

A New Primary School at Gregory Hills

Transport and Accessibility Impact Assessment

28 Wallarah Circuit, Gregory Hills NSW 2557

27/10/2022

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Glossary

Acronym	Description
AGRD	Austroads Guide to Road Design
AGTM	Austroads Guide to Traffic Management
CC	Construction Certificate
Council	Camden Council
DA	Development Application
DCP	Development Control Plan
DoS	Degree of Saturation
DPE	Department of Planning and Environment
HRV	Heavy Rigid Vehicle (as defined by AS2890.2:2018)
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
MOD	Section 4.55 Modification (also referred to as an S4.55)
MRV	Medium Rigid Vehicle (as defined by AS2890.2:2018)
OC	Occupation Certificate
RMS Guide	Transport for NSW (formerly Roads and Traffic Authority), Guide to Traffic Generating Developments, 2002
S4.55	Section 4.55 Modification (also referenced as MOD)
S96	Section 96 Modification (former process terminology for an S4.55)
SRV	Small Rigid Vehicle (as defined by AS2890.2:2018)
TDT 2013/04a	TfNSW Technical Direction, Guide to Traffic Generating Developments – Updated traffic surveys, August 2013
TfNSW	Transport for New South Wales
TIA	Transport Impact Assessment
TIS	Transport Impact Statement
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)

1 Introduction

1.1 Overview

This Ason Group's Transport and Accessibility Impact Assessment (TAIA) report accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act), in support of a State Significant Development Application (SSDA) for the construction and operation of a new primary school at Gregory Hills (SSD-41306367).

This report addresses the Secretary's Environmental Assessment Requirements (SEARs) issued for the project, as detailed in Section 1.4 of this report.

The TA provides a comprehensive assessment of the traffic and transport elements of the project on the existing and future road network within proximity of the project and the wider Gregory Hills area in line with Transport for NSW (TfNSW) guidelines.

In addition, SINSW has outlined assessments of multi-modal transport, travel patterns and demand. These are accordingly undertaken within this TA, in conjunction with the Preliminary School Transport Plan (PSTP) document, which forms a separate report accompanying the submission.

1.2 Key References

This TA makes reference to a series of key strategic, design and planning documents in the assessment of the traffic and transport-related elements of the project. These documents include:

- Camden Council Development Control Plan (2019)
- Turner Road Precinct Development Control Plan (2018)
- Camden Local Environmental Plan (2010)
- Transport for NSW, NSW Movement and Place Framework
- NSW Government, Practitioner's Guide to Movement and Place, 19 Nov 2021
- TfNSW, Walking Space Guide (2020)

This TA also references general access, traffic and parking guidelines, including:

- Roads and Maritime Services, Guide to Traffic Generating Developments, v2.02, 2002 (RMS Guide)
- Australian Standard 2890.1: 2004 Parking Facilities – Off-Street Car Parking (AS2890.1: 2004)
- Australian Standard 2890.2: 2018 Parking Facilities – Off-Street Car Parking (AS2890.2: 2018)
- Australian Standard 2890.3: 2015 Parking Facilities – Bicycle Parking (AS2890.3: 2015)
- Australian Standard 2890.5: 2020 Parking Facilities – On-Street Parking (AS2890.5: 2020)
- Australian Standard 2890.6: 2009 Parking Facilities – Off-Street Parking for People with Disabilities (AS2890.6: 2009)
- Austroads Guide to Traffic Management Part 11 – Parking Management Techniques, Edition 3.0 April 2020
- Austroads Guide to Traffic Management Part 12 – Integrated Transport Assessment for Developments, Edition 4.0 April 2020

1.3 Background Reports

Other documents reviewed in the development of this TA include:

- Cardno, Preliminary Traffic & Transport Assessment Gregory Hills Public School, 22 April 2020
- Cardno, Badgally Road Extension Modelling and Signal Justification Report, November 2015

1.4 SEARs

A summary of the Planning Secretary's Environmental Assessment Requirements for schools relating to Transport & Accessibility is highlighted in **Table 1**.

TABLE 1 SEARS

No.	SEARs Requirement	Ason Group Response
1	An analysis of the existing transport network, including: <ul style="list-style-type: none">• road hierarchy• pedestrian, bicycle and public transport infrastructure• current daily and peak hour vehicle movements• existing performance levels of nearby intersections	Analysis of the existing transport networks has been undertaken as part of this report in Section 2.1 . Details relating to road hierarchy and existing intersection assessment are provided in Sections 2.2 and 4.4 Details relating to public and active transport are provided in Section 2.4 .
2	Details of the proposed development, including: <ul style="list-style-type: none">• pedestrian and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances)• parking arrangements and rates (including bicycle and end-of-trip facilities)• drop-off / pick-up zone(s)• bus bays (if applicable)• provisions for servicing and loading/unloading	Details of the proposed development are outlined in Sections 1.5 and 5 of the report.
3	Analysis of the impacts of the proposed development (including justification for the methodology used), including: <ul style="list-style-type: none">• predicted modal split• a forecast of additional daily and peak hour multimodal network flows as a result of the development (using industry standard modelling)• potential queuing in drop-off / pick-up zones and bus bays during peak periods	Refer to Section 4 of the report.

	<ul style="list-style-type: none"> • identification of potential traffic impacts on road capacity • intersection performance and road safety (including pedestrian and cyclist conflict) • any cumulative impact from surrounding approved developments 	
4	<p>Measures to mitigate any traffic impacts, including:</p> <ul style="list-style-type: none"> • details of any new or upgraded infrastructure to achieve acceptable performance and safety • timing, viability and mechanisms (including proposed arrangements with local councils or government agencies) of delivery of any infrastructure improvements in accordance with relevant standards 	The accompanying Preliminary School Travel Plan outlines these items.
5	<p>Measure to promote sustainable travel choices for employees, student and visitors, such as:</p> <ul style="list-style-type: none"> • connections into existing walking and cycling networks • minimising car parking provision • encourage car share and public transport • providing adequate bicycle parking and high-quality end-of-trip facilities • implementing a Green Travel Plan 	The accompanying Preliminary School Travel Plan outlines these items.
6	A preliminary operational traffic and access management plan for the development, including drop-off / pick-up zones, bus bays and their operations	The accompanying Preliminary School Travel Plan outlines these items.
7	Provide a Construction Traffic and Pedestrian Management Plan detailing predicted construction vehicle movements, routes access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be management mitigated.	A Preliminary Construction Traffic and Pedestrian Management Plan has been provided in Section 7 .

1.5 Proposal

The proposal is for a new primary school at Gregory Hills that generally comprises the following:

- 44 General Learning Spaces.
- 4 Support Learning Spaces.
- Administration, staff hub, amenity and building service areas.
- Library, communal hall and canteen.
- Outside School Hours Care (OSHC) services.

- Sport courts, outdoor play space, a Covered Outdoor Learning Area (COLA) and site landscaping.
- Dedicated bicycle and scooter parking.
- Three (3) kiss and drop spaces for Supported Learning Students (SLS) located on Wallarah Circuit.
- On-site car parking.
- Signage.
- Footpath widening on Wallarah Circuit.

Reference should be made to the site plan provided in **Figure 1**.



Figure 1: Site Plan (Source: Bennett and Trimble)

1.6 Detailed Stakeholder Engagement

Over the course of the development of this Plan, Ason Group will consult with key stakeholders including TfNSW, Camden Council and the School Principal. Details of stakeholder engagement will be detailed in **Table 2**.

TABLE 2: CONSULTATION RECORD 01 – TRANSPORT WORKING GROUP PRE-SSDA

Identified Party to Consult:	Camden Council (Council), Transport for NSW (TfNSW)
Consultation type:	Teams Meeting

When is consultation required?	During the schematic design phase, prior to SSDA submission.
Why	To discuss the transport-related elements of the proposed new Primary School at Gregory Hills.
When was consultation scheduled/held	4 th July 2022 18 th July 2022
When was consultation held	4 th July 2022 18 th July 2022
Identify persons and positions who were involved	<ul style="list-style-type: none"> • Ason Group – Dora Choi (Principal Lead: Traffic Management & Operations), Wendy Zheng (Senior Traffic Engineer) • SINSW – Laukik Rane (Project Direction – Delivery), Shay Bergin (Senior Project Director – Delivery), Rebecca Lehman (Sustainable Transport Advisor), Sarah Kelly (Principal Planner), Bill Kabbout (Associate Project Director – Infrastructure Delivery), Jarred Statham (Senior Statutory Planning Officer – Business Enablement) • Jacobs – Marisa Sidoti (Senior Project Manager), Nick Marcovich (Project Manager), Alastair Burdon-Jones (Graduate Project Manager) • DFP Planning – Natasha Bartley (Principal Planner) • Camden Council - Michelle Kramer (Road Safety Officer), Tom Allen (Team Leader: Traffic and Road Safety), Roy El Kazzi (Traffic Engineer) • TfNSW – Bikram Singh (Network and Safety Officer – Western Parkland City) • Apologies – TfNSW – Daryl Ninham (Senior Manager Network and Safety Services - Western Parkland City), DFP Planning – Ellen Robertshaw (Director)
Provide the details of the consultation	See Appendix H for the presentation and details.
What specific matters were discussed?	See Appendix H for the presentation and details.
What matters were resolved?	See Appendix H for the presentation and details.
What matters are unresolved?	See Appendix H for the presentation and details.
Any remaining points of disagreement?	See Appendix H for the presentation and details.

How will SINSW address matters not resolved?

See Appendix H for the presentation and details.

2 Existing Conditions

2.1 Site Description & Location

The site (See **Figure 2** and **Figure 3**) is located in Dharawal Country at 28 Wallarah Circuit, Gregory Hills NSW 2557, and is legally described as Lot 3257 DP1243285.

The site is located within the Camden Local Government Area and is within the Turner Road Precinct of the South-West Growth Centre.

The site has an area of approximately 2.926ha (by Deposited Plan). This will be reduced to 2.907ha under approved DA/2022/742/1 once Long Reef Circuit has been widened.

Topography is minimal with a fall from the south-east corner (RL116.5) to the north-west corner (RL113).

The site has three (3) street frontages:

- Wallarah Circuit (southern boundary)
- Gregory Hills Drive (northern boundary)
- Long Reef Circuit (eastern Boundary)

The site is primarily vacant land, with the exception of an existing group of trees in the southwest corner of the site that pre-date the subdivision and development of the precinct. There is also an existing electrical substation located on the south-eastern boundary.

There are easements of varying widths located to the northern boundary identified for drainage.

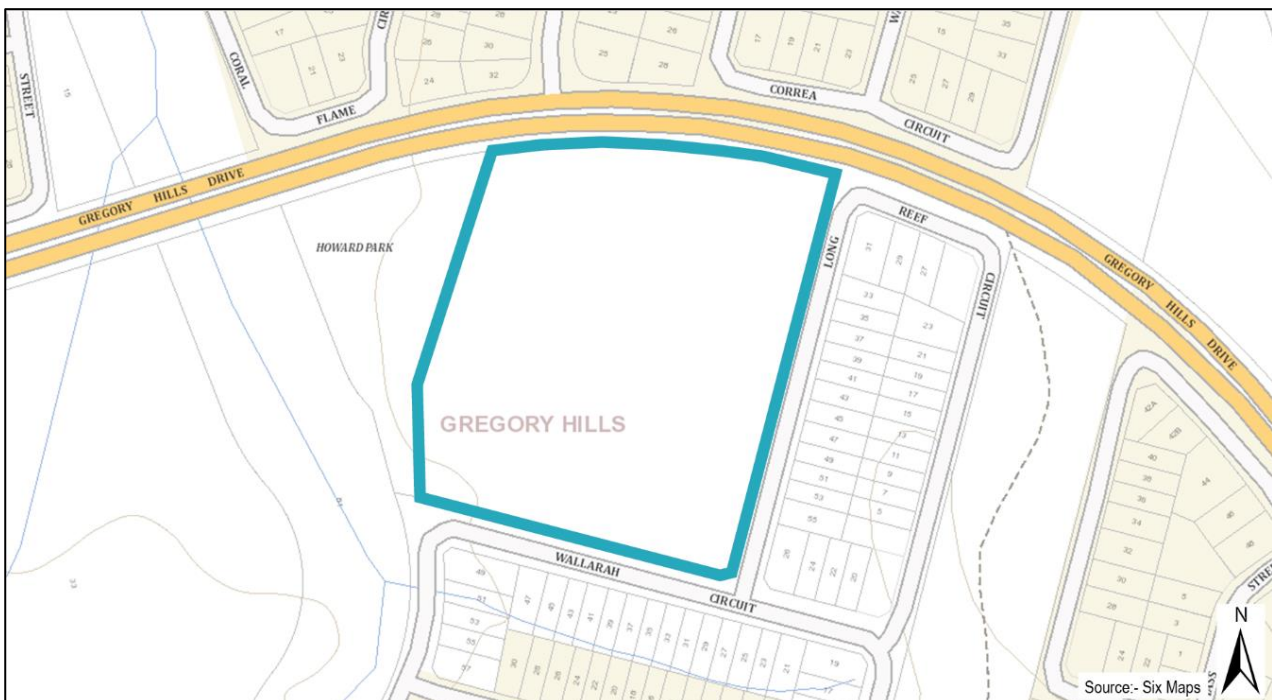


Figure 2: Locality Map (Source: Six Maps)



Figure 3: Site Aerial Map (Source: Bennett and Trimble)

2.1.1 Surrounding Development

To the north, east and south of the site is emerging and recently completed residential development. To the east of the residential area fronting Long Reef Circuit are high voltage power lines within an easement which includes pedestrian paths and cycleways. To the west of the site, beyond Sykes Creek and Howard Park, is the Gregory Hills town centre. A pedestrian bridge links Wallarah Circuit with the town centre across Sykes Creek. See **Figure 4** and **Figure 5**.



Figure 4: Surrounding Development (Nearmap)

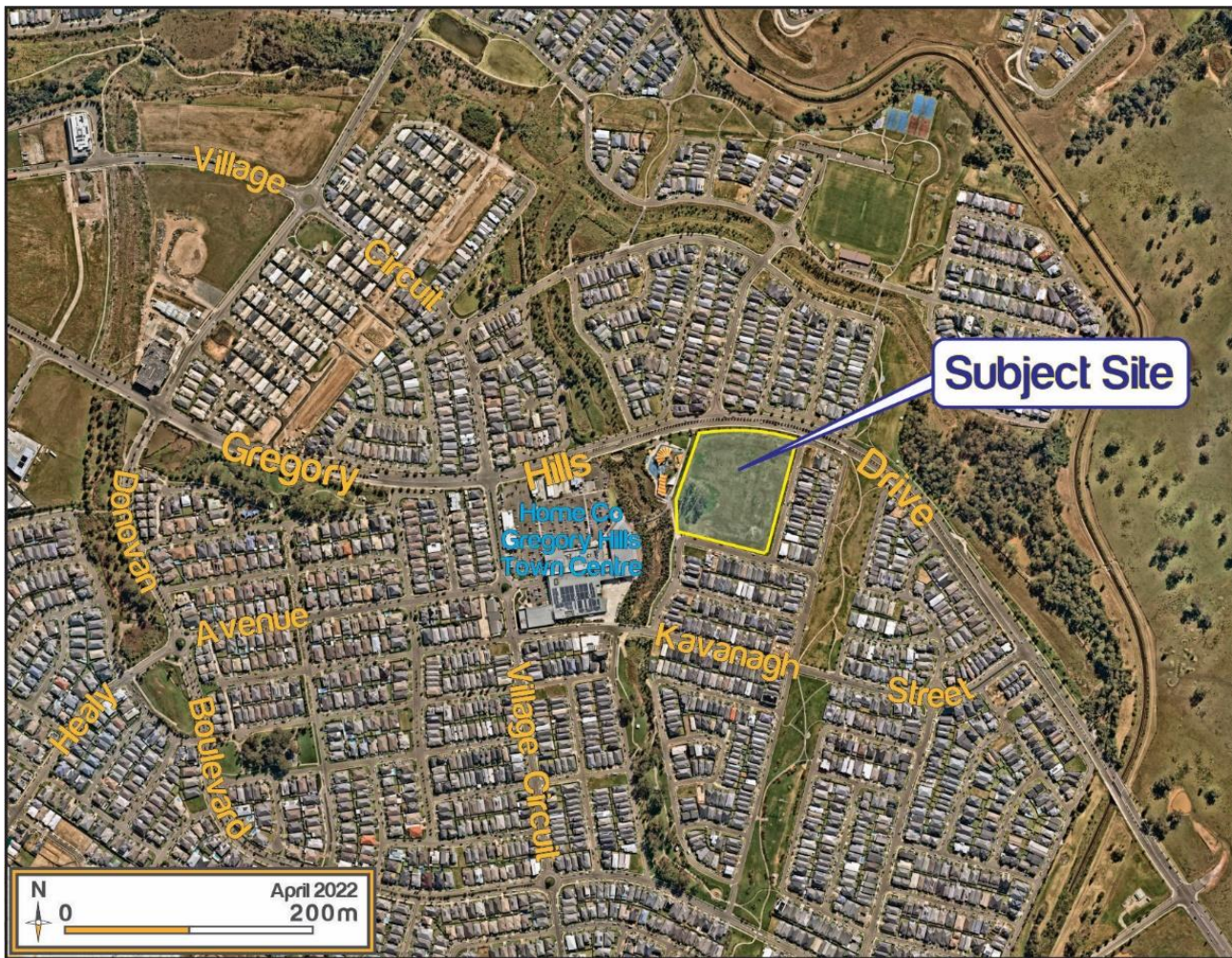


Figure 5: Site Context

2.2 Road Network

2.2.1 Road Hierarchy

The key roads in the proximity of the site are summarised in Table 3 with reference to the site plan and road hierarchy in Figure 6.

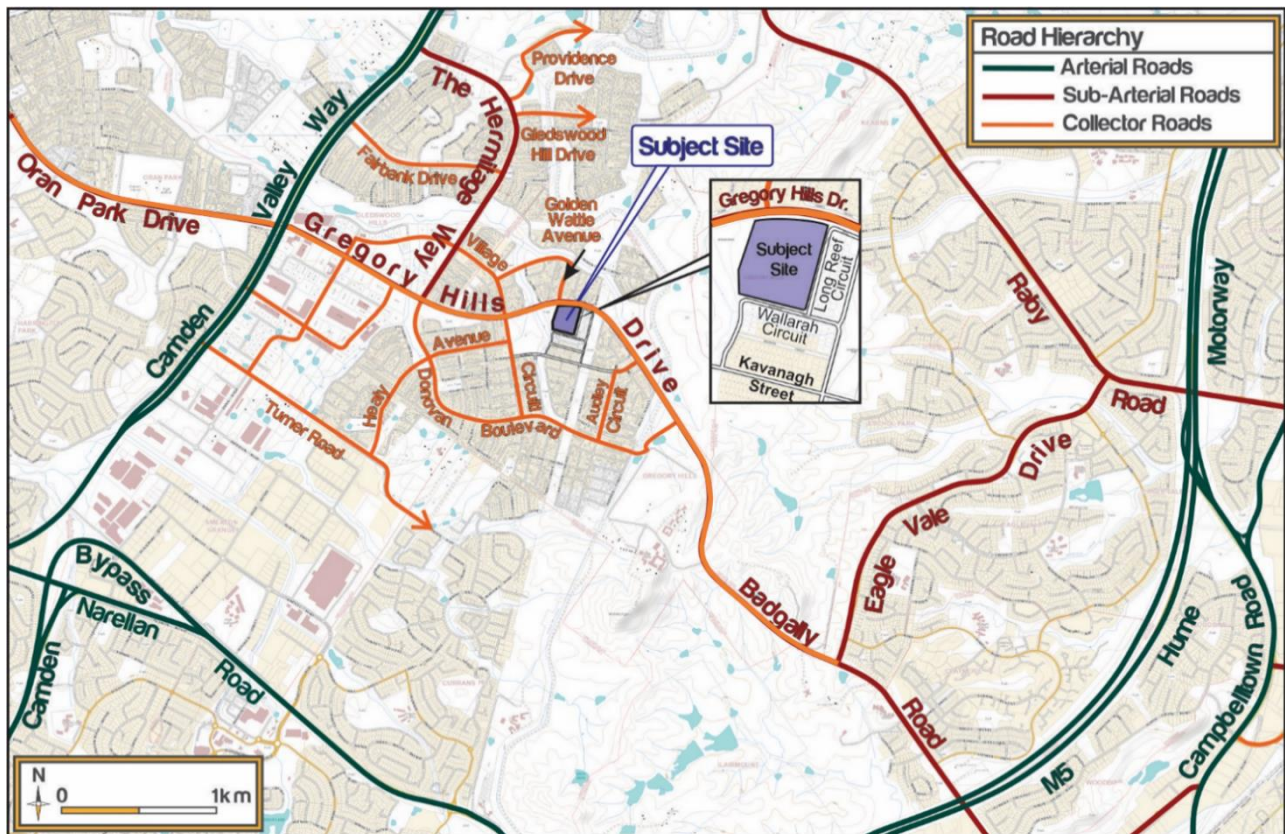


Figure 6: Site Context and Road Hierarchy

TABLE 3: KEY ROADS

Road Name	Movement and Place Classification	Road Classification	AADT ¹ (vpd)	Speed Limit ²
Camden Valley Way	Movement	Arterial	~27,000	80 km/h
Gregory Hills Drive	Movement	Local Road	~24,000	60 km/h
Long Reef Circuit	Place	Local Road	< 5,000	50 km/h
Wallarrah Circuit	Place	Local Road	< 5,000	50 km/h

2.2.2 Traffic Volumes

Ason Group commissioned intersection turning movement counts which were conducted at the following intersections on Thursday 12 May 2022 between the hours of 6:30 AM to 10:30 AM and 2:00 PM to 6:00 PM:

1. Gregory Hills Drive & Village Circuit
2. Gregory Hills Drive & Golden Wattle Avenue
3. Gregory Hills Drive & Kavanagh Street

¹ Typical traffic adopted from historical peak hour surveys.

² Signposted speed

4. Kavanagh Street & Oaklands Circuit
5. Kavanagh Street & Junee Street
6. Kavanagh Street & Audley Circuit
7. Kavanagh Street & Wallarah Circuit
8. Kavanagh Street & Village Circuit
9. Village Circuit & Healy Avenue

Based on the traffic count data, it has been assessed that the network peak hours occur during the following times:

- AM Network Peak: 7:45 AM – 8:45 AM
- PM Network Peak: 4:45 PM – 5:45 PM

Given the expected start and finish time of the proposed school operations (9AM to 3PM), and based on experiences of similar schools in new urban development areas the following times were selected to analyse for the road network assessment:

- AM School Peak: 8:15 AM to 9:15 AM
- PM School Peak: 2:30 PM to 3:30 PM

Appendix A illustrates the Year 2022 baseline AM and PM school peak traffic movements for the nine intersections in the proximity of the Site.

In addition to the traffic turning movement counts, Ason Group also completed pedestrian movement surveys at all the aforementioned nine (9) intersections. The pedestrian movements associated with the School AM and PM peak hours are presented in **Appendix A**.

2.3 Road Safety

A review of the TfNSW *Centre for Road Safety* database has been undertaken to establish the crash history within the immediate vicinity of the Site. The results are based on crashes over a five-year period between 2016 and 2020. Locations of recorded crashes are shown in Figure 7 and details summarised in Table 4 .

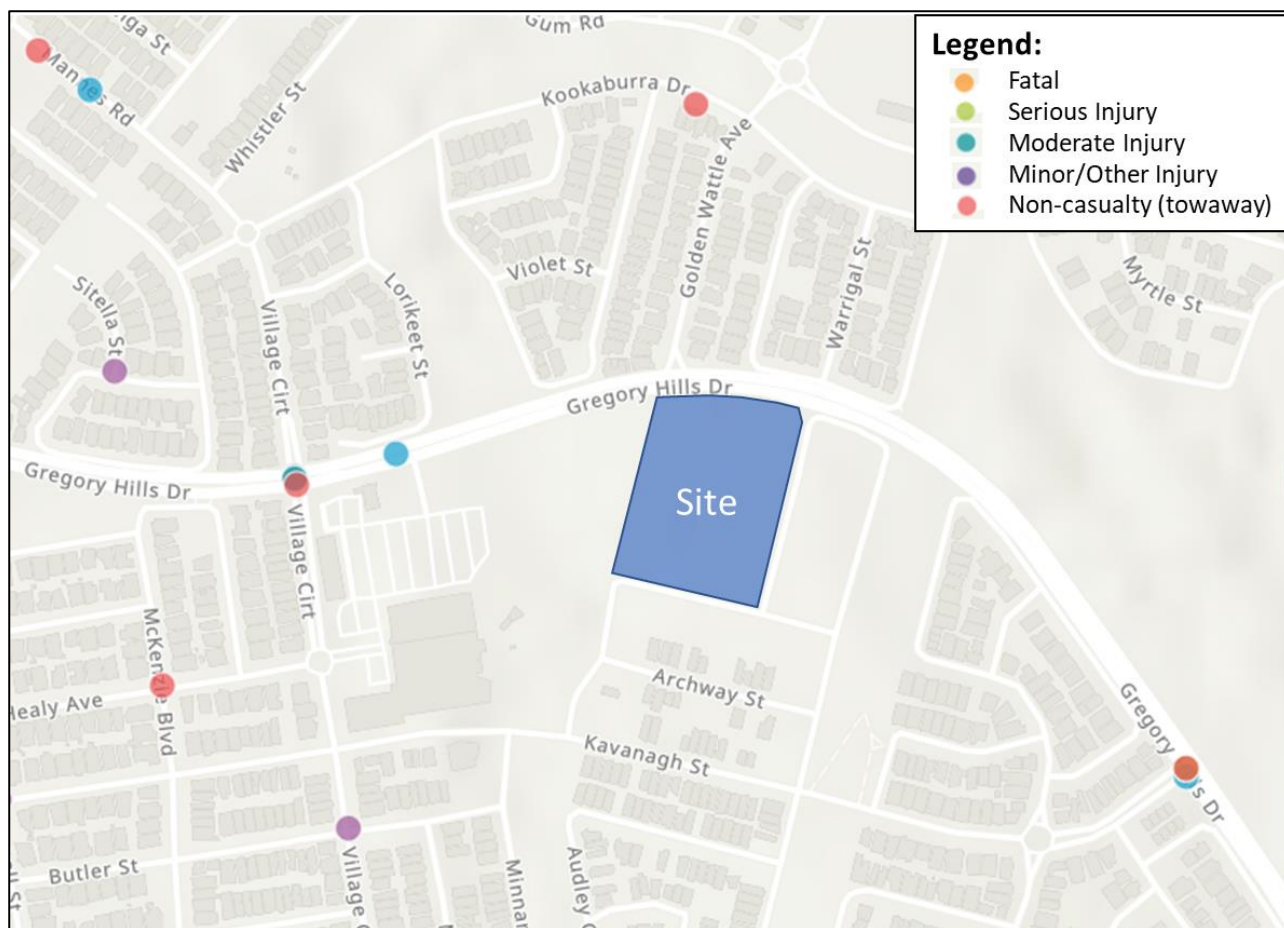


Figure 7: Crash Locations³

TABLE 4 CRASH TYPOLOGY

Reporting Year	Location	RUM Code	Number Injured	Degree of crash
2016	Gregory Hills Dr – east of Gregory Hills Dr / Village Cct	60 – Parked	1	Moderate Injury
	Gregory Hills Dr / Kavanagh St intersection	84 – Off carriageway right on left bend	Nil	Non-casualty (towaway)
2017	Gregory Hills Dr / Village Cct intersection	40 – U-turn	3	Moderate Injury
	Gregory Hills Dr / Kavanagh St intersection	81 – Off carriageway left on right bend into object / parked vehicle	Nil	Non-casualty (towaway)
2019	Kookaburra Dr – east of Kookaburra Dr / Coral Flame Cct	49 – Other manoeuvring	Nil	Non-casualty (towaway)
2020	Gregory Hills Dr / Village Cct intersection	31 – Left rear	1	Minor/Other Injury

³ https://roadsafety.transport.nsw.gov.au/statistics/interactivecrashstats/lga_stats.html?tblga=4

	Gregory Hills Dr / Village Cct intersection	21 – Right through	Nil	Non-casualty (towaway)
	Village Cct / Butler St intersection	36 – Right turn sideswipe	1	Minor/Other Injury

Crashes which occurred within 400m of the Site are extracted and detailed above. Crashes which occurred in the area in the recent, last five years have taken place away from the School site. No discernible patterns relating to a trend of incident type were observed. Further, no crashes have been recorded within proximity to the subject site or within the immediate Site frontage roads. No fatalities were reported within the reporting period.

It can be concluded that the local road network within the immediate vicinity of the site operates in a relatively safe manner.

2.4 Existing Public Transport

2.4.1 Train Connectivity

With regard to accessibility to the existing and proposed rail network, the proposed school location is not situated within walking distance of a train station. Notwithstanding, there is a potential opportunity for ancillary serviceability (via shuttle or chartered services) from Leppington Station approximately 8km to the northeast, or Minto Station approximately 6km to the east.

Serviceability details are provided in Table 5, with reference to .

TABLE 5 TRAIN SERVICES

Line	Connection	Name	Frequency
T2	Leppington Station	Parramatta or Leppington to City	~ 4 services per hour
T5		Richmond to Leppington	~ 2 services per hour
T8	Minto Station	Macarthur to City via Airport or Sydenham	~ 4 services per hour
		City to Macarthur vis Airport or Sydenham	~ 2 services per hour
T5		Leppington to Richmond	~ 2 services per hour

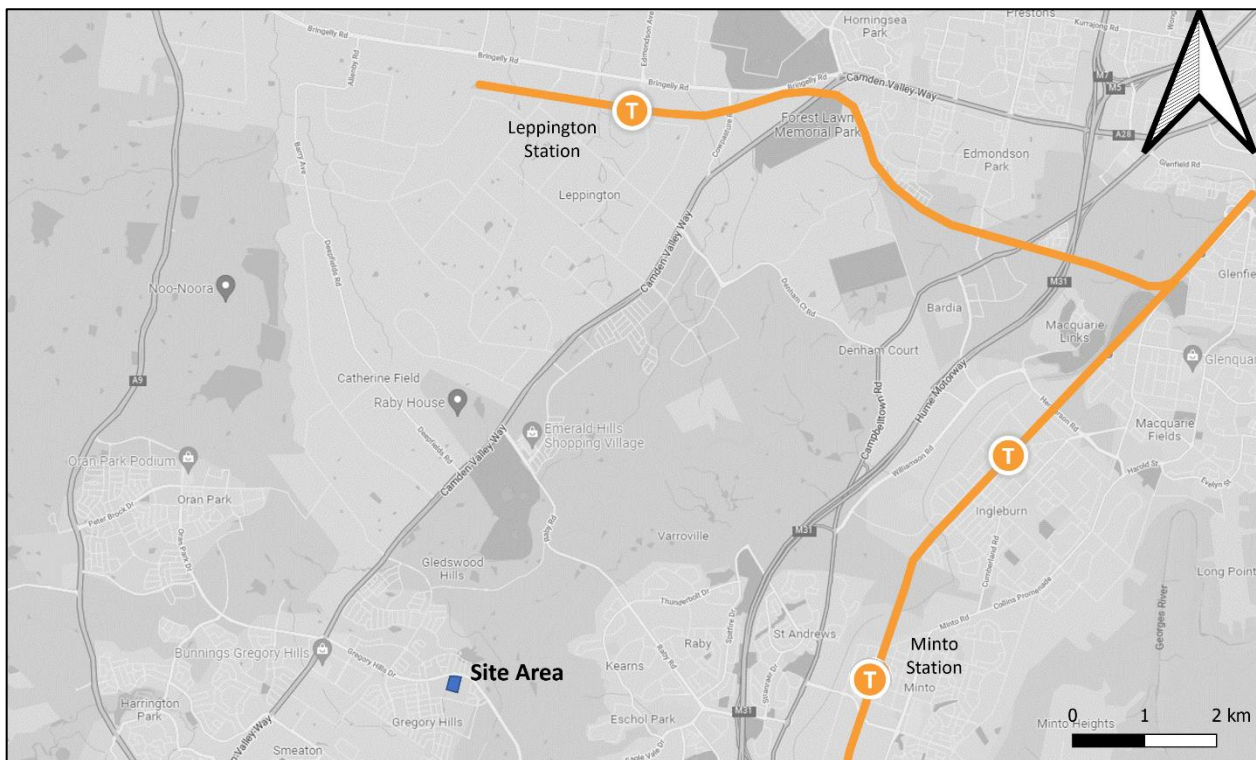


Figure 8: Train Stations

2.4.2 Public Bus Connectivity

With reference to existing public bus service connectivity for the area, 4 bus stops are located within 400m distance of the Site along Village Circuit and Kavanagh Street and provide serviceability to two routes, summaries in Table 6.

TABLE 6 BUS SERVICES

Route	Description	Service
840	Oran Park to Campbelltown	1-2 services per hour
841	Narellan to Leppington via Gregory Hills	4 services per hour

As shown in

Figure 9, both routes listed above access the proposed School via Gregory Hills Drive, with route 840 providing a connection between Oran Park and Campbelltown in the west-east direction and route 841 providing access between Leppington and Narellan in the north-south direction.

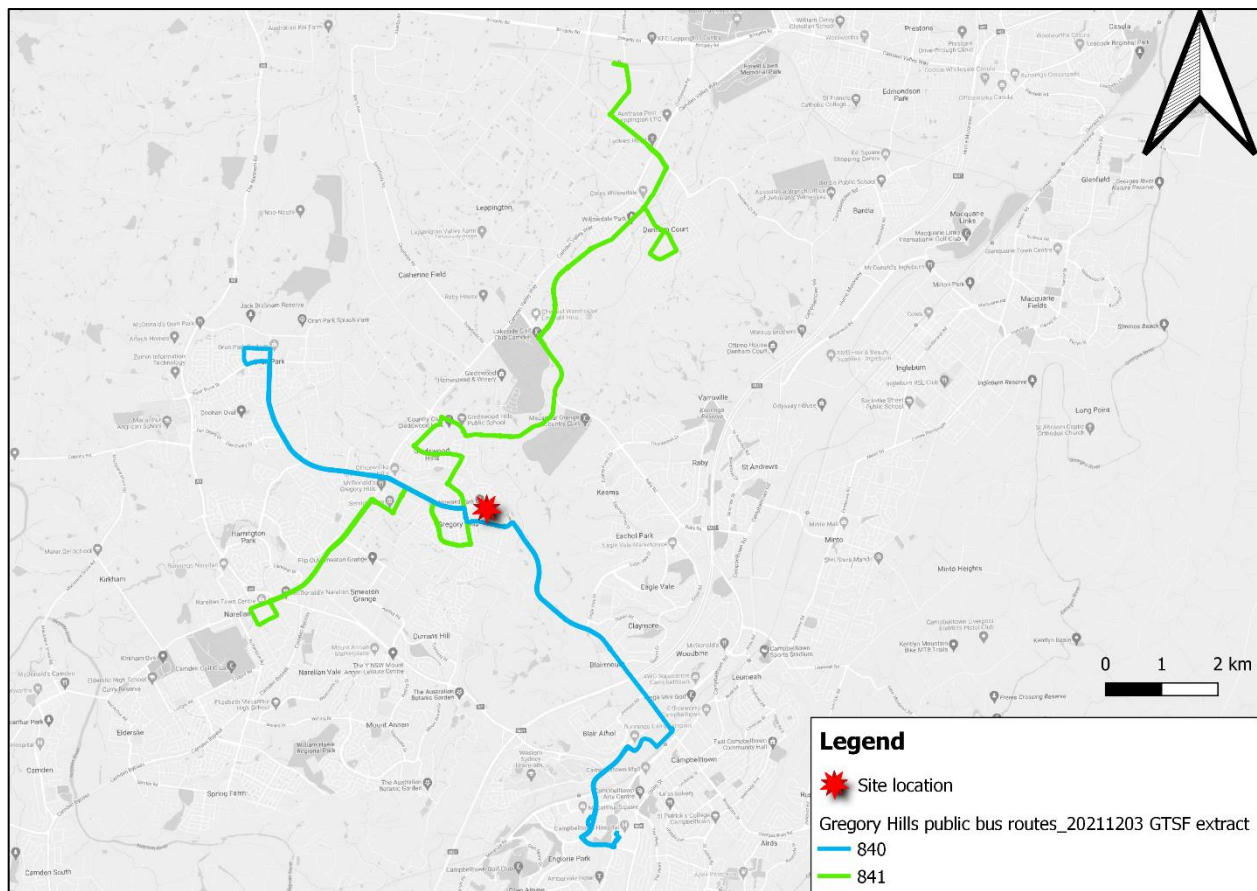


Figure 9: Public Bus Service Extents

2.4.3 Future Opportunities for Services

Having regard to the above, the Site demonstrates adequate serviceability by public transport within the proposed school catchment and accordingly, is not anticipated to require the provision of additional school bus services.

This is discussed in detail in the Preliminary School Transport Plan.

Notwithstanding the above, an on-street bus bay is proposed on the north side of Wallarah Circuit west of the intersection of Wallarah Circuit and Long Reef Circuit as part of the Temporary School DA Works (DA/2022/742/1). The bus bay which can accommodate two buses is expected to meet the occasional bus requirements of the school, such as excursions and Gala Days.

2.5 Existing Active Transport

2.5.1 Pedestrian Infrastructure

The Site is situated within a recently established residential suburb with recently completed and emerging residential development to the north, east and south of the Site. To the west of the Site are Howard Park Playground, Sykes Creek and the surrounding riparian zone, and HomeCo Gregory Hills Town Centre further west.

With reference to the pedestrian network, desktop studies, as well as on-site observations, confirm that the broader road network is accompanied by pedestrian footpaths, either on one or both sides of all streets. As part of DA/2022/742/1, 3m-wide footpaths are proposed along the School's frontage roads along Wallarah Circuit and Long Reef Circuit, with a reduced width of 2.5m-wide footpaths along the short-stay parking area on Long Reef Circuit. Furthermore, a pedestrian footbridge is located between HomeCo Gregory Hills Town Centre and Howard Park providing access over Sykes Creek.

Figure 10 is extracted from Turner Road Precinct DCP and demonstrates the extent of pedestrian and cycle paths within the context of the School.

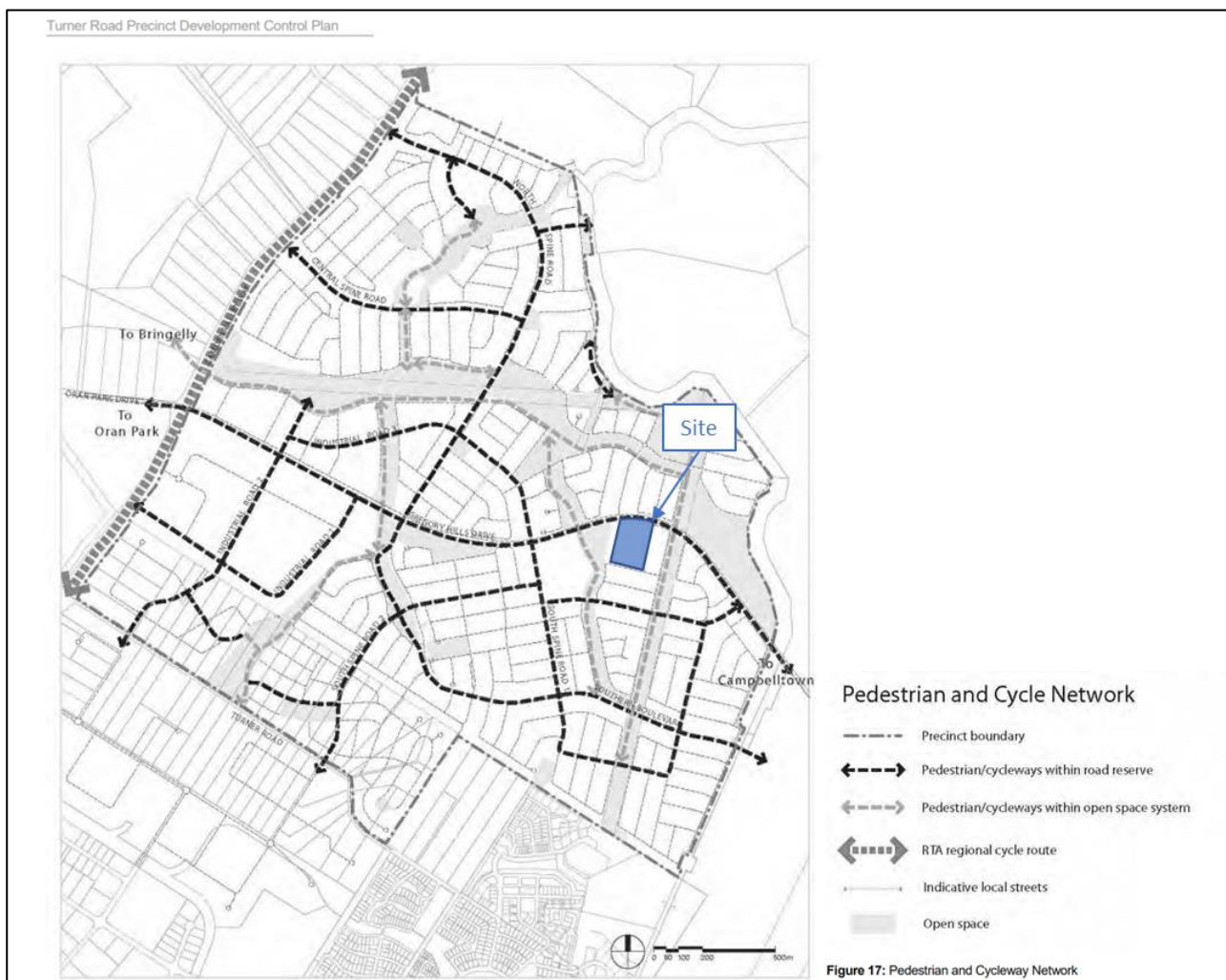


Figure 10: Turner Road Precinct DCP 2018: Pedestrian and Cycle Network

2.5.2 Cycling Infrastructure

At present, there are limited dedicated on-road cycling facilities through the Gregory Hills area. Shared path provision is observed along both sides of Gregory Hills Drive and through riparian zones located to the west and east of the proposed School site. However, it is noted that little crossing infrastructure is available along cycling routes which provides a limitation to the use of the cycling network, especially for young cyclists. Figure 10 above demonstrates the provision of a cycle path required by the Turner Road Precinct DCP.

