2.0 | 0.14 | 0.54 | 0.14 | 47.4 |
| Approach | | | 87 | 15.7 | 87 | 15.7 | 0.064 | 6.0 | LOS A | 0.3 | 2.0 | 0.14 | 0.54 | 0.14 | 48.0 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 63 | 11.7 | 63 | 11.7 | 0.062 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 51.5 |
| 11 | T1 | All MCs | 48 | 0.0 | 48 | 0.0 | 0.062 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 57.2 |
| Approach | | | 112 | 6.6 | 112 | 6.6 | 0.062 | 3.2 | NA | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 54.4 |
| All Vehicles | | | 282 | 10.4 | 282 | 10.4 | 0.064 | 4.8 | NA | 0.3 | 2.0 | 0.11 | 0.46 | 0.11 | 50.7 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. PM_Lagoon-Union (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 173 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 35 | 3.0 | 35 | 3.0 | 0.580 | 63.0 | LOS E | 21.9 | 159.1 | 0.92 | 0.79 | 0.92 | 22.8 |
| 2 | T1 | All MCs | 271 | 4.7 | 271 | 4.7 | * 0.580 | 57.4 | LOS E | 21.9 | 159.1 | 0.92 | 0.79 | 0.92 | 20.8 |
| 3 | R2 | All MCs | 156 | 19.6 | 156 | 19.6 | 0.152 | 20.2 | LOS B | 5.2 | 42.7 | 0.44 | 0.69 | 0.44 | 42.2 |
| Approach | | | 461 | 9.6 | 461 | 9.6 | 0.580 | 45.2 | LOS D | 21.9 | 159.1 | 0.75 | 0.76 | 0.75 | 27.3 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 124 | 13.6 | 124 | 13.6 | 0.236 | 33.1 | LOS C | 8.5 | 65.6 | 0.73 | 0.74 | 0.73 | 32.0 |
| 5 | T1 | All MCs | 168 | 1.3 | 168 | 1.3 | 0.236 | 54.2 | LOS D | 8.8 | 65.6 | 0.78 | 0.66 | 0.78 | 29.2 |
| 6 | R2 | All MCs | 172 | 6.1 | 172 | 6.1 | * 0.528 | 62.3 | LOS E | 12.3 | 90.5 | 0.90 | 0.82 | 0.90 | 21.9 |
| Approach | | | 464 | 6.3 | 464 | 6.3 | 0.528 | 51.5 | LOS D | 12.3 | 90.5 | 0.81 | 0.74 | 0.81 | 27.1 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 141 | 17.2 | 141 | 17.2 | 0.660 | 65.8 | LOS E | 24.9 | 189.5 | 0.93 | 0.83 | 0.93 | 22.6 |
| 8 | T1 | All MCs | 200 | 5.3 | 200 | 5.3 | * 0.660 | 60.2 | LOS E | 24.9 | 189.5 | 0.93 | 0.83 | 0.93 | 20.5 |
| 9 | R2 | All MCs | 147 | 12.1 | 147 | 12.1 | 0.287 | 58.7 | LOS E | 9.4 | 72.7 | 0.81 | 0.78 | 0.81 | 15.5 |
| Approach | | | 488 | 10.8 | 488 | 10.8 | 0.660 | 61.4 | LOS E | 24.9 | 189.5 | 0.90 | 0.81 | 0.90 | 19.0 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 101 | 1.0 | 101 | 1.0 | 0.085 | 17.4 | LOS B | 3.1 | 21.7 | 0.39 | 0.67 | 0.39 | 30.1 |
| 11 | T1 | All MCs | 176 | 3.0 | 176 | 3.0 | 0.149 | 46.8 | LOS D | 5.3 | 38.1 | 0.76 | 0.61 | 0.76 | 29.5 |
| 12 | R2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.058 | 61.0 | LOS E | 1.1 | 7.5 | 0.79 | 0.70 | 0.79 | 22.7 |
| Approach | | | 294 | 2.2 | 294 | 2.2 | 0.149 | 37.5 | LOS C | 5.3 | 38.1 | 0.64 | 0.64 | 0.64 | 28.6 |
| All Vehicles | | | 1707 | 7.8 | 1707 | 7.8 | 0.660 | 50.2 | LOS D | 24.9 | 189.5 | 0.79 | 0.75 | 0.79 | 25.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 Full | 3 | 3 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| North: Union St | | | | | | | | | | | |
| P3 Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| West: Lagoon St | | | | | | | | | | | |
| P4 Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| All Pedestrians | 6 | 6 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. PM_Sloane-Garoorigang (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 33 | 3.2 | 33 | 3.2 | 0.047 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 55.1 |
| 2 | T1 | All MCs | 56 | 0.0 | 56 | 0.0 | 0.047 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 57.8 |
| Approach | | | 88 | 1.2 | 88 | 1.2 | 0.047 | 2.1 | NA | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 56.8 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 14 | 15.4 | 14 | 15.4 | 0.039 | 0.3 | LOS A | 0.2 | 1.4 | 0.19 | 0.45 | 0.19 | 54.8 |
| 9 | R2 | All MCs | 48 | 13.0 | 48 | 13.0 | 0.039 | 5.9 | LOS A | 0.2 | 1.4 | 0.19 | 0.45 | 0.19 | 52.3 |
| Approach | | | 62 | 13.6 | 62 | 13.6 | 0.039 | 4.7 | NA | 0.2 | 1.4 | 0.19 | 0.45 | 0.19 | 52.8 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 79 | 13.3 | 79 | 13.3 | 0.093 | 5.9 | LOS A | 0.4 | 2.7 | 0.16 | 0.55 | 0.16 | 51.7 |
| 12 | R2 | All MCs | 44 | 0.0 | 44 | 0.0 | 0.093 | 5.9 | LOS A | 0.4 | 2.7 | 0.16 | 0.55 | 0.16 | 51.4 |
| Approach | | | 123 | 8.5 | 123 | 8.5 | 0.093 | 5.9 | LOS A | 0.4 | 2.7 | 0.16 | 0.55 | 0.16 | 51.6 |
| All Vehicles | | | 274 | 7.3 | 274 | 7.3 | 0.093 | 4.4 | NA | 0.4 | 2.7 | 0.12 | 0.42 | 0.12 | 53.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. PM_Windellama-Rifle (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 91 | 11.6 | 91 | 11.6 | 0.055 | 0.1 | LOS A | 0.0 | 0.4 | 0.04 | 0.05 | 0.04 | 59.6 |
| 3 | R2 | All MCs | 5 | 40.0 | 5 | 40.0 | 0.055 | 6.5 | LOS A | 0.0 | 0.4 | 0.04 | 0.05 | 0.04 | 54.8 |
| Approach | | | 96 | 13.2 | 96 | 13.2 | 0.055 | 0.4 | NA | 0.0 | 0.4 | 0.04 | 0.05 | 0.04 | 59.3 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.013 | 5.9 | LOS A | 0.0 | 0.3 | 0.27 | 0.57 | 0.27 | 52.2 |
| 6 | R2 | All MCs | 9 | 22.2 | 9 | 22.2 | 0.013 | 6.8 | LOS A | 0.0 | 0.3 | 0.27 | 0.57 | 0.27 | 50.9 |
| Approach | | | 14 | 15.4 | 14 | 15.4 | 0.013 | 6.5 | LOS A | 0.0 | 0.3 | 0.27 | 0.57 | 0.27 | 51.3 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.073 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 57.0 |
| 8 | T1 | All MCs | 125 | 8.4 | 125 | 8.4 | 0.073 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 59.5 |
| Approach | | | 136 | 7.8 | 136 | 7.8 | 0.073 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 59.3 |
| All Vehicles | | | 245 | 10.3 | 245 | 10.3 | 0.073 | 0.8 | NA | 0.0 | 0.4 | 0.03 | 0.08 | 0.03 | 58.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. SAT_Braidwood-Bungonia (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.054 | 5.8 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 25.4 |
| 2 | T1 | All MCs | 89 | 7.1 | 89 | 7.1 | 0.054 | 0.0 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 58.3 |
| 3 | R2 | All MCs | 7 | 14.3 | 7 | 14.3 | 0.054 | 5.9 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 45.2 |
| Approach | | | 98 | 7.5 | 98 | 7.5 | 0.054 | 0.5 | NA | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 57.2 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 5 | 20.0 | 5 | 20.0 | 0.004 | 4.5 | LOS A | 0.0 | 0.1 | 0.20 | 0.50 | 0.20 | 33.8 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.184 | 4.1 | LOS A | 0.7 | 4.9 | 0.39 | 0.65 | 0.39 | 33.4 |
| 6 | R2 | All MCs | 148 | 4.3 | 148 | 4.3 | 0.184 | 5.8 | LOS A | 0.7 | 4.9 | 0.39 | 0.65 | 0.39 | 40.0 |
| Approach | | | 155 | 4.8 | 155 | 4.8 | 0.184 | 5.7 | LOS A | 0.7 | 4.9 | 0.39 | 0.65 | 0.39 | 39.8 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 144 | 7.3 | 144 | 7.3 | 0.151 | 5.7 | LOS A | 0.7 | 4.9 | 0.05 | 0.32 | 0.05 | 36.8 |
| 8 | T1 | All MCs | 103 | 4.1 | 103 | 4.1 | 0.151 | 0.0 | LOS A | 0.7 | 4.9 | 0.05 | 0.32 | 0.05 | 52.1 |
| 9 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.151 | 5.6 | LOS A | 0.7 | 4.9 | 0.05 | 0.32 | 0.05 | 37.7 |
| Approach | | | 251 | 5.9 | 251 | 5.9 | 0.151 | 3.4 | NA | 0.7 | 4.9 | 0.05 | 0.32 | 0.05 | 42.4 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.1 | 0.20 | 0.53 | 0.20 | 42.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 4.9 | LOS A | 0.0 | 0.1 | 0.20 | 0.53 | 0.20 | 31.4 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 6.4 | LOS A | 0.0 | 0.1 | 0.20 | 0.53 | 0.20 | 35.8 |
| Approach | | | 7 | 0.0 | 7 | 0.0 | 0.006 | 5.7 | LOS A | 0.0 | 0.1 | 0.20 | 0.53 | 0.20 | 40.9 |
| All Vehicles | | | 511 | 5.8 | 511 | 5.8 | 0.184 | 3.6 | NA | 0.7 | 4.9 | 0.15 | 0.37 | 0.15 | 43.9 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. SAT_Sloane-Braidwood (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 33 | 12.9 | 33 | 12.9 | 0.413 | 11.2 | LOS A | 2.1 | 15.8 | 0.62 | 1.04 | 0.85 | 37.3 |
| 5 | T1 | All MCs | 47 | 4.4 | 47 | 4.4 | 0.413 | 13.7 | LOS A | 2.1 | 15.8 | 0.62 | 1.04 | 0.85 | 37.8 |
| 6 | R2 | All MCs | 146 | 5.8 | 146 | 5.8 | 0.413 | 15.6 | LOS B | 2.1 | 15.8 | 0.62 | 1.04 | 0.85 | 37.7 |
| Approach | | | 226 | 6.5 | 226 | 6.5 | 0.413 | 14.6 | LOS B | 2.1 | 15.8 | 0.62 | 1.04 | 0.85 | 37.6 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 165 | 4.5 | 165 | 4.5 | 0.240 | 6.0 | LOS A | 1.2 | 8.2 | 0.20 | 0.32 | 0.20 | 48.7 |
| 8 | T1 | All MCs | 192 | 1.6 | 192 | 1.6 | 0.240 | 0.3 | LOS A | 1.2 | 8.2 | 0.20 | 0.32 | 0.20 | 52.3 |
| 9 | R2 | All MCs | 41 | 0.0 | 41 | 0.0 | 0.240 | 6.1 | LOS A | 1.2 | 8.2 | 0.20 | 0.32 | 0.20 | 47.5 |
| Approach | | | 398 | 2.6 | 398 | 2.6 | 0.240 | 3.3 | NA | 1.2 | 8.2 | 0.20 | 0.32 | 0.20 | 50.1 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 16 | 0.0 | 16 | 0.0 | 0.080 | 8.7 | LOS A | 0.3 | 2.1 | 0.43 | 0.93 | 0.43 | 41.0 |
| 11 | T1 | All MCs | 42 | 5.0 | 42 | 5.0 | 0.080 | 10.7 | LOS A | 0.3 | 2.1 | 0.43 | 0.93 | 0.43 | 41.3 |
| 12 | R2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.080 | 11.1 | LOS A | 0.3 | 2.1 | 0.43 | 0.93 | 0.43 | 40.1 |
| Approach | | | 62 | 3.4 | 62 | 3.4 | 0.080 | 10.2 | LOS A | 0.3 | 2.1 | 0.43 | 0.93 | 0.43 | 41.1 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.117 | 6.2 | LOS A | 0.3 | 2.1 | 0.14 | 0.18 | 0.14 | 50.8 |
| 2 | T1 | All MCs | 165 | 1.9 | 165 | 1.9 | 0.117 | 0.2 | LOS A | 0.3 | 2.1 | 0.14 | 0.18 | 0.14 | 56.0 |
| 3 | R2 | All MCs | 41 | 2.6 | 41 | 2.6 | 0.117 | 6.1 | LOS A | 0.3 | 2.1 | 0.14 | 0.18 | 0.14 | 50.4 |
| Approach | | | 211 | 2.0 | 211 | 2.0 | 0.117 | 1.5 | NA | 0.3 | 2.1 | 0.14 | 0.18 | 0.14 | 54.6 |
| All Vehicles | | | 897 | 3.5 | 897 | 3.5 | 0.413 | 6.2 | NA | 2.1 | 15.8 | 0.31 | 0.51 | 0.37 | 46.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. SAT_Bungonia-Forbes (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 97 | 1.1 | 97 | 1.1 | 0.052 | 0.0 | LOS A | 0.0 | 0.1 | 0.02 | 0.02 | 0.02 | 59.7 |
| 6 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.052 | 5.6 | LOS A | 0.0 | 0.1 | 0.02 | 0.02 | 0.02 | 56.2 |
| Approach | | | 100 | 1.1 | 100 | 1.1 | 0.052 | 0.2 | NA | 0.0 | 0.1 | 0.02 | 0.02 | 0.02 | 59.5 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 17 | 12.5 | 17 | 12.5 | 0.014 | 8.9 | LOS A | 0.1 | 0.4 | 0.20 | 0.89 | 0.20 | 47.0 |
| 9 | R2 | All MCs | 22 | 0.0 | 22 | 0.0 | 0.023 | 8.3 | LOS A | 0.1 | 0.5 | 0.28 | 0.88 | 0.28 | 50.9 |
| Approach | | | 39 | 5.4 | 39 | 5.4 | 0.023 | 8.6 | LOS A | 0.1 | 0.5 | 0.24 | 0.88 | 0.24 | 49.4 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 17 | 6.3 | 17 | 6.3 | 0.059 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 56.4 |
| 11 | T1 | All MCs | 95 | 4.4 | 95 | 4.4 | 0.059 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 58.9 |
| Approach | | | 112 | 4.7 | 112 | 4.7 | 0.059 | 0.9 | NA | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 58.4 |
| All Vehicles | | | 251 | 3.4 | 251 | 3.4 | 0.059 | 1.8 | NA | 0.1 | 0.5 | 0.04 | 0.19 | 0.04 | 57.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. SAT_Bungonia-Memorial (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 107 | 2.9 | 107 | 2.9 | 0.059 | 5.4 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 48.0 |
| 3 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.059 | 5.4 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 48.6 |
| Approach | | | 109 | 2.9 | 109 | 2.9 | 0.059 | 5.4 | NA | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 48.0 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.007 | 5.8 | LOS A | 0.0 | 0.2 | 0.23 | 0.54 | 0.23 | 48.2 |
| 6a | R1 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.007 | 5.7 | LOS A | 0.0 | 0.2 | 0.23 | 0.54 | 0.23 | 46.3 |
| Approach | | | 8 | 0.0 | 8 | 0.0 | 0.007 | 5.7 | LOS A | 0.0 | 0.2 | 0.23 | 0.54 | 0.23 | 46.8 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.057 | 5.3 | LOS A | 0.3 | 1.9 | 0.02 | 0.56 | 0.02 | 47.1 |
| 29a | R1 | All MCs | 96 | 3.3 | 96 | 3.3 | 0.057 | 5.0 | LOS A | 0.3 | 1.9 | 0.02 | 0.56 | 0.02 | 48.8 |
| Approach | | | 101 | 3.1 | 101 | 3.1 | 0.057 | 5.0 | NA | 0.3 | 1.9 | 0.02 | 0.56 | 0.02 | 48.8 |
| All Vehicles | | | 219 | 2.9 | 219 | 2.9 | 0.059 | 5.2 | NA | 0.3 | 1.9 | 0.02 | 0.58 | 0.02 | 48.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. SAT_Hume-Garoorigang (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.052 | 0.0 | LOS A | 0.2 | 1.7 | 0.07 | 0.54 | 0.07 | 55.1 |
| 6 | R2 | All MCs | 85 | 3.7 | 85 | 3.7 | 0.052 | 5.5 | LOS A | 0.2 | 1.7 | 0.07 | 0.54 | 0.07 | 48.9 |
| Approach | | | 91 | 3.5 | 91 | 3.5 | 0.052 | 5.2 | NA | 0.2 | 1.7 | 0.07 | 0.54 | 0.07 | 49.4 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 77 | 2.7 | 77 | 2.7 | 0.050 | 5.6 | LOS A | 0.2 | 1.4 | 0.03 | 0.56 | 0.03 | 49.2 |
| 9 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.050 | 5.5 | LOS A | 0.2 | 1.4 | 0.03 | 0.56 | 0.03 | 49.0 |
| Approach | | | 79 | 2.7 | 79 | 2.7 | 0.050 | 5.6 | LOS A | 0.2 | 1.4 | 0.03 | 0.56 | 0.03 | 49.2 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.008 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.42 | 0.00 | 51.2 |
| 11 | T1 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.008 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.42 | 0.00 | 56.3 |
| Approach | | | 15 | 0.0 | 15 | 0.0 | 0.008 | 4.0 | NA | 0.0 | 0.0 | 0.00 | 0.42 | 0.00 | 53.1 |
| All Vehicles | | | 184 | 2.9 | 184 | 2.9 | 0.052 | 5.3 | NA | 0.2 | 1.7 | 0.05 | 0.54 | 0.05 | 49.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. SAT_Lagoon-Union (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 112 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 8 | 0.0 | 8 | 0.0 | 0.439 | 42.3 | LOS C | 10.3 | 73.3 | 0.88 | 0.74 | 0.88 | 29.0 |
| 2 | T1 | All MCs | 218 | 1.9 | 218 | 1.9 | *0.439 | 36.8 | LOS C | 10.3 | 73.3 | 0.88 | 0.74 | 0.88 | 27.1 |
| 3 | R2 | All MCs | 134 | 4.7 | 134 | 4.7 | 0.108 | 11.8 | LOS A | 2.4 | 17.5 | 0.36 | 0.66 | 0.36 | 47.2 |
| Approach | | | 360 | 2.9 | 360 | 2.9 | 0.439 | 27.6 | LOS B | 10.3 | 73.3 | 0.69 | 0.71 | 0.69 | 34.7 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 123 | 4.3 | 123 | 4.3 | 0.222 | 17.6 | LOS B | 5.8 | 42.0 | 0.68 | 0.70 | 0.68 | 39.0 |
| 5 | T1 | All MCs | 204 | 0.0 | 204 | 0.0 | 0.222 | 31.3 | LOS C | 5.9 | 42.0 | 0.72 | 0.62 | 0.72 | 37.6 |
| 6 | R2 | All MCs | 125 | 3.4 | 125 | 3.4 | *0.300 | 35.2 | LOS C | 5.1 | 36.7 | 0.78 | 0.77 | 0.78 | 29.8 |
| Approach | | | 453 | 2.1 | 453 | 2.1 | 0.300 | 28.7 | LOS C | 5.9 | 42.0 | 0.72 | 0.68 | 0.72 | 35.8 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 156 | 5.4 | 156 | 5.4 | 0.864 | 60.8 | LOS E | 19.7 | 141.9 | 1.00 | 1.01 | 1.21 | 22.9 |
| 8 | T1 | All MCs | 175 | 1.2 | 175 | 1.2 | *0.864 | 55.2 | LOS D | 19.7 | 141.9 | 1.00 | 1.01 | 1.21 | 20.6 |
| 9 | R2 | All MCs | 129 | 0.8 | 129 | 0.8 | 0.341 | 47.0 | LOS D | 6.1 | 43.1 | 0.90 | 0.78 | 0.90 | 17.6 |
| Approach | | | 460 | 2.5 | 460 | 2.5 | 0.864 | 54.8 | LOS D | 19.7 | 141.9 | 0.97 | 0.94 | 1.12 | 20.8 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 82 | 0.0 | 82 | 0.0 | 0.071 | 14.2 | LOS A | 1.7 | 12.0 | 0.41 | 0.67 | 0.41 | 32.7 |
| 11 | T1 | All MCs | 166 | 1.3 | 166 | 1.3 | 0.117 | 25.0 | LOS B | 3.0 | 21.0 | 0.70 | 0.55 | 0.70 | 38.2 |
| 12 | R2 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.030 | 34.3 | LOS C | 0.4 | 2.8 | 0.72 | 0.67 | 0.72 | 29.9 |
| Approach | | | 259 | 0.8 | 259 | 0.8 | 0.117 | 21.9 | LOS B | 3.0 | 21.0 | 0.61 | 0.59 | 0.61 | 36.7 |
| All Vehicles | | | 1532 | 2.2 | 1532 | 2.2 | 0.864 | 35.1 | LOS C | 19.7 | 141.9 | 0.77 | 0.75 | 0.82 | 30.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| North: Union St | | | | | | | | | | | |
| P3 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| West: Lagoon St | | | | | | | | | | | |
| P4 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| All Pedestrians | 4 | 4 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. SAT_Sloane-Garoorigang (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 37 | 0.0 | 37 | 0.0 | 0.033 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 54.1 |
| 2 | T1 | All MCs | 25 | 4.2 | 25 | 4.2 | 0.033 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 56.4 |
| Approach | | | 62 | 1.7 | 62 | 1.7 | 0.033 | 3.3 | NA | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 55.0 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 21 | 0.0 | 21 | 0.0 | 0.043 | 0.2 | LOS A | 0.2 | 1.4 | 0.15 | 0.41 | 0.15 | 55.4 |
| 9 | R2 | All MCs | 52 | 6.1 | 52 | 6.1 | 0.043 | 5.7 | LOS A | 0.2 | 1.4 | 0.15 | 0.41 | 0.15 | 53.1 |
| Approach | | | 73 | 4.3 | 73 | 4.3 | 0.043 | 4.1 | NA | 0.2 | 1.4 | 0.15 | 0.41 | 0.15 | 53.7 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 21 | 10.0 | 21 | 10.0 | 0.063 | 5.7 | LOS A | 0.2 | 1.6 | 0.14 | 0.56 | 0.14 | 52.0 |
| 12 | R2 | All MCs | 57 | 0.0 | 57 | 0.0 | 0.063 | 5.9 | LOS A | 0.2 | 1.6 | 0.14 | 0.56 | 0.14 | 51.5 |
| Approach | | | 78 | 2.7 | 78 | 2.7 | 0.063 | 5.8 | LOS A | 0.2 | 1.6 | 0.14 | 0.56 | 0.14 | 51.6 |
| All Vehicles | | | 213 | 3.0 | 213 | 3.0 | 0.063 | 4.5 | NA | 0.2 | 1.6 | 0.10 | 0.45 | 0.10 | 53.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. SAT_Windellama-Rifle (*) (Site Folder: 2023 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

Weekday PM Flows Used
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 91 | 11.6 | 91 | 11.6 | 0.055 | 0.1 | LOS A | 0.0 | 0.4 | 0.04 | 0.05 | 0.04 | 59.6 |
| 3 | R2 | All MCs | 5 | 40.0 | 5 | 40.0 | 0.055 | 6.5 | LOS A | 0.0 | 0.4 | 0.04 | 0.05 | 0.04 | 54.8 |
| Approach | | | 96 | 13.2 | 96 | 13.2 | 0.055 | 0.4 | NA | 0.0 | 0.4 | 0.04 | 0.05 | 0.04 | 59.3 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.013 | 5.9 | LOS A | 0.0 | 0.3 | 0.27 | 0.57 | 0.27 | 52.2 |
| 6 | R2 | All MCs | 9 | 22.2 | 9 | 22.2 | 0.013 | 6.8 | LOS A | 0.0 | 0.3 | 0.27 | 0.57 | 0.27 | 50.9 |
| Approach | | | 14 | 15.4 | 14 | 15.4 | 0.013 | 6.5 | LOS A | 0.0 | 0.3 | 0.27 | 0.57 | 0.27 | 51.3 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.073 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 57.0 |
| 8 | T1 | All MCs | 125 | 8.4 | 125 | 8.4 | 0.073 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 59.5 |
| Approach | | | 136 | 7.8 | 136 | 7.8 | 0.073 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 59.3 |
| All Vehicles | | | 245 | 10.3 | 245 | 10.3 | 0.073 | 0.8 | NA | 0.0 | 0.4 | 0.03 | 0.08 | 0.03 | 58.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. AM_Braidwood-Bungonia (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.052 | 6.0 | LOS A | 0.1 | 0.4 | 0.05 | 0.07 | 0.05 | 25.3 |
| 2 | T1 | All MCs | 80 | 20.0 | 80 | 20.0 | 0.052 | 0.1 | LOS A | 0.1 | 0.4 | 0.05 | 0.07 | 0.05 | 58.1 |
| 3 | R2 | All MCs | 7 | 16.7 | 7 | 16.7 | 0.052 | 6.1 | LOS A | 0.1 | 0.4 | 0.05 | 0.07 | 0.05 | 44.7 |
| Approach | | | 88 | 19.5 | 88 | 19.5 | 0.052 | 0.6 | NA | 0.1 | 0.4 | 0.05 | 0.07 | 0.05 | 56.8 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 10 | 11.1 | 10 | 11.1 | 0.007 | 4.5 | LOS A | 0.0 | 0.2 | 0.22 | 0.51 | 0.22 | 34.4 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.584 | 8.4 | LOS A | 3.8 | 34.9 | 0.67 | 1.01 | 1.14 | 24.0 |
| 6 | R2 | All MCs | 299 | 36.9 | 299 | 36.9 | 0.584 | 12.7 | LOS A | 3.8 | 34.9 | 0.67 | 1.01 | 1.14 | 28.0 |
| Approach | | | 310 | 35.9 | 310 | 35.9 | 0.584 | 12.4 | LOS A | 3.8 | 34.9 | 0.66 | 0.99 | 1.11 | 28.1 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 369 | 28.9 | 369 | 28.9 | 0.338 | 5.9 | LOS A | 1.9 | 16.4 | 0.06 | 0.40 | 0.06 | 35.5 |
| 8 | T1 | All MCs | 119 | 13.3 | 119 | 13.3 | 0.338 | 0.0 | LOS A | 1.9 | 16.4 | 0.06 | 0.40 | 0.06 | 50.5 |
| 9 | R2 | All MCs | 3 | 33.3 | 3 | 33.3 | 0.338 | 6.1 | LOS A | 1.9 | 16.4 | 0.06 | 0.40 | 0.06 | 35.6 |
| Approach | | | 492 | 25.2 | 492 | 25.2 | 0.338 | 4.5 | NA | 1.9 | 16.4 | 0.06 | 0.40 | 0.06 | 38.7 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 7 | 0.0 | 7 | 0.0 | 0.007 | 5.8 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 42.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.007 | 5.0 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 31.4 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.007 | 6.5 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 35.8 |
| Approach | | | 9 | 0.0 | 9 | 0.0 | 0.007 | 5.8 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 41.1 |
| All Vehicles | | | 899 | 28.1 | 899 | 28.1 | 0.584 | 6.9 | NA | 3.8 | 34.9 | 0.27 | 0.57 | 0.43 | 35.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. AM_Sloane-Braidwood (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 43 | 15.8 | 43 | 15.8 | 1.179 | 185.0 | LOS F[11] | 47.3 | 422.9 | 1.00 | 3.83 | 9.63 | 7.2 |
| 5 | T1 | All MCs | 58 | 5.9 | 58 | 5.9 | 1.179 | 191.3 | LOS F[11] | 47.3 | 422.9 | 1.00 | 3.83 | 9.63 | 7.3 |
| 6 | R2 | All MCs | 288 | 40.3 | 288 | 40.3 | 1.179 | 203.8 | LOS F[11] | 47.3 | 422.9 | 1.00 | 3.83 | 9.63 | 7.3 |
| Approach | | | 389 | 32.5 | 389 | 32.5 | 1.179 | 199.8 | LOS F[11] | 47.3 | 422.9 | 1.00 | 3.83 | 9.63 | 7.3 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 402 | 27.7 | 402 | 27.7 | 0.406 | 6.5 | LOS A | 2.4 | 20.4 | 0.28 | 0.43 | 0.28 | 42.8 |
| 8 | T1 | All MCs | 136 | 8.3 | 136 | 8.3 | 0.406 | 0.6 | LOS A | 2.4 | 20.4 | 0.28 | 0.43 | 0.28 | 49.8 |
| 9 | R2 | All MCs | 22 | 5.3 | 22 | 5.3 | 0.406 | 6.5 | LOS A | 2.4 | 20.4 | 0.28 | 0.43 | 0.28 | 44.6 |
| Approach | | | 560 | 22.1 | 560 | 22.1 | 0.406 | 5.1 | NA | 2.4 | 20.4 | 0.28 | 0.43 | 0.28 | 44.2 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.101 | 8.8 | LOS A | 0.4 | 2.8 | 0.43 | 0.96 | 0.43 | 41.0 |
| 11 | T1 | All MCs | 59 | 11.5 | 59 | 11.5 | 0.101 | 10.8 | LOS A | 0.4 | 2.8 | 0.43 | 0.96 | 0.43 | 40.3 |
| 12 | R2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.101 | 10.7 | LOS A | 0.4 | 2.8 | 0.43 | 0.96 | 0.43 | 40.2 |
| Approach | | | 77 | 8.8 | 77 | 8.8 | 0.101 | 10.5 | LOS A | 0.4 | 2.8 | 0.43 | 0.96 | 0.43 | 40.4 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.120 | 6.1 | LOS A | 0.2 | 1.7 | 0.09 | 0.13 | 0.09 | 51.7 |
| 2 | T1 | All MCs | 177 | 8.3 | 177 | 8.3 | 0.120 | 0.1 | LOS A | 0.2 | 1.7 | 0.09 | 0.13 | 0.09 | 57.1 |
| 3 | R2 | All MCs | 28 | 16.0 | 28 | 16.0 | 0.120 | 6.2 | LOS A | 0.2 | 1.7 | 0.09 | 0.13 | 0.09 | 48.1 |
| Approach | | | 211 | 9.1 | 211 | 9.1 | 0.120 | 1.1 | NA | 0.2 | 1.7 | 0.09 | 0.13 | 0.09 | 55.5 |
| All Vehicles | | | 1238 | 22.3 | 1238 | 22.3 | 1.179 | 65.9 | NA | 47.3 | 422.9 | 0.49 | 1.48 | 3.20 | 17.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

# MOVEMENT SUMMARY

## Site: 3 [3. AM_Bungonia-Forbes (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 308 | 36.2 | 308 | 36.2 | 0.208 | 0.1 | LOS A | 0.2 | 1.4 | 0.06 | 0.08 | 0.06 | 59.1 |
| 6 | R2 | All MCs | 17 | 6.7 | 17 | 6.7 | 0.208 | 7.3 | LOS A | 0.2 | 1.4 | 0.06 | 0.08 | 0.06 | 55.3 |
| Approach | | | 325 | 34.6 | 325 | 34.6 | 0.208 | 0.5 | NA | 0.2 | 1.4 | 0.06 | 0.08 | 0.06 | 58.9 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.006 | 9.5 | LOS A | 0.0 | 0.1 | 0.41 | 0.82 | 0.41 | 48.0 |
| 9 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.037 | 12.4 | LOS A | 0.1 | 0.8 | 0.58 | 0.96 | 0.58 | 48.5 |
| Approach | | | 24 | 0.0 | 24 | 0.0 | 0.037 | 11.7 | LOS A | 0.1 | 0.8 | 0.54 | 0.93 | 0.54 | 48.4 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.204 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 57.0 |
| 11 | T1 | All MCs | 314 | 32.2 | 314 | 32.2 | 0.204 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.3 |
| Approach | | | 331 | 30.6 | 331 | 30.6 | 0.204 | 0.3 | NA | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.2 |
| All Vehicles | | | 680 | 31.4 | 680 | 31.4 | 0.208 | 0.8 | NA | 0.2 | 1.4 | 0.05 | 0.08 | 0.05 | 58.5 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.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# MOVEMENT SUMMARY

## Site: 4 [4. AM_Bungonia-Memorial (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 311 | 34.7 | 311 | 34.7 | 0.203 | 5.7 | LOS A | 0.0 | 0.1 | 0.00 | 0.60 | 0.00 | 43.3 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.203 | 5.4 | LOS A | 0.0 | 0.1 | 0.00 | 0.60 | 0.00 | 48.6 |
| Approach | | | 313 | 34.5 | 313 | 34.5 | 0.203 | 5.7 | NA | 0.0 | 0.1 | 0.00 | 0.60 | 0.00 | 43.3 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.037 | 6.7 | LOS A | 0.1 | 0.9 | 0.57 | 0.77 | 0.57 | 43.8 |
| 6a | R1 | All MCs | 16 | 28.6 | 16 | 28.6 | 0.037 | 11.0 | LOS A | 0.1 | 0.9 | 0.57 | 0.77 | 0.57 | 37.8 |
| Approach | | | 17 | 26.7 | 17 | 26.7 | 0.037 | 10.7 | LOS A | 0.1 | 0.9 | 0.57 | 0.77 | 0.57 | 38.2 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 48 | 0.0 | 48 | 0.0 | 0.233 | 5.3 | LOS A | 1.3 | 11.4 | 0.02 | 0.57 | 0.02 | 47.1 |
| 29a | R1 | All MCs | 314 | 32.2 | 314 | 32.2 | 0.233 | 5.3 | LOS A | 1.3 | 11.4 | 0.02 | 0.57 | 0.02 | 47.0 |
| Approach | | | 362 | 28.0 | 362 | 28.0 | 0.233 | 5.3 | NA | 1.3 | 11.4 | 0.02 | 0.57 | 0.02 | 47.0 |
| All Vehicles | | | 691 | 30.9 | 691 | 30.9 | 0.233 | 5.7 | NA | 1.3 | 11.4 | 0.02 | 0.59 | 0.02 | 45.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. AM_Hume-Garoorigang (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 6 | 20.0 | 6 | 20.0 | 0.058 | 0.1 | LOS A | 0.3 | 2.2 | 0.11 | 0.53 | 0.11 | 55.0 |
| 6 | R2 | All MCs | 86 | 19.7 | 86 | 19.7 | 0.058 | 5.8 | LOS A | 0.3 | 2.2 | 0.11 | 0.53 | 0.11 | 47.7 |
| Approach | | | 92 | 19.8 | 92 | 19.8 | 0.058 | 5.4 | NA | 0.3 | 2.2 | 0.11 | 0.53 | 0.11 | 48.3 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 27 | 4.2 | 27 | 4.2 | 0.023 | 5.6 | LOS A | 0.1 | 0.6 | 0.04 | 0.56 | 0.04 | 49.1 |
| 9 | R2 | All MCs | 7 | 0.0 | 7 | 0.0 | 0.023 | 5.5 | LOS A | 0.1 | 0.6 | 0.04 | 0.56 | 0.04 | 48.9 |
| Approach | | | 34 | 3.3 | 34 | 3.3 | 0.023 | 5.6 | LOS A | 0.1 | 0.6 | 0.04 | 0.56 | 0.04 | 49.1 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 22 | 31.6 | 22 | 31.6 | 0.017 | 5.9 | LOS A | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 48.5 |
| 11 | T1 | All MCs | 5 | 25.0 | 5 | 25.0 | 0.017 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 55.9 |
| Approach | | | 26 | 30.4 | 26 | 30.4 | 0.017 | 4.9 | NA | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 50.1 |
| All Vehicles | | | 152 | 17.9 | 152 | 17.9 | 0.058 | 5.4 | NA | 0.3 | 2.2 | 0.07 | 0.53 | 0.07 | 48.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. AM_Lagoon-Union (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 112 seconds (Site User-Given Phase Times)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 44 | 0.0 | 44 | 0.0 | 0.714 | 51.2 | LOS D[11] | 14.6 | 110.9 | 0.98 | 0.86 | 1.02 | 25.8 |
| 2 | T1 | All MCs | 234 | 11.7 | 234 | 11.7 | * 0.714 | 45.7 | LOS D[11] | 14.6 | 110.9 | 0.98 | 0.86 | 1.02 | 23.7 |
| 3 | R2 | All MCs | 217 | 59.7 | 217 | 59.7 | 0.283 | 18.4 | LOS B | 5.8 | 61.4 | 0.53 | 0.72 | 0.53 | 41.8 |
| Approach | | | 496 | 31.7 | 496 | 31.7 | 0.714 | 34.2 | LOS C | 14.6 | 110.9 | 0.78 | 0.80 | 0.81 | 31.8 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 376 | 35.3 | 376 | 35.3 | 0.430 | 19.5 | LOS B | 11.2 | 102.3 | 0.59 | 0.76 | 0.59 | 41.7 |
| 5 | T1 | All MCs | 217 | 6.3 | 217 | 6.3 | 0.361 | 31.3 | LOS C | 9.1 | 67.1 | 0.81 | 0.68 | 0.81 | 35.0 |
| 6 | R2 | All MCs | 178 | 12.1 | 178 | 12.1 | * 0.469 | 40.4 | LOS C | 8.1 | 62.3 | 0.86 | 0.80 | 0.86 | 27.8 |
| Approach | | | 772 | 21.8 | 772 | 21.8 | 0.469 | 27.6 | LOS B | 11.2 | 102.3 | 0.72 | 0.75 | 0.72 | 36.5 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 140 | 9.8 | 140 | 9.8 | * 0.667 | 43.0 | LOS D[11] | 17.5 | 130.8 | 0.93 | 0.82 | 0.93 | 28.3 |
| 8 | T1 | All MCs | 224 | 7.1 | 224 | 7.1 | 0.667 | 36.5 | LOS C | 17.5 | 130.8 | 0.93 | 0.82 | 0.93 | 26.3 |
| 9 | R2 | All MCs | 209 | 13.0 | 209 | 13.0 | 0.406 | 39.1 | LOS C | 9.1 | 71.0 | 0.84 | 0.79 | 0.84 | 19.3 |
| Approach | | | 573 | 9.9 | 573 | 9.9 | 0.667 | 39.1 | LOS C | 17.5 | 130.8 | 0.90 | 0.81 | 0.90 | 24.5 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 70 | 12.9 | 70 | 12.9 | 0.061 | 12.0 | LOS A | 1.3 | 9.8 | 0.35 | 0.65 | 0.35 | 34.3 |
| 11 | T1 | All MCs | 99 | 4.6 | 99 | 4.6 | 0.081 | 28.2 | LOS B | 1.9 | 13.5 | 0.73 | 0.56 | 0.73 | 36.5 |
| 12 | R2 | All MCs | 25 | 4.5 | 25 | 4.5 | 0.148 | 48.3 | LOS D[11] | 1.2 | 8.7 | 0.87 | 0.73 | 0.87 | 25.1 |
| Approach | | | 194 | 7.6 | 194 | 7.6 | 0.148 | 24.9 | LOS B | 1.9 | 13.5 | 0.61 | 0.61 | 0.61 | 33.9 |
| All Vehicles | | | 2035 | 19.5 | 2035 | 19.5 | 0.714 | 32.2 | LOS C | 17.5 | 130.8 | 0.77 | 0.76 | 0.78 | 31.9 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 50.2 | LOS E[12] | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Sydney Rd | | | | | | | | | | | | |
| P2 | Full | 11 | 13 | 50.2 | LOS E[12] | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| North: Union St | | | | | | | | | | | | |
| P3 | Full | 11 | 13 | 50.2 | LOS E[12] | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| West: Lagoon St | | | | | | | | | | | | |
| P4 | Full | 2 | 2 | 50.2 | LOS E[12] | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| All Pedestrians | | 25 | 28 | 50.2 | LOS E[12] | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

12 Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.