Furthermore, a review of the Camden Council Data Portal – Bicycle Network Camden is conducted. Extraction of the mapping tool is reproduced below highlighting existing shared path provisions within the context of the School.

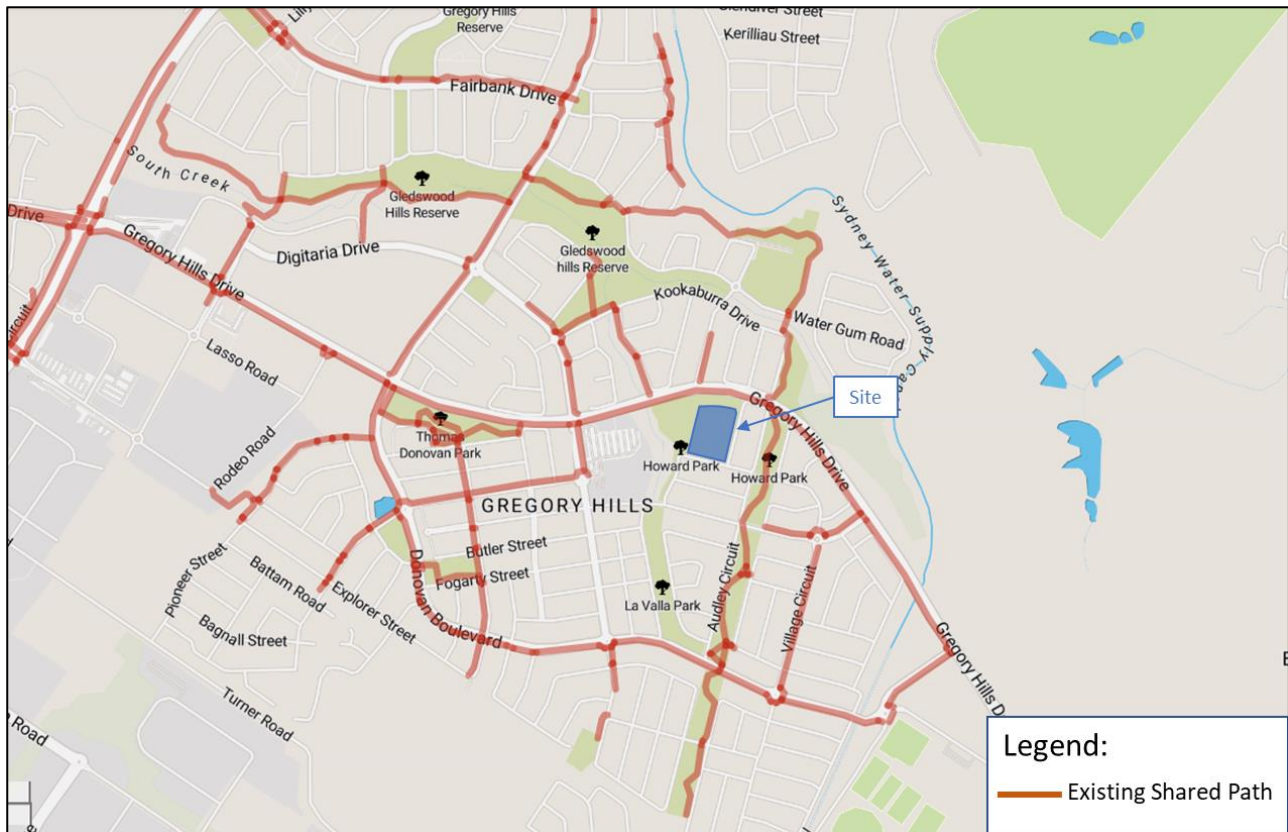


Figure 11: Existing Shared Path (Source: Camden Council Data Portal – Bicycle Network Camden)

2.6 Community Profile

2.6.1 Population

A review of Profile ID was undertaken to establish the context of the Gregory Hills community profile. Accordingly, Profile ID sources data from the Australian Bureau of Statistics (ABS) Census Data. It should be noted that this data includes the wider extents of the LGA including parts of Gledswood Hills and Leppington. Interpretation should account for minor variances in available statistical information.

The data indicates that the Estimated Residential Population (ERP) in 2021 was 12,191 which was an increase of approximately 15.8% over the previous year. **Figure 12** presents the data from 2012 to 2021 to highlight the growth trend over the most recent past ten years.

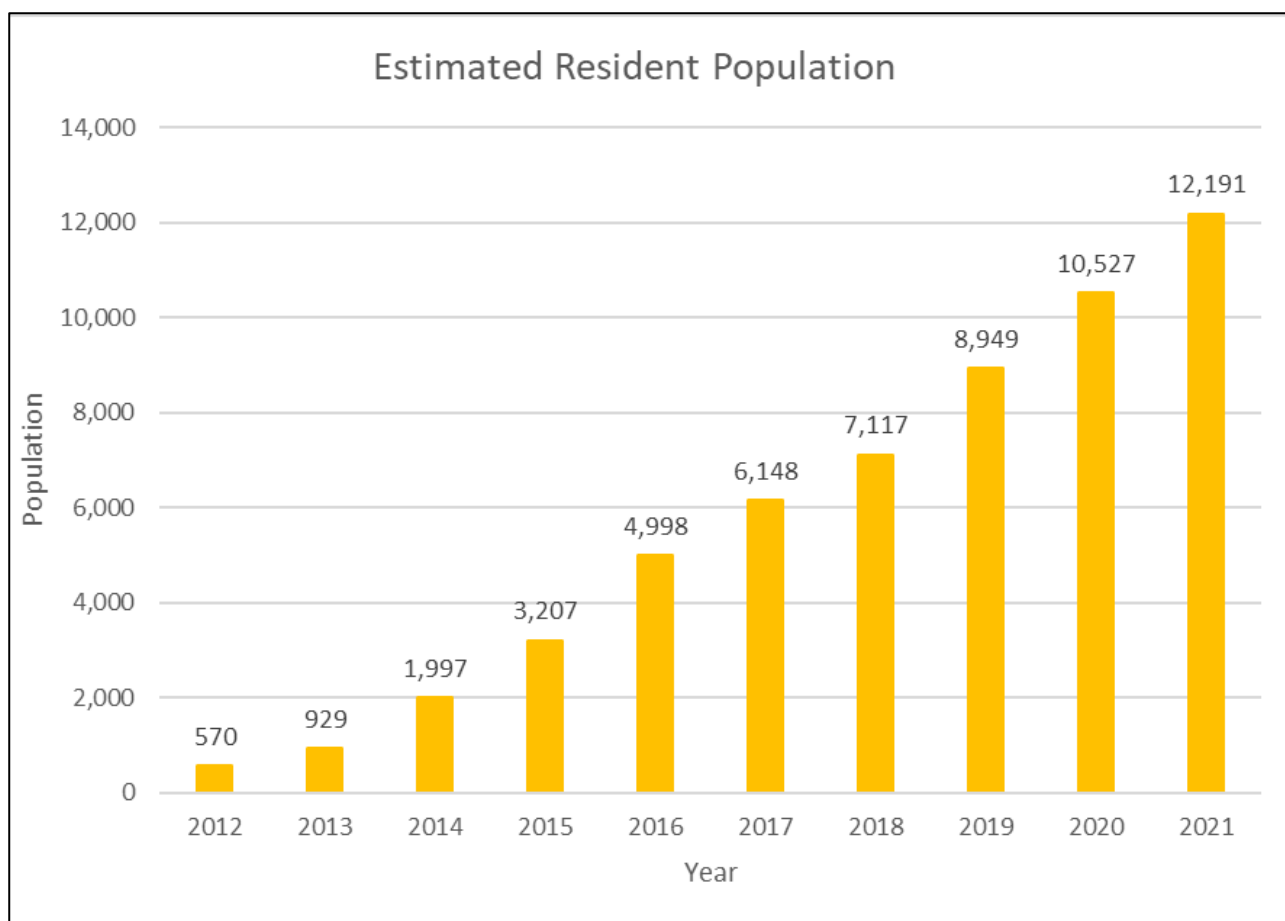


Figure 12: Estimated Resident Population (Source: Profile ID 2022)

2.6.2 Travel Mode Share

An analysis of the ABS 2016 Census Data was undertaken to determine the travel mode share in Gregory Hills, with the results presented in **Table 7**.

TABLE 7: EXISTING MODE SHARE

Travel Mode ¹	Percentage (%) of total trips
Car (as driver)	83%
Car (as passenger)	5%
Train	3%
Bus	0%
Truck	6%
Motorbike / Scooter	0%
Walked only	1%
Other	1%

Note: 1. Excludes people who worked from home or do not work.

The above table demonstrates a predominant modal dependent on private vehicle usage of 88%. This number was made up of 90% drivers and 6% as passengers. Lower dependencies on public transport modes accounted for approximately 3% and walked only at 1%.

It is considered that this data is also representative of the general travel mode choice such as shopping and recreational trips.

3 Strategic Context

3.1 Movement and Place Framework

The Movement and Place is a cross-government framework for planning and managing roads and streets across NSW. The framework delivers on NSW policy and strategy directions to create successful streets and roads by balancing the movement of people and goods with the amenity and quality of places.

Sections below provide a summary of how Movement and Place are relevant for school development.

3.1.1 Place Analysis

The place analysis makes reference to the importance of the location in its physical form, the activity and generates and how its meaning is characterised by the community.

With reference to the movement impacts on place, the framework recognises the need to provide safe, direct, and comfortable walking and cycling routes as the backbone of active travel, including to schools and linking local activities to local recreation, giving priority to car-free arrival points and providing minimal parking. Of relevance to the Proposal, the built environment indicator specifically for Primary Schools was extracted from the Practitioner's Guide to Movement and Place is presented in **Figure 13**.


USER OUTCOME	INDICATOR	MEASURE	DESIRED OUTCOME	DATA SOURCE
 Amenity and Uses				
Convenient facilities	Primary schools	Walkable access to primary schools	Positive indicates increase in catchment	GIS network analysis

Figure 13: Built Environment Indicators

3.1.2 Movement Analysis

The concept of movement as characterized by the Framework describes the demand to, from and through the activity centres, and describes the series of modal networks interlinking them. With reference to the school's location – forming part of the education precinct of the Camden Council DCP – it is interlinked by the road network, which is of adequate width to provide bus services, as well as pedestrian footpaths and a dedicated cycling route.

3.1.3 Built Environment Indicators

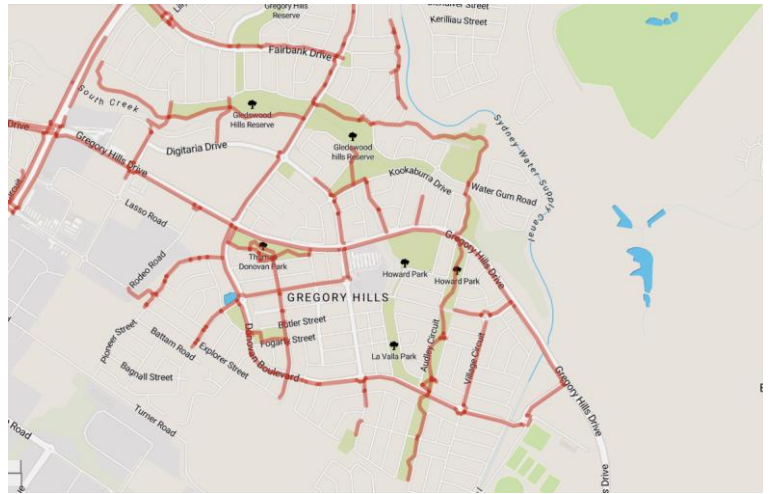
Furthermore, the Movement and Place Framework has established a set of 36 Built Environment Performance Indicators to evaluate projects based on qualities that contribute to a well-designed built environment and are grouped under five themes relating to user outcomes. The user outcomes reflect what a person may reasonably expect as an outcome of good performance related to that theme.

Nine core indicators are analysed as the minimum data inputs for each relevant theme for all projects to report against, ensuring the focus on both movement and place outcomes. Supplementary and project-specific indicators are not required for every project or plan but can be adopted where the context and objectives cannot be addressed using the core indicators.

Table 8 provides the nine core indicators and three supplementary indicators which are considered relevant for the project.

TABLE 8 MOVEMENT AND PLACE – PERFORMANCE INDICATOR

Indicator Name	Indicator Number	Indicator Type	Objective	Classification	Ason Group Notes
Mode share	1	Core	To measure the proportion of sustainable travel mode usage by transport customers.	% of sustainable trips: 4% Category – below 5%	With reference to Movement and Place Built Environment Indicator Map, 4% of sustainable trips are observed for sustainable trips to work. Detailed mode share analysis, as well as school catchment analysis, are conducted in Section 4 of this report.
Public transport accessibility	4	Core	To measure the level of interaction between land use and transport services in terms of how well people are served by public transport.	PTAL – Level 6: very high	Public Transport Accessibility Level has been assessed based on the AM Peak between 6:30 am to 10:30 am and PM Peak between 2:00 pm to 6:00 pm. Public transport access to primary schools is analysed within Section 3 of this report.
Permeability	29	Core	To measure the walking and cycling permeability of the road network, reflecting the walkability and connectivity of an area	Intersection Density: 41-70 intersections per km ²	With reference to Movement and Place Built Environment Indicator Map, an intersection density of 41 to 70 km ² is observed within proximity of the proposed school site.
Public space	9	Core	To measure walking access to public spaces and the proportion of land that is reserved for public space	Population within 10min walk to a public space: 97% Proportion of public space: 7%	Gregory Hills community centre is located at 66 Kavanagh Street.
Mix of uses	14	Core	To measure the proximity of the road segment to locally oriented Business Land Use Zones which increases the social capital of the local population	Within proximity	The School and the immediate frontage roads are within 800m proximity of commercial uses due to the HomeCo Gregory Hills Town Centre being located within a B1 zone.
Tree canopy	19	Core	To measure the percentage of tree cover across urban areas, which provides critical shade, drainage, air quality and wellbeing benefits	<10%	The local area surrounding the school site is a new greenfield subdivision whereby some street tree planting has occurred. However, these trees are juvenile, and the actual canopy coverage is expected to increase as the trees mature.

Pedestrian Crowding	24	Supplementary	To measure the level of crowding pedestrians experience on footpaths and how this impacts their comfort levels	Walking Space Level of Service for each footpath is assessed.	Refer to Section 5.4 of this report.
Primary School	24	Supplementary	To measure the walkable access to primary schools and nearby public transport	Walkable access to primary school has been assessed for 400m, 800m, 1200m, 1600m, 2000m and 2300m on-path walking distance.	Refer to Section 5.4 of this report.
Cycling Accessibility	3	Supplementary	To measure the connectivity, access, and quality of cycling infrastructure across the State	Hierarchy (desirability of cycling facility) – Shared Path – Non-Directional	<p>With reference to Camden Council Data Portal – Bicycle Network Camden, access to a non-directional shared path network is along the immediate Gregory Hills Drive frontage of the site.</p> 

3.2 Camden Development Control Plan (2019)

The Site is located within Camden Council Local Government Area and specifically Turner Road Precinct, as such is subject to the controls specified in the Camden Council Development Control Plan 2019 (CDCP 2019) and Turner Road Precinct Development Control Plan in January 2018 (TDCP 2018). With respect to education development, the TDCP 2018 provides the following:

- Location of education, civic and community facilities should result in:
 - a high level of provision and equitable distribution of education, civic and community facilities within the Turner Road Precinct Location
 - education, civil and community facilities are to be located and provided generally in accordance with **Figure 14** and the Oran Park and Turner Road Section 94 Contributions Plan.
 - education, community buildings and places of worship are encouraged to enhance community identity and wayfinding through iconic and landmark building design.
- The TDCP focuses on pedestrian connectivity provision surrounding educational facilities, stating “Pedestrian connectivity is to be maximized within and between each residential neighbourhood with a particular focus on pedestrian routes connecting to public open spaces, bus stops and railway stations, educational establishments and community/recreation facilities.”

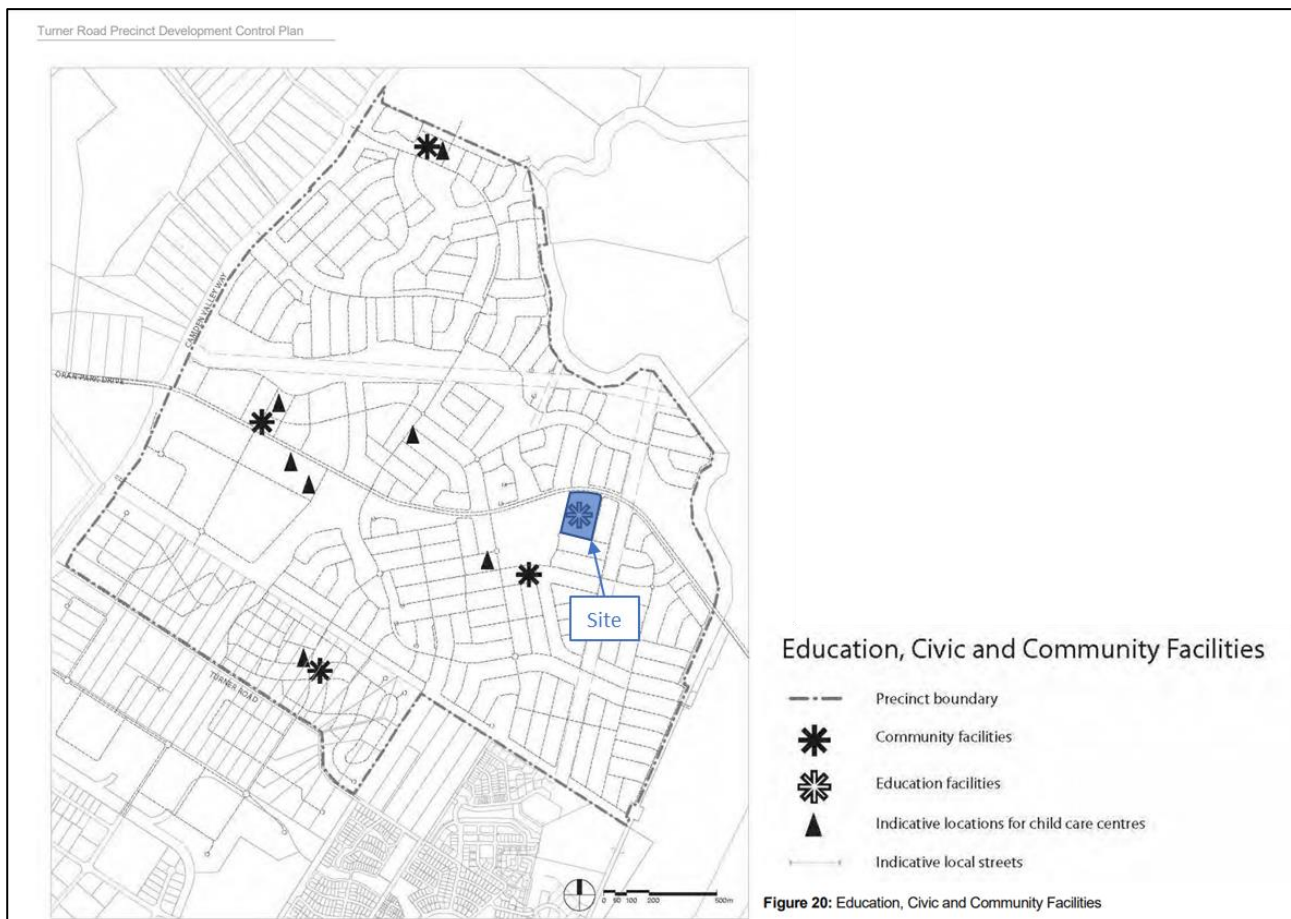


Figure 14: Education, Civic and Community Facility location – TDCP 2018

3.3 Local Strategic Planning Statement (2020)

The Camden *Local Strategic Planning Statement* (LSPS) has been prepared in accordance with clause 3.9 of the Environmental Planning and Assessment Act 1979. The LSPS is written in line with the vision of The Greater Sydney Region Plan and Western City District Plan and sets a 20-year planning vision with emphasis on land use, transport and sustainability objectives.

As a key part of the District Plan, key outcomes relating to the Camden LGA include:

- Promoting north-south and east-west transport connections and matching population growth with infrastructure; and
- Setting a housing supply target for Camden of 11,800 new dwellings over the next 0-5 years.

Furthermore, the LSPS identified planning priority – Liveability Local Priority L3, which relates to educational development. The planning priority focuses on the provision of the following:

- Providing services and facilities to foster a healthy and socially connected community;
- The priority emphasises the improvement of liveability in urban environments through a mix of high-quality spaces that engage and connect people and communities of all ages and abilities, including co-locating schools, health and aged care facilities, and sporting and cultural facilities to deliver a healthy and socially connected community.

The LSPS highlights Camden as the largest growing Metropolitan Sydney Council area by housing growth, indicating substantial residential and urban developments to accompany population growth for the region. To this effect, the LSPS supports the provision of infrastructure to provide and cater to this growth.

3.4 Gregory Hills Masterplan

The Gregory Hills Town Centre was rezoned in 2007 as part of the Turner Road Precinct.

The Gregory Hills Planning Agreement between Camden Council and Dart West Developments Pty Ltd was proposed to form the planning agreement under section 93F of the Environmental Planning and Assessment Act 1917 (EP&A Act) to facilitate the provision of local infrastructure to meet the Gregory Hills development.

The Planning Agreement signed by Council and the developers on 4th May 2012 outlines the following development objectives for the Masterplan:

- The subdivision of the Land to accommodate approximately 2,400 dwellings,
- Establishment of a road, utilities and stormwater management network,
- Provision of various types of open space and creation of recreation areas,
- Provision of community and other facilities,
- Construction of residential housing, and
- Construction of non-residential development, including a local shopping centre.

The proposed School is located within Stage 3 adjacent to Gregory Hills Drive and east of the Gregory Hills Town Centre and Howard Park. Pedestrian access is provided between the School, HomeCo Gregory Hills Town Centre and active play areas within the riparian corridor.

The overall Gregory Hills masterplan is extracted and shown at a reduced scale in **Figure 15**.



Figure 15: Gregory Hills Masterplan prepared by Dart West Developments Pty Ltd (February 2018)

3.5 Road Safety Education Program

The Road Safety Education Program is a long-term integrated education initiative funded by the Centre for Road Safety in government and non-government schools. The aim of the program is to increase road safety knowledge, understanding and skills.

Road safety education specialists in the government, Catholic and independent school sectors provide professional learning and advice to teachers and schools about teaching road safety and how to address road safety issues through the curriculum.

The teaching and learning focus are on pedestrian, passenger and wheel safety, as well as on future drivers. The Centre for Road Safety leads the development of quality teaching and learning resources for teachers to use in schools.

The education sectors provide professional learning to teachers to equip them with the knowledge and skills to teach quality road safety education. Teachers are also shown how to use the resources in the classroom to create effective teaching and learning programs.

3.6 Safety Around Schools Program

TfNSW continues to have a strong focus on improving the visibility of school zones to increase driver awareness and compliance. Schools aim to address road safety issues around their school to create a safer environment for the whole school community by:

- Teaching students about the local road safety conditions contribute significantly to improving their safety.
- Reminding parents and carers about safe road user behaviours outside the school also contributes significantly to the safety of our students
- Working with agencies to improve local safety issues in the school zone through planning, enforcement, engineering or environmental changes.

4 Future Travel Characteristics & Demand

4.1 Student Catchment

The School is located within Camden Council Local Government Area (LGA). Figure 16 demonstrates the surrounding primary schools' enrolment catchment boundary in relation to the new Primary School at Gregory Hills' indicative intake boundary provided by SINSW on 28th April 2022. Existing primary schools' catchments which shared catchment boundaries with the proposed School include Gledswood Hills Public School, Kearns Public School, Narellan Public School and Currans Hill Public School.

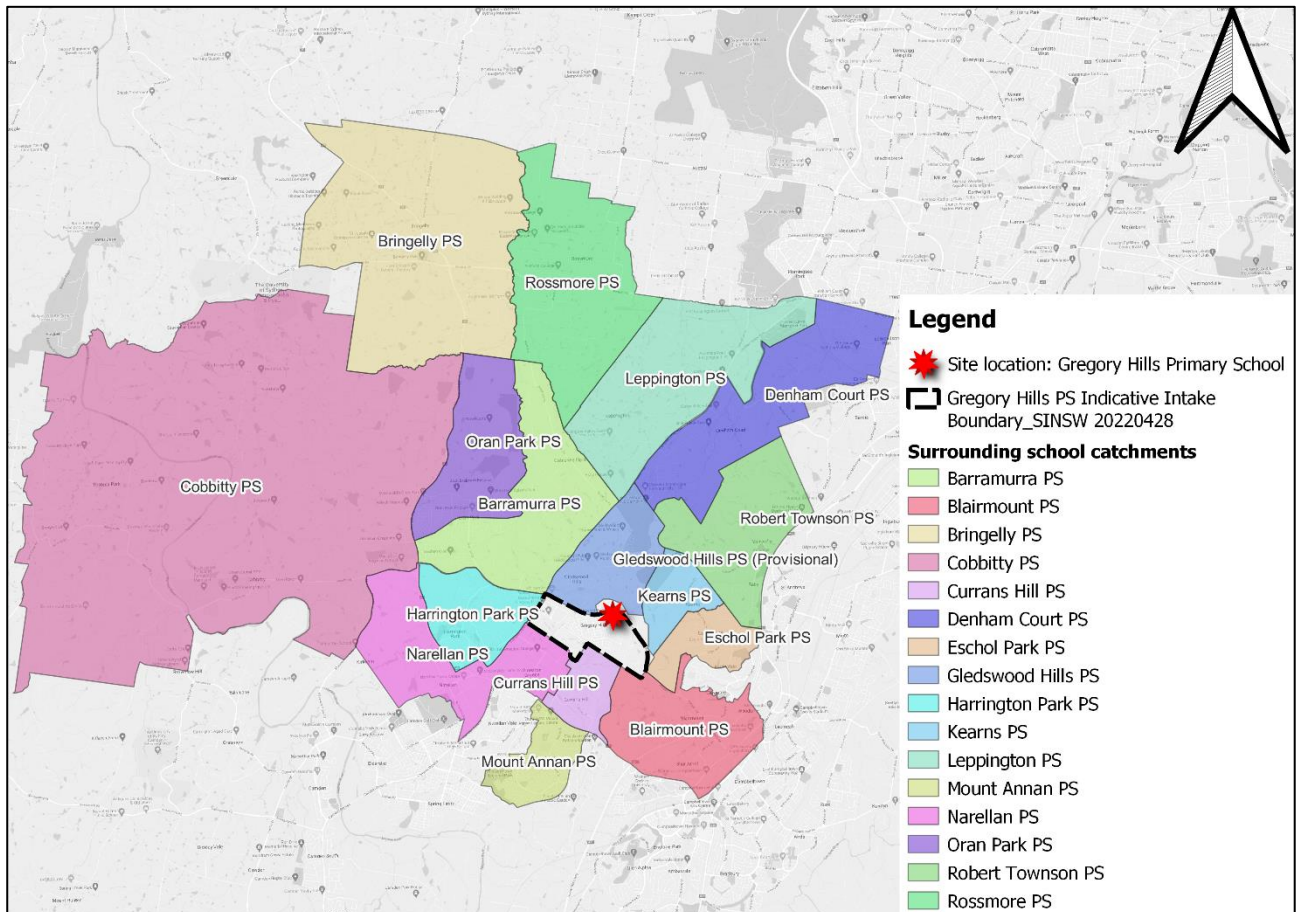


Figure 16: Surrounding Public School Catchment

4.1.1 Student Enrolment Geospatial Analysis

In consideration of the School being constructed as a new development, SINSW has provided a database of indicative student locations based on the existing catchments of other primary schools within the area. A preliminary catchment analysis has been undertaken by Ason Group.

For the purposes of reporting, information relating to student location and identity has been anonymised for analysis. **Figure 17** demonstrates the density of student locations within the indicative intake boundary of the proposed school with reference to broader catchment areas for other schools in the locale.

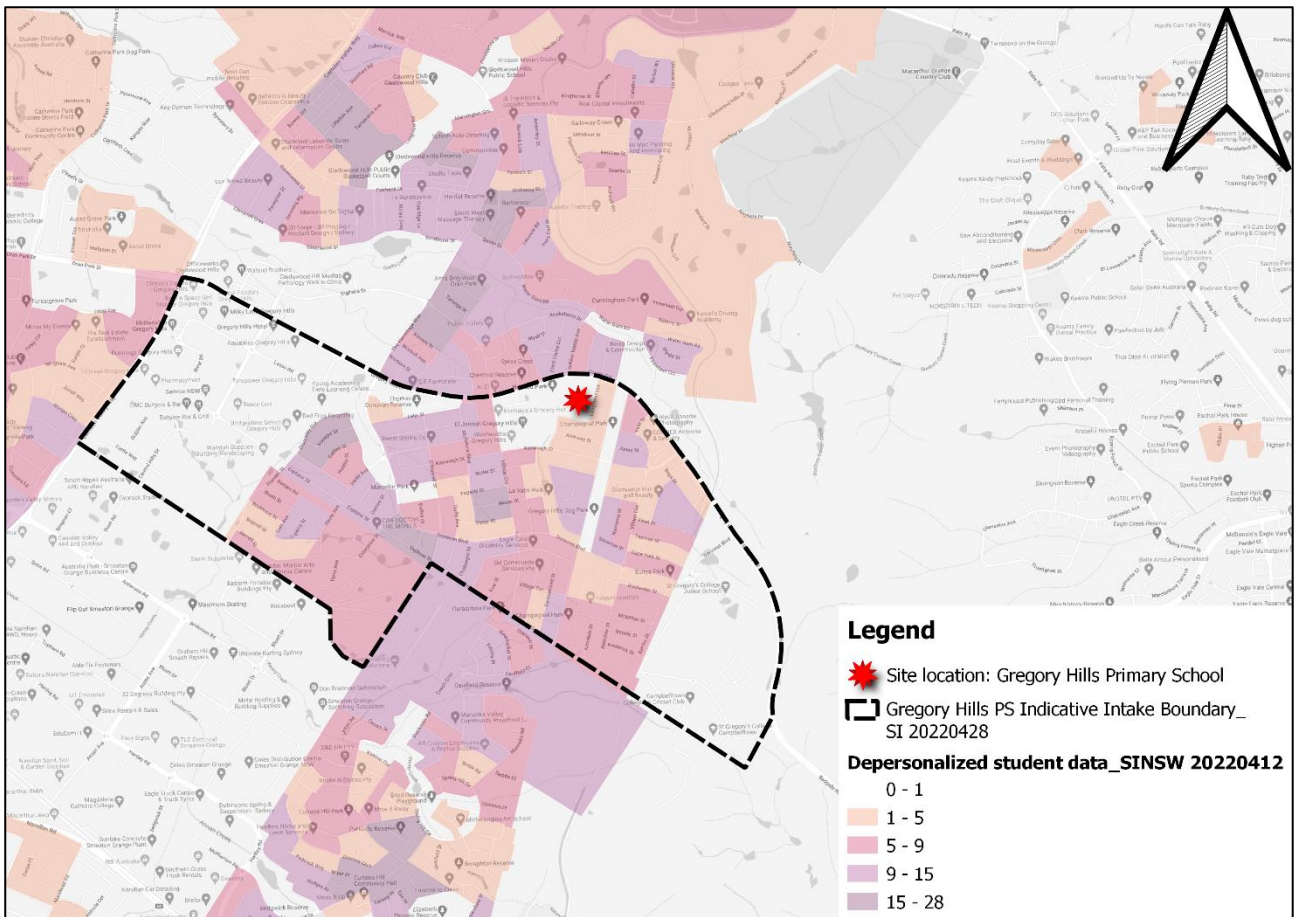


Figure 17: Depersonalized Student Data

The catchment figure demonstrates moderate to high student density located to the west and south of the proposed school site.

4.1.2 Public Transport Catchment

In line with guidelines outlined by the NSW Government and TfNSW, the School Student Transport Scheme (SSTS) provides catchment guidelines to provide eligibility for school public transport.

For grades K-2, the following eligibility criteria apply:

- They are a resident of NSW, or an overseas student eligible for free government education.
- Aged 4 years 6 months, or older.
- No minimum walking distance criteria apply to these students.

For grades 3 – 6, the following eligibility criteria apply:

- They are a resident of NSW, or an overseas student eligible for free government education.
- The straight-line distance from their home address to school is more than 1.6km.
- The walking distance from home to school is 2.3km or further.

As defined above, **Figure 18** demonstrates the SSTS exclusion zones within the proposed School's enrolment catchment boundary for Grades 3-6 with reference to the proposed School's location.

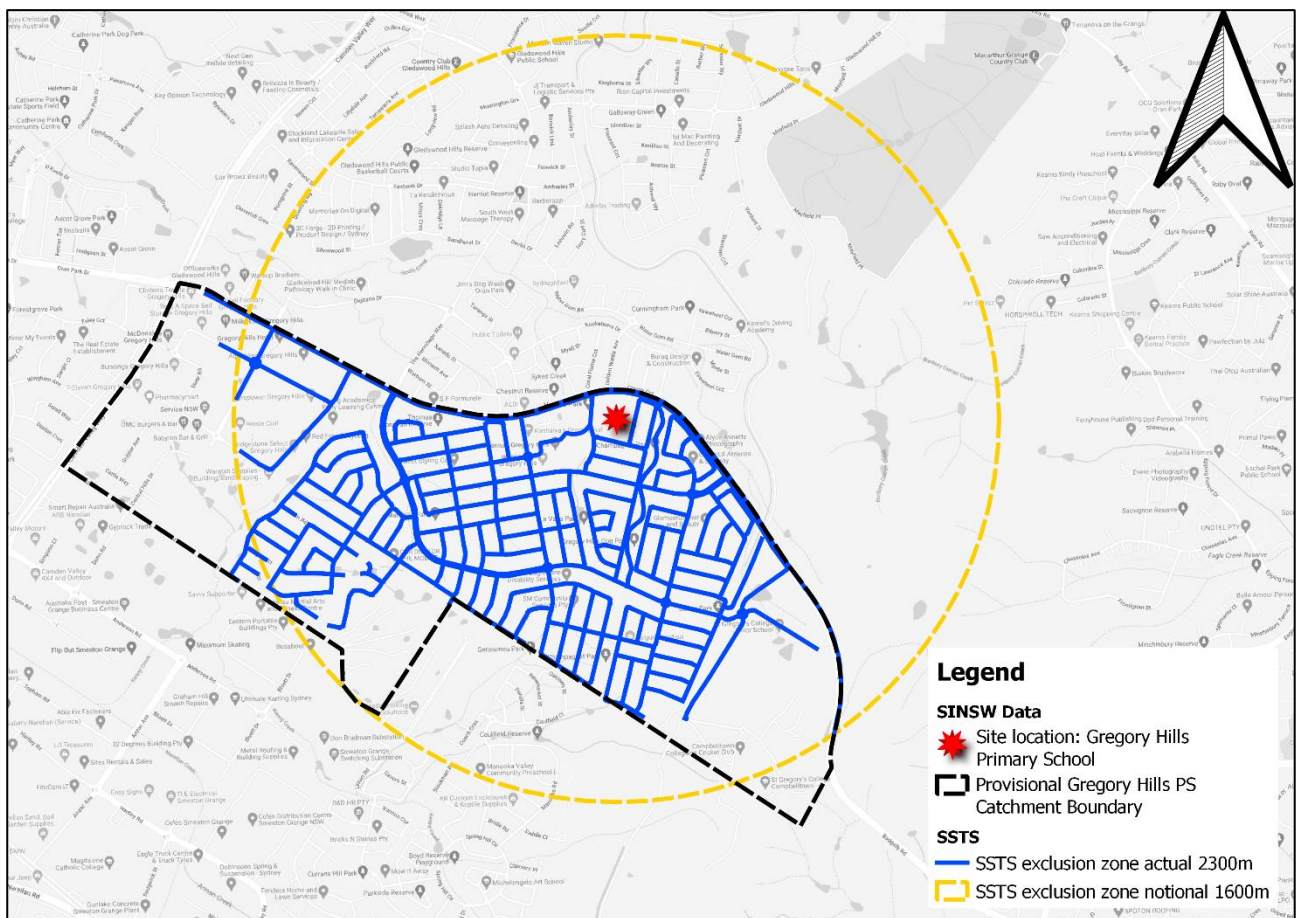


Figure 18: SSTS Exclusion Zones (trimmed to school catchment boundary)

The exclusion zones above demonstrate that both the 1.6km radius and 2.3km distance capture the wider proportion of the local area in which the majority of the student population is currently residing.

4.2 Active Transport Catchment

4.2.1 Pedestrian Catchment

SINSW has characterized the walking catchment of a school within 5, 10 and 15-minute walking distance increments of the school, representing desirability for the catchment area. **Figure 19** demonstrates the walking distance isochrones relative to the Site.

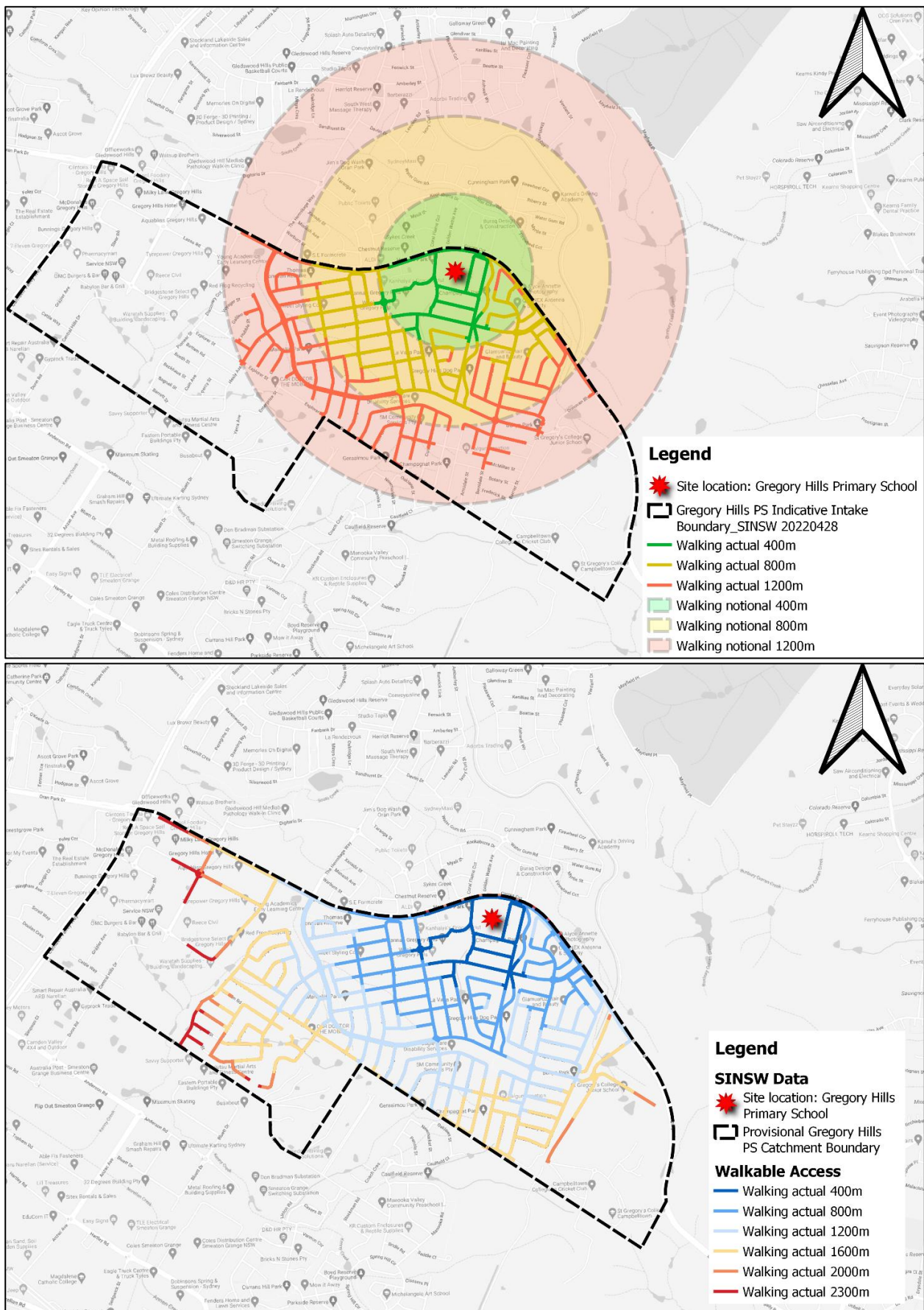


Figure 19: Walking Catchment Zone

The walking catchment generally demonstrates adequate coverage of a large proportion of the School's enrolment catchment boundary, indicating beneficial proximity to the surrounding residential areas.

4.2.2 Cycling Catchment

In addition to the pedestrian catchment guidelines described by SINSW, the catchment areas for cycling are defined in a similar format of 5-minute increments (approximately 1.2km increments). **Figure 20** illustrates the maximum extent of the cycling catchment zone.

With reference to the figure, Gregory Hills Drive forms a geographic barrier and is particularly prevalent on the cycling map with limited crossing opportunities across the road.

While the catchment map exhibits farther reaching extents, particularly towards the west of the catchment, it should be noted that certain elements of cycling infrastructure – especially relating to crossing infrastructure – may not be applicable, particularly for younger students as safe provisioning.

Accordingly, the extent of the catchment captures cycling movements as applicable to the usage of pedestrian and shared pathways.

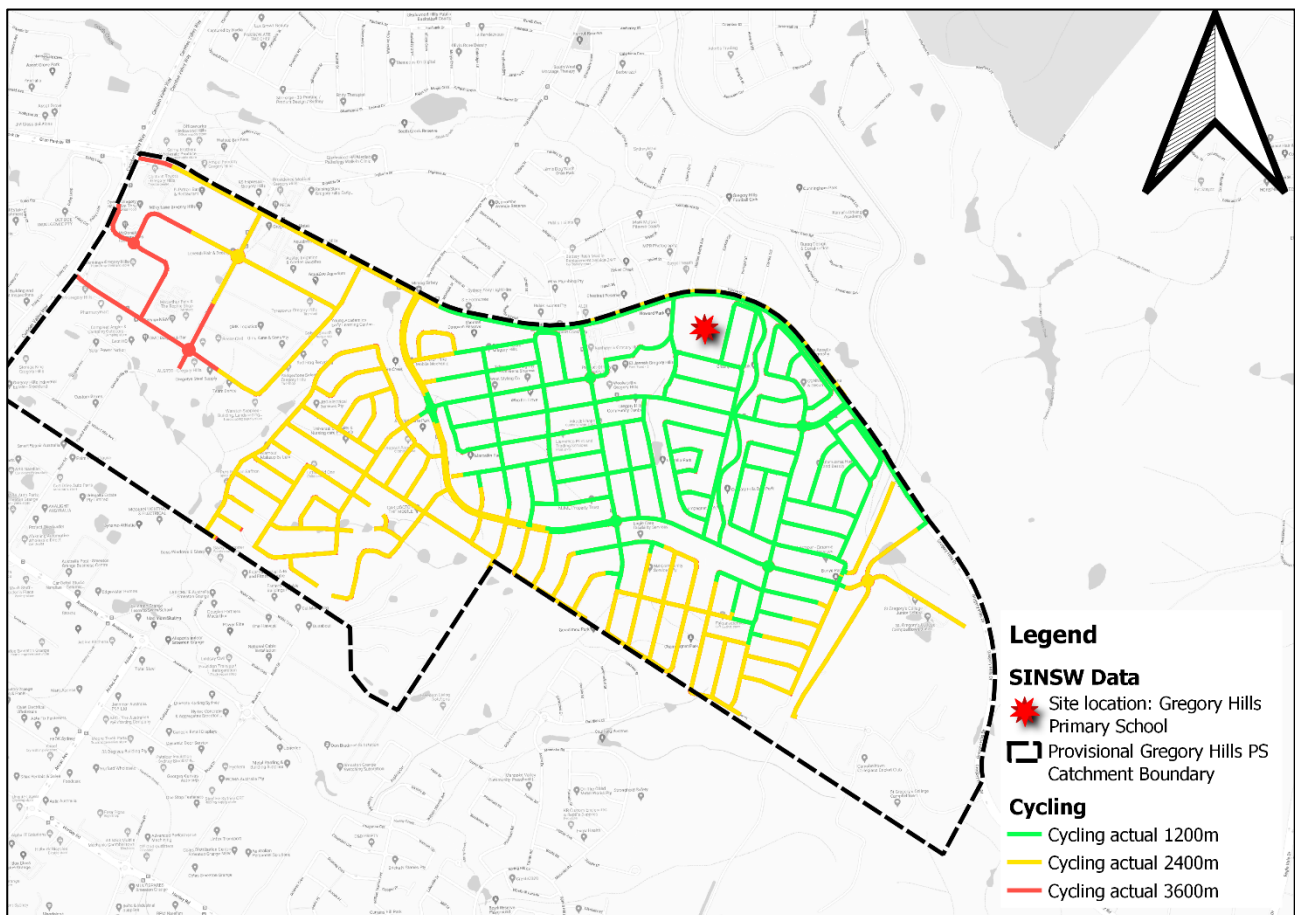


Figure 20: Cycling Catchment Zones

4.3 Modelling Input / Assumptions

4.3.1 SIDRA Input Parameters

All modelling assessments for this study were carried out in SIDRA Network software version 9, with the below input parameters:

- 'Current Setup' was set to New South Wales.
- Site Level of Service Method was set to 'Delay (RTA NSW)'.
- Physical features of the existing intersection geometries were coded with reference to the latest Nearmap aerial imageries (captured on 17th April 2022).
- Default values for Basic Saturation Flow, peak flow factor and pedestrian walking speed were unchanged.
- Speed limits were input as per existing posted speed limits at each location.
- Signal phasing and timing were based on TfNSW's SCATS data.

The adjusted parameters are presented in **Table 9**.

TABLE 9: MODELLED INTERSECTIONS AND PARAMETER ADJUSTMENTS

#	Intersection Name	Control	Peak Hour	Adjustment
1	Gregory Hills Dr/Village Cct	Signalised	AM	<ul style="list-style-type: none">• Pedestrian protection of 4s on all left-turning movements• Arrival type for west approach adjusted from Program to 5• Arrival type for east approach adjusted from Program to 4
			PM	
2	Gregory Hills Dr/Golden Wattle Ave	Priority	AM	<ul style="list-style-type: none">• Bunching factor adjusted from 0% to 15% for the west approach
			PM	
3	Gregory Hills Dr/Kavanagh St	Signalised	AM	<ul style="list-style-type: none">• Pedestrian protection of 4s on all left-turning movements• Arrival type for south approach adjusted from Program to 5• Arrival type for north approach adjusted from Program to 4
			PM	
4	Kavanagh St/Oaklands Cct	Priority	AM	<ul style="list-style-type: none">• Bunching factor adjusted from 0% to 20% for the west approach
			PM	
5	Kavanagh St/Junee St	Priority	AM	None
			PM	
6		Priority	AM	None

#	Intersection Name	Control	Peak Hour	Adjustment
	Kavanagh St/Audley Cct		PM	
7	Kavanagh St/Wallarah Cct	Priority	AM	None
			PM	
8	Kavanagh St/Village Cct	Roundabout	AM	None
			PM	
9	Village Cct/Healy Ave	Roundabout	AM	<ul style="list-style-type: none"> Bunching factor adjusted from 0% to 20% for the north approach
			PM	

These models were calibrated and validated against the observed back of queue information and queue length survey data, in accordance with TfNSW Traffic Modelling Guidelines. A comparison of observed and modelled queues for the School AM and PM peak hours is presented in **Table 10** and **Table 11**, respectively.

TABLE 10 COMPARISON OF OBSERVED & MODELLED SCHOOL AM PEAK QUEUE

#	Intersection Name	Control	Approach	Modelled 95 th Queue (No. of Vehicles)	Observed 95 th Percentile Queue (No. of Vehicles)
1	Gregory Hills Dr / Village Cct	Signalised	South	10.5	10
			East	14.8	14
			North	3.5	3
			West	12.7	12
2	Gregory Hills Dr / Golden Wattle Ave	Priority	East	0	0
			North	0.5	1
			West	0	0
3	Gregory Hills Dr / Kavanagh St	Signalised	South	0.8	1
			North	0.8	1
			West	4.9	5
4	Kavanagh St / Oaklands Cct	Roundabout	South	0.3	1
			East	0.3	1
			North	0.1	1
			West	0.3	1

5	Kavanagh St / June St	Priority	East	0	0
			North	0	0
			West	0	0
6	Kavanagh St / Audley Cct	Priority	South	0.1	0
			East	0.1	0
			North	0.1	0
			West	0.1	0
7	Kavanagh St / Wallarah Cct	Priority	East	0	0
			North	0.1	0
			West	0	0
8	Kavanagh St / Village Cct	Priority	South	0.1	0
			East	0.7	1
			North	0.2	0
			West	0	0
9	Village Cct/Healy Ave	Roundabout	South	1.6	2
			East	1	1
			North	1.8	2
			West	1.6	2

TABLE 11 COMPARISON OF OBSERVED & MODELLED SCHOOL PM PEAK QUEUE

#	Intersection Name	Control	Approach	Modelled 95 th Queue (No. of Vehicles)	Observed 95 th Percentile Queue (No. of Vehicles)
1	Gregory Hills Dr / Village Cct	Signalised	South	5.5	6
			East	18.4	17
			North	2.5	3
			West	8.4	8
2	Gregory Hills Dr / Golden Wattle Ave	Priority	East	0	0
			North	0.3	1
			West	0	0
3	Gregory Hills Dr / Kavanagh St	Signalised	South	0.9	1
			North	0.5	1
			West	3.7	4
4	Kavanagh St / Oaklands Cct	Roundabout	South	0.2	1
			East	0.5	1
			North	0.1	0

			West	0.3	1
5	Kavanagh St / June St	Priority	East	0	0
			North	0	0
			West	0	0
			South	0	0
6	Kavanagh St / Audley Cct	Priority	East	0.1	1
			North	0	0
			West	0.1	1
			South	0	0
7	Kavanagh St / Wallarah Cct	Priority	East	0	0
			North	0	0
			West	0	0
			South	0	0
8	Kavanagh St / Village Cct	Priority	East	0.5	1
			North	0	0
			West	0	0
			South	0	0
9	Village Cct/Healy Ave	Roundabout	East	1.4	2
			North	1.7	2
			West	1	1
			South	1.3	1

4.4 Baseline SIDRA Performance Testing

The performance of the existing road network is largely dependent on the operating performance of key intersections, which are critical capacity control points on the road network.

SIDRA Intersection 9 modelling software was used to assess the proposed peak hour operating performance of intersections on the surrounding road network at key intersections within proximity of the site.

In accordance with RMS (now Transport for NSW) *Guide to Traffic Generating Developments V2.2* (2002) (RMS Guide), the Levels of Service (LOS) relevant to local roads are used to evaluate the operational performance of intersections.

According to the RMS guidelines, roads operating at LOS D or better are generally considered to have acceptable flow conditions because they are below capacity. Roads operating at LOS E or worse are generally considered to have unacceptable flow conditions because they are at or above capacity. In this regard, the operating performance of the key intersections has been analysed using the SIDRA Intersection 9 software.

SIDRA modelling outputs a range of performance measures, in particular:

- **Level of Service (LOS)** – The LOS is a qualitative measure used to relate the quality of motor vehicle traffic service. LOS is used to analyse roadways and intersections by categorizing traffic flow and

assigning quality levels of traffic based on performance measures like vehicle speed, density, congestion.

- **Average Vehicle Delay (AVD)** – The AVD (or average delay per vehicle in seconds) for intersections also provides a measure of the operational performance of an intersection and is used to determine an intersection's Level of Service (see below). For signalised intersections, the AVD reported relates to the average of all vehicle movements through the intersection. For priority (Give Way, Stop & Roundabout controlled) intersections, the AVD reported is that for the movement with the highest AVD.
- **Degree of Saturation (DOS)** – The DOS of an intersection (typically under traffic signal control) or a link measures the demand relative to the total capacity. A DoS value of 100% means that demand and capacity are equal and no further traffic is able to progress through the junction.

The SIDRA recommended criteria for the assessment of intersections as references by the RMS Guide are outlined in **Table 12**.

TABLE 12: RMS LEVEL OF SERVICE GUIDELINES			
Level of Service	Average Delay per Vehicle (Sec/Veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating 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	More than 70	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment

4.4.1 SIDRA Layout

Figure 21 captures the layout geometry of the existing intersection configurations as interpreted in the SIDRA modelling software.

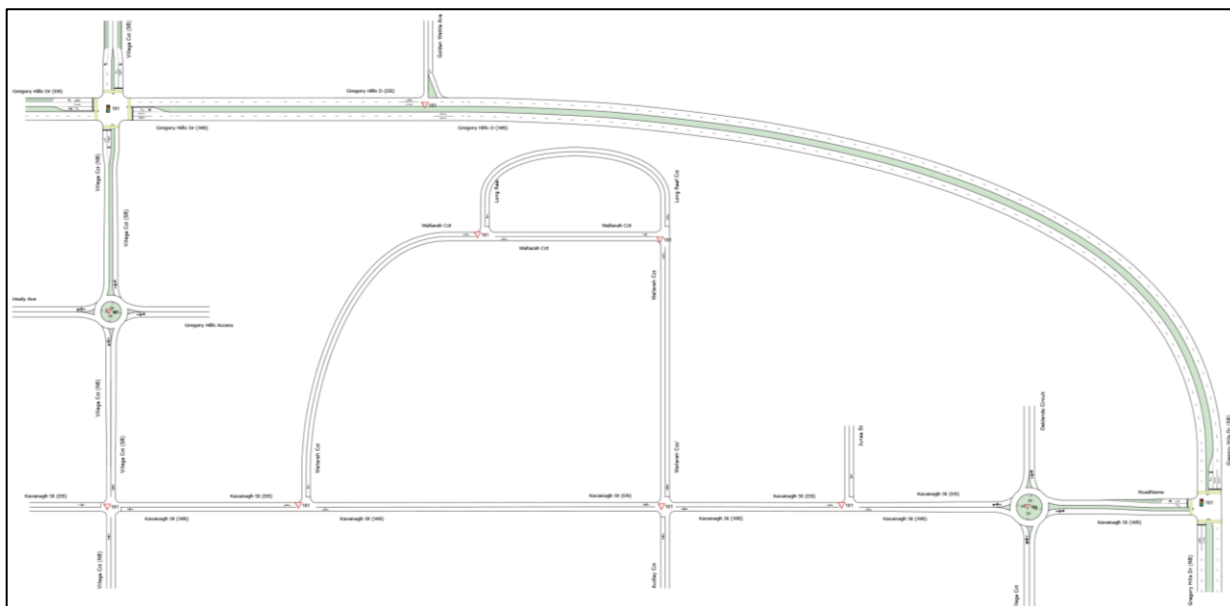


Figure 21: Existing intersection layout as modelled in SIDRA Intersection 9

4.4.2 Existing Intersection Performance

The results of the baseline SIDRA Intersection assessment are provided in **Table 13**.

TABLE 13 EXISTING YEAR 2022 SCHOOL AM & PM PEAK HOUR INTERSECTION PERFORMANCE

#	Intersection Name	Control	Period	Intersection Delay (s)	Degree of Saturation	Level of Service
1	Gregory Hills Dr / Village Cct	Signalised	AM	23.3	0.777	LOS B
			PM	22.8	0.633	LOS B
2	Gregory Hills Dr / Golden Wattle Ave	Priority	AM	7.4	0.102	LOS A
			PM	6.8	0.07	LOS A
3	Gregory Hills Dr / Kavanagh St	Signalised	AM	5.3	0.489	LOS A
			PM	4.3	0.454	LOS A
4	Kavanagh St / Oaklands Cct	Roundabout	AM	4.5	0.059	LOS A
			PM	4.4	0.089	LOS A
5	Kavanagh St / June St	Priority	AM	4.8	0.037	LOS A
			PM	4.8	0.044	LOS A
6	Kavanagh St / Audley Cct	Priority	AM	4.8	0.047	LOS A
			PM	4.8	0.046	LOS A
7	Kavanagh St / Wallarah Cct	Priority	AM	4.8	0.051	LOS A
			PM	4.8	0.046	LOS A

8	Kavanagh St / Village Cct	Priority	AM	5.9	0.006	LOS A
			PM	6.3	0.12	LOS A
9	Village Cct / Healy Ave	Roundabout	AM	4.9	0.279	LOS A
			PM	4.7	0.244	LOS A
10	Wallarah Cct/ Long Reef Cct W	Priority	AM	0.9	0.001	LOS A
			PM	0.3	0.002	LOS A
11	Wallarah Cct/ Long Reef Cct E	Priority	AM	0.9	0.009	LOS A
			PM	0.7	0.004	LOS A

A copy of the existing detailed SIDRA results is presented in **Appendix B**.

4.5 Trip Generation

Ason Group has undertaken a detailed review of the *Roads and Maritime Services (now TfNSW) Trip Generation Surveys, Schools* (Schools Trip Generation Report) prepared by GTA Consultants on behalf of TfNSW in 2014.

The Schools Trip Generation Report determined contemporary trip generation rates for the land use “School” within Metropolitan Sydney and Regional NSW. Rates were determined on the back of surveys conducted in March 2014.

The review was undertaken to identify schools with similar characteristics to the proposed School to establish an appropriate trip generation profile. In this regard, we have considered the following key characteristics:

- Bus services;
- Immediately adjacent residential area such as to utilise all of the school's capacity;
- Number of pedestrian access points;
- Number of vehicle access points;
- School type / status (i.e., primary or secondary); and
- On-site car parking provision

On this basis, **Table 14** provides a summary of the surveyed schools which provides the comparative data for the assessment – noting that the trip rates also include staff and visitor trip generation.

TABLE 14 RMS SCHOOL SURVEY COMPARATIVE SITES

Year	Grays Point Public School	Harrington Street Public School	Kurnell Public School
Region	Sydney	Sydney	Sydney
Suburb	Grays Point	Cabramatta	Kurnell
Students	383	1055	215
Staff	20	73	15
Staff/Student	0.05	0.07	0.07
On-Site Parking Spaces	20	43	14

OOSH	Yes	Yes	Yes
AM Vehicle Trips/Student	0.43	0.63	0.60
PM Vehicle Trips/Student	0.14	0.52	0.32
Region	Sydney	Sydney	Sydney
Suburb	Grays Point	Cabramatta	Kurnell
Students	383	1055	215
Staff	20	73	15
Staff/Student	0.05	0.07	0.07
On-Site Parking Spaces	20	43	14
OOSH	Yes	Yes	Yes

With reference to **Table 14**, the surveyed trip rates for the Harrington Street Public School have been adopted for the assessment. As such, it is estimated that the School will have the following trip generation:

- AM School peak hour: 638 vehicle trips
- PM School peak hour: 527 vehicle trips

The survey data also revealed the following inbound and outbound traffic distribution splits:

- AM Peak
 - Inbound: 52%
 - Outbound: 48%
- PM Peak
 - Inbound: 46%
 - Outbound: 54%

Based on the above distributions, the peak-hour inbound, and outbound traffic generations are shown in **Table 15**.

TABLE 15 TRIP GENERATION

Land Use	Trip Generation	
	AM Peak	Network PM Peak
1012-space Primary School	638 total (332 in, 306 out)	527 total (243 in, 284 out)

4.6 Trip Assignment

4.6.1 Student Trip Distribution

The traffic directional distribution and assignment of traffic generated by the proposed development would be influenced by the following factors:

- Configuration of access points to the site

- Geographical location of households near the site and the proposed school catchment areas in the locality where students will likely travel to and from the school via private vehicles.
- Existing operation of intersections providing access between the local road network and the school site
- Probable distribution of staff and student residences with respect to the Site

4.6.2 Staff Trip Distribution

Staff to the school are anticipated to travel to/from the broader sub-region, with only a minority of trips generated within Gregory Hills.

In this regard, staff trips would take place during the morning peak hour with the majority being arrival trips and, in the evening, staff trips would take place after 3:30 pm once school is over and would predominately be departure trips.

It is noted that the staff vehicle trips are captured as part of the surveys conducted for the Schools Traffic Generation Report.

4.6.3 Trip Distribution and Assignments

The School AM and PM peak-hour generated traffic distributions and assignments to/from the Site is illustrated in **Appendix C**.

4.7 Intersection Performance

4.7.1 Scenarios

A comparison between Future Base and Future with Development Traffic scenarios will provide the potential impacts of the proposed development. Future models have been developed for the Opening Year (2024) and Future Horizon year (2034).

A review of the STFM data provided by TfNSW indicates growth rates of 1.8% annual linear growth. To provide a conservative assessment, a 2% annual growth rate was adopted.

In summary, the modelling scenarios undertaken are provided in **Table 16** with the intersection turning volumes for each scenario detailed in **Appendix D**.

TABLE 16 MODELLING SCENARIOS

Scenario	Year	Name	Description
1	2024	2024 Base	2022 Base scaled up based on a 2.0% p.a. growth rate
2	2034	2034 Base	2022 Base scaled up based on a 2.0% p.a. growth rate
3	2024	2024 Base + School	2024 Base with school development
4	2034	2034 Base + School	2034 Base with school development
3a	2024	2024 Base + School + Mitigation Measures	2024 Base with school development and revised timings

4a	2034	2034 Base + School + Mitigation Measures	2034 Base with school development and revised timings
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4.7.2 Intersection Impact

Without Development Traffic

The SIDRA Intersection modelling results for the 2024 Open Year with 2% growth compounded are presented in **Table 17**.

TABLE 17 SCENARIO 1: INTERSECTION PERFORMANCE 2024 OPEN YEAR (2% GROWTH)

#	Intersection Name	Control	Period	Intersection Delay (s)	Degree of Saturation	Level of Service
1	Gregory Hills Dr / Village Cct	Signalised	AM	29.5	0.660	LOS C
			PM	23.9	0.683	LOS B
2	Gregory Hills Dr / Golden Wattle Ave	Priority	AM	7.5	0.111	LOS A
			PM	6.9	0.074	LOS A
3	Gregory Hills Dr / Kavanagh St	Signalised	AM	5.4	0.525	LOS A
			PM	4.4	0.486	LOS A
4	Kavanagh St / Oaklands Cct	Roundabout	AM	11.4	0.029	LOS A
			PM	11.3	0.039	LOS A
5	Kavanagh St / Junee St	Priority	AM	4.8	0.045	LOS A
			PM	4.8	0.047	LOS A
6	Kavanagh St / Audley Cct	Priority	AM	4.9	0.018	LOS A
			PM	4.8	0.050	LOS A
7	Kavanagh St / Wallarah Cct	Priority	AM	4.8	0.050	LOS A
			PM	4.9	0.049	LOS A
8	Kavanagh St / Village Cct	Priority	AM	6.8	0.184	LOS A
			PM	6.5	0.131	LOS A
9	Village Cct / Healy Ave	Roundabout	AM	12.9	0.301	LOS A
			PM	12.0	0.174	LOS A
10	Walarah Cct/ Long Reef Cct W	Priority	AM	3.7	0.002	LOS A
			PM	3.7	0.002	LOS A
11	Walarah Cct/ Long Reef Cct E	Priority	AM	5.5	0.002	LOS A
			PM	5.5	0.002	LOS A

The SIDRA Intersection modelling results for the 2034 Open Year with 2% growth are presented in **Table 18**.

TABLE 18 SCENARIO 2: INTERSECTION PERFORMANCE 2034 OPEN YEAR (2% GROWTH)

#	Intersection Name	Control	Period	Intersection Delay (s)	Degree of Saturation	Level of Service
1	Gregory Hills Dr / Village Cct	Signalised	AM	32.1	0.800	LOS C
			PM	27.0	0.825	LOS B
2	Gregory Hills Dr / Golden Wattle Ave	Priority	AM	8.0	0.141	LOS A
			PM	7.2	0.094	LOS A
3	Gregory Hills Dr / Kavanagh St	Signalised	AM	5.4	0.609	LOS A
			PM	4.4	0.571	LOS A
4	Kavanagh St / Oaklands Cct	Roundabout	AM	11.5	0.034	LOS A
			PM	11.4	0.022	LOS A
5	Kavanagh St / Junee St	Priority	AM	4.9	0.047	LOS A
			PM	4.8	0.055	LOS A
6	Kavanagh St / Audley Cct	Priority	AM	5.2	0.020	LOS A
			PM	4.8	0.056	LOS A
7	Kavanagh St / Wallarah Cct	Priority	AM	4.9	0.067	LOS A
			PM	4.9	0.057	LOS A
8	Kavanagh St / Village Cct	Priority	AM	7.4	0.232	LOS A
			PM	6.9	0.164	LOS A
9	Village Cct / Healy Ave	Roundabout	AM	13.4	0.370	LOS A
			PM	12.4	0.212	LOS A
10	Wallarah Cct/ Long Reef Cct W	Priority	AM	3.5	0.003	LOS A
			PM	3.7	0.002	LOS A
11	Wallarah Cct/ Long Reef Cct E	Priority	AM	5.5	0.002	LOS A
			PM	5.5	0.002	LOS A

The full SIDRA output data is provided in **Appendix E**.

With reference to the tables above, the key intersections analysed are anticipated to perform to good levels of operation during the school AM and PM peak periods if there was no School Development.

The analysis indicated that for the Year 2024 with a 2% linear growth, the key intersections would operate with ample spare capacity.

All of the degrees of saturation are below 1, which suggests that the network is operating under capacity.

With Development Traffic

The SIDRA Intersection modelling results for the 2024 Open Year with 2% annual growth and the addition of Development Traffic are presented in **Table 19**.

TABLE 19 SCENARIO 3: INTERSECTION PERFORMANCE 2024 OPEN YEAR (2% GROWTH) PLUS DEVELOPMENT TRAFFIC

#	Intersection Name	Control	Period	Intersection Delay (s)	Degree of Saturation	Level of Service
1	Gregory Hills Dr / Village Cct	Signalised	AM	30.7	0.704	LOS C
			PM	25.5	0.728	LOS B
2	Gregory Hills Dr / Golden Wattle Ave	Priority	AM	7.5	0.212	LOS A
			PM	6.7	0.001	LOS A
3	Gregory Hills Dr / Kavanagh St	Signalised	AM	9.6	0.444	LOS A
			PM	8.4	0.490	LOS A
4	Kavanagh St / Oaklands Cct	Roundabout	AM	12.0	0.032	LOS A
			PM	11.9	0.021	LOS A
5	Kavanagh St / Junee St	Priority	AM	5.4	0.126	LOS A
			PM	5.3	0.107	LOS A
6	Kavanagh St / Audley Cct	Priority	AM	6.3	0.025	LOS A
			PM	5.8	0.011	LOS A
7	Kavanagh St / Wallarah Cct	Priority	AM	5.5	0.065	LOS A
			PM	5.4	0.058	LOS A
8	Kavanagh St / Village Cct	Priority	AM	9.5	0.422	LOS A
			PM	7.8	0.324	LOS A
9	Village Cct / Healy Ave	Roundabout	AM	14.2	0.412	LOS A
			PM	12.6	0.380	LOS A
10	Walarah Cct/ Long Reef Cct W*	Priority	AM	9.0	0.033	LOS A
			PM	8.3	0.009	LOS A
11	Walarah Cct/ Long Reef Cct E	Priority	AM	8.0	0.336	LOS A
			PM	7.6	0.294	LOS A

* widening of Long Reef Cct from 6m to a minimum carriageway of 10.2m as per Council's requirements.

The SIDRA Intersection modelling results for the 2034 Open Year with 2% growth compounded and the addition of Development Traffic are presented in **Table 20**.

TABLE 20 SCENARIO 4: INTERSECTION PERFORMANCE 2034 OPEN YEAR (2% GROWTH) PLUS DEVELOPMENT TRAFFIC

#	Intersection Name	Control	Period	Intersection Delay (s)	Degree of Saturation	Level of Service
1	Gregory Hills Dr / Village Cct	Signalised	AM	39.2	0.901	LOS C
			PM	29.0	0.852	LOS C
2	Gregory Hills Dr / Golden Wattle Ave	Priority	AM	8.0	0.140	LOS A
			PM	7.0	0.001	LOS A

3	Gregory Hills Dr / Kavanagh St	Signalised	AM	8.5	0.578	LOS A
			PM	7.5	0.562	LOS A
4	Kavanagh St / Oaklands Cct	Roundabout	AM	12.1	0.038	LOS A
			PM	12.0	0.024	LOS A
5	Kavanagh St / Junee St	Priority	AM	5.6	0.013	LOS A
			PM	5.4	0.115	LOS A
6	Kavanagh St / Audley Cct	Priority	AM	6.6	0.028	LOS A
			PM	6.1	0.012	LOS A
7	Kavanagh St / Wallarah Cct	Priority	AM	5.6	0.076	LOS A
			PM	5.4	0.066	LOS A
8	Kavanagh St / Village Cct	Priority	AM	11.0	0.494	LOS A
			PM	8.7	0.370	LOS A
9	Village Cct / Healy Ave	Roundabout	AM	15.3	0.504	LOS B
			PM	13.2	0.464	LOS A
10	Wallarrah Cct/ Long Reef Cct W*	Stop	AM	9.0	0.033	LOS A
			PM	13.4	0.017	LOS A
11	Wallarrah Cct/ Long Reef Cct E	Stop	AM	8.0	0.336	LOS A
			PM	7.6	0.294	LOS A

* widening of Long Reef Cct from 6m to a minimum carriageway of 10.2m as per Council's requirements.

With reference to the tables above, the key intersections analysed would continue to operate at acceptable Levels of Service during the school AM and PM peak periods with the School Development.

While the intersection of Gregory Hills Dr/ Village Cct would operate at LoS C in Year 2034, the degree of saturation level for the east approach will be at the maximum practical degree of saturation of 0.9 and the westbound left-turn traffic operating at LOS E, due to the heavy traffic movements along Gregory Hills Drive on the east approach during the AM peak hour. The Gregory Hills Dr/ Kavanagh St intersection eastbound right-turn lane will also operate at LOS E during the AM peak hour.

The detailed SIDRA results are presented in **Appendix F**.

With Development Traffic and Mitigation Measures

To ensure all movements operate within the intersection's capacity and at LOS D or better, the following minor amendments were made to the signal timings at the intersections of Gregory Hills Dr/ Village Cct and Gregory Hills Dr/ Kavanagh St for AM peak scenario:

- intersections of Gregory Hills Dr/ Village Cct:
 - 4 seconds from the northbound/southbound movements were allocated to the westbound/eastbound movements
- Gregory Hills Dr/ Kavanagh St:
 - 8 seconds from the northbound/southbound movements were allocated to the eastbound movements

The SIDRA Intersection modelling results for the 2034 Open Year with 2% annual growth and the addition of Development Traffic plus mitigation measures are presented in **Table 21**.

TABLE 21 SCENARIO 3A: INTERSECTION PERFORMANCE 2024 OPEN YEAR (2% GROWTH) PLUS DEVELOPMENT TRAFFIC AND MITIGATION MEASURES

#	Intersection Name	Control	Period	Intersection Delay (s)	Degree of Saturation	Level of Service
1	Gregory Hills Dr / Village Cct	Signalised	AM	33.1	0.843	LOS C
			PM	29.0	0.852	LOS C
2	Gregory Hills Dr / Golden Wattle Ave	Priority	AM	8.0	0.140	LOS A
			PM	7.0	0.001	LOS A
3	Gregory Hills Dr / Kavanagh St	Signalised	AM	10.5	0.538	LOS A
			PM	7.5	0.562	LOS A
4	Kavanagh St / Oaklands Cct	Roundabout	AM	12.1	0.038	LOS A
			PM	12.0	0.024	LOS A
5	Kavanagh St / Junee St	Priority	AM	5.6	0.013	LOS A
			PM	5.4	0.115	LOS A
6	Kavanagh St / Audley Cct	Priority	AM	6.6	0.028	LOS A
			PM	6.1	0.012	LOS A
7	Kavanagh St / Wallarah Cct	Priority	AM	5.6	0.076	LOS A
			PM	5.4	0.066	LOS A
8	Kavanagh St / Village Cct	Priority	AM	11.0	0.494	LOS A
			PM	8.7	0.370	LOS A
9	Village Cct / Healy Ave	Roundabout	AM	15.3	0.504	LOS B
			PM	13.2	0.464	LOS A
10	Walarah Cct/ Long Reef Cct W	Stop	AM	9.0	0.033	LOS A
			PM	13.4	0.017	LOS A
11	Walarah Cct/ Long Reef Cct E	Stop	AM	8.0	0.336	LOS A
			PM	7.6	0.294	LOS A

With the signal timings at the intersections of Gregory Hills Dr/ Village Cct and Gregory Hills Dr/ Kavanagh St for AM peak scenario, the key intersections (including movements) analysed would operate at acceptable Levels of Service during the school AM and PM peak periods with the School Development.

The detailed SIDRA results are presented in **Appendix G**.

5 Transportation Analysis

5.1 Site Access

5.1.1 Staff Car Park

Staff car parking will be provided in the general car park which is accessed from Wallarah Circuit to the south via a two-way driveway. Parking within this car park will be restricted to staff only.

The location of the staff car park and access is shown in **Figure 22**.



Figure 22: Vehicular Access (Base Plan from Bennett and Trimble received 2022.09.30)

5.1.2 Support Learning Drop-Off Facilities

A dedicated drop-off facility for support learning / accessible access will be provided along Wallarah Circuit. A total of 3 spaces designed to AS2890.6:2009 standards will be provided, and these spaces will be accessed via the western crossover and exit via the eastern crossover as demonstrated in Figure 22.

5.1.3 Short Stay Parking Facilities

One short-stay parking facility will be provided along Long Reef Circuit. A total of 17 spaces are provided for short-stay parking and are provided along Long Reef Circuit as demonstrated in Figure 22.

Note that the provision of this short-stay parking facility does not form part of this SSDA and will be constructed as part of a separate DA.

5.1.4 Bus Stops

A 36-metre-long kerbside traffic lane bus stop will be provided along the Wallarah Circuit frontage between the support learning drop-off facility exit and Long Reef Circuit per **Figure 22**. Note that the provision of this bus zone will be completed as part of DA/2022/742/1 and not part of this SSDA. For school excursions and Gala Days, chartered buses will be arranged to service the school from the kerbside traffic lane bus stop.

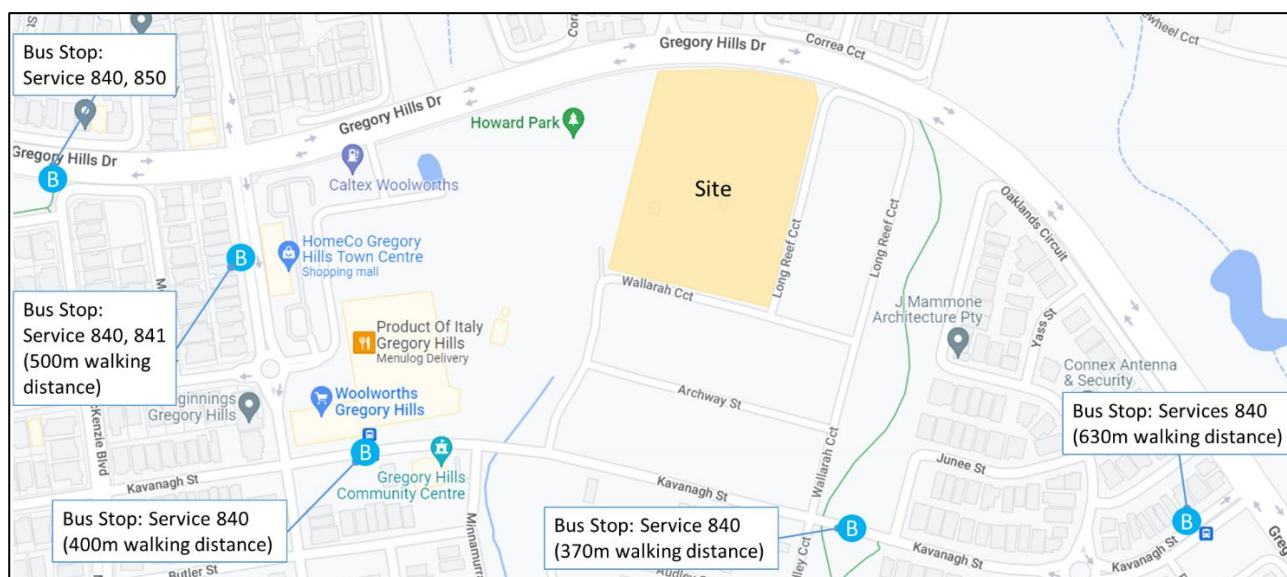


Figure 23: Existing Public Bus Stop Location

As this school will not be eligible for a dedicated school bus service until 15 or more students below year 4 live outside of the SSTS exclusion zone, students will be encouraged to use the existing public bus services if required. **Figure 23** demonstrates the existing public bus stops located in close proximity to the proposed school. Service provision and walking distance to each bus stop are also indicated in the figure.

5.1.5 Waste Vehicle Access

Waste vehicle access will occur in the designated on-site waste collection area located in the northeast corner of the School site, accessible along Long Reef Circuit. The location of the waste pad and access is shown in Figure 22 (north of the short-stay parking facility).

The loading area has been designed in accordance with AS 2890.2:2018 and can accommodate up to one 12.5m heavy rigid vehicle (HRV). The truck will enter the School in a forward direction, before reversing into the loading bay from within the turnaround area on-site. Trucks can exit in a forward direction.

Note that the provision of this loading area will be part of the Temporary School DA Works (DA/2022/742/1) and not part of this SSDA.

5.1.6 Servicing Vehicle Access

Other service vehicles will utilise the on-street short-stay parking facilities along school frontage roads.

Delivery times will be strictly managed, whereby regular services are subject to strict timelines to ensure the minimum movements possible, and these occur outside of the school peak periods. Deliveries will be managed by the School's administration and management staff and will ensure that drivers are familiar with the details of the Plan, as well as the Code of Conduct (refer to the School Transport Plan).

5.1.7 Emergency Vehicle Access

Emergency vehicles can access all school access driveways on an as-required basis. In addition, should there be a need for emergency vehicle attendance, kerbside parking areas along the Wallarah Circuit and Long Reef Circuit frontages, as well as the SELU pick-up/drop-off area, can be used for parking purposes, as required.

5.2 Parking Assessment

The Camden Council DCP, within Table 2-5 – Schedule of Car, Bicycle and Motorcycle Parking Requirements rates specifies minimum car parking requirements for a range of uses. With respect to Educational Establishments, Table 2-5 provides the following car parking requirements:

- 1 car parking space per full-time equivalent staff member, plus
- 1 car parking space per 100 students, plus
- 1 car parking space per 5 students in Year 12 where appropriate
- On-street car parking cannot be considered a parking
- Adequate space is also required for delivery vehicles, a drop-off/pick-up area and buses as appropriate

TABLE 22 CAR PARKING REQUIREMENT

User Type	Proposed Number	DCP Parking Rate	Number of Parking Spaces Required
Staff	60	1 car parking space per full-time equivalent staff member	60
Student/Parents	1012	1 car parking space per 100 students	11 ¹
Total Required	71		
	Location		Number of Parking Spaces Provided
Staff	Staff carpark with access off Wallarah Circuit		60
Student/Parents	Walarah Circuit Support Learning Drop-Off Area		3
	Long Reef Circuit Short Stay Parking Area		17 ¹
Total Provided	80		
Difference	+9		

Note 1: Provided under DA/2022/741/1

With reference to Table 22, a total of 71 car parking spaces is required on the basis of CDCP 2019 parking rates. The proposed staff car park provides for 60 car parking spaces meeting the requirements of the CDCP 2019 requirement for staff parking.

The proposed indented parking along the west side of Long Reef Circuit and associated shared path works comprise civil works are wholly within the road reserve and will be completed as part of DA/2022/742/1. The proposed on-site support learning drop-off parking in porte cochere configuration accessed via the northern side of Wallarah Circuit and the associated shared path works comprise civil works that are partially within the public road reservation (3m-wide footpath works) and partially within the School Site boundary. The 20 spaces in total (3 spaces on Wallarah Cct and 17 spaces on Long Reef Cct) proposed are in excess of the 11 spaces required by the CDCP 2019 and therefore are considered to be meeting the intent of the CDCP 2019. The short-stay parking and footpath will be within the public road reservation after a boundary adjustment is formalised.

The proposal comprises an on-site waste collection area designed for 12.5m HRV to meet the waste collection needs of the school.

There is no known demand for regular bus parking associated with the school's development. Occasional bus services for school excursions and Gala Days will use the proposed bus zone on Wallarah Circuit, which will be provided as part of DA/2022/742/1. However, it is understood that some schools within the local area often have minibuses associated with external Out of School Hour Care facilities that may operate and have a need to stop near the proposed school. These parking demands can be facilitated within the proposed bus zone on Wallarah Circuit or the indented parking area along the west side of Long Reef Circuit.

5.2.1 Accessible Car Parking

Clause 2.18.2 of the CDCP 2019 states “Design of off-street parking for people with a disability must comply with AS 2890.6 and the Commonwealth Disability Discrimination Act (1992). The car parking rates for accessible car parking spaces are to comply with the Building Code of Australia except where the requirements are specifically referred to in Table 2-5”.

A review of Table 2-5 indicates no specific accessible parking rates for the educational establishment. Reference has therefore been made to National Construction Code (NCC 2019) – formerly referred to as the Building Code of Australia (BCA) for accessible parking requirements.

Table D3.5 of the NCC 2019 in turn requires that accessible parking be provided at a rate of 1 space per 100 car parking spaces or part thereof, on the basis that school development is a Class 9b building based on the definition outlined in the NCC 2019.

One accessible parking space is proposed to be located within the staff carpark included as part of the 60 spaces; meeting the requirements for the provision of one (1) accessible space.

5.3 Bicycle Parking Assessment

5.3.1 Camden Council DCP

The Camden Council DCP does not provide a specific rate for bicycle parking for educational establishments (schools), instead referring to a merit assessment, making reference to the Planning Guidelines for Walking and Cycling 2004 (PGFW&C). The PGFW&C provides the following bicycle parking rates for primary and secondary schools:

- Long Term Spaces – 3% to 5% of staff members
- Short Term Spaces – 5% to 10% of staff members

Application of the above rates to the overall staffing numbers (60) results in a minimum bicycle parking requirement of 3 long-term spaces and 6 short-term spaces.

5.3.2 Austroads

Reference is made to the Austroads *Guide to Traffic Management Part 11: Parking Management Techniques* (2020) to establish bicycle parking requirements. In this regard, Clause 2.3, Table 26 provides the following rate for School Land Uses:

- 1 per 5 pupils over Year 4

According to the depersonalized data for the school provided by SINSW, student numbers over Year 4 in 2024 are approximately 433. Application of the above rate would result in a requirement of 87 bicycle spaces.