# MOVEMENT SUMMARY

## Site: 7 [7. AM_Sloane-Garoorigang (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 38 | 0.0 | 38 | 0.0 | 0.042 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 54.7 |
| 2 | T1 | All MCs | 43 | 0.0 | 43 | 0.0 | 0.042 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 57.2 |
| Approach | | | 81 | 0.0 | 81 | 0.0 | 0.042 | 2.6 | NA | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 56.0 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 13 | 0.0 | 13 | 0.0 | 0.045 | 0.3 | LOS A | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 55.0 |
| 9 | R2 | All MCs | 53 | 31.9 | 53 | 31.9 | 0.045 | 6.2 | LOS A | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 51.6 |
| Approach | | | 66 | 25.9 | 66 | 25.9 | 0.045 | 5.0 | NA | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 52.2 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 16 | 28.6 | 16 | 28.6 | 0.027 | 6.0 | LOS A | 0.1 | 0.8 | 0.15 | 0.55 | 0.15 | 51.2 |
| 12 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.027 | 5.9 | LOS A | 0.1 | 0.8 | 0.15 | 0.55 | 0.15 | 51.4 |
| Approach | | | 34 | 13.3 | 34 | 13.3 | 0.027 | 6.0 | LOS A | 0.1 | 0.8 | 0.15 | 0.55 | 0.15 | 51.3 |
| All Vehicles | | | 181 | 11.9 | 181 | 11.9 | 0.045 | 4.1 | NA | 0.2 | 1.8 | 0.10 | 0.40 | 0.10 | 53.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. AM_Windellama-Rifle (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 301 | 36.6 | 301 | 36.6 | 0.197 | 0.0 | LOS A | 0.1 | 0.6 | 0.03 | 0.03 | 0.03 | 59.7 |
| 3 | R2 | All MCs | 8 | 0.0 | 8 | 0.0 | 0.197 | 6.8 | LOS A | 0.1 | 0.6 | 0.03 | 0.03 | 0.03 | 56.9 |
| Approach | | | 309 | 35.7 | 309 | 35.7 | 0.197 | 0.2 | NA | 0.1 | 0.6 | 0.03 | 0.03 | 0.03 | 59.6 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.018 | 6.7 | LOS A | 0.1 | 0.4 | 0.50 | 0.69 | 0.50 | 50.7 |
| 6 | R2 | All MCs | 10 | 0.0 | 10 | 0.0 | 0.018 | 8.9 | LOS A | 0.1 | 0.4 | 0.50 | 0.69 | 0.50 | 50.4 |
| Approach | | | 13 | 0.0 | 13 | 0.0 | 0.018 | 8.5 | LOS A | 0.1 | 0.4 | 0.50 | 0.69 | 0.50 | 50.5 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 7 | 66.7 | 7 | 66.7 | 0.200 | 6.4 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 54.2 |
| 8 | T1 | All MCs | 311 | 33.2 | 311 | 33.2 | 0.200 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 59.8 |
| Approach | | | 318 | 33.9 | 318 | 33.9 | 0.200 | 0.2 | NA | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 59.7 |
| All Vehicles | | | 640 | 34.1 | 640 | 34.1 | 0.200 | 0.4 | NA | 0.1 | 0.6 | 0.02 | 0.04 | 0.02 | 59.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 9 [9. AM_Windellama-Site Access (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Stop (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Road | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 266 | 25.2 | 266 | 25.2 | 0.160 | 0.0 | LOS A | 0.0 | 0.1 | 0.01 | 0.00 | 0.01 | 59.9 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.160 | 5.7 | LOS A | 0.0 | 0.1 | 0.01 | 0.00 | 0.01 | 57.1 |
| Approach | | | 267 | 25.1 | 267 | 25.1 | 0.160 | 0.0 | NA | 0.0 | 0.1 | 0.01 | 0.00 | 0.01 | 59.9 |
| East: Site Access | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.205 | 9.3 | LOS A | 0.7 | 9.5 | 0.74 | 1.05 | 0.77 | 42.7 |
| 6 | R2 | All MCs | 44 | 97.4 | 44 | 97.4 | 0.205 | 27.9 | LOS B | 0.7 | 9.5 | 0.74 | 1.05 | 0.77 | 40.0 |
| Approach | | | 45 | 95.0 | 45 | 95.0 | 0.205 | 27.4 | LOS B | 0.7 | 9.5 | 0.74 | 1.05 | 0.77 | 40.1 |
| North: Windellama Road | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 115 | 37.6 | 115 | 37.6 | 0.078 | 6.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.57 | 0.00 | 51.3 |
| 8 | T1 | All MCs | 199 | 30.3 | 199 | 30.3 | 0.122 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | | 314 | 33.0 | 314 | 33.0 | 0.122 | 2.2 | NA | 0.0 | 0.0 | 0.00 | 0.21 | 0.00 | 56.5 |
| All Vehicles | | | 626 | 34.1 | 626 | 34.1 | 0.205 | 3.1 | NA | 0.7 | 9.5 | 0.06 | 0.18 | 0.06 | 56.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. PM_Braidwood-Bungonia (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.068 | 5.9 | LOS A | 0.1 | 0.9 | 0.08 | 0.12 | 0.08 | 24.9 |
| 2 | T1 | All MCs | 103 | 7.7 | 103 | 7.7 | 0.068 | 0.1 | LOS A | 0.1 | 0.9 | 0.08 | 0.12 | 0.08 | 56.8 |
| 3 | R2 | All MCs | 18 | 6.2 | 18 | 6.2 | 0.068 | 6.0 | LOS A | 0.1 | 0.9 | 0.08 | 0.12 | 0.08 | 43.8 |
| Approach | | | 123 | 7.4 | 123 | 7.4 | 0.068 | 1.0 | NA | 0.1 | 0.9 | 0.08 | 0.12 | 0.08 | 55.1 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 14 | 8.3 | 14 | 8.3 | 0.010 | 5.1 | LOS A | 0.0 | 0.3 | 0.21 | 0.51 | 0.21 | 34.7 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.807 | 13.9 | LOS A | 9.0 | 77.1 | 0.81 | 1.33 | 2.02 | 20.0 |
| 6 | R2 | All MCs | 447 | 26.5 | 447 | 26.5 | 0.807 | 18.3 | LOS B | 9.0 | 77.1 | 0.81 | 1.33 | 2.02 | 25.9 |
| Approach | | | 462 | 25.9 | 462 | 25.9 | 0.807 | 17.9 | LOS B | 9.0 | 77.1 | 0.79 | 1.31 | 1.97 | 25.6 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 294 | 40.2 | 294 | 40.2 | 0.303 | 6.2 | LOS A | 1.7 | 14.6 | 0.11 | 0.37 | 0.11 | 35.8 |
| 8 | T1 | All MCs | 121 | 5.7 | 121 | 5.7 | 0.303 | 0.1 | LOS A | 1.7 | 14.6 | 0.11 | 0.37 | 0.11 | 51.2 |
| 9 | R2 | All MCs | 7 | 33.3 | 7 | 33.3 | 0.303 | 6.5 | LOS A | 1.7 | 14.6 | 0.11 | 0.37 | 0.11 | 36.0 |
| Approach | | | 422 | 30.2 | 422 | 30.2 | 0.303 | 4.4 | NA | 1.7 | 14.6 | 0.11 | 0.37 | 0.11 | 39.6 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 10 | 22.2 | 10 | 22.2 | 0.010 | 6.0 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 38.4 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.010 | 5.1 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 31.2 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.010 | 6.7 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 35.6 |
| Approach | | | 13 | 18.2 | 13 | 18.2 | 0.010 | 6.0 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 37.8 |
| All Vehicles | | | 1019 | 25.3 | 1019 | 25.3 | 0.807 | 10.2 | NA | 9.0 | 77.1 | 0.42 | 0.77 | 0.95 | 33.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. PM_Sloane-Braidwood (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 48 | 26.2 | 48 | 26.2 | 1.922 | 843.4 | LOS F[11] | 173.3 | 1457.0 | 1.00 | 8.05 | 24.24 | 1.9 |
| 5 | T1 | All MCs | 56 | 4.1 | 56 | 4.1 | 1.922 | 849.5 | LOS F[11] | 173.3 | 1457.0 | 1.00 | 8.05 | 24.24 | 1.9 |
| 6 | R2 | All MCs | 459 | 25.5 | 459 | 25.5 | 1.922 | 860.3 | LOS F[11] | 173.3 | 1457.0 | 1.00 | 8.05 | 24.24 | 1.9 |
| Approach | | | 563 | 23.4 | 563 | 23.4 | 1.922 | 857.8 | LOS F[11] | 173.3 | 1457.0 | 1.00 | 8.05 | 24.24 | 1.9 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 297 | 37.2 | 297 | 37.2 | 0.382 | 6.9 | LOS A | 2.2 | 18.8 | 0.34 | 0.43 | 0.34 | 41.8 |
| 8 | T1 | All MCs | 169 | 4.7 | 169 | 4.7 | 0.382 | 0.9 | LOS A | 2.2 | 18.8 | 0.34 | 0.43 | 0.34 | 50.6 |
| 9 | R2 | All MCs | 41 | 5.6 | 41 | 5.6 | 0.382 | 7.0 | LOS A | 2.2 | 18.8 | 0.34 | 0.43 | 0.34 | 45.2 |
| Approach | | | 507 | 23.8 | 507 | 23.8 | 0.382 | 4.9 | NA | 2.2 | 18.8 | 0.34 | 0.43 | 0.34 | 44.4 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 18 | 6.2 | 18 | 6.2 | 0.175 | 9.6 | LOS A | 0.6 | 4.9 | 0.53 | 1.00 | 0.53 | 38.6 |
| 11 | T1 | All MCs | 77 | 13.2 | 77 | 13.2 | 0.175 | 12.8 | LOS A | 0.6 | 4.9 | 0.53 | 1.00 | 0.53 | 38.7 |
| 12 | R2 | All MCs | 10 | 11.1 | 10 | 11.1 | 0.175 | 14.1 | LOS A | 0.6 | 4.9 | 0.53 | 1.00 | 0.53 | 37.2 |
| Approach | | | 106 | 11.8 | 106 | 11.8 | 0.175 | 12.3 | LOS A | 0.6 | 4.9 | 0.53 | 1.00 | 0.53 | 38.5 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.176 | 6.2 | LOS A | 0.4 | 2.9 | 0.12 | 0.16 | 0.12 | 51.3 |
| 2 | T1 | All MCs | 254 | 6.7 | 254 | 6.7 | 0.176 | 0.2 | LOS A | 0.4 | 2.9 | 0.12 | 0.16 | 0.12 | 56.7 |
| 3 | R2 | All MCs | 43 | 15.8 | 43 | 15.8 | 0.176 | 6.4 | LOS A | 0.4 | 2.9 | 0.12 | 0.16 | 0.12 | 47.8 |
| Approach | | | 310 | 7.7 | 310 | 7.7 | 0.176 | 1.3 | NA | 0.4 | 2.9 | 0.12 | 0.16 | 0.12 | 54.9 |
| All Vehicles | | | 1486 | 19.4 | 1486 | 19.4 | 1.922 | 327.7 | NA | 173.3 | 1457.0 | 0.56 | 3.30 | 9.36 | 4.5 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

# MOVEMENT SUMMARY

## Site: 3 [3. PM_Bungonia-Forbes (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 394 | 28.8 | 394 | 28.8 | 0.250 | 0.1 | LOS A | 0.1 | 1.0 | 0.03 | 0.04 | 0.03 | 59.5 |
| 6 | R2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.250 | 6.9 | LOS A | 0.1 | 1.0 | 0.03 | 0.04 | 0.03 | 56.0 |
| Approach | | | 408 | 27.9 | 408 | 27.9 | 0.250 | 0.3 | NA | 0.1 | 1.0 | 0.03 | 0.04 | 0.03 | 59.3 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.017 | 9.2 | LOS A | 0.1 | 0.4 | 0.37 | 0.85 | 0.37 | 48.2 |
| 9 | R2 | All MCs | 17 | 13.3 | 17 | 13.3 | 0.043 | 14.7 | LOS B | 0.1 | 1.0 | 0.63 | 1.00 | 0.63 | 47.0 |
| Approach | | | 35 | 6.5 | 35 | 6.5 | 0.043 | 11.9 | LOS A | 0.1 | 1.0 | 0.49 | 0.92 | 0.49 | 47.5 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 26 | 4.3 | 26 | 4.3 | 0.175 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 56.4 |
| 11 | T1 | All MCs | 241 | 45.8 | 241 | 45.8 | 0.175 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 58.7 |
| Approach | | | 267 | 41.7 | 267 | 41.7 | 0.175 | 0.6 | NA | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 58.4 |
| All Vehicles | | | 711 | 32.0 | 711 | 32.0 | 0.250 | 1.0 | NA | 0.1 | 1.0 | 0.04 | 0.09 | 0.04 | 58.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. PM_Bungonia-Memorial (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 368 | 30.6 | 368 | 30.6 | 0.236 | 5.7 | LOS A | 0.0 | 0.2 | 0.01 | 0.60 | 0.01 | 43.9 |
| 3 | R2 | All MCs | 2 | 50.0 | 2 | 50.0 | 0.236 | 6.2 | LOS A | 0.0 | 0.2 | 0.01 | 0.60 | 0.01 | 41.3 |
| Approach | | | 371 | 30.7 | 371 | 30.7 | 0.236 | 5.7 | NA | 0.0 | 0.2 | 0.01 | 0.60 | 0.01 | 43.8 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.075 | 6.5 | LOS A | 0.2 | 1.7 | 0.56 | 0.80 | 0.56 | 44.7 |
| 6a | R1 | All MCs | 40 | 2.9 | 40 | 2.9 | 0.075 | 9.6 | LOS A | 0.2 | 1.7 | 0.56 | 0.80 | 0.56 | 42.1 |
| Approach | | | 42 | 2.7 | 42 | 2.7 | 0.075 | 9.5 | LOS A | 0.2 | 1.7 | 0.56 | 0.80 | 0.56 | 42.2 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 149 | 7.6 | 149 | 7.6 | 0.263 | 5.4 | LOS A | 1.5 | 13.3 | 0.03 | 0.57 | 0.03 | 45.5 |
| 29a | R1 | All MCs | 248 | 44.5 | 248 | 44.5 | 0.263 | 5.5 | LOS A | 1.5 | 13.3 | 0.03 | 0.57 | 0.03 | 46.1 |
| Approach | | | 397 | 30.7 | 397 | 30.7 | 0.263 | 5.5 | NA | 1.5 | 13.3 | 0.03 | 0.57 | 0.03 | 45.9 |
| All Vehicles | | | 809 | 29.2 | 809 | 29.2 | 0.263 | 5.8 | NA | 1.5 | 13.3 | 0.05 | 0.59 | 0.05 | 44.7 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. PM_Hume-Garoorigang (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.059 | 0.4 | LOS A | 0.3 | 2.1 | 0.24 | 0.55 | 0.24 | 54.5 |
| 6 | R2 | All MCs | 86 | 10.5 | 86 | 10.5 | 0.059 | 6.0 | LOS A | 0.3 | 2.1 | 0.24 | 0.55 | 0.24 | 47.7 |
| Approach | | | 90 | 10.1 | 90 | 10.1 | 0.059 | 5.8 | NA | 0.3 | 2.1 | 0.24 | 0.55 | 0.24 | 48.1 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 82 | 15.3 | 82 | 15.3 | 0.069 | 5.9 | LOS A | 0.3 | 2.2 | 0.15 | 0.54 | 0.15 | 48.0 |
| 9 | R2 | All MCs | 13 | 18.2 | 13 | 18.2 | 0.069 | 6.5 | LOS A | 0.3 | 2.2 | 0.15 | 0.54 | 0.15 | 47.4 |
| Approach | | | 94 | 15.7 | 94 | 15.7 | 0.069 | 6.0 | LOS A | 0.3 | 2.2 | 0.15 | 0.54 | 0.15 | 47.9 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 68 | 11.7 | 68 | 11.7 | 0.067 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 51.5 |
| 11 | T1 | All MCs | 52 | 0.0 | 52 | 0.0 | 0.067 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 57.2 |
| Approach | | | 121 | 6.6 | 121 | 6.6 | 0.067 | 3.2 | NA | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 54.4 |
| All Vehicles | | | 305 | 10.4 | 305 | 10.4 | 0.069 | 4.8 | NA | 0.3 | 2.2 | 0.12 | 0.46 | 0.12 | 50.7 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. PM_Lagoon-Union (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 173 seconds (Site User-Given Phase Times)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 38 | 3.0 | 38 | 3.0 | 0.715 | 70.6 | LOS F[11] | 24.8 | 180.1 | 0.96 | 0.85 | 0.96 | 22.2 |
| 2 | T1 | All MCs | 292 | 4.7 | 292 | 4.7 | *0.715 | 65.0 | LOS E[11] | 24.8 | 180.1 | 0.96 | 0.85 | 0.96 | 20.2 |
| 3 | R2 | All MCs | 432 | 30.5 | 432 | 30.5 | 0.461 | 29.1 | LOS C | 18.6 | 164.1 | 0.56 | 0.77 | 0.56 | 39.8 |
| Approach | | | 762 | 19.3 | 762 | 19.3 | 0.715 | 44.9 | LOS D[11] | 24.8 | 180.1 | 0.73 | 0.81 | 0.73 | 29.0 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 233 | 50.2 | 233 | 50.2 | 0.295 | 24.5 | LOS B | 9.9 | 98.4 | 0.54 | 0.73 | 0.54 | 38.6 |
| 5 | T1 | All MCs | 182 | 1.3 | 182 | 1.3 | 0.295 | 48.0 | LOS D[11] | 11.2 | 98.4 | 0.80 | 0.67 | 0.80 | 28.9 |
| 6 | R2 | All MCs | 185 | 6.1 | 185 | 6.1 | *0.586 | 64.2 | LOS E[11] | 13.6 | 100.3 | 0.92 | 0.83 | 0.92 | 21.5 |
| Approach | | | 600 | 21.8 | 600 | 21.8 | 0.586 | 43.9 | LOS D[11] | 13.6 | 100.3 | 0.73 | 0.74 | 0.73 | 29.7 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 152 | 17.2 | 152 | 17.2 | 0.742 | 72.3 | LOS F[11] | 27.8 | 211.2 | 0.96 | 0.85 | 0.96 | 22.2 |
| 8 | T1 | All MCs | 216 | 5.3 | 216 | 5.3 | *0.742 | 66.7 | LOS E[11] | 27.8 | 211.2 | 0.96 | 0.85 | 0.96 | 20.1 |
| 9 | R2 | All MCs | 159 | 12.1 | 159 | 12.1 | 0.310 | 63.9 | LOS E[11] | 10.2 | 79.1 | 0.82 | 0.78 | 0.82 | 15.4 |
| Approach | | | 527 | 10.8 | 527 | 10.8 | 0.742 | 67.5 | LOS E[11] | 27.8 | 211.2 | 0.92 | 0.83 | 0.92 | 17.9 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 109 | 1.0 | 109 | 1.0 | 0.091 | 17.4 | LOS B | 3.3 | 23.6 | 0.40 | 0.67 | 0.40 | 30.0 |
| 11 | T1 | All MCs | 190 | 3.0 | 190 | 3.0 | 0.163 | 48.3 | LOS D[11] | 5.8 | 41.9 | 0.76 | 0.61 | 0.76 | 29.4 |
| 12 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.081 | 67.7 | LOS E[11] | 1.2 | 8.5 | 0.81 | 0.71 | 0.81 | 21.8 |
| Approach | | | 317 | 2.2 | 317 | 2.2 | 0.163 | 38.8 | LOS C | 5.8 | 41.9 | 0.64 | 0.64 | 0.64 | 28.1 |
| All Vehicles | | | 2207 | 15.5 | 2207 | 15.5 | 0.742 | 49.2 | LOS D[11] | 27.8 | 211.2 | 0.77 | 0.77 | 0.77 | 26.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 80.6 | LOS F[12] | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Sydney Rd | | | | | | | | | | | |
| P2 Full | 3 | 3 | 80.6 | LOS F[12] | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| North: Union St | | | | | | | | | | | |
| P3 Full | 1 | 1 | 80.6 | LOS F[12] | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| West: Lagoon St | | | | | | | | | | | |
| P4 Full | 1 | 1 | 80.6 | LOS F[12] | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| All Pedestrians | 6 | 7 | 80.6 | LOS F[12] | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

12 Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.

# MOVEMENT SUMMARY

## Site: 7 [7. PM_Sloane-Garoorigang (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 35 | 3.2 | 35 | 3.2 | 0.050 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 55.1 |
| 2 | T1 | All MCs | 60 | 0.0 | 60 | 0.0 | 0.050 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 57.8 |
| Approach | | | 95 | 1.2 | 95 | 1.2 | 0.050 | 2.1 | NA | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 56.8 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 15 | 15.4 | 15 | 15.4 | 0.043 | 0.3 | LOS A | 0.2 | 1.5 | 0.20 | 0.45 | 0.20 | 54.8 |
| 9 | R2 | All MCs | 52 | 13.0 | 52 | 13.0 | 0.043 | 5.9 | LOS A | 0.2 | 1.5 | 0.20 | 0.45 | 0.20 | 52.3 |
| Approach | | | 67 | 13.6 | 67 | 13.6 | 0.043 | 4.7 | NA | 0.2 | 1.5 | 0.20 | 0.45 | 0.20 | 52.8 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 85 | 13.3 | 85 | 13.3 | 0.101 | 5.9 | LOS A | 0.4 | 2.9 | 0.17 | 0.55 | 0.17 | 51.7 |
| 12 | R2 | All MCs | 48 | 0.0 | 48 | 0.0 | 0.101 | 6.0 | LOS A | 0.4 | 2.9 | 0.17 | 0.55 | 0.17 | 51.4 |
| Approach | | | 133 | 8.5 | 133 | 8.5 | 0.101 | 5.9 | LOS A | 0.4 | 2.9 | 0.17 | 0.55 | 0.17 | 51.6 |
| All Vehicles | | | 296 | 7.3 | 296 | 7.3 | 0.101 | 4.4 | NA | 0.4 | 2.9 | 0.12 | 0.42 | 0.12 | 53.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. PM_Windellama-Rifle (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 362 | 30.5 | 362 | 30.5 | 0.228 | 0.0 | LOS A | 0.1 | 0.6 | 0.02 | 0.02 | 0.02 | 59.8 |
| 3 | R2 | All MCs | 6 | 40.0 | 6 | 40.0 | 0.228 | 7.0 | LOS A | 0.1 | 0.6 | 0.02 | 0.02 | 0.02 | 55.0 |
| Approach | | | 367 | 30.7 | 367 | 30.7 | 0.228 | 0.1 | NA | 0.1 | 0.6 | 0.02 | 0.02 | 0.02 | 59.8 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.024 | 6.4 | LOS A | 0.1 | 0.6 | 0.50 | 0.68 | 0.50 | 50.2 |
| 6 | R2 | All MCs | 10 | 22.2 | 10 | 22.2 | 0.024 | 10.6 | LOS A | 0.1 | 0.6 | 0.50 | 0.68 | 0.50 | 49.1 |
| Approach | | | 15 | 15.4 | 15 | 15.4 | 0.024 | 9.3 | LOS A | 0.1 | 0.6 | 0.50 | 0.68 | 0.50 | 49.5 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.163 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 57.0 |
| 8 | T1 | All MCs | 234 | 47.1 | 234 | 47.1 | 0.163 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.4 |
| Approach | | | 246 | 44.9 | 246 | 44.9 | 0.163 | 0.3 | NA | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.3 |
| All Vehicles | | | 628 | 35.9 | 628 | 35.9 | 0.228 | 0.4 | NA | 0.1 | 0.6 | 0.02 | 0.04 | 0.02 | 59.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 9 [9. PM_Windellama-Site Access (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Stop (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Road | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 252 | 27.5 | 252 | 27.5 | 0.154 | 0.0 | LOS A | 0.0 | 0.1 | 0.00 | 0.00 | 0.00 | 59.9 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.154 | 5.6 | LOS A | 0.0 | 0.1 | 0.00 | 0.00 | 0.00 | 57.1 |
| Approach | | | 254 | 27.4 | 254 | 27.4 | 0.154 | 0.0 | NA | 0.0 | 0.1 | 0.00 | 0.00 | 0.00 | 59.9 |
| East: Site Access | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.319 | 10.1 | LOS A | 1.4 | 12.7 | 0.67 | 1.07 | 0.82 | 45.5 |
| 6 | R2 | All MCs | 115 | 37.6 | 115 | 37.6 | 0.319 | 19.6 | LOS B | 1.4 | 12.7 | 0.67 | 1.07 | 0.82 | 44.3 |
| Approach | | | 116 | 37.3 | 116 | 37.3 | 0.319 | 19.5 | LOS B | 1.4 | 12.7 | 0.67 | 1.07 | 0.82 | 44.3 |
| North: Windellama Road | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 44 | 97.4 | 44 | 97.4 | 0.040 | 6.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.56 | 0.00 | 49.1 |
| 8 | T1 | All MCs | 196 | 34.3 | 196 | 34.3 | 0.123 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | | 240 | 46.0 | 240 | 46.0 | 0.123 | 1.3 | NA | 0.0 | 0.0 | 0.00 | 0.10 | 0.00 | 57.6 |
| All Vehicles | | | 609 | 36.6 | 609 | 36.6 | 0.319 | 4.2 | NA | 1.4 | 12.7 | 0.13 | 0.25 | 0.16 | 55.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. SAT_Braidwood-Bungonia (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.058 | 5.9 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 25.4 |
| 2 | T1 | All MCs | 97 | 7.1 | 97 | 7.1 | 0.058 | 0.0 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 58.3 |
| 3 | R2 | All MCs | 8 | 14.3 | 8 | 14.3 | 0.058 | 6.0 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 45.2 |
| Approach | | | 106 | 7.5 | 106 | 7.5 | 0.058 | 0.6 | NA | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 57.2 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 6 | 20.0 | 6 | 20.0 | 0.004 | 4.5 | LOS A | 0.0 | 0.1 | 0.21 | 0.50 | 0.21 | 33.7 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.620 | 8.6 | LOS A | 4.5 | 39.4 | 0.68 | 1.02 | 1.20 | 24.2 |
| 6 | R2 | All MCs | 341 | 31.0 | 341 | 31.0 | 0.620 | 12.5 | LOS A | 4.5 | 39.4 | 0.68 | 1.02 | 1.20 | 28.8 |
| Approach | | | 348 | 30.7 | 348 | 30.7 | 0.620 | 12.4 | LOS A | 4.5 | 39.4 | 0.68 | 1.01 | 1.19 | 28.9 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 337 | 32.8 | 337 | 32.8 | 0.314 | 6.0 | LOS A | 1.7 | 14.9 | 0.07 | 0.39 | 0.07 | 35.7 |
| 8 | T1 | All MCs | 111 | 4.1 | 111 | 4.1 | 0.314 | 0.0 | LOS A | 1.7 | 14.9 | 0.07 | 0.39 | 0.07 | 50.8 |
| 9 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.314 | 5.6 | LOS A | 1.7 | 14.9 | 0.07 | 0.39 | 0.07 | 37.1 |
| Approach | | | 451 | 25.4 | 451 | 25.4 | 0.314 | 4.5 | NA | 1.7 | 14.9 | 0.07 | 0.39 | 0.07 | 38.9 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.2 | 0.21 | 0.53 | 0.21 | 42.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 4.9 | LOS A | 0.0 | 0.2 | 0.21 | 0.53 | 0.21 | 31.3 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 6.5 | LOS A | 0.0 | 0.2 | 0.21 | 0.53 | 0.21 | 35.7 |
| Approach | | | 8 | 0.0 | 8 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.2 | 0.21 | 0.53 | 0.21 | 40.8 |
| All Vehicles | | | 913 | 25.2 | 913 | 25.2 | 0.620 | 7.1 | NA | 4.5 | 39.4 | 0.30 | 0.59 | 0.49 | 35.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. SAT_Sloane-Braidwood (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 35 | 12.9 | 35 | 12.9 | 1.432 | 404.7 | LOS F[11] | 86.3 | 743.6 | 1.00 | 5.73 | 16.25 | 3.7 |
| 5 | T1 | All MCs | 51 | 4.4 | 51 | 4.4 | 1.432 | 411.3 | LOS F[11] | 86.3 | 743.6 | 1.00 | 5.73 | 16.25 | 3.7 |
| 6 | R2 | All MCs | 339 | 31.9 | 339 | 31.9 | 1.432 | 422.3 | LOS F[11] | 86.3 | 743.6 | 1.00 | 5.73 | 16.25 | 3.8 |
| Approach | | | 425 | 27.0 | 425 | 27.0 | 1.432 | 419.5 | LOS F[11] | 86.3 | 743.6 | 1.00 | 5.73 | 16.25 | 3.7 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 359 | 29.7 | 359 | 29.7 | 0.429 | 6.5 | LOS A | 2.7 | 21.8 | 0.29 | 0.40 | 0.29 | 43.1 |
| 8 | T1 | All MCs | 207 | 1.6 | 207 | 1.6 | 0.429 | 0.6 | LOS A | 2.7 | 21.8 | 0.29 | 0.40 | 0.29 | 50.8 |
| 9 | R2 | All MCs | 44 | 0.0 | 44 | 0.0 | 0.429 | 6.4 | LOS A | 2.7 | 21.8 | 0.29 | 0.40 | 0.29 | 46.3 |
| Approach | | | 610 | 18.1 | 610 | 18.1 | 0.429 | 4.5 | NA | 2.7 | 21.8 | 0.29 | 0.40 | 0.29 | 45.5 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.090 | 8.7 | LOS A | 0.3 | 2.4 | 0.45 | 0.93 | 0.45 | 40.7 |
| 11 | T1 | All MCs | 45 | 5.0 | 45 | 5.0 | 0.090 | 11.1 | LOS A | 0.3 | 2.4 | 0.45 | 0.93 | 0.45 | 41.1 |
| 12 | R2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.090 | 11.6 | LOS A | 0.3 | 2.4 | 0.45 | 0.93 | 0.45 | 39.8 |
| Approach | | | 67 | 3.4 | 67 | 3.4 | 0.090 | 10.5 | LOS A | 0.3 | 2.4 | 0.45 | 0.93 | 0.45 | 40.9 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.126 | 6.2 | LOS A | 0.3 | 2.3 | 0.15 | 0.19 | 0.15 | 50.7 |
| 2 | T1 | All MCs | 178 | 1.9 | 178 | 1.9 | 0.126 | 0.2 | LOS A | 0.3 | 2.3 | 0.15 | 0.19 | 0.15 | 55.9 |
| 3 | R2 | All MCs | 44 | 2.6 | 44 | 2.6 | 0.126 | 6.2 | LOS A | 0.3 | 2.3 | 0.15 | 0.19 | 0.15 | 50.4 |
| Approach | | | 227 | 2.0 | 227 | 2.0 | 0.126 | 1.5 | NA | 0.3 | 2.3 | 0.15 | 0.19 | 0.15 | 54.5 |
| All Vehicles | | | 1330 | 17.4 | 1330 | 17.4 | 1.432 | 137.0 | NA | 86.3 | 743.6 | 0.50 | 2.10 | 5.38 | 9.7 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

# MOVEMENT SUMMARY

## Site: 3 [3. SAT_Bungonia-Forbes (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 285 | 35.1 | 285 | 35.1 | 0.182 | 0.0 | LOS A | 0.0 | 0.3 | 0.01 | 0.01 | 0.01 | 59.8 |
| 6 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.182 | 6.1 | LOS A | 0.0 | 0.3 | 0.01 | 0.01 | 0.01 | 56.3 |
| Approach | | | 289 | 34.6 | 289 | 34.6 | 0.182 | 0.1 | NA | 0.0 | 0.3 | 0.01 | 0.01 | 0.01 | 59.8 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 18 | 12.5 | 18 | 12.5 | 0.020 | 10.2 | LOS A | 0.1 | 0.6 | 0.41 | 0.87 | 0.41 | 46.4 |
| 9 | R2 | All MCs | 24 | 0.0 | 24 | 0.0 | 0.044 | 11.7 | LOS A | 0.1 | 1.0 | 0.54 | 0.96 | 0.54 | 49.0 |
| Approach | | | 42 | 5.4 | 42 | 5.4 | 0.044 | 11.0 | LOS A | 0.1 | 1.0 | 0.48 | 0.92 | 0.48 | 48.0 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 18 | 6.2 | 18 | 6.2 | 0.190 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 56.7 |
| 11 | T1 | All MCs | 283 | 36.5 | 283 | 36.5 | 0.190 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.3 |
| Approach | | | 301 | 34.7 | 301 | 34.7 | 0.190 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.0 |
| All Vehicles | | | 632 | 32.7 | 632 | 32.7 | 0.190 | 1.0 | NA | 0.1 | 1.0 | 0.04 | 0.08 | 0.04 | 58.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. SAT_Bungonia-Memorial (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 297 | 34.5 | 297 | 34.5 | 0.194 | 5.7 | LOS A | 0.0 | 0.1 | 0.00 | 0.60 | 0.00 | 43.3 |
| 3 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.194 | 5.4 | LOS A | 0.0 | 0.1 | 0.00 | 0.60 | 0.00 | 48.6 |
| Approach | | | 299 | 34.2 | 299 | 34.2 | 0.194 | 5.7 | NA | 0.0 | 0.1 | 0.00 | 0.60 | 0.00 | 43.4 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.012 | 6.6 | LOS A | 0.0 | 0.3 | 0.47 | 0.64 | 0.47 | 46.4 |
| 6a | R1 | All MCs | 7 | 0.0 | 7 | 0.0 | 0.012 | 8.1 | LOS A | 0.0 | 0.3 | 0.47 | 0.64 | 0.47 | 44.3 |
| Approach | | | 9 | 0.0 | 9 | 0.0 | 0.012 | 7.7 | LOS A | 0.0 | 0.3 | 0.47 | 0.64 | 0.47 | 44.9 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.190 | 5.3 | LOS A | 1.0 | 9.3 | 0.03 | 0.57 | 0.03 | 47.1 |
| 29a | R1 | All MCs | 284 | 36.0 | 284 | 36.0 | 0.190 | 5.4 | LOS A | 1.0 | 9.3 | 0.03 | 0.57 | 0.03 | 46.8 |
| Approach | | | 290 | 35.3 | 290 | 35.3 | 0.190 | 5.4 | NA | 1.0 | 9.3 | 0.03 | 0.57 | 0.03 | 46.8 |
| All Vehicles | | | 598 | 34.2 | 598 | 34.2 | 0.194 | 5.6 | NA | 1.0 | 9.3 | 0.02 | 0.58 | 0.02 | 45.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. SAT_Hume-Garoorigang (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.056 | 0.0 | LOS A | 0.3 | 1.9 | 0.07 | 0.54 | 0.07 | 55.1 |
| 6 | R2 | All MCs | 92 | 3.7 | 92 | 3.7 | 0.056 | 5.5 | LOS A | 0.3 | 1.9 | 0.07 | 0.54 | 0.07 | 48.9 |
| Approach | | | 98 | 3.5 | 98 | 3.5 | 0.056 | 5.2 | NA | 0.3 | 1.9 | 0.07 | 0.54 | 0.07 | 49.4 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 83 | 2.7 | 83 | 2.7 | 0.054 | 5.6 | LOS A | 0.2 | 1.6 | 0.03 | 0.56 | 0.03 | 49.2 |
| 9 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.054 | 5.5 | LOS A | 0.2 | 1.6 | 0.03 | 0.56 | 0.03 | 49.0 |
| Approach | | | 85 | 2.7 | 85 | 2.7 | 0.054 | 5.6 | LOS A | 0.2 | 1.6 | 0.03 | 0.56 | 0.03 | 49.2 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.008 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.42 | 0.00 | 51.2 |
| 11 | T1 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.008 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.42 | 0.00 | 56.3 |
| Approach | | | 16 | 0.0 | 16 | 0.0 | 0.008 | 4.0 | NA | 0.0 | 0.0 | 0.00 | 0.42 | 0.00 | 53.1 |
| All Vehicles | | | 199 | 2.9 | 199 | 2.9 | 0.056 | 5.3 | NA | 0.3 | 1.9 | 0.05 | 0.54 | 0.05 | 49.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. SAT_Lagoon-Union (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 112 seconds (Site User-Given Phase Times)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 9 | 0.0 | 9 | 0.0 | 0.481 | 42.8 | LOS D[11] | 11.4 | 81.3 | 0.89 | 0.75 | 0.89 | 28.8 |
| 2 | T1 | All MCs | 239 | 1.9 | 239 | 1.9 | * 0.481 | 37.3 | LOS C | 11.4 | 81.3 | 0.89 | 0.75 | 0.89 | 26.9 |
| 3 | R2 | All MCs | 325 | 32.5 | 325 | 32.5 | 0.314 | 13.3 | LOS A | 7.0 | 62.4 | 0.43 | 0.70 | 0.43 | 45.5 |
| Approach | | | 573 | 19.2 | 573 | 19.2 | 0.481 | 23.8 | LOS B | 11.4 | 81.3 | 0.63 | 0.72 | 0.63 | 37.7 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 314 | 33.3 | 314 | 33.3 | 0.308 | 13.2 | LOS A | 6.7 | 60.5 | 0.43 | 0.70 | 0.43 | 45.4 |
| 5 | T1 | All MCs | 221 | 0.0 | 221 | 0.0 | 0.308 | 27.1 | LOS B | 8.5 | 60.5 | 0.76 | 0.64 | 0.76 | 37.1 |
| 6 | R2 | All MCs | 135 | 3.4 | 135 | 3.4 | * 0.330 | 35.6 | LOS C | 5.6 | 40.1 | 0.79 | 0.78 | 0.79 | 29.6 |
| Approach | | | 670 | 16.3 | 670 | 16.3 | 0.330 | 22.3 | LOS B | 8.5 | 60.5 | 0.61 | 0.70 | 0.61 | 39.3 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 168 | 5.4 | 168 | 5.4 | 0.933 | 72.2 | LOS F[11] | 23.8 | 171.2 | 1.00 | 1.12 | 1.37 | 20.5 |
| 8 | T1 | All MCs | 189 | 1.2 | 189 | 1.2 | * 0.933 | 66.6 | LOS E[11] | 23.8 | 171.2 | 1.00 | 1.12 | 1.37 | 18.3 |
| 9 | R2 | All MCs | 140 | 0.8 | 140 | 0.8 | 0.369 | 47.3 | LOS D[11] | 6.7 | 46.9 | 0.91 | 0.79 | 0.91 | 17.5 |
| Approach | | | 497 | 2.5 | 497 | 2.5 | 0.933 | 63.1 | LOS E[11] | 23.8 | 171.2 | 0.97 | 1.03 | 1.24 | 19.0 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 89 | 0.0 | 89 | 0.0 | 0.076 | 14.2 | LOS A | 1.9 | 13.0 | 0.42 | 0.67 | 0.42 | 32.7 |
| 11 | T1 | All MCs | 180 | 1.3 | 180 | 1.3 | 0.127 | 25.1 | LOS B | 3.2 | 22.8 | 0.70 | 0.56 | 0.70 | 38.1 |
| 12 | R2 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.044 | 37.1 | LOS C | 0.5 | 3.2 | 0.75 | 0.68 | 0.75 | 28.8 |
| Approach | | | 280 | 0.8 | 280 | 0.8 | 0.127 | 22.1 | LOS B | 3.2 | 22.8 | 0.61 | 0.60 | 0.61 | 36.6 |
| All Vehicles | | | 2019 | 11.6 | 2019 | 11.6 | 0.933 | 32.7 | LOS C | 23.8 | 171.2 | 0.70 | 0.77 | 0.77 | 32.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 50.2 | LOS E[12] | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Sydney Rd | | | | | | | | | | | |
| P2 Full | 1 | 1 | 50.2 | LOS E[12] | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| North: Union St | | | | | | | | | | | |
| P3 Full | 1 | 1 | 50.2 | LOS E[12] | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| West: Lagoon St | | | | | | | | | | | |
| P4 Full | 1 | 1 | 50.2 | LOS E[12] | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| All Pedestrians | 4 | 5 | 50.2 | LOS E[12] | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

12 Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.