Furthermore, with reference to NSW Government – Safe Travel website⁴, TfNSW recommends students can ride alone above the age of 10 (Year 5), which equates to 290 students requiring 57 bicycle spaces.

5.3.3 EFSG Guide

The EFSG provides bicycle parking requirements based on school core size. In accordance with the EFSG, the maximum bicycle parking provision required for a Core 35 School is 60 bicycle parking spaces.

5.3.4 Bicycle Parking Summary

Based on the bicycle parking requirements above and actively encouraging cycling as a primary mode of transport for students and staff travelling to and from the school, it is considered that the EFSG bicycle parking rates would provide the most appropriate bicycle parking requirements. In this regard, in accordance with the EFSG, the development is required to provide a minimum of 60 bicycle parking spaces.

60 undercover bicycle parking spaces have been proposed adjacent to the end-of-trip facilities with access off Long Reef Circuit (location 5 in **Figure 22**).

⁴ NSW Government, Safe Travel: <https://education.nsw.gov.au/parents-and-carers/wellbeing/health-and-safety/safe-travel/when-can-i-let-my-child-travel-to-and-from-school-independently>

5.4 Pedestrian Access Assessment

5.4.1 School Entries

Pedestrian entry to the school will be provided via three entries and is shown in Figure 24:

- Howard Park pedestrian entry on the school's west frontage via a shared path connection to Howard Park.
- Wallarah Circuit pedestrian entry on the school's south frontage to the east of the support learning drop off
- Long Reef Circuit pedestrian entry on the school's east frontage in the short-term parking bay

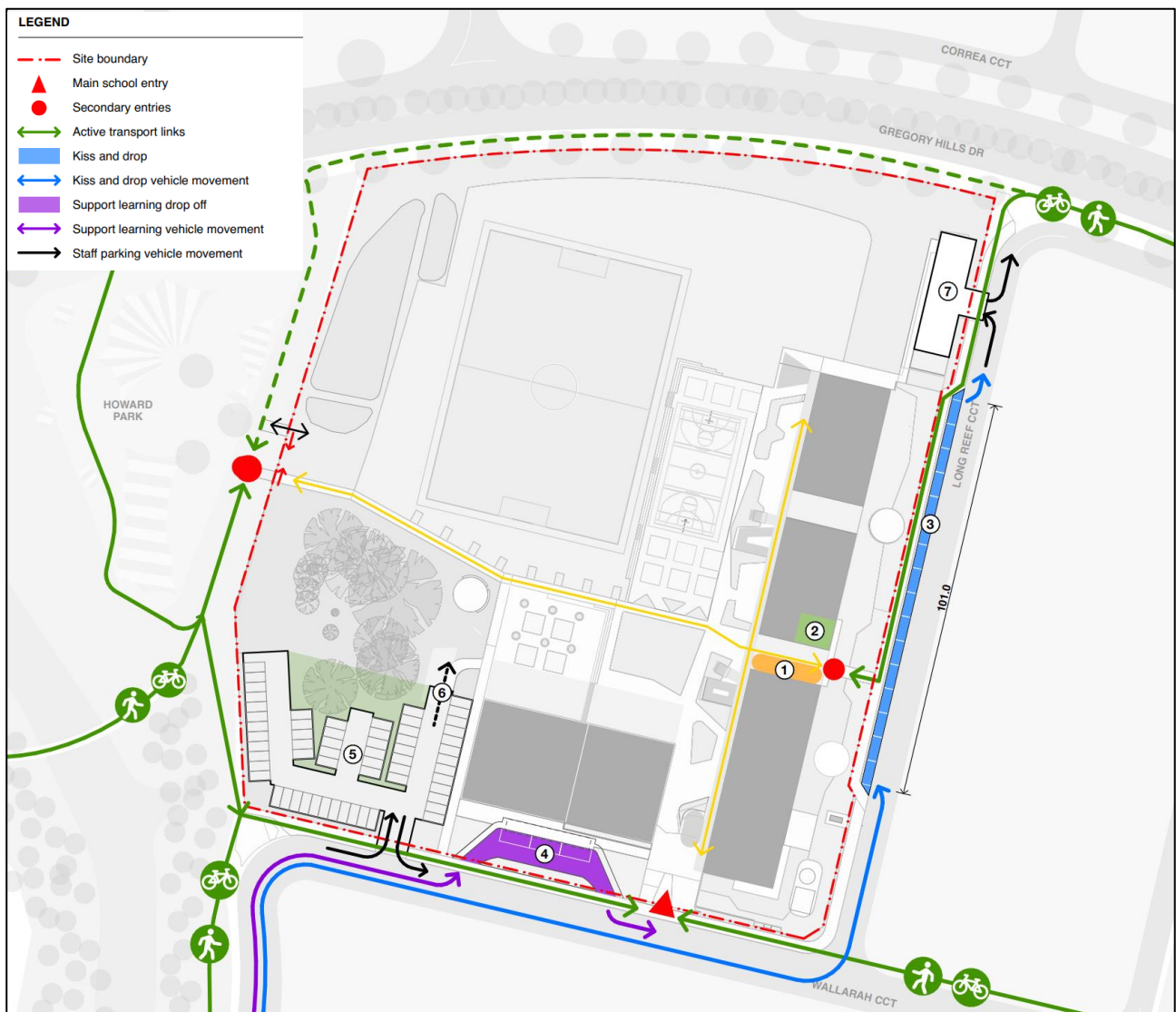


Figure 24: Proposed Pedestrian Access (Source: Base Plan from Bennett and Trimble received 2022.09.20)

5.4.2 Pedestrian Crowding Assessment (Movement and Place Indicator)

Reference is made to the Movement and Place Built Environment Indicator metric assessment for pedestrian crowding. The indicator measures the level of crowding pedestrians experience on footpaths (Walking Space Level of Service) and how this impacts their comfort levels (Comfort Percentile). Key metrics assessed include the effective footpath width and peak hour pedestrian volume per footpath.

Existing footpaths located within 400m notional distance to the proposed School have been assessed against the metric providing comfort percentile of pedestrians for each footpath.

Figure 25 and **Table 23** demonstrate the metric assessment against Movement and Place – Pedestrian Crowding based on existing conditions (traffic and pedestrian survey counts undertaken for the site) of the respective footpath. The data presented are existing conditions, whereby the school is currently undeveloped.

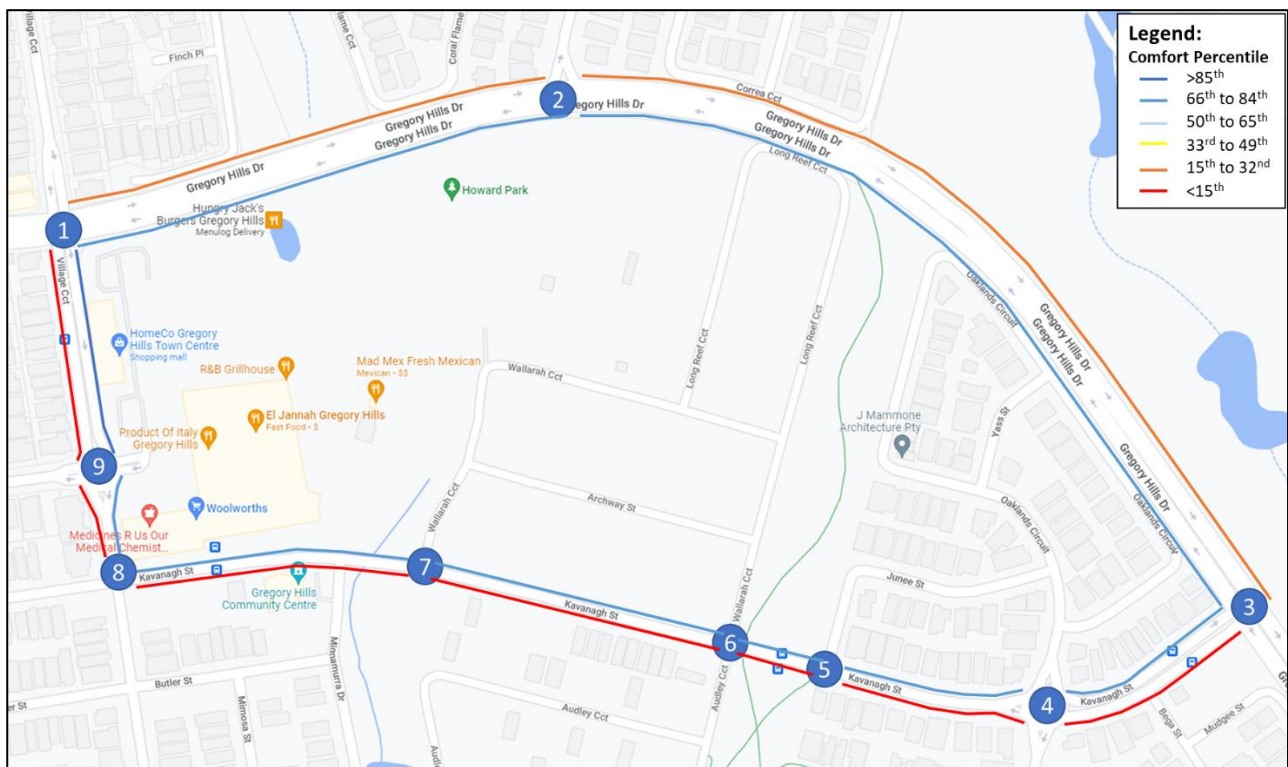


Figure 25: Pedestrian Crowding Metric Assessment (Existing Network Peak Pedestrian Volume)

TABLE 23 EXISTING WALKING SPACE LEVEL OF SERVICE⁵

Footpath Location	Side of Road	Effective Footpath Width (m)	Existing Network Condition				Proposed Development			
			Peak Hour Number of people on the footpath (people per hour PPHr)	Footpath Type ⁶	Walking Space Level of Service	Comfort Percentile	Peak Hour Number of people on the footpath (people per hour PPHr)	Footpath Type	Walking Space Level of Service	Comfort Percentile
Gregory Hills Dr - between Village Cct & Golden Wattle Ave	N	1.5	4	Type 1	E	15 th to 32 nd		Type 3		
Gregory Hills Dr - between Village Cct & Golden Wattle Ave	S	2.5	3	Type 1	B	66 th to 84 th		Type 3		
Gregory Hills Dr - between Golden Wattle Ave & Kavanagh St	N	1.5	0	Type 1	E	15 th to 32 nd		Type 3		
Gregory Hills Dr - between Golden Wattle Ave & Kavanagh St	S	2.5	3	Type 1	B	66 th to 84 th		Type 3		
Kavanagh St - between Gregory Hills Dr & Oaklands Cct	N	2.5	0	Type 1	B	66 th to 84 th		Type 3		
Kavanagh St - between Gregory Hills Dr & Oaklands Cct	S	1.2	0	Type 1	F	< 15 th		Type 3		
Kavanagh St - between Oaklands Cct & Junee St	N	2.5	0	Type 1	B	66 th to 84 th		Type 3		
Kavanagh St - between Oaklands Cct & Junee St	S	1.2	0	Type 1	F	< 15 th		Type 3		
Kavanagh St - between Junee St & Audley Cct	N	2.5	2	Type 1	B	66 th to 84 th		Type 3		
Kavanagh St - between Junee St & Audley Cct	S	1.2	2	Type 1	F	< 15 th		Type 3		

⁵ Movement and Place – Pedestrian Crowding: <https://www.movementandplace.nsw.gov.au/place-and-network/built-environment-indicators/pedestrian-crowding#metricsindetail>

⁶ TfNSW, Walking Space Guide: <https://roads-waterways.transport.nsw.gov.au/business-industry/partners-suppliers/documents/guides-manuals/walking-space-guide.pdf>

Kavanagh St - between Audley Cct & Wallarah Cct	N	2.5	2	Type 1	B	66 th to 84 th		Type 3		
Kavanagh St - between Audley Cct & Wallarah Cct	S	1.2	2	Type 1	F	< 15 th		Type 3		
Kavanagh St - between Wallarah Cct & Village Cct	N	2.5	4	Type 1	B	66 th to 84 th		Type 3		
Kavanagh St - between Wallarah Cct & Village Cct	S	1.2	2	Type 1	F	< 15 th		Type 3		
Village Cct - between Healy Ave & Kavanagh St	W	1.2	3	Type 1	F	< 15 th		Type 3		
Village Cct - between Healy Ave & Kavanagh St	E	2.5	3	Type 1	B	66 th to 84 th		Type 3		
Village Cct - between Gregory Hills Dr & Healy Ave	W	1.2	8	Type 2	F	< 15 th		Type 3		
Village Cct - between Gregory Hills Dr & Healy Ave	E	3	7	Type 1	A	> 85 th		Type 3		
Walarah Cct - between Howard Park riparian zone and Long Reef Cct	N	2.5	N.A.	Type 1	B	66 th to 84 th		Type 3		
Walarah Cct - between Howard Park riparian zone and Long Reef Cct	S	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Walarah Cct - 19 to 25 Wallarah Cct	N	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Walarah Cct - 19 to 25 Wallarah Cct	S	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Walarah Cct - between Wallarah Cct (school frontage) and Archway St	W	2.5	N.A.	Type 1	B	66 th to 84 th		Type 3		
Walarah Cct - between Wallarah Cct (school frontage) and Archway St	E	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Long Reef Cct - school frontage	W	1.2	N.A.	Type 1	F	< 15 th		Type 3		

Long Reef Cct - school frontage	E	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Long Reef Cct - section adjacent to Gregory Hills Dr	N	2.5	N.A.	Type 1	B	66 th to 84 th		Type 3		
Long Reef Cct - section adjacent to Gregory Hills Dr	S	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Long Reef Cct - west of Gregory Hills Dog Park	W	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Long Reef Cct - west of Gregory Hills Dog Park	E	2.5	N.A.	Type 1	B	66 th to 84 th		Type 3		
Wallarah Cct - between Archway St and Kavanagh St	W	2.5	N.A.	Type 1	B	66 th to 84 th		Type 3		
Wallarah Cct - between Archway St and Kavanagh St	E	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Archway St - between Wallarah Cct and Wallarah Cct	N	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Archway St - between Wallarah Cct and Wallarah Cct	S	No footpath	N.A.	Type 1	F	< 15 th		Type 3		
Wallarah Cct - between 19 Wallarah Cct and Archway St	W	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Wallarah Cct - between 19 Wallarah Cct and Archway St	E	2.5	N.A.	Type 1	B	66 th to 84 th		Type 3		
Wallarah Cct - between Archway St and Kavanagh St	W	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Wallarah Cct - between Archway St and Kavanagh St	E	2.5	N.A.	Type 1	B	66 th to 84 th		Type 3		
Coral Flame Cct - between 24 Coral Flame Cct and Kookaburra Dr	W	No footpath	N.A.	Type 1	F	< 15 th		Type 3		

Coral Flame Cct - between 24 Coral Flame Cct and Kookaburra Dr	E	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Golden Wattle Ave - between Gregory Hills Dr and Kookaburra Dr	W	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Golden Wattle Ave - between Gregory Hills Dr and Kookaburra Dr	E	2.5	N.A.	Type 1	B	66 th to 84 th		Type 3		
Warrigal St - between Correa Cct and Kookaburra Dr	W	1.2	N.A.	Type 1	F	< 15 th		Type 3		
Warrigal St - between Correa Cct and Kookaburra Dr	E	No footpath	N.A.	Type 1	F	< 15 th		Type 3		

A review of the pedestrian crowding metric assessment indicates that a footpath with a width less than 1.3 metres will result in the Level of Service of F regardless of its corresponding Footpath Type. The Walking Space Guide 2020 provides the following explanation and requirements for footpaths with Levels of Service C to F:

- LOS C – is the minimum design target for all footpaths;
- LOS D – does not trigger the need for a project or intervention, however, it is not a desirable state or a desirable design outcome.
- LOS E – is categorised as “at risk”, area recording LOS E must be monitored annually to ensure that the situation has not deteriorated to LOS F. Project planning to improve the amount of Walking Space must begin.
- LOS F – is categorised as an “intervention trigger” and must be initiated urgently to increase the amount of Walking Space. For the purposes of equal access, there are three additional potential intervention trigger considerations. Where the clear path of travel is less than:
 - 1.8m, there is insufficient space for two wheelchairs to pass,
 - 1.5m, there is insufficient space for a wheelchair to turn, if the length exceeds 6m action must be taken,
 - 1.2m there is insufficient space for a wheelchair to navigate safely, action must be taken.

With reference to Table 23 above, upon review against Section 3.1 of the Turner Road Precinct DCP, it is noted that the footpath width nominated for “local street” is 1.2 metres wide, with footpath provision on one side of the road only. Therefore, whilst a number of streets/roadways have been identified as needing widened footpath, it is considered that any footpath widening as a result of applying the Walking Space Guide is advisory in nature. Should future funding programmes be available, we recommend prioritisation of the widening of the following footpaths within the vicinity of the school:

- Wallarah Circuit south side – between 19 Wallarah Cct and Kavanagh St
- Kavanagh Street south side – between Gregory Hills Drive and Village Circuit; and
- Village Circuit west side – between Gregory Hills Drive and Kavanagh Street.

6 Design

6.1 Design Standard

The site access, car park and loading arrangements for the preliminary site plan will be designed to comply with the following relevant Australian Standards:

- Australian Standard 2890.1:2004 Parking Facilities – Off Street Car Parking (AS 2890.1: 2004)
- Australian Standard 2890.2:2018 Parking Facilities – Off Street Commercial Vehicle Facilities (AS 2890.2:2018)
- Australian Standard 2890.3:2015 Parking Facilities – Bicycle Parking (AS 2890.3:2015)
- Australian Standard 2890.5:2020 Parking Facilities – On-Street Parking (AS 2890.5:2020)
- Australian Standard 2890.6:2009 Parking Facilities – Off-Street Parking for People with Disabilities (AS 2890.6:2009)
- Camden Council Development Control Plan (2019)
- Turner Road Precinct Development Control Plan (2018)

Reference should be made to the design review and associated swept path assessments included in **Appendix I**.

6.2 Design Commentary

6.2.1 Access Design

The Proposal includes:

- One vehicular driveway on the western end of Wallarah Circuit frontage provides access for B99 vehicles for staff access to the carpark.
- One vehicular driveway on the northern end of Long Reef Circuit provides access for 12.5m HRV – waste vehicle access to the waste pad area for servicing by the Department of Education's Private Waste Collection Contractors

Swept path assessment has been prepared to demonstrate the access and circulation proposed meets the relevant requirements of AS2890.1:2004 and AS2890.2:2018 for the respective design vehicles, appended in **Appendix I**.

6.2.2 Short Stay Parking

The proposed short stay parking area on Long Reef Circuit has been designed in excess of AS2890.5:2020 requirements with 2.5m wide and 6m long short stay parking spaces to allow for safe dropping off / picking up of students and allows for additional width to provide buffer space between parked vehicles and through traffic.

The proposed drop-off area for support learning on Wallarah Circuit has been designed in excess of AS2890.6:2009 requirements for accessible access with 3.2m wide and 7.8m long parking spaces to allow for safe dropping off / picking up of students and allows for additional width to provide buffer space between parked vehicles and through traffic.

It is expected that delivery vehicles will be utilising either of the short-stay parking areas for loading/unloading when required and that loading/unloading will take place outside of peak school hours of 8:30 AM – 3:30 PM, whereby conflict with cars accessing the school can be minimised.

Note that the provision of this short-stay parking facility does not form part of this SSDA and will be constructed as part of a separate DA.

6.2.3 School Bus Stop

A school bus stop has been proposed to be located in the northern kerbside lane on the Wallarah Circuit frontage as part of the temporary school DA/2022/742. The 36m long bus zone is designed in accordance with the desirable requirements of Austroads Guide to Road Design Part 3: 2021 for a kerbside traffic lane bus stop with no parking or kerb extensions on approach or departure.

To ensure the sightlines for vehicles exiting the support learning drop-off would not be affected by a parked bus, the 36m bus zone will be located 10.5m to the east of the support learning drop-off exit.

As this bus stop is to cater for school excursions only, independent access by public buses will not be required. The bus zone can accommodate up to three 12.5m long buses at any one time with co-dependent access.

6.2.4 Internal Car Park

The plan issued by Bennett and Trimble on 20 September 2022 was reviewed and assessed against AS2890.1:2004 and AS2890.6:2009. Noting the following:

- Access to the car park is provided by an 8.0m-wide crossover and access driveway
- All car parking spaces have been designed in accordance with Figure 2.2 of AS2890.1:2004, with the following minimum dimensions:
 - Width of 2.5m and a length of 5.4m accessed via a minimum 6.0m wide aisle
- Accessible car spaces have been designed in accordance with AS 2890.6:2009, with a width of 2.4m and a length of 5.4m accessed via a minimum 6.0m wide aisle. The shared zones have been provided with a width of 2.4m and a length of 5.4m.

Detailed design review and associated swept path assessment are attached in **Appendix I**.

6.2.5 On-Site Waste Collection Area

The proposed on-site waste collection area is located to the north of the site with access through an 8.0m wide car park crossover and access driveway located along the west side of Long Reef Circuit.

The on-site waste collection point has been designed based on a 12.5m HRV.

It is expected that waste collection will take place outside of peak school hours of 8:30 AM – 3:30 PM, whereby conflict with cars accessing the school can be minimised.

Detailed design review and associated swept path assessment are attached in **Appendix I**.

6.2.6 Bicycle Parking Provision

With reference to AS2890.3:2015, bicycle parking associated with Schools is classified as a Class B facility in accordance with Table 1.1, therefore requiring:

- A secure room or structure, protected from weather
- Contains bicycle parking devices that allow users to lock the bicycle frame and both wheels
- Located within areas that are controlled by entrance gates
- Located in a well-lit area
- Situated close to entrance/exits

Ason Group's experience with similar School projects demonstrated a direct connection between active transport usage and weather cover provision for outdoor bicycle/scooter parking facilities. Active transport usage was observed significantly lower when the temperature exceeded 30 degrees for a School bicycle parking facility with no weather protection, as students were unable to ride or push the bicycle due to the excessive heat of the seat and the handles.

A total of 60 bicycle parking spaces are proposed within the school grounds per **Figure 22**.

7 Preliminary Construction Traffic Management Plan

A detailed Construction Traffic Management Plan (CTMP) will be provided as part of the detailed construction management plan (which is expected to form a standard Condition of Consent). For the purposes of this TAIA report, the following general principles for managing construction traffic have been assumed and provide an understanding of the likely traffic impacts during the construction period. It should be noted that the construction details and programme for the development have not yet been finalised.

7.1 Overview

The proposed works forming part of this SSDA include the following:

- Construction of new buildings;
- Construction of pedestrian and car park infrastructure;
- New covered outdoor learning area (COLA) and covered walkways;
- Associated earthworks, landscaping, stormwater works, service upgrades; and
- Tree management/tree safety works.

This Preliminary Construction Traffic Management Plan (Preliminary CTMP) outlines principles that shall be adopted by the appointed contractors for the project and are subject to a detailed Construction Traffic Management Plan (CTMP) that forms part of a Construction Management Plan (CMP) to be prepared and commissioned by the incumbent contractor.

7.2 Overall Principles of Construction Traffic Management

The overall principles of traffic management during construction activities include:

- Minimising the impact on pedestrian and cyclist safety and movements
- Maintaining appropriate public transport and school bus access
- Minimising the impact on existing traffic on adjacent roads and intersections
- Minimising the loss of on-street parking
- Maintaining access to/from adjacent properties
- Restricting construction vehicle movements to designated routes to/from the site
- Managing and controlling construction vehicle activity near the site
- Ensuring construction activity is carried out in accordance with the Council's approved hours of work.

7.3 Contractor Parking

It is expected there will be a maximum of 40 workers/subcontractors on the site during the peak construction activities. During the early construction stages, up to 44 on-site parking will be available to construction workers within the site. The above provision can accommodate the car parking demand associated with the construction workers/subcontractors and the occasional visitors without the reliance on on-street parking.

The 44 car spaces will be available to construction contractors within site as shown in **Figure 26**.

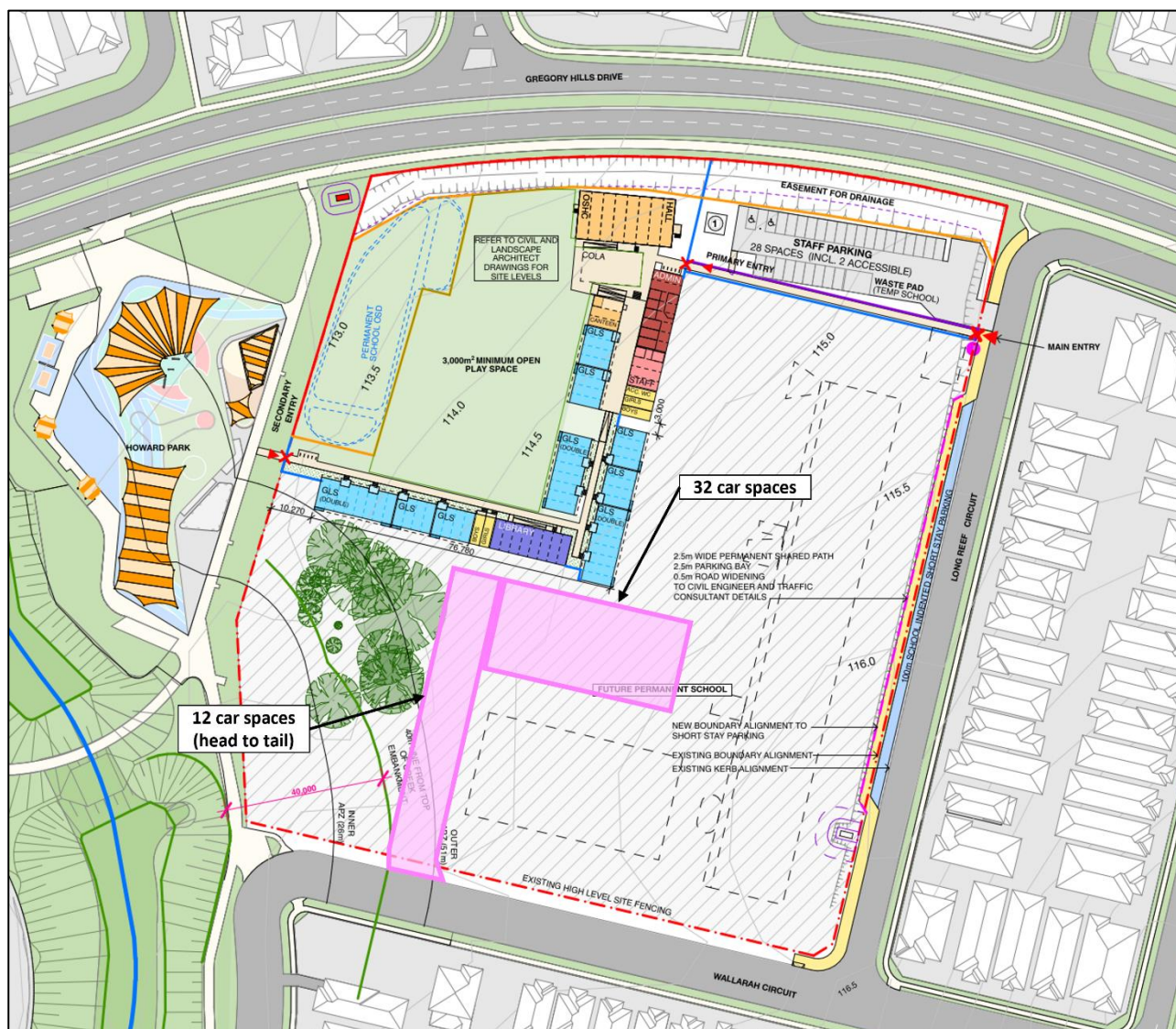


Figure 26: Construction Contractor Parking (Base Plan from Bennett and Trimble provided by Lipman received 2022.09.30)

During the latter construction stage when the staff carpark is completed, up to 60 car parking spaces will be available to the construction workers/subcontractors.

While there is ample on-site parking, Lipman will encourage workers/subcontractors to utilise public transport and carpool to/from the Site if possible, to minimise traffic related impact.

An on-site secure tool drop-off and storage facility will be provided by Lipman to allow workers to drop off and securely store their tools and equipment for the project within the site instead of bringing it to the site on a daily basis.

Workers will be informed of appropriate bus schedules/timetables via toolbox talks, pre-start face-to-face meetings, email, and phone. The public transport schedules/timetables will also be provided during site induction and be published within the site induction room, sheds and lunchrooms to demonstrate alternative modes of transport available.

7.4 Proposed Work Hours

The construction work will vary depending on the phase of construction and associated activities. Construction works however will be undertaken during standard construction-working hours as follows:

- Monday to Friday: 7:00 AM to 6:00 PM.
- Saturday: 8:00 AM to 2:00 PM
- Sunday and Public holidays: No planned work.

On school days, no construction deliveries are allowed prior to the AM and PM school bell times within the following durations:

- Morning: 8:00 AM to 9:30 AM
- Afternoon: 2:00 PM to 3:30 PM

It may (on occasions) be necessary to undertake night works to minimise disruption to traffic however any works undertaken outside of these times will only occur with prior approval from the relevant authorities.

7.5 Staging and Duration of Works

The construction program would generally consist of the following construction stages with duration to be determined once a contractor has been appointed:

- Stage 1: Site Preparation,
- Stage 2: Bulk Excavation
- Stage 4: Main Works (Construction)

Note that the duration for each stage would be confirmed by the contractor once appointed.

It is noted that during all stages, all vehicle entry and exit movements are to be in a forward direction only, with spoil to be loaded within the site and under the careful supervision of an authorised traffic controller. Accordingly, supervision by an authorised traffic controller would also be required for the movements of vehicles that would cross the footpath during deliveries.

7.6 Worker Induction

All workers and subcontractors engaged on-site would be required to complete a site induction. The induction should include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, work, health and safety (WHS), driver protocols and emergency procedures.

Any workers required to undertake works or traffic control within the public domain would be suitably trained and covered by adequate and appropriate insurance.

7.7 Authorised Traffic Controller

If there is a requirement for authorised traffic controllers to be present throughout the construction stages of the project, their responsibilities include:

- Pedestrian and cyclist management, to ensure that adverse conflicts between vehicle movements and pedestrians do not occur.
- Supervision of all vehicle movements across pedestrian footpaths at all times, and
- Supervision of all loading and unloading of construction materials during the deliveries in the construction phase of the project.

When required, a Traffic Guidance Scheme for details of the proposed work zone and associated traffic management measures will be provided.

7.8 Public Transport Services

Construction works are not expected to impact existing public transport services as the construction works are expected to be largely contained on-site. No bus stops are present along the frontages of the site.

7.9 Pedestrian and Cyclist Management

During construction, pedestrian movements will be maintained along all frontages of the site when possible. This includes maintaining access needs and requirements for pedestrians to/from the Gregory Hills Town Centre, particularly from Wallarah Circuit.

It is expected that the hoarding is to be located as close as possible to the property boundary, maintaining maximum footpath width to minimise the impact on pedestrian amenities.

Construction hoarding/fencing will be provided around the perimeter of the site and shall be documented in the Project's Construction Management Plan.

Traffic controller(s) will be present at the site accesses to manage pedestrian and vehicular traffic to ensure public safety while construction vehicles enter and exit the site. Pedestrians will not be directed to use the other footpath by use of signage alone. Traffic controls would need to be in accordance with AS1742.3 and RMS 'Traffic Control at Worksites' manual at all times.

Should any unforeseen activities require the temporary closure of any existing pedestrian access, a TGS should be developed and implemented by the contractor to ensure a safe alternative for pedestrians traversing these routes in the vicinity of the site.

7.10 Construction Traffic Volumes

Construction traffic will generally incorporate:

- 22m long vehicles for the delivery of building modules for Modern Methods of Construction.

- The maximum number of trucks accessing the site is estimated to be between 2 to 3 times per week, for transport and landing of building modules.
- It is anticipated that there will be up to 15 contractor workers on-site during peak construction activities.
- 11.5m long vehicles for removal of spoil and transportation of materials.
 - The maximum number of trucks accessing the site is estimated to be up to 20 truck movements a day over a duration of 3 weeks, depending on the works undertaken and the type of material required on-site.
 - It is anticipated that there will be between 35-40 contractor workers on-site during peak construction activities.

Any oversize vehicles using local roads to access the site would require additional Council and/or Transport for NSW approval.

The maximum number of trucks accessing the site is subject to the development of a detailed construction staging plan upon the appointment of the contractor.

7.11 Potential Haulage Routes

It is proposed that construction vehicles enter and exit the Site via the routes shown in **Figure 27**. A copy of the truck route maps shall be provided to all drivers prior to attending the Site.

The access and egress routes are to be utilised by all construction vehicles associated with the Site and represent the shortest route between the local and regional road network – hence minimising the impacts of the construction process. No trucks are to be queued on local roads. Mobile phones and two-way radios will be used to coordinate truck arrivals.



Figure 27: Potential Construction Vehicle Haulage Routes

SINSW has recently adopted the Modern Methods of Construction (MMC) to enable the rapid delivery of high-quality school projects, which require offsite manufacture and onsite assembly of building components. The construction process includes the delivery of container or transport cassettes for kit-of-parts and volumetric modules of up to 18m long, 3.75m wide and 5m in height.

SINSW outlined the following transport requirements in relating to the implementation of Modern Methods of Construction:

- Modules must be transported to the site on a low-loader truck which is 22m in length;
- A dedicated zone is required for low-loader delivery;
- In metropolitan areas, modules:
 - Less than 3.5m wide can be transported between 10 am and 3 pm
 - More than 3.5m wide must be transported between the hours of midnight and 5 am.

Figure 28 demonstrates the heavy vehicle routes outlined in the NSW Oversize Overmass Load Carrying Vehicles Network Map within the vicinity of the site.

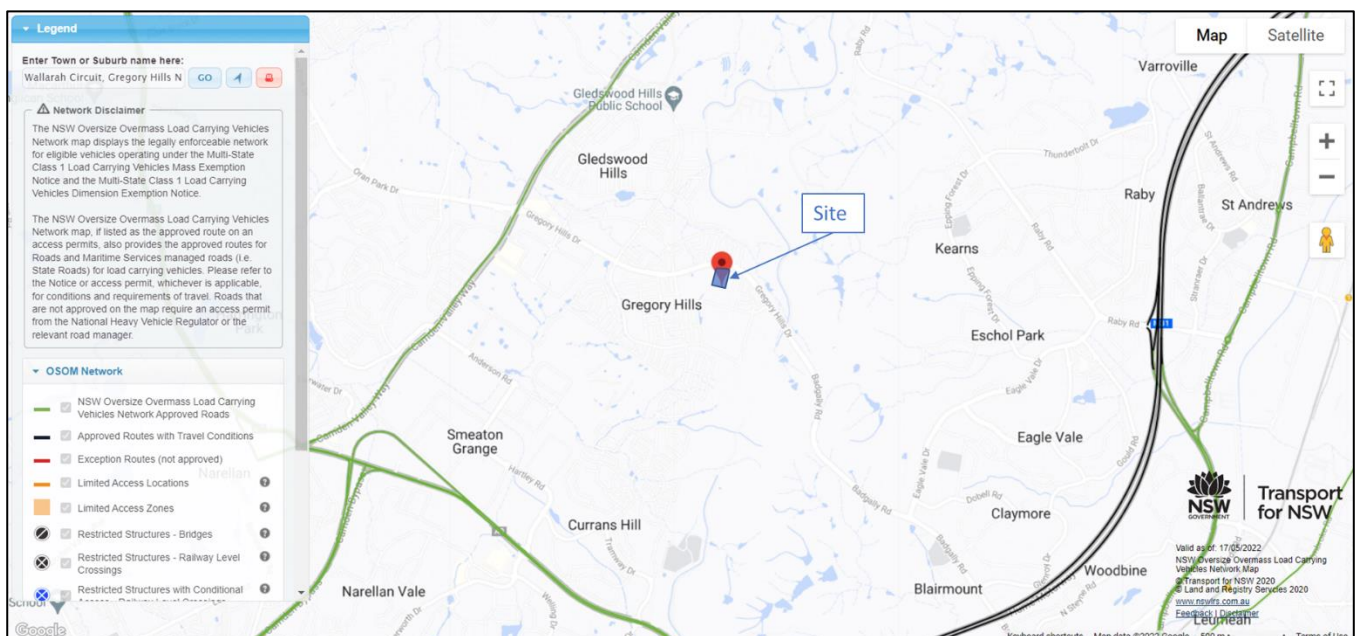


Figure 28: NSW Oversize Overmass Load Carrying Vehicle Network Map

7.12 Construction Mitigation Measures

Construction of the above development would generate a moderate increase in traffic on the surrounding road network. In this regard, the following measures should be undertaken to minimise the impacts of the construction activities of the development:

- A construction fence and suitably classed Hoarding shall be provided along site boundaries/works area boundaries to provide safe pedestrian access. The fencing/hoardings should be maintained for the duration of the construction program associated with the stage of works being undertaken.

- Traffic control would be required to manage and regulate traffic movements into and out of the site during construction, with pedestrian priority provided during peak hour periods and to maintain access to public transport facilities.
- Disruption to road users should be kept to a minimum by scheduling intensive delivery activities outside of road network peak hours.
- Supervised traffic control will be required where two-way flow is restricted over any length of the roadway, depending on the number of truck movements required and would be managed outside of peak hour vehicle and pedestrian activity.

8 Summary and Conclusions

8.1 Summary

Ason Group has been commissioned by School Infrastructure NSW (SINSW) on behalf of the Department of Education (DOE) to prepare a Transport and Accessibility Impact Assessment (TAIA) to accompany a State Significant Development Application (SSDA) to the NSW Department of Planning and Environment (DPE) for the proposed New Primary School Development known as A New Primary School at Gregory Hills, to meet the educational needs of the area.

8.2 Key Findings

Further to a detailed assessment of the proposed development of A New Primary School at Gregory Hills, we provide the following conclusions:

- The School will be located in Gregory Hills and the Gregory Hills catchment, and as such it is predicted that the majority of students would reside.
- The Gregory Hills subdivision has strong active transport infrastructure accessibility, connectivity and would therefore generate less trips from private vehicles.
- Adopted traffic generation rates have been determined based on the surveyed rates of similar primary schools from the *Roads and Maritime Services (now TfNSW) Trip Generation Surveys, Schools* (Schools Trip Generation Report).

Based on these rates, the School would generate the following AM and PM trips during the school peak hours:

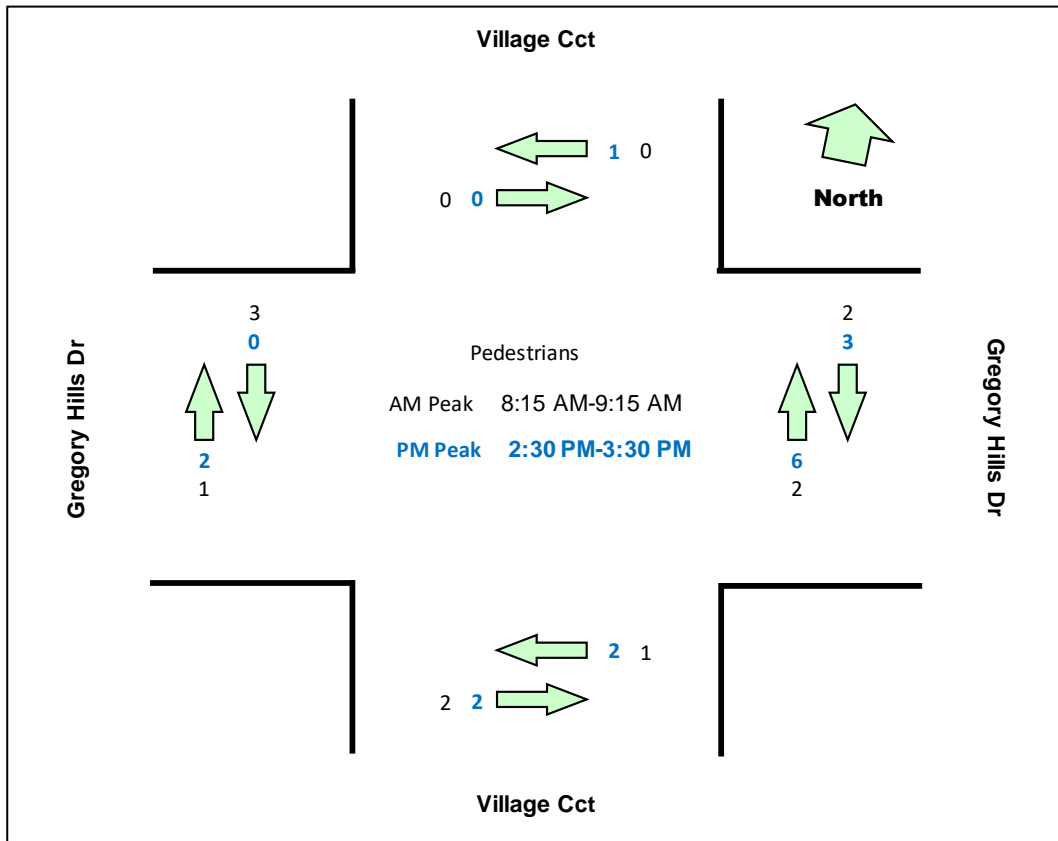
- AM School peak hour: 638 vehicle trips
- PM School peak hour: 527 vehicle trips
- As part of the traffic assessment, a conservative 2.0% linear growth rate (which is higher than the TfNSW STFM growth rate) has been adopted to forecast the Future Years 2024 and 2034 base case background traffic.
- The network modelling demonstrates that the surrounding key intersections will continue to operate at Los D or better for the 2034 future year assessment, demonstrating that these intersections have sufficient capacity to accommodate the School related traffic.
- All-access, parking and servicing areas have been designed in accordance with the relevant Australian Standards.

8.3 Conclusions

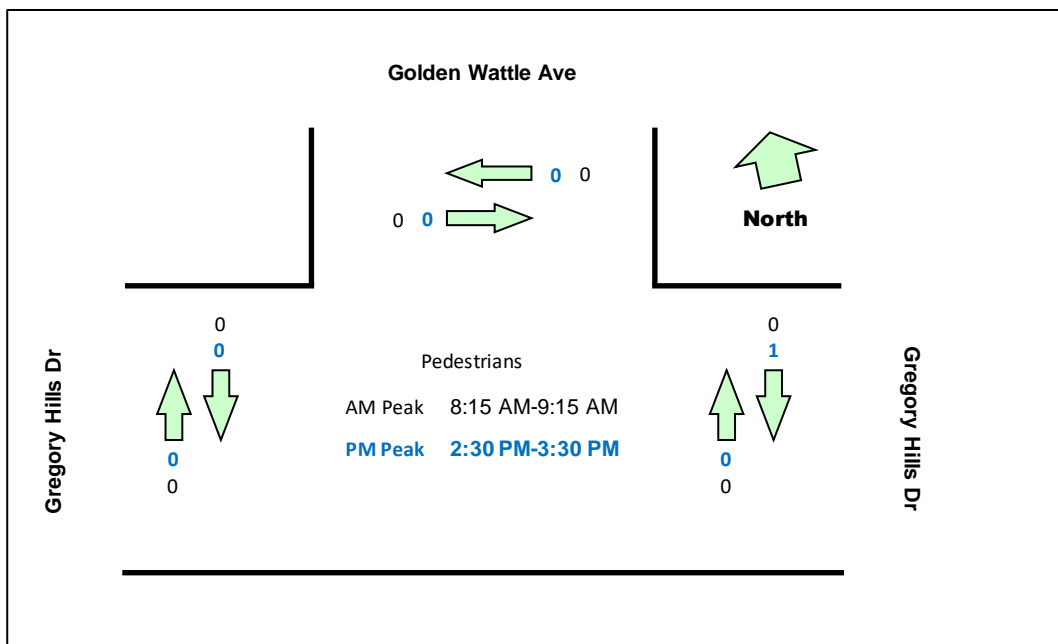
With regard to the above key findings, the proposed development is considered supportable on traffic and transport planning grounds; and is not anticipated to result in any adverse impacts on the surrounding road network.

Appendix A. Existing Year 2022 School AM and PM Peak Hours Intersection Turning and Pedestrian Movement Counts

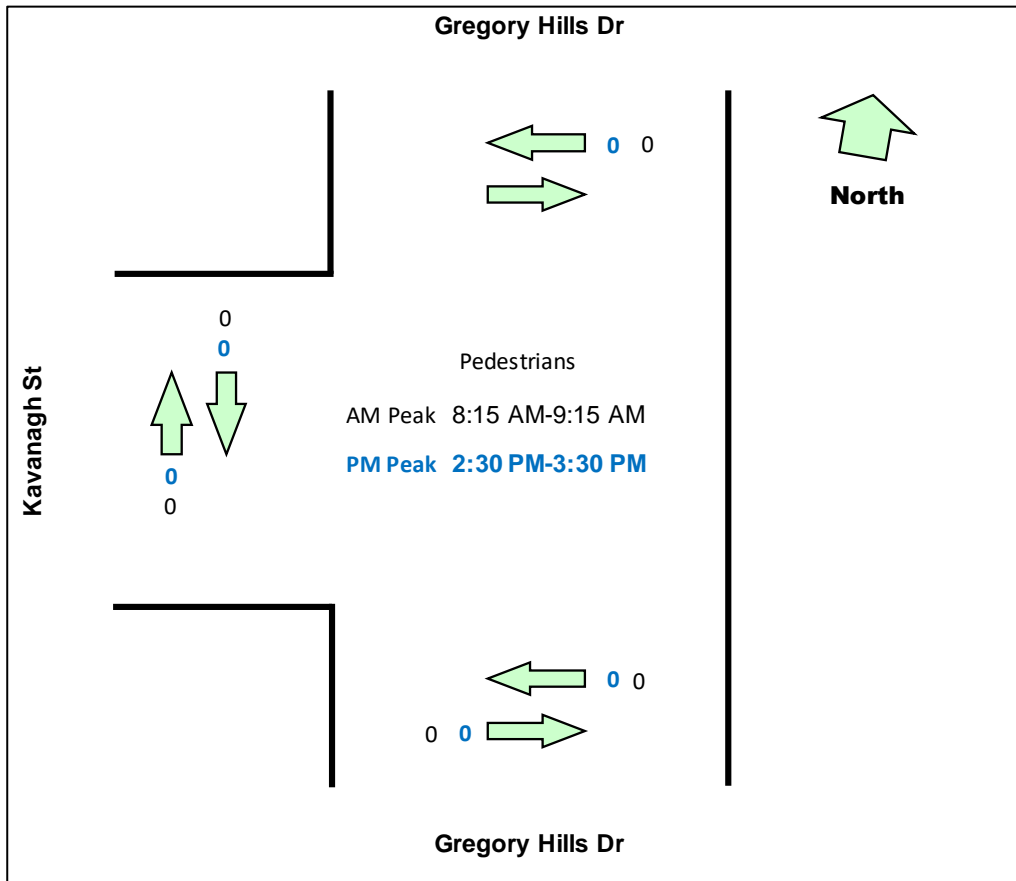
1. Gregory Hills Drive & Village Circuit



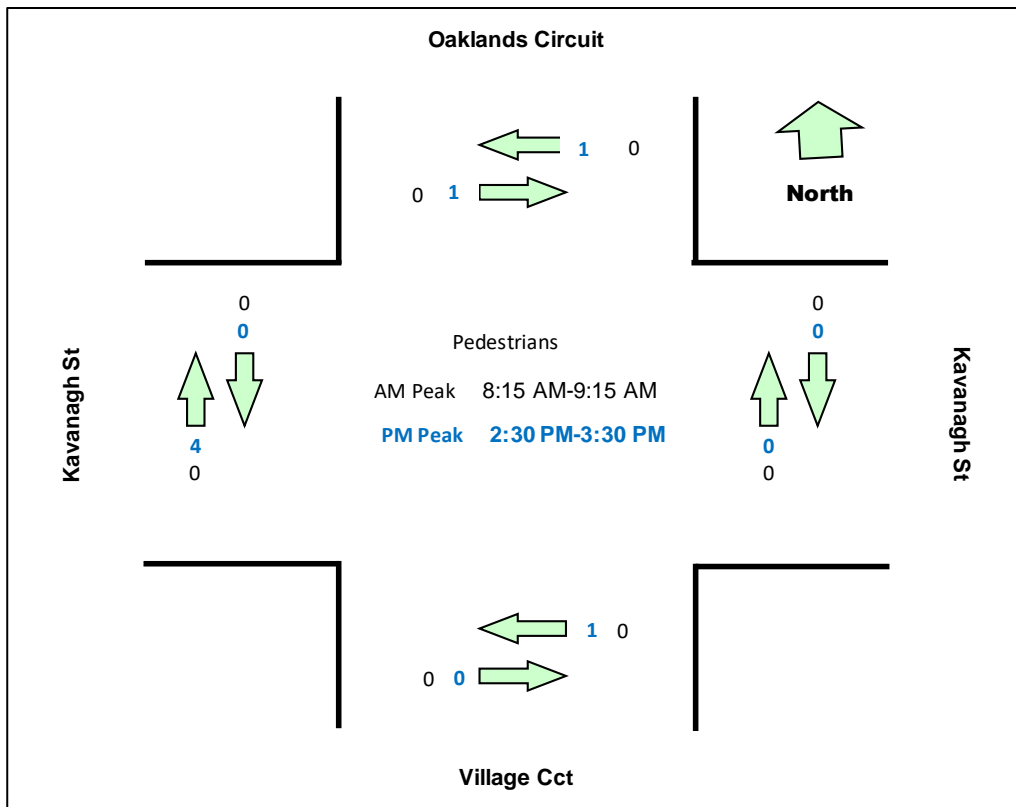
2. Gregory Hills Drive & Golden Wattle Avenue



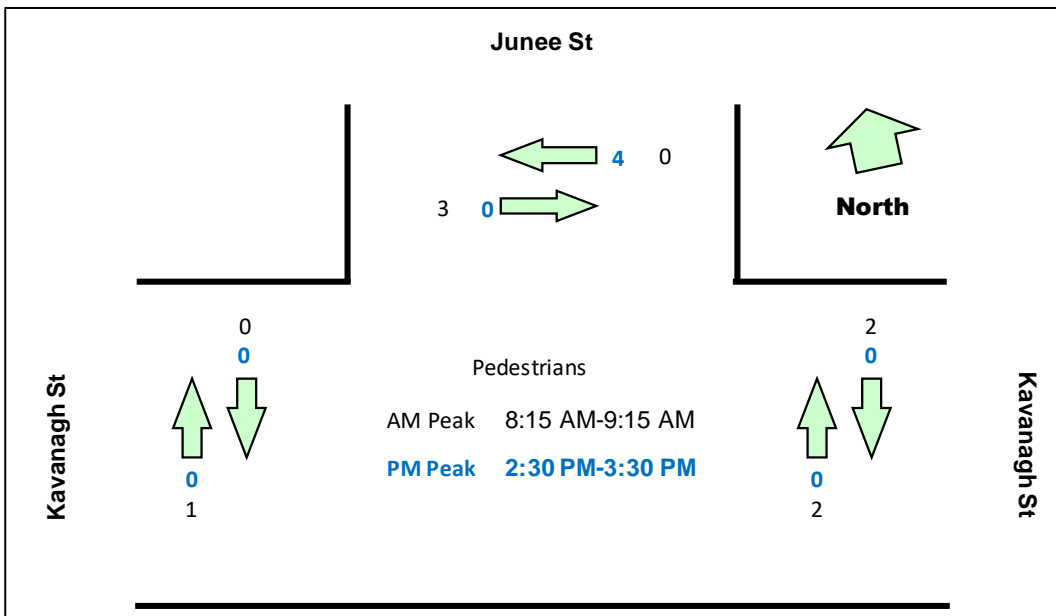
3. Gregory Hills Drive & Kavanagh Street



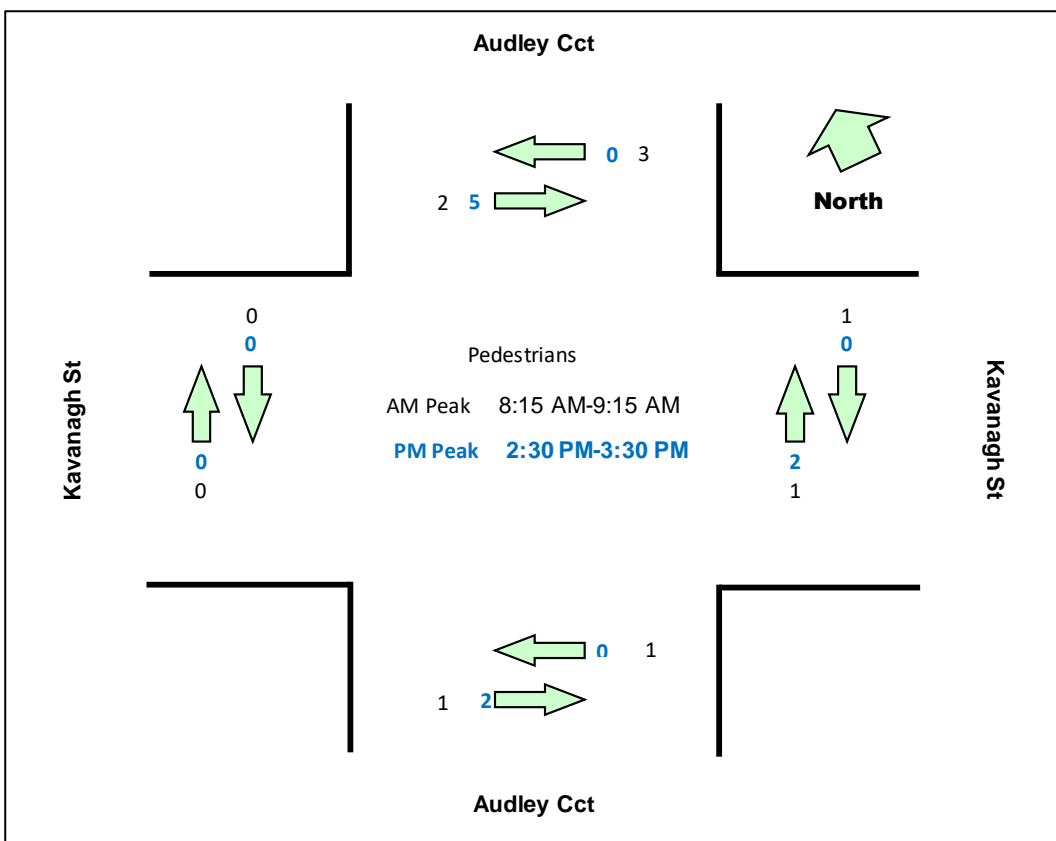
4. Kavanagh Street & Oaklands Circuit



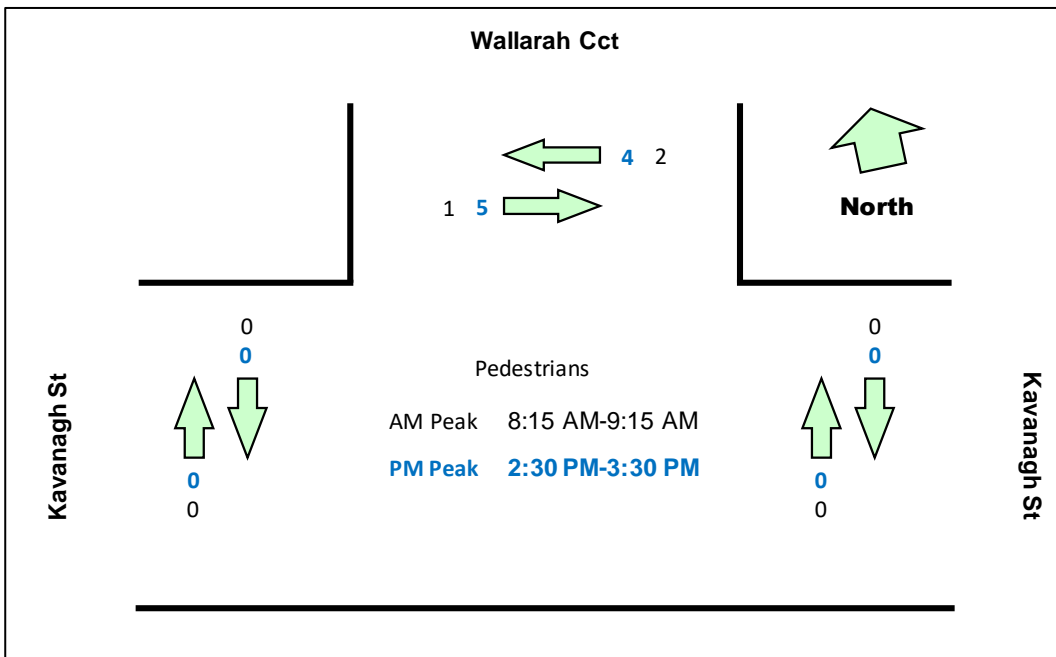
5. Kavanagh Street & Junee Street



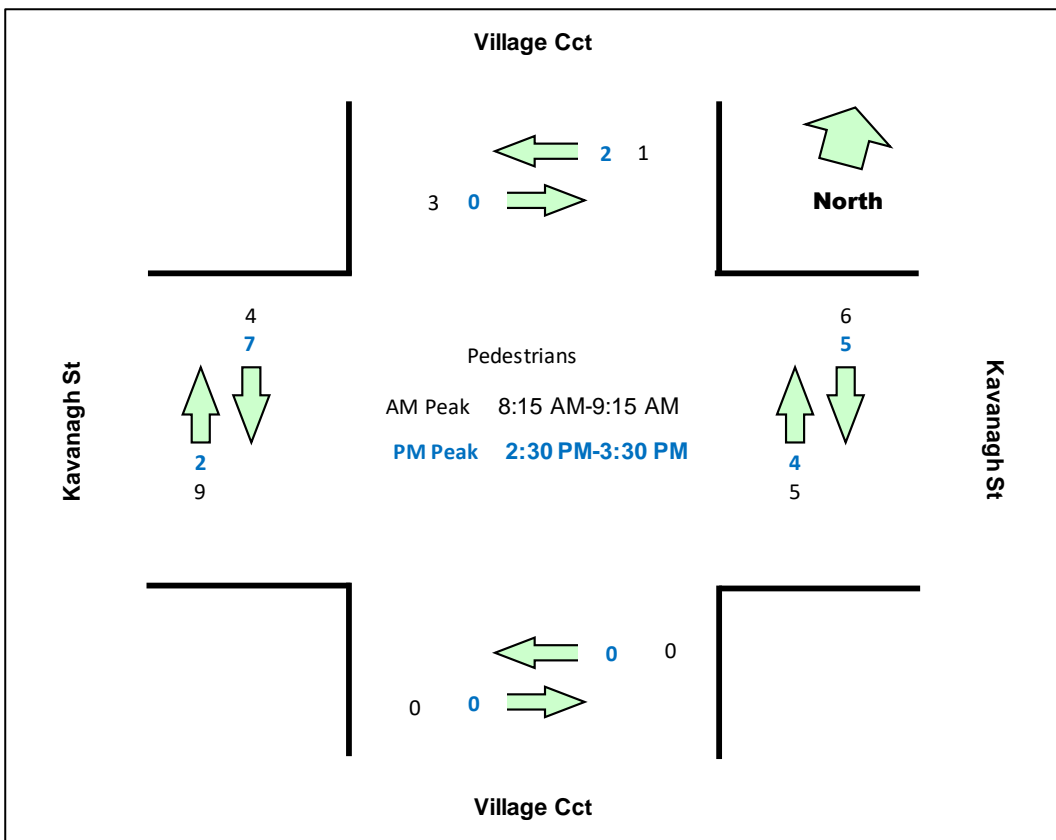
6. Kavanagh Street & Audley Circuit



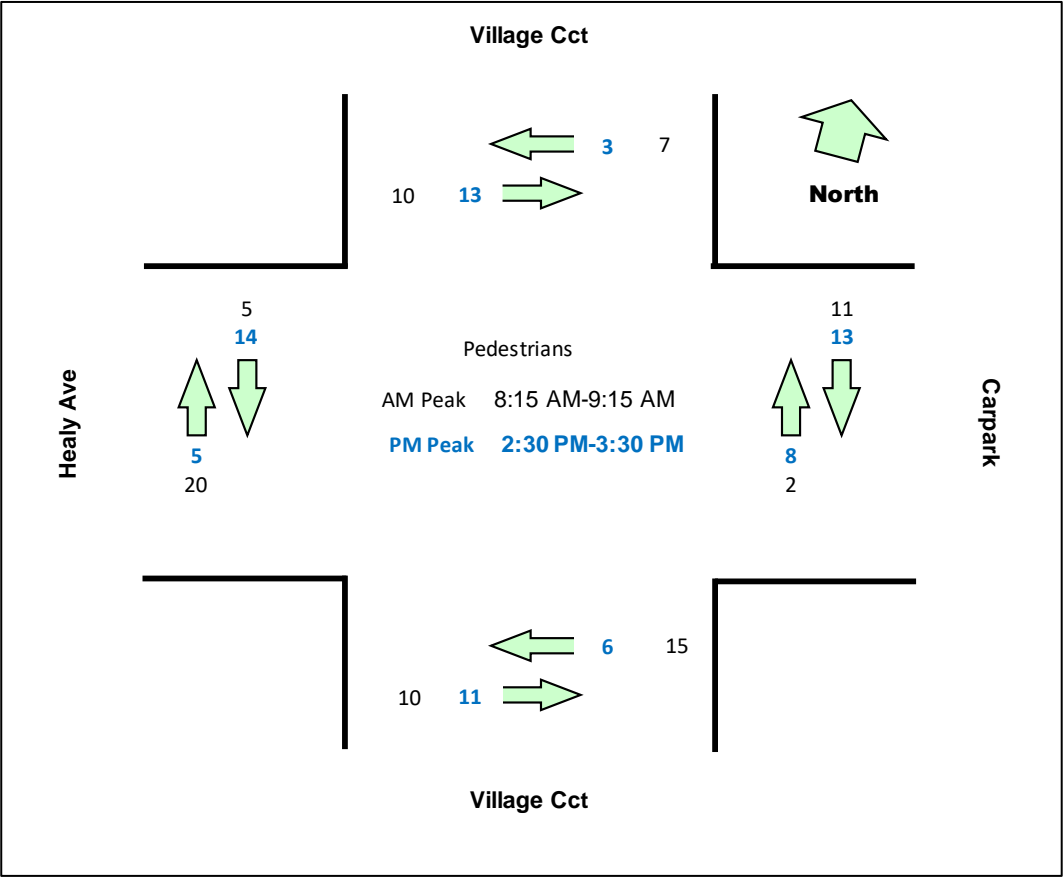
7. Kavanagh Street & Wallarah Circuit



8. Kavanagh Street & Village Circuit



9. Village Circuit & Healy Avenue



AM Peak

LEGEND

- X TOTAL NUMBER OF VEHICLES PER HOUR (LIGHT + HEAVY)
- X NUMBER OF HEAVY VEHICLES PER HOUR
- X NUMBER OF LIGHT VEHICLES PER HOUR
- X TOTAL NUMBER OF VEHICLES ON THE ROAD SECTION PER HOUR (LIGHT + HEAVY)

Gregory Hills Dr

Healy Ave

Kavanagh St

Village Crt

86

105

302

302

264

193

149

289

289

193

193

90

66	30	7
2	1	1
64	29	6

42	1	43
660	20	680
40	1	41

3	42	83	161
1	1	9	5
2	41	74	156

1	0	1
67	1	68
35	1	36
59	0	59

19	86	87
0	5	4
19	81	83

116	5	121
4	0	4
4	0	4

Gregory Hills Dr

314

164

193

193

129

112

26

91

Site Location

13

29

94

94

26	1	25
714	15	689

704	22	726
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1	0	1
6	0	6

13	0	13
72	2	70

0	0	0
88	6	94

Long Reef Crt

3

7

14

74

74

Kavanagh St

11	6	6
0	0	0
6	6	6

1	0	1
7	1	8

19	2
0	0
19	2

17	1	4
1	0	0
18	1	4

Audley Crt

11	6	6
0	0	0
6	6	6

1	0	1
9	1	10

3	0	3
61	2	59
10	0	10

5	1	6
67	4	71
3	1	4

Audley Crt

Long Reef Crt

3

11

11

35

10

81

81

23

34

Audley Crt

Long Reef Crt

10

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Audley Crt

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Audley Crt

Long Reef Crt

10

11

11

35

10

81

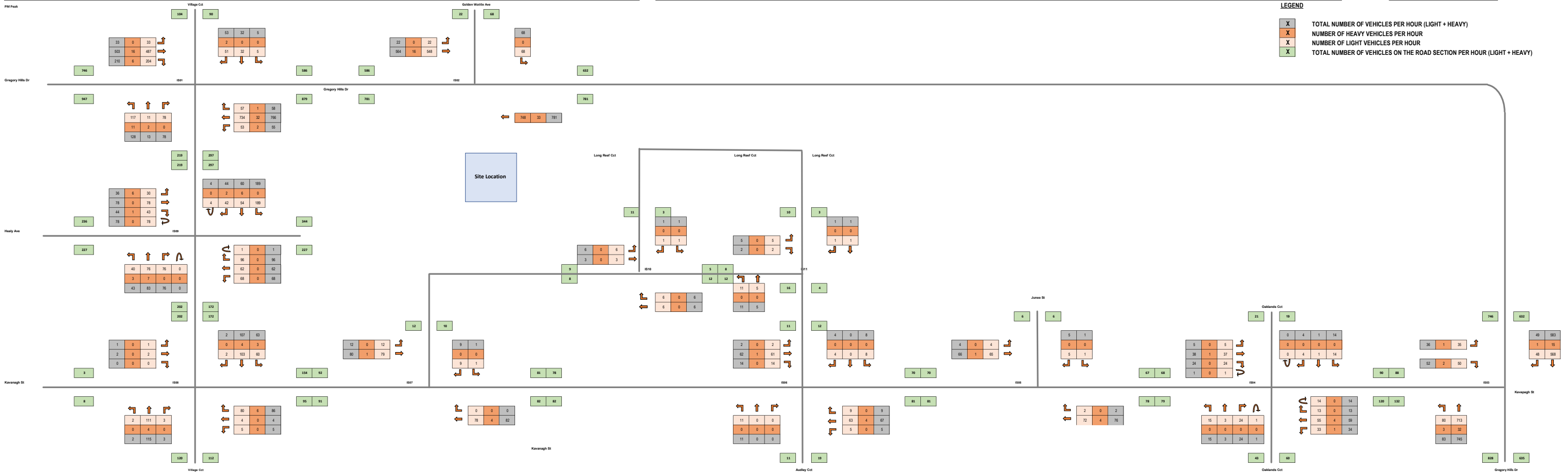
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34

Audley Crt

Long Reef Crt



Appendix B. Existing Year 2022 SIDRA Results

MOVEMENT SUMMARY

 **Site: 101 [9. Village Cct/ Healy Ave/ Gregory Hills Access - AM (Site Folder: AM 2022 Base)]**

 **Network: N101 [AM 2022 Base (Network Folder: General)]**

Village Cct/ Healy Ave/ Gregory Hills Access
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist m				km/h
South: Village Cct (NB)														
1	L2	52	6.1	52	6.1	0.235	3.4	LOS A	1.4	9.9	0.37	0.50	0.37	44.2
2	T1	161	2.6	161	2.6	0.235	3.5	LOS A	1.4	9.9	0.37	0.50	0.37	26.8
3	R2	62	1.7	62	1.7	0.235	7.4	LOS A	1.4	9.9	0.37	0.50	0.37	27.8
3u	U	3	0.0	3	0.0	0.235	9.7	LOS A	1.4	9.9	0.37	0.50	0.37	26.8
Approach		278	3.0	278	3.0	0.235	4.4	LOS A	1.4	9.9	0.37	0.50	0.37	35.2
East: Gregory Hills Access														
4	L2	62	0.0	62	0.0	0.152	2.6	LOS A	0.8	6.0	0.39	0.49	0.39	22.9
5	T1	38	2.8	38	2.8	0.152	2.4	LOS A	0.8	6.0	0.39	0.49	0.39	45.3
6	R2	72	1.5	72	1.5	0.152	6.1	LOS A	0.8	6.0	0.39	0.49	0.39	22.9
6u	U	1	0.0	1	0.0	0.152	9.2	LOS A	0.8	6.0	0.39	0.49	0.39	25.2
Approach		173	1.2	173	1.2	0.152	4.0	LOS A	0.8	6.0	0.39	0.49	0.39	35.2
North: Village Cct (SB)														
7	L2	169	3.1	169	3.1	0.279	4.4	LOS A	1.5	10.9	0.40	0.54	0.40	34.1
8	T1	87	10.8	87	10.8	0.279	4.6	LOS A	1.5	10.9	0.40	0.54	0.40	34.1
9	R2	44	2.4	44	2.4	0.279	8.5	LOS A	1.5	10.9	0.40	0.54	0.40	46.0
9u	U	3	33.3	3	33.3	0.279	12.5	LOS A	1.5	10.9	0.40	0.54	0.40	34.1
Approach		304	5.5	304	5.5	0.279	5.1	LOS A	1.5	10.9	0.40	0.54	0.40	37.8
West: Healy Ave														
10	L2	82	9.0	82	9.0	0.228	5.0	LOS A	1.3	9.4	0.51	0.59	0.51	42.7
11	T1	98	3.2	98	3.2	0.228	4.9	LOS A	1.3	9.4	0.51	0.59	0.51	42.4
12	R2	51	0.0	51	0.0	0.228	8.9	LOS A	1.3	9.4	0.51	0.59	0.51	42.7
12u	U	1	0.0	1	0.0	0.228	12.2	LOS A	1.3	9.4	0.51	0.59	0.51	50.5
Approach		232	4.5	232	4.5	0.228	5.8	LOS A	1.3	9.4	0.51	0.59	0.51	42.6
All Vehicles		986	3.8	986	3.8	0.279	4.9	LOS A	1.5	10.9	0.41	0.53	0.41	38.9

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

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P4 Full	4	51.7	LOS E	0.0	0.0	0.95	0.95	220.4	219.3	1.00
All Pedestrians	13	51.7	LOS E	0.0	0.0	0.95	0.95	219.3	217.9	0.99

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.

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MOVEMENT SUMMARY

Site: 101 [2. Gregory Hills Dr/Golden Wattle Ave - AM (Site Folder: AM 2022 Base)]

Network: N101 [AM 2022 Base (Network Folder: General)]

2. Gregory Hills Dr/Golden Wattle Ave
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
East: Gregory Hills D (WB)														
5	T1	764	3.0	764	3.0	0.200	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		764	3.0	764	3.0	0.200	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Golden Wattle Ave														
7	L2	94	3.4	94	3.4	0.102	7.4	LOS A	0.4	2.8	0.42	0.63	0.42	41.1
Approach		94	3.4	94	3.4	0.102	7.4	LOS A	0.4	2.8	0.42	0.63	0.42	41.1
West: Gregory Hills D (EB)														
10	L2	27	3.8	27	3.8	0.203	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	55.9
11	T1	752	2.1	752	2.1	0.203	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
Approach		779	2.2	779	2.2	0.203	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.2
All Vehicles		1637	2.6	1637	2.6	0.203	0.6	NA	0.4	2.8	0.02	0.05	0.02	58.8

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 Site: 101 [3. Kavanagh St/ Gregory Hills Dr - AM (Site Folder: AM 2022 Base)]

 Network: N101 [AM 2022 Base (Network Folder: General)]

Kavanagh St/ Gregory Hills Dr

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 135 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Gregory Hills Dr (NB)														
1	L2	44	7.1	44	7.1	* 0.265	6.1	LOS A	0.6	4.7	0.03	0.09	0.03	57.6
2	T1	708	3.0	708	3.0	0.265	0.4	LOS A	0.7	4.7	0.03	0.06	0.03	58.4
Approach		753	3.2	753	3.2	0.265	0.8	LOS A	0.7	4.7	0.03	0.06	0.03	58.3
North: Gregory Hills Dr (SB)														
8	T1	819	2.1	819	2.1	0.254	0.3	LOS A	0.7	5.0	0.03	0.03	0.03	63.7
9	R2	28	7.4	28	7.4	0.053	5.9	LOS A	0.0	0.2	0.02	0.58	0.02	52.3
Approach		847	2.2	847	2.2	0.254	0.5	LOS A	0.7	5.0	0.03	0.04	0.03	63.5
West: RoadName														
10	L2	56	3.8	56	3.8	* 0.231	61.8	LOS E	3.3	24.1	0.93	0.75	0.93	7.5
12	R2	64	6.6	64	6.6	0.489	72.4	LOS F	4.3	31.5	1.00	0.76	1.00	18.8
Approach		120	5.3	120	5.3	0.489	67.5	LOS E	4.3	31.5	0.97	0.75	0.97	14.7
All Vehicles		1720	2.9	1720	2.9	0.489	5.3	LOS A	4.3	31.5	0.09	0.10	0.09	55.6

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Gregory Hills Dr (NB)											
P1	Full	1	61.6	LOS F	0.0	0.0	0.96	0.96	231.4	220.7	0.95
North: Gregory Hills Dr (SB)											
P3	Full	1	61.6	LOS F	0.0	0.0	0.96	0.96	231.3	220.5	0.95
West: RoadName											
P4	Full	1	61.6	LOS F	0.0	0.0	0.96	0.96	226.6	214.4	0.95
All Pedestrians		3	61.6	LOS F	0.0	0.0	0.96	0.96	229.7	218.5	0.95

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: 101 [4. Kavanagh St/ Oaklands Circuit/ Village Cct - AM**
(Site Folder: AM 2022 Base)]

 **Network: N101 [AM 2022**
Base (Network Folder: General)]

Kavanagh St/ Oaklands Circuit/ Village Cct
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist m				
South: Village Cct														
1	L2	25	8.3	25	8.3	0.050	2.0	LOS A	0.2	1.7	0.21	0.45	0.21	36.1
2	T1	1	0.0	1	0.0	0.050	1.5	LOS A	0.2	1.7	0.21	0.45	0.21	39.0
3	R2	36	2.9	36	2.9	0.050	5.8	LOS A	0.2	1.7	0.21	0.45	0.21	36.1
3u	U	1	0.0	1	0.0	0.050	11.2	LOS A	0.2	1.7	0.21	0.45	0.21	45.9
Approach		63	5.0	63	5.0	0.050	4.3	LOS A	0.2	1.7	0.21	0.45	0.21	36.4
East: Kavanagh St (WB)														
4	L2	9	0.0	9	0.0	0.056	3.0	LOS A	0.3	2.0	0.14	0.45	0.14	39.3
5	T1	43	9.8	43	9.8	0.056	3.0	LOS A	0.3	2.0	0.14	0.45	0.14	35.7
6	R2	6	0.0	6	0.0	0.056	7.4	LOS A	0.3	2.0	0.14	0.45	0.14	42.2
6u	U	17	6.3	17	6.3	0.056	11.0	LOS A	0.3	2.0	0.14	0.45	0.14	35.7
Approach		76	6.9	76	6.9	0.056	5.2	LOS A	0.3	2.0	0.14	0.45	0.14	37.5
North: Oaklands Circuit														
7	L2	19	0.0	19	0.0	0.026	2.1	LOS A	0.1	0.8	0.26	0.40	0.26	34.5
8	T1	3	0.0	3	0.0	0.026	1.7	LOS A	0.1	0.8	0.26	0.40	0.26	39.5
9	R2	9	0.0	9	0.0	0.026	6.0	LOS A	0.1	0.8	0.26	0.40	0.26	34.5
9u	U	1	0.0	1	0.0	0.026	11.3	LOS A	0.1	0.8	0.26	0.40	0.26	45.3
Approach		33	0.0	33	0.0	0.026	3.5	LOS A	0.1	0.8	0.26	0.40	0.26	35.9
West: Kavanagh St (EB)														
10	L2	6	0.0	6	0.0	0.059	3.1	LOS A	0.3	2.0	0.19	0.43	0.19	38.8
11	T1	46	4.5	46	4.5	0.059	3.1	LOS A	0.3	2.0	0.19	0.43	0.19	35.4
12	R2	23	0.0	23	0.0	0.059	7.6	LOS A	0.3	2.0	0.19	0.43	0.19	41.3
12u	U	1	0.0	1	0.0	0.059	11.1	LOS A	0.3	2.0	0.19	0.43	0.19	35.4
Approach		77	2.7	77	2.7	0.059	4.5	LOS A	0.3	2.0	0.19	0.43	0.19	38.9
All Vehicles		248	4.2	248	4.2	0.059	4.5	LOS A	0.3	2.0	0.19	0.44	0.19	37.3

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

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MOVEMENT SUMMARY

Site: 101 [5. Kavanagh St/ Wallarah Cct/ Junee St - AM (Site Folder: AM 2022 Base)]

Network: N101 [AM 2022 Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
East: Kavanagh St (WB)														
5	T1	72	0.0	72	0.0	0.037	0.0	LOS A	0.0	0.0	0.01	0.01	0.01	49.6
6	R2	1	0.0	1	0.0	0.037	4.8	LOS A	0.0	0.0	0.01	0.01	0.01	42.8
Approach		73	0.0	73	0.0	0.037	0.1	NA	0.0	0.0	0.01	0.01	0.01	49.3
North: Junee St														
7	L2	1	0.0	1	0.0	0.007	3.6	LOS A	0.0	0.2	0.20	0.47	0.20	33.0
9	R2	7	0.0	7	0.0	0.007	4.0	LOS A	0.0	0.2	0.20	0.47	0.20	33.0
Approach		8	0.0	8	0.0	0.007	4.0	LOS A	0.0	0.2	0.20	0.47	0.20	33.0
West: Kavanagh St (EB)														
10	L2	4	0.0	4	0.0	0.041	4.5	LOS A	0.0	0.0	0.00	0.03	0.00	47.7
11	T1	75	2.8	75	2.8	0.041	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	47.8
Approach		79	2.7	79	2.7	0.041	0.2	NA	0.0	0.0	0.00	0.03	0.00	47.8
All Vehicles		160	1.3	160	1.3	0.041	0.4	NA	0.0	0.2	0.01	0.04	0.01	46.6

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 **Site: 101 [6. Kavanagh St/ Wallarah Cct/ Audley Cct - AM (Site Folder: AM 2022 Base)]**
 **Network: N101 [AM 2022 Base (Network Folder: General)]**

Kavanagh St/ Wallarah Cct/ Audley Cct
 Site Category: 2022 Base
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Audley Cct														
1	L2	19	5.6	19	5.6	0.018	3.7	LOS A	0.1	0.5	0.17	0.44	0.17	35.6
2	T1	1	0.0	1	0.0	0.018	2.7	LOS A	0.1	0.5	0.17	0.44	0.17	37.0
3	R2	4	0.0	4	0.0	0.018	4.3	LOS A	0.1	0.5	0.17	0.44	0.17	35.6
Approach		24	4.3	24	4.3	0.018	3.7	LOS A	0.1	0.5	0.17	0.44	0.17	35.7
East: Kavanagh St (WB)														
4	L2	4	25.0	4	25.0	0.047	4.6	LOS A	0.1	0.4	0.03	0.07	0.03	40.9
5	T1	75	5.6	75	5.6	0.047	0.0	LOS A	0.1	0.4	0.03	0.07	0.03	44.8
6	R2	6	16.7	6	16.7	0.047	4.8	LOS A	0.1	0.4	0.03	0.07	0.03	40.2
Approach		85	7.4	85	7.4	0.047	0.6	NA	0.1	0.4	0.03	0.07	0.03	43.2
North: Wallarah Cct/														
7	L2	11	0.0	11	0.0	0.014	3.6	LOS A	0.1	0.4	0.16	0.45	0.16	31.5
8	T1	1	0.0	1	0.0	0.014	2.7	LOS A	0.1	0.4	0.16	0.45	0.16	37.0
9	R2	5	20.0	5	20.0	0.014	4.7	LOS A	0.1	0.4	0.16	0.45	0.16	31.5
Approach		17	6.3	17	6.3	0.014	3.9	LOS A	0.1	0.4	0.16	0.45	0.16	32.3
West: Kavanagh St (EB)														
10	L2	3	0.0	3	0.0	0.042	4.8	LOS A	0.1	0.5	0.06	0.10	0.06	44.4
11	T1	64	3.3	64	3.3	0.042	0.0	LOS A	0.1	0.5	0.06	0.10	0.06	46.9
12	R2	11	0.0	11	0.0	0.042	4.8	LOS A	0.1	0.5	0.06	0.10	0.06	42.1
Approach		78	2.7	78	2.7	0.042	0.9	NA	0.1	0.5	0.06	0.10	0.06	45.3
All Vehicles		204	5.2	204	5.2	0.047	1.3	NA	0.1	0.5	0.07	0.15	0.07	41.3

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [7. Kavanagh St/ Wallarah Cct - AM (Site Folder: AM 2022 Base)]

Network: N101 [AM 2022 Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Kavanagh St (WB)														
5	T1	93	0.0	93	0.0	0.051	0.0	LOS A	0.0	0.3	0.03	0.04	0.03	48.8
6	R2	6	0.0	6	0.0	0.051	4.8	LOS A	0.0	0.3	0.03	0.04	0.03	44.2
Approach		99	0.0	99	0.0	0.051	0.3	NA	0.0	0.3	0.03	0.04	0.03	48.3
North: Wallarah Cct														
7	L2	2	0.0	2	0.0	0.019	3.6	LOS A	0.1	0.4	0.22	0.49	0.22	30.8
9	R2	19	0.0	19	0.0	0.019	4.1	LOS A	0.1	0.4	0.22	0.49	0.22	30.8
Approach		21	0.0	21	0.0	0.019	4.1	LOS A	0.1	0.4	0.22	0.49	0.22	30.8
West: Kavanagh St (EB)														
10	L2	14	0.0	14	0.0	0.047	4.6	LOS A	0.0	0.0	0.00	0.08	0.00	47.5
11	T1	76	2.8	76	2.8	0.047	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	47.9
Approach		89	2.4	89	2.4	0.047	0.7	NA	0.0	0.0	0.00	0.08	0.00	47.8
All Vehicles		209	1.0	209	1.0	0.051	0.9	NA	0.1	0.4	0.04	0.10	0.04	46.2

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [8. Village Cct/ Kavanagh St - AM (Site Folder: AM 2022 Base)]

Network: N101 [AM 2022 Base (Network Folder: General)]

Village Cct/ Kavanagh St
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Village Cct (NB)														
1	L2	2	0.0	2	0.0	0.083	5.1	LOS A	0.1	0.5	0.04	0.04	0.04	49.0
2	T1	146	2.2	146	2.2	0.083	0.0	LOS A	0.1	0.5	0.04	0.04	0.04	49.2
3	R2	8	0.0	8	0.0	0.083	5.2	LOS A	0.1	0.5	0.04	0.04	0.04	49.2
Approach		157	2.0	157	2.0	0.083	0.4	NA	0.1	0.5	0.04	0.04	0.04	49.2
East: Kavanagh St (WB)														
4	L2	4	0.0	4	0.0	0.169	4.9	LOS A	0.6	4.4	0.39	0.65	0.39	43.1
5	T1	4	0.0	4	0.0	0.169	4.7	LOS A	0.6	4.4	0.39	0.65	0.39	43.7
6	R2	127	4.1	127	4.1	0.169	6.6	LOS A	0.6	4.4	0.39	0.65	0.39	35.8
Approach		136	3.9	136	3.9	0.169	6.5	LOS A	0.6	4.4	0.39	0.65	0.39	36.9
North: Village Cct (SB)														
7	L2	92	4.6	92	4.6	0.112	4.0	LOS A	0.2	1.3	0.08	0.27	0.08	32.5
8	T1	91	5.8	91	5.8	0.112	0.1	LOS A	0.2	1.3	0.08	0.27	0.08	46.5
9	R2	20	0.0	20	0.0	0.112	4.3	LOS A	0.2	1.3	0.08	0.27	0.08	45.3
Approach		202	4.7	202	4.7	0.112	2.3	NA	0.2	1.3	0.08	0.27	0.08	44.4
West: Kavanagh St (EB)														
10	L2	3	0.0	3	0.0	0.006	5.0	LOS A	0.0	0.1	0.27	0.50	0.27	43.4
11	T1	2	0.0	2	0.0	0.006	4.6	LOS A	0.0	0.1	0.27	0.50	0.27	43.4
12	R2	1	0.0	1	0.0	0.006	5.9	LOS A	0.0	0.1	0.27	0.50	0.27	45.2
Approach		6	0.0	6	0.0	0.006	5.0	LOS A	0.0	0.1	0.27	0.50	0.27	43.8
All Vehicles		501	3.6	501	3.6	0.169	2.9	NA	0.6	4.4	0.15	0.31	0.15	44.2

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 **Site: 101 [9. Village Cct/ Healy Ave/ Gregory Hills Access - PM (Site Folder: PM 2022 Base)]**

 **Network: N101 [PM 2022 Base (Network Folder: General)]**

Village Cct/ Healy Ave/ Gregory Hills Access
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Village Cct (NB)														
1	L2	45	7.0	45	7.0	0.189	3.5	LOS A	1.0	7.7	0.38	0.54	0.38	43.7
2	T1	87	8.4	87	8.4	0.189	3.6	LOS A	1.0	7.7	0.38	0.54	0.38	25.8
3	R2	80	0.0	80	0.0	0.189	7.4	LOS A	1.0	7.7	0.38	0.54	0.38	27.1
3u	U	1	0.0	1	0.0	0.189	9.8	LOS A	1.0	7.7	0.38	0.54	0.38	25.8
Approach		214	4.9	214	4.9	0.189	5.0	LOS A	1.0	7.7	0.38	0.54	0.38	34.9
East: Gregory Hills Access														
4	L2	73	1.4	73	1.4	0.192	2.2	LOS A	1.1	7.8	0.31	0.45	0.31	23.6
5	T1	65	0.0	65	0.0	0.192	2.0	LOS A	1.1	7.8	0.31	0.45	0.31	45.5
6	R2	101	0.0	101	0.0	0.192	5.7	LOS A	1.1	7.8	0.31	0.45	0.31	23.6
6u	U	1	0.0	1	0.0	0.192	8.9	LOS A	1.1	7.8	0.31	0.45	0.31	25.7
Approach		240	0.4	240	0.4	0.192	3.7	LOS A	1.1	7.8	0.31	0.45	0.31	37.2
North: Village Cct (SB)														
7	L2	199	0.0	199	0.0	0.244	4.3	LOS A	1.2	8.6	0.35	0.50	0.35	35.1
8	T1	63	10.0	63	10.0	0.244	4.5	LOS A	1.2	8.6	0.35	0.50	0.35	35.3
9	R2	4	50.0	4	50.0	0.244	9.4	LOS A	1.2	8.6	0.35	0.50	0.35	45.6
9u	U	4	0.0	4	0.0	0.244	11.6	LOS A	1.2	8.6	0.35	0.50	0.35	35.3
Approach		271	3.1	271	3.1	0.244	4.5	LOS A	1.2	8.6	0.35	0.50	0.35	35.6
West: Healy Ave														
10	L2	38	16.7	38	16.7	0.161	4.9	LOS A	0.9	6.2	0.46	0.57	0.46	42.7
11	T1	82	0.0	82	0.0	0.161	4.6	LOS A	0.9	6.2	0.46	0.57	0.46	42.4
12	R2	46	2.3	46	2.3	0.161	8.7	LOS A	0.9	6.2	0.46	0.57	0.46	42.7
12u	U	1	0.0	1	0.0	0.161	11.9	LOS A	0.9	6.2	0.46	0.57	0.46	50.4
Approach		167	4.4	167	4.4	0.161	5.8	LOS A	0.9	6.2	0.46	0.57	0.46	42.6
All Vehicles		892	3.1	892	3.1	0.244	4.7	LOS A	1.2	8.6	0.37	0.51	0.37	38.2

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

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Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Village Cct (NB)											
P1	Full	4	44.2	LOS E	0.0	0.0	0.94	0.94	209.2	214.6	1.03
East: Gregory Hills Dr (WB)											
P2	Full	9	44.2	LOS E	0.0	0.0	0.94	0.94	212.8	219.2	1.03
North: Village Cct (SB)											
P3	Full	1	44.2	LOS E	0.0	0.0	0.94	0.94	211.3	217.2	1.03
West: Gregory Hills Dr (EB)											

P4 Full	2	44.2	LOS E	0.0	0.0	0.94	0.94	212.9	219.3	1.03
All Pedestrians	17	44.2	LOS E	0.0	0.0	0.94	0.94	211.8	217.9	1.03

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.