# MOVEMENT SUMMARY

## Site: 7 [7. SAT_Sloane-Garoorigang (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 40 | 0.0 | 40 | 0.0 | 0.036 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 54.1 |
| 2 | T1 | All MCs | 27 | 4.2 | 27 | 4.2 | 0.036 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 56.4 |
| Approach | | | 67 | 1.7 | 67 | 1.7 | 0.036 | 3.3 | NA | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 55.0 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 23 | 0.0 | 23 | 0.0 | 0.046 | 0.2 | LOS A | 0.2 | 1.6 | 0.16 | 0.41 | 0.16 | 55.4 |
| 9 | R2 | All MCs | 56 | 6.1 | 56 | 6.1 | 0.046 | 5.7 | LOS A | 0.2 | 1.6 | 0.16 | 0.41 | 0.16 | 53.1 |
| Approach | | | 78 | 4.3 | 78 | 4.3 | 0.046 | 4.1 | NA | 0.2 | 1.6 | 0.16 | 0.41 | 0.16 | 53.7 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 23 | 10.0 | 23 | 10.0 | 0.068 | 5.7 | LOS A | 0.2 | 1.7 | 0.15 | 0.56 | 0.15 | 52.0 |
| 12 | R2 | All MCs | 61 | 0.0 | 61 | 0.0 | 0.068 | 5.9 | LOS A | 0.2 | 1.7 | 0.15 | 0.56 | 0.15 | 51.5 |
| Approach | | | 84 | 2.7 | 84 | 2.7 | 0.068 | 5.9 | LOS A | 0.2 | 1.7 | 0.15 | 0.56 | 0.15 | 51.6 |
| All Vehicles | | | 230 | 3.0 | 230 | 3.0 | 0.068 | 4.5 | NA | 0.2 | 1.7 | 0.11 | 0.45 | 0.11 | 53.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. SAT_Windellama-Rifle (*) (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

Weekday PM Flows Used
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 279 | 39.6 | 279 | 39.6 | 0.186 | 0.1 | LOS A | 0.1 | 0.7 | 0.03 | 0.03 | 0.03 | 59.8 |
| 3 | R2 | All MCs | 6 | 40.0 | 6 | 40.0 | 0.186 | 8.3 | LOS A | 0.1 | 0.7 | 0.03 | 0.03 | 0.03 | 54.9 |
| Approach | | | 284 | 39.6 | 284 | 39.6 | 0.186 | 0.2 | NA | 0.1 | 0.7 | 0.03 | 0.03 | 0.03 | 59.7 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.024 | 6.8 | LOS A | 0.1 | 0.6 | 0.51 | 0.70 | 0.51 | 50.2 |
| 6 | R2 | All MCs | 10 | 22.2 | 10 | 22.2 | 0.024 | 10.5 | LOS A | 0.1 | 0.6 | 0.51 | 0.70 | 0.51 | 49.1 |
| Approach | | | 15 | 15.4 | 15 | 15.4 | 0.024 | 9.4 | LOS A | 0.1 | 0.6 | 0.51 | 0.70 | 0.51 | 49.4 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.205 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 57.1 |
| 8 | T1 | All MCs | 316 | 34.9 | 316 | 34.9 | 0.205 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 59.6 |
| Approach | | | 327 | 33.7 | 327 | 33.7 | 0.205 | 0.3 | NA | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 59.5 |
| All Vehicles | | | 626 | 35.9 | 626 | 35.9 | 0.205 | 0.5 | NA | 0.1 | 0.7 | 0.02 | 0.04 | 0.02 | 59.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 9 [9. SAT_Windellama-Site Access (Site Folder: 2027 Base)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Stop (Two-Way)
Design Life Analysis (Final Year): Results for 4 years

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Road | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 206 | 33.7 | 206 | 33.7 | 0.130 | 0.0 | LOS A | 0.0 | 0.1 | 0.01 | 0.00 | 0.01 | 59.9 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.130 | 5.8 | LOS A | 0.0 | 0.1 | 0.01 | 0.00 | 0.01 | 57.1 |
| Approach | | | 207 | 33.5 | 207 | 33.5 | 0.130 | 0.0 | NA | 0.0 | 0.1 | 0.01 | 0.00 | 0.01 | 59.9 |
| East: Site Access | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.260 | 10.0 | LOS A | 1.0 | 10.3 | 0.68 | 1.06 | 0.77 | 44.9 |
| 6 | R2 | All MCs | 80 | 54.3 | 80 | 54.3 | 0.260 | 21.5 | LOS B | 1.0 | 10.3 | 0.68 | 1.06 | 0.77 | 43.2 |
| Approach | | | 81 | 53.5 | 81 | 53.5 | 0.260 | 21.4 | LOS B | 1.0 | 10.3 | 0.68 | 1.06 | 0.77 | 43.2 |
| North: Windellama Road | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 80 | 54.3 | 80 | 54.3 | 0.059 | 6.2 | LOS A | 0.0 | 0.0 | 0.00 | 0.57 | 0.00 | 50.7 |
| 8 | T1 | All MCs | 242 | 27.7 | 242 | 27.7 | 0.147 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | | 322 | 34.3 | 322 | 34.3 | 0.147 | 1.6 | NA | 0.0 | 0.0 | 0.00 | 0.14 | 0.00 | 57.3 |
| All Vehicles | | | 609 | 36.6 | 609 | 36.6 | 0.260 | 3.7 | NA | 1.0 | 10.3 | 0.09 | 0.22 | 0.10 | 55.7 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. AM_Braidwood-Bungonia (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.051 | 6.0 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 25.3 |
| 2 | T1 | All MCs | 79 | 20.0 | 79 | 20.0 | 0.051 | 0.0 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 58.2 |
| 3 | R2 | All MCs | 6 | 16.7 | 6 | 16.7 | 0.051 | 6.1 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 44.9 |
| Approach | | | 86 | 19.5 | 86 | 19.5 | 0.051 | 0.6 | NA | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 57.0 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 11 | 10.0 | 11 | 10.0 | 0.008 | 4.5 | LOS A | 0.0 | 0.2 | 0.22 | 0.51 | 0.22 | 34.5 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.296 | 4.6 | LOS A | 1.2 | 8.9 | 0.46 | 0.70 | 0.48 | 32.0 |
| 6 | R2 | All MCs | 220 | 8.1 | 220 | 8.1 | 0.296 | 6.6 | LOS A | 1.2 | 8.9 | 0.46 | 0.70 | 0.48 | 38.1 |
| Approach | | | 232 | 8.2 | 232 | 8.2 | 0.296 | 6.5 | LOS A | 1.2 | 8.9 | 0.45 | 0.69 | 0.47 | 38.0 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 184 | 17.7 | 184 | 17.7 | 0.196 | 5.8 | LOS A | 0.9 | 7.3 | 0.05 | 0.33 | 0.05 | 36.5 |
| 8 | T1 | All MCs | 119 | 13.3 | 119 | 13.3 | 0.196 | 0.0 | LOS A | 0.9 | 7.3 | 0.05 | 0.33 | 0.05 | 51.9 |
| 9 | R2 | All MCs | 3 | 33.3 | 3 | 33.3 | 0.196 | 6.0 | LOS A | 0.9 | 7.3 | 0.05 | 0.33 | 0.05 | 36.3 |
| Approach | | | 306 | 16.2 | 306 | 16.2 | 0.196 | 3.6 | NA | 0.9 | 7.3 | 0.05 | 0.33 | 0.05 | 41.8 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 42.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 4.9 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 31.4 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 6.5 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 35.8 |
| Approach | | | 8 | 0.0 | 8 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 41.1 |
| All Vehicles | | | 633 | 13.5 | 633 | 13.5 | 0.296 | 4.2 | NA | 1.2 | 8.9 | 0.20 | 0.43 | 0.20 | 42.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. AM_Sloane-Braidwood (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 43 | 14.6 | 43 | 14.6 | 0.587 | 12.9 | LOS A | 4.2 | 32.2 | 0.71 | 1.11 | 1.22 | 34.9 |
| 5 | T1 | All MCs | 58 | 5.5 | 58 | 5.5 | 0.587 | 16.0 | LOS B | 4.2 | 32.2 | 0.71 | 1.11 | 1.22 | 35.5 |
| 6 | R2 | All MCs | 208 | 11.1 | 208 | 11.1 | 0.587 | 19.2 | LOS B | 4.2 | 32.2 | 0.71 | 1.11 | 1.22 | 34.9 |
| Approach | | | 309 | 10.5 | 309 | 10.5 | 0.587 | 17.7 | LOS B | 4.2 | 32.2 | 0.71 | 1.11 | 1.22 | 35.0 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 204 | 11.9 | 204 | 11.9 | 0.238 | 6.2 | LOS A | 1.2 | 9.0 | 0.25 | 0.38 | 0.25 | 46.3 |
| 8 | T1 | All MCs | 137 | 8.5 | 137 | 8.5 | 0.238 | 0.4 | LOS A | 1.2 | 9.0 | 0.25 | 0.38 | 0.25 | 51.0 |
| 9 | R2 | All MCs | 21 | 5.0 | 21 | 5.0 | 0.238 | 6.3 | LOS A | 1.2 | 9.0 | 0.25 | 0.38 | 0.25 | 45.6 |
| Approach | | | 362 | 10.2 | 362 | 10.2 | 0.238 | 4.0 | NA | 1.2 | 9.0 | 0.25 | 0.38 | 0.25 | 47.8 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.102 | 8.8 | LOS A | 0.4 | 2.8 | 0.44 | 0.96 | 0.44 | 40.9 |
| 11 | T1 | All MCs | 59 | 10.7 | 59 | 10.7 | 0.102 | 10.9 | LOS A | 0.4 | 2.8 | 0.44 | 0.96 | 0.44 | 40.4 |
| 12 | R2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.102 | 10.9 | LOS A | 0.4 | 2.8 | 0.44 | 0.96 | 0.44 | 40.0 |
| Approach | | | 77 | 8.2 | 77 | 8.2 | 0.102 | 10.5 | LOS A | 0.4 | 2.8 | 0.44 | 0.96 | 0.44 | 40.5 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.136 | 6.2 | LOS A | 0.4 | 2.9 | 0.14 | 0.18 | 0.14 | 51.4 |
| 2 | T1 | All MCs | 177 | 8.3 | 177 | 8.3 | 0.136 | 0.2 | LOS A | 0.4 | 2.9 | 0.14 | 0.18 | 0.14 | 56.7 |
| 3 | R2 | All MCs | 41 | 41.0 | 41 | 41.0 | 0.136 | 6.7 | LOS A | 0.4 | 2.9 | 0.14 | 0.18 | 0.14 | 42.9 |
| Approach | | | 223 | 14.2 | 223 | 14.2 | 0.136 | 1.6 | NA | 0.4 | 2.9 | 0.14 | 0.18 | 0.14 | 53.2 |
| All Vehicles | | | 972 | 11.1 | 972 | 11.1 | 0.587 | 8.3 | NA | 4.2 | 32.2 | 0.38 | 0.61 | 0.55 | 42.9 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. AM_Bungonia-Forbes (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 229 | 8.3 | 229 | 8.3 | 0.136 | 0.1 | LOS A | 0.1 | 0.9 | 0.05 | 0.06 | 0.05 | 59.2 |
| 6 | R2 | All MCs | 17 | 6.3 | 17 | 6.3 | 0.136 | 6.2 | LOS A | 0.1 | 0.9 | 0.05 | 0.06 | 0.05 | 55.4 |
| Approach | | | 246 | 8.1 | 246 | 8.1 | 0.136 | 0.5 | NA | 0.1 | 0.9 | 0.05 | 0.06 | 0.05 | 58.9 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.004 | 8.5 | LOS A | 0.0 | 0.1 | 0.24 | 0.85 | 0.24 | 48.5 |
| 9 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.023 | 9.4 | LOS A | 0.1 | 0.5 | 0.41 | 0.89 | 0.41 | 50.3 |
| Approach | | | 23 | 0.0 | 23 | 0.0 | 0.023 | 9.2 | LOS A | 0.1 | 0.5 | 0.37 | 0.88 | 0.37 | 50.0 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.083 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.07 | 0.00 | 56.8 |
| 11 | T1 | All MCs | 127 | 20.7 | 127 | 20.7 | 0.083 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.07 | 0.00 | 58.9 |
| Approach | | | 144 | 18.2 | 144 | 18.2 | 0.083 | 0.7 | NA | 0.0 | 0.0 | 0.00 | 0.07 | 0.00 | 58.6 |
| All Vehicles | | | 414 | 11.2 | 414 | 11.2 | 0.136 | 1.0 | NA | 0.1 | 0.9 | 0.05 | 0.11 | 0.05 | 58.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. AM_Bungonia-Memorial (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 233 | 6.8 | 233 | 6.8 | 0.128 | 5.4 | LOS A | 0.0 | 0.0 | 0.00 | 0.59 | 0.00 | 47.4 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.128 | 5.4 | LOS A | 0.0 | 0.0 | 0.00 | 0.59 | 0.00 | 48.6 |
| Approach | | | 234 | 6.8 | 234 | 6.8 | 0.128 | 5.4 | NA | 0.0 | 0.0 | 0.00 | 0.59 | 0.00 | 47.4 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.022 | 6.0 | LOS A | 0.1 | 0.6 | 0.40 | 0.62 | 0.40 | 47.1 |
| 6a | R1 | All MCs | 16 | 26.7 | 16 | 26.7 | 0.022 | 7.5 | LOS A | 0.1 | 0.6 | 0.40 | 0.62 | 0.40 | 41.0 |
| Approach | | | 17 | 25.0 | 17 | 25.0 | 0.022 | 7.4 | LOS A | 0.1 | 0.6 | 0.40 | 0.62 | 0.40 | 41.4 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.095 | 5.3 | LOS A | 0.5 | 3.8 | 0.01 | 0.57 | 0.01 | 47.2 |
| 29a | R1 | All MCs | 147 | 22.1 | 147 | 22.1 | 0.095 | 5.2 | LOS A | 0.5 | 3.8 | 0.01 | 0.57 | 0.01 | 47.7 |
| Approach | | | 154 | 21.2 | 154 | 21.2 | 0.095 | 5.2 | NA | 0.5 | 3.8 | 0.01 | 0.57 | 0.01 | 47.7 |
| All Vehicles | | | 404 | 13.0 | 404 | 13.0 | 0.128 | 5.4 | NA | 0.5 | 3.8 | 0.02 | 0.59 | 0.02 | 47.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. AM_Hume-Garoorigang (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 5 | 20.0 | 5 | 20.0 | 0.057 | 0.1 | LOS A | 0.3 | 2.2 | 0.10 | 0.54 | 0.10 | 55.0 |
| 6 | R2 | All MCs | 86 | 19.5 | 86 | 19.5 | 0.057 | 5.8 | LOS A | 0.3 | 2.2 | 0.10 | 0.54 | 0.10 | 47.7 |
| Approach | | | 92 | 19.5 | 92 | 19.5 | 0.057 | 5.5 | NA | 0.3 | 2.2 | 0.10 | 0.54 | 0.10 | 48.3 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 33 | 19.4 | 33 | 19.4 | 0.030 | 5.8 | LOS A | 0.1 | 0.9 | 0.04 | 0.56 | 0.04 | 48.2 |
| 9 | R2 | All MCs | 8 | 25.0 | 8 | 25.0 | 0.030 | 5.9 | LOS A | 0.1 | 0.9 | 0.04 | 0.56 | 0.04 | 47.5 |
| Approach | | | 41 | 20.5 | 41 | 20.5 | 0.030 | 5.8 | LOS A | 0.1 | 0.9 | 0.04 | 0.56 | 0.04 | 48.1 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 21 | 30.0 | 21 | 30.0 | 0.016 | 5.9 | LOS A | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 48.5 |
| 11 | T1 | All MCs | 4 | 25.0 | 4 | 25.0 | 0.016 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 55.8 |
| Approach | | | 25 | 29.2 | 25 | 29.2 | 0.016 | 4.9 | NA | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 50.1 |
| All Vehicles | | | 158 | 21.3 | 158 | 21.3 | 0.057 | 5.5 | NA | 0.3 | 2.2 | 0.07 | 0.53 | 0.07 | 48.5 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. AM_Lagoon-Union (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 112 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 44 | 0.0 | 44 | 0.0 | 0.715 | 51.2 | LOS D | 14.6 | 111.1 | 0.99 | 0.86 | 1.02 | 25.7 |
| 2 | T1 | All MCs | 235 | 11.7 | 235 | 11.7 | * 0.715 | 45.7 | LOS D | 14.6 | 111.1 | 0.99 | 0.86 | 1.02 | 23.7 |
| 3 | R2 | All MCs | 138 | 26.7 | 138 | 26.7 | 0.150 | 16.8 | LOS B | 3.3 | 28.7 | 0.48 | 0.69 | 0.48 | 43.5 |
| Approach | | | 417 | 15.4 | 417 | 15.4 | 0.715 | 36.7 | LOS C | 14.6 | 111.1 | 0.82 | 0.80 | 0.84 | 30.2 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 140 | 33.8 | 140 | 33.8 | 0.294 | 23.6 | LOS B | 6.7 | 57.6 | 0.72 | 0.73 | 0.72 | 37.2 |
| 5 | T1 | All MCs | 217 | 6.3 | 217 | 6.3 | 0.294 | 33.8 | LOS C | 7.2 | 57.6 | 0.78 | 0.67 | 0.78 | 35.5 |
| 6 | R2 | All MCs | 179 | 12.4 | 179 | 12.4 | * 0.471 | 40.4 | LOS C | 8.1 | 62.6 | 0.86 | 0.80 | 0.86 | 27.8 |
| Approach | | | 536 | 15.5 | 536 | 15.5 | 0.471 | 33.3 | LOS C | 8.1 | 62.6 | 0.79 | 0.73 | 0.79 | 33.4 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 140 | 9.8 | 140 | 9.8 | * 0.667 | 43.0 | LOS D | 17.5 | 130.9 | 0.93 | 0.82 | 0.93 | 28.3 |
| 8 | T1 | All MCs | 224 | 7.0 | 224 | 7.0 | 0.667 | 36.5 | LOS C | 17.5 | 130.9 | 0.93 | 0.82 | 0.93 | 26.3 |
| 9 | R2 | All MCs | 209 | 13.1 | 209 | 13.1 | 0.406 | 39.1 | LOS C | 9.1 | 71.1 | 0.84 | 0.79 | 0.84 | 19.3 |
| Approach | | | 574 | 9.9 | 574 | 9.9 | 0.667 | 39.1 | LOS C | 17.5 | 130.9 | 0.90 | 0.81 | 0.90 | 24.5 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 71 | 13.4 | 71 | 13.4 | 0.061 | 12.0 | LOS A | 1.3 | 9.8 | 0.35 | 0.65 | 0.35 | 34.3 |
| 11 | T1 | All MCs | 99 | 4.3 | 99 | 4.3 | 0.081 | 28.2 | LOS B | 1.9 | 13.5 | 0.73 | 0.56 | 0.73 | 36.5 |
| 12 | R2 | All MCs | 25 | 4.2 | 25 | 4.2 | 0.095 | 41.0 | LOS C | 1.1 | 7.8 | 0.80 | 0.71 | 0.80 | 27.4 |
| Approach | | | 195 | 7.6 | 195 | 7.6 | 0.095 | 24.0 | LOS B | 1.9 | 13.5 | 0.60 | 0.61 | 0.60 | 34.4 |
| All Vehicles | | | 1721 | 12.7 | 1721 | 12.7 | 0.715 | 35.0 | LOS C | 17.5 | 130.9 | 0.81 | 0.76 | 0.82 | 29.9 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 | Full | 11 | 12 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| North: Union St | | | | | | | | | | | | |
| P3 | Full | 11 | 12 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| West: Lagoon St | | | | | | | | | | | | |
| P4 | Full | 2 | 2 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| All Pedestrians | | 25 | 26 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. AM_Sloane-Garoorigang (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 38 | 0.0 | 38 | 0.0 | 0.043 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 54.7 |
| 2 | T1 | All MCs | 43 | 0.0 | 43 | 0.0 | 0.043 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 57.2 |
| Approach | | | 81 | 0.0 | 81 | 0.0 | 0.043 | 2.6 | NA | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 56.0 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 13 | 0.0 | 13 | 0.0 | 0.045 | 0.3 | LOS A | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 55.0 |
| 9 | R2 | All MCs | 54 | 31.4 | 54 | 31.4 | 0.045 | 6.2 | LOS A | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 51.6 |
| Approach | | | 66 | 25.4 | 66 | 25.4 | 0.045 | 5.0 | NA | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 52.2 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 21 | 45.0 | 21 | 45.0 | 0.032 | 6.2 | LOS A | 0.1 | 1.0 | 0.15 | 0.55 | 0.15 | 50.5 |
| 12 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.032 | 5.9 | LOS A | 0.1 | 1.0 | 0.15 | 0.55 | 0.15 | 51.4 |
| Approach | | | 39 | 24.3 | 39 | 24.3 | 0.032 | 6.1 | LOS A | 0.1 | 1.0 | 0.15 | 0.55 | 0.15 | 50.9 |
| All Vehicles | | | 186 | 14.1 | 186 | 14.1 | 0.045 | 4.2 | NA | 0.2 | 1.8 | 0.10 | 0.40 | 0.10 | 53.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. AM_Windellama-Rifle (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 222 | 8.1 | 222 | 8.1 | 0.125 | 0.0 | LOS A | 0.1 | 0.4 | 0.02 | 0.03 | 0.02 | 59.7 |
| 3 | R2 | All MCs | 8 | 0.0 | 8 | 0.0 | 0.125 | 5.7 | LOS A | 0.1 | 0.4 | 0.02 | 0.03 | 0.02 | 56.9 |
| Approach | | | 231 | 7.8 | 231 | 7.8 | 0.125 | 0.2 | NA | 0.1 | 0.4 | 0.02 | 0.03 | 0.02 | 59.6 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.013 | 5.9 | LOS A | 0.0 | 0.3 | 0.34 | 0.59 | 0.34 | 52.0 |
| 6 | R2 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.013 | 6.9 | LOS A | 0.0 | 0.3 | 0.34 | 0.59 | 0.34 | 51.7 |
| Approach | | | 13 | 0.0 | 13 | 0.0 | 0.013 | 6.7 | LOS A | 0.0 | 0.3 | 0.34 | 0.59 | 0.34 | 51.7 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 6 | 66.7 | 6 | 66.7 | 0.079 | 6.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 54.2 |
| 8 | T1 | All MCs | 125 | 22.7 | 125 | 22.7 | 0.079 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.8 |
| Approach | | | 132 | 24.8 | 132 | 24.8 | 0.079 | 0.3 | NA | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.5 |
| All Vehicles | | | 375 | 13.5 | 375 | 13.5 | 0.125 | 0.5 | NA | 0.1 | 0.4 | 0.03 | 0.05 | 0.03 | 59.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. PM_Braidwood-Bungonia (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.069 | 5.9 | LOS A | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 24.9 |
| 2 | T1 | All MCs | 104 | 8.1 | 104 | 8.1 | 0.069 | 0.1 | LOS A | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 56.9 |
| 3 | R2 | All MCs | 18 | 5.9 | 18 | 5.9 | 0.069 | 5.9 | LOS A | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 43.9 |
| Approach | | | 123 | 7.7 | 123 | 7.7 | 0.069 | 1.0 | NA | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 55.3 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 14 | 7.7 | 14 | 7.7 | 0.010 | 4.5 | LOS A | 0.0 | 0.3 | 0.21 | 0.51 | 0.21 | 34.8 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.399 | 5.7 | LOS A | 2.0 | 16.1 | 0.54 | 0.79 | 0.69 | 29.3 |
| 6 | R2 | All MCs | 261 | 16.5 | 261 | 16.5 | 0.399 | 8.3 | LOS A | 2.0 | 16.1 | 0.54 | 0.79 | 0.69 | 34.6 |
| Approach | | | 276 | 16.0 | 276 | 16.0 | 0.399 | 8.1 | LOS A | 2.0 | 16.1 | 0.52 | 0.78 | 0.66 | 34.6 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 215 | 11.8 | 215 | 11.8 | 0.214 | 5.8 | LOS A | 1.0 | 7.9 | 0.09 | 0.35 | 0.09 | 36.2 |
| 8 | T1 | All MCs | 120 | 5.3 | 120 | 5.3 | 0.214 | 0.1 | LOS A | 1.0 | 7.9 | 0.09 | 0.35 | 0.09 | 51.2 |
| 9 | R2 | All MCs | 6 | 33.3 | 6 | 33.3 | 0.214 | 6.3 | LOS A | 1.0 | 7.9 | 0.09 | 0.35 | 0.09 | 36.0 |
| Approach | | | 341 | 9.9 | 341 | 9.9 | 0.214 | 3.8 | NA | 1.0 | 7.9 | 0.09 | 0.35 | 0.09 | 40.9 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 11 | 20.0 | 11 | 20.0 | 0.010 | 6.0 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 38.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.010 | 5.1 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 31.2 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.010 | 6.7 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 35.6 |
| Approach | | | 13 | 16.7 | 13 | 16.7 | 0.010 | 6.0 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 38.2 |
| All Vehicles | | | 753 | 11.9 | 753 | 11.9 | 0.399 | 4.9 | NA | 2.0 | 16.1 | 0.25 | 0.47 | 0.30 | 40.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. PM_Sloane-Braidwood (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 53 | 34.0 | 53 | 34.0 | 0.940 | 37.2 | LOS C | 15.1 | 119.1 | 0.95 | 1.94 | 3.96 | 21.2 |
| 5 | T1 | All MCs | 56 | 3.8 | 56 | 3.8 | 0.940 | 42.3 | LOS C | 15.1 | 119.1 | 0.95 | 1.94 | 3.96 | 22.2 |
| 6 | R2 | All MCs | 267 | 13.8 | 267 | 13.8 | 0.940 | 49.3 | LOS D | 15.1 | 119.1 | 0.95 | 1.94 | 3.96 | 22.0 |
| Approach | | | 376 | 15.1 | 376 | 15.1 | 0.940 | 46.5 | LOS D | 15.1 | 119.1 | 0.95 | 1.94 | 3.96 | 21.9 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 218 | 8.2 | 218 | 8.2 | 0.280 | 6.3 | LOS A | 1.4 | 10.7 | 0.28 | 0.39 | 0.28 | 46.9 |
| 8 | T1 | All MCs | 169 | 5.0 | 169 | 5.0 | 0.280 | 0.6 | LOS A | 1.4 | 10.7 | 0.28 | 0.39 | 0.28 | 50.9 |
| 9 | R2 | All MCs | 41 | 5.1 | 41 | 5.1 | 0.280 | 6.8 | LOS A | 1.4 | 10.7 | 0.28 | 0.39 | 0.28 | 45.5 |
| Approach | | | 428 | 6.6 | 428 | 6.6 | 0.280 | 4.1 | NA | 1.4 | 10.7 | 0.28 | 0.39 | 0.28 | 48.1 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 18 | 5.9 | 18 | 5.9 | 0.177 | 9.5 | LOS A | 0.6 | 4.9 | 0.54 | 1.00 | 0.54 | 38.6 |
| 11 | T1 | All MCs | 78 | 13.5 | 78 | 13.5 | 0.177 | 12.8 | LOS A | 0.6 | 4.9 | 0.54 | 1.00 | 0.54 | 38.6 |
| 12 | R2 | All MCs | 11 | 10.0 | 11 | 10.0 | 0.177 | 13.9 | LOS A | 0.6 | 4.9 | 0.54 | 1.00 | 0.54 | 37.3 |
| Approach | | | 106 | 11.9 | 106 | 11.9 | 0.177 | 12.4 | LOS A | 0.6 | 4.9 | 0.54 | 1.00 | 0.54 | 38.5 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.176 | 6.2 | LOS A | 0.4 | 2.8 | 0.12 | 0.16 | 0.12 | 51.3 |
| 2 | T1 | All MCs | 254 | 6.6 | 254 | 6.6 | 0.176 | 0.2 | LOS A | 0.4 | 2.8 | 0.12 | 0.16 | 0.12 | 56.7 |
| 3 | R2 | All MCs | 43 | 14.6 | 43 | 14.6 | 0.176 | 6.4 | LOS A | 0.4 | 2.8 | 0.12 | 0.16 | 0.12 | 48.1 |
| Approach | | | 311 | 7.5 | 311 | 7.5 | 0.176 | 1.3 | NA | 0.4 | 2.8 | 0.12 | 0.16 | 0.12 | 54.9 |
| All Vehicles | | | 1221 | 9.9 | 1221 | 9.9 | 0.940 | 17.2 | NA | 15.1 | 119.1 | 0.47 | 0.86 | 1.39 | 35.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. PM_Bungonia-Forbes (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 208 | 18.7 | 208 | 18.7 | 0.128 | 0.1 | LOS A | 0.1 | 0.8 | 0.04 | 0.06 | 0.04 | 59.2 |
| 6 | R2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.128 | 6.2 | LOS A | 0.1 | 0.8 | 0.04 | 0.06 | 0.04 | 55.8 |
| Approach | | | 222 | 17.5 | 222 | 17.5 | 0.128 | 0.4 | NA | 0.1 | 0.8 | 0.04 | 0.06 | 0.04 | 59.0 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.015 | 8.6 | LOS A | 0.1 | 0.4 | 0.27 | 0.86 | 0.27 | 48.5 |
| 9 | R2 | All MCs | 17 | 12.5 | 17 | 12.5 | 0.025 | 10.5 | LOS A | 0.1 | 0.6 | 0.43 | 0.91 | 0.43 | 49.5 |
| Approach | | | 35 | 6.1 | 35 | 6.1 | 0.025 | 9.5 | LOS A | 0.1 | 0.6 | 0.35 | 0.88 | 0.35 | 49.0 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 26 | 4.0 | 26 | 4.0 | 0.104 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 56.5 |
| 11 | T1 | All MCs | 162 | 11.0 | 162 | 11.0 | 0.104 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 58.9 |
| Approach | | | 188 | 10.1 | 188 | 10.1 | 0.104 | 0.8 | NA | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 58.4 |
| All Vehicles | | | 445 | 13.5 | 445 | 13.5 | 0.128 | 1.3 | NA | 0.1 | 0.8 | 0.05 | 0.13 | 0.05 | 57.7 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. PM_Bungonia-Memorial (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 182 | 20.8 | 182 | 20.8 | 0.111 | 5.6 | LOS A | 0.0 | 0.1 | 0.00 | 0.60 | 0.00 | 45.2 |
| 3 | R2 | All MCs | 2 | 50.0 | 2 | 50.0 | 0.111 | 6.1 | LOS A | 0.0 | 0.1 | 0.00 | 0.60 | 0.00 | 41.3 |
| Approach | | | 184 | 21.1 | 184 | 21.1 | 0.111 | 5.6 | NA | 0.0 | 0.1 | 0.00 | 0.60 | 0.00 | 45.2 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.048 | 6.2 | LOS A | 0.2 | 1.1 | 0.39 | 0.63 | 0.39 | 47.5 |
| 6a | R1 | All MCs | 40 | 2.6 | 40 | 2.6 | 0.048 | 6.7 | LOS A | 0.2 | 1.1 | 0.39 | 0.63 | 0.39 | 45.1 |
| Approach | | | 42 | 2.5 | 42 | 2.5 | 0.048 | 6.7 | LOS A | 0.2 | 1.1 | 0.39 | 0.63 | 0.39 | 45.2 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.119 | 5.3 | LOS A | 0.6 | 4.6 | 0.03 | 0.56 | 0.03 | 47.1 |
| 29a | R1 | All MCs | 189 | 12.8 | 189 | 12.8 | 0.119 | 5.1 | LOS A | 0.6 | 4.6 | 0.03 | 0.56 | 0.03 | 48.2 |
| Approach | | | 201 | 12.0 | 201 | 12.0 | 0.119 | 5.1 | NA | 0.6 | 4.6 | 0.03 | 0.56 | 0.03 | 48.2 |
| All Vehicles | | | 427 | 15.0 | 427 | 15.0 | 0.119 | 5.5 | NA | 0.6 | 4.6 | 0.05 | 0.58 | 0.05 | 46.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. PM_Hume-Garoorigang (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.058 | 0.4 | LOS A | 0.3 | 2.0 | 0.24 | 0.55 | 0.24 | 54.5 |
| 6 | R2 | All MCs | 85 | 9.9 | 85 | 9.9 | 0.058 | 6.0 | LOS A | 0.3 | 2.0 | 0.24 | 0.55 | 0.24 | 47.8 |
| Approach | | | 88 | 9.5 | 88 | 9.5 | 0.058 | 5.8 | NA | 0.3 | 2.0 | 0.24 | 0.55 | 0.24 | 48.1 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 81 | 14.3 | 81 | 14.3 | 0.068 | 5.9 | LOS A | 0.3 | 2.1 | 0.15 | 0.54 | 0.15 | 48.1 |
| 9 | R2 | All MCs | 13 | 16.7 | 13 | 16.7 | 0.068 | 6.4 | LOS A | 0.3 | 2.1 | 0.15 | 0.54 | 0.15 | 47.5 |
| Approach | | | 94 | 14.6 | 94 | 14.6 | 0.068 | 6.0 | LOS A | 0.3 | 2.1 | 0.15 | 0.54 | 0.15 | 48.0 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 67 | 10.9 | 67 | 10.9 | 0.066 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 51.5 |
| 11 | T1 | All MCs | 53 | 0.0 | 53 | 0.0 | 0.066 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 57.2 |
| Approach | | | 120 | 6.1 | 120 | 6.1 | 0.066 | 3.2 | NA | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 54.5 |
| All Vehicles | | | 302 | 9.8 | 302 | 9.8 | 0.068 | 4.8 | NA | 0.3 | 2.1 | 0.12 | 0.46 | 0.12 | 50.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. PM_Lagoon-Union (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 173 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 38 | 2.8 | 38 | 2.8 | 0.705 | 70.5 | LOS F | 24.8 | 179.9 | 0.96 | 0.83 | 0.96 | 22.3 |
| 2 | T1 | All MCs | 293 | 4.7 | 293 | 4.7 | * 0.705 | 64.9 | LOS E | 24.8 | 179.9 | 0.96 | 0.83 | 0.96 | 20.2 |
| 3 | R2 | All MCs | 196 | 23.7 | 196 | 23.7 | 0.196 | 25.7 | LOS B | 6.8 | 57.1 | 0.45 | 0.70 | 0.45 | 41.8 |
| Approach | | | 526 | 11.6 | 526 | 11.6 | 0.705 | 50.7 | LOS D | 24.8 | 179.9 | 0.77 | 0.78 | 0.77 | 25.9 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 154 | 15.8 | 154 | 15.8 | 0.264 | 33.8 | LOS C | 9.8 | 76.9 | 0.71 | 0.75 | 0.71 | 32.6 |
| 5 | T1 | All MCs | 182 | 1.2 | 182 | 1.2 | 0.264 | 53.4 | LOS D | 9.9 | 76.9 | 0.78 | 0.67 | 0.78 | 29.1 |
| 6 | R2 | All MCs | 185 | 6.3 | 185 | 6.3 | * 0.586 | 64.2 | LOS E | 13.6 | 100.3 | 0.92 | 0.83 | 0.92 | 21.5 |
| Approach | | | 521 | 7.3 | 521 | 7.3 | 0.586 | 51.4 | LOS D | 13.6 | 100.3 | 0.81 | 0.75 | 0.81 | 27.3 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 153 | 17.2 | 153 | 17.2 | 0.743 | 72.4 | LOS F | 27.8 | 211.5 | 0.96 | 0.85 | 0.96 | 22.2 |
| 8 | T1 | All MCs | 216 | 5.4 | 216 | 5.4 | * 0.743 | 66.8 | LOS E | 27.8 | 211.5 | 0.96 | 0.85 | 0.96 | 20.1 |
| 9 | R2 | All MCs | 159 | 11.9 | 159 | 11.9 | 0.309 | 63.9 | LOS E | 10.2 | 78.9 | 0.82 | 0.78 | 0.82 | 15.4 |
| Approach | | | 527 | 10.8 | 527 | 10.8 | 0.743 | 67.6 | LOS E | 27.8 | 211.5 | 0.92 | 0.83 | 0.92 | 17.8 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 109 | 1.0 | 109 | 1.0 | 0.092 | 17.4 | LOS B | 3.3 | 23.6 | 0.40 | 0.67 | 0.40 | 30.0 |
| 11 | T1 | All MCs | 189 | 2.8 | 189 | 2.8 | 0.162 | 48.3 | LOS D | 5.8 | 41.6 | 0.76 | 0.61 | 0.76 | 29.4 |
| 12 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.067 | 65.4 | LOS E | 1.2 | 8.1 | 0.80 | 0.71 | 0.80 | 22.3 |
| Approach | | | 317 | 2.0 | 317 | 2.0 | 0.162 | 38.6 | LOS C | 5.8 | 41.6 | 0.64 | 0.64 | 0.64 | 28.2 |
| All Vehicles | | | 1892 | 8.6 | 1892 | 8.6 | 0.743 | 53.6 | LOS D | 27.8 | 211.5 | 0.80 | 0.76 | 0.80 | 24.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 Full | 3 | 3 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| North: Union St | | | | | | | | | | | |
| P3 Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| West: Lagoon St | | | | | | | | | | | |
| P4 Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| All Pedestrians | 6 | 6 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. PM_Sloane-Garoorigang (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 35 | 3.0 | 35 | 3.0 | 0.050 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 55.1 |
| 2 | T1 | All MCs | 60 | 0.0 | 60 | 0.0 | 0.050 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 57.8 |
| Approach | | | 95 | 1.1 | 95 | 1.1 | 0.050 | 2.1 | NA | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 56.8 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 15 | 14.3 | 15 | 14.3 | 0.047 | 0.3 | LOS A | 0.2 | 1.8 | 0.21 | 0.46 | 0.21 | 54.8 |
| 9 | R2 | All MCs | 57 | 20.4 | 57 | 20.4 | 0.047 | 6.0 | LOS A | 0.2 | 1.8 | 0.21 | 0.46 | 0.21 | 51.9 |
| Approach | | | 72 | 19.1 | 72 | 19.1 | 0.047 | 4.9 | NA | 0.2 | 1.8 | 0.21 | 0.46 | 0.21 | 52.4 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 85 | 13.6 | 85 | 13.6 | 0.101 | 5.9 | LOS A | 0.4 | 3.0 | 0.17 | 0.55 | 0.17 | 51.7 |
| 12 | R2 | All MCs | 47 | 0.0 | 47 | 0.0 | 0.101 | 6.0 | LOS A | 0.4 | 3.0 | 0.17 | 0.55 | 0.17 | 51.4 |
| Approach | | | 133 | 8.7 | 133 | 8.7 | 0.101 | 6.0 | LOS A | 0.4 | 3.0 | 0.17 | 0.55 | 0.17 | 51.6 |
| All Vehicles | | | 299 | 8.8 | 299 | 8.8 | 0.101 | 4.5 | NA | 0.4 | 3.0 | 0.13 | 0.42 | 0.13 | 53.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. PM_Windellama-Rifle (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 136 | 26.4 | 136 | 26.4 | 0.086 | 0.0 | LOS A | 0.0 | 0.4 | 0.03 | 0.04 | 0.03 | 59.7 |
| 3 | R2 | All MCs | 5 | 40.0 | 5 | 40.0 | 0.086 | 6.6 | LOS A | 0.0 | 0.4 | 0.03 | 0.04 | 0.03 | 54.9 |
| Approach | | | 141 | 26.9 | 141 | 26.9 | 0.086 | 0.3 | NA | 0.0 | 0.4 | 0.03 | 0.04 | 0.03 | 59.5 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.016 | 6.0 | LOS A | 0.1 | 0.4 | 0.32 | 0.59 | 0.32 | 52.0 |
| 6 | R2 | All MCs | 11 | 20.0 | 11 | 20.0 | 0.016 | 7.2 | LOS A | 0.1 | 0.4 | 0.32 | 0.59 | 0.32 | 50.9 |
| Approach | | | 15 | 14.3 | 15 | 14.3 | 0.016 | 6.9 | LOS A | 0.1 | 0.4 | 0.32 | 0.59 | 0.32 | 51.2 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.092 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 57.1 |
| 8 | T1 | All MCs | 156 | 11.5 | 156 | 11.5 | 0.092 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.5 |
| Approach | | | 167 | 10.7 | 167 | 10.7 | 0.092 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.4 |
| All Vehicles | | | 323 | 17.9 | 323 | 17.9 | 0.092 | 0.6 | NA | 0.1 | 0.4 | 0.03 | 0.06 | 0.03 | 59.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. SAT_Braidwood-Bungonia (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.057 | 5.9 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 25.4 |
| 2 | T1 | All MCs | 96 | 6.6 | 96 | 6.6 | 0.057 | 0.0 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 58.4 |
| 3 | R2 | All MCs | 7 | 14.3 | 7 | 14.3 | 0.057 | 6.0 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 45.3 |
| Approach | | | 104 | 7.1 | 104 | 7.1 | 0.057 | 0.5 | NA | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 57.4 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 5 | 20.0 | 5 | 20.0 | 0.004 | 4.5 | LOS A | 0.0 | 0.1 | 0.21 | 0.50 | 0.21 | 33.7 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.289 | 4.7 | LOS A | 1.2 | 8.8 | 0.47 | 0.70 | 0.48 | 31.8 |
| 6 | R2 | All MCs | 209 | 10.6 | 209 | 10.6 | 0.289 | 6.7 | LOS A | 1.2 | 8.8 | 0.47 | 0.70 | 0.48 | 37.5 |
| Approach | | | 216 | 10.7 | 216 | 10.7 | 0.289 | 6.6 | LOS A | 1.2 | 8.8 | 0.46 | 0.70 | 0.47 | 37.4 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 205 | 13.3 | 205 | 13.3 | 0.200 | 5.8 | LOS A | 1.0 | 7.3 | 0.05 | 0.35 | 0.05 | 36.4 |
| 8 | T1 | All MCs | 112 | 3.8 | 112 | 3.8 | 0.200 | 0.0 | LOS A | 1.0 | 7.3 | 0.05 | 0.35 | 0.05 | 51.5 |
| 9 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.200 | 5.6 | LOS A | 1.0 | 7.3 | 0.05 | 0.35 | 0.05 | 37.5 |
| Approach | | | 320 | 9.9 | 320 | 9.9 | 0.200 | 3.8 | NA | 1.0 | 7.3 | 0.05 | 0.35 | 0.05 | 41.0 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 42.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 4.9 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 31.3 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 6.5 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 35.7 |
| Approach | | | 7 | 0.0 | 7 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 40.8 |
| All Vehicles | | | 647 | 9.6 | 647 | 9.6 | 0.289 | 4.2 | NA | 1.2 | 8.8 | 0.19 | 0.42 | 0.19 | 41.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. SAT_Sloane-Braidwood (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 38 | 19.4 | 38 | 19.4 | 0.645 | 14.7 | LOS B | 4.5 | 34.2 | 0.76 | 1.22 | 1.46 | 32.6 |
| 5 | T1 | All MCs | 51 | 4.2 | 51 | 4.2 | 0.645 | 18.4 | LOS B | 4.5 | 34.2 | 0.76 | 1.22 | 1.46 | 33.6 |
| 6 | R2 | All MCs | 204 | 10.8 | 204 | 10.8 | 0.645 | 22.2 | LOS B | 4.5 | 34.2 | 0.76 | 1.22 | 1.46 | 33.1 |
| Approach | | | 293 | 10.8 | 293 | 10.8 | 0.645 | 20.6 | LOS B | 4.5 | 34.2 | 0.76 | 1.22 | 1.46 | 33.1 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 222 | 8.1 | 222 | 8.1 | 0.296 | 6.1 | LOS A | 1.5 | 11.2 | 0.24 | 0.35 | 0.24 | 47.5 |
| 8 | T1 | All MCs | 206 | 1.5 | 206 | 1.5 | 0.296 | 0.4 | LOS A | 1.5 | 11.2 | 0.24 | 0.35 | 0.24 | 51.6 |
| 9 | R2 | All MCs | 44 | 0.0 | 44 | 0.0 | 0.296 | 6.2 | LOS A | 1.5 | 11.2 | 0.24 | 0.35 | 0.24 | 47.0 |
| Approach | | | 473 | 4.5 | 473 | 4.5 | 0.296 | 3.6 | NA | 1.5 | 11.2 | 0.24 | 0.35 | 0.24 | 49.0 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.090 | 8.7 | LOS A | 0.3 | 2.3 | 0.45 | 0.93 | 0.45 | 40.7 |
| 11 | T1 | All MCs | 45 | 4.7 | 45 | 4.7 | 0.090 | 11.1 | LOS A | 0.3 | 2.3 | 0.45 | 0.93 | 0.45 | 41.1 |
| 12 | R2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.090 | 11.7 | LOS A | 0.3 | 2.3 | 0.45 | 0.93 | 0.45 | 39.8 |
| Approach | | | 66 | 3.2 | 66 | 3.2 | 0.090 | 10.5 | LOS A | 0.3 | 2.3 | 0.45 | 0.93 | 0.45 | 40.9 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.135 | 6.4 | LOS A | 0.4 | 2.9 | 0.18 | 0.22 | 0.18 | 50.5 |
| 2 | T1 | All MCs | 178 | 1.8 | 178 | 1.8 | 0.135 | 0.3 | LOS A | 0.4 | 2.9 | 0.18 | 0.22 | 0.18 | 55.7 |
| 3 | R2 | All MCs | 51 | 14.6 | 51 | 14.6 | 0.135 | 6.5 | LOS A | 0.4 | 2.9 | 0.18 | 0.22 | 0.18 | 47.4 |
| Approach | | | 233 | 4.5 | 233 | 4.5 | 0.135 | 1.8 | NA | 0.4 | 2.9 | 0.18 | 0.22 | 0.18 | 53.4 |
| All Vehicles | | | 1064 | 6.1 | 1064 | 6.1 | 0.645 | 8.3 | NA | 4.5 | 34.2 | 0.38 | 0.60 | 0.57 | 43.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. SAT_Bungonia-Forbes (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 154 | 11.0 | 154 | 11.0 | 0.086 | 0.0 | LOS A | 0.0 | 0.2 | 0.01 | 0.01 | 0.01 | 59.7 |
| 6 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.086 | 5.7 | LOS A | 0.0 | 0.2 | 0.01 | 0.01 | 0.01 | 56.3 |
| Approach | | | 157 | 10.7 | 157 | 10.7 | 0.086 | 0.1 | NA | 0.0 | 0.2 | 0.01 | 0.01 | 0.01 | 59.7 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 18 | 11.8 | 18 | 11.8 | 0.016 | 9.2 | LOS A | 0.1 | 0.5 | 0.27 | 0.87 | 0.27 | 47.0 |
| 9 | R2 | All MCs | 24 | 0.0 | 24 | 0.0 | 0.029 | 9.0 | LOS A | 0.1 | 0.7 | 0.37 | 0.88 | 0.37 | 50.5 |
| Approach | | | 42 | 5.0 | 42 | 5.0 | 0.029 | 9.1 | LOS A | 0.1 | 0.7 | 0.33 | 0.88 | 0.33 | 49.2 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 18 | 5.9 | 18 | 5.9 | 0.094 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 56.6 |
| 11 | T1 | All MCs | 152 | 13.2 | 152 | 13.2 | 0.094 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 59.1 |
| Approach | | | 169 | 12.4 | 169 | 12.4 | 0.094 | 0.6 | NA | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 58.8 |
| All Vehicles | | | 368 | 10.9 | 368 | 10.9 | 0.094 | 1.4 | NA | 0.1 | 0.7 | 0.04 | 0.14 | 0.04 | 57.7 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. SAT_Bungonia-Memorial (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 165 | 11.5 | 165 | 11.5 | 0.094 | 5.5 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 46.6 |
| 3 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.094 | 5.4 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 48.6 |
| Approach | | | 167 | 11.3 | 167 | 11.3 | 0.094 | 5.5 | NA | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 46.7 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.008 | 6.1 | LOS A | 0.0 | 0.2 | 0.33 | 0.56 | 0.33 | 47.8 |
| 6a | R1 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.008 | 6.3 | LOS A | 0.0 | 0.2 | 0.33 | 0.56 | 0.33 | 45.9 |
| Approach | | | 8 | 0.0 | 8 | 0.0 | 0.008 | 6.2 | LOS A | 0.0 | 0.2 | 0.33 | 0.56 | 0.33 | 46.4 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.106 | 5.3 | LOS A | 0.5 | 4.1 | 0.02 | 0.56 | 0.02 | 47.1 |
| 29a | R1 | All MCs | 173 | 14.6 | 173 | 14.6 | 0.106 | 5.1 | LOS A | 0.5 | 4.1 | 0.02 | 0.56 | 0.02 | 48.1 |
| Approach | | | 178 | 14.2 | 178 | 14.2 | 0.106 | 5.1 | NA | 0.5 | 4.1 | 0.02 | 0.56 | 0.02 | 48.1 |
| All Vehicles | | | 354 | 12.5 | 354 | 12.5 | 0.106 | 5.3 | NA | 0.5 | 4.1 | 0.02 | 0.58 | 0.02 | 47.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. SAT_Hume-Garoorigang (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.058 | 0.0 | LOS A | 0.3 | 2.0 | 0.07 | 0.55 | 0.07 | 55.1 |
| 6 | R2 | All MCs | 95 | 6.7 | 95 | 6.7 | 0.058 | 5.6 | LOS A | 0.3 | 2.0 | 0.07 | 0.55 | 0.07 | 48.7 |
| Approach | | | 100 | 6.3 | 100 | 6.3 | 0.058 | 5.3 | NA | 0.3 | 2.0 | 0.07 | 0.55 | 0.07 | 49.2 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 86 | 6.1 | 86 | 6.1 | 0.056 | 5.6 | LOS A | 0.2 | 1.7 | 0.03 | 0.56 | 0.03 | 49.0 |
| 9 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.056 | 5.5 | LOS A | 0.2 | 1.7 | 0.03 | 0.56 | 0.03 | 49.0 |
| Approach | | | 88 | 6.0 | 88 | 6.0 | 0.056 | 5.6 | LOS A | 0.2 | 1.7 | 0.03 | 0.56 | 0.03 | 49.0 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.008 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.43 | 0.00 | 51.1 |
| 11 | T1 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.008 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.43 | 0.00 | 56.2 |
| Approach | | | 16 | 0.0 | 16 | 0.0 | 0.008 | 4.1 | NA | 0.0 | 0.0 | 0.00 | 0.43 | 0.00 | 52.8 |
| All Vehicles | | | 204 | 5.7 | 204 | 5.7 | 0.058 | 5.3 | NA | 0.3 | 2.0 | 0.05 | 0.54 | 0.05 | 49.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. SAT_Lagoon-Union (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 112 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 9 | 0.0 | 9 | 0.0 | 0.480 | 42.8 | LOS D | 11.4 | 81.0 | 0.89 | 0.75 | 0.89 | 28.8 |
| 2 | T1 | All MCs | 238 | 1.8 | 238 | 1.8 | *0.480 | 37.2 | LOS C | 11.4 | 81.0 | 0.89 | 0.75 | 0.89 | 26.9 |
| 3 | R2 | All MCs | 168 | 10.0 | 168 | 10.0 | 0.141 | 12.1 | LOS A | 3.1 | 23.7 | 0.37 | 0.67 | 0.37 | 46.9 |
| Approach | | | 416 | 5.1 | 416 | 5.1 | 0.480 | 27.2 | LOS B | 11.4 | 81.0 | 0.68 | 0.72 | 0.68 | 35.1 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 157 | 10.1 | 157 | 10.1 | 0.254 | 18.3 | LOS B | 6.6 | 49.7 | 0.66 | 0.71 | 0.66 | 39.4 |
| 5 | T1 | All MCs | 221 | 0.0 | 221 | 0.0 | 0.254 | 31.1 | LOS C | 6.9 | 49.7 | 0.73 | 0.63 | 0.73 | 37.5 |
| 6 | R2 | All MCs | 135 | 3.1 | 135 | 3.1 | *0.328 | 35.6 | LOS C | 5.5 | 39.8 | 0.79 | 0.77 | 0.79 | 29.7 |
| Approach | | | 513 | 3.9 | 513 | 3.9 | 0.328 | 28.4 | LOS B | 6.9 | 49.7 | 0.72 | 0.70 | 0.72 | 36.1 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 168 | 5.6 | 168 | 5.6 | 0.933 | 72.2 | LOS F | 23.8 | 171.3 | 1.00 | 1.12 | 1.37 | 20.5 |
| 8 | T1 | All MCs | 188 | 1.1 | 188 | 1.1 | *0.933 | 66.7 | LOS E | 23.8 | 171.3 | 1.00 | 1.12 | 1.37 | 18.3 |
| 9 | R2 | All MCs | 140 | 0.8 | 140 | 0.8 | 0.369 | 47.3 | LOS D | 6.7 | 46.9 | 0.91 | 0.79 | 0.91 | 17.5 |
| Approach | | | 497 | 2.5 | 497 | 2.5 | 0.933 | 63.1 | LOS E | 23.8 | 171.3 | 0.97 | 1.03 | 1.24 | 19.0 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 88 | 0.0 | 88 | 0.0 | 0.076 | 14.2 | LOS A | 1.9 | 13.0 | 0.42 | 0.67 | 0.42 | 32.7 |
| 11 | T1 | All MCs | 179 | 1.2 | 179 | 1.2 | 0.126 | 25.1 | LOS B | 3.2 | 22.7 | 0.70 | 0.56 | 0.70 | 38.1 |
| 12 | R2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.036 | 35.2 | LOS C | 0.4 | 3.1 | 0.73 | 0.68 | 0.73 | 29.6 |
| Approach | | | 279 | 0.8 | 279 | 0.8 | 0.126 | 22.1 | LOS B | 3.2 | 22.7 | 0.61 | 0.60 | 0.61 | 36.6 |
| All Vehicles | | | 1704 | 3.3 | 1704 | 3.3 | 0.933 | 37.2 | LOS C | 23.8 | 171.3 | 0.77 | 0.78 | 0.84 | 29.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| North: Union St | | | | | | | | | | | |
| P3 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| West: Lagoon St | | | | | | | | | | | |
| P4 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| All Pedestrians | 4 | 4 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. SAT_Sloane-Garoorigang (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 40 | 0.0 | 40 | 0.0 | 0.036 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 54.1 |
| 2 | T1 | All MCs | 27 | 3.8 | 27 | 3.8 | 0.036 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 56.4 |
| Approach | | | 67 | 1.6 | 67 | 1.6 | 0.036 | 3.3 | NA | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 55.0 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 23 | 0.0 | 23 | 0.0 | 0.050 | 0.2 | LOS A | 0.2 | 1.7 | 0.17 | 0.42 | 0.17 | 55.4 |
| 9 | R2 | All MCs | 59 | 10.7 | 59 | 10.7 | 0.050 | 5.8 | LOS A | 0.2 | 1.7 | 0.17 | 0.42 | 0.17 | 52.8 |
| Approach | | | 82 | 7.7 | 82 | 7.7 | 0.050 | 4.2 | NA | 0.2 | 1.7 | 0.17 | 0.42 | 0.17 | 53.5 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 25 | 20.8 | 25 | 20.8 | 0.071 | 5.9 | LOS A | 0.2 | 1.8 | 0.15 | 0.56 | 0.15 | 51.5 |
| 12 | R2 | All MCs | 61 | 0.0 | 61 | 0.0 | 0.071 | 5.9 | LOS A | 0.2 | 1.8 | 0.15 | 0.56 | 0.15 | 51.5 |
| Approach | | | 86 | 6.1 | 86 | 6.1 | 0.071 | 5.9 | LOS A | 0.2 | 1.8 | 0.15 | 0.56 | 0.15 | 51.5 |
| All Vehicles | | | 236 | 5.4 | 236 | 5.4 | 0.071 | 4.6 | NA | 0.2 | 1.8 | 0.11 | 0.45 | 0.11 | 53.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. SAT_Windellama-Rifle (*) (Site Folder: 2027 Base + Gundary Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