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MOVEMENT SUMMARY

Site: 101 [2. Gregory Hills Dr/Golden Wattle Ave - PM (Site Folder: PM 2022 Base)]

Network: N101 [PM 2022 Base (Network Folder: General)]

2. Gregory Hills Dr/Golden Wattle Ave
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
East: Gregory Hills D (WB)														
5	T1	822	4.2	822	4.2	0.217	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		822	4.2	822	4.2	0.217	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Golden Wattle Ave														
7	L2	72	0.0	72	0.0	0.070	6.8	LOS A	0.3	1.9	0.36	0.59	0.36	41.6
Approach		72	0.0	72	0.0	0.070	6.8	LOS A	0.3	1.9	0.36	0.59	0.36	41.6
West: Gregory Hills D (EB)														
10	L2	23	0.0	23	0.0	0.161	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.7
11	T1	594	2.8	594	2.8	0.161	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
Approach		617	2.7	617	2.7	0.161	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.2
All Vehicles		1511	3.4	1511	3.4	0.217	0.5	NA	0.3	1.9	0.02	0.04	0.02	59.0

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 Site: 101 [3. Kavanagh St/ Gregory Hills Dr - PM (Site Folder: PM 2022 Base)]

 Network: N101 [PM 2022 Base (Network Folder: General)]

Kavanagh St/ Gregory Hills Dr

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Gregory Hills Dr (NB)														
1	L2	87	3.6	87	3.6	* 0.324	6.1	LOS A	0.7	5.2	0.03	0.14	0.03	56.5
2	T1	784	4.3	784	4.3	0.324	0.5	LOS A	0.7	5.4	0.03	0.08	0.03	57.9
Approach		872	4.2	872	4.2	0.324	1.0	LOS A	0.7	5.4	0.03	0.09	0.03	57.7
North: Gregory Hills Dr (SB)														
8	T1	614	2.6	614	2.6	0.192	0.3	LOS A	0.4	3.1	0.03	0.02	0.03	63.8
9	R2	52	2.0	52	2.0	0.099	5.8	LOS A	0.1	0.4	0.02	0.58	0.02	52.3
Approach		665	2.5	665	2.5	0.192	0.7	LOS A	0.4	3.1	0.03	0.07	0.03	63.1
West: RoadName														
10	L2	38	2.8	38	2.8	* 0.139	52.8	LOS D	2.0	14.0	0.90	0.72	0.90	8.5
12	R2	55	3.8	55	3.8	0.454	66.1	LOS E	3.3	23.6	1.00	0.75	1.00	20.1
Approach		93	3.4	93	3.4	0.454	60.7	LOS E	3.3	23.6	0.96	0.74	0.96	16.6
All Vehicles		1629	3.5	1629	3.5	0.454	4.3	LOS A	3.3	23.6	0.08	0.12	0.08	56.1

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Gregory Hills Dr (NB)											
P1	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	223.9	220.7	0.99
North: Gregory Hills Dr (SB)											
P3	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
West: RoadName											
P4	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.1	214.4	0.98
All Pedestrians		3	54.2	LOS E	0.0	0.0	0.95	0.95	222.3	218.5	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: 101 [4. Kavanagh St/ Oaklands Circuit/ Village Cct - PM**
(Site Folder: PM 2022 Base)]

 **Network: N101 [PM 2022**
Base (Network Folder: General)]

Kavanagh St/ Oaklands Circuit/ Village Cct
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Village Cct														
1	L2	16	0.0	16	0.0	0.035	2.0	LOS A	0.2	1.2	0.23	0.45	0.23	36.1
2	T1	3	0.0	3	0.0	0.035	1.6	LOS A	0.2	1.2	0.23	0.45	0.23	39.0
3	R2	25	0.0	25	0.0	0.035	5.9	LOS A	0.2	1.2	0.23	0.45	0.23	36.1
3u	U	1	0.0	1	0.0	0.035	11.2	LOS A	0.2	1.2	0.23	0.45	0.23	45.9
Approach		45	0.0	45	0.0	0.035	4.4	LOS A	0.2	1.2	0.23	0.45	0.23	36.7
East: Kavanagh St (WB)														
4	L2	36	2.9	36	2.9	0.089	3.0	LOS A	0.4	3.2	0.13	0.43	0.13	39.5
5	T1	62	6.8	62	6.8	0.089	3.0	LOS A	0.4	3.2	0.13	0.43	0.13	36.4
6	R2	14	0.0	14	0.0	0.089	7.4	LOS A	0.4	3.2	0.13	0.43	0.13	42.7
6u	U	15	0.0	15	0.0	0.089	10.9	LOS A	0.4	3.2	0.13	0.43	0.13	36.4
Approach		126	4.2	126	4.2	0.089	4.4	LOS A	0.4	3.2	0.13	0.43	0.13	38.8
North: Oaklands Circuit														
7	L2	15	0.0	15	0.0	0.017	2.1	LOS A	0.1	0.5	0.24	0.37	0.24	35.0
8	T1	1	0.0	1	0.0	0.017	1.6	LOS A	0.1	0.5	0.24	0.37	0.24	39.7
9	R2	4	0.0	4	0.0	0.017	5.9	LOS A	0.1	0.5	0.24	0.37	0.24	35.0
9u	U	1	0.0	1	0.0	0.017	11.2	LOS A	0.1	0.5	0.24	0.37	0.24	45.9
Approach		21	0.0	21	0.0	0.017	3.3	LOS A	0.1	0.5	0.24	0.37	0.24	36.3
West: Kavanagh St (EB)														
10	L2	5	0.0	5	0.0	0.054	3.1	LOS A	0.3	1.8	0.18	0.45	0.18	38.6
11	T1	40	2.6	40	2.6	0.054	3.1	LOS A	0.3	1.8	0.18	0.45	0.18	35.1
12	R2	25	0.0	25	0.0	0.054	7.5	LOS A	0.3	1.8	0.18	0.45	0.18	41.2
12u	U	1	0.0	1	0.0	0.054	11.1	LOS A	0.3	1.8	0.18	0.45	0.18	35.1
Approach		72	1.5	72	1.5	0.054	4.8	LOS A	0.3	1.8	0.18	0.45	0.18	39.0
All Vehicles		264	2.4	264	2.4	0.089	4.4	LOS A	0.4	3.2	0.17	0.43	0.17	38.2

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

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MOVEMENT SUMMARY

Site: 101 [5. Kavanagh St/ Wallarah Cct/ Junee St - PM (Site Folder: PM 2022 Base)]

Network: N101 [PM 2022 Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	[Veh. veh			Dist] m					
East: Kavanagh St (WB)														
5	T1	80	5.3	80	5.3	0.044	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	49.2
6	R2	2	0.0	2	0.0	0.044	4.8	LOS A	0.0	0.1	0.01	0.01	0.01	42.7
Approach		82	5.1	82	5.1	0.044	0.1	NA	0.0	0.1	0.01	0.01	0.01	48.8
North: Junee St														
7	L2	1	0.0	1	0.0	0.005	3.6	LOS A	0.0	0.1	0.19	0.47	0.19	33.0
9	R2	5	0.0	5	0.0	0.005	4.0	LOS A	0.0	0.1	0.19	0.47	0.19	33.0
Approach		6	0.0	6	0.0	0.005	4.0	LOS A	0.0	0.1	0.19	0.47	0.19	33.0
West: Kavanagh St (EB)														
10	L2	4	0.0	4	0.0	0.038	4.5	LOS A	0.0	0.0	0.00	0.03	0.00	47.7
11	T1	69	1.5	69	1.5	0.038	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	47.7
Approach		74	1.4	74	1.4	0.038	0.3	NA	0.0	0.0	0.00	0.03	0.00	47.7
All Vehicles		162	3.2	162	3.2	0.044	0.3	NA	0.0	0.1	0.01	0.04	0.01	46.9

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

▼ Site: 101 [6. Kavanagh St/ Wallarah Cct/ Audley Cct - PM (Site Folder: PM 2022 Base)] ■ Network: N101 [PM 2022 Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Audley Cct														
1	L2	12	0.0	12	0.0	0.010	3.6	LOS A	0.0	0.3	0.15	0.43	0.15	35.7
2	T1	1	0.0	1	0.0	0.010	2.7	LOS A	0.0	0.3	0.15	0.43	0.15	37.1
3	R2	1	0.0	1	0.0	0.010	4.3	LOS A	0.0	0.3	0.15	0.43	0.15	35.7
Approach		14	0.0	14	0.0	0.010	3.6	LOS A	0.0	0.3	0.15	0.43	0.15	35.9
East: Kavanagh St (WB)														
4	L2	5	0.0	5	0.0	0.046	4.6	LOS A	0.1	0.5	0.05	0.09	0.05	40.7
5	T1	71	6.0	71	6.0	0.046	0.0	LOS A	0.1	0.5	0.05	0.09	0.05	42.1
6	R2	9	0.0	9	0.0	0.046	4.8	LOS A	0.1	0.5	0.05	0.09	0.05	39.8
Approach		85	4.9	85	4.9	0.046	0.8	NA	0.1	0.5	0.05	0.09	0.05	41.3
North: Wallarah Cct/														
7	L2	8	0.0	8	0.0	0.011	3.6	LOS A	0.0	0.3	0.16	0.45	0.16	31.5
8	T1	1	0.0	1	0.0	0.011	2.7	LOS A	0.0	0.3	0.16	0.45	0.16	37.0
9	R2	4	0.0	4	0.0	0.011	4.3	LOS A	0.0	0.3	0.16	0.45	0.16	31.5
Approach		14	0.0	14	0.0	0.011	3.7	LOS A	0.0	0.3	0.16	0.45	0.16	32.5
West: Kavanagh St (EB)														
10	L2	2	0.0	2	0.0	0.044	4.8	LOS A	0.1	0.7	0.07	0.11	0.07	44.1
11	T1	65	1.6	65	1.6	0.044	0.1	LOS A	0.1	0.7	0.07	0.11	0.07	46.4
12	R2	15	0.0	15	0.0	0.044	4.8	LOS A	0.1	0.7	0.07	0.11	0.07	41.9
Approach		82	1.3	82	1.3	0.044	1.0	NA	0.1	0.7	0.07	0.11	0.07	44.7
All Vehicles		195	2.7	195	2.7	0.046	1.3	NA	0.1	0.7	0.07	0.15	0.07	41.6

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

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

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

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

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

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

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

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\P1998v01_Existing School AM and PM Peak_220617_mk (1).sip9

MOVEMENT SUMMARY

 **Site: 101 [7. Kavanagh St/ Wallarah Cct - PM (Site Folder: PM 2022 Base)]**
 **Network: N101 [PM 2022 Base (Network Folder: General)]**

Kavanagh St/ Wallarah Cct
 Site Category: 2022 Base
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	%				[Veh. veh	Dist] m				
East: Kavanagh St (WB)														
5	T1	86	4.9	86	4.9	0.046	0.0	LOS A	0.0	0.0	0.01	0.01	0.01	49.7
6	R2	1	0.0	1	0.0	0.046	4.8	LOS A	0.0	0.0	0.01	0.01	0.01	44.7
Approach		87	4.8	87	4.8	0.046	0.1	NA	0.0	0.0	0.01	0.01	0.01	49.6
North: Wallarah Cct														
7	L2	1	0.0	1	0.0	0.009	3.6	LOS A	0.0	0.2	0.22	0.48	0.22	30.8
9	R2	9	0.0	9	0.0	0.009	4.1	LOS A	0.0	0.2	0.22	0.48	0.22	30.8
Approach		11	0.0	11	0.0	0.009	4.1	LOS A	0.0	0.2	0.22	0.48	0.22	30.8
West: Kavanagh St (EB)														
10	L2	13	0.0	13	0.0	0.050	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	47.7
11	T1	84	1.3	84	1.3	0.050	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	48.2
Approach		97	1.1	97	1.1	0.050	0.6	NA	0.0	0.0	0.00	0.07	0.00	48.1
All Vehicles		195	2.7	195	2.7	0.050	0.5	NA	0.0	0.2	0.01	0.06	0.01	47.7

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [8. Village Cct/ Kavanagh St - PM (Site Folder: PM 2022 Base)]

Network: N101 [PM 2022 Base (Network Folder: General)]

Village Cct/ Kavanagh St
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Village Cct (NB)														
1	L2	2	0.0	2	0.0	0.067	4.9	LOS A	0.0	0.2	0.02	0.02	0.02	49.2
2	T1	121	3.5	121	3.5	0.067	0.0	LOS A	0.0	0.2	0.02	0.02	0.02	49.5
3	R2	3	0.0	3	0.0	0.067	5.1	LOS A	0.0	0.2	0.02	0.02	0.02	49.5
Approach		126	3.3	126	3.3	0.067	0.2	NA	0.0	0.2	0.02	0.02	0.02	49.5
East: Kavanagh St (WB)														
4	L2	5	0.0	5	0.0	0.120	4.9	LOS A	0.4	3.1	0.35	0.62	0.35	43.4
5	T1	4	0.0	4	0.0	0.120	4.4	LOS A	0.4	3.1	0.35	0.62	0.35	44.0
6	R2	91	7.0	91	7.0	0.120	6.3	LOS A	0.4	3.1	0.35	0.62	0.35	36.4
Approach		100	6.3	100	6.3	0.120	6.1	LOS A	0.4	3.1	0.35	0.62	0.35	37.9
North: Village Cct (SB)														
7	L2	66	4.8	66	4.8	0.097	3.9	LOS A	0.0	0.1	0.01	0.20	0.01	37.6
8	T1	113	3.7	113	3.7	0.097	0.0	LOS A	0.0	0.1	0.01	0.20	0.01	47.8
9	R2	2	0.0	2	0.0	0.097	4.2	LOS A	0.0	0.1	0.01	0.20	0.01	46.4
Approach		181	4.1	181	4.1	0.097	1.5	NA	0.0	0.1	0.01	0.20	0.01	46.9
West: Kavanagh St (EB)														
10	L2	1	0.0	1	0.0	0.004	4.9	LOS A	0.0	0.1	0.28	0.50	0.28	43.6
11	T1	2	0.0	2	0.0	0.004	4.4	LOS A	0.0	0.1	0.28	0.50	0.28	43.6
12	R2	1	0.0	1	0.0	0.004	5.7	LOS A	0.0	0.1	0.28	0.50	0.28	45.3
Approach		4	0.0	4	0.0	0.004	4.8	LOS A	0.0	0.1	0.28	0.50	0.28	44.2
All Vehicles		412	4.3	412	4.3	0.120	2.3	NA	0.4	3.1	0.10	0.25	0.10	45.6

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

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

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

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

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

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

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

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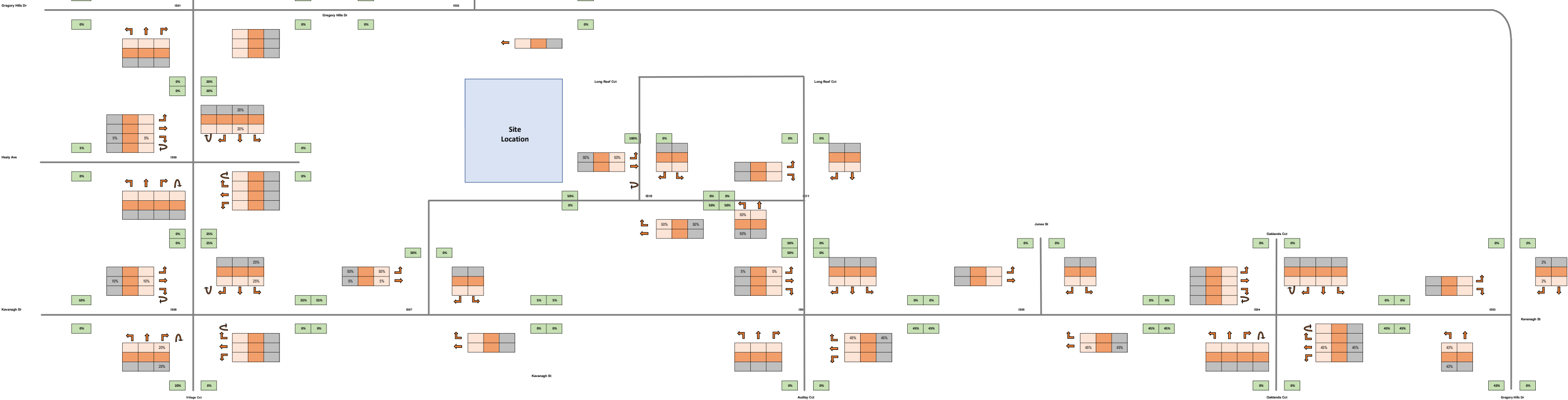
\P1998v01_Existing School AM and PM Peak_220617_mk (1).sip9

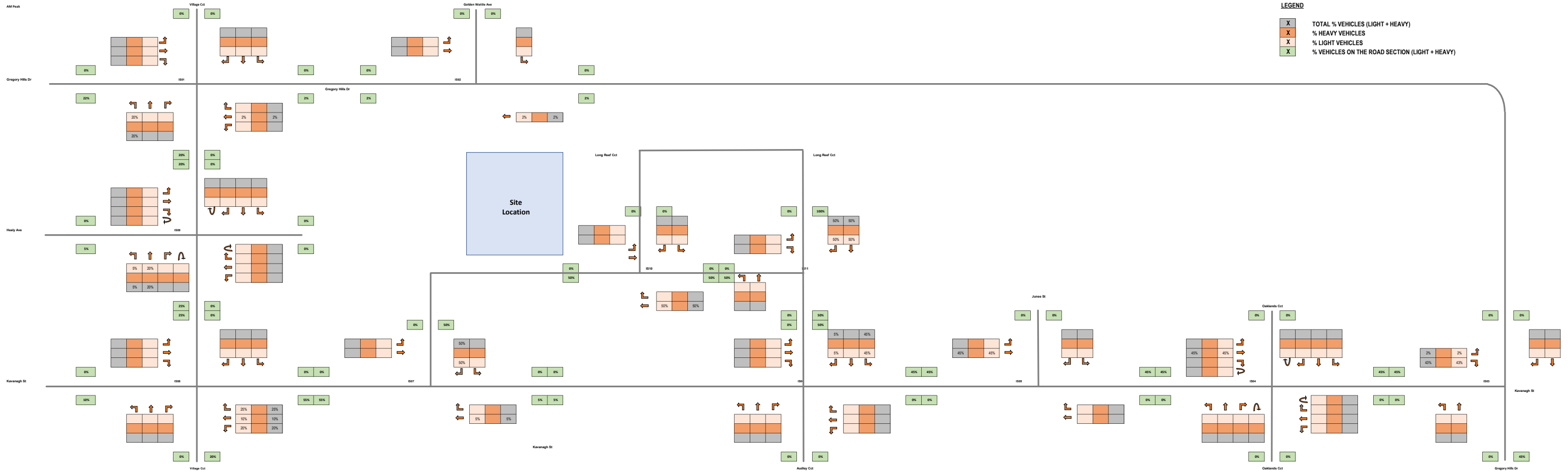
Appendix C. School AM & PM Peak Traffic Distributions and Assignments

AM Peak

LEGEND

- X TOTAL % VEHICLES (LIGHT + HEAVY)
- X % HEAVY VEHICLES
- X % LIGHT VEHICLES
- X % VEHICLES ON THE ROAD SECTION (LIGHT + HEAVY)

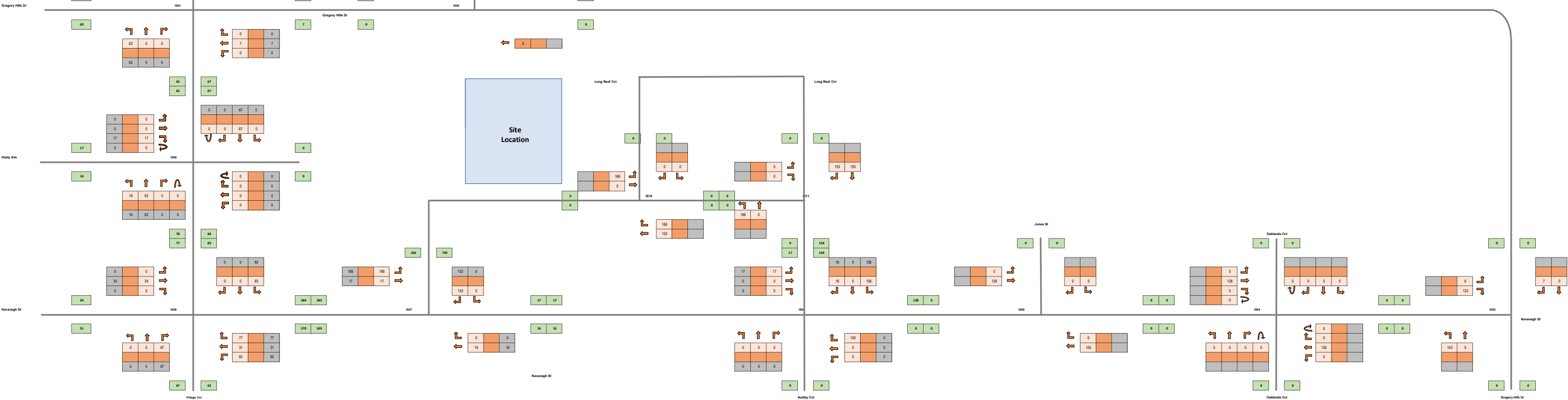




AM Peak





LEGEND

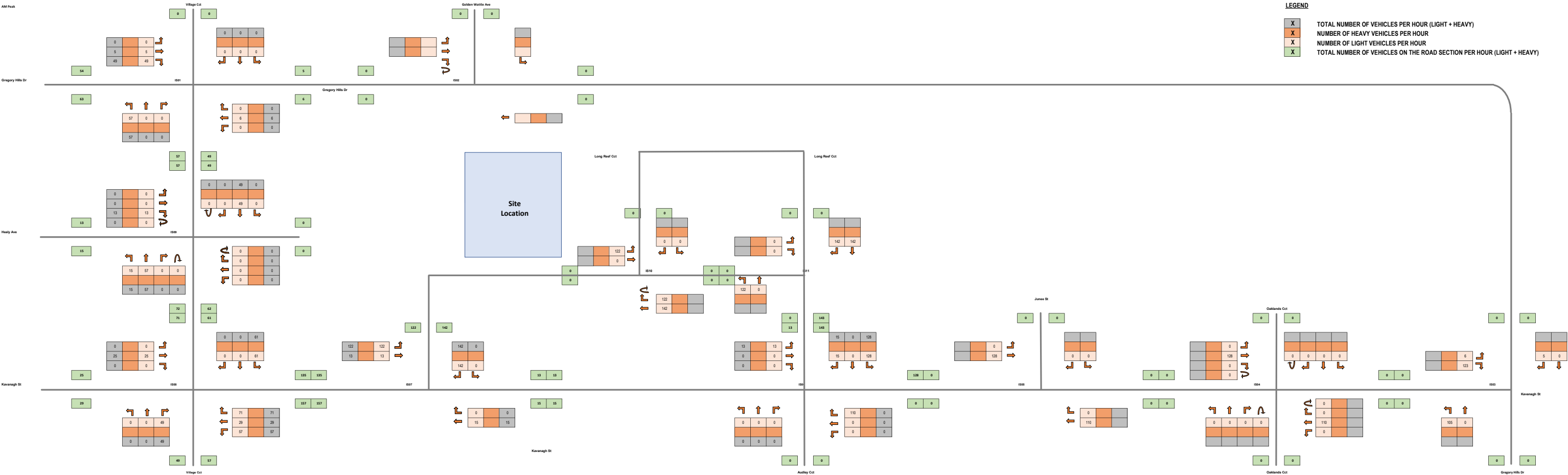
- X TOTAL NUMBER OF VEHICLES PER HOUR (LIGHT + HEAVY)
- X NUMBER OF HEAVY VEHICLES PER HOUR
- X NUMBER OF LIGHT VEHICLES PER HOUR
- X TOTAL NUMBER OF VEHICLES ON THE ROAD SECTION PER HOUR (LIGHT + HEAVY)



AM Peak

LEGEND

-  TOTAL NUMBER OF VEHICLES PER HOUR (LIGHT + HEAVY)
-  NUMBER OF HEAVY VEHICLES PER HOUR
-  NUMBER OF LIGHT VEHICLES PER HOUR
-  TOTAL NUMBER OF VEHICLES ON THE ROAD SECTION PER HOUR (LIGHT + HEAVY)



Appendix D. Future Year 2024 & 2034 Network Diagrams

AM Peak

LEGEND

- TOTAL VEHICLE PER HOUR (LIGHT + HEAVY)
- NUMBER OF HEAVY VEHICLE PER HOUR
- NUMBER OF LIGHT VEHICLE PER HOUR
- TOTAL VEHICLE ON ROAD SECTION PER HOUR (LIGHT + HEAVY)

Gregory Hills Dr

Healy Ave

Kavanagh St

Village Crt

93

112

317

319

279

277

158

305

306

209

209

96

70

33

9

44

2

46

2

0

2

121

6

127

67

31

7

687

21

708

20

85

87

5

0

5

28

2

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743

16

727

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AM Peak

LEGEND

- | |
|---|
| X |
|---|

 TOTAL VEHICLE PER HOUR (LIGHT + HEAVY)
- | |
|---|
| X |
|---|

 NUMBER OF HEAVY VEHICLE PER HOUR
- | |
|---|
| X |
|---|

 NUMBER OF LIGHT VEHICLE PER HOUR
- | |
|---|
| X |
|---|

 TOTAL VEHICLE ON ROAD SECTION PER HOUR (LIGHT + HEAVY)

Gregory Hills Dr

Healy Ave

Kavanagh St

Village Crt

112

97

23

9

Site Location

Gregory Hills Dr

Long Reef Crt

Long Reef Crt

Junee St

Oaklands Crt

Oaklands Crt

Gregory Hills Dr

Kavanagh St

Audley Crt

35	0	35
524	17	507
220	7	213

57	34	6
3	0	0
54	34	6

23	0	23
587	17	570

0
0
0

60	2	62
764	34	798
56	3	59

5	47	54	197
0	3	7	0
5	44	57	197

39	7	32
82	0	82
47	2	45
82	0	82

2	0	2
100	0	100
65	0	65
71	0	71

42	80	80	0
4	8	0	0
46	88	80	0

3	113	87
0	5	4
3	108	63

13	0	13
85	2	83

10	0
10	0
0	0

6	0	6
4	0	4

4	
2	2
0	0
2	2

6	0	6
3	0	3

6	0	6
0	0	0
12	6	

3	0	3
86	2	64
15	0	15

2	2
0	0
2	2

5	0	9
0	0	0
5	0	9

5	0	5
70	2	69

6	0
0	0
6	0

6	0	6
41	2	39
25	0	25
2	0	2

0	5	2	15
0	0	0	0
0	5	2	15

39	2	37
55	3	52

52	607
2	16
50	591

2	0	2
3	0	3
0	0	0

84	7	91
5	0	5
6	0	6

0	0	0
82	5	87

12	0	0
0	0	0
12	0	0

19	0	10
66	5	71
6	0	6

3	0	3
75	5	80

16	4	25	2
0	0	0	0
16	4	25	2

15	0	15
14	0	14
58	5	63
35	2	37

84	742
4	34
88	776

AM Peak

LEGEND

- TOTAL VEHICLE PER HOUR (LIGHT + HEAVY)
- NUMBER OF HEAVY VEHICLE PER HOUR
- NUMBER OF LIGHT VEHICLE PER HOUR
- TOTAL VEHICLE ON ROAD SECTION PER HOUR (LIGHT + HEAVY)

Gregory Hills Dr

Healy Ave

Kavanagh St

Village Crt

Site Location

Long Reef Crt

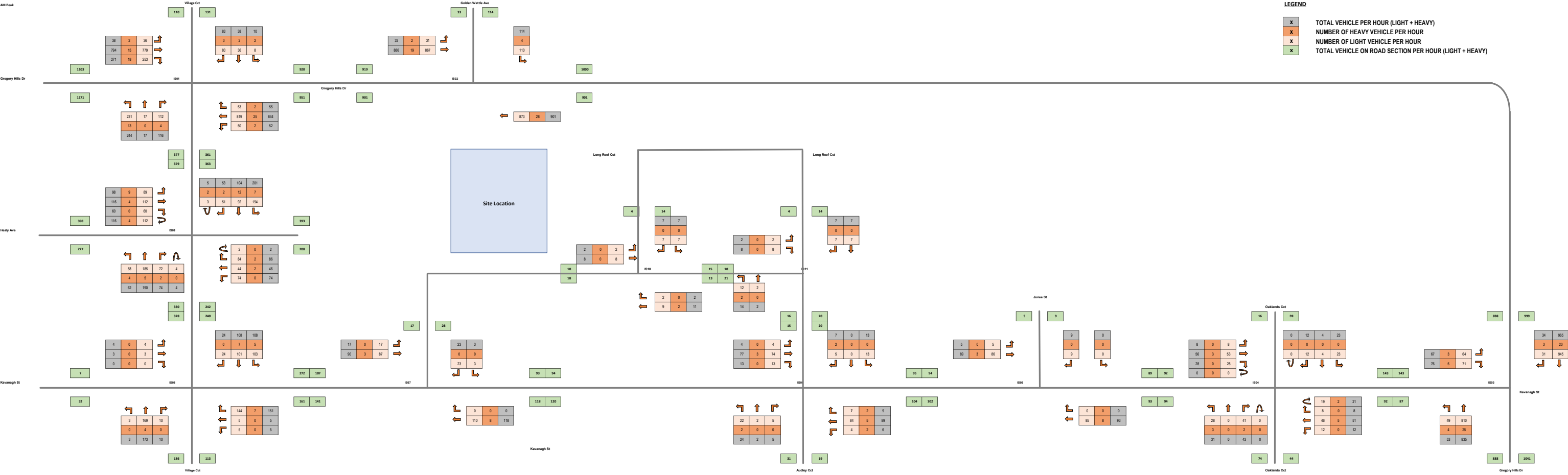
Long Reef Crt

Junee St

Oaklands Crt

Oaklands Crt

Gregory Hills Dr



AM Peak

LEGEND

- TOTAL VEHICLE PER HOUR (LIGHT + HEAVY)
- NUMBER OF HEAVY VEHICLE PER HOUR
- NUMBER OF LIGHT VEHICLE PER HOUR
- TOTAL VEHICLE ON ROAD SECTION PER HOUR (LIGHT + HEAVY)

Gregory Hills Dr

Healy Ave

Kavanagh St

Village Crt

131

114

28

9

Gregory Hills Dr

Long Reef Crt

Long Reef Crt

Junee St

Oaklands Crt

Oaklands Crt

Gregory Hills Dr

Site Location

Kavanagh St

Audley Crt

41	0	41
624	20	604
281	8	253

67	40	7
3	0	0
64	40	7

28	0	28
700	20	680

0		
0		
0		

71	2	73
911	40	951
66	3	69

5	56	75	236
0	3	8	0
5	53	67	235

2	0	2
120	0	120
77	0	77
85	0	85

3	133	79
0	5	4
3	128	75

15	0	15
100	2	98

12	0	
12	0	
0	0	

100 99

0	0	0
97	5	102

102 103

14	0	0
0	0	0
14	0	0

12	0	12
79	5	84
7	0	7

100 102

5	0	5
83	2	81

3	0	3
90	5	95
0	0	0

96 100

7	0	7
0	0	0
7	0	

19	4	30	2
0	0	0	0
19	4	30	2

55 77

0	5	2	18
0	0	0	0
0	5	2	18

18	0	18
17	0	17
69	5	74
41	2	43

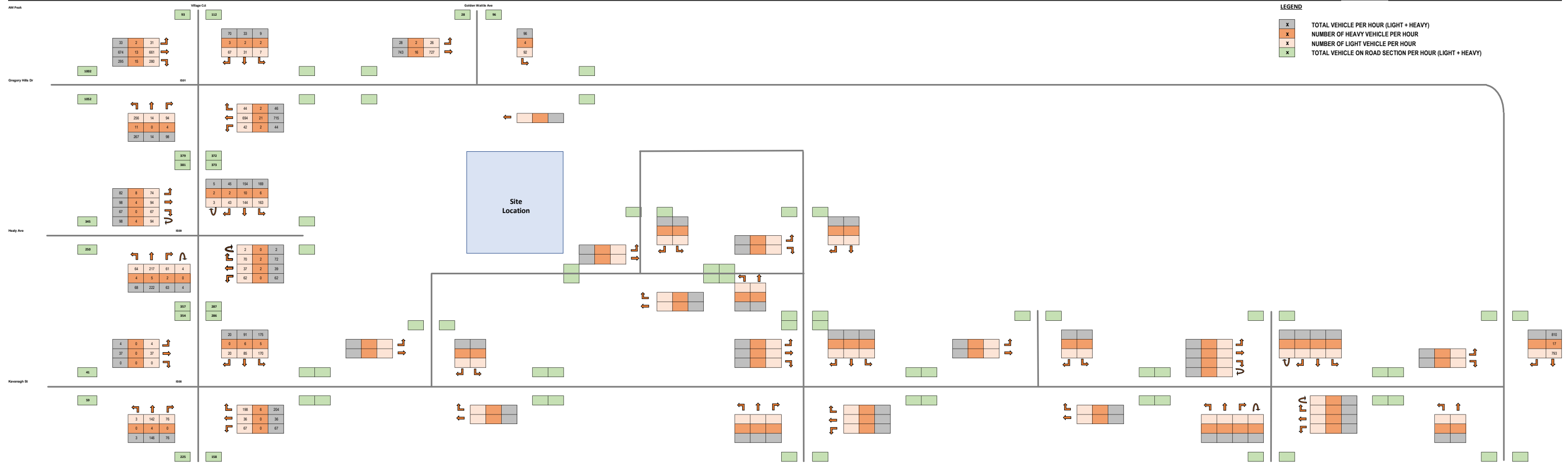
152 166

100	885
4	40
104	925

1029 789

62	724
2	19
60	725

796



LEGEND

- | | |
|---|--|
| x | TOTAL VEHICLE PER HOUR (LIGHT + HEAVY) |
| x | NUMBER OF HEAVY VEHICLE PER HOUR |
| x | NUMBER OF LIGHT VEHICLE PER HOUR |
| x | TOTAL VEHICLE ON ROAD SECTION PER HOUR (LIGHT + HEAVY) |

LEGEND

- TOTAL VEHICLE PER HOUR (LIGHT + HEAVY)
- NUMBER OF HEAVY VEHICLE PER HOUR
- NUMBER OF LIGHT VEHICLE PER HOUR
- TOTAL VEHICLE ON ROAD SECTION PER HOUR (LIGHT + HEAVY)

AM Peak

Gregory Hills Dr

Healy Ave

Kavanagh St

Village Crt

110

131

1377

439

441

407

408

405

41

253

131

428

430

293

326

329

69

175

131

428

430

293

326

329

69

175

131

428

430

293

326

329

69

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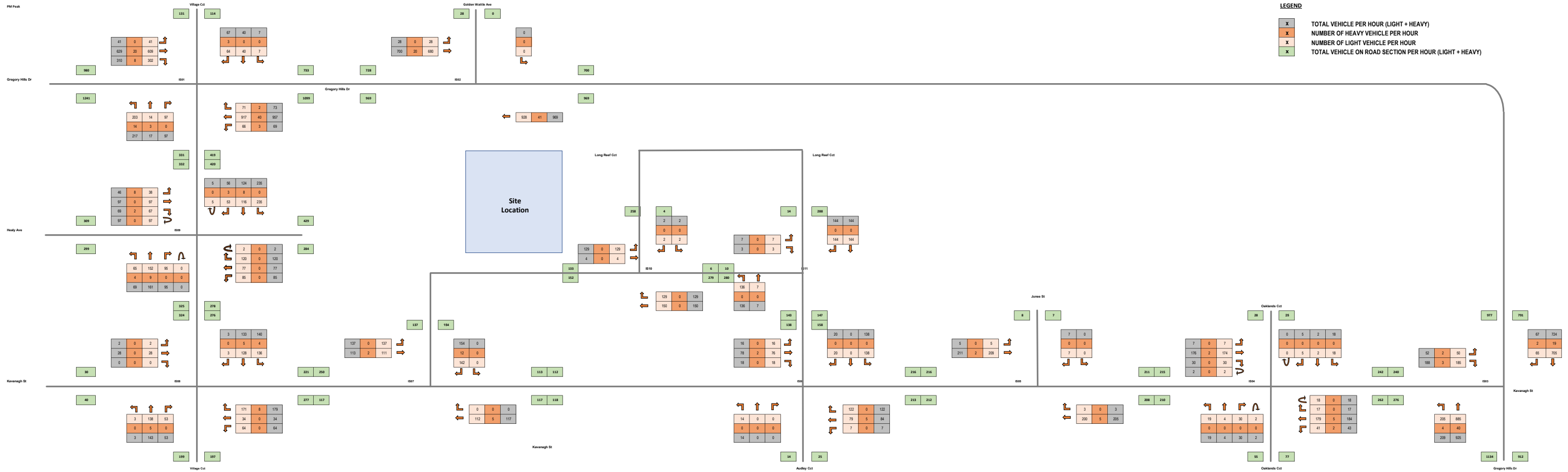
175