Weekday PM Flows Used
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 127 | 21.5 | 127 | 21.5 | 0.079 | 0.1 | LOS A | 0.0 | 0.4 | 0.04 | 0.04 | 0.04 | 59.7 |
| 3 | R2 | All MCs | 5 | 40.0 | 5 | 40.0 | 0.079 | 7.0 | LOS A | 0.0 | 0.4 | 0.04 | 0.04 | 0.04 | 54.8 |
| Approach | | | 133 | 22.2 | 133 | 22.2 | 0.079 | 0.3 | NA | 0.0 | 0.4 | 0.04 | 0.04 | 0.04 | 59.5 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.016 | 6.1 | LOS A | 0.1 | 0.4 | 0.34 | 0.59 | 0.34 | 51.9 |
| 6 | R2 | All MCs | 11 | 20.0 | 11 | 20.0 | 0.016 | 7.4 | LOS A | 0.1 | 0.4 | 0.34 | 0.59 | 0.34 | 50.8 |
| Approach | | | 15 | 14.3 | 15 | 14.3 | 0.016 | 7.0 | LOS A | 0.1 | 0.4 | 0.34 | 0.59 | 0.34 | 51.1 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.110 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 57.1 |
| 8 | T1 | All MCs | 185 | 14.8 | 185 | 14.8 | 0.110 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.6 |
| Approach | | | 197 | 13.9 | 197 | 13.9 | 0.110 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.4 |
| All Vehicles | | | 344 | 17.1 | 344 | 17.1 | 0.110 | 0.6 | NA | 0.1 | 0.4 | 0.03 | 0.06 | 0.03 | 59.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. AM_Braidwood-Bungonia (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.051 | 6.0 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 25.3 |
| 2 | T1 | All MCs | 79 | 20.0 | 79 | 20.0 | 0.051 | 0.0 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 58.2 |
| 3 | R2 | All MCs | 6 | 16.7 | 6 | 16.7 | 0.051 | 6.1 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 44.9 |
| Approach | | | 86 | 19.5 | 86 | 19.5 | 0.051 | 0.6 | NA | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 57.0 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 11 | 10.0 | 11 | 10.0 | 0.008 | 4.5 | LOS A | 0.0 | 0.2 | 0.22 | 0.51 | 0.22 | 34.5 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.268 | 4.6 | LOS A | 1.0 | 7.5 | 0.46 | 0.69 | 0.46 | 32.2 |
| 6 | R2 | All MCs | 200 | 5.8 | 200 | 5.8 | 0.268 | 6.5 | LOS A | 1.0 | 7.5 | 0.46 | 0.69 | 0.46 | 38.8 |
| Approach | | | 212 | 6.0 | 212 | 6.0 | 0.268 | 6.3 | LOS A | 1.0 | 7.5 | 0.45 | 0.68 | 0.45 | 38.6 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 204 | 19.1 | 204 | 19.1 | 0.210 | 5.8 | LOS A | 1.0 | 8.1 | 0.05 | 0.34 | 0.05 | 36.4 |
| 8 | T1 | All MCs | 119 | 13.3 | 119 | 13.3 | 0.210 | 0.0 | LOS A | 1.0 | 8.1 | 0.05 | 0.34 | 0.05 | 51.6 |
| 9 | R2 | All MCs | 3 | 33.3 | 3 | 33.3 | 0.210 | 6.0 | LOS A | 1.0 | 8.1 | 0.05 | 0.34 | 0.05 | 36.2 |
| Approach | | | 326 | 17.1 | 326 | 17.1 | 0.210 | 3.7 | NA | 1.0 | 8.1 | 0.05 | 0.34 | 0.05 | 41.2 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 42.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 4.9 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 31.4 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 6.5 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 35.8 |
| Approach | | | 8 | 0.0 | 8 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 41.1 |
| All Vehicles | | | 633 | 13.5 | 633 | 13.5 | 0.268 | 4.2 | NA | 1.0 | 8.1 | 0.18 | 0.42 | 0.18 | 42.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. AM_Sloane-Braidwood (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 43 | 14.6 | 43 | 14.6 | 0.559 | 12.6 | LOS A | 3.8 | 28.6 | 0.70 | 1.09 | 1.17 | 35.0 |
| 5 | T1 | All MCs | 58 | 5.5 | 58 | 5.5 | 0.559 | 16.1 | LOS B | 3.8 | 28.6 | 0.70 | 1.09 | 1.17 | 35.6 |
| 6 | R2 | All MCs | 188 | 8.9 | 188 | 8.9 | 0.559 | 19.0 | LOS B | 3.8 | 28.6 | 0.70 | 1.09 | 1.17 | 35.3 |
| Approach | | | 289 | 9.1 | 289 | 9.1 | 0.559 | 17.5 | LOS B | 3.8 | 28.6 | 0.70 | 1.09 | 1.17 | 35.3 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 184 | 9.7 | 184 | 9.7 | 0.227 | 6.4 | LOS A | 1.1 | 8.3 | 0.29 | 0.39 | 0.29 | 46.5 |
| 8 | T1 | All MCs | 137 | 8.5 | 137 | 8.5 | 0.227 | 0.6 | LOS A | 1.1 | 8.3 | 0.29 | 0.39 | 0.29 | 50.8 |
| 9 | R2 | All MCs | 21 | 5.0 | 21 | 5.0 | 0.227 | 6.3 | LOS A | 1.1 | 8.3 | 0.29 | 0.39 | 0.29 | 45.4 |
| Approach | | | 342 | 8.9 | 342 | 8.9 | 0.227 | 4.1 | NA | 1.1 | 8.3 | 0.29 | 0.39 | 0.29 | 48.0 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.108 | 8.8 | LOS A | 0.4 | 2.9 | 0.46 | 0.96 | 0.46 | 40.6 |
| 11 | T1 | All MCs | 59 | 10.7 | 59 | 10.7 | 0.108 | 11.4 | LOS A | 0.4 | 2.9 | 0.46 | 0.96 | 0.46 | 40.1 |
| 12 | R2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.108 | 11.4 | LOS A | 0.4 | 2.9 | 0.46 | 0.96 | 0.46 | 39.7 |
| Approach | | | 77 | 8.2 | 77 | 8.2 | 0.108 | 10.9 | LOS A | 0.4 | 2.9 | 0.46 | 0.96 | 0.46 | 40.1 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.168 | 6.3 | LOS A | 0.7 | 5.3 | 0.21 | 0.27 | 0.21 | 49.9 |
| 2 | T1 | All MCs | 177 | 8.3 | 177 | 8.3 | 0.168 | 0.4 | LOS A | 0.7 | 5.3 | 0.21 | 0.27 | 0.21 | 54.9 |
| 3 | R2 | All MCs | 81 | 36.4 | 81 | 36.4 | 0.168 | 6.6 | LOS A | 0.7 | 5.3 | 0.21 | 0.27 | 0.21 | 42.7 |
| Approach | | | 263 | 16.8 | 263 | 16.8 | 0.168 | 2.4 | NA | 0.7 | 5.3 | 0.21 | 0.27 | 0.21 | 50.1 |
| All Vehicles | | | 972 | 11.1 | 972 | 11.1 | 0.559 | 8.2 | NA | 3.8 | 28.6 | 0.40 | 0.61 | 0.54 | 43.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. AM_Bungonia-Forbes (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 209 | 6.0 | 209 | 6.0 | 0.124 | 0.1 | LOS A | 0.1 | 0.9 | 0.06 | 0.07 | 0.06 | 59.1 |
| 6 | R2 | All MCs | 17 | 6.3 | 17 | 6.3 | 0.124 | 6.2 | LOS A | 0.1 | 0.9 | 0.06 | 0.07 | 0.06 | 55.3 |
| Approach | | | 226 | 6.0 | 226 | 6.0 | 0.124 | 0.5 | NA | 0.1 | 0.9 | 0.06 | 0.07 | 0.06 | 58.8 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.004 | 8.6 | LOS A | 0.0 | 0.1 | 0.26 | 0.84 | 0.26 | 48.5 |
| 9 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.023 | 9.4 | LOS A | 0.1 | 0.5 | 0.41 | 0.89 | 0.41 | 50.3 |
| Approach | | | 23 | 0.0 | 23 | 0.0 | 0.023 | 9.2 | LOS A | 0.1 | 0.5 | 0.37 | 0.88 | 0.37 | 50.0 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.096 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 56.8 |
| 11 | T1 | All MCs | 147 | 22.1 | 147 | 22.1 | 0.096 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 59.0 |
| Approach | | | 164 | 19.9 | 164 | 19.9 | 0.096 | 0.6 | NA | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 58.7 |
| All Vehicles | | | 414 | 11.2 | 414 | 11.2 | 0.124 | 1.0 | NA | 0.1 | 0.9 | 0.05 | 0.11 | 0.05 | 58.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. AM_Bungonia-Memorial (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 233 | 6.8 | 233 | 6.8 | 0.128 | 5.4 | LOS A | 0.0 | 0.0 | 0.00 | 0.59 | 0.00 | 47.4 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.128 | 5.4 | LOS A | 0.0 | 0.0 | 0.00 | 0.59 | 0.00 | 48.6 |
| Approach | | | 234 | 6.8 | 234 | 6.8 | 0.128 | 5.4 | NA | 0.0 | 0.0 | 0.00 | 0.59 | 0.00 | 47.4 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.022 | 6.0 | LOS A | 0.1 | 0.6 | 0.40 | 0.62 | 0.40 | 47.1 |
| 6a | R1 | All MCs | 16 | 26.7 | 16 | 26.7 | 0.022 | 7.5 | LOS A | 0.1 | 0.6 | 0.40 | 0.62 | 0.40 | 41.0 |
| Approach | | | 17 | 25.0 | 17 | 25.0 | 0.022 | 7.4 | LOS A | 0.1 | 0.6 | 0.40 | 0.62 | 0.40 | 41.4 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.095 | 5.3 | LOS A | 0.5 | 3.8 | 0.01 | 0.57 | 0.01 | 47.2 |
| 29a | R1 | All MCs | 147 | 22.1 | 147 | 22.1 | 0.095 | 5.2 | LOS A | 0.5 | 3.8 | 0.01 | 0.57 | 0.01 | 47.7 |
| Approach | | | 154 | 21.2 | 154 | 21.2 | 0.095 | 5.2 | NA | 0.5 | 3.8 | 0.01 | 0.57 | 0.01 | 47.7 |
| All Vehicles | | | 404 | 13.0 | 404 | 13.0 | 0.128 | 5.4 | NA | 0.5 | 3.8 | 0.02 | 0.59 | 0.02 | 47.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. AM_Hume-Garoorigang (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 5 | 20.0 | 5 | 20.0 | 0.057 | 0.1 | LOS A | 0.3 | 2.2 | 0.10 | 0.54 | 0.10 | 55.0 |
| 6 | R2 | All MCs | 86 | 19.5 | 86 | 19.5 | 0.057 | 5.8 | LOS A | 0.3 | 2.2 | 0.10 | 0.54 | 0.10 | 47.7 |
| Approach | | | 92 | 19.5 | 92 | 19.5 | 0.057 | 5.5 | NA | 0.3 | 2.2 | 0.10 | 0.54 | 0.10 | 48.3 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 73 | 26.1 | 73 | 26.1 | 0.059 | 5.8 | LOS A | 0.2 | 2.0 | 0.04 | 0.56 | 0.04 | 47.9 |
| 9 | R2 | All MCs | 8 | 25.0 | 8 | 25.0 | 0.059 | 5.9 | LOS A | 0.2 | 2.0 | 0.04 | 0.56 | 0.04 | 47.5 |
| Approach | | | 81 | 26.0 | 81 | 26.0 | 0.059 | 5.9 | LOS A | 0.2 | 2.0 | 0.04 | 0.56 | 0.04 | 47.8 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 21 | 30.0 | 21 | 30.0 | 0.016 | 5.9 | LOS A | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 48.5 |
| 11 | T1 | All MCs | 4 | 25.0 | 4 | 25.0 | 0.016 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 55.8 |
| Approach | | | 25 | 29.2 | 25 | 29.2 | 0.016 | 4.9 | NA | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 50.1 |
| All Vehicles | | | 198 | 23.4 | 198 | 23.4 | 0.059 | 5.5 | NA | 0.3 | 2.2 | 0.06 | 0.54 | 0.06 | 48.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. AM_Lagoon-Union (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 112 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 44 | 0.0 | 44 | 0.0 | 0.715 | 51.2 | LOS D | 14.6 | 111.1 | 0.99 | 0.86 | 1.02 | 25.7 |
| 2 | T1 | All MCs | 235 | 11.7 | 235 | 11.7 | * 0.715 | 45.7 | LOS D | 14.6 | 111.1 | 0.99 | 0.86 | 1.02 | 23.7 |
| 3 | R2 | All MCs | 118 | 25.9 | 118 | 25.9 | 0.128 | 16.7 | LOS B | 2.8 | 24.0 | 0.47 | 0.68 | 0.47 | 43.6 |
| Approach | | | 397 | 14.6 | 397 | 14.6 | 0.715 | 37.7 | LOS C | 14.6 | 111.1 | 0.83 | 0.81 | 0.86 | 29.6 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 160 | 33.6 | 160 | 33.6 | 0.304 | 23.8 | LOS B | 7.0 | 61.3 | 0.71 | 0.74 | 0.71 | 37.6 |
| 5 | T1 | All MCs | 217 | 6.3 | 217 | 6.3 | 0.304 | 33.5 | LOS C | 7.5 | 61.3 | 0.78 | 0.67 | 0.78 | 35.5 |
| 6 | R2 | All MCs | 179 | 12.4 | 179 | 12.4 | * 0.471 | 40.4 | LOS C | 8.1 | 62.6 | 0.86 | 0.80 | 0.86 | 27.8 |
| Approach | | | 556 | 16.1 | 556 | 16.1 | 0.471 | 32.9 | LOS C | 8.1 | 62.6 | 0.79 | 0.73 | 0.79 | 33.6 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 140 | 9.8 | 140 | 9.8 | * 0.667 | 43.0 | LOS D | 17.5 | 130.9 | 0.93 | 0.82 | 0.93 | 28.3 |
| 8 | T1 | All MCs | 224 | 7.0 | 224 | 7.0 | 0.667 | 36.5 | LOS C | 17.5 | 130.9 | 0.93 | 0.82 | 0.93 | 26.3 |
| 9 | R2 | All MCs | 209 | 13.1 | 209 | 13.1 | 0.406 | 39.1 | LOS C | 9.1 | 71.1 | 0.84 | 0.79 | 0.84 | 19.3 |
| Approach | | | 574 | 9.9 | 574 | 9.9 | 0.667 | 39.1 | LOS C | 17.5 | 130.9 | 0.90 | 0.81 | 0.90 | 24.5 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 71 | 13.4 | 71 | 13.4 | 0.061 | 12.0 | LOS A | 1.3 | 9.8 | 0.35 | 0.65 | 0.35 | 34.3 |
| 11 | T1 | All MCs | 99 | 4.3 | 99 | 4.3 | 0.081 | 28.2 | LOS B | 1.9 | 13.5 | 0.73 | 0.56 | 0.73 | 36.5 |
| 12 | R2 | All MCs | 25 | 4.2 | 25 | 4.2 | 0.098 | 41.9 | LOS C | 1.1 | 7.9 | 0.81 | 0.72 | 0.81 | 27.1 |
| Approach | | | 195 | 7.6 | 195 | 7.6 | 0.098 | 24.1 | LOS B | 1.9 | 13.5 | 0.60 | 0.61 | 0.60 | 34.4 |
| All Vehicles | | | 1721 | 12.7 | 1721 | 12.7 | 0.715 | 35.1 | LOS C | 17.5 | 130.9 | 0.81 | 0.76 | 0.82 | 29.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 | Full | 11 | 12 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| North: Union St | | | | | | | | | | | | |
| P3 | Full | 11 | 12 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| West: Lagoon St | | | | | | | | | | | | |
| P4 | Full | 2 | 2 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| All Pedestrians | | 25 | 26 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. AM_Sloane-Garoorigang (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 38 | 0.0 | 38 | 0.0 | 0.043 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 54.7 |
| 2 | T1 | All MCs | 43 | 0.0 | 43 | 0.0 | 0.043 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 57.2 |
| Approach | | | 81 | 0.0 | 81 | 0.0 | 0.043 | 2.6 | NA | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 56.0 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 13 | 0.0 | 13 | 0.0 | 0.045 | 0.3 | LOS A | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 55.0 |
| 9 | R2 | All MCs | 54 | 31.4 | 54 | 31.4 | 0.045 | 6.2 | LOS A | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 51.6 |
| Approach | | | 66 | 25.4 | 66 | 25.4 | 0.045 | 5.0 | NA | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 52.2 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 61 | 36.2 | 61 | 36.2 | 0.062 | 6.1 | LOS A | 0.2 | 2.1 | 0.14 | 0.54 | 0.14 | 50.9 |
| 12 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.062 | 5.9 | LOS A | 0.2 | 2.1 | 0.14 | 0.54 | 0.14 | 51.5 |
| Approach | | | 79 | 28.0 | 79 | 28.0 | 0.062 | 6.1 | LOS A | 0.2 | 2.1 | 0.14 | 0.54 | 0.14 | 51.0 |
| All Vehicles | | | 226 | 17.2 | 226 | 17.2 | 0.062 | 4.5 | NA | 0.2 | 2.1 | 0.11 | 0.43 | 0.11 | 53.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. AM_Windellama-Rifle (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 202 | 5.7 | 202 | 5.7 | 0.113 | 0.0 | LOS A | 0.1 | 0.4 | 0.03 | 0.03 | 0.03 | 59.7 |
| 3 | R2 | All MCs | 8 | 0.0 | 8 | 0.0 | 0.113 | 5.8 | LOS A | 0.1 | 0.4 | 0.03 | 0.03 | 0.03 | 56.9 |
| Approach | | | 211 | 5.5 | 211 | 5.5 | 0.113 | 0.3 | NA | 0.1 | 0.4 | 0.03 | 0.03 | 0.03 | 59.5 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.013 | 6.0 | LOS A | 0.0 | 0.3 | 0.34 | 0.59 | 0.34 | 52.0 |
| 6 | R2 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.013 | 6.9 | LOS A | 0.0 | 0.3 | 0.34 | 0.59 | 0.34 | 51.7 |
| Approach | | | 13 | 0.0 | 13 | 0.0 | 0.013 | 6.7 | LOS A | 0.0 | 0.3 | 0.34 | 0.59 | 0.34 | 51.7 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 6 | 66.7 | 6 | 66.7 | 0.091 | 6.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 54.2 |
| 8 | T1 | All MCs | 145 | 23.9 | 145 | 23.9 | 0.091 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 59.9 |
| Approach | | | 152 | 25.7 | 152 | 25.7 | 0.091 | 0.3 | NA | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 59.6 |
| All Vehicles | | | 375 | 13.5 | 375 | 13.5 | 0.113 | 0.5 | NA | 0.1 | 0.4 | 0.03 | 0.05 | 0.03 | 59.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. PM_Braidwood-Bungonia (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.069 | 5.9 | LOS A | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 24.9 |
| 2 | T1 | All MCs | 104 | 8.1 | 104 | 8.1 | 0.069 | 0.1 | LOS A | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 56.9 |
| 3 | R2 | All MCs | 18 | 5.9 | 18 | 5.9 | 0.069 | 5.9 | LOS A | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 43.9 |
| Approach | | | 123 | 7.7 | 123 | 7.7 | 0.069 | 1.0 | NA | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 55.3 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 14 | 7.7 | 14 | 7.7 | 0.010 | 4.5 | LOS A | 0.0 | 0.3 | 0.21 | 0.51 | 0.21 | 34.8 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.371 | 5.6 | LOS A | 1.8 | 14.0 | 0.53 | 0.79 | 0.65 | 29.6 |
| 6 | R2 | All MCs | 241 | 15.3 | 241 | 15.3 | 0.371 | 8.1 | LOS A | 1.8 | 14.0 | 0.53 | 0.79 | 0.65 | 35.0 |
| Approach | | | 256 | 14.8 | 256 | 14.8 | 0.371 | 7.9 | LOS A | 1.8 | 14.0 | 0.52 | 0.77 | 0.63 | 35.0 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 235 | 13.5 | 235 | 13.5 | 0.229 | 5.8 | LOS A | 1.1 | 8.7 | 0.09 | 0.36 | 0.09 | 36.1 |
| 8 | T1 | All MCs | 120 | 5.3 | 120 | 5.3 | 0.229 | 0.1 | LOS A | 1.1 | 8.7 | 0.09 | 0.36 | 0.09 | 51.0 |
| 9 | R2 | All MCs | 6 | 33.3 | 6 | 33.3 | 0.229 | 6.3 | LOS A | 1.1 | 8.7 | 0.09 | 0.36 | 0.09 | 35.9 |
| Approach | | | 361 | 11.1 | 361 | 11.1 | 0.229 | 3.9 | NA | 1.1 | 8.7 | 0.09 | 0.36 | 0.09 | 40.4 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 11 | 20.0 | 11 | 20.0 | 0.010 | 6.0 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 38.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.010 | 5.1 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 31.2 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.010 | 6.7 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 35.6 |
| Approach | | | 13 | 16.7 | 13 | 16.7 | 0.010 | 6.0 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 38.2 |
| All Vehicles | | | 753 | 11.9 | 753 | 11.9 | 0.371 | 4.8 | NA | 1.8 | 14.0 | 0.24 | 0.46 | 0.27 | 40.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. PM_Sloane-Braidwood (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 53 | 34.0 | 53 | 34.0 | 0.920 | 33.8 | LOS C | 13.1 | 103.0 | 0.94 | 1.83 | 3.64 | 22.1 |
| 5 | T1 | All MCs | 56 | 3.8 | 56 | 3.8 | 0.920 | 39.4 | LOS C | 13.1 | 103.0 | 0.94 | 1.83 | 3.64 | 23.2 |
| 6 | R2 | All MCs | 247 | 12.3 | 247 | 12.3 | 0.920 | 46.3 | LOS D | 13.1 | 103.0 | 0.94 | 1.83 | 3.64 | 23.0 |
| Approach | | | 356 | 14.2 | 356 | 14.2 | 0.920 | 43.4 | LOS D | 13.1 | 103.0 | 0.94 | 1.83 | 3.64 | 22.9 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 198 | 5.9 | 198 | 5.9 | 0.269 | 6.4 | LOS A | 1.4 | 10.0 | 0.32 | 0.41 | 0.32 | 47.2 |
| 8 | T1 | All MCs | 169 | 5.0 | 169 | 5.0 | 0.269 | 0.7 | LOS A | 1.4 | 10.0 | 0.32 | 0.41 | 0.32 | 50.7 |
| 9 | R2 | All MCs | 41 | 5.1 | 41 | 5.1 | 0.269 | 6.8 | LOS A | 1.4 | 10.0 | 0.32 | 0.41 | 0.32 | 45.3 |
| Approach | | | 408 | 5.4 | 408 | 5.4 | 0.269 | 4.1 | NA | 1.4 | 10.0 | 0.32 | 0.41 | 0.32 | 48.3 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 18 | 5.9 | 18 | 5.9 | 0.189 | 9.6 | LOS A | 0.7 | 5.2 | 0.56 | 1.00 | 0.56 | 38.1 |
| 11 | T1 | All MCs | 78 | 13.5 | 78 | 13.5 | 0.189 | 13.5 | LOS A | 0.7 | 5.2 | 0.56 | 1.00 | 0.56 | 38.2 |
| 12 | R2 | All MCs | 11 | 10.0 | 11 | 10.0 | 0.189 | 14.8 | LOS B | 0.7 | 5.2 | 0.56 | 1.00 | 0.56 | 36.8 |
| Approach | | | 106 | 11.9 | 106 | 11.9 | 0.189 | 12.9 | LOS A | 0.7 | 5.2 | 0.56 | 1.00 | 0.56 | 38.0 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.210 | 6.3 | LOS A | 0.7 | 5.5 | 0.19 | 0.24 | 0.19 | 50.1 |
| 2 | T1 | All MCs | 254 | 6.6 | 254 | 6.6 | 0.210 | 0.3 | LOS A | 0.7 | 5.5 | 0.19 | 0.24 | 0.19 | 55.2 |
| 3 | R2 | All MCs | 83 | 22.8 | 83 | 22.8 | 0.210 | 6.6 | LOS A | 0.7 | 5.5 | 0.19 | 0.24 | 0.19 | 45.4 |
| Approach | | | 351 | 10.2 | 351 | 10.2 | 0.210 | 2.0 | NA | 0.7 | 5.5 | 0.19 | 0.24 | 0.19 | 52.1 |
| All Vehicles | | | 1221 | 9.9 | 1221 | 9.9 | 0.920 | 15.7 | NA | 13.1 | 103.0 | 0.49 | 0.83 | 1.27 | 36.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. PM_Bungonia-Forbes (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 188 | 17.3 | 188 | 17.3 | 0.116 | 0.1 | LOS A | 0.1 | 0.8 | 0.05 | 0.06 | 0.05 | 59.1 |
| 6 | R2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.116 | 6.3 | LOS A | 0.1 | 0.8 | 0.05 | 0.06 | 0.05 | 55.7 |
| Approach | | | 202 | 16.1 | 202 | 16.1 | 0.116 | 0.5 | NA | 0.1 | 0.8 | 0.05 | 0.06 | 0.05 | 58.9 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.015 | 8.7 | LOS A | 0.1 | 0.4 | 0.29 | 0.85 | 0.29 | 48.4 |
| 9 | R2 | All MCs | 17 | 12.5 | 17 | 12.5 | 0.025 | 10.5 | LOS A | 0.1 | 0.6 | 0.43 | 0.91 | 0.43 | 49.5 |
| Approach | | | 35 | 6.1 | 35 | 6.1 | 0.025 | 9.6 | LOS A | 0.1 | 0.6 | 0.36 | 0.88 | 0.36 | 49.0 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 26 | 4.0 | 26 | 4.0 | 0.116 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 56.6 |
| 11 | T1 | All MCs | 182 | 13.3 | 182 | 13.3 | 0.116 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 58.9 |
| Approach | | | 208 | 12.1 | 208 | 12.1 | 0.116 | 0.7 | NA | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 58.5 |
| All Vehicles | | | 445 | 13.5 | 445 | 13.5 | 0.116 | 1.3 | NA | 0.1 | 0.8 | 0.05 | 0.13 | 0.05 | 57.7 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. PM_Bungonia-Memorial (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 182 | 20.8 | 182 | 20.8 | 0.111 | 5.6 | LOS A | 0.0 | 0.1 | 0.00 | 0.60 | 0.00 | 45.2 |
| 3 | R2 | All MCs | 2 | 50.0 | 2 | 50.0 | 0.111 | 6.1 | LOS A | 0.0 | 0.1 | 0.00 | 0.60 | 0.00 | 41.3 |
| Approach | | | 184 | 21.1 | 184 | 21.1 | 0.111 | 5.6 | NA | 0.0 | 0.1 | 0.00 | 0.60 | 0.00 | 45.2 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.048 | 6.2 | LOS A | 0.2 | 1.1 | 0.39 | 0.63 | 0.39 | 47.5 |
| 6a | R1 | All MCs | 40 | 2.6 | 40 | 2.6 | 0.048 | 6.7 | LOS A | 0.2 | 1.1 | 0.39 | 0.63 | 0.39 | 45.1 |
| Approach | | | 42 | 2.5 | 42 | 2.5 | 0.048 | 6.7 | LOS A | 0.2 | 1.1 | 0.39 | 0.63 | 0.39 | 45.2 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.119 | 5.3 | LOS A | 0.6 | 4.6 | 0.03 | 0.56 | 0.03 | 47.1 |
| 29a | R1 | All MCs | 189 | 12.8 | 189 | 12.8 | 0.119 | 5.1 | LOS A | 0.6 | 4.6 | 0.03 | 0.56 | 0.03 | 48.2 |
| Approach | | | 201 | 12.0 | 201 | 12.0 | 0.119 | 5.1 | NA | 0.6 | 4.6 | 0.03 | 0.56 | 0.03 | 48.2 |
| All Vehicles | | | 427 | 15.0 | 427 | 15.0 | 0.119 | 5.5 | NA | 0.6 | 4.6 | 0.05 | 0.58 | 0.05 | 46.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. PM_Hume-Garoorigang (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.064 | 0.4 | LOS A | 0.3 | 2.3 | 0.24 | 0.55 | 0.24 | 54.5 |
| 6 | R2 | All MCs | 92 | 16.1 | 92 | 16.1 | 0.064 | 6.1 | LOS A | 0.3 | 2.3 | 0.24 | 0.55 | 0.24 | 47.3 |
| Approach | | | 95 | 15.6 | 95 | 15.6 | 0.064 | 5.9 | NA | 0.3 | 2.3 | 0.24 | 0.55 | 0.24 | 47.7 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 122 | 20.7 | 122 | 20.7 | 0.099 | 6.0 | LOS A | 0.4 | 3.4 | 0.15 | 0.54 | 0.15 | 47.7 |
| 9 | R2 | All MCs | 13 | 16.7 | 13 | 16.7 | 0.099 | 6.5 | LOS A | 0.4 | 3.4 | 0.15 | 0.54 | 0.15 | 47.5 |
| Approach | | | 135 | 20.3 | 135 | 20.3 | 0.099 | 6.0 | LOS A | 0.4 | 3.4 | 0.15 | 0.54 | 0.15 | 47.7 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 67 | 10.9 | 67 | 10.9 | 0.066 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 51.5 |
| 11 | T1 | All MCs | 53 | 0.0 | 53 | 0.0 | 0.066 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 57.2 |
| Approach | | | 120 | 6.1 | 120 | 6.1 | 0.066 | 3.2 | NA | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 54.5 |
| All Vehicles | | | 349 | 14.2 | 349 | 14.2 | 0.099 | 5.0 | NA | 0.4 | 3.4 | 0.12 | 0.47 | 0.12 | 50.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. PM_Lagoon-Union (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 173 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 38 | 2.8 | 38 | 2.8 | 0.691 | 70.2 | LOS E | 24.6 | 179.1 | 0.95 | 0.83 | 0.95 | 22.3 |
| 2 | T1 | All MCs | 293 | 4.7 | 293 | 4.7 | * 0.691 | 64.6 | LOS E | 24.6 | 179.1 | 0.95 | 0.83 | 0.95 | 20.3 |
| 3 | R2 | All MCs | 176 | 22.8 | 176 | 22.8 | 0.175 | 25.4 | LOS B | 6.0 | 50.1 | 0.44 | 0.69 | 0.44 | 41.9 |
| Approach | | | 506 | 10.8 | 506 | 10.8 | 0.691 | 51.4 | LOS D | 24.6 | 179.1 | 0.78 | 0.78 | 0.78 | 25.5 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 174 | 17.6 | 174 | 17.6 | 0.272 | 33.2 | LOS C | 10.3 | 81.8 | 0.69 | 0.75 | 0.69 | 33.6 |
| 5 | T1 | All MCs | 182 | 1.2 | 182 | 1.2 | 0.272 | 52.0 | LOS D | 10.3 | 81.8 | 0.79 | 0.67 | 0.79 | 29.1 |
| 6 | R2 | All MCs | 185 | 6.3 | 185 | 6.3 | * 0.586 | 64.2 | LOS E | 13.6 | 100.3 | 0.92 | 0.83 | 0.92 | 21.5 |
| Approach | | | 541 | 8.2 | 541 | 8.2 | 0.586 | 50.1 | LOS D | 13.6 | 100.3 | 0.80 | 0.75 | 0.80 | 27.7 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 153 | 17.2 | 153 | 17.2 | 0.743 | 72.4 | LOS F | 27.8 | 211.5 | 0.96 | 0.85 | 0.96 | 22.2 |
| 8 | T1 | All MCs | 216 | 5.4 | 216 | 5.4 | * 0.743 | 66.8 | LOS E | 27.8 | 211.5 | 0.96 | 0.85 | 0.96 | 20.1 |
| 9 | R2 | All MCs | 159 | 11.9 | 159 | 11.9 | 0.309 | 63.9 | LOS E | 10.2 | 78.9 | 0.82 | 0.78 | 0.82 | 15.4 |
| Approach | | | 527 | 10.8 | 527 | 10.8 | 0.743 | 67.6 | LOS E | 27.8 | 211.5 | 0.92 | 0.83 | 0.92 | 17.8 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 109 | 1.0 | 109 | 1.0 | 0.092 | 17.4 | LOS B | 3.3 | 23.6 | 0.40 | 0.67 | 0.40 | 30.0 |
| 11 | T1 | All MCs | 189 | 2.8 | 189 | 2.8 | 0.162 | 48.3 | LOS D | 5.8 | 41.6 | 0.76 | 0.61 | 0.76 | 29.4 |
| 12 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.070 | 66.3 | LOS E | 1.2 | 8.2 | 0.81 | 0.71 | 0.81 | 22.1 |
| Approach | | | 317 | 2.0 | 317 | 2.0 | 0.162 | 38.6 | LOS C | 5.8 | 41.6 | 0.64 | 0.64 | 0.64 | 28.2 |
| All Vehicles | | | 1892 | 8.6 | 1892 | 8.6 | 0.743 | 53.4 | LOS D | 27.8 | 211.5 | 0.80 | 0.76 | 0.80 | 24.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 Full | 3 | 3 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| North: Union St | | | | | | | | | | | |
| P3 Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| West: Lagoon St | | | | | | | | | | | |
| P4 Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| All Pedestrians | 6 | 6 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. PM_Sloane-Garoorigang (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 35 | 3.0 | 35 | 3.0 | 0.050 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 55.1 |
| 2 | T1 | All MCs | 60 | 0.0 | 60 | 0.0 | 0.050 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 57.8 |
| Approach | | | 95 | 1.1 | 95 | 1.1 | 0.050 | 2.1 | NA | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 56.8 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 15 | 14.3 | 15 | 14.3 | 0.047 | 0.3 | LOS A | 0.2 | 1.8 | 0.21 | 0.46 | 0.21 | 54.8 |
| 9 | R2 | All MCs | 57 | 20.4 | 57 | 20.4 | 0.047 | 6.0 | LOS A | 0.2 | 1.8 | 0.21 | 0.46 | 0.21 | 51.9 |
| Approach | | | 72 | 19.1 | 72 | 19.1 | 0.047 | 4.9 | NA | 0.2 | 1.8 | 0.21 | 0.46 | 0.21 | 52.4 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 125 | 19.3 | 125 | 19.3 | 0.131 | 6.0 | LOS A | 0.5 | 4.2 | 0.17 | 0.55 | 0.17 | 51.5 |
| 12 | R2 | All MCs | 47 | 0.0 | 47 | 0.0 | 0.131 | 6.0 | LOS A | 0.5 | 4.2 | 0.17 | 0.55 | 0.17 | 51.3 |
| Approach | | | 173 | 14.0 | 173 | 14.0 | 0.131 | 6.0 | LOS A | 0.5 | 4.2 | 0.17 | 0.55 | 0.17 | 51.4 |
| All Vehicles | | | 339 | 11.5 | 339 | 11.5 | 0.131 | 4.7 | NA | 0.5 | 4.2 | 0.13 | 0.44 | 0.13 | 53.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. PM_Windellama-Rifle (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 116 | 25.5 | 116 | 25.5 | 0.074 | 0.1 | LOS A | 0.0 | 0.4 | 0.04 | 0.05 | 0.04 | 59.6 |
| 3 | R2 | All MCs | 5 | 40.0 | 5 | 40.0 | 0.074 | 6.9 | LOS A | 0.0 | 0.4 | 0.04 | 0.05 | 0.04 | 54.8 |
| Approach | | | 121 | 26.1 | 121 | 26.1 | 0.074 | 0.4 | NA | 0.0 | 0.4 | 0.04 | 0.05 | 0.04 | 59.4 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.016 | 6.1 | LOS A | 0.1 | 0.4 | 0.33 | 0.59 | 0.33 | 52.0 |
| 6 | R2 | All MCs | 11 | 20.0 | 11 | 20.0 | 0.016 | 7.2 | LOS A | 0.1 | 0.4 | 0.33 | 0.59 | 0.33 | 50.8 |
| Approach | | | 15 | 14.3 | 15 | 14.3 | 0.016 | 6.9 | LOS A | 0.1 | 0.4 | 0.33 | 0.59 | 0.33 | 51.1 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.104 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 57.1 |
| 8 | T1 | All MCs | 176 | 13.8 | 176 | 13.8 | 0.104 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.6 |
| Approach | | | 187 | 12.9 | 187 | 12.9 | 0.104 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.4 |
| All Vehicles | | | 323 | 17.9 | 323 | 17.9 | 0.104 | 0.7 | NA | 0.1 | 0.4 | 0.03 | 0.07 | 0.03 | 59.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. SAT_Braidwood-Bungonia (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.057 | 5.9 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 25.4 |
| 2 | T1 | All MCs | 96 | 6.6 | 96 | 6.6 | 0.057 | 0.0 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 58.4 |
| 3 | R2 | All MCs | 7 | 14.3 | 7 | 14.3 | 0.057 | 6.0 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 45.3 |
| Approach | | | 104 | 7.1 | 104 | 7.1 | 0.057 | 0.5 | NA | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 57.4 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 5 | 20.0 | 5 | 20.0 | 0.004 | 4.5 | LOS A | 0.0 | 0.1 | 0.21 | 0.50 | 0.21 | 33.7 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.261 | 4.6 | LOS A | 1.0 | 7.4 | 0.46 | 0.70 | 0.46 | 32.0 |
| 6 | R2 | All MCs | 189 | 8.3 | 189 | 8.3 | 0.261 | 6.6 | LOS A | 1.0 | 7.4 | 0.46 | 0.70 | 0.46 | 38.1 |
| Approach | | | 196 | 8.6 | 196 | 8.6 | 0.261 | 6.5 | LOS A | 1.0 | 7.4 | 0.46 | 0.69 | 0.46 | 38.0 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 225 | 15.0 | 225 | 15.0 | 0.215 | 5.8 | LOS A | 1.1 | 8.1 | 0.05 | 0.36 | 0.05 | 36.3 |
| 8 | T1 | All MCs | 112 | 3.8 | 112 | 3.8 | 0.215 | 0.0 | LOS A | 1.1 | 8.1 | 0.05 | 0.36 | 0.05 | 51.3 |
| 9 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.215 | 5.6 | LOS A | 1.1 | 8.1 | 0.05 | 0.36 | 0.05 | 37.4 |
| Approach | | | 340 | 11.1 | 340 | 11.1 | 0.215 | 3.9 | NA | 1.1 | 8.1 | 0.05 | 0.36 | 0.05 | 40.6 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 42.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 4.9 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 31.3 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 6.5 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 35.7 |
| Approach | | | 7 | 0.0 | 7 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 40.8 |
| All Vehicles | | | 647 | 9.6 | 647 | 9.6 | 0.261 | 4.2 | NA | 1.1 | 8.1 | 0.18 | 0.41 | 0.18 | 41.9 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. SAT_Sloane-Braidwood (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 38 | 19.4 | 38 | 19.4 | 0.609 | 14.2 | LOS A | 3.9 | 29.8 | 0.75 | 1.19 | 1.36 | 32.9 |
| 5 | T1 | All MCs | 51 | 4.2 | 51 | 4.2 | 0.609 | 18.2 | LOS B | 3.9 | 29.8 | 0.75 | 1.19 | 1.36 | 33.9 |
| 6 | R2 | All MCs | 184 | 8.6 | 184 | 8.6 | 0.609 | 21.7 | LOS B | 3.9 | 29.8 | 0.75 | 1.19 | 1.36 | 33.6 |
| Approach | | | 273 | 9.3 | 273 | 9.3 | 0.609 | 20.0 | LOS B | 3.9 | 29.8 | 0.75 | 1.19 | 1.36 | 33.6 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 202 | 5.7 | 202 | 5.7 | 0.285 | 6.3 | LOS A | 1.4 | 10.4 | 0.28 | 0.37 | 0.28 | 47.8 |
| 8 | T1 | All MCs | 206 | 1.5 | 206 | 1.5 | 0.285 | 0.5 | LOS A | 1.4 | 10.4 | 0.28 | 0.37 | 0.28 | 51.4 |
| 9 | R2 | All MCs | 44 | 0.0 | 44 | 0.0 | 0.285 | 6.2 | LOS A | 1.4 | 10.4 | 0.28 | 0.37 | 0.28 | 46.8 |
| Approach | | | 453 | 3.3 | 453 | 3.3 | 0.285 | 3.7 | NA | 1.4 | 10.4 | 0.28 | 0.37 | 0.28 | 49.2 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.095 | 8.7 | LOS A | 0.3 | 2.4 | 0.47 | 0.94 | 0.47 | 40.3 |
| 11 | T1 | All MCs | 45 | 4.7 | 45 | 4.7 | 0.095 | 11.6 | LOS A | 0.3 | 2.4 | 0.47 | 0.94 | 0.47 | 40.8 |
| 12 | R2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.095 | 12.2 | LOS A | 0.3 | 2.4 | 0.47 | 0.94 | 0.47 | 39.5 |
| Approach | | | 66 | 3.2 | 66 | 3.2 | 0.095 | 10.9 | LOS A | 0.3 | 2.4 | 0.47 | 0.94 | 0.47 | 40.6 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.170 | 6.5 | LOS A | 0.7 | 5.3 | 0.26 | 0.31 | 0.26 | 49.2 |
| 2 | T1 | All MCs | 178 | 1.8 | 178 | 1.8 | 0.170 | 0.5 | LOS A | 0.7 | 5.3 | 0.26 | 0.31 | 0.26 | 54.1 |
| 3 | R2 | All MCs | 91 | 22.1 | 91 | 22.1 | 0.170 | 6.7 | LOS A | 0.7 | 5.3 | 0.26 | 0.31 | 0.26 | 44.9 |
| Approach | | | 273 | 8.5 | 273 | 8.5 | 0.170 | 2.7 | NA | 0.7 | 5.3 | 0.26 | 0.31 | 0.26 | 50.4 |
| All Vehicles | | | 1064 | 6.1 | 1064 | 6.1 | 0.609 | 8.0 | NA | 3.9 | 29.8 | 0.41 | 0.60 | 0.56 | 43.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. SAT_Bungonia-Forbes (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 134 | 7.9 | 134 | 7.9 | 0.074 | 0.0 | LOS A | 0.0 | 0.2 | 0.02 | 0.02 | 0.02 | 59.7 |
| 6 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.074 | 5.8 | LOS A | 0.0 | 0.2 | 0.02 | 0.02 | 0.02 | 56.2 |
| Approach | | | 137 | 7.7 | 137 | 7.7 | 0.074 | 0.1 | NA | 0.0 | 0.2 | 0.02 | 0.02 | 0.02 | 59.6 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 18 | 11.8 | 18 | 11.8 | 0.016 | 9.3 | LOS A | 0.1 | 0.5 | 0.29 | 0.87 | 0.29 | 46.9 |
| 9 | R2 | All MCs | 24 | 0.0 | 24 | 0.0 | 0.029 | 9.0 | LOS A | 0.1 | 0.7 | 0.37 | 0.88 | 0.37 | 50.5 |
| Approach | | | 42 | 5.0 | 42 | 5.0 | 0.029 | 9.1 | LOS A | 0.1 | 0.7 | 0.34 | 0.88 | 0.34 | 49.2 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 18 | 5.9 | 18 | 5.9 | 0.107 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 56.7 |
| 11 | T1 | All MCs | 172 | 15.3 | 172 | 15.3 | 0.107 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 59.2 |
| Approach | | | 189 | 14.4 | 189 | 14.4 | 0.107 | 0.6 | NA | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 58.9 |
| All Vehicles | | | 368 | 10.9 | 368 | 10.9 | 0.107 | 1.4 | NA | 0.1 | 0.7 | 0.04 | 0.14 | 0.04 | 57.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. SAT_Bungonia-Memorial (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 165 | 11.5 | 165 | 11.5 | 0.094 | 5.5 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 46.6 |
| 3 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.094 | 5.4 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 48.6 |
| Approach | | | 167 | 11.3 | 167 | 11.3 | 0.094 | 5.5 | NA | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 46.7 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.008 | 6.1 | LOS A | 0.0 | 0.2 | 0.33 | 0.56 | 0.33 | 47.8 |
| 6a | R1 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.008 | 6.3 | LOS A | 0.0 | 0.2 | 0.33 | 0.56 | 0.33 | 45.9 |
| Approach | | | 8 | 0.0 | 8 | 0.0 | 0.008 | 6.2 | LOS A | 0.0 | 0.2 | 0.33 | 0.56 | 0.33 | 46.4 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.106 | 5.3 | LOS A | 0.5 | 4.1 | 0.02 | 0.56 | 0.02 | 47.1 |
| 29a | R1 | All MCs | 173 | 14.6 | 173 | 14.6 | 0.106 | 5.1 | LOS A | 0.5 | 4.1 | 0.02 | 0.56 | 0.02 | 48.1 |
| Approach | | | 178 | 14.2 | 178 | 14.2 | 0.106 | 5.1 | NA | 0.5 | 4.1 | 0.02 | 0.56 | 0.02 | 48.1 |
| All Vehicles | | | 354 | 12.5 | 354 | 12.5 | 0.106 | 5.3 | NA | 0.5 | 4.1 | 0.02 | 0.58 | 0.02 | 47.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. SAT_Hume-Garoorigang (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.058 | 0.0 | LOS A | 0.3 | 2.0 | 0.07 | 0.55 | 0.07 | 55.1 |
| 6 | R2 | All MCs | 95 | 6.7 | 95 | 6.7 | 0.058 | 5.6 | LOS A | 0.3 | 2.0 | 0.07 | 0.55 | 0.07 | 48.7 |
| Approach | | | 100 | 6.3 | 100 | 6.3 | 0.058 | 5.3 | NA | 0.3 | 2.0 | 0.07 | 0.55 | 0.07 | 49.2 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 126 | 14.2 | 126 | 14.2 | 0.085 | 5.7 | LOS A | 0.4 | 2.8 | 0.03 | 0.56 | 0.03 | 48.5 |
| 9 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.085 | 5.6 | LOS A | 0.4 | 2.8 | 0.03 | 0.56 | 0.03 | 49.0 |
| Approach | | | 128 | 13.9 | 128 | 13.9 | 0.085 | 5.7 | LOS A | 0.4 | 2.8 | 0.03 | 0.56 | 0.03 | 48.5 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.008 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.43 | 0.00 | 51.1 |
| 11 | T1 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.008 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.43 | 0.00 | 56.2 |
| Approach | | | 16 | 0.0 | 16 | 0.0 | 0.008 | 4.1 | NA | 0.0 | 0.0 | 0.00 | 0.43 | 0.00 | 52.8 |
| All Vehicles | | | 244 | 9.9 | 244 | 9.9 | 0.085 | 5.4 | NA | 0.4 | 2.8 | 0.05 | 0.55 | 0.05 | 49.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. SAT_Lagoon-Union (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 112 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 9 | 0.0 | 9 | 0.0 | 0.480 | 42.8 | LOS D | 11.4 | 81.0 | 0.89 | 0.75 | 0.89 | 28.8 |
| 2 | T1 | All MCs | 238 | 1.8 | 238 | 1.8 | *0.480 | 37.2 | LOS C | 11.4 | 81.0 | 0.89 | 0.75 | 0.89 | 26.9 |
| 3 | R2 | All MCs | 148 | 7.1 | 148 | 7.1 | 0.122 | 11.9 | LOS A | 2.7 | 20.1 | 0.36 | 0.66 | 0.36 | 47.1 |
| Approach | | | 396 | 3.7 | 396 | 3.7 | 0.480 | 27.9 | LOS B | 11.4 | 81.0 | 0.69 | 0.72 | 0.69 | 34.6 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 177 | 12.5 | 177 | 12.5 | 0.263 | 18.7 | LOS B | 6.9 | 52.9 | 0.65 | 0.72 | 0.65 | 39.7 |
| 5 | T1 | All MCs | 221 | 0.0 | 221 | 0.0 | 0.263 | 30.7 | LOS C | 7.1 | 52.9 | 0.73 | 0.63 | 0.73 | 37.5 |
| 6 | R2 | All MCs | 135 | 3.1 | 135 | 3.1 | *0.328 | 35.6 | LOS C | 5.5 | 39.8 | 0.79 | 0.77 | 0.79 | 29.7 |
| Approach | | | 533 | 4.9 | 533 | 4.9 | 0.328 | 27.9 | LOS B | 7.1 | 52.9 | 0.72 | 0.70 | 0.72 | 36.3 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 168 | 5.6 | 168 | 5.6 | 0.933 | 72.2 | LOS F | 23.8 | 171.3 | 1.00 | 1.12 | 1.37 | 20.5 |
| 8 | T1 | All MCs | 188 | 1.1 | 188 | 1.1 | *0.933 | 66.7 | LOS E | 23.8 | 171.3 | 1.00 | 1.12 | 1.37 | 18.3 |
| 9 | R2 | All MCs | 140 | 0.8 | 140 | 0.8 | 0.369 | 47.3 | LOS D | 6.7 | 46.9 | 0.91 | 0.79 | 0.91 | 17.5 |
| Approach | | | 497 | 2.5 | 497 | 2.5 | 0.933 | 63.1 | LOS E | 23.8 | 171.3 | 0.97 | 1.03 | 1.24 | 19.0 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 88 | 0.0 | 88 | 0.0 | 0.076 | 14.2 | LOS A | 1.9 | 13.0 | 0.42 | 0.67 | 0.42 | 32.7 |
| 11 | T1 | All MCs | 179 | 1.2 | 179 | 1.2 | 0.126 | 25.1 | LOS B | 3.2 | 22.7 | 0.70 | 0.56 | 0.70 | 38.1 |
| 12 | R2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.037 | 36.0 | LOS C | 0.5 | 3.2 | 0.74 | 0.68 | 0.74 | 29.3 |
| Approach | | | 279 | 0.8 | 279 | 0.8 | 0.126 | 22.1 | LOS B | 3.2 | 22.7 | 0.61 | 0.60 | 0.61 | 36.6 |
| All Vehicles | | | 1704 | 3.3 | 1704 | 3.3 | 0.933 | 37.2 | LOS C | 23.8 | 171.3 | 0.77 | 0.78 | 0.85 | 29.7 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| North: Union St | | | | | | | | | | | |
| P3 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| West: Lagoon St | | | | | | | | | | | |
| P4 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| All Pedestrians | 4 | 4 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. SAT_Sloane-Garoorigang (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 40 | 0.0 | 40 | 0.0 | 0.036 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 54.1 |
| 2 | T1 | All MCs | 27 | 3.8 | 27 | 3.8 | 0.036 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 56.4 |
| Approach | | | 67 | 1.6 | 67 | 1.6 | 0.036 | 3.3 | NA | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 55.0 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 23 | 0.0 | 23 | 0.0 | 0.050 | 0.2 | LOS A | 0.2 | 1.7 | 0.17 | 0.42 | 0.17 | 55.4 |
| 9 | R2 | All MCs | 59 | 10.7 | 59 | 10.7 | 0.050 | 5.8 | LOS A | 0.2 | 1.7 | 0.17 | 0.42 | 0.17 | 52.8 |
| Approach | | | 82 | 7.7 | 82 | 7.7 | 0.050 | 4.2 | NA | 0.2 | 1.7 | 0.17 | 0.42 | 0.17 | 53.5 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 65 | 27.4 | 65 | 27.4 | 0.100 | 6.0 | LOS A | 0.4 | 3.0 | 0.13 | 0.55 | 0.13 | 51.3 |
| 12 | R2 | All MCs | 61 | 0.0 | 61 | 0.0 | 0.100 | 5.9 | LOS A | 0.4 | 3.0 | 0.13 | 0.55 | 0.13 | 51.5 |
| Approach | | | 126 | 14.2 | 126 | 14.2 | 0.100 | 6.0 | LOS A | 0.4 | 3.0 | 0.13 | 0.55 | 0.13 | 51.4 |
| All Vehicles | | | 276 | 9.2 | 276 | 9.2 | 0.100 | 4.8 | NA | 0.4 | 3.0 | 0.11 | 0.46 | 0.11 | 52.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. SAT_Windellama-Rifle (*) (Site Folder: 2027 Base + Gundary Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