131

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430

293



Appendix E. Future Year 2024 & 2034 without School SIDRA Results

P2	Full	4	51.7	LOS E	0.0	0.0	0.95	0.95	220.3	219.2	1.00
North: Village Cct (SB)											
P3	Full	1	51.7	LOS E	0.0	0.0	0.95	0.95	218.7	217.2	0.99
West: Gregory Hills Dr (EB)											
P4	Full	4	51.7	LOS E	0.0	0.0	0.95	0.95	220.4	219.3	1.00
All Pedestrians		325	52.3	LOS E	1.0	1.0	0.96	0.96	217.5	214.7	0.99

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: 101 [2. Gregory Hills Dr/Golden Wattle Ave - AM - 2024
Base (Site Folder: AM 2024 Base)]

Network: N101 [AM 2024
Base (Network Folder: General)]

2. Gregory Hills Dr/Golden Wattle Ave
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
East: Gregory Hills D (WB)														
5	T1	796	3.0	796	3.0	0.208	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		796	3.0	796	3.0	0.208	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Golden Wattle Ave														
7	L2	101	4.2	101	4.2	0.111	7.5	LOS A	0.4	3.2	0.43	0.63	0.43	41.0
Approach		101	4.2	101	4.2	0.111	7.5	LOS A	0.4	3.2	0.43	0.63	0.43	41.0
West: Gregory Hills D (EB)														
10	L2	29	7.1	29	7.1	0.212	5.7	LOS A	0.0	0.0	0.00	0.04	0.00	55.2
11	T1	782	2.2	782	2.2	0.212	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
Approach		812	2.3	812	2.3	0.212	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.1
All Vehicles		1708	2.8	1708	2.8	0.212	0.6	NA	0.4	3.2	0.03	0.05	0.03	58.7

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

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

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

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

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

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

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

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Project: C:\Users\user\Desktop\P1998v01_Existing School AM and PM Peak_05092022.sip9

MOVEMENT SUMMARY

 Site: 101 [3. Kavanagh St/ Gregory Hills Dr - AM - 2024 Base
(Site Folder: AM 2024 Base)]

 Network: N101 [AM 2024
Base (Network Folder: General)]

Kavanagh St/ Gregory Hills Dr

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 135 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c			sec	[Veh. veh				Dist] m
South: Gregory Hills Dr (NB)														
1	L2	47	8.9	47	8.9	*0.277	6.1	LOS A	0.7	4.9	0.03	0.10	0.03	57.6
2	T1	738	3.0	738	3.0	0.277	0.4	LOS A	0.7	5.0	0.03	0.06	0.03	58.3
Approach		785	3.4	785	3.4	0.277	0.8	LOS A	0.7	5.0	0.03	0.06	0.03	58.3
North: Gregory Hills Dr (SB)														
8	T1	853	2.1	853	2.1	0.265	0.3	LOS A	0.7	5.2	0.03	0.03	0.03	63.7
9	R2	31	10.3	31	10.3	0.060	5.9	LOS A	0.0	0.3	0.02	0.58	0.02	52.3
Approach		883	2.4	883	2.4	0.265	0.5	LOS A	0.7	5.2	0.03	0.05	0.03	63.4
West: RoadName														
10	L2	60	5.3	60	5.3	*0.251	62.1	LOS E	3.6	26.4	0.94	0.75	0.94	7.4
12	R2	68	7.7	68	7.7	0.525	72.7	LOS F	4.6	34.0	1.00	0.76	1.00	18.7
Approach		128	6.6	128	6.6	0.525	67.7	LOS E	4.6	34.0	0.97	0.76	0.97	14.6
All Vehicles		1797	3.1	1797	3.1	0.525	5.4	LOS A	4.6	34.0	0.10	0.10	0.10	55.4

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Gregory Hills Dr (NB)											
P1	Full	1	61.6	LOS F	0.0	0.0	0.96	0.96	231.4	220.7	0.95
North: Gregory Hills Dr (SB)											
P3	Full	1	61.6	LOS F	0.0	0.0	0.96	0.96	231.3	220.5	0.95
West: RoadName											
P4	Full	1	61.6	LOS F	0.0	0.0	0.96	0.96	226.6	214.4	0.95
All Pedestrians		3	61.6	LOS F	0.0	0.0	0.96	0.96	229.7	218.5	0.95

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: 101 [4. Kavanagh St/ Oaklands Circult/ Village Cct - AM - 2024 Base (Site Folder: AM 2024 Base)]

Network: N101 [AM 2024 Base (Network Folder: General)]

Kavangh St/ Oaklands Circult/ Village Cct
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Village Cct														
1	L2	27	11.5	27	11.5	0.055	2.1	LOS A	0.3	2.0	0.23	0.45	0.23	36.1
2	T1	1	0.0	1	0.0	0.055	1.6	LOS A	0.3	2.0	0.23	0.45	0.23	38.9
3	R2	39	5.4	39	5.4	0.055	5.9	LOS A	0.3	2.0	0.23	0.45	0.23	36.1
3u	U	1	0.0	1	0.0	0.055	11.2	LOS A	0.3	2.0	0.23	0.45	0.23	45.8
Approach		68	7.7	68	7.7	0.055	4.4	LOS A	0.3	2.0	0.23	0.45	0.23	36.3
East: Kavanagh St (WB)														
4	L2	11	0.0	11	0.0	0.063	3.0	LOS A	0.3	2.3	0.15	0.45	0.15	39.2
5	T1	46	11.4	46	11.4	0.063	3.0	LOS A	0.3	2.3	0.15	0.45	0.15	35.6
6	R2	7	0.0	7	0.0	0.063	7.5	LOS A	0.3	2.3	0.15	0.45	0.15	42.1
6u	U	19	11.1	19	11.1	0.063	11.1	LOS A	0.3	2.3	0.15	0.45	0.15	35.6
Approach		83	8.9	83	8.9	0.063	5.3	LOS A	0.3	2.3	0.15	0.45	0.15	37.5
North: Oaklands Circult														
7	L2	20	0.0	20	0.0	0.029	2.2	LOS A	0.1	0.9	0.28	0.40	0.28	34.4
8	T1	4	0.0	4	0.0	0.029	1.8	LOS A	0.1	0.9	0.28	0.40	0.28	39.4
9	R2	11	0.0	11	0.0	0.029	6.0	LOS A	0.1	0.9	0.28	0.40	0.28	34.4
9u	U	1	0.0	1	0.0	0.029	11.4	LOS A	0.1	0.9	0.28	0.40	0.28	45.2
Approach		36	0.0	36	0.0	0.029	3.5	LOS A	0.1	0.9	0.28	0.40	0.28	36.0
West: Kavanagh St (EB)														
10	L2	7	0.0	7	0.0	0.064	3.1	LOS A	0.3	2.2	0.20	0.44	0.20	38.7
11	T1	49	6.4	49	6.4	0.064	3.1	LOS A	0.3	2.2	0.20	0.44	0.20	35.2
12	R2	24	0.0	24	0.0	0.064	7.6	LOS A	0.3	2.2	0.20	0.44	0.20	41.3
12u	U	1	0.0	1	0.0	0.064	11.1	LOS A	0.3	2.2	0.20	0.44	0.20	35.2
Approach		82	3.8	82	3.8	0.064	4.6	LOS A	0.3	2.2	0.20	0.44	0.20	38.8
All Vehicles		269	5.9	269	5.9	0.064	4.6	LOS A	0.3	2.3	0.20	0.44	0.20	37.2

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

Site: 101 [5. Kavanagh St/ Wallarah Cct/ Junee St - AM - 2024
Base (Site Folder: AM 2024 Base)]

Network: N101 [AM 2024
Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
East: Kavanagh St (WB)														
5	T1	82	9.0	82	9.0	0.045	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	49.6
6	R2	1	0.0	1	0.0	0.045	4.8	LOS A	0.0	0.1	0.01	0.01	0.01	42.8
Approach		83	8.9	83	8.9	0.045	0.1	NA	0.0	0.1	0.01	0.01	0.01	49.4
North: Junee St														
7	L2	2	0.0	2	0.0	0.009	3.6	LOS A	0.0	0.2	0.20	0.47	0.20	33.0
9	R2	8	0.0	8	0.0	0.009	4.1	LOS A	0.0	0.2	0.20	0.47	0.20	33.0
Approach		11	0.0	11	0.0	0.009	4.0	LOS A	0.0	0.2	0.20	0.47	0.20	33.0
West: Kavanagh St (EB)														
10	L2	5	0.0	5	0.0	0.044	4.5	LOS A	0.0	0.0	0.00	0.03	0.00	47.6
11	T1	79	4.0	79	4.0	0.044	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	47.4
Approach		84	3.8	84	3.8	0.044	0.3	NA	0.0	0.0	0.00	0.03	0.00	47.5
All Vehicles		178	5.9	178	5.9	0.045	0.4	NA	0.0	0.2	0.01	0.05	0.01	46.3

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

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

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

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

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

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

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

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Project: C:\Users\user\Desktop\P1998v01_Existing School AM and PM Peak_05092022.sip9

MOVEMENT SUMMARY

Site: 101 [6. Kavanagh St/ Wallarah Cct/ Audley Cct - AM - 2024
Base (Site Folder: AM 2024 Base)]

Network: N101 [AM 2024
Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Audley Cct														
1	L2	21	10.0	21	10.0	0.022	3.7	LOS A	0.1	0.6	0.18	0.44	0.18	35.6
2	T1	2	0.0	2	0.0	0.022	2.7	LOS A	0.1	0.6	0.18	0.44	0.18	35.6
3	R2	5	0.0	5	0.0	0.022	4.4	LOS A	0.1	0.6	0.18	0.44	0.18	35.6
Approach		28	7.4	28	7.4	0.022	3.8	LOS A	0.1	0.6	0.18	0.44	0.18	35.6
East: Kavanagh St (WB)														
4	L2	6	33.3	6	33.3	0.053	4.7	LOS A	0.1	0.5	0.05	0.08	0.05	40.7
5	T1	79	6.7	79	6.7	0.053	0.0	LOS A	0.1	0.5	0.05	0.08	0.05	43.9
6	R2	8	25.0	8	25.0	0.053	4.8	LOS A	0.1	0.5	0.05	0.08	0.05	43.9
Approach		94	10.1	94	10.1	0.053	0.8	NA	0.1	0.5	0.05	0.08	0.05	42.9
North: Wallarah Cct/														
7	L2	12	0.0	12	0.0	0.018	3.6	LOS A	0.1	0.5	0.17	0.45	0.17	31.2
8	T1	1	0.0	1	0.0	0.018	2.7	LOS A	0.1	0.5	0.17	0.45	0.17	36.9
9	R2	7	28.6	7	28.6	0.018	4.9	LOS A	0.1	0.5	0.17	0.45	0.17	31.2
Approach		20	10.5	20	10.5	0.018	4.0	LOS A	0.1	0.5	0.17	0.45	0.17	31.9
West: Kavanagh St (EB)														
10	L2	4	0.0	4	0.0	0.045	4.8	LOS A	0.1	0.6	0.06	0.10	0.06	46.7
11	T1	68	4.6	68	4.6	0.045	0.1	LOS A	0.1	0.6	0.06	0.10	0.06	46.7
12	R2	12	0.0	12	0.0	0.045	4.8	LOS A	0.1	0.6	0.06	0.10	0.06	42.0
Approach		84	3.8	84	3.8	0.045	0.9	NA	0.1	0.6	0.06	0.10	0.06	45.2
All Vehicles		226	7.4	226	7.4	0.053	1.5	NA	0.1	0.6	0.08	0.17	0.08	41.0

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [7. Kavanagh St/ Wallarah Cct - AM - 2024 Base (Site Folder: AM 2024 Base)]

Network: N101 [AM 2024 Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	%				[Veh. veh	Dist] m				
East: Kavanagh St (WB)														
5	T1	97	0.0	97	0.0	0.050	0.0	LOS A	0.0	0.0	0.01	0.01	0.01	49.8
6	R2	1	0.0	1	0.0	0.050	4.8	LOS A	0.0	0.0	0.01	0.01	0.01	49.8
Approach		98	0.0	98	0.0	0.050	0.1	NA	0.0	0.0	0.01	0.01	0.01	49.8
North: Wallarah Cct														
7	L2	3	0.0	3	0.0	0.020	3.6	LOS A	0.1	0.5	0.22	0.49	0.22	34.6
9	R2	20	0.0	20	0.0	0.020	4.2	LOS A	0.1	0.5	0.22	0.49	0.22	34.6
Approach		23	0.0	23	0.0	0.020	4.1	LOS A	0.1	0.5	0.22	0.49	0.22	34.6
West: Kavanagh St (EB)														
10	L2	15	0.0	15	0.0	0.050	4.6	LOS A	0.0	0.0	0.00	0.08	0.00	47.8
11	T1	80	3.9	80	3.9	0.050	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	47.8
Approach		95	3.3	95	3.3	0.050	0.7	NA	0.0	0.0	0.00	0.08	0.00	47.8
All Vehicles		216	1.5	216	1.5	0.050	0.8	NA	0.1	0.5	0.03	0.09	0.03	46.1

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [8. Village Cct/ Kavanagh St - AM - 2024 Base (Site Folder: AM 2024 Base)]

Network: N101 [AM 2024 Base (Network Folder: General)]

Village Cct/ Kavanagh St
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	HV %	[Total veh/h]	HV %	v/c			sec	[Veh. veh]				Dist m
South: Village Cct (NB)														
1	L2	3	0.0	3	0.0	0.088	5.1	LOS A	0.1	0.5	0.05	0.04	0.05	49.0
2	T1	154	2.7	154	2.7	0.088	0.1	LOS A	0.1	0.5	0.05	0.04	0.05	49.1
3	R2	9	0.0	9	0.0	0.088	5.2	LOS A	0.1	0.5	0.05	0.04	0.05	49.1
Approach		166	2.5	166	2.5	0.088	0.4	NA	0.1	0.5	0.05	0.04	0.05	49.1
East: Kavanagh St (WB)														
4	L2	5	0.0	5	0.0	0.184	4.9	LOS A	0.7	4.9	0.40	0.66	0.40	42.9
5	T1	5	0.0	5	0.0	0.184	4.8	LOS A	0.7	4.9	0.40	0.66	0.40	43.6
6	R2	134	4.7	134	4.7	0.184	6.8	LOS A	0.7	4.9	0.40	0.66	0.40	35.6
Approach		144	4.4	144	4.4	0.184	6.6	LOS A	0.7	4.9	0.40	0.66	0.40	36.8
North: Village Cct (SB)														
7	L2	97	5.4	97	5.4	0.119	4.0	LOS A	0.2	1.4	0.08	0.27	0.08	32.5
8	T1	96	6.6	96	6.6	0.119	0.1	LOS A	0.2	1.4	0.08	0.27	0.08	46.5
9	R2	21	0.0	21	0.0	0.119	4.4	LOS A	0.2	1.4	0.08	0.27	0.08	45.3
Approach		214	5.4	214	5.4	0.119	2.3	NA	0.2	1.4	0.08	0.27	0.08	44.4
West: Kavanagh St (EB)														
10	L2	4	0.0	4	0.0	0.008	5.0	LOS A	0.0	0.2	0.28	0.51	0.28	43.4
11	T1	3	0.0	3	0.0	0.008	4.7	LOS A	0.0	0.2	0.28	0.51	0.28	43.4
12	R2	1	0.0	1	0.0	0.008	6.0	LOS A	0.0	0.2	0.28	0.51	0.28	45.2
Approach		8	0.0	8	0.0	0.008	5.0	LOS A	0.0	0.2	0.28	0.51	0.28	43.8
All Vehicles		533	4.2	533	4.2	0.184	2.9	NA	0.7	4.9	0.16	0.31	0.16	44.1

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 Site: 101 [9. Village Cct/ Healy Ave/ Gregory Hills Access - AM - 2024 Base (Site Folder: AM 2024 Base)]

 Network: N101 [AM 2024 Base (Network Folder: General)]

Village Cct/ Healy Ave/ Gregory Hills Access
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Village Cct (NB)														
1	L2	55	7.7	55	7.7	0.253	3.5	LOS A	1.5	11.0	0.40	0.51	0.40	44.0
2	T1	168	3.1	168	3.1	0.253	3.6	LOS A	1.5	11.0	0.40	0.51	0.40	26.5
3	R2	66	3.2	66	3.2	0.253	7.5	LOS A	1.5	11.0	0.40	0.51	0.40	27.5
3u	U	4	0.0	4	0.0	0.253	9.8	LOS A	1.5	11.0	0.40	0.51	0.40	26.5
Approach		294	3.9	294	3.9	0.253	4.6	LOS A	1.5	11.0	0.40	0.51	0.40	34.9
East: Gregory Hills Access														
4	L2	65	0.0	65	0.0	0.164	2.7	LOS A	1.0	6.8	0.41	0.50	0.41	22.7
5	T1	41	5.1	41	5.1	0.164	2.6	LOS A	1.0	6.8	0.41	0.50	0.41	45.1
6	R2	76	2.8	76	2.8	0.164	6.2	LOS A	1.0	6.8	0.41	0.50	0.41	22.7
6u	U	2	0.0	2	0.0	0.164	9.4	LOS A	1.0	6.8	0.41	0.50	0.41	25.1
Approach		184	2.3	184	2.3	0.164	4.2	LOS A	1.0	6.8	0.41	0.50	0.41	35.1
North: Village Cct (SB)														
7	L2	178	3.6	178	3.6	0.301	4.5	LOS A	1.6	11.7	0.38	0.54	0.38	34.1
8	T1	92	11.5	92	11.5	0.301	4.7	LOS A	1.6	11.7	0.38	0.54	0.38	34.1
9	R2	47	4.4	47	4.4	0.301	8.7	LOS A	1.6	11.7	0.38	0.54	0.38	45.9
9u	U	5	40.0	5	40.0	0.301	12.9	LOS A	1.6	11.7	0.38	0.54	0.38	34.1
Approach		322	6.5	322	6.5	0.301	5.3	LOS A	1.6	11.7	0.38	0.54	0.38	37.8
West: Healy Ave														
10	L2	86	9.8	86	9.8	0.246	5.2	LOS A	1.4	10.4	0.53	0.61	0.53	42.6
11	T1	103	4.1	103	4.1	0.246	5.1	LOS A	1.4	10.4	0.53	0.61	0.53	42.3
12	R2	53	0.0	53	0.0	0.246	9.0	LOS A	1.4	10.4	0.53	0.61	0.53	42.6
12u	U	2	0.0	2	0.0	0.246	12.3	LOS A	1.4	10.4	0.53	0.61	0.53	50.4
Approach		244	5.2	244	5.2	0.246	6.0	LOS A	1.4	10.4	0.53	0.61	0.53	42.5
All Vehicles		1044	4.7	1044	4.7	0.301	5.1	LOS A	1.6	11.7	0.43	0.54	0.43	38.8

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

Site: 101 [10. Wallarah Cct/ Long Reef Cct W - AM - 2024 Base
(Site Folder: AM 2024 Base)]

Network: N101 [AM 2024
Base (Network Folder: General)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
East: Wallarah Cct														
5	T1	1	0.0	1	0.0	0.002	0.1	LOS A	0.0	0.0	0.12	0.23	0.12	30.1
6	R2	1	0.0	1	0.0	0.002	3.7	LOS A	0.0	0.0	0.12	0.23	0.12	30.1
Approach		2	0.0	2	0.0	0.002	1.9	NA	0.0	0.0	0.12	0.23	0.12	30.1
North: Long Reef Cct														
7	L2	1	0.0	1	0.0	0.003	3.4	LOS A	0.0	0.0	0.01	0.47	0.01	33.4
9	R2	1	0.0	1	0.0	0.003	3.5	LOS A	0.0	0.0	0.01	0.47	0.01	33.4
Approach		2	0.0	2	0.0	0.003	3.5	LOS A	0.0	0.0	0.01	0.47	0.01	33.4
West: Wallarah Cct														
10	L2	1	0.0	1	0.0	0.002	3.4	LOS A	0.0	0.0	0.00	0.23	0.00	37.7
11	T1	1	0.0	1	0.0	0.002	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	37.7
Approach		2	0.0	2	0.0	0.002	1.7	NA	0.0	0.0	0.00	0.23	0.00	37.7
All Vehicles		6	0.0	6	0.0	0.003	2.4	NA	0.0	0.0	0.04	0.31	0.04	35.1

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [11. Wallarah Cct/ Long Reef Cct E - AM - 2024 Base
(Site Folder: AM 2024 Base)]

Network: N101 [AM 2024
Base (Network Folder: General)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Wallarah Cct														
1	L2	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.30	0.00	46.4
2	T1	1	0.0	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.00	0.30	0.00	46.4
Approach		2	0.0	2	0.0	0.001	2.8	NA	0.0	0.0	0.00	0.30	0.00	46.4
North: Long Reef Cct														
8	T1	1	0.0	1	0.0	0.002	4.1	LOS A	0.0	0.0	0.02	0.56	0.02	42.4
9	R2	1	0.0	1	0.0	0.002	5.5	LOS A	0.0	0.0	0.02	0.56	0.02	42.4
Approach		2	0.0	2	0.0	0.002	4.8	LOS A	0.0	0.0	0.02	0.56	0.02	42.4
West: Wallarah Cct														
10	L2	1	0.0	1	0.0	0.001	4.5	LOS A	0.0	0.0	0.01	0.57	0.01	30.5
12	R2	1	0.0	1	0.0	0.001	4.4	LOS A	0.0	0.0	0.01	0.57	0.01	30.5
Approach		2	0.0	2	0.0	0.001	4.5	NA	0.0	0.0	0.01	0.57	0.01	30.5
All Vehicles		6	0.0	6	0.0	0.002	4.0	NA	0.0	0.0	0.01	0.47	0.01	40.8

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [1. Gregory Hills Dr/ Village Cct - AM - 2034 (Site Folder: AM 2034 Base)]

■ ■ Network: N101 [AM 2034
Base (Network Folder: General)]

Gregory Hills Dr/ Village Cct

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 115 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c			sec	[Veh. veh				
South: Village Cct (NB)														
1	L2	257	5.3	257	5.3	0.413	35.3	LOS C	10.9	80.1	0.81	0.79	0.81	30.3
2	T1	18	0.0	18	0.0	*0.430	34.0	LOS C	6.2	44.3	0.91	0.77	0.91	20.5
3	R2	122	3.4	122	3.4	0.430	38.5	LOS C	6.2	44.3	0.91	0.77	0.91	11.5
Approach		397	4.5	397	4.5	0.430	36.2	LOS C	10.9	80.1	0.84	0.78	0.84	25.8
East: Gregory Hills Dr (WB)														
4	L2	55	3.8	55	3.8	*0.800	44.2	LOS D	24.5	175.7	0.93	0.86	0.98	21.9
5	T1	888	3.0	888	3.0	0.800	38.7	LOS C	24.5	175.7	0.91	0.84	0.96	34.6
6	R2	58	3.6	58	3.6	0.118	20.1	LOS B	1.2	8.7	0.60	0.69	0.60	36.0
Approach		1001	3.0	1001	3.0	0.800	37.9	LOS C	24.5	175.7	0.89	0.84	0.94	34.2
North: Village Cct (SB)														
7	L2	11	20.0	11	20.0	0.221	54.2	LOS D	2.6	19.5	0.93	0.71	0.93	12.4
8	T1	40	5.3	40	5.3	0.221	49.4	LOS D	2.6	19.5	0.93	0.71	0.93	12.4
9	R2	87	3.6	87	3.6	0.273	37.0	LOS C	3.6	25.9	0.91	0.75	0.91	31.0
Approach		138	5.3	138	5.3	0.273	41.9	LOS C	3.6	25.9	0.92	0.74	0.92	25.2
West: Gregory Hills Dr (EB)														
10	L2	40	5.3	40	5.3	0.712	30.1	LOS C	18.0	128.7	0.79	0.70	0.79	36.6
11	T1	836	1.9	836	1.9	0.712	24.9	LOS B	18.6	132.4	0.80	0.70	0.80	33.4
12	R2	285	6.6	285	6.6	*0.633	22.5	LOS B	7.7	56.8	0.80	0.81	0.80	35.0
Approach		1161	3.2	1161	3.2	0.712	24.5	LOS B	18.6	132.4	0.80	0.73	0.80	34.0
All Vehicles		2697	3.4	2697	3.4	0.800	32.1	LOS C	24.5	175.7	0.85	0.78	0.87	32.4

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Village Cct (NB)											
P1	Full	316	52.3	LOS E	1.0	1.0	0.96	0.96	217.4	214.6	0.99
East: Gregory Hills Dr (WB)											

P2	Full	4	51.7	LOS E	0.0	0.0	0.95	0.95	220.3	219.2	1.00
North: Village Cct (SB)											
P3	Full	1	51.7	LOS E	0.0	0.0	0.95	0.95	218.7	217.2	0.99
West: Gregory Hills Dr (EB)											
P4	Full	4	51.7	LOS E	0.0	0.0	0.95	0.95	220.4	219.3	1.00
All Pedestrians		325	52.3	LOS E	1.0	1.0	0.96	0.96	217.5	214.7	0.99

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.

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MOVEMENT SUMMARY

Site: 101 [2. Gregory Hills Dr/Golden Wattle Ave - AM - 2034
(Site Folder: AM 2034 Base)]

Network: N101 [AM 2034
Base (Network Folder: General)]

2. Gregory Hills Dr/Golden Wattle Ave
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	HV %	[Total veh/h]	HV %	v/c	sec		[Veh. veh]	Dist m				km/h
East: Gregory Hills D (WB)														
5	T1	948	3.1	948	3.1	0.248	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		948	3.1	948	3.1	0.248	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Golden Wattle Ave														
7	L2	120	3.5	120	3.5	0.141	8.0	LOS A	0.6	4.2	0.48	0.67	0.48	40.4
Approach		120	3.5	120	3.5	0.141	8.0	LOS A	0.6	4.2	0.48	0.67	0.48	40.4
West: Gregory Hills D (EB)														
10	L2	35	6.1	35	6.1	0.252	5.7	LOS A	0.0	0.0	0.00	0.04	0.00	55.4
11	T1	933	2.1	933	2.1	0.252	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
Approach		967	2.3	967	2.3	0.252	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.1
All Vehicles		2036	2.7	2036	2.7	0.252	0.6	NA	0.6	4.2	0.03	0.05	0.03	58.7

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 Site: 101 [3. Kavanagh St/ Gregory Hills Dr - AM - 2034 (Site Folder: AM 2034 Base)]

 Network: N101 [AM 2034 Base (Network Folder: General)]

Kavanagh St/ Gregory Hills Dr

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 135 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c			sec	[Veh. veh				Dist] m
South: Gregory Hills Dr (NB)														
1	L2	56	7.5	56	7.5	*0.329	6.1	LOS A	0.9	6.3	0.03	0.10	0.03	57.6
2	T1	879	3.0	879	3.0	0.329	0.5	LOS A	0.9	6.4	0.03	0.06	0.03	58.3
Approach		935	3.3	935	3.3	0.329	0.8	LOS A	0.9	6.4	0.03	0.06	0.03	58.3
North: Gregory Hills Dr (SB)														
8	T1	1016	2.1	1016	2.1	0.315	0.4	LOS A	0.9	6.7	0.03	0.03	0.03	63.7
9	R2	36	8.8	36	8.8	0.082	5.9	LOS A	0.0	0.3	0.02	0.58	0.02	52.3
Approach		1052	2.3	1052	2.3	0.315	0.5	LOS A	0.9	6.7	0.03	0.05	0.03	63.4
West: RoadName														
10	L2	71	4.5	71	4.5	*0.294	62.5	LOS E	4.3	31.0	0.94	0.76	0.94	7.4
12	R2	80	6.6	80	6.6	0.609	73.6	LOS F	5.4	39.9	1.00	0.79	1.04	18.6
Approach		151	5.6	151	5.6	0.609	68.4	LOS E	5.4	39.9	0.97	0.78	1.00	14.5
All Vehicles		2137	3.0	2137	3.0	0.609	5.4	LOS A	5.4	39.9	0.10	0.11	0.10	55.5

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Gregory Hills Dr (NB)											
P1	Full	1	61.6	LOS F	0.0	0.0	0.96	0.96	231.4	220.7	0.95
North: Gregory Hills Dr (SB)											
P3	Full	1	61.6	LOS F	0.0	0.0	0.96	0.96	231.3	220.5	0.95
West: RoadName											
P4	Full	1	61.6	LOS F	0.0	0.0	0.96	0.96	226.6	214.4	0.95
All Pedestrians		3	61.6	LOS F	0.0	0.0	0.96	0.96	229.7	218.5	0.95

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: 101 [4. Kavanagh St/ Oaklands Circuit/ Village Cct - AM - 2034 (Site Folder: AM 2034 Base)]

 Network: N101 [AM 2034 Base (Network Folder: General)]

Kavangh St/ Oaklands Circuit/ Village Cct
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Village Cct														
1	L2	33	9.7	33	9.7	0.065	2.1	LOS A	0.3	2.3	0.25	0.45	0.25	36.0
2	T1	1	0.0	1	0.0	0.065	1.6	LOS A	0.3	2.3	0.25	0.45	0.25	38.9
3	R2	45	4.7	45	4.7	0.065	6.0	LOS A	0.3	2.3	0.25	0.45	0.25	36.0
3u	U	1	0.0	1	0.0	0.065	11.3	LOS A	0.3	2.3	0.25	0.45	0.25	45.8
Approach		80	6.6	80	6.6	0.065	4.4	LOS A	0.3	2.3	0.25	0.45	0.25	36.2
East: Kavanagh St (WB)														
4	L2	13	0.0	13	0.0	0.073	3.0	LOS A	0.4	2.6	0.17	0.45	0.17	39.2
5	T1	54	9.8	54	9.8	0.073	3.1	LOS A	0.4	2.6	0.17	0.45	0.17	35.4
6	R2	8	0.0	8	0.0	0.073	7.5	LOS A	0.4	2.6	0.17	0.45	0.17	42.0
6u	U	22	9.5	22	9.5	0.073	11.1	LOS A	0.4	2.6	0.17	0.45	0.17	35.4
Approach		97	7.6	97	7.6	0.073	5.3	LOS A	0.4	2.6	0.17	0.45	0.17	37.4
North: Oaklands Circuit														
7	L2	24	0.0	24	0.0	0.034	2.3	LOS A	0.2	1.1	0.30	0.41	0.30	34.3
8	T1	4	0.0	4	0.0	0.034	1.9	LOS A	0.2	1.1	0.30	0.41	0.30	39.3
9	R2	13	0.0	13	0.0	0.034	6.1	LOS A	0.2	1.1	0.30	0.41	0.30	34.3
9u	U	1	0.0	1	0.0	0.034	11.5	LOS A	0.2	1.1	0.30	0.41	0.30	45.1
Approach		42	0.0	42	0.0	0.034	3.6	LOS A	0.2	1.1	0.30	0.41	0.30	35.6
West: Kavanagh St (EB)														
10	L2	8	0.0	8	0.0	0.076	3.2	LOS A	0.4	2.7	0.22	0.44	0.22	38.6
11	T1	59	5.4	59	5.4	0.076	3.2	LOS A	0.4	2.7	0.22	0.44	0.22	35.0
12	R2	29	0.0	29	0.0	0.076	7.6	LOS A	0.4	2.7	0.22	0.44	0.22	41.2
12u	U	1	0.0	1	0.0	0.076	11.2	LOS A	0.4	2.7	0.22	0.44	0.22	35.0
Approach		98	3.2	98	3.2	0.076	4.6	LOS A	0.4	2.7	0.22	0.44	0.22	38.7
All Vehicles		317	5.0	317	5.0	0.076	4.6	LOS A	0.4	2.7	0.22	0.44	0.22	37.1

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

Site: 101 [5. Kavanagh St/ Wallarah Cct/ Junee St - AM - 2034
(Site Folder: AM 2034 Base)]

Network: N101 [AM 2034
Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
East: Kavanagh St (WB)														
5	T1	89	0.0	89	0.0	0.047	0.0	LOS A	0.0	0.0	0.01	0.01	0.01	49.6
6	R2	1	0.0	1	0.0	0.047	4.9	LOS A	0.0	0.0	0.01	0.01	0.01	42.8
Approach		91	0.0	91	0.0	0.047	0.1	NA	0.0	0.0	0.01	0.01	0.01	49.4
North: Junee St														
7	L2	2	0.0	2	0.0	0.010	3.7	LOS A	0.0	0.2	0.22	0.48	0.22	32.9
9	R2	9	0.0	9	0.0	0.010	4.1	LOS A	0.0	0.2	0.22	0.48	0.22	32.9
Approach		12	0.0	12	0.0	0.010	4.1	LOS A	0.0	0.2	0.22	0.48	0.22	32.9
West: Kavanagh St (EB)														
10	L2	5	0.0	5	0.0	0.052	4.5	LOS A	0.0	0.0	0.00	0.03	0.00	47.7
11	T1	94	3.4	94	3.4	0.052	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	47.8
Approach		99	3.2	99	3.2	0.052	0.2	NA	0.0	0.0	0.00	0.03	0.00	47.8
All Vehicles		201	1.6	201	1.6	0.052	0.4	NA	0.0	0.2	0.02	0.04	0.02	46.4

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [6. Kavanagh St/ Wallarah Cct/ Audley Cct - AM - 2034
(Site Folder: AM 2034 Base)]

Network: N101 [AM 2034
Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Audley Cct														
1	L2	25	8.3	25	8.3	0.025	3.7	LOS A	0.1	0.7	0.19	0.45	0.19	35.6
2	T1	2	0.0	2	0.0	0.025	2.9	LOS A	0.1	0.7	0.19	0.45	0.19	35.6
3	R2	5	0.0	5	0.0	0.025	4.6	LOS A	0.1	0.7	0.19	0.45	0.19	35.6
Approach		33	6.5	33	6.5	0.025	3.8	LOS A	0.1	0.7	0.19	0.45	0.19	35.6
East: Kavanagh St (WB)														
4	L2	6	33.3	6	33.3	0.061	4.7	LOS A	0.1	0.6	0.05	0.08	0.05	40.8
5	T1	94	5.6	94	5.6	0.061	0.0	LOS A	0.1	0.6	0.05	0.08	0.05	44.1
6	R2	9	22.2	9	22.2	0.061	4.9	LOS A	0.1	0.6	0.05	0.08	0.05	44.1
Approach		109	8.7	109	8.7	0.061	0.7	NA	0.1	0.6	0.05	0.08	0.05	43.2
North: Wallarah Cct/														
7	L2	14	0.0	14	0.0	0.020	3.6	LOS A	0.1	0.5	0.19	0.46	0.19	31.1
8	T1	1	0.0	1	0.0	0.020	2.9	LOS A	0.1	0.5	0.19	0.46	0.19	36.9
9	R2	7	28.6	7	28.6	0.020	5.2	LOS A	0.1	0.5	0.19	0.46	0.19	31.1
Approach		22	9.5	22	9.5	0.020	4.1	LOS A	0.1	0.5	0.19	0.46	0.19	31.8
West: Kavanagh St (EB)														
10	L2	4	0.0	4	0.0	0.053	4.8	LOS A	0.1	0.7	0.07	0.10	0.07	46.7
11	T1	81	3.9	81	3.9	0.053	0.1	LOS A	0.1	0.7	0.07	0.10	0.07	46.7
12	R2	14	0.0	14	0.0	0.053	4.9	LOS A	0.1	0.7	0.07	0.10	0.07	42.0
Approach		99	3.2	99	3.2	0.053	0.9	NA	0.1	0.7	0.07	0.10	0.07	45.2
All Vehicles		263	6.4	263	6.4	0.061	1.5	NA	0.1	0.7	0.09	0.16	0.09	41.1

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [7. Kavanagh St/ Wallarah Cct - AM - 2024 (Site Folder: AM 2024 Base)]

Network: N101 [AM 2024 Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	HV [%]	[Total veh/h]	HV [%]	[Veh. veh]			Dist [m]	v/c				
East: Kavanagh St (WB)														
5	T1	124	6.8	124	6.8	0.067	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	49.8
6	R2	1	0.0	1	0.0	0.067	4.9	LOS A	0.0	0.1	0.00	0.00	0.00	49.8
Approach		125	6.7	125	6.7	0.067	0.0	NA	0.0	0.1	0.00	0.00	0.00	49.8
North: Wallarah Cct														
7	L2	3	0.0	3	0.0	0.025	3.7	LOS A	0.1	0.6	0.25	0.50	0.25	34.5
9	R2	24	0.0	24	0.0	0.025	4.3	LOS A	0.1	0.6	0.25	0.50	0.25	34.5
Approach		27	0.0	27	0.0	0.025	4.3	LOS A	0.1	0.6	0.25	0.50	0.25	34.5
West: Kavanagh St (EB)														
10	L2	18	0.0	18	0.0	0.059	4.6	LOS A	0.0	0.0	0.00	0.09	0.00	47.8
11	T1	95	3.3	95	3.3	0.059	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	47.8
Approach		113	2.8	113	2.8	0.059	0.7	NA	0.0	0.0	0.00	0.09	0.00	47.8
All Vehicles		265	4.4	265	4.4	0.067	0.8	NA	0.1	0.6	0.03	0.09	0.03	46.2

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [8. Village Cct/ Kavanagh St - AM - 2034 (Site Folder: AM 2034 Base)]

Network: N101 [AM 2034 Base (Network Folder: General)]

Village Cct/ Kavanagh St
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c			sec	[Veh. veh				
South: Village Cct (NB)														
1	L2	3	0.0	3	0.0	0.104	5.2	LOS A	0.1	0.6	0.05	0.04	0.05	49.0
2	T1	182	2.3	182	2.3	0.104	0.1	LOS A	0.1	0.6	0.05	0.04	0.05	49.1
3	R2	11	0.0	11	0.0	0.104	5.4	LOS A	0.1	0.6	0.05	0.04	0.05	49.1
Approach		196	2.2	196	2.2	0.104	0.4	NA	0.1	0.6	0.05	0.04	0.05	49.1
East: Kavanagh St (WB)														
4	L2	5	0.0	5	0.0	0.232	5.0	LOS A	0.9	6.3	0.46	0.71	0.46	42.4
5	T1	5	0.0	5	0.0	0.232	5.2	LOS A	0.9	6.3	0.46	0.71	0.46	43.1
6	R2	159	4.6	159	4.6	0.232	7.4	LOS A	0.9	6.3	0.46	0.71	0.46	34.7
Approach		169	4.3	169	4.3	0.232	7.2	LOS A	0.9	6.3	0.46	0.71	0.46	35.8
North: Village Cct (SB)														
7	L2	114	4.6	114	4.6	0.140	4.0	LOS A	0.2	1.8	0.10	0.27	0.10	32.3
8	T1	114	6.5	114	6.5	0.140	0.1	LOS A	0.2	1.8	0.10	0.27	0.10	46.5
9	R2	25	0.0	25	0.0	0.140	4.5	LOS A	0.2	1.8	0.10	0.27	0.10	45.2
Approach		253	5.0	253	5.0	0.140	2.3	NA	0.2	1.8	0.10	0.27	0.10	44.3
West: Kavanagh St (EB)														
10	L2	4	0.0	4	0.0	0.008	5.1	LOS A	0.0	0.2	0.31	0.52	0.31	43.2
11	T1	3	0.0	3	0.0	0.008	5.1	LOS A	0.0	0.2	0.31	0.52	0.31	43.2
12	R2	1	0.0	1	0.0	0.008	6.3	LOS A	0.0	0.2	0.31	0.52	0.31	45.1
Approach		8	0.0	8	0.0	0.008	5.2	LOS A	0.0	0.2	0.31	0.52	0.31	43.6
All Vehicles		626	3.9	626	3.9	0.232	3.1	NA	0.9	6.3	0.18	0.32	0.18	43.8

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 Site: 101 [9. Village Cct/ Healy Ave/ Gregory Hills Access - AM - 2034 (Site Folder: AM 2034 Base)]

 Network: N101 [AM 2034 Base (Network Folder: General)]

Village Cct/ Healy Ave/ Gregory Hills Access
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Village Cct (NB)														
1	L2	65	6.5	65	6.5	0.306	3.8	LOS A	2.0	14.1	0.46	0.54	0.46	43.8
2	T1	200	2.6	200	2.6	0.306	3.9	LOS A	2.0	14.1	0.46	0.54	0.46	25.9
3	R2	78	2.7	78	2.7	0.306	7.7	LOS A	2.0	14.1	0.46	0.54	0.46	27.1
3u	U	4	0.0	4	0.0	0.306	10.1	LOS A	2.0	14.1	0.46	0.54	0.46	25.9
Approach		347	3.3	347	3.3	0.306	4.8	LOS A	2.0	14.1	0.46	0.54	0.46	34.5
East: Gregory Hills Access														
4	L2	78	0.0	78	0.0	0.200	3.0	LOS A	1.2	8.8	0.46	0.52	0.46	22.2
5	T1	48	4.3	48	4.3	0.200	2.8	LOS A	1.2	8.8	0.46	0.52	0.46	44.9
6	R2	91	2.3	91	2.3	0.200	6.5	LOS A	1.2	8.8	0.46	0.52	0.46	22.2
6u	U	2	0.0	2	0.0	0.200	9.6	LOS A	1.2	8.8	0.46	0.52	0.46	24.7
Approach		219	1.9	219	1.9	0.200	4.4	LOS A	1.2	8.8	0.46	0.52	0.46	34.6
North: Village Cct (SB)														
7	L2	212	3.5	212	3.5	0.370	4.9	LOS A	2.1	15.5	0.41	0.57	0.41	33.7
8	T1	109	11.5	109	11.5	0.370	5.1	LOS A	2.1	15.5	0.41	0.57	0.41	33.5
9	R2	56	3.8	56	3.8	0.370	9.0	LOS A	2.1	15.5	0.41	0.57	0.41	45.7
9u	U	5	40.0	5	40.0	0.370	13.4	LOS A	2.1	15.5	0.41	0.57	0.41	33.5
Approach		382	6.3	382	6.3	0.370	5.7	LOS A	2.1	15.5	0.41	0.57	0.41	37.4
West: Healy Ave														
10	L2	103	9.2	103	9.2	0.307	5.7	LOS A	1.9	13.6	0.60	0.66	0.60	42.2
11	T1	122	3.4	122	3.4	0.307	5.6	LOS A	1.9	13.6	0.60	0.66	0.60	41.9
12	R2	63	0.0	63	0.0	0.307	9.5	LOS A	1.9	13.6	0.60	0.66	0.60	42.2
12u	U	2	0.0	2	0.0	0.307	12.8	LOS A	1.9	13.6	0.60	0.66	0.60	50.1
Approach		291	4.7	291	4.7	0.307	6.5	LOS A	1.9	13.6	0.60	0.66	0.60	42.2
All Vehicles		1239	4.3	1239	4.3	0.370	5.4	LOS A	2.1	15.5	0.47	0.57	0.47	38.4

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

Site: 101 [10. Wallarah Cct/ Long Reef Cct W - AM - 2034 Base
(Site Folder: AM 2034 Base)]

Network: N101 [AM 2034
Base (Network Folder: General)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
East: Wallarah Cct														
5	T1	1	0.0	1	0.0	0.002	0.1	LOS A	0.0	0.0	0.12	0.23	0.12	30.1
6	R2	1	0.0	1	0.0	0.002	3.7	LOS A	0.0	0.0	0.12	0.23	0.12	30.1
Approach		2	0.0	2	0.0	0.002	1.9	NA	0.0	0.0	0.12	0.23	0.12	30.1
North: Long Reef Cct														
7	L2	1	0.0	1	0.0	0.003	3.4	LOS A	0.0	0.0	0.01	0.47	0.01	33.4
9	R2	1	0.0	1	0.0	0.003	3.5	LOS A	0.0	0.0	0.01	0.47	0.01	33.4
Approach		2	0.0	2	0.0	0.003	3.5	LOS A	0.0	0.0	0.01	0.47	0.01	33.4
West: Wallarah Cct														
10	L2	1	0.0	1	0.0	0.002	3.4	LOS A	0.0	0.0	0.00	0.23	0.00	37.7
11	T1	1	0.0	1	0.0	0.002	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	37.7
Approach		2	0.0	2	0.0	0.002	1.7	NA	0.0	0.0	0.00	0.23	0.00	37.7
All Vehicles		6	0.0	6	0.0	0.003	2.4	NA	0.0	0.0	0.04	0.31	0.04	35.1

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [11. Wallarah Cct/ Long Reef Cct E - AM - 2034 Base
(Site Folder: AM 2034 Base)]

Network: N101 [AM 2034
Base (Network Folder: General)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Wallarah Cct														
1	L2	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.30	0.00	46.4
2	T1	1	0.0	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.00	0.30	0.00	46.4
Approach		2	0.0	2	0.0	0.001	2.8	NA	0.0	0.0	0.00	0.30	0.00	46.4
North: Long Reef Cct														
8	T1	1	0.0	1	0.0	0.002	4.1	LOS A	0.0	0.0	0.02	0.56	0.02	42.4
9	R2	1	0.0	1	0.0	0.002	5.5	LOS A	0.0	0.0	0.02	0.56	0.02	42.4
Approach		2	0.0	2	0.0	0.002	4.8	LOS A	0.0	0.0	0.02	0.56	0.02	42.4
West: Wallarah Cct														
10	L2	1	0.0	1	0.0	0.001	4.5	LOS A	0.0	0.0	0.01	0.57	0.01	30.5
12	R2	1	0.0	1	0.0	0.001	4.4	LOS A	0.0	0.0	0.01	0.57	0.01	30.5
Approach		2	0.0	2	0.0	0.001	4.5	NA	0.0	0.0	0.01	0.57	0.01	30.5
All Vehicles		6	0.0	6	0.0	0.002	4.0	NA	0.0	0.0	0.01	0.47	0.01	40.8

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

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

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

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

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

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

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

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P2	Full	9	44.2	LOS E	0.0	0.0	0.94	0.94	212.8	219.2	1.03
North: Village Cct (SB)											
P3	Full	1	44.2	LOS E	0.0	0.0	0.94	0.94	211.3	217.2	1.03
West: Gregory Hills Dr (EB)											
P4	Full	2	44.2	LOS E	0.0	0.0	0.94	0.94	212.9	219.3	1.03
All Pedestrians		17	44.2	LOS E	0.0	0.0	0.94	0.94	211.8	217.9	1.03

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.