Weekday PM Flows Used
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 107 | 19.6 | 107 | 19.6 | 0.067 | 0.1 | LOS A | 0.1 | 0.4 | 0.05 | 0.05 | 0.05 | 59.6 |
| 3 | R2 | All MCs | 5 | 40.0 | 5 | 40.0 | 0.067 | 7.1 | LOS A | 0.1 | 0.4 | 0.05 | 0.05 | 0.05 | 54.8 |
| Approach | | | 113 | 20.6 | 113 | 20.6 | 0.067 | 0.4 | NA | 0.1 | 0.4 | 0.05 | 0.05 | 0.05 | 59.4 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.016 | 6.2 | LOS A | 0.1 | 0.4 | 0.35 | 0.60 | 0.35 | 51.9 |
| 6 | R2 | All MCs | 11 | 20.0 | 11 | 20.0 | 0.016 | 7.4 | LOS A | 0.1 | 0.4 | 0.35 | 0.60 | 0.35 | 50.8 |
| Approach | | | 15 | 14.3 | 15 | 14.3 | 0.016 | 7.0 | LOS A | 0.1 | 0.4 | 0.35 | 0.60 | 0.35 | 51.1 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.123 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 57.1 |
| 8 | T1 | All MCs | 205 | 16.4 | 205 | 16.4 | 0.123 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.6 |
| Approach | | | 217 | 15.5 | 217 | 15.5 | 0.123 | 0.3 | NA | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.5 |
| All Vehicles | | | 344 | 17.1 | 344 | 17.1 | 0.123 | 0.6 | NA | 0.1 | 0.4 | 0.03 | 0.06 | 0.03 | 59.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. AM_Braidwood-Bungonia (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.051 | 6.0 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 25.3 |
| 2 | T1 | All MCs | 79 | 20.0 | 79 | 20.0 | 0.051 | 0.0 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 58.2 |
| 3 | R2 | All MCs | 6 | 16.7 | 6 | 16.7 | 0.051 | 6.1 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 44.9 |
| Approach | | | 86 | 19.5 | 86 | 19.5 | 0.051 | 0.6 | NA | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 57.0 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 11 | 10.0 | 11 | 10.0 | 0.008 | 4.5 | LOS A | 0.0 | 0.2 | 0.22 | 0.51 | 0.22 | 34.5 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.364 | 5.6 | LOS A | 1.7 | 13.2 | 0.53 | 0.78 | 0.63 | 30.0 |
| 6 | R2 | All MCs | 246 | 10.7 | 246 | 10.7 | 0.364 | 7.8 | LOS A | 1.7 | 13.2 | 0.53 | 0.78 | 0.63 | 36.1 |
| Approach | | | 258 | 10.6 | 258 | 10.6 | 0.364 | 7.7 | LOS A | 1.7 | 13.2 | 0.51 | 0.76 | 0.62 | 36.1 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 285 | 22.5 | 285 | 22.5 | 0.270 | 5.9 | LOS A | 1.4 | 11.5 | 0.06 | 0.38 | 0.06 | 35.9 |
| 8 | T1 | All MCs | 119 | 13.3 | 119 | 13.3 | 0.270 | 0.0 | LOS A | 1.4 | 11.5 | 0.06 | 0.38 | 0.06 | 50.9 |
| 9 | R2 | All MCs | 3 | 33.3 | 3 | 33.3 | 0.270 | 6.0 | LOS A | 1.4 | 11.5 | 0.06 | 0.38 | 0.06 | 35.8 |
| Approach | | | 407 | 19.9 | 407 | 19.9 | 0.270 | 4.2 | NA | 1.4 | 11.5 | 0.06 | 0.38 | 0.06 | 39.7 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 42.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 4.9 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 31.4 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 6.5 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 35.8 |
| Approach | | | 8 | 0.0 | 8 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 41.1 |
| All Vehicles | | | 760 | 16.5 | 760 | 16.5 | 0.364 | 5.0 | NA | 1.7 | 13.2 | 0.21 | 0.47 | 0.25 | 39.9 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. AM_Sloane-Braidwood (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 43 | 14.6 | 43 | 14.6 | 0.735 | 16.4 | LOS B | 6.6 | 51.1 | 0.82 | 1.29 | 1.85 | 31.1 |
| 5 | T1 | All MCs | 58 | 5.5 | 58 | 5.5 | 0.735 | 21.1 | LOS B | 6.6 | 51.1 | 0.82 | 1.29 | 1.85 | 31.6 |
| 6 | R2 | All MCs | 235 | 13.5 | 235 | 13.5 | 0.735 | 25.7 | LOS B | 6.6 | 51.1 | 0.82 | 1.29 | 1.85 | 31.1 |
| Approach | | | 336 | 12.2 | 336 | 12.2 | 0.735 | 23.7 | LOS B | 6.6 | 51.1 | 0.82 | 1.29 | 1.85 | 31.2 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 288 | 13.5 | 288 | 13.5 | 0.307 | 6.4 | LOS A | 1.6 | 12.5 | 0.30 | 0.43 | 0.30 | 45.2 |
| 8 | T1 | All MCs | 137 | 8.5 | 137 | 8.5 | 0.307 | 0.6 | LOS A | 1.6 | 12.5 | 0.30 | 0.43 | 0.30 | 49.9 |
| 9 | R2 | All MCs | 21 | 5.0 | 21 | 5.0 | 0.307 | 6.4 | LOS A | 1.6 | 12.5 | 0.30 | 0.43 | 0.30 | 44.8 |
| Approach | | | 446 | 11.6 | 446 | 11.6 | 0.307 | 4.6 | NA | 1.6 | 12.5 | 0.30 | 0.43 | 0.30 | 46.5 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.105 | 8.8 | LOS A | 0.4 | 2.8 | 0.45 | 0.96 | 0.45 | 40.7 |
| 11 | T1 | All MCs | 59 | 10.7 | 59 | 10.7 | 0.105 | 11.2 | LOS A | 0.4 | 2.8 | 0.45 | 0.96 | 0.45 | 40.2 |
| 12 | R2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.105 | 11.2 | LOS A | 0.4 | 2.8 | 0.45 | 0.96 | 0.45 | 39.9 |
| Approach | | | 77 | 8.2 | 77 | 8.2 | 0.105 | 10.7 | LOS A | 0.4 | 2.8 | 0.45 | 0.96 | 0.45 | 40.3 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.157 | 6.4 | LOS A | 0.6 | 4.6 | 0.19 | 0.23 | 0.19 | 51.0 |
| 2 | T1 | All MCs | 177 | 8.3 | 177 | 8.3 | 0.157 | 0.4 | LOS A | 0.6 | 4.6 | 0.19 | 0.23 | 0.19 | 56.3 |
| 3 | R2 | All MCs | 58 | 58.2 | 58 | 58.2 | 0.157 | 7.0 | LOS A | 0.6 | 4.6 | 0.19 | 0.23 | 0.19 | 39.8 |
| Approach | | | 240 | 20.2 | 240 | 20.2 | 0.157 | 2.1 | NA | 0.6 | 4.6 | 0.19 | 0.23 | 0.19 | 50.7 |
| All Vehicles | | | 1099 | 13.4 | 1099 | 13.4 | 0.735 | 10.3 | NA | 6.6 | 51.1 | 0.44 | 0.68 | 0.76 | 40.5 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. AM_Bungonia-Forbes (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 256 | 10.7 | 256 | 10.7 | 0.153 | 0.1 | LOS A | 0.1 | 1.1 | 0.06 | 0.07 | 0.06 | 59.2 |
| 6 | R2 | All MCs | 17 | 6.3 | 17 | 6.3 | 0.153 | 6.7 | LOS A | 0.1 | 1.1 | 0.06 | 0.07 | 0.06 | 55.3 |
| Approach | | | 273 | 10.4 | 273 | 10.4 | 0.153 | 0.5 | NA | 0.1 | 1.1 | 0.06 | 0.07 | 0.06 | 58.9 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.005 | 9.0 | LOS A | 0.0 | 0.1 | 0.34 | 0.83 | 0.34 | 48.3 |
| 9 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.028 | 10.5 | LOS A | 0.1 | 0.6 | 0.48 | 0.91 | 0.48 | 49.7 |
| Approach | | | 23 | 0.0 | 23 | 0.0 | 0.028 | 10.1 | LOS A | 0.1 | 0.6 | 0.44 | 0.89 | 0.44 | 49.4 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.146 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 57.0 |
| 11 | T1 | All MCs | 228 | 25.3 | 228 | 25.3 | 0.146 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.3 |
| Approach | | | 245 | 23.6 | 245 | 23.6 | 0.146 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.1 |
| All Vehicles | | | 541 | 16.0 | 541 | 16.0 | 0.153 | 0.9 | NA | 0.1 | 1.1 | 0.05 | 0.09 | 0.05 | 58.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. AM_Bungonia-Memorial (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 259 | 9.3 | 259 | 9.3 | 0.145 | 5.4 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 47.0 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.145 | 5.4 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 48.6 |
| Approach | | | 260 | 9.3 | 260 | 9.3 | 0.145 | 5.4 | NA | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 47.0 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.028 | 6.5 | LOS A | 0.1 | 0.7 | 0.49 | 0.70 | 0.49 | 45.6 |
| 6a | R1 | All MCs | 16 | 26.7 | 16 | 26.7 | 0.028 | 9.0 | LOS A | 0.1 | 0.7 | 0.49 | 0.70 | 0.49 | 39.7 |
| Approach | | | 17 | 25.0 | 17 | 25.0 | 0.028 | 8.8 | LOS A | 0.1 | 0.7 | 0.49 | 0.70 | 0.49 | 40.1 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.177 | 5.3 | LOS A | 0.9 | 8.0 | 0.02 | 0.57 | 0.02 | 47.2 |
| 29a | R1 | All MCs | 275 | 26.4 | 275 | 26.4 | 0.177 | 5.3 | LOS A | 0.9 | 8.0 | 0.02 | 0.57 | 0.02 | 47.4 |
| Approach | | | 281 | 25.8 | 281 | 25.8 | 0.177 | 5.3 | NA | 0.9 | 8.0 | 0.02 | 0.57 | 0.02 | 47.4 |
| All Vehicles | | | 558 | 18.1 | 558 | 18.1 | 0.177 | 5.5 | NA | 0.9 | 8.0 | 0.02 | 0.58 | 0.02 | 47.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. AM_Hume-Garoorigang (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 5 | 20.0 | 5 | 20.0 | 0.057 | 0.1 | LOS A | 0.3 | 2.2 | 0.10 | 0.54 | 0.10 | 55.0 |
| 6 | R2 | All MCs | 86 | 19.5 | 86 | 19.5 | 0.057 | 5.8 | LOS A | 0.3 | 2.2 | 0.10 | 0.54 | 0.10 | 47.7 |
| Approach | | | 92 | 19.5 | 92 | 19.5 | 0.057 | 5.5 | NA | 0.3 | 2.2 | 0.10 | 0.54 | 0.10 | 48.3 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 40 | 34.2 | 40 | 34.2 | 0.037 | 5.9 | LOS A | 0.1 | 1.3 | 0.04 | 0.56 | 0.04 | 47.4 |
| 9 | R2 | All MCs | 8 | 25.0 | 8 | 25.0 | 0.037 | 5.9 | LOS A | 0.1 | 1.3 | 0.04 | 0.56 | 0.04 | 47.5 |
| Approach | | | 48 | 32.6 | 48 | 32.6 | 0.037 | 5.9 | LOS A | 0.1 | 1.3 | 0.04 | 0.56 | 0.04 | 47.4 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 21 | 30.0 | 21 | 30.0 | 0.016 | 5.9 | LOS A | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 48.5 |
| 11 | T1 | All MCs | 4 | 25.0 | 4 | 25.0 | 0.016 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 55.8 |
| Approach | | | 25 | 29.2 | 25 | 29.2 | 0.016 | 4.9 | NA | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 50.1 |
| All Vehicles | | | 165 | 24.8 | 165 | 24.8 | 0.057 | 5.5 | NA | 0.3 | 2.2 | 0.07 | 0.53 | 0.07 | 48.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. AM_Lagoon-Union (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 112 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 44 | 0.0 | 44 | 0.0 | 0.715 | 51.2 | LOS D | 14.6 | 111.1 | 0.99 | 0.86 | 1.02 | 25.7 |
| 2 | T1 | All MCs | 235 | 11.7 | 235 | 11.7 | * 0.715 | 45.7 | LOS D | 14.6 | 111.1 | 0.99 | 0.86 | 1.02 | 23.7 |
| 3 | R2 | All MCs | 164 | 27.6 | 164 | 27.6 | 0.180 | 17.1 | LOS B | 4.1 | 35.1 | 0.49 | 0.70 | 0.49 | 43.3 |
| Approach | | | 443 | 16.4 | 443 | 16.4 | 0.715 | 35.6 | LOS C | 14.6 | 111.1 | 0.80 | 0.80 | 0.83 | 31.0 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 176 | 37.1 | 176 | 37.1 | 0.313 | 23.7 | LOS B | 7.3 | 65.0 | 0.69 | 0.74 | 0.69 | 38.0 |
| 5 | T1 | All MCs | 217 | 6.3 | 217 | 6.3 | 0.313 | 33.1 | LOS C | 7.7 | 65.0 | 0.79 | 0.67 | 0.79 | 35.5 |
| 6 | R2 | All MCs | 179 | 12.4 | 179 | 12.4 | * 0.471 | 40.4 | LOS C | 8.1 | 62.6 | 0.86 | 0.80 | 0.86 | 27.8 |
| Approach | | | 572 | 17.7 | 572 | 17.7 | 0.471 | 32.5 | LOS C | 8.1 | 65.0 | 0.78 | 0.73 | 0.78 | 33.9 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 140 | 9.8 | 140 | 9.8 | * 0.667 | 43.0 | LOS D | 17.5 | 130.9 | 0.93 | 0.82 | 0.93 | 28.3 |
| 8 | T1 | All MCs | 224 | 7.0 | 224 | 7.0 | 0.667 | 36.5 | LOS C | 17.5 | 130.9 | 0.93 | 0.82 | 0.93 | 26.3 |
| 9 | R2 | All MCs | 209 | 13.1 | 209 | 13.1 | 0.406 | 39.1 | LOS C | 9.1 | 71.1 | 0.84 | 0.79 | 0.84 | 19.3 |
| Approach | | | 574 | 9.9 | 574 | 9.9 | 0.667 | 39.1 | LOS C | 17.5 | 130.9 | 0.90 | 0.81 | 0.90 | 24.5 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 71 | 13.4 | 71 | 13.4 | 0.061 | 12.0 | LOS A | 1.3 | 9.8 | 0.35 | 0.65 | 0.35 | 34.3 |
| 11 | T1 | All MCs | 99 | 4.3 | 99 | 4.3 | 0.081 | 28.2 | LOS B | 1.9 | 13.5 | 0.73 | 0.56 | 0.73 | 36.5 |
| 12 | R2 | All MCs | 25 | 4.2 | 25 | 4.2 | 0.101 | 41.9 | LOS C | 1.1 | 8.0 | 0.81 | 0.72 | 0.81 | 27.1 |
| Approach | | | 195 | 7.6 | 195 | 7.6 | 0.101 | 24.1 | LOS B | 1.9 | 13.5 | 0.60 | 0.61 | 0.60 | 34.4 |
| All Vehicles | | | 1783 | 13.8 | 1783 | 13.8 | 0.715 | 34.5 | LOS C | 17.5 | 130.9 | 0.80 | 0.76 | 0.81 | 30.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 | Full | 11 | 12 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| North: Union St | | | | | | | | | | | | |
| P3 | Full | 11 | 12 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| West: Lagoon St | | | | | | | | | | | | |
| P4 | Full | 2 | 2 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| All Pedestrians | | 25 | 26 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. AM_Sloane-Garoorigang (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 38 | 0.0 | 38 | 0.0 | 0.043 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 54.7 |
| 2 | T1 | All MCs | 43 | 0.0 | 43 | 0.0 | 0.043 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 57.2 |
| Approach | | | 81 | 0.0 | 81 | 0.0 | 0.043 | 2.6 | NA | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 56.0 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 13 | 0.0 | 13 | 0.0 | 0.045 | 0.3 | LOS A | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 55.0 |
| 9 | R2 | All MCs | 54 | 31.4 | 54 | 31.4 | 0.045 | 6.2 | LOS A | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 51.6 |
| Approach | | | 66 | 25.4 | 66 | 25.4 | 0.045 | 5.0 | NA | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 52.2 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 28 | 59.3 | 28 | 59.3 | 0.039 | 6.4 | LOS A | 0.1 | 1.3 | 0.15 | 0.55 | 0.15 | 50.0 |
| 12 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.039 | 5.9 | LOS A | 0.1 | 1.3 | 0.15 | 0.55 | 0.15 | 51.4 |
| Approach | | | 46 | 36.4 | 46 | 36.4 | 0.039 | 6.2 | LOS A | 0.1 | 1.3 | 0.15 | 0.55 | 0.15 | 50.5 |
| All Vehicles | | | 194 | 17.4 | 194 | 17.4 | 0.045 | 4.3 | NA | 0.2 | 1.8 | 0.10 | 0.41 | 0.10 | 53.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. AM_Windellama-Rifle (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 248 | 10.6 | 248 | 10.6 | 0.142 | 0.0 | LOS A | 0.1 | 0.5 | 0.03 | 0.03 | 0.03 | 59.7 |
| 3 | R2 | All MCs | 8 | 0.0 | 8 | 0.0 | 0.142 | 6.3 | LOS A | 0.1 | 0.5 | 0.03 | 0.03 | 0.03 | 56.9 |
| Approach | | | 257 | 10.2 | 257 | 10.2 | 0.142 | 0.2 | NA | 0.1 | 0.5 | 0.03 | 0.03 | 0.03 | 59.6 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.015 | 6.3 | LOS A | 0.0 | 0.3 | 0.42 | 0.63 | 0.42 | 51.5 |
| 6 | R2 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.015 | 7.6 | LOS A | 0.0 | 0.3 | 0.42 | 0.63 | 0.42 | 51.2 |
| Approach | | | 13 | 0.0 | 13 | 0.0 | 0.015 | 7.4 | LOS A | 0.0 | 0.3 | 0.42 | 0.63 | 0.42 | 51.3 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 6 | 66.7 | 6 | 66.7 | 0.141 | 6.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 54.3 |
| 8 | T1 | All MCs | 226 | 26.5 | 226 | 26.5 | 0.141 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 59.9 |
| Approach | | | 233 | 27.6 | 233 | 27.6 | 0.141 | 0.2 | NA | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 59.7 |
| All Vehicles | | | 502 | 18.0 | 502 | 18.0 | 0.142 | 0.4 | NA | 0.1 | 0.5 | 0.03 | 0.04 | 0.03 | 59.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. PM_Braidwood-Bungonia (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.069 | 5.9 | LOS A | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 24.9 |
| 2 | T1 | All MCs | 104 | 8.1 | 104 | 8.1 | 0.069 | 0.1 | LOS A | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 56.9 |
| 3 | R2 | All MCs | 18 | 5.9 | 18 | 5.9 | 0.069 | 5.9 | LOS A | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 43.9 |
| Approach | | | 123 | 7.7 | 123 | 7.7 | 0.069 | 1.0 | NA | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 55.3 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 14 | 7.7 | 14 | 7.7 | 0.010 | 4.5 | LOS A | 0.0 | 0.3 | 0.21 | 0.51 | 0.21 | 34.8 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.582 | 7.6 | LOS A | 4.1 | 33.8 | 0.64 | 0.94 | 1.04 | 26.2 |
| 6 | R2 | All MCs | 362 | 20.6 | 362 | 20.6 | 0.582 | 10.7 | LOS A | 4.1 | 33.8 | 0.64 | 0.94 | 1.04 | 31.6 |
| Approach | | | 377 | 20.1 | 377 | 20.1 | 0.582 | 10.4 | LOS A | 4.1 | 33.8 | 0.63 | 0.92 | 1.01 | 31.7 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 241 | 14.0 | 241 | 14.0 | 0.234 | 5.8 | LOS A | 1.2 | 9.0 | 0.09 | 0.36 | 0.09 | 36.1 |
| 8 | T1 | All MCs | 120 | 5.3 | 120 | 5.3 | 0.234 | 0.1 | LOS A | 1.2 | 9.0 | 0.09 | 0.36 | 0.09 | 51.0 |
| 9 | R2 | All MCs | 6 | 33.3 | 6 | 33.3 | 0.234 | 6.3 | LOS A | 1.2 | 9.0 | 0.09 | 0.36 | 0.09 | 35.9 |
| Approach | | | 367 | 11.5 | 367 | 11.5 | 0.234 | 4.0 | NA | 1.2 | 9.0 | 0.09 | 0.36 | 0.09 | 40.3 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 11 | 20.0 | 11 | 20.0 | 0.010 | 6.0 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 38.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.010 | 5.1 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 31.2 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.010 | 6.7 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 35.6 |
| Approach | | | 13 | 16.7 | 13 | 16.7 | 0.010 | 6.0 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 38.2 |
| All Vehicles | | | 880 | 14.7 | 880 | 14.7 | 0.582 | 6.3 | NA | 4.1 | 33.8 | 0.32 | 0.57 | 0.49 | 37.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. PM_Sloane-Braidwood (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 60 | 42.1 | 60 | 42.1 | 1.302 | 291.4 | LOS F | 77.6 | 629.5 | 1.00 | 4.97 | 13.84 | 4.9 |
| 5 | T1 | All MCs | 56 | 3.8 | 56 | 3.8 | 1.302 | 296.4 | LOS F | 77.6 | 629.5 | 1.00 | 4.97 | 13.84 | 5.0 |
| 6 | R2 | All MCs | 361 | 16.9 | 361 | 16.9 | 1.302 | 304.6 | LOS F | 77.6 | 629.5 | 1.00 | 4.97 | 13.84 | 5.1 |
| Approach | | | 477 | 18.5 | 477 | 18.5 | 1.302 | 302.0 | LOS F | 77.6 | 629.5 | 1.00 | 4.97 | 13.84 | 5.1 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 244 | 10.8 | 244 | 10.8 | 0.302 | 6.3 | LOS A | 1.6 | 12.0 | 0.29 | 0.40 | 0.29 | 46.2 |
| 8 | T1 | All MCs | 169 | 5.0 | 169 | 5.0 | 0.302 | 0.6 | LOS A | 1.6 | 12.0 | 0.29 | 0.40 | 0.29 | 50.6 |
| 9 | R2 | All MCs | 41 | 5.1 | 41 | 5.1 | 0.302 | 6.8 | LOS A | 1.6 | 12.0 | 0.29 | 0.40 | 0.29 | 45.3 |
| Approach | | | 455 | 8.1 | 455 | 8.1 | 0.302 | 4.2 | NA | 1.6 | 12.0 | 0.29 | 0.40 | 0.29 | 47.6 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 18 | 5.9 | 18 | 5.9 | 0.177 | 9.5 | LOS A | 0.6 | 4.9 | 0.54 | 1.00 | 0.54 | 38.6 |
| 11 | T1 | All MCs | 78 | 13.5 | 78 | 13.5 | 0.177 | 12.8 | LOS A | 0.6 | 4.9 | 0.54 | 1.00 | 0.54 | 38.6 |
| 12 | R2 | All MCs | 11 | 10.0 | 11 | 10.0 | 0.177 | 13.9 | LOS A | 0.6 | 4.9 | 0.54 | 1.00 | 0.54 | 37.3 |
| Approach | | | 106 | 11.9 | 106 | 11.9 | 0.177 | 12.4 | LOS A | 0.6 | 4.9 | 0.54 | 1.00 | 0.54 | 38.5 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.176 | 6.2 | LOS A | 0.4 | 2.8 | 0.12 | 0.16 | 0.12 | 51.3 |
| 2 | T1 | All MCs | 254 | 6.6 | 254 | 6.6 | 0.176 | 0.2 | LOS A | 0.4 | 2.8 | 0.12 | 0.16 | 0.12 | 56.7 |
| 3 | R2 | All MCs | 43 | 14.6 | 43 | 14.6 | 0.176 | 6.4 | LOS A | 0.4 | 2.8 | 0.12 | 0.16 | 0.12 | 48.1 |
| Approach | | | 311 | 7.5 | 311 | 7.5 | 0.176 | 1.3 | NA | 0.4 | 2.8 | 0.12 | 0.16 | 0.12 | 54.9 |
| All Vehicles | | | 1348 | 11.9 | 1348 | 11.9 | 1.302 | 109.5 | NA | 77.6 | 629.5 | 0.52 | 2.01 | 5.06 | 11.7 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. PM_Bungonia-Forbes (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 309 | 22.8 | 309 | 22.8 | 0.191 | 0.0 | LOS A | 0.1 | 0.9 | 0.03 | 0.04 | 0.03 | 59.4 |
| 6 | R2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.191 | 6.3 | LOS A | 0.1 | 0.9 | 0.03 | 0.04 | 0.03 | 55.9 |
| Approach | | | 323 | 21.8 | 323 | 21.8 | 0.191 | 0.3 | NA | 0.1 | 0.9 | 0.03 | 0.04 | 0.03 | 59.2 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.015 | 8.8 | LOS A | 0.1 | 0.4 | 0.30 | 0.85 | 0.30 | 48.4 |
| 9 | R2 | All MCs | 17 | 12.5 | 17 | 12.5 | 0.031 | 11.9 | LOS A | 0.1 | 0.7 | 0.50 | 0.94 | 0.50 | 48.6 |
| Approach | | | 35 | 6.1 | 35 | 6.1 | 0.031 | 10.3 | LOS A | 0.1 | 0.7 | 0.40 | 0.89 | 0.40 | 48.5 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 26 | 4.0 | 26 | 4.0 | 0.120 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.07 | 0.00 | 56.6 |
| 11 | T1 | All MCs | 188 | 14.0 | 188 | 14.0 | 0.120 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.07 | 0.00 | 59.0 |
| Approach | | | 215 | 12.7 | 215 | 12.7 | 0.120 | 0.7 | NA | 0.0 | 0.0 | 0.00 | 0.07 | 0.00 | 58.6 |
| All Vehicles | | | 573 | 17.5 | 573 | 17.5 | 0.191 | 1.1 | NA | 0.1 | 0.9 | 0.04 | 0.10 | 0.04 | 58.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. PM_Bungonia-Memorial (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 283 | 24.5 | 283 | 24.5 | 0.175 | 5.6 | LOS A | 0.0 | 0.2 | 0.00 | 0.60 | 0.00 | 44.7 |
| 3 | R2 | All MCs | 2 | 50.0 | 2 | 50.0 | 0.175 | 6.1 | LOS A | 0.0 | 0.2 | 0.00 | 0.60 | 0.00 | 41.3 |
| Approach | | | 285 | 24.7 | 285 | 24.7 | 0.175 | 5.6 | NA | 0.0 | 0.2 | 0.00 | 0.60 | 0.00 | 44.7 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.058 | 6.4 | LOS A | 0.2 | 1.3 | 0.47 | 0.70 | 0.47 | 46.5 |
| 6a | R1 | All MCs | 40 | 2.6 | 40 | 2.6 | 0.058 | 7.8 | LOS A | 0.2 | 1.3 | 0.47 | 0.70 | 0.47 | 43.9 |
| Approach | | | 42 | 2.5 | 42 | 2.5 | 0.058 | 7.7 | LOS A | 0.2 | 1.3 | 0.47 | 0.70 | 0.47 | 44.1 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.153 | 5.3 | LOS A | 0.8 | 6.3 | 0.03 | 0.56 | 0.03 | 47.1 |
| 29a | R1 | All MCs | 242 | 17.0 | 242 | 17.0 | 0.153 | 5.2 | LOS A | 0.8 | 6.3 | 0.03 | 0.56 | 0.03 | 48.0 |
| Approach | | | 254 | 16.2 | 254 | 16.2 | 0.153 | 5.2 | NA | 0.8 | 6.3 | 0.03 | 0.56 | 0.03 | 47.9 |
| All Vehicles | | | 581 | 19.4 | 581 | 19.4 | 0.175 | 5.6 | NA | 0.8 | 6.3 | 0.05 | 0.59 | 0.05 | 46.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. PM_Hume-Garoorigang (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.071 | 0.5 | LOS A | 0.3 | 2.7 | 0.25 | 0.55 | 0.25 | 54.5 |
| 6 | R2 | All MCs | 99 | 22.3 | 99 | 22.3 | 0.071 | 6.2 | LOS A | 0.3 | 2.7 | 0.25 | 0.55 | 0.25 | 46.9 |
| Approach | | | 102 | 21.6 | 102 | 21.6 | 0.071 | 6.0 | NA | 0.3 | 2.7 | 0.25 | 0.55 | 0.25 | 47.2 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 82 | 15.4 | 82 | 15.4 | 0.070 | 5.9 | LOS A | 0.3 | 2.2 | 0.15 | 0.54 | 0.15 | 48.0 |
| 9 | R2 | All MCs | 13 | 16.7 | 13 | 16.7 | 0.070 | 6.6 | LOS A | 0.3 | 2.2 | 0.15 | 0.54 | 0.15 | 47.5 |
| Approach | | | 95 | 15.6 | 95 | 15.6 | 0.070 | 6.0 | LOS A | 0.3 | 2.2 | 0.15 | 0.54 | 0.15 | 47.9 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 68 | 12.3 | 68 | 12.3 | 0.067 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 51.4 |
| 11 | T1 | All MCs | 53 | 0.0 | 53 | 0.0 | 0.067 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 57.2 |
| Approach | | | 121 | 7.0 | 121 | 7.0 | 0.067 | 3.2 | NA | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 54.4 |
| All Vehicles | | | 318 | 14.2 | 318 | 14.2 | 0.071 | 5.0 | NA | 0.3 | 2.7 | 0.12 | 0.47 | 0.12 | 50.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. PM_Lagoon-Union (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 173 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 38 | 2.8 | 38 | 2.8 | 0.734 | 71.2 | LOS F | 25.0 | 181.8 | 0.97 | 0.84 | 0.97 | 22.1 |
| 2 | T1 | All MCs | 293 | 4.7 | 293 | 4.7 | * 0.734 | 65.6 | LOS E | 25.0 | 181.8 | 0.97 | 0.84 | 0.97 | 20.1 |
| 3 | R2 | All MCs | 232 | 27.7 | 232 | 27.7 | 0.237 | 26.3 | LOS B | 8.3 | 71.7 | 0.47 | 0.70 | 0.47 | 41.4 |
| Approach | | | 562 | 14.0 | 562 | 14.0 | 0.734 | 49.8 | LOS D | 25.0 | 181.8 | 0.76 | 0.78 | 0.76 | 26.4 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 180 | 18.1 | 180 | 18.1 | 0.274 | 33.2 | LOS C | 10.5 | 83.7 | 0.68 | 0.75 | 0.68 | 33.7 |
| 5 | T1 | All MCs | 182 | 1.2 | 182 | 1.2 | 0.274 | 51.7 | LOS D | 10.5 | 83.7 | 0.79 | 0.67 | 0.79 | 29.1 |
| 6 | R2 | All MCs | 185 | 6.3 | 185 | 6.3 | * 0.586 | 64.2 | LOS E | 13.6 | 100.3 | 0.92 | 0.83 | 0.92 | 21.5 |
| Approach | | | 547 | 8.5 | 547 | 8.5 | 0.586 | 49.9 | LOS D | 13.6 | 100.3 | 0.80 | 0.75 | 0.80 | 27.8 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 153 | 17.2 | 153 | 17.2 | 0.743 | 72.4 | LOS F | 27.8 | 211.5 | 0.96 | 0.85 | 0.96 | 22.2 |
| 8 | T1 | All MCs | 216 | 5.4 | 216 | 5.4 | * 0.743 | 66.8 | LOS E | 27.8 | 211.5 | 0.96 | 0.85 | 0.96 | 20.1 |
| 9 | R2 | All MCs | 159 | 11.9 | 159 | 11.9 | 0.309 | 63.9 | LOS E | 10.2 | 78.9 | 0.82 | 0.78 | 0.82 | 15.4 |
| Approach | | | 527 | 10.8 | 527 | 10.8 | 0.743 | 67.6 | LOS E | 27.8 | 211.5 | 0.92 | 0.83 | 0.92 | 17.8 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 109 | 1.0 | 109 | 1.0 | 0.092 | 17.4 | LOS B | 3.3 | 23.6 | 0.40 | 0.67 | 0.40 | 30.0 |
| 11 | T1 | All MCs | 189 | 2.8 | 189 | 2.8 | 0.162 | 48.3 | LOS D | 5.8 | 41.6 | 0.76 | 0.61 | 0.76 | 29.4 |
| 12 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.070 | 66.4 | LOS E | 1.2 | 8.2 | 0.81 | 0.71 | 0.81 | 22.0 |
| Approach | | | 317 | 2.0 | 317 | 2.0 | 0.162 | 38.6 | LOS C | 5.8 | 41.6 | 0.64 | 0.64 | 0.64 | 28.2 |
| All Vehicles | | | 1954 | 9.6 | 1954 | 9.6 | 0.743 | 52.8 | LOS D | 27.8 | 211.5 | 0.79 | 0.76 | 0.79 | 24.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 Full | 3 | 3 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| North: Union St | | | | | | | | | | | |
| P3 Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| West: Lagoon St | | | | | | | | | | | |
| P4 Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| All Pedestrians | 6 | 6 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. PM_Sloane-Garoorigang (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 35 | 3.0 | 35 | 3.0 | 0.050 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 55.1 |
| 2 | T1 | All MCs | 60 | 0.0 | 60 | 0.0 | 0.050 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 57.8 |
| Approach | | | 95 | 1.1 | 95 | 1.1 | 0.050 | 2.1 | NA | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 56.8 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 15 | 14.3 | 15 | 14.3 | 0.055 | 0.4 | LOS A | 0.3 | 2.2 | 0.21 | 0.47 | 0.21 | 54.8 |
| 9 | R2 | All MCs | 64 | 29.5 | 64 | 29.5 | 0.055 | 6.2 | LOS A | 0.3 | 2.2 | 0.21 | 0.47 | 0.21 | 51.5 |
| Approach | | | 79 | 26.7 | 79 | 26.7 | 0.055 | 5.1 | NA | 0.3 | 2.2 | 0.21 | 0.47 | 0.21 | 52.0 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 85 | 13.6 | 85 | 13.6 | 0.101 | 5.9 | LOS A | 0.4 | 3.0 | 0.17 | 0.55 | 0.17 | 51.7 |
| 12 | R2 | All MCs | 47 | 0.0 | 47 | 0.0 | 0.101 | 6.1 | LOS A | 0.4 | 3.0 | 0.17 | 0.55 | 0.17 | 51.4 |
| Approach | | | 133 | 8.7 | 133 | 8.7 | 0.101 | 6.0 | LOS A | 0.4 | 3.0 | 0.17 | 0.55 | 0.17 | 51.6 |
| All Vehicles | | | 306 | 11.0 | 306 | 11.0 | 0.101 | 4.5 | NA | 0.4 | 3.0 | 0.13 | 0.43 | 0.13 | 53.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. PM_Windellama-Rifle (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 185 | 36.4 | 185 | 36.4 | 0.122 | 0.0 | LOS A | 0.0 | 0.5 | 0.02 | 0.03 | 0.02 | 59.8 |
| 3 | R2 | All MCs | 5 | 40.0 | 5 | 40.0 | 0.122 | 6.7 | LOS A | 0.0 | 0.5 | 0.02 | 0.03 | 0.02 | 54.9 |
| Approach | | | 191 | 36.5 | 191 | 36.5 | 0.122 | 0.2 | NA | 0.0 | 0.5 | 0.02 | 0.03 | 0.02 | 59.6 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.017 | 6.1 | LOS A | 0.1 | 0.4 | 0.37 | 0.60 | 0.37 | 51.7 |
| 6 | R2 | All MCs | 11 | 20.0 | 11 | 20.0 | 0.017 | 7.8 | LOS A | 0.1 | 0.4 | 0.37 | 0.60 | 0.37 | 50.6 |
| Approach | | | 15 | 14.3 | 15 | 14.3 | 0.017 | 7.3 | LOS A | 0.1 | 0.4 | 0.37 | 0.60 | 0.37 | 50.9 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.108 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 57.1 |
| 8 | T1 | All MCs | 182 | 14.5 | 182 | 14.5 | 0.108 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.6 |
| Approach | | | 194 | 13.6 | 194 | 13.6 | 0.108 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.4 |
| All Vehicles | | | 399 | 24.5 | 399 | 24.5 | 0.122 | 0.5 | NA | 0.1 | 0.5 | 0.03 | 0.05 | 0.03 | 59.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. SAT_Braidwood-Bungonia (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.057 | 5.9 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 25.4 |
| 2 | T1 | All MCs | 96 | 6.6 | 96 | 6.6 | 0.057 | 0.0 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 58.4 |
| 3 | R2 | All MCs | 7 | 14.3 | 7 | 14.3 | 0.057 | 6.0 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 45.3 |
| Approach | | | 104 | 7.1 | 104 | 7.1 | 0.057 | 0.5 | NA | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 57.4 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 5 | 20.0 | 5 | 20.0 | 0.004 | 4.5 | LOS A | 0.0 | 0.1 | 0.21 | 0.50 | 0.21 | 33.7 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.414 | 5.8 | LOS A | 2.2 | 17.2 | 0.54 | 0.80 | 0.70 | 29.3 |
| 6 | R2 | All MCs | 275 | 15.7 | 275 | 15.7 | 0.414 | 8.3 | LOS A | 2.2 | 17.2 | 0.54 | 0.80 | 0.70 | 34.7 |
| Approach | | | 281 | 15.7 | 281 | 15.7 | 0.414 | 8.2 | LOS A | 2.2 | 17.2 | 0.54 | 0.79 | 0.69 | 34.7 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 271 | 17.9 | 271 | 17.9 | 0.249 | 5.8 | LOS A | 1.3 | 9.9 | 0.06 | 0.38 | 0.06 | 36.0 |
| 8 | T1 | All MCs | 112 | 3.8 | 112 | 3.8 | 0.249 | 0.0 | LOS A | 1.3 | 9.9 | 0.06 | 0.38 | 0.06 | 50.9 |
| 9 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.249 | 5.6 | LOS A | 1.3 | 9.9 | 0.06 | 0.38 | 0.06 | 37.2 |
| Approach | | | 385 | 13.7 | 385 | 13.7 | 0.249 | 4.1 | NA | 1.3 | 9.9 | 0.06 | 0.38 | 0.06 | 39.8 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 42.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 4.9 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 31.3 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 6.5 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 35.7 |
| Approach | | | 7 | 0.0 | 7 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 40.8 |
| All Vehicles | | | 778 | 13.4 | 778 | 13.4 | 0.414 | 5.1 | NA | 2.2 | 17.2 | 0.23 | 0.49 | 0.29 | 39.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. SAT_Sloane-Braidwood (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 42 | 27.5 | 42 | 27.5 | 0.903 | 29.8 | LOS C | 11.6 | 91.4 | 0.93 | 1.76 | 3.34 | 23.9 |
| 5 | T1 | All MCs | 51 | 4.2 | 51 | 4.2 | 0.903 | 34.8 | LOS C | 11.6 | 91.4 | 0.93 | 1.76 | 3.34 | 24.8 |
| 6 | R2 | All MCs | 265 | 14.7 | 265 | 14.7 | 0.903 | 40.7 | LOS C | 11.6 | 91.4 | 0.93 | 1.76 | 3.34 | 24.5 |
| Approach | | | 358 | 14.7 | 358 | 14.7 | 0.903 | 38.6 | LOS C | 11.6 | 91.4 | 0.93 | 1.76 | 3.34 | 24.4 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 279 | 10.9 | 279 | 10.9 | 0.342 | 6.3 | LOS A | 1.9 | 14.0 | 0.28 | 0.38 | 0.28 | 46.4 |
| 8 | T1 | All MCs | 206 | 1.5 | 206 | 1.5 | 0.342 | 0.5 | LOS A | 1.9 | 14.0 | 0.28 | 0.38 | 0.28 | 51.0 |
| 9 | R2 | All MCs | 44 | 0.0 | 44 | 0.0 | 0.342 | 6.3 | LOS A | 1.9 | 14.0 | 0.28 | 0.38 | 0.28 | 46.4 |
| Approach | | | 529 | 6.4 | 529 | 6.4 | 0.342 | 4.0 | NA | 1.9 | 14.0 | 0.28 | 0.38 | 0.28 | 48.0 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.091 | 8.7 | LOS A | 0.3 | 2.4 | 0.45 | 0.93 | 0.45 | 40.6 |
| 11 | T1 | All MCs | 45 | 4.7 | 45 | 4.7 | 0.091 | 11.2 | LOS A | 0.3 | 2.4 | 0.45 | 0.93 | 0.45 | 41.0 |
| 12 | R2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.091 | 11.8 | LOS A | 0.3 | 2.4 | 0.45 | 0.93 | 0.45 | 39.7 |
| Approach | | | 66 | 3.2 | 66 | 3.2 | 0.091 | 10.6 | LOS A | 0.3 | 2.4 | 0.45 | 0.93 | 0.45 | 40.8 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.146 | 6.5 | LOS A | 0.5 | 3.8 | 0.21 | 0.25 | 0.21 | 50.3 |
| 2 | T1 | All MCs | 178 | 1.8 | 178 | 1.8 | 0.146 | 0.4 | LOS A | 0.5 | 3.8 | 0.21 | 0.25 | 0.21 | 55.4 |
| 3 | R2 | All MCs | 59 | 26.8 | 59 | 26.8 | 0.146 | 6.8 | LOS A | 0.5 | 3.8 | 0.21 | 0.25 | 0.21 | 44.8 |
| Approach | | | 241 | 7.9 | 241 | 7.9 | 0.146 | 2.1 | NA | 0.5 | 3.8 | 0.21 | 0.25 | 0.21 | 52.1 |
| All Vehicles | | | 1195 | 9.0 | 1195 | 9.0 | 0.903 | 14.4 | NA | 11.6 | 91.4 | 0.47 | 0.80 | 1.19 | 37.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. SAT_Bungonia-Forbes (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 219 | 17.3 | 219 | 17.3 | 0.127 | 0.0 | LOS A | 0.0 | 0.2 | 0.01 | 0.01 | 0.01 | 59.8 |
| 6 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.127 | 5.8 | LOS A | 0.0 | 0.2 | 0.01 | 0.01 | 0.01 | 56.3 |
| Approach | | | 222 | 17.1 | 222 | 17.1 | 0.127 | 0.1 | NA | 0.0 | 0.2 | 0.01 | 0.01 | 0.01 | 59.7 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 18 | 11.8 | 18 | 11.8 | 0.017 | 9.6 | LOS A | 0.1 | 0.5 | 0.34 | 0.86 | 0.34 | 46.8 |
| 9 | R2 | All MCs | 24 | 0.0 | 24 | 0.0 | 0.035 | 10.0 | LOS A | 0.1 | 0.8 | 0.45 | 0.91 | 0.45 | 50.0 |
| Approach | | | 42 | 5.0 | 42 | 5.0 | 0.035 | 9.8 | LOS A | 0.1 | 0.8 | 0.40 | 0.89 | 0.40 | 48.8 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 18 | 5.9 | 18 | 5.9 | 0.135 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 56.7 |
| 11 | T1 | All MCs | 217 | 18.9 | 217 | 18.9 | 0.135 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 59.3 |
| Approach | | | 235 | 17.9 | 235 | 17.9 | 0.135 | 0.5 | NA | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 59.0 |
| All Vehicles | | | 499 | 16.5 | 499 | 16.5 | 0.135 | 1.1 | NA | 0.1 | 0.8 | 0.04 | 0.10 | 0.04 | 58.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. SAT_Bungonia-Memorial (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 231 | 17.4 | 231 | 17.4 | 0.136 | 5.5 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 45.7 |
| 3 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.136 | 5.4 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 48.6 |
| Approach | | | 233 | 17.2 | 233 | 17.2 | 0.136 | 5.5 | NA | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 45.8 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.010 | 6.4 | LOS A | 0.0 | 0.2 | 0.42 | 0.61 | 0.42 | 47.2 |
| 6a | R1 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.010 | 7.2 | LOS A | 0.0 | 0.2 | 0.42 | 0.61 | 0.42 | 45.1 |
| Approach | | | 8 | 0.0 | 8 | 0.0 | 0.010 | 7.0 | LOS A | 0.0 | 0.2 | 0.42 | 0.61 | 0.42 | 45.7 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.165 | 5.3 | LOS A | 0.9 | 7.1 | 0.02 | 0.56 | 0.02 | 47.1 |
| 29a | R1 | All MCs | 263 | 20.4 | 263 | 20.4 | 0.165 | 5.2 | LOS A | 0.9 | 7.1 | 0.02 | 0.56 | 0.02 | 47.8 |
| Approach | | | 268 | 20.0 | 268 | 20.0 | 0.165 | 5.2 | NA | 0.9 | 7.1 | 0.02 | 0.56 | 0.02 | 47.8 |
| All Vehicles | | | 509 | 18.4 | 509 | 18.4 | 0.165 | 5.4 | NA | 0.9 | 7.1 | 0.02 | 0.58 | 0.02 | 46.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. SAT_Hume-Garoorigang (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.062 | 0.0 | LOS A | 0.3 | 2.2 | 0.07 | 0.55 | 0.07 | 55.1 |
| 6 | R2 | All MCs | 99 | 10.6 | 99 | 10.6 | 0.062 | 5.6 | LOS A | 0.3 | 2.2 | 0.07 | 0.55 | 0.07 | 48.4 |
| Approach | | | 104 | 10.1 | 104 | 10.1 | 0.062 | 5.3 | NA | 0.3 | 2.2 | 0.07 | 0.55 | 0.07 | 48.9 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 91 | 10.5 | 91 | 10.5 | 0.060 | 5.7 | LOS A | 0.2 | 1.9 | 0.03 | 0.56 | 0.03 | 48.7 |
| 9 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.060 | 5.6 | LOS A | 0.2 | 1.9 | 0.03 | 0.56 | 0.03 | 49.0 |
| Approach | | | 93 | 10.2 | 93 | 10.2 | 0.060 | 5.7 | LOS A | 0.2 | 1.9 | 0.03 | 0.56 | 0.03 | 48.7 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.008 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.43 | 0.00 | 51.1 |
| 11 | T1 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.008 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.43 | 0.00 | 56.2 |
| Approach | | | 16 | 0.0 | 16 | 0.0 | 0.008 | 4.1 | NA | 0.0 | 0.0 | 0.00 | 0.43 | 0.00 | 52.8 |
| All Vehicles | | | 213 | 9.4 | 213 | 9.4 | 0.062 | 5.4 | NA | 0.3 | 2.2 | 0.05 | 0.54 | 0.05 | 49.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. SAT_Lagoon-Union (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 112 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 9 | 0.0 | 9 | 0.0 | 0.480 | 42.8 | LOS D | 11.4 | 81.0 | 0.89 | 0.75 | 0.89 | 28.8 |
| 2 | T1 | All MCs | 238 | 1.8 | 238 | 1.8 | *0.480 | 37.2 | LOS C | 11.4 | 81.0 | 0.89 | 0.75 | 0.89 | 26.9 |
| 3 | R2 | All MCs | 200 | 15.3 | 200 | 15.3 | 0.174 | 12.3 | LOS A | 3.8 | 30.1 | 0.38 | 0.67 | 0.38 | 46.6 |
| Approach | | | 447 | 7.8 | 447 | 7.8 | 0.480 | 26.2 | LOS B | 11.4 | 81.0 | 0.66 | 0.72 | 0.66 | 35.9 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 188 | 15.6 | 188 | 15.6 | 0.268 | 18.7 | LOS B | 7.0 | 54.7 | 0.63 | 0.72 | 0.63 | 40.2 |
| 5 | T1 | All MCs | 221 | 0.0 | 221 | 0.0 | 0.268 | 30.2 | LOS C | 7.3 | 54.7 | 0.73 | 0.63 | 0.73 | 37.6 |
| 6 | R2 | All MCs | 135 | 3.1 | 135 | 3.1 | *0.328 | 35.6 | LOS C | 5.5 | 39.8 | 0.79 | 0.77 | 0.79 | 29.7 |
| Approach | | | 544 | 6.2 | 544 | 6.2 | 0.328 | 27.5 | LOS B | 7.3 | 54.7 | 0.71 | 0.70 | 0.71 | 36.6 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 168 | 5.6 | 168 | 5.6 | 0.933 | 72.2 | LOS F | 23.8 | 171.3 | 1.00 | 1.12 | 1.37 | 20.5 |
| 8 | T1 | All MCs | 188 | 1.1 | 188 | 1.1 | *0.933 | 66.7 | LOS E | 23.8 | 171.3 | 1.00 | 1.12 | 1.37 | 18.3 |
| 9 | R2 | All MCs | 140 | 0.8 | 140 | 0.8 | 0.369 | 47.3 | LOS D | 6.7 | 46.9 | 0.91 | 0.79 | 0.91 | 17.5 |
| Approach | | | 497 | 2.5 | 497 | 2.5 | 0.933 | 63.1 | LOS E | 23.8 | 171.3 | 0.97 | 1.03 | 1.24 | 19.0 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 88 | 0.0 | 88 | 0.0 | 0.076 | 14.2 | LOS A | 1.9 | 13.0 | 0.42 | 0.67 | 0.42 | 32.7 |
| 11 | T1 | All MCs | 179 | 1.2 | 179 | 1.2 | 0.126 | 25.1 | LOS B | 3.2 | 22.7 | 0.70 | 0.56 | 0.70 | 38.1 |
| 12 | R2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.038 | 36.1 | LOS C | 0.5 | 3.2 | 0.74 | 0.68 | 0.74 | 29.2 |
| Approach | | | 279 | 0.8 | 279 | 0.8 | 0.126 | 22.1 | LOS B | 3.2 | 22.7 | 0.61 | 0.60 | 0.61 | 36.6 |
| All Vehicles | | | 1767 | 4.7 | 1767 | 4.7 | 0.933 | 36.3 | LOS C | 23.8 | 171.3 | 0.76 | 0.78 | 0.83 | 30.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| North: Union St | | | | | | | | | | | |
| P3 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| West: Lagoon St | | | | | | | | | | | |
| P4 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| All Pedestrians | 4 | 4 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. SAT_Sloane-Garoorigang (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 40 | 0.0 | 40 | 0.0 | 0.036 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 54.1 |
| 2 | T1 | All MCs | 27 | 3.8 | 27 | 3.8 | 0.036 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 56.4 |
| Approach | | | 67 | 1.6 | 67 | 1.6 | 0.036 | 3.3 | NA | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 55.0 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 23 | 0.0 | 23 | 0.0 | 0.054 | 0.2 | LOS A | 0.3 | 1.9 | 0.17 | 0.43 | 0.17 | 55.4 |
| 9 | R2 | All MCs | 63 | 16.7 | 63 | 16.7 | 0.054 | 5.9 | LOS A | 0.3 | 1.9 | 0.17 | 0.43 | 0.17 | 52.6 |
| Approach | | | 86 | 12.2 | 86 | 12.2 | 0.054 | 4.4 | NA | 0.3 | 1.9 | 0.17 | 0.43 | 0.17 | 53.2 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 29 | 32.1 | 29 | 32.1 | 0.075 | 6.0 | LOS A | 0.3 | 2.0 | 0.15 | 0.56 | 0.15 | 51.1 |
| 12 | R2 | All MCs | 61 | 0.0 | 61 | 0.0 | 0.075 | 5.9 | LOS A | 0.3 | 2.0 | 0.15 | 0.56 | 0.15 | 51.5 |
| Approach | | | 91 | 10.5 | 91 | 10.5 | 0.075 | 6.0 | LOS A | 0.3 | 2.0 | 0.15 | 0.56 | 0.15 | 51.3 |
| All Vehicles | | | 244 | 8.6 | 244 | 8.6 | 0.075 | 4.7 | NA | 0.3 | 2.0 | 0.11 | 0.45 | 0.11 | 53.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. SAT_Windellama-Rifle (*) (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Sydney Road Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

Weekday PM Flows Used
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 166 | 29.1 | 166 | 29.1 | 0.107 | 0.1 | LOS A | 0.1 | 0.5 | 0.03 | 0.04 | 0.03 | 59.7 |
| 3 | R2 | All MCs | 5 | 40.0 | 5 | 40.0 | 0.107 | 7.5 | LOS A | 0.1 | 0.5 | 0.03 | 0.04 | 0.03 | 54.9 |
| Approach | | | 172 | 29.4 | 172 | 29.4 | 0.107 | 0.3 | NA | 0.1 | 0.5 | 0.03 | 0.04 | 0.03 | 59.5 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.018 | 6.4 | LOS A | 0.1 | 0.5 | 0.41 | 0.63 | 0.41 | 51.4 |
| 6 | R2 | All MCs | 11 | 20.0 | 11 | 20.0 | 0.018 | 8.2 | LOS A | 0.1 | 0.5 | 0.41 | 0.63 | 0.41 | 50.3 |
| Approach | | | 15 | 14.3 | 15 | 14.3 | 0.018 | 7.7 | LOS A | 0.1 | 0.5 | 0.41 | 0.63 | 0.41 | 50.6 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.151 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 57.2 |
| 8 | T1 | All MCs | 251 | 19.3 | 251 | 19.3 | 0.151 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.6 |
| Approach | | | 262 | 18.5 | 262 | 18.5 | 0.151 | 0.3 | NA | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.5 |
| All Vehicles | | | 448 | 22.5 | 448 | 22.5 | 0.151 | 0.5 | NA | 0.1 | 0.5 | 0.03 | 0.05 | 0.03 | 59.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. AM_Braidwood-Bungonia (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.051 | 6.0 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 25.3 |
| 2 | T1 | All MCs | 79 | 20.0 | 79 | 20.0 | 0.051 | 0.0 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 58.2 |
| 3 | R2 | All MCs | 6 | 16.7 | 6 | 16.7 | 0.051 | 6.1 | LOS A | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 44.9 |
| Approach | | | 86 | 19.5 | 86 | 19.5 | 0.051 | 0.6 | NA | 0.0 | 0.4 | 0.04 | 0.07 | 0.04 | 57.0 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 11 | 10.0 | 11 | 10.0 | 0.008 | 4.5 | LOS A | 0.0 | 0.2 | 0.22 | 0.51 | 0.22 | 34.5 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.295 | 5.3 | LOS A | 1.2 | 8.9 | 0.51 | 0.75 | 0.56 | 30.7 |
| 6 | R2 | All MCs | 200 | 5.8 | 200 | 5.8 | 0.295 | 7.4 | LOS A | 1.2 | 8.9 | 0.51 | 0.75 | 0.56 | 37.6 |
| Approach | | | 212 | 6.0 | 212 | 6.0 | 0.295 | 7.2 | LOS A | 1.2 | 8.9 | 0.50 | 0.74 | 0.54 | 37.4 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 332 | 23.8 | 332 | 23.8 | 0.303 | 5.9 | LOS A | 1.7 | 13.7 | 0.06 | 0.39 | 0.06 | 35.7 |
| 8 | T1 | All MCs | 119 | 13.3 | 119 | 13.3 | 0.303 | 0.0 | LOS A | 1.7 | 13.7 | 0.06 | 0.39 | 0.06 | 50.6 |
| 9 | R2 | All MCs | 3 | 33.3 | 3 | 33.3 | 0.303 | 6.0 | LOS A | 1.7 | 13.7 | 0.06 | 0.39 | 0.06 | 35.7 |
| Approach | | | 454 | 21.1 | 454 | 21.1 | 0.303 | 4.3 | NA | 1.7 | 13.7 | 0.06 | 0.39 | 0.06 | 39.1 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 42.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 4.9 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 31.4 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 6.5 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 35.8 |
| Approach | | | 8 | 0.0 | 8 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.2 | 0.19 | 0.53 | 0.19 | 41.1 |
| All Vehicles | | | 760 | 16.5 | 760 | 16.5 | 0.303 | 4.7 | NA | 1.7 | 13.7 | 0.18 | 0.45 | 0.19 | 40.2 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. AM_Sloane-Braidwood (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 43 | 14.6 | 43 | 14.6 | 0.669 | 15.0 | LOS B | 5.1 | 38.4 | 0.80 | 1.21 | 1.61 | 31.7 |
| 5 | T1 | All MCs | 58 | 5.5 | 58 | 5.5 | 0.669 | 20.8 | LOS B | 5.1 | 38.4 | 0.80 | 1.21 | 1.61 | 32.2 |
| 6 | R2 | All MCs | 188 | 8.9 | 188 | 8.9 | 0.669 | 24.9 | LOS B | 5.1 | 38.4 | 0.80 | 1.21 | 1.61 | 32.0 |
| Approach | | | 289 | 9.1 | 289 | 9.1 | 0.669 | 22.6 | LOS B | 5.1 | 38.4 | 0.80 | 1.21 | 1.61 | 32.0 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 243 | 10.4 | 243 | 10.4 | 0.289 | 6.9 | LOS A | 1.5 | 11.2 | 0.38 | 0.48 | 0.38 | 45.5 |
| 8 | T1 | All MCs | 137 | 8.5 | 137 | 8.5 | 0.289 | 1.0 | LOS A | 1.5 | 11.2 | 0.38 | 0.48 | 0.38 | 49.6 |
| 9 | R2 | All MCs | 21 | 5.0 | 21 | 5.0 | 0.289 | 6.3 | LOS A | 1.5 | 11.2 | 0.38 | 0.48 | 0.38 | 44.5 |
| Approach | | | 401 | 9.4 | 401 | 9.4 | 0.289 | 4.9 | NA | 1.5 | 11.2 | 0.38 | 0.48 | 0.38 | 46.7 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.121 | 8.8 | LOS A | 0.4 | 3.2 | 0.50 | 0.97 | 0.50 | 39.8 |
| 11 | T1 | All MCs | 59 | 10.7 | 59 | 10.7 | 0.121 | 12.4 | LOS A | 0.4 | 3.2 | 0.50 | 0.97 | 0.50 | 39.4 |
| 12 | R2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.121 | 12.5 | LOS A | 0.4 | 3.2 | 0.50 | 0.97 | 0.50 | 38.9 |
| Approach | | | 77 | 8.2 | 77 | 8.2 | 0.121 | 11.8 | LOS A | 0.4 | 3.2 | 0.50 | 0.97 | 0.50 | 39.4 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.229 | 6.4 | LOS A | 1.2 | 9.7 | 0.28 | 0.35 | 0.28 | 48.5 |
| 2 | T1 | All MCs | 177 | 8.3 | 177 | 8.3 | 0.229 | 0.6 | LOS A | 1.2 | 9.7 | 0.28 | 0.35 | 0.28 | 53.3 |
| 3 | R2 | All MCs | 149 | 41.5 | 149 | 41.5 | 0.229 | 6.8 | LOS A | 1.2 | 9.7 | 0.28 | 0.35 | 0.28 | 41.0 |
| Approach | | | 332 | 23.2 | 332 | 23.2 | 0.229 | 3.5 | NA | 1.2 | 9.7 | 0.28 | 0.35 | 0.28 | 46.6 |
| All Vehicles | | | 1099 | 13.4 | 1099 | 13.4 | 0.669 | 9.6 | NA | 5.1 | 38.4 | 0.47 | 0.67 | 0.68 | 41.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. AM_Bungonia-Forbes (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 209 | 6.0 | 209 | 6.0 | 0.125 | 0.2 | LOS A | 0.1 | 1.1 | 0.08 | 0.09 | 0.08 | 59.0 |
| 6 | R2 | All MCs | 17 | 6.3 | 17 | 6.3 | 0.125 | 6.9 | LOS A | 0.1 | 1.1 | 0.08 | 0.09 | 0.08 | 55.2 |
| Approach | | | 226 | 6.0 | 226 | 6.0 | 0.125 | 0.7 | NA | 0.1 | 1.1 | 0.08 | 0.09 | 0.08 | 58.7 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.005 | 9.2 | LOS A | 0.0 | 0.1 | 0.38 | 0.82 | 0.38 | 48.1 |
| 9 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.028 | 10.5 | LOS A | 0.1 | 0.6 | 0.48 | 0.91 | 0.48 | 49.7 |
| Approach | | | 23 | 0.0 | 23 | 0.0 | 0.028 | 10.2 | LOS A | 0.1 | 0.6 | 0.45 | 0.89 | 0.45 | 49.4 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.174 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 57.0 |
| 11 | T1 | All MCs | 275 | 26.4 | 275 | 26.4 | 0.174 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.3 |
| Approach | | | 292 | 24.9 | 292 | 24.9 | 0.174 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.2 |
| All Vehicles | | | 541 | 16.0 | 541 | 16.0 | 0.174 | 0.9 | NA | 0.1 | 1.1 | 0.05 | 0.10 | 0.05 | 58.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. AM_Bungonia-Memorial (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 259 | 9.3 | 259 | 9.3 | 0.145 | 5.4 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 47.0 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.145 | 5.4 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 48.6 |
| Approach | | | 260 | 9.3 | 260 | 9.3 | 0.145 | 5.4 | NA | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 47.0 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.028 | 6.5 | LOS A | 0.1 | 0.7 | 0.49 | 0.70 | 0.49 | 45.6 |
| 6a | R1 | All MCs | 16 | 26.7 | 16 | 26.7 | 0.028 | 9.0 | LOS A | 0.1 | 0.7 | 0.49 | 0.70 | 0.49 | 39.7 |
| Approach | | | 17 | 25.0 | 17 | 25.0 | 0.028 | 8.8 | LOS A | 0.1 | 0.7 | 0.49 | 0.70 | 0.49 | 40.1 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.177 | 5.3 | LOS A | 0.9 | 8.0 | 0.02 | 0.57 | 0.02 | 47.2 |
| 29a | R1 | All MCs | 275 | 26.4 | 275 | 26.4 | 0.177 | 5.3 | LOS A | 0.9 | 8.0 | 0.02 | 0.57 | 0.02 | 47.4 |
| Approach | | | 281 | 25.8 | 281 | 25.8 | 0.177 | 5.3 | NA | 0.9 | 8.0 | 0.02 | 0.57 | 0.02 | 47.4 |
| All Vehicles | | | 558 | 18.1 | 558 | 18.1 | 0.177 | 5.5 | NA | 0.9 | 8.0 | 0.02 | 0.58 | 0.02 | 47.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. AM_Hume-Garoorigang (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 5 | 20.0 | 5 | 20.0 | 0.057 | 0.1 | LOS A | 0.3 | 2.2 | 0.10 | 0.54 | 0.10 | 55.0 |
| 6 | R2 | All MCs | 86 | 19.5 | 86 | 19.5 | 0.057 | 5.8 | LOS A | 0.3 | 2.2 | 0.10 | 0.54 | 0.10 | 47.7 |
| Approach | | | 92 | 19.5 | 92 | 19.5 | 0.057 | 5.5 | NA | 0.3 | 2.2 | 0.10 | 0.54 | 0.10 | 48.3 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 132 | 32.0 | 132 | 32.0 | 0.102 | 5.9 | LOS A | 0.4 | 3.9 | 0.04 | 0.56 | 0.04 | 47.5 |
| 9 | R2 | All MCs | 8 | 25.0 | 8 | 25.0 | 0.102 | 5.9 | LOS A | 0.4 | 3.9 | 0.04 | 0.56 | 0.04 | 47.4 |
| Approach | | | 140 | 31.6 | 140 | 31.6 | 0.102 | 5.9 | LOS A | 0.4 | 3.9 | 0.04 | 0.56 | 0.04 | 47.5 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 21 | 30.0 | 21 | 30.0 | 0.016 | 5.9 | LOS A | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 48.5 |
| 11 | T1 | All MCs | 4 | 25.0 | 4 | 25.0 | 0.016 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 55.8 |
| Approach | | | 25 | 29.2 | 25 | 29.2 | 0.016 | 4.9 | NA | 0.0 | 0.0 | 0.00 | 0.48 | 0.00 | 50.1 |
| All Vehicles | | | 257 | 27.0 | 257 | 27.0 | 0.102 | 5.7 | NA | 0.4 | 3.9 | 0.06 | 0.54 | 0.06 | 48.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. AM_Lagoon-Union (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 112 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 44 | 0.0 | 44 | 0.0 | 0.715 | 51.2 | LOS D | 14.6 | 111.1 | 0.99 | 0.86 | 1.02 | 25.7 |
| 2 | T1 | All MCs | 235 | 11.7 | 235 | 11.7 | * 0.715 | 45.7 | LOS D | 14.6 | 111.1 | 0.99 | 0.86 | 1.02 | 23.7 |
| 3 | R2 | All MCs | 118 | 25.9 | 118 | 25.9 | 0.128 | 16.7 | LOS B | 2.8 | 24.0 | 0.47 | 0.68 | 0.47 | 43.6 |
| Approach | | | 397 | 14.6 | 397 | 14.6 | 0.715 | 37.7 | LOS C | 14.6 | 111.1 | 0.83 | 0.81 | 0.86 | 29.6 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 222 | 36.0 | 222 | 36.0 | 0.330 | 22.4 | LOS B | 7.9 | 71.5 | 0.65 | 0.74 | 0.65 | 39.4 |
| 5 | T1 | All MCs | 217 | 6.3 | 217 | 6.3 | 0.330 | 32.1 | LOS C | 8.2 | 71.5 | 0.79 | 0.68 | 0.79 | 35.4 |
| 6 | R2 | All MCs | 179 | 12.4 | 179 | 12.4 | * 0.471 | 40.4 | LOS C | 8.1 | 62.6 | 0.86 | 0.80 | 0.86 | 27.8 |
| Approach | | | 618 | 18.7 | 618 | 18.7 | 0.471 | 31.0 | LOS C | 8.2 | 71.5 | 0.76 | 0.74 | 0.76 | 34.6 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 140 | 9.8 | 140 | 9.8 | * 0.667 | 43.0 | LOS D | 17.5 | 130.9 | 0.93 | 0.82 | 0.93 | 28.3 |
| 8 | T1 | All MCs | 224 | 7.0 | 224 | 7.0 | 0.667 | 36.5 | LOS C | 17.5 | 130.9 | 0.93 | 0.82 | 0.93 | 26.3 |
| 9 | R2 | All MCs | 209 | 13.1 | 209 | 13.1 | 0.406 | 39.1 | LOS C | 9.1 | 71.1 | 0.84 | 0.79 | 0.84 | 19.3 |
| Approach | | | 574 | 9.9 | 574 | 9.9 | 0.667 | 39.1 | LOS C | 17.5 | 130.9 | 0.90 | 0.81 | 0.90 | 24.5 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 71 | 13.4 | 71 | 13.4 | 0.061 | 12.0 | LOS A | 1.3 | 9.8 | 0.35 | 0.65 | 0.35 | 34.3 |
| 11 | T1 | All MCs | 99 | 4.3 | 99 | 4.3 | 0.081 | 28.2 | LOS B | 1.9 | 13.5 | 0.73 | 0.56 | 0.73 | 36.5 |
| 12 | R2 | All MCs | 25 | 4.2 | 25 | 4.2 | 0.110 | 43.8 | LOS D | 1.1 | 8.2 | 0.83 | 0.72 | 0.83 | 26.5 |
| Approach | | | 195 | 7.6 | 195 | 7.6 | 0.110 | 24.4 | LOS B | 1.9 | 13.5 | 0.61 | 0.61 | 0.61 | 34.2 |
| All Vehicles | | | 1783 | 13.8 | 1783 | 13.8 | 0.715 | 34.4 | LOS C | 17.5 | 130.9 | 0.80 | 0.76 | 0.81 | 30.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 | Full | 11 | 12 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| North: Union St | | | | | | | | | | | | |
| P3 | Full | 11 | 12 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| West: Lagoon St | | | | | | | | | | | | |
| P4 | Full | 2 | 2 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| All Pedestrians | | 25 | 26 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. AM_Sloane-Garoorigang (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 38 | 0.0 | 38 | 0.0 | 0.043 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 54.7 |
| 2 | T1 | All MCs | 43 | 0.0 | 43 | 0.0 | 0.043 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 57.2 |
| Approach | | | 81 | 0.0 | 81 | 0.0 | 0.043 | 2.6 | NA | 0.0 | 0.0 | 0.00 | 0.28 | 0.00 | 56.0 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 13 | 0.0 | 13 | 0.0 | 0.045 | 0.3 | LOS A | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 55.0 |
| 9 | R2 | All MCs | 54 | 31.4 | 54 | 31.4 | 0.045 | 6.2 | LOS A | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 51.6 |
| Approach | | | 66 | 25.4 | 66 | 25.4 | 0.045 | 5.0 | NA | 0.2 | 1.8 | 0.20 | 0.47 | 0.20 | 52.2 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 120 | 37.7 | 120 | 37.7 | 0.107 | 6.2 | LOS A | 0.4 | 4.0 | 0.14 | 0.54 | 0.14 | 50.8 |
| 12 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.107 | 6.0 | LOS A | 0.4 | 4.0 | 0.14 | 0.54 | 0.14 | 51.4 |
| Approach | | | 138 | 32.8 | 138 | 32.8 | 0.107 | 6.1 | LOS A | 0.4 | 4.0 | 0.14 | 0.54 | 0.14 | 50.9 |
| All Vehicles | | | 285 | 21.8 | 285 | 21.8 | 0.107 | 4.9 | NA | 0.4 | 4.0 | 0.11 | 0.45 | 0.11 | 52.5 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. AM_Windellama-Rifle (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 202 | 5.7 | 202 | 5.7 | 0.114 | 0.1 | LOS A | 0.1 | 0.5 | 0.04 | 0.05 | 0.04 | 59.6 |
| 3 | R2 | All MCs | 8 | 0.0 | 8 | 0.0 | 0.114 | 6.6 | LOS A | 0.1 | 0.5 | 0.04 | 0.05 | 0.04 | 56.8 |
| Approach | | | 211 | 5.5 | 211 | 5.5 | 0.114 | 0.3 | NA | 0.1 | 0.5 | 0.04 | 0.05 | 0.04 | 59.5 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.015 | 6.5 | LOS A | 0.0 | 0.3 | 0.43 | 0.64 | 0.43 | 51.4 |
| 6 | R2 | All MCs | 11 | 0.0 | 11 | 0.0 | 0.015 | 7.6 | LOS A | 0.0 | 0.3 | 0.43 | 0.64 | 0.43 | 51.2 |
| Approach | | | 13 | 0.0 | 13 | 0.0 | 0.015 | 7.5 | LOS A | 0.0 | 0.3 | 0.43 | 0.64 | 0.43 | 51.2 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 6 | 66.7 | 6 | 66.7 | 0.170 | 6.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 54.3 |
| 8 | T1 | All MCs | 273 | 27.4 | 273 | 27.4 | 0.170 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 59.8 |
| Approach | | | 279 | 28.3 | 279 | 28.3 | 0.170 | 0.2 | NA | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 59.7 |
| All Vehicles | | | 502 | 18.0 | 502 | 18.0 | 0.170 | 0.4 | NA | 0.1 | 0.5 | 0.03 | 0.04 | 0.03 | 59.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. PM_Braidwood-Bungonia (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.069 | 5.9 | LOS A | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 24.9 |
| 2 | T1 | All MCs | 104 | 8.1 | 104 | 8.1 | 0.069 | 0.1 | LOS A | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 56.9 |
| 3 | R2 | All MCs | 18 | 5.9 | 18 | 5.9 | 0.069 | 5.9 | LOS A | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 43.9 |
| Approach | | | 123 | 7.7 | 123 | 7.7 | 0.069 | 1.0 | NA | 0.1 | 0.9 | 0.08 | 0.11 | 0.08 | 55.3 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 14 | 7.7 | 14 | 7.7 | 0.010 | 4.5 | LOS A | 0.0 | 0.3 | 0.21 | 0.51 | 0.21 | 34.8 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.521 | 7.2 | LOS A | 3.2 | 26.0 | 0.62 | 0.91 | 0.94 | 26.7 |
| 6 | R2 | All MCs | 316 | 19.0 | 316 | 19.0 | 0.521 | 10.2 | LOS A | 3.2 | 26.0 | 0.62 | 0.91 | 0.94 | 32.3 |
| Approach | | | 331 | 18.5 | 331 | 18.5 | 0.521 | 10.0 | LOS A | 3.2 | 26.0 | 0.60 | 0.89 | 0.91 | 32.3 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 287 | 16.8 | 287 | 16.8 | 0.268 | 5.9 | LOS A | 1.4 | 11.0 | 0.09 | 0.38 | 0.09 | 35.8 |
| 8 | T1 | All MCs | 120 | 5.3 | 120 | 5.3 | 0.268 | 0.1 | LOS A | 1.4 | 11.0 | 0.09 | 0.38 | 0.09 | 50.6 |
| 9 | R2 | All MCs | 6 | 33.3 | 6 | 33.3 | 0.268 | 6.4 | LOS A | 1.4 | 11.0 | 0.09 | 0.38 | 0.09 | 35.7 |
| Approach | | | 414 | 13.7 | 414 | 13.7 | 0.268 | 4.2 | NA | 1.4 | 11.0 | 0.09 | 0.38 | 0.09 | 39.5 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 11 | 20.0 | 11 | 20.0 | 0.010 | 6.0 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 38.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.010 | 5.1 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 31.2 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.010 | 6.7 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 35.6 |
| Approach | | | 13 | 16.7 | 13 | 16.7 | 0.010 | 6.0 | LOS A | 0.0 | 0.3 | 0.22 | 0.53 | 0.22 | 38.2 |
| All Vehicles | | | 880 | 14.7 | 880 | 14.7 | 0.521 | 5.9 | NA | 3.2 | 26.0 | 0.29 | 0.54 | 0.40 | 38.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. PM_Sloane-Braidwood (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 60 | 42.1 | 60 | 42.1 | 1.317 | 305.0 | LOS F | 72.6 | 583.5 | 1.00 | 4.84 | 13.79 | 4.7 |
| 5 | T1 | All MCs | 56 | 3.8 | 56 | 3.8 | 1.317 | 311.6 | LOS F | 72.6 | 583.5 | 1.00 | 4.84 | 13.79 | 4.8 |
| 6 | R2 | All MCs | 316 | 15.0 | 316 | 15.0 | 1.317 | 320.5 | LOS F | 72.6 | 583.5 | 1.00 | 4.84 | 13.79 | 4.9 |
| Approach | | | 432 | 17.3 | 432 | 17.3 | 1.317 | 317.2 | LOS F | 72.6 | 583.5 | 1.00 | 4.84 | 13.79 | 4.8 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 198 | 5.9 | 198 | 5.9 | 0.278 | 6.7 | LOS A | 1.4 | 10.4 | 0.37 | 0.45 | 0.37 | 46.9 |
| 8 | T1 | All MCs | 169 | 5.0 | 169 | 5.0 | 0.278 | 0.9 | LOS A | 1.4 | 10.4 | 0.37 | 0.45 | 0.37 | 50.4 |
| 9 | R2 | All MCs | 41 | 5.1 | 41 | 5.1 | 0.278 | 6.8 | LOS A | 1.4 | 10.4 | 0.37 | 0.45 | 0.37 | 45.1 |
| Approach | | | 408 | 5.4 | 408 | 5.4 | 0.278 | 4.3 | NA | 1.4 | 10.4 | 0.37 | 0.45 | 0.37 | 48.0 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 18 | 5.9 | 18 | 5.9 | 0.208 | 9.6 | LOS A | 0.7 | 5.7 | 0.59 | 1.01 | 0.59 | 37.4 |
| 11 | T1 | All MCs | 78 | 13.5 | 78 | 13.5 | 0.208 | 14.5 | LOS A | 0.7 | 5.7 | 0.59 | 1.01 | 0.59 | 37.5 |
| 12 | R2 | All MCs | 11 | 10.0 | 11 | 10.0 | 0.208 | 16.1 | LOS B | 0.7 | 5.7 | 0.59 | 1.01 | 0.59 | 36.1 |
| Approach | | | 106 | 11.9 | 106 | 11.9 | 0.208 | 13.8 | LOS A | 0.7 | 5.7 | 0.59 | 1.01 | 0.59 | 37.3 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.255 | 6.4 | LOS A | 1.1 | 8.9 | 0.26 | 0.31 | 0.26 | 49.0 |
| 2 | T1 | All MCs | 254 | 6.6 | 254 | 6.6 | 0.255 | 0.5 | LOS A | 1.1 | 8.9 | 0.26 | 0.31 | 0.26 | 53.8 |
| 3 | R2 | All MCs | 136 | 26.4 | 136 | 26.4 | 0.255 | 6.7 | LOS A | 1.1 | 8.9 | 0.26 | 0.31 | 0.26 | 43.9 |
| Approach | | | 403 | 13.1 | 403 | 13.1 | 0.255 | 2.8 | NA | 1.1 | 8.9 | 0.26 | 0.31 | 0.26 | 49.7 |
| All Vehicles | | | 1349 | 12.0 | 1349 | 12.0 | 1.317 | 104.7 | NA | 72.6 | 583.5 | 0.56 | 1.85 | 4.65 | 12.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. PM_Bungonia-Forbes (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 263 | 21.2 | 263 | 21.2 | 0.163 | 0.1 | LOS A | 0.1 | 0.9 | 0.04 | 0.06 | 0.04 | 59.3 |
| 6 | R2 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.163 | 6.6 | LOS A | 0.1 | 0.9 | 0.04 | 0.06 | 0.04 | 55.8 |
| Approach | | | 277 | 20.2 | 277 | 20.2 | 0.163 | 0.4 | NA | 0.1 | 0.9 | 0.04 | 0.06 | 0.04 | 59.1 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.016 | 9.0 | LOS A | 0.1 | 0.4 | 0.34 | 0.85 | 0.34 | 48.3 |
| 9 | R2 | All MCs | 17 | 12.5 | 17 | 12.5 | 0.030 | 11.8 | LOS A | 0.1 | 0.7 | 0.50 | 0.94 | 0.50 | 48.6 |
| Approach | | | 35 | 6.1 | 35 | 6.1 | 0.030 | 10.4 | LOS A | 0.1 | 0.7 | 0.42 | 0.89 | 0.42 | 48.5 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 26 | 4.0 | 26 | 4.0 | 0.149 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 56.7 |
| 11 | T1 | All MCs | 235 | 17.5 | 235 | 17.5 | 0.149 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 59.1 |
| Approach | | | 261 | 16.1 | 261 | 16.1 | 0.149 | 0.6 | NA | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 58.8 |
| All Vehicles | | | 573 | 17.5 | 573 | 17.5 | 0.163 | 1.1 | NA | 0.1 | 0.9 | 0.05 | 0.11 | 0.05 | 58.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. PM_Bungonia-Memorial (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 283 | 24.5 | 283 | 24.5 | 0.175 | 5.6 | LOS A | 0.0 | 0.2 | 0.00 | 0.60 | 0.00 | 44.7 |
| 3 | R2 | All MCs | 2 | 50.0 | 2 | 50.0 | 0.175 | 6.1 | LOS A | 0.0 | 0.2 | 0.00 | 0.60 | 0.00 | 41.3 |
| Approach | | | 285 | 24.7 | 285 | 24.7 | 0.175 | 5.6 | NA | 0.0 | 0.2 | 0.00 | 0.60 | 0.00 | 44.7 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.058 | 6.4 | LOS A | 0.2 | 1.3 | 0.47 | 0.70 | 0.47 | 46.5 |
| 6a | R1 | All MCs | 40 | 2.6 | 40 | 2.6 | 0.058 | 7.8 | LOS A | 0.2 | 1.3 | 0.47 | 0.70 | 0.47 | 43.9 |
| Approach | | | 42 | 2.5 | 42 | 2.5 | 0.058 | 7.7 | LOS A | 0.2 | 1.3 | 0.47 | 0.70 | 0.47 | 44.1 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.153 | 5.3 | LOS A | 0.8 | 6.3 | 0.03 | 0.56 | 0.03 | 47.1 |
| 29a | R1 | All MCs | 242 | 17.0 | 242 | 17.0 | 0.153 | 5.2 | LOS A | 0.8 | 6.3 | 0.03 | 0.56 | 0.03 | 48.0 |
| Approach | | | 254 | 16.2 | 254 | 16.2 | 0.153 | 5.2 | NA | 0.8 | 6.3 | 0.03 | 0.56 | 0.03 | 47.9 |
| All Vehicles | | | 581 | 19.4 | 581 | 19.4 | 0.175 | 5.6 | NA | 0.8 | 6.3 | 0.05 | 0.59 | 0.05 | 46.0 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. PM_Hume-Garoorigang (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.071 | 0.5 | LOS A | 0.3 | 2.7 | 0.25 | 0.55 | 0.25 | 54.5 |
| 6 | R2 | All MCs | 99 | 22.3 | 99 | 22.3 | 0.071 | 6.2 | LOS A | 0.3 | 2.7 | 0.25 | 0.55 | 0.25 | 46.9 |
| Approach | | | 102 | 21.6 | 102 | 21.6 | 0.071 | 6.0 | NA | 0.3 | 2.7 | 0.25 | 0.55 | 0.25 | 47.2 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 175 | 24.1 | 175 | 24.1 | 0.139 | 6.0 | LOS A | 0.6 | 5.1 | 0.16 | 0.54 | 0.16 | 47.5 |
| 9 | R2 | All MCs | 13 | 16.7 | 13 | 16.7 | 0.139 | 6.6 | LOS A | 0.6 | 5.1 | 0.16 | 0.54 | 0.16 | 47.5 |
| Approach | | | 187 | 23.6 | 187 | 23.6 | 0.139 | 6.1 | LOS A | 0.6 | 5.1 | 0.16 | 0.54 | 0.16 | 47.5 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 68 | 12.3 | 68 | 12.3 | 0.067 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 51.4 |
| 11 | T1 | All MCs | 53 | 0.0 | 53 | 0.0 | 0.067 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 57.2 |
| Approach | | | 121 | 7.0 | 121 | 7.0 | 0.067 | 3.2 | NA | 0.0 | 0.0 | 0.00 | 0.33 | 0.00 | 54.4 |
| All Vehicles | | | 411 | 18.2 | 411 | 18.2 | 0.139 | 5.2 | NA | 0.6 | 5.1 | 0.13 | 0.48 | 0.13 | 49.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. PM_Lagoon-Union (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 173 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 38 | 2.8 | 38 | 2.8 | 0.700 | 70.4 | LOS E | 24.7 | 179.6 | 0.96 | 0.83 | 0.96 | 22.3 |
| 2 | T1 | All MCs | 293 | 4.7 | 293 | 4.7 | * 0.700 | 64.8 | LOS E | 24.7 | 179.6 | 0.96 | 0.83 | 0.96 | 20.3 |
| 3 | R2 | All MCs | 185 | 26.7 | 185 | 26.7 | 0.188 | 25.6 | LOS B | 6.4 | 54.9 | 0.45 | 0.69 | 0.45 | 41.7 |
| Approach | | | 516 | 12.4 | 516 | 12.4 | 0.700 | 51.2 | LOS D | 24.7 | 179.6 | 0.77 | 0.78 | 0.77 | 25.7 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 226 | 20.9 | 226 | 20.9 | 0.286 | 28.7 | LOS C | 11.1 | 90.8 | 0.61 | 0.74 | 0.61 | 36.7 |
| 5 | T1 | All MCs | 182 | 1.2 | 182 | 1.2 | 0.286 | 49.2 | LOS D | 11.1 | 90.8 | 0.79 | 0.67 | 0.79 | 29.0 |
| 6 | R2 | All MCs | 185 | 6.3 | 185 | 6.3 | * 0.586 | 64.2 | LOS E | 13.6 | 100.4 | 0.92 | 0.83 | 0.92 | 21.5 |
| Approach | | | 594 | 10.3 | 594 | 10.3 | 0.586 | 46.0 | LOS D | 13.6 | 100.4 | 0.76 | 0.75 | 0.76 | 29.2 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 153 | 17.2 | 153 | 17.2 | 0.743 | 72.4 | LOS F | 27.8 | 211.5 | 0.96 | 0.85 | 0.96 | 22.2 |
| 8 | T1 | All MCs | 216 | 5.4 | 216 | 5.4 | * 0.743 | 66.8 | LOS E | 27.8 | 211.5 | 0.96 | 0.85 | 0.96 | 20.1 |
| 9 | R2 | All MCs | 159 | 11.9 | 159 | 11.9 | 0.309 | 63.9 | LOS E | 10.2 | 78.9 | 0.82 | 0.78 | 0.82 | 15.4 |
| Approach | | | 527 | 10.8 | 527 | 10.8 | 0.743 | 67.6 | LOS E | 27.8 | 211.5 | 0.92 | 0.83 | 0.92 | 17.8 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 109 | 1.0 | 109 | 1.0 | 0.092 | 17.4 | LOS B | 3.3 | 23.6 | 0.40 | 0.67 | 0.40 | 30.0 |
| 11 | T1 | All MCs | 189 | 2.8 | 189 | 2.8 | 0.162 | 48.3 | LOS D | 5.8 | 41.7 | 0.76 | 0.61 | 0.76 | 29.4 |
| 12 | R2 | All MCs | 18 | 0.0 | 18 | 0.0 | 0.076 | 67.4 | LOS E | 1.2 | 8.3 | 0.81 | 0.71 | 0.81 | 21.8 |
| Approach | | | 317 | 2.0 | 317 | 2.0 | 0.162 | 38.7 | LOS C | 5.8 | 41.7 | 0.64 | 0.64 | 0.64 | 28.2 |
| All Vehicles | | | 1954 | 9.6 | 1954 | 9.6 | 0.743 | 52.0 | LOS D | 27.8 | 211.5 | 0.79 | 0.76 | 0.79 | 24.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 Full | 3 | 3 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| North: Union St | | | | | | | | | | | |
| P3 Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| West: Lagoon St | | | | | | | | | | | |
| P4 Full | 1 | 1 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |
| All Pedestrians | 6 | 6 | 80.6 | LOS F | 0.0 | 0.0 | 0.97 | 0.97 | 234.5 | 200.0 | 0.85 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. PM_Sloane-Garoorigang (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 35 | 3.0 | 35 | 3.0 | 0.050 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 55.1 |
| 2 | T1 | All MCs | 60 | 0.0 | 60 | 0.0 | 0.050 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 57.8 |
| Approach | | | 95 | 1.1 | 95 | 1.1 | 0.050 | 2.1 | NA | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 56.8 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 15 | 14.3 | 15 | 14.3 | 0.055 | 0.4 | LOS A | 0.3 | 2.2 | 0.21 | 0.47 | 0.21 | 54.8 |
| 9 | R2 | All MCs | 64 | 29.5 | 64 | 29.5 | 0.055 | 6.2 | LOS A | 0.3 | 2.2 | 0.21 | 0.47 | 0.21 | 51.5 |
| Approach | | | 79 | 26.7 | 79 | 26.7 | 0.055 | 5.1 | NA | 0.3 | 2.2 | 0.21 | 0.47 | 0.21 | 52.0 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 178 | 23.1 | 178 | 23.1 | 0.171 | 6.1 | LOS A | 0.7 | 6.0 | 0.18 | 0.55 | 0.18 | 51.3 |
| 12 | R2 | All MCs | 47 | 0.0 | 47 | 0.0 | 0.171 | 6.1 | LOS A | 0.7 | 6.0 | 0.18 | 0.55 | 0.18 | 51.3 |
| Approach | | | 225 | 18.2 | 225 | 18.2 | 0.171 | 6.1 | LOS A | 0.7 | 6.0 | 0.18 | 0.55 | 0.18 | 51.3 |
| All Vehicles | | | 399 | 15.8 | 399 | 15.8 | 0.171 | 4.9 | NA | 0.7 | 6.0 | 0.14 | 0.45 | 0.14 | 52.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. PM_Windellama-Rifle (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 139 | 37.9 | 139 | 37.9 | 0.094 | 0.1 | LOS A | 0.1 | 0.5 | 0.04 | 0.04 | 0.04 | 59.7 |
| 3 | R2 | All MCs | 5 | 40.0 | 5 | 40.0 | 0.094 | 7.3 | LOS A | 0.1 | 0.5 | 0.04 | 0.04 | 0.04 | 54.8 |
| Approach | | | 144 | 38.0 | 144 | 38.0 | 0.094 | 0.3 | NA | 0.1 | 0.5 | 0.04 | 0.04 | 0.04 | 59.5 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.017 | 6.3 | LOS A | 0.1 | 0.4 | 0.39 | 0.62 | 0.39 | 51.6 |
| 6 | R2 | All MCs | 11 | 20.0 | 11 | 20.0 | 0.017 | 7.8 | LOS A | 0.1 | 0.4 | 0.39 | 0.62 | 0.39 | 50.5 |
| Approach | | | 15 | 14.3 | 15 | 14.3 | 0.017 | 7.4 | LOS A | 0.1 | 0.4 | 0.39 | 0.62 | 0.39 | 50.8 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.137 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 57.1 |
| 8 | T1 | All MCs | 228 | 18.0 | 228 | 18.0 | 0.137 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.6 |
| Approach | | | 240 | 17.1 | 240 | 17.1 | 0.137 | 0.3 | NA | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.5 |
| All Vehicles | | | 399 | 24.5 | 399 | 24.5 | 0.137 | 0.6 | NA | 0.1 | 0.5 | 0.03 | 0.06 | 0.03 | 59.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 1 [1. SAT_Braidwood-Bungonia (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Braidwood Rd | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.057 | 5.9 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 25.4 |
| 2 | T1 | All MCs | 96 | 6.6 | 96 | 6.6 | 0.057 | 0.0 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 58.4 |
| 3 | R2 | All MCs | 7 | 14.3 | 7 | 14.3 | 0.057 | 6.0 | LOS A | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 45.3 |
| Approach | | | 104 | 7.1 | 104 | 7.1 | 0.057 | 0.5 | NA | 0.1 | 0.4 | 0.04 | 0.06 | 0.04 | 57.4 |
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 5 | 20.0 | 5 | 20.0 | 0.004 | 4.5 | LOS A | 0.0 | 0.1 | 0.21 | 0.50 | 0.21 | 33.7 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.349 | 5.6 | LOS A | 1.6 | 12.3 | 0.53 | 0.78 | 0.63 | 29.8 |
| 6 | R2 | All MCs | 228 | 12.4 | 228 | 12.4 | 0.349 | 7.9 | LOS A | 1.6 | 12.3 | 0.53 | 0.78 | 0.63 | 35.7 |
| Approach | | | 235 | 12.6 | 235 | 12.6 | 0.349 | 7.9 | LOS A | 1.6 | 12.3 | 0.52 | 0.77 | 0.62 | 35.6 |
| North: Braidwood Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 316 | 19.7 | 316 | 19.7 | 0.281 | 5.8 | LOS A | 1.5 | 11.9 | 0.06 | 0.39 | 0.06 | 35.8 |
| 8 | T1 | All MCs | 112 | 3.8 | 112 | 3.8 | 0.281 | 0.0 | LOS A | 1.5 | 11.9 | 0.06 | 0.39 | 0.06 | 50.6 |
| 9 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.281 | 5.6 | LOS A | 1.5 | 11.9 | 0.06 | 0.39 | 0.06 | 37.0 |
| Approach | | | 431 | 15.4 | 431 | 15.4 | 0.281 | 4.3 | NA | 1.5 | 11.9 | 0.06 | 0.39 | 0.06 | 39.1 |
| West: Ottiwell St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 42.8 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 4.9 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 31.3 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.006 | 6.5 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 35.7 |
| Approach | | | 7 | 0.0 | 7 | 0.0 | 0.006 | 5.8 | LOS A | 0.0 | 0.1 | 0.21 | 0.53 | 0.21 | 40.8 |
| All Vehicles | | | 777 | 13.3 | 777 | 13.3 | 0.349 | 4.9 | NA | 1.6 | 12.3 | 0.20 | 0.46 | 0.23 | 39.9 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 2 [2. SAT_Sloane-Braidwood (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Braidwood Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 42 | 27.5 | 42 | 27.5 | 0.828 | 23.0 | LOS B | 7.8 | 60.5 | 0.89 | 1.50 | 2.53 | 26.4 |
| 5 | T1 | All MCs | 51 | 4.2 | 51 | 4.2 | 0.828 | 28.8 | LOS C | 7.8 | 60.5 | 0.89 | 1.50 | 2.53 | 27.5 |
| 6 | R2 | All MCs | 219 | 11.1 | 219 | 11.1 | 0.828 | 34.3 | LOS C | 7.8 | 60.5 | 0.89 | 1.50 | 2.53 | 27.2 |
| Approach | | | 312 | 12.2 | 312 | 12.2 | 0.828 | 31.9 | LOS C | 7.8 | 60.5 | 0.89 | 1.50 | 2.53 | 27.2 |
| NorthEast: Sloane St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 233 | 6.8 | 233 | 6.8 | 0.321 | 6.7 | LOS A | 1.7 | 12.3 | 0.36 | 0.42 | 0.36 | 47.0 |
| 8 | T1 | All MCs | 206 | 1.5 | 206 | 1.5 | 0.321 | 0.8 | LOS A | 1.7 | 12.3 | 0.36 | 0.42 | 0.36 | 50.6 |
| 9 | R2 | All MCs | 44 | 0.0 | 44 | 0.0 | 0.321 | 6.2 | LOS A | 1.7 | 12.3 | 0.36 | 0.42 | 0.36 | 46.2 |
| Approach | | | 483 | 3.9 | 483 | 3.9 | 0.321 | 4.2 | NA | 1.7 | 12.3 | 0.36 | 0.42 | 0.36 | 48.3 |
| NorthWest: Mundy St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.104 | 8.7 | LOS A | 0.4 | 2.7 | 0.50 | 0.94 | 0.50 | 39.7 |
| 11 | T1 | All MCs | 45 | 4.7 | 45 | 4.7 | 0.104 | 12.5 | LOS A | 0.4 | 2.7 | 0.50 | 0.94 | 0.50 | 40.2 |
| 12 | R2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.104 | 13.3 | LOS A | 0.4 | 2.7 | 0.50 | 0.94 | 0.50 | 38.9 |
| Approach | | | 66 | 3.2 | 66 | 3.2 | 0.104 | 11.6 | LOS A | 0.4 | 2.7 | 0.50 | 0.94 | 0.50 | 40.0 |
| SouthWest: Sloane St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.226 | 6.6 | LOS A | 1.1 | 9.0 | 0.33 | 0.39 | 0.33 | 47.9 |
| 2 | T1 | All MCs | 178 | 1.8 | 178 | 1.8 | 0.226 | 0.8 | LOS A | 1.1 | 9.0 | 0.33 | 0.39 | 0.33 | 52.7 |
| 3 | R2 | All MCs | 151 | 29.4 | 151 | 29.4 | 0.226 | 6.9 | LOS A | 1.1 | 9.0 | 0.33 | 0.39 | 0.33 | 42.6 |
| Approach | | | 333 | 14.2 | 333 | 14.2 | 0.226 | 3.6 | NA | 1.1 | 9.0 | 0.33 | 0.39 | 0.33 | 47.3 |
| All Vehicles | | | 1194 | 8.9 | 1194 | 8.9 | 0.828 | 11.7 | NA | 7.8 | 60.5 | 0.50 | 0.73 | 0.92 | 39.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 3 [3. SAT_Bungonia-Forbes (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Bungonia Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 173 | 13.4 | 173 | 13.4 | 0.099 | 0.0 | LOS A | 0.0 | 0.2 | 0.02 | 0.02 | 0.02 | 59.7 |
| 6 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.099 | 6.1 | LOS A | 0.0 | 0.2 | 0.02 | 0.02 | 0.02 | 56.3 |
| Approach | | | 176 | 13.2 | 176 | 13.2 | 0.099 | 0.1 | NA | 0.0 | 0.2 | 0.02 | 0.02 | 0.02 | 59.7 |
| North: Forbes St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 18 | 11.8 | 18 | 11.8 | 0.018 | 9.9 | LOS A | 0.1 | 0.5 | 0.38 | 0.86 | 0.38 | 46.6 |
| 9 | R2 | All MCs | 24 | 0.0 | 24 | 0.0 | 0.035 | 10.0 | LOS A | 0.1 | 0.8 | 0.45 | 0.91 | 0.45 | 49.9 |
| Approach | | | 42 | 5.0 | 42 | 5.0 | 0.035 | 10.0 | LOS A | 0.1 | 0.8 | 0.42 | 0.89 | 0.42 | 48.7 |
| West: Bungonia Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 18 | 5.9 | 18 | 5.9 | 0.163 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 56.8 |
| 11 | T1 | All MCs | 262 | 20.9 | 262 | 20.9 | 0.163 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.4 |
| Approach | | | 280 | 19.9 | 280 | 19.9 | 0.163 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.1 |
| All Vehicles | | | 498 | 16.3 | 498 | 16.3 | 0.163 | 1.1 | NA | 0.1 | 0.8 | 0.04 | 0.10 | 0.04 | 58.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 4 [4. SAT_Bungonia-Memorial (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Bungonia Rd | | | | | | | | | | | | | | | |
| 1a | L1 | All MCs | 231 | 17.4 | 231 | 17.4 | 0.136 | 5.5 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 45.7 |
| 3 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.136 | 5.4 | LOS A | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 48.6 |
| Approach | | | 233 | 17.2 | 233 | 17.2 | 0.136 | 5.5 | NA | 0.0 | 0.1 | 0.00 | 0.59 | 0.00 | 45.8 |
| East: Memorial Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.010 | 6.4 | LOS A | 0.0 | 0.2 | 0.42 | 0.61 | 0.42 | 47.2 |
| 6a | R1 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.010 | 7.2 | LOS A | 0.0 | 0.2 | 0.42 | 0.61 | 0.42 | 45.1 |
| Approach | | | 8 | 0.0 | 8 | 0.0 | 0.010 | 7.0 | LOS A | 0.0 | 0.2 | 0.42 | 0.61 | 0.42 | 45.7 |
| NorthWest: Bungonia Rd | | | | | | | | | | | | | | | |
| 27a | L1 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.165 | 5.3 | LOS A | 0.9 | 7.1 | 0.02 | 0.56 | 0.02 | 47.1 |
| 29a | R1 | All MCs | 263 | 20.4 | 263 | 20.4 | 0.165 | 5.2 | LOS A | 0.9 | 7.1 | 0.02 | 0.56 | 0.02 | 47.8 |
| Approach | | | 268 | 20.0 | 268 | 20.0 | 0.165 | 5.2 | NA | 0.9 | 7.1 | 0.02 | 0.56 | 0.02 | 47.8 |
| All Vehicles | | | 509 | 18.4 | 509 | 18.4 | 0.165 | 5.4 | NA | 0.9 | 7.1 | 0.02 | 0.58 | 0.02 | 46.8 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 5 [5. SAT_Hume-Garoorigang (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: Garoorigang Rd | | | | | | | | | | | | | | | |
| 5 | T1 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.062 | 0.0 | LOS A | 0.3 | 2.2 | 0.07 | 0.55 | 0.07 | 55.1 |
| 6 | R2 | All MCs | 99 | 10.6 | 99 | 10.6 | 0.062 | 5.6 | LOS A | 0.3 | 2.2 | 0.07 | 0.55 | 0.07 | 48.4 |
| Approach | | | 104 | 10.1 | 104 | 10.1 | 0.062 | 5.3 | NA | 0.3 | 2.2 | 0.07 | 0.55 | 0.07 | 48.9 |
| North: Hume St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 183 | 21.3 | 183 | 21.3 | 0.126 | 5.8 | LOS A | 0.6 | 4.6 | 0.03 | 0.56 | 0.03 | 48.1 |
| 9 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.126 | 5.6 | LOS A | 0.6 | 4.6 | 0.03 | 0.56 | 0.03 | 49.0 |
| Approach | | | 185 | 21.0 | 185 | 21.0 | 0.126 | 5.8 | LOS A | 0.6 | 4.6 | 0.03 | 0.56 | 0.03 | 48.1 |
| West: Mazamet Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.008 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.43 | 0.00 | 51.1 |
| 11 | T1 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.008 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.43 | 0.00 | 56.2 |
| Approach | | | 16 | 0.0 | 16 | 0.0 | 0.008 | 4.1 | NA | 0.0 | 0.0 | 0.00 | 0.43 | 0.00 | 52.8 |
| All Vehicles | | | 305 | 16.2 | 305 | 16.2 | 0.126 | 5.5 | NA | 0.6 | 4.6 | 0.04 | 0.55 | 0.04 | 48.6 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 6.1512 [6. SAT_Lagoon-Union (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 112 seconds (Site User-Given Phase Times)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 9 | 0.0 | 9 | 0.0 | 0.480 | 42.8 | LOS D | 11.4 | 81.0 | 0.89 | 0.75 | 0.89 | 28.8 |
| 2 | T1 | All MCs | 238 | 1.8 | 238 | 1.8 | *0.480 | 37.2 | LOS C | 11.4 | 81.0 | 0.89 | 0.75 | 0.89 | 26.9 |
| 3 | R2 | All MCs | 154 | 10.3 | 154 | 10.3 | 0.129 | 12.0 | LOS A | 2.8 | 21.4 | 0.36 | 0.66 | 0.36 | 47.0 |
| Approach | | | 401 | 5.0 | 401 | 5.0 | 0.480 | 27.7 | LOS B | 11.4 | 81.0 | 0.69 | 0.72 | 0.69 | 34.7 |
| East: Sydney Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 235 | 18.8 | 235 | 18.8 | 0.283 | 17.6 | LOS B | 7.4 | 59.3 | 0.57 | 0.72 | 0.57 | 41.8 |
| 5 | T1 | All MCs | 221 | 0.0 | 221 | 0.0 | 0.283 | 28.7 | LOS C | 7.8 | 59.3 | 0.74 | 0.64 | 0.74 | 37.5 |
| 6 | R2 | All MCs | 135 | 3.1 | 135 | 3.1 | *0.328 | 35.6 | LOS C | 5.5 | 39.8 | 0.79 | 0.77 | 0.79 | 29.7 |
| Approach | | | 591 | 8.2 | 591 | 8.2 | 0.328 | 25.9 | LOS B | 7.8 | 59.3 | 0.68 | 0.70 | 0.68 | 37.5 |
| North: Union St | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 168 | 5.6 | 168 | 5.6 | 0.933 | 72.2 | LOS F | 23.8 | 171.3 | 1.00 | 1.12 | 1.37 | 20.5 |
| 8 | T1 | All MCs | 188 | 1.1 | 188 | 1.1 | *0.933 | 66.7 | LOS E | 23.8 | 171.3 | 1.00 | 1.12 | 1.37 | 18.3 |
| 9 | R2 | All MCs | 140 | 0.8 | 140 | 0.8 | 0.369 | 47.3 | LOS D | 6.7 | 46.9 | 0.91 | 0.79 | 0.91 | 17.5 |
| Approach | | | 497 | 2.5 | 497 | 2.5 | 0.933 | 63.1 | LOS E | 23.8 | 171.3 | 0.97 | 1.03 | 1.24 | 19.0 |
| West: Lagoon St | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 88 | 0.0 | 88 | 0.0 | 0.076 | 14.2 | LOS A | 1.9 | 13.0 | 0.42 | 0.67 | 0.42 | 32.7 |
| 11 | T1 | All MCs | 179 | 1.2 | 179 | 1.2 | 0.126 | 25.1 | LOS B | 3.2 | 22.7 | 0.70 | 0.56 | 0.70 | 38.1 |
| 12 | R2 | All MCs | 12 | 0.0 | 12 | 0.0 | 0.040 | 36.9 | LOS C | 0.5 | 3.2 | 0.75 | 0.68 | 0.75 | 28.9 |
| Approach | | | 279 | 0.8 | 279 | 0.8 | 0.126 | 22.1 | LOS B | 3.2 | 22.7 | 0.61 | 0.60 | 0.61 | 36.6 |
| All Vehicles | | | 1767 | 4.7 | 1767 | 4.7 | 0.933 | 36.2 | LOS C | 23.8 | 171.3 | 0.75 | 0.78 | 0.83 | 30.3 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Union St | | | | | | | | | | | | |
| P1 | Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| East: Sydney Rd | | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P2 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| North: Union St | | | | | | | | | | | |
| P3 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| West: Lagoon St | | | | | | | | | | | |
| P4 Full | 1 | 1 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |
| All Pedestrians | 4 | 4 | 50.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 204.0 | 200.0 | 0.98 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 7 [7. SAT_Sloane-Garoorigang (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

NA
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Garoorigang St | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 40 | 0.0 | 40 | 0.0 | 0.036 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 54.1 |
| 2 | T1 | All MCs | 27 | 3.8 | 27 | 3.8 | 0.036 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 56.4 |
| Approach | | | 67 | 1.6 | 67 | 1.6 | 0.036 | 3.3 | NA | 0.0 | 0.0 | 0.00 | 0.35 | 0.00 | 55.0 |
| North: Sloane St | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 23 | 0.0 | 23 | 0.0 | 0.054 | 0.2 | LOS A | 0.3 | 1.9 | 0.17 | 0.43 | 0.17 | 55.4 |
| 9 | R2 | All MCs | 63 | 16.7 | 63 | 16.7 | 0.054 | 5.9 | LOS A | 0.3 | 1.9 | 0.17 | 0.43 | 0.17 | 52.6 |
| Approach | | | 86 | 12.2 | 86 | 12.2 | 0.054 | 4.4 | NA | 0.3 | 1.9 | 0.17 | 0.43 | 0.17 | 53.2 |
| West: Garoorigang Rd | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 122 | 31.9 | 122 | 31.9 | 0.142 | 6.0 | LOS A | 0.6 | 4.9 | 0.12 | 0.55 | 0.12 | 51.1 |
| 12 | R2 | All MCs | 61 | 0.0 | 61 | 0.0 | 0.142 | 6.0 | LOS A | 0.6 | 4.9 | 0.12 | 0.55 | 0.12 | 51.5 |
| Approach | | | 183 | 21.3 | 183 | 21.3 | 0.142 | 6.0 | LOS A | 0.6 | 4.9 | 0.12 | 0.55 | 0.12 | 51.2 |
| All Vehicles | | | 337 | 15.0 | 337 | 15.0 | 0.142 | 5.1 | NA | 0.6 | 4.9 | 0.11 | 0.48 | 0.11 | 52.4 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

## Site: 8 [8. SAT_Windellama-Rifle (*) (Site Folder: 2027 Base + Gundary Traffic + Merino Traffic (Hume Street Route))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

Weekday PM Flows Used
Site Category: (None)
Give-Way (Two-Way)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Windellama Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 120 | 28.1 | 120 | 28.1 | 0.079 | 0.2 | LOS A | 0.1 | 0.5 | 0.05 | 0.06 | 0.05 | 59.6 |
| 3 | R2 | All MCs | 5 | 40.0 | 5 | 40.0 | 0.079 | 8.1 | LOS A | 0.1 | 0.5 | 0.05 | 0.06 | 0.05 | 54.8 |
| Approach | | | 125 | 28.6 | 125 | 28.6 | 0.079 | 0.5 | NA | 0.1 | 0.5 | 0.05 | 0.06 | 0.05 | 59.4 |
| East: Rifle Range Rd | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.019 | 6.5 | LOS A | 0.1 | 0.5 | 0.42 | 0.64 | 0.42 | 51.3 |
| 6 | R2 | All MCs | 11 | 20.0 | 11 | 20.0 | 0.019 | 8.3 | LOS A | 0.1 | 0.5 | 0.42 | 0.64 | 0.42 | 50.2 |
| Approach | | | 15 | 14.3 | 15 | 14.3 | 0.019 | 7.8 | LOS A | 0.1 | 0.5 | 0.42 | 0.64 | 0.42 | 50.5 |
| North: Windellama Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 51 | 77.1 | 51 | 77.1 | 0.203 | 6.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 53.6 |
| 8 | T1 | All MCs | 282 | 17.2 | 282 | 17.2 | 0.203 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 59.6 |
| Approach | | | 333 | 26.3 | 333 | 26.3 | 0.203 | 1.0 | NA | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 58.6 |
| All Vehicles | | | 473 | 26.5 | 473 | 26.5 | 0.203 | 1.1 | NA | 0.1 | 0.5 | 0.03 | 0.10 | 0.03 | 58.5 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

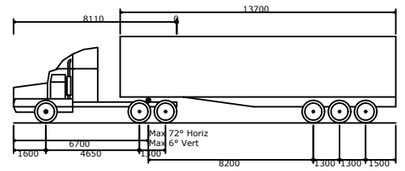
# Appendix C

## Transport Route Swept Path Analysis

HUME STREET

GARROORIGANG ROAD

MAZAMET ROAD




| Prime mover and semi-trailer (19 m) | |
|---|---|
| Overall Length | 19000mm |
| Overall Width | 2500mm |
| Overall Body Height | 4300mm |
| Min Body Ground Clearance | 540mm |
| Track Width | 2500mm |
| Lock-to-lock time | 6.00s |
| Curb to Curb Turning Radius | 12500mm |

KEY:

| | Forward | Reverse |
|---|---|---|
| Wheel path | | |
| Body envelope | | |
| 300mm clearance | | |

| REV. | DESCRIPTION | DRAWN | CHECK | APP'D | DATE |
|---|---|---|---|---|---|
| A | ISSUE FOR DISCUSSION | JG | JR | JR | 17/08/23 |

ttpp transport planning

PROJECT: GUNDARY SOLAR FARM

TITLE: SWEPT PATH ANALYSIS - SOUTHERN ROUTE - HUME STREET/GARROORIGANG ROAD
AUSTROADS (2013) 19m PRIME MOVER AND SEMI-TRAILER

DWG No. 23042CAD001 FIGURE 1

DATE STAMP: 17 AUGUST 2023

| PROJECT No. | SCALE | REV. |
|---|---|---|
| 23042 | 1:400 @A3 | A |

Filename: 23042CAD001-230817-SWEPT PATH.dwg
Date: 17 August 2023

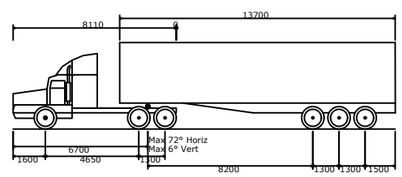
GARROORIGANG ROAD

SLOANE STREET

GARROORIGANG STREET

KEY:

| | Forward | Reverse |
|---|---|---|
| Wheel path | | |
| Body envelope | | |
| 300mm clearance | | |




Prime mover and semi-trailer (19 m)

| | |
|---|---|
| Overall Length | 19000mm |
| Overall Width | 2500mm |
| Overall Body Height | 4300mm |
| Min Body Ground Clearance | 540mm |
| Track Width | 2500mm |
| Lock-to-lock time | 6.00s |
| Curb to Curb Turning Radius | 12500mm |

| REV. | DESCRIPTION | DRAWN | CHECK | APP'D | DATE |
|---|---|---|---|---|---|
| A | ISSUE FOR DISCUSSION | JG | JR | JR | 17/08/23 |

ttpp transport planning

PROJECT

GUNDARY SOLAR FARM

TITLE

SWEPT PATH ANALYSIS - SOUTHERN ROUTE - GARROORIGANG ROAD/SLOANE STREET
AUSTROADS (2013) 19m PRIME MOVER AND SEMI-TRAILER

DWG No. 23042CAD001
FIGURE 2

DATE STAMP 17 AUGUST 2023

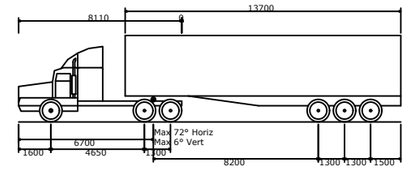
PROJECT No. 23042 | SCALE 1:400 @A3 | REV. A

Filename: 23042CAD001-230817-SWEPT PATH.dwg
Date: 17 August 2023

MUNDY STREET

SLOANE STREET

BRAIDWOOD ROAD




Prime mover and semi-trailer (19 m)

| | |
|---|---|
| Overall Length | 19000mm |
| Overall Width | 2500mm |
| Overall Body Height | 4300mm |
| Min Body Ground Clearance | 540mm |
| Track Width | 2500mm |
| Lock-to-lock time | 6.00s |
| Curb to Curb Turning Radius | 12500mm |

KEY:

| | Forward | Reverse |
|---|---|---|
| Wheel path | | |
| Body envelope | | |
| 300mm clearance | | |

| REV. | DESCRIPTION | DRAWN | CHECK | APP'D | DATE |
|---|---|---|---|---|---|
| A | ISSUE FOR DISCUSSION | JG | JR | JR | 17/08/23 |

ttpp transport planning

PROJECT: GUNDARY SOLAR FARM

TITLE: SWEPT PATH ANALYSIS - SOUTHERN ROUTE - SLOANE STREET/BRAIDWOOD ROAD
AUSTROADS (2013) 19m PRIME MOVER AND SEMI-TRAILER

DWG No. 23042CAD001 FIGURE 3

DATE STAMP 17 AUGUST 2023

| PROJECT No. | SCALE | REV. |
|---|---|---|
| 23042 | 1:400 @A3 | A |

Filename: 23042CAD001-230817-SWEPT PATH.dwg
Date: 17 August 2023

LAGOON STREET

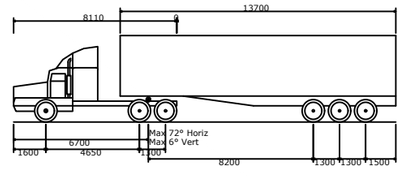
SYDNEY ROAD

UNION STREET

40

KEY:

| | Forward | Reverse |
|---|---|---|
| Wheel path | | |
| Body envelope | | |
| 300mm clearance | | |




Prime mover and semi-trailer (19 m)

| | |
|---|---|
| Overall Length | 19000mm |
| Overall Width | 2500mm |
| Overall Body Height | 4300mm |
| Min Body Ground Clearance | 540mm |
| Track Width | 2500mm |
| Lock-to-lock time | 6.00s |
| Curb to Curb Turning Radius | 12500mm |

| REV. | DESCRIPTION | DRAWN | CHECK | APP'D | DATE |
|---|---|---|---|---|---|
| A | ISSUE FOR DISCUSSION | JG | JR | JR | 17/08/23 |

ttpp transport planning

PROJECT

GUNDARY SOLAR FARM

TITLE

SWEPT PATH ANALYSIS - NORTHERN ROUTE - SYDNEY ROAD/UNION STREET
AUSTROADS (2013) 19m PRIME MOVER AND SEMI-TRAILER

DWG No. 23042CAD001 FIGURE 4

DATE STAMP 17 AUGUST 2023

| PROJECT No. | SCALE | REV. |
|---|---|---|
| 23042 | 1:500 @A3 | A |

Filename: 23042CAD001-230817-SWEPT PATH.dwg

Date: 17 August 2023

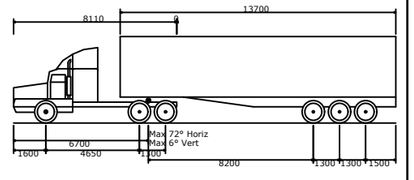
MUNDY STREET

SLOANE STREET

BRAIDWOOD ROAD

KEY:

| | Forward | Reverse |
|---|---|---|
| Wheel path | | |
| Body envelope | | |
| 300mm clearance | | |




Prime mover and semi-trailer (19 m)

| | |
|---|---|
| Overall Length | 19000mm |
| Overall Width | 2500mm |
| Overall Body Height | 4300mm |
| Min Body Ground Clearance | 540mm |
| Track Width | 2500mm |
| Lock-to-lock time | 6.00s |
| Curb to Curb Turning Radius | 12500mm |

| REV. | DESCRIPTION | DRAWN | CHECK | APP'D | DATE |
|---|---|---|---|---|---|
| A | ISSUE FOR DISCUSSION | JG | JR | JR | 17/08/23 |

ttpp transport planning

PROJECT

GUNDARY SOLAR FARM

TITLE

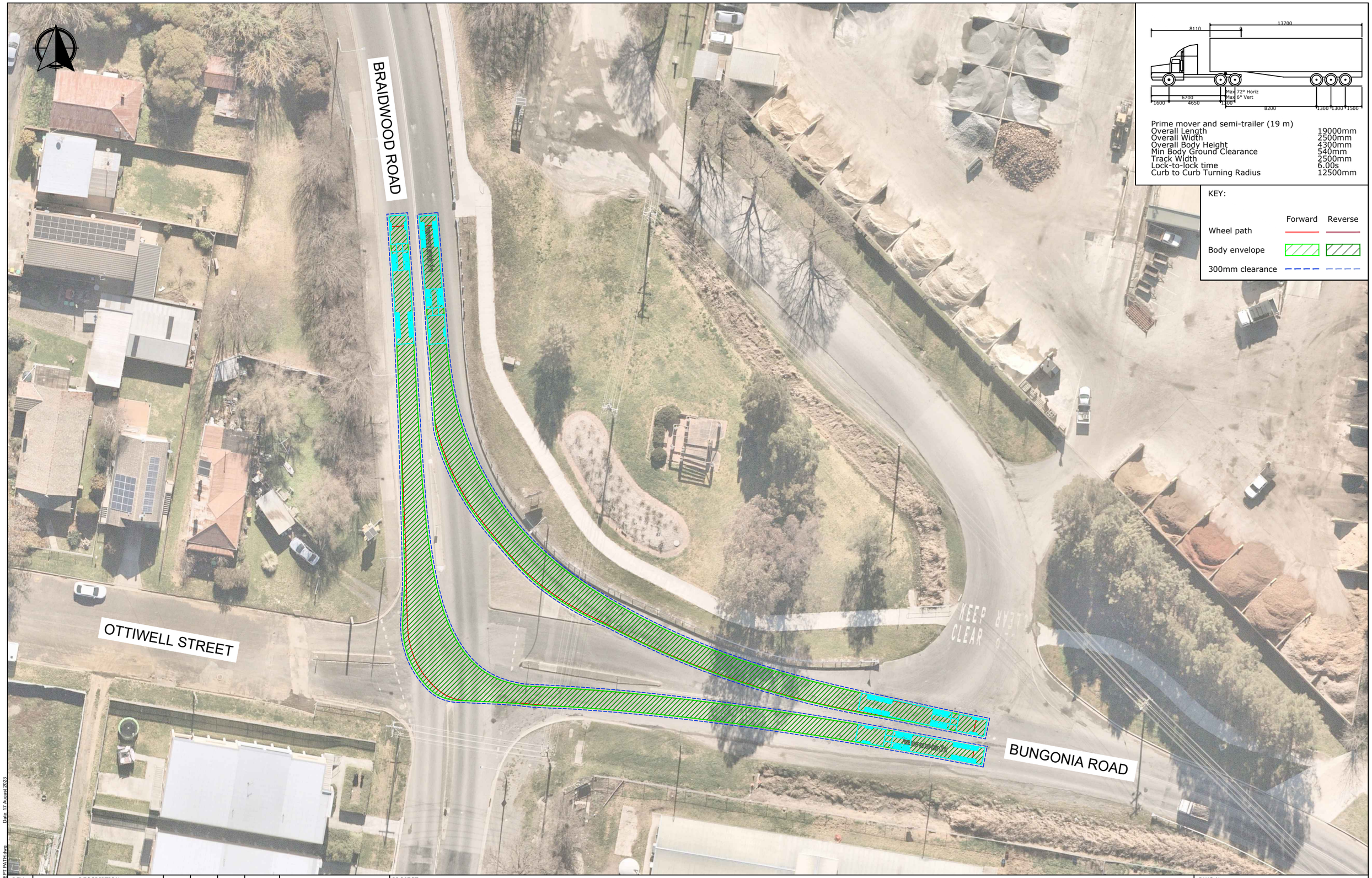
SWEPT PATH ANALYSIS - NORTHERN ROUTE - SLOANE STREET/BRAIDWOOD ROAD
AUSTROADS (2013) 19m PRIME MOVER AND SEMI-TRAILER

DWG No. 23042CAD001
FIGURE 5

DATE STAMP 17 AUGUST 2023

| PROJECT No. | SCALE | REV. |
|---|---|---|
| 23042 | 1:500 @A3 | A |

Filename: 23042CAD001-230817-SWEPT PATH.dwg
Date: 17 August 2023







Prime mover and semi-trailer (19 m)

| | |
|---|---|
| Overall Length | 19000mm |
| Overall Width | 2500mm |
| Overall Body Height | 4300mm |
| Min Body Ground Clearance | 540mm |
| Track Width | 2500mm |
| Lock-to-lock time | 6.00s |
| Curb to Curb Turning Radius | 12500mm |

KEY:

| | Forward | Reverse |
|---|---|---|
| Wheel path | | |
| Body envelope | | |
| 300mm clearance | | |

| REV. | DESCRIPTION | DRAWN | CHECK | APP'D | DATE |
|---|---|---|---|---|---|
| A | ISSUE FOR DISCUSSION | JG | JR | JR | 17/08/23 |

ttpp transport planning

PROJECT: GUNDARY SOLAR FARM

TITLE: SWEPT PATH ANALYSIS - BRAIDWOOD ROAD/BUNGONIA ROAD
AUSTROADS (2013) 19m PRIME MOVER AND SEMI-TRAILER

DWG No. 23042CAD001
FIGURE 6

DATE STAMP: 17 AUGUST 2023

| PROJECT No. | SCALE | REV. |
|---|---|---|
| 23042 | 1:500 @A3 | A |

Filename: 23042CAD001-230817-SWEPT PATH.dwg
Date: 17 August 2023





Prime mover and semi-trailer (19 m)

| | |
|---|---|
| Overall Length | 19000mm |
| Overall Width | 2500mm |
| Overall Body Height | 4300mm |
| Min Body Ground Clearance | 540mm |
| Track Width | 2500mm |
| Lock-to-lock time | 6.00s |
| Curb to Curb Turning Radius | 12500mm |

KEY:

| | Forward | Reverse |
|---|---|---|
| Wheel path | | |
| Body envelope | | |
| 300mm clearance | | |

| REV. | DESCRIPTION | DRAWN | CHECK | APP'D | DATE |
|---|---|---|---|---|---|
| A | ISSUE FOR DISCUSSION | JG | JR | JR | 17/08/23 |

ttpp transport planning

PROJECT

GUNDARY SOLAR FARM

TITLE

SWEPT PATH ANALYSIS - BUNGONIA ROAD
AUSTROADS (2013) 19m PRIME MOVER AND SEMI-TRAILER

DWG No. 23042CAD001 FIGURE 7

DATE STAMP 17 AUGUST 2023

PROJECT No. 23042 | SCALE 1:1000 @A3 | REV. A

Filename: 23042CAD001-230817-SWEPT PATH.dwg Date: 17 August 2023





Prime mover and semi-trailer (19 m)

| | |
|---|---|
| Overall Length | 19000mm |
| Overall Width | 2500mm |
| Overall Body Height | 4300mm |
| Min Body Ground Clearance | 540mm |
| Track Width | 2500mm |
| Lock-to-lock time | 6.00s |
| Curb to Curb Turning Radius | 12500mm |

KEY:

| | Forward | Reverse |
|---|---|---|
| Wheel path | | |
| Body envelope | | |
| 300mm clearance | | |

| REV. | DESCRIPTION | DRAWN | CHECK | APP'D | DATE |
|---|---|---|---|---|---|
| A | ISSUE FOR DISCUSSION | JG | JR | JR | 17/08/23 |

ttpp transport planning

PROJECT: GUNDARY SOLAR FARM

TITLE: SWEPT PATH ANALYSIS - WINDELLEMA ROAD
AUSTROADS (2013) 19m PRIME MOVER AND SEMI-TRAILER

DWG No. 23042CAD001 FIGURE 8

DATE STAMP: 17 AUGUST 2023

| PROJECT No. | SCALE | REV. |
|---|---|---|
| 23042 | 1:1000 @A3 | A |

Filename: 23042CAD001-230817-SWEPT PATH.dwg Date: 17 August 2023

# Appendix D

## Project Site Access Concept Layout

LEGEND:

INDICATIVE EXISTING FEATURES

PROPOSED FEATURES

NEW SEALED PAVEMENT AREA

INDICATIVE EXISTING LANE WIDTH

TIE INTO EXISTING PAVEMENT

PROPOSED BAL ROAD WIDENING GENERALLY IN ACCORDANCE WITH AUSTROADS GUIDE TO ROAD DESIGN PART 4A FIGURE 8.2 AND TABLE 8.1 BASED ON DESIGN SPEED OF 110km/h

R=15m

PROVIDE MINIMUM 10m SEALED ROAD AS SHOWN

HARDSTAND FOR OSOM VEHICLES

R=15m

TIE INTO EXISTING PAVEMENT

WINDELLAMA ROAD

WINDELLAMA ROAD

SITE ACCESS ROAD

SITE ACCESS ROAD

3.5m

3.5m

13.5m

35m

3.5m

3.5m

6m

10m

E1

EDGE OF PAVEMENT

C1

TB1

TF

7.5m

E1

E1

EDGE OF PAVEMENT

7m

| REV. | DESCRIPTION | DRAWN | CHECK | APP'D | DATE |
|---|---|---|---|---|---|
| A | ISSUE FOR DISCUSSION | KR | JR | JR | 06/06/25 |

ttpp transport planning

PROJECT

GUNDARY SOLAR FARM (GOULBURN) -WINDELLAMA ROAD INTERSECTION

TITLE

CONCEPT PLAN

DWG No. 23042CAD02-FIGURE 1

DATE STAMP 6 June 2025

PROJECT No. 23042

SCALE 1:500 @A3

REV. A

Filename: 23042CAD02-250606-Windellama Design Review

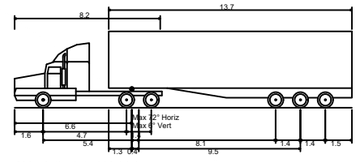
VEHICLE LEFT-IN

WINDELLAMA ROAD

SITE ACCESS ROAD

KEY:

| | Forward | Reverse |
|---|---|---|
| Wheel path | | |
| Body envelope | | |
| 500mm clearance | | |




AV - Articulated Vehicle

| | |
|---|---|
| Overall Length | 19.000m |
| Overall Width | 2.500m |
| Overall Body Height | 4.301m |
| Min Body Ground Clearance | 0.418m |
| Track Width | 2.500m |
| Lock-to-lock time | 6.00s |
| Curb to Curb Turning Radius | 12.500m |

| REV. | DESCRIPTION | DRAWN | CHECK | APP'D | DATE |
|---|---|---|---|---|---|
| A | ISSUE FOR DISCUSSION | KR | JR | JR | 06/06/25 |

ttpp transport planning

PROJECT: GUNDARY SOLAR FARM (GOULBURN) -WINDELLAMA ROAD INTERSECTION

TITLE: SWEPT PATH ASSESSMENT

DWG No. 23042CAD02-FIGURE 2

DATE STAMP: 6 June 2025

PROJECT No. 23042 | SCALE 1:500 @A3 | REV. A

Filename: 23042CAD02-250606-Windellama Design Review

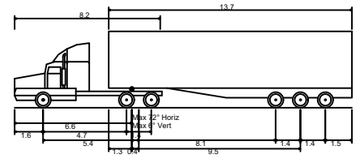
VEHICLE LEFT-IN

WINDELLAMA ROAD

SITE ACCESS ROAD

KEY:

| | Forward | Reverse |
|---|---|---|
| Wheel path | | |
| Body envelope | | |
| 500mm clearance | | |




AV - Articulated Vehicle

| | |
|---|---|
| Overall Length | 19.000m |
| Overall Width | 2.500m |
| Overall Body Height | 4.301m |
| Min Body Ground Clearance | 0.418m |
| Track Width | 2.500m |
| Lock-to-lock time | 6.00s |
| Curb to Curb Turning Radius | 12.500m |

| REV. | DESCRIPTION | DRAWN | CHECK | APP'D | DATE |
|---|---|---|---|---|---|
| A | ISSUE FOR DISCUSSION | KR | JR | JR | 06/06/25 |

ttpp transport planning

PROJECT: GUNDARY SOLAR FARM (GOULBURN) -WINDELLAMA ROAD INTERSECTION

TITLE: SWEPT PATH ASSESSMENT

DWG No. 23042CAD02-FIGURE 3

DATE STAMP: 6 June 2025

| PROJECT No. | SCALE | REV. |
|---|---|---|
| 23042 | 1:500 @A3 | A |

Filename: 23042CAD02-250606-Windellama Design Review

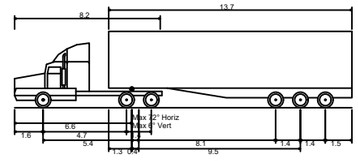
VEHICLE RIGHT-OUT

WINDELLAMA ROAD

SITE ACCESS ROAD

KEY:

| | Forward | Reverse |
|---|---|---|
| Wheel path | | |
| Body envelope | | |
| 500mm clearance | | |




AV - Articulated Vehicle

| | |
|---|---|
| Overall Length | 19.000m |
| Overall Width | 2.500m |
| Overall Body Height | 4.301m |
| Min Body Ground Clearance | 0.418m |
| Track Width | 2.500m |
| Lock-to-lock time | 6.00s |
| Curb to Curb Turning Radius | 12.500m |

| REV. | DESCRIPTION | DRAWN | CHECK | APP'D | DATE |
|---|---|---|---|---|---|
| A | ISSUE FOR DISCUSSION | KR | JR | JR | 06/06/25 |

ttpp transport planning

PROJECT: GUNDARY SOLAR FARM (GOULBURN) -WINDELLAMA ROAD INTERSECTION

TITLE: SWEPT PATH ASSESSMENT-RIGHT-OUT MOVEMENT

DWG No. 23042CAD02-FIGURE 4

DATE STAMP: 6 June 2025

PROJECT No. 23042 | SCALE 1:500 @A3 | REV. A

Filename: 23042CAD02-250606-Windellama Design Review

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