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MOVEMENT SUMMARY

Site: 101 [2. Gregory Hills Dr/Golden Wattle Ave - PM - 2024
(Site Folder: PM 2024 Base)]

Network: N101 [PM 2024
Base (Network Folder: General)]

2. Gregory Hills Dr/Golden Wattle Ave
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	HV %	[Total veh/h]	HV %	v/c	sec		[Veh. veh]	Dist m				km/h
East: Gregory Hills D (WB)														
5	T1	856	4.3	856	4.3	0.226	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		856	4.3	856	4.3	0.226	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Golden Wattle Ave														
7	L2	75	0.0	75	0.0	0.074	6.9	LOS A	0.3	2.0	0.37	0.59	0.37	41.5
Approach		75	0.0	75	0.0	0.074	6.9	LOS A	0.3	2.0	0.37	0.59	0.37	41.5
West: Gregory Hills D (EB)														
10	L2	24	0.0	24	0.0	0.168	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	56.7
11	T1	618	2.9	618	2.9	0.168	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
Approach		642	2.8	642	2.8	0.168	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.2
All Vehicles		1573	3.5	1573	3.5	0.226	0.5	NA	0.3	2.0	0.02	0.04	0.02	59.0

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 Site: 101 [3. Kavanagh St/ Gregory Hills Dr - PM - 2024 (Site Folder: PM 2024 Base)]

 Network: N101 [PM 2024 Base (Network Folder: General)]

Kavanagh St/ Gregory Hills Dr

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Gregory Hills Dr (NB)														
1	L2	93	4.5	93	4.5	*0.339	6.1	LOS A	0.8	5.6	0.03	0.15	0.03	56.5
2	T1	817	4.4	817	4.4	0.339	0.5	LOS A	0.8	5.7	0.03	0.08	0.03	57.9
Approach		909	4.4	909	4.4	0.339	1.0	LOS A	0.8	5.7	0.03	0.09	0.03	57.7
North: Gregory Hills Dr (SB)														
8	T1	639	2.6	639	2.6	0.200	0.3	LOS A	0.5	3.2	0.03	0.02	0.03	63.8
9	R2	55	3.8	55	3.8	0.110	5.8	LOS A	0.1	0.4	0.02	0.58	0.02	52.3
Approach		694	2.7	694	2.7	0.200	0.7	LOS A	0.5	3.2	0.03	0.07	0.03	63.1
West: RoadName														
10	L2	41	5.1	41	5.1	*0.153	53.0	LOS D	2.1	15.5	0.91	0.73	0.91	8.5
12	R2	58	5.5	58	5.5	0.486	66.3	LOS E	3.5	25.4	1.00	0.75	1.00	20.0
Approach		99	5.3	99	5.3	0.486	60.8	LOS E	3.5	25.4	0.96	0.74	0.96	16.5
All Vehicles		1702	3.8	1702	3.8	0.486	4.4	LOS A	3.5	25.4	0.08	0.12	0.08	56.0

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m					
South: Gregory Hills Dr (NB)											
P1	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	223.9	220.7	0.99
North: Gregory Hills Dr (SB)											
P3	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
West: RoadName											
P4	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.1	214.4	0.98
All Pedestrians		3	54.2	LOS E	0.0	0.0	0.95	0.95	222.3	218.5	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.

Appendix F. Future Year 2024 & 2034 with School SIDRA Results

MOVEMENT SUMMARY

 Site: 101 [4. Kavanagh St/ Oaklands Circuit/ Village Cct - PM - 2024 (Site Folder: PM 2024 Base)]

 Network: N101 [PM 2024 Base (Network Folder: General)]

Kavangh St/ Oaklands Circuit/ Village Cct
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Village Cct														
1	L2	17	0.0	17	0.0	0.039	2.1	LOS A	0.2	1.3	0.25	0.45	0.25	36.3
2	T1	4	0.0	4	0.0	0.039	1.6	LOS A	0.2	1.3	0.25	0.45	0.25	39.1
3	R2	26	0.0	26	0.0	0.039	5.9	LOS A	0.2	1.3	0.25	0.45	0.25	36.3
3u	U	2	0.0	2	0.0	0.039	11.3	LOS A	0.2	1.3	0.25	0.45	0.25	46.0
Approach		49	0.0	49	0.0	0.039	4.5	LOS A	0.2	1.3	0.25	0.45	0.25	37.2
East: Kavanagh St (WB)														
4	L2	39	5.4	39	5.4	0.097	3.0	LOS A	0.5	3.6	0.15	0.43	0.15	39.5
5	T1	66	7.9	66	7.9	0.097	3.0	LOS A	0.5	3.6	0.15	0.43	0.15	36.2
6	R2	15	0.0	15	0.0	0.097	7.4	LOS A	0.5	3.6	0.15	0.43	0.15	42.6
6u	U	16	0.0	16	0.0	0.097	11.0	LOS A	0.5	3.6	0.15	0.43	0.15	36.2
Approach		136	5.4	136	5.4	0.097	4.4	LOS A	0.5	3.6	0.15	0.43	0.15	38.7
North: Oaklands Circuit														
7	L2	16	0.0	16	0.0	0.019	2.1	LOS A	0.1	0.6	0.25	0.38	0.25	34.9
8	T1	2	0.0	2	0.0	0.019	1.7	LOS A	0.1	0.6	0.25	0.38	0.25	39.7
9	R2	5	0.0	5	0.0	0.019	5.9	LOS A	0.1	0.6	0.25	0.38	0.25	34.9
9u	U	1	0.0	1	0.0	0.019	11.3	LOS A	0.1	0.6	0.25	0.38	0.25	45.7
Approach		24	0.0	24	0.0	0.019	3.3	LOS A	0.1	0.6	0.25	0.38	0.25	36.3
West: Kavanagh St (EB)														
10	L2	6	0.0	6	0.0	0.060	3.1	LOS A	0.3	2.0	0.19	0.45	0.19	38.6
11	T1	43	4.9	43	4.9	0.060	3.1	LOS A	0.3	2.0	0.19	0.45	0.19	35.0
12	R2	26	0.0	26	0.0	0.060	7.6	LOS A	0.3	2.0	0.19	0.45	0.19	41.2
12u	U	2	0.0	2	0.0	0.060	11.1	LOS A	0.3	2.0	0.19	0.45	0.19	35.0
Approach		78	2.7	78	2.7	0.060	4.8	LOS A	0.3	2.0	0.19	0.45	0.19	38.9
All Vehicles		287	3.3	287	3.3	0.097	4.4	LOS A	0.5	3.6	0.18	0.43	0.18	38.2

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

Site: 101 [5. Kavanagh St/ Wallarah Cct/ Junee St - PM - 2024
(Site Folder: PM 2024 Base)]

Network: N101 [PM 2024
Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
East: Kavanagh St (WB)														
5	T1	84	6.3	84	6.3	0.047	0.0	LOS A	0.0	0.1	0.01	0.02	0.01	48.9
6	R2	3	0.0	3	0.0	0.047	4.8	LOS A	0.0	0.1	0.01	0.02	0.01	42.6
Approach		87	6.0	87	6.0	0.047	0.2	NA	0.0	0.1	0.01	0.02	0.01	48.3
North: Junee St														
7	L2	2	0.0	2	0.0	0.007	3.6	LOS A	0.0	0.2	0.19	0.47	0.19	33.0
9	R2	6	0.0	6	0.0	0.007	4.1	LOS A	0.0	0.2	0.19	0.47	0.19	33.0
Approach		8	0.0	8	0.0	0.007	3.9	LOS A	0.0	0.2	0.19	0.47	0.19	33.0
West: Kavanagh St (EB)														
10	L2	5	0.0	5	0.0	0.041	4.5	LOS A	0.0	0.0	0.00	0.04	0.00	47.6
11	T1	74	2.9	74	2.9	0.041	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	47.3
Approach		79	2.7	79	2.7	0.041	0.3	NA	0.0	0.0	0.00	0.04	0.00	47.4
All Vehicles		175	4.2	175	4.2	0.047	0.4	NA	0.0	0.2	0.02	0.05	0.02	46.2

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [6. Kavanagh St/ Wallarah Cct/ Audley Cct - PM - 2024
(Site Folder: PM 2024 Base)]

Network: N101 [PM 2024
Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Audley Cct														
1	L2	13	0.0	13	0.0	0.010	3.6	LOS A	0.0	0.3	0.16	0.43	0.16	35.7
2	T1	1	0.0	1	0.0	0.010	2.7	LOS A	0.0	0.3	0.16	0.43	0.16	35.7
3	R2	1	0.0	1	0.0	0.010	4.4	LOS A	0.0	0.3	0.16	0.43	0.16	35.7
Approach		15	0.0	15	0.0	0.010	3.6	LOS A	0.0	0.3	0.16	0.43	0.16	35.7
East: Kavanagh St (WB)														
4	L2	6	0.0	6	0.0	0.050	4.7	LOS A	0.1	0.5	0.05	0.10	0.05	40.6
5	T1	75	7.0	75	7.0	0.050	0.0	LOS A	0.1	0.5	0.05	0.10	0.05	41.6
6	R2	11	0.0	11	0.0	0.050	4.8	LOS A	0.1	0.5	0.05	0.10	0.05	41.6
Approach		92	5.7	92	5.7	0.050	0.9	NA	0.1	0.5	0.05	0.10	0.05	41.3
North: Wallarah Cct/														
7	L2	9	0.0	9	0.0	0.013	3.6	LOS A	0.0	0.3	0.16	0.45	0.16	31.2
8	T1	1	0.0	1	0.0	0.013	2.7	LOS A	0.0	0.3	0.16	0.45	0.16	37.0
9	R2	5	0.0	5	0.0	0.013	4.4	LOS A	0.0	0.3	0.16	0.45	0.16	31.2
Approach		16	0.0	16	0.0	0.013	3.8	LOS A	0.0	0.3	0.16	0.45	0.16	32.2
West: Kavanagh St (EB)														
10	L2	3	0.0	3	0.0	0.048	4.8	LOS A	0.1	0.7	0.08	0.12	0.08	46.3
11	T1	69	3.0	69	3.0	0.048	0.1	LOS A	0.1	0.7	0.08	0.12	0.08	46.3
12	R2	16	0.0	16	0.0	0.048	4.8	LOS A	0.1	0.7	0.08	0.12	0.08	41.8
Approach		88	2.4	88	2.4	0.048	1.1	NA	0.1	0.7	0.08	0.12	0.08	44.6
All Vehicles		211	3.5	211	3.5	0.050	1.4	NA	0.1	0.7	0.08	0.16	0.08	41.5

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [7. Kavanagh St/ Wallarah Cct - PM - 2024 (Site Folder: PM 2024 Base)]

Network: N101 [PM 2024 Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	HV %	[Total veh/h]	HV %	v/c	sec		[Veh. veh]	Dist m				km/h
East: Kavanagh St (WB)														
5	T1	92	5.7	92	5.7	0.049	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	49.8
6	R2	1	0.0	1	0.0	0.049	4.9	LOS A	0.0	0.1	0.01	0.01	0.01	49.8
Approach		93	5.7	93	5.7	0.049	0.1	NA	0.0	0.1	0.01	0.01	0.01	49.8
North: Wallarah Cct														
7	L2	2	0.0	2	0.0	0.011	3.6	LOS A	0.0	0.2	0.22	0.48	0.22	34.6
9	R2	11	0.0	11	0.0	0.011	4.2	LOS A	0.0	0.2	0.22	0.48	0.22	34.6
Approach		13	0.0	13	0.0	0.011	4.1	LOS A	0.0	0.2	0.22	0.48	0.22	34.6
West: Kavanagh St (EB)														
10	L2	14	0.0	14	0.0	0.054	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	48.2
11	T1	89	2.4	89	2.4	0.054	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	48.2
Approach		103	2.0	103	2.0	0.054	0.6	NA	0.0	0.0	0.00	0.07	0.00	48.2
All Vehicles		208	3.5	208	3.5	0.054	0.6	NA	0.0	0.2	0.02	0.07	0.02	47.3

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [8. Village Cct/ Kavanagh St - PM - 2024 (Site Folder: PM 2024 Base)]

Network: N101 [PM 2024 Base (Network Folder: General)]

Village Cct/ Kavanagh St
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Village Cct (NB)														
1	L2	3	0.0	3	0.0	0.072	5.0	LOS A	0.0	0.3	0.03	0.03	0.03	49.1
2	T1	127	4.1	127	4.1	0.072	0.0	LOS A	0.0	0.3	0.03	0.03	0.03	49.4
3	R2	4	0.0	4	0.0	0.072	5.2	LOS A	0.0	0.3	0.03	0.03	0.03	49.4
Approach		135	3.9	135	3.9	0.072	0.3	NA	0.0	0.3	0.03	0.03	0.03	49.3
East: Kavanagh St (WB)														
4	L2	6	0.0	6	0.0	0.131	4.9	LOS A	0.5	3.4	0.37	0.63	0.37	43.2
5	T1	5	0.0	5	0.0	0.131	4.5	LOS A	0.5	3.4	0.37	0.63	0.37	43.9
6	R2	96	7.7	96	7.7	0.131	6.5	LOS A	0.5	3.4	0.37	0.63	0.37	36.2
Approach		107	6.9	107	6.9	0.131	6.3	LOS A	0.5	3.4	0.37	0.63	0.37	37.8
North: Village Cct (SB)														
7	L2	71	6.0	71	6.0	0.104	3.9	LOS A	0.0	0.2	0.01	0.20	0.01	37.4
8	T1	119	4.4	119	4.4	0.104	0.0	LOS A	0.0	0.2	0.01	0.20	0.01	47.8
9	R2	3	0.0	3	0.0	0.104	4.3	LOS A	0.0	0.2	0.01	0.20	0.01	46.3
Approach		193	4.9	193	4.9	0.104	1.5	NA	0.0	0.2	0.01	0.20	0.01	46.8
West: Kavanagh St (EB)														
10	L2	2	0.0	2	0.0	0.006	4.9	LOS A	0.0	0.1	0.28	0.50	0.28	43.6
11	T1	3	0.0	3	0.0	0.006	4.5	LOS A	0.0	0.1	0.28	0.50	0.28	43.6
12	R2	1	0.0	1	0.0	0.006	5.8	LOS A	0.0	0.1	0.28	0.50	0.28	45.3
Approach		6	0.0	6	0.0	0.006	4.8	LOS A	0.0	0.1	0.28	0.50	0.28	44.1
All Vehicles		441	5.0	441	5.0	0.131	2.3	NA	0.5	3.4	0.11	0.26	0.11	45.5

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 Site: 101 [9. Village Cct/ Healy Ave/ Gregory Hills Access - PM - 2024 (Site Folder: PM 2024 Base)]

 Network: N101 [PM 2024 Base (Network Folder: General)]

Village Cct/ Healy Ave/ Gregory Hills Access
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Village Cct (NB)														
1	L2	48	8.7	48	8.7	0.211	3.8	LOS A	1.2	8.9	0.44	0.57	0.44	43.4
2	T1	93	9.1	93	9.1	0.211	4.0	LOS A	1.2	8.9	0.44	0.57	0.44	25.2
3	R2	84	0.0	84	0.0	0.211	7.7	LOS A	1.2	8.9	0.44	0.57	0.44	26.6
3u	U	1	0.0	1	0.0	0.211	10.1	LOS A	1.2	8.9	0.44	0.57	0.44	25.2
Approach		226	5.6	226	5.6	0.211	5.4	LOS A	1.2	8.9	0.44	0.57	0.44	34.4
East: Gregory Hills Access														
4	L2	76	1.4	76	1.4	0.213	2.6	LOS A	1.3	9.1	0.39	0.49	0.39	22.9
5	T1	68	0.0	68	0.0	0.213	2.4	LOS A	1.3	9.1	0.39	0.49	0.39	45.2
6	R2	105	0.0	105	0.0	0.213	6.0	LOS A	1.3	9.1	0.39	0.49	0.39	22.9
6u	U	1	0.0	1	0.0	0.213	9.2	LOS A	1.3	9.1	0.39	0.49	0.39	25.2
Approach		251	0.4	251	0.4	0.213	4.0	LOS A	1.3	9.1	0.39	0.49	0.39	36.7
North: Village Cct (SB)														
7	L2	207	0.0	207	0.0	0.298	4.4	LOS A	1.6	11.2	0.36	0.54	0.36	34.3
8	T1	67	10.9	67	10.9	0.298	4.6	LOS A	1.6	11.2	0.36	0.54	0.36	34.3
9	R2	49	6.4	49	6.4	0.298	8.6	LOS A	1.6	11.2	0.36	0.54	0.36	46.0
9u	U	5	0.0	5	0.0	0.298	11.8	LOS A	1.6	11.2	0.36	0.54	0.36	34.3
Approach		329	3.2	329	3.2	0.298	5.2	LOS A	1.6	11.2	0.36	0.54	0.36	38.0
West: Healy Ave														
10	L2	41	17.9	41	17.9	0.174	5.0	LOS A	0.9	6.9	0.48	0.58	0.48	42.6
11	T1	86	0.0	86	0.0	0.174	4.7	LOS A	0.9	6.9	0.48	0.58	0.48	42.3
12	R2	49	4.3	49	4.3	0.174	8.8	LOS A	0.9	6.9	0.48	0.58	0.48	42.6
12u	U	1	0.0	1	0.0	0.174	12.0	LOS A	0.9	6.9	0.48	0.58	0.48	50.4
Approach		178	5.3	178	5.3	0.174	6.0	LOS A	0.9	6.9	0.48	0.58	0.48	42.5
All Vehicles		984	3.4	984	3.4	0.298	5.1	LOS A	1.6	11.2	0.41	0.54	0.41	38.5

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

Site: 101 [10. Wallarah Cct/ Long Reef Cct W - PM - 2024 (Site Folder: PM 2024 Base)]

Network: N101 [PM 2024 Base (Network Folder: General)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
East: Wallarah Cct														
5	T1	1	0.0	1	0.0	0.002	0.1	LOS A	0.0	0.0	0.12	0.23	0.12	30.1
6	R2	1	0.0	1	0.0	0.002	3.7	LOS A	0.0	0.0	0.12	0.23	0.12	30.1
Approach		2	0.0	2	0.0	0.002	1.9	NA	0.0	0.0	0.12	0.23	0.12	30.1
North: Long Reef Cct														
7	L2	1	0.0	1	0.0	0.003	3.4	LOS A	0.0	0.0	0.01	0.47	0.01	33.4
9	R2	1	0.0	1	0.0	0.003	3.5	LOS A	0.0	0.0	0.01	0.47	0.01	33.4
Approach		2	0.0	2	0.0	0.003	3.5	LOS A	0.0	0.0	0.01	0.47	0.01	33.4
West: Wallarah Cct														
10	L2	1	0.0	1	0.0	0.002	3.4	LOS A	0.0	0.0	0.00	0.23	0.00	37.7
11	T1	1	0.0	1	0.0	0.002	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	37.7
Approach		2	0.0	2	0.0	0.002	1.7	NA	0.0	0.0	0.00	0.23	0.00	37.7
All Vehicles		6	0.0	6	0.0	0.003	2.4	NA	0.0	0.0	0.04	0.31	0.04	35.1

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [11. Wallarah Cct/ Long Reef Cct E - PM - 2024 (Site Folder: PM 2024 Base)]

Network: N101 [PM 2024 Base (Network Folder: General)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	%				[Veh. veh	Dist] m				
South: Wallarah Cct														
1	L2	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.30	0.00	46.4
2	T1	1	0.0	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.00	0.30	0.00	46.4
Approach		2	0.0	2	0.0	0.001	2.8	NA	0.0	0.0	0.00	0.30	0.00	46.4
North: Long Reef Cct														
8	T1	1	0.0	1	0.0	0.002	4.1	LOS A	0.0	0.0	0.02	0.56	0.02	42.4
9	R2	1	0.0	1	0.0	0.002	5.5	LOS A	0.0	0.0	0.02	0.56	0.02	42.4
Approach		2	0.0	2	0.0	0.002	4.8	LOS A	0.0	0.0	0.02	0.56	0.02	42.4
West: Wallarah Cct														
10	L2	1	0.0	1	0.0	0.001	4.5	LOS A	0.0	0.0	0.01	0.57	0.01	30.5
12	R2	1	0.0	1	0.0	0.001	4.4	LOS A	0.0	0.0	0.01	0.57	0.01	30.5
Approach		2	0.0	2	0.0	0.001	4.5	NA	0.0	0.0	0.01	0.57	0.01	30.5
All Vehicles		6	0.0	6	0.0	0.002	4.0	NA	0.0	0.0	0.01	0.47	0.01	40.8

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

P2	Full	9	44.2	LOS E	0.0	0.0	0.94	0.94	212.8	219.2	1.03
North: Village Cct (SB)											
P3	Full	1	44.2	LOS E	0.0	0.0	0.94	0.94	211.3	217.2	1.03
West: Gregory Hills Dr (EB)											
P4	Full	2	44.2	LOS E	0.0	0.0	0.94	0.94	212.9	219.3	1.03
All Pedestrians		17	44.2	LOS E	0.0	0.0	0.94	0.94	211.8	217.9	1.03

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: 101 [2. Gregory Hills Dr/Golden Wattle Ave - PM - 2034
(Site Folder: PM 2034 Base)]

Network: N101 [PM 2034
Base (Network Folder: General)]

2. Gregory Hills Dr/Golden Wattle Ave
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	HV %	[Total veh/h]	HV %	[Veh. veh]			Dist m					
East: Gregory Hills D (WB)														
5	T1	1020	4.2	1020	4.2	0.269	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1020	4.2	1020	4.2	0.269	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
North: Golden Wattle Ave														
7	L2	89	0.0	89	0.0	0.094	7.2	LOS A	0.4	2.6	0.41	0.62	0.41	41.2
Approach		89	0.0	89	0.0	0.094	7.2	LOS A	0.4	2.6	0.41	0.62	0.41	41.2
West: Gregory Hills D (EB)														
10	L2	29	0.0	29	0.0	0.200	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	56.7
11	T1	737	2.9	737	2.9	0.200	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.3
Approach		766	2.7	766	2.7	0.200	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.2
All Vehicles		1876	3.4	1876	3.4	0.269	0.5	NA	0.4	2.6	0.02	0.04	0.02	59.0

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 Site: 101 [3. Kavanagh St/ Gregory Hills Dr - PM - 2034 (Site Folder: PM 2034 Base)]

 Network: N101 [PM 2034 Base (Network Folder: General)]

Kavanagh St/ Gregory Hills Dr

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Gregory Hills Dr (NB)														
1	L2	109	3.8	109	3.8	*0.403	6.1	LOS A	1.0	7.4	0.04	0.15	0.04	56.5
2	T1	974	4.3	974	4.3	0.403	0.5	LOS A	1.0	7.5	0.04	0.08	0.04	57.8
Approach		1083	4.3	1083	4.3	0.403	1.1	LOS A	1.0	7.5	0.04	0.09	0.04	57.7
North: Gregory Hills Dr (SB)														
8	T1	762	2.6	762	2.6	0.238	0.3	LOS A	0.6	4.1	0.03	0.02	0.03	63.8
9	R2	65	3.2	65	3.2	0.154	5.9	LOS A	0.1	0.5	0.03	0.58	0.03	52.3
Approach		827	2.7	827	2.7	0.238	0.7	LOS A	0.6	4.1	0.03	0.07	0.03	63.1
West: RoadName														
10	L2	48	4.3	48	4.3	*0.179	53.3	LOS D	2.5	18.3	0.91	0.74	0.91	8.5
12	R2	68	4.6	68	4.6	0.571	67.0	LOS E	4.1	30.2	1.00	0.77	1.03	19.9
Approach		117	4.5	117	4.5	0.571	61.3	LOS E	4.1	30.2	0.96	0.76	0.98	16.4
All Vehicles		2027	3.6	2027	3.6	0.571	4.4	LOS A	4.1	30.2	0.09	0.12	0.09	55.9

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m					
South: Gregory Hills Dr (NB)											
P1	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	223.9	220.7	0.99
North: Gregory Hills Dr (SB)											
P3	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
West: RoadName											
P4	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.1	214.4	0.98
All Pedestrians		3	54.2	LOS E	0.0	0.0	0.95	0.95	222.3	218.5	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: 101 [4. Kavanagh St/ Oaklands Circuit/ Village Cct - PM - 2034 (Site Folder: PM 2034 Base)]

 Network: N101 [PM 2034 Base (Network Folder: General)]

Kavangh St/ Oaklands Circuit/ Village Cct
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Village Cct														
1	L2	20	0.0	20	0.0	0.046	2.2	LOS A	0.2	1.5	0.27	0.46	0.27	36.1
2	T1	4	0.0	4	0.0	0.046	1.7	LOS A	0.2	1.5	0.27	0.46	0.27	39.0
3	R2	32	0.0	32	0.0	0.046	6.0	LOS A	0.2	1.5	0.27	0.46	0.27	36.1
3u	U	2	0.0	2	0.0	0.046	11.3	LOS A	0.2	1.5	0.27	0.46	0.27	45.9
Approach		58	0.0	58	0.0	0.046	4.6	LOS A	0.2	1.5	0.27	0.46	0.27	36.9
East: Kavanagh St (WB)														
4	L2	45	4.7	45	4.7	0.115	3.1	LOS A	0.6	4.3	0.16	0.43	0.16	39.4
5	T1	78	6.8	78	6.8	0.115	3.0	LOS A	0.6	4.3	0.16	0.43	0.16	36.0
6	R2	18	0.0	18	0.0	0.115	7.5	LOS A	0.6	4.3	0.16	0.43	0.16	42.5
6u	U	19	0.0	19	0.0	0.115	11.0	LOS A	0.6	4.3	0.16	0.43	0.16	36.0
Approach		160	4.6	160	4.6	0.115	4.5	LOS A	0.6	4.3	0.16	0.43	0.16	38.6
North: Oaklands Circuit														
7	L2	19	0.0	19	0.0	0.022	2.2	LOS A	0.1	0.7	0.28	0.38	0.28	34.9
8	T1	2	0.0	2	0.0	0.022	1.8	LOS A	0.1	0.7	0.28	0.38	0.28	39.7
9	R2	5	0.0	5	0.0	0.022	6.0	LOS A	0.1	0.7	0.28	0.38	0.28	34.9
9u	U	1	0.0	1	0.0	0.022	11.4	LOS A	0.1	0.7	0.28	0.38	0.28	45.7
Approach		27	0.0	27	0.0	0.022	3.2	LOS A	0.1	0.7	0.28	0.38	0.28	36.2
West: Kavanagh St (EB)														
10	L2	7	0.0	7	0.0	0.071	3.2	LOS A	0.3	2.4	0.21	0.45	0.21	38.5
11	T1	51	4.2	51	4.2	0.071	3.1	LOS A	0.3	2.4	0.21	0.45	0.21	34.8
12	R2	32	0.0	32	0.0	0.071	7.6	LOS A	0.3	2.4	0.21	0.45	0.21	41.1
12u	U	2	0.0	2	0.0	0.071	11.1	LOS A	0.3	2.4	0.21	0.45	0.21	34.8
Approach		92	2.3	92	2.3	0.071	4.9	LOS A	0.3	2.4	0.21	0.45	0.21	38.8
All Vehicles		337	2.8	337	2.8	0.115	4.5	LOS A	0.6	4.3	0.20	0.44	0.20	38.1

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

Site: 101 [5. Kavanagh St/ Wallarah Cct/ Junee St - PM - 2034
(Site Folder: PM 2034 Base)]

Network: N101 [PM 2034
Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	[Veh. veh			Dist] m	v/c				
East: Kavanagh St (WB)														
5	T1	100	5.3	100	5.3	0.055	0.0	LOS A	0.0	0.1	0.01	0.02	0.01	49.0
6	R2	3	0.0	3	0.0	0.055	4.8	LOS A	0.0	0.1	0.01	0.02	0.01	42.6
Approach		103	5.1	103	5.1	0.055	0.2	NA	0.0	0.1	0.01	0.02	0.01	48.5
North: Junee St														
7	L2	2	0.0	2	0.0	0.008	3.6	LOS A	0.0	0.2	0.21	0.48	0.21	32.9
9	R2	7	0.0	7	0.0	0.008	4.2	LOS A	0.0	0.2	0.21	0.48	0.21	32.9
Approach		9	0.0	9	0.0	0.008	4.1	LOS A	0.0	0.2	0.21	0.48	0.21	32.9
West: Kavanagh St (EB)														
10	L2	5	0.0	5	0.0	0.048	4.5	LOS A	0.0	0.0	0.00	0.03	0.00	47.7
11	T1	87	2.4	87	2.4	0.048	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	47.7
Approach		93	2.3	93	2.3	0.048	0.3	NA	0.0	0.0	0.00	0.03	0.00	47.7
All Vehicles		205	3.6	205	3.6	0.055	0.4	NA	0.0	0.2	0.02	0.04	0.02	46.5

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [6. Kavanagh St/ Wallarah Cct/ Audley Cct - PM - 2034
(Site Folder: PM 2034 Base)]

Network: N101 [PM 2034
Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Audley Cct														
1	L2	15	0.0	15	0.0	0.012	3.6	LOS A	0.0	0.3	0.18	0.44	0.18	35.6
2	T1	1	0.0	1	0.0	0.012	2.8	LOS A	0.0	0.3	0.18	0.44	0.18	35.6
3	R2	1	0.0	1	0.0	0.012	4.5	LOS A	0.0	0.3	0.18	0.44	0.18	35.6
Approach		17	0.0	17	0.0	0.012	3.7	LOS A	0.0	0.3	0.18	0.44	0.18	35.6
East: Kavanagh St (WB)														
4	L2	7	0.0	7	0.0	0.059	4.7	LOS A	0.1	0.7	0.06	0.10	0.06	40.6
5	T1	88	6.0	88	6.0	0.059	0.0	LOS A	0.1	0.7	0.06	0.10	0.06	41.5
6	R2	13	0.0	13	0.0	0.059	4.8	LOS A	0.1	0.7	0.06	0.10	0.06	41.5
Approach		108	4.9	108	4.9	0.059	0.9	NA	0.1	0.7	0.06	0.10	0.06	41.2
North: Wallarah Cct/														
7	L2	11	0.0	11	0.0	0.014	3.6	LOS A	0.0	0.3	0.18	0.45	0.18	31.1
8	T1	1	0.0	1	0.0	0.014	2.9	LOS A	0.0	0.3	0.18	0.45	0.18	36.9
9	R2	5	0.0	5	0.0	0.014	4.6	LOS A	0.0	0.3	0.18	0.45	0.18	31.1
Approach		17	0.0	17	0.0	0.014	3.9	LOS A	0.0	0.3	0.18	0.45	0.18	32.0
West: Kavanagh St (EB)														
10	L2	3	0.0	3	0.0	0.056	4.8	LOS A	0.1	0.9	0.09	0.12	0.09	46.2
11	T1	82	2.6	82	2.6	0.056	0.1	LOS A	0.1	0.9	0.09	0.12	0.09	46.2
12	R2	19	0.0	19	0.0	0.056	4.8	LOS A	0.1	0.9	0.09	0.12	0.09	41.8
Approach		104	2.0	104	2.0	0.056	1.1	NA	0.1	0.9	0.09	0.12	0.09	44.5
All Vehicles		246	3.0	246	3.0	0.059	1.4	NA	0.1	0.9	0.09	0.15	0.09	41.5

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [7. Kavanagh St/ Wallarah Cct - PM - 2034 (Site Folder: PM 2034 Base)]

Network: N101 [PM 2034 Base (Network Folder: General)]

Kavanagh St/ Wallarah Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	HV %	v/c			sec	[Veh. veh				
East: Kavanagh St (WB)														
5	T1	107	4.9	107	4.9	0.057	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	49.8
6	R2	1	0.0	1	0.0	0.057	4.9	LOS A	0.0	0.1	0.01	0.01	0.01	49.8
Approach		108	4.9	108	4.9	0.057	0.1	NA	0.0	0.1	0.01	0.01	0.01	49.8
North: Wallarah Cct														
7	L2	2	0.0	2	0.0	0.013	3.7	LOS A	0.0	0.3	0.25	0.49	0.25	34.5
9	R2	13	0.0	13	0.0	0.013	4.3	LOS A	0.0	0.3	0.25	0.49	0.25	34.5
Approach		15	0.0	15	0.0	0.013	4.2	LOS A	0.0	0.3	0.25	0.49	0.25	34.5
West: Kavanagh St (EB)														
10	L2	16	0.0	16	0.0	0.063	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	48.2
11	T1	105	2.0	105	2.0	0.063	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	48.2
Approach		121	1.7	121	1.7	0.063	0.6	NA	0.0	0.0	0.00	0.07	0.00	48.2
All Vehicles		244	3.0	244	3.0	0.063	0.6	NA	0.0	0.3	0.02	0.07	0.02	47.3

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [8. Village Cct/ Kavanagh St - PM - 2034 (Site Folder: PM 2034 Base)]

Network: N101 [PM 2034 Base (Network Folder: General)]

Village Cct/ Kavanagh St
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	HV %	[Total veh/h]	HV %	v/c			sec	[Veh. veh]				Dist m
South: Village Cct (NB)														
1	L2	3	0.0	3	0.0	0.084	5.0	LOS A	0.0	0.3	0.03	0.03	0.03	49.2
2	T1	151	3.5	151	3.5	0.084	0.0	LOS A	0.0	0.3	0.03	0.03	0.03	49.4
3	R2	4	0.0	4	0.0	0.084	5.3	LOS A	0.0	0.3	0.03	0.03	0.03	49.4
Approach		158	3.3	158	3.3	0.084	0.3	NA	0.0	0.3	0.03	0.03	0.03	49.4
East: Kavanagh St (WB)														
4	L2	7	0.0	7	0.0	0.164	5.0	LOS A	0.6	4.4	0.41	0.66	0.41	42.9
5	T1	5	0.0	5	0.0	0.164	4.8	LOS A	0.6	4.4	0.41	0.66	0.41	43.6
6	R2	114	7.4	114	7.4	0.164	6.9	LOS A	0.6	4.4	0.41	0.66	0.41	35.5
Approach		126	6.7	126	6.7	0.164	6.7	LOS A	0.6	4.4	0.41	0.66	0.41	37.1
North: Village Cct (SB)														
7	L2	83	5.1	83	5.1	0.122	3.9	LOS A	0.0	0.2	0.01	0.20	0.01	37.4
8	T1	140	3.8	140	3.8	0.122	0.0	LOS A	0.0	0.2	0.01	0.20	0.01	47.8
9	R2	3	0.0	3	0.0	0.122	4.4	LOS A	0.0	0.2	0.01	0.20	0.01	46.3
Approach		226	4.2	226	4.2	0.122	1.5	NA	0.0	0.2	0.01	0.20	0.01	46.8
West: Kavanagh St (EB)														
10	L2	2	0.0	2	0.0	0.006	5.0	LOS A	0.0	0.2	0.31	0.51	0.31	43.5
11	T1	3	0.0	3	0.0	0.006	4.8	LOS A	0.0	0.2	0.31	0.51	0.31	43.5
12	R2	1	0.0	1	0.0	0.006	6.1	LOS A	0.0	0.2	0.31	0.51	0.31	45.2
Approach		6	0.0	6	0.0	0.006	5.0	LOS A	0.0	0.2	0.31	0.51	0.31	43.9
All Vehicles		517	4.5	517	4.5	0.164	2.4	NA	0.6	4.4	0.12	0.26	0.12	45.3

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 Site: 101 [9. Village Cct/ Healy Ave/ Gregory Hills Access - PM - 2034 (Site Folder: PM 2034 Base)]

 Network: N101 [PM 2034 Base (Network Folder: General)]

Village Cct/ Healy Ave/ Gregory Hills Access
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Village Cct (NB)														
1	L2	57	7.4	57	7.4	0.258	4.2	LOS A	1.6	11.4	0.50	0.60	0.50	43.2
2	T1	109	8.7	109	8.7	0.258	4.3	LOS A	1.6	11.4	0.50	0.60	0.50	24.6
3	R2	100	0.0	100	0.0	0.258	8.1	LOS A	1.6	11.4	0.50	0.60	0.50	26.1
3u	U	1	0.0	1	0.0	0.258	10.4	LOS A	1.6	11.4	0.50	0.60	0.50	24.6
Approach		267	5.1	267	5.1	0.258	5.7	LOS A	1.6	11.4	0.50	0.60	0.50	33.9
East: Gregory Hills Access														
4	L2	89	0.0	89	0.0	0.260	2.8	LOS A	1.7	11.8	0.44	0.51	0.44	22.5
5	T1	81	0.0	81	0.0	0.260	2.6	LOS A	1.7	11.8	0.44	0.51	0.44	45.0
6	R2	126	0.0	126	0.0	0.260	6.3	LOS A	1.7	11.8	0.44	0.51	0.44	22.5
6u	U	2	0.0	2	0.0	0.260	9.5	LOS A	1.7	11.8	0.44	0.51	0.44	24.9
Approach		299	0.0	299	0.0	0.260	4.3	LOS A	1.7	11.8	0.44	0.51	0.44	36.3
North: Village Cct (SB)														
7	L2	247	0.0	247	0.0	0.366	4.8	LOS A	2.0	14.7	0.39	0.56	0.39	33.9
8	T1	79	10.7	79	10.7	0.366	5.0	LOS A	2.0	14.7	0.39	0.56	0.39	33.7
9	R2	59	5.4	59	5.4	0.366	9.0	LOS A	2.0	14.7	0.39	0.56	0.39	45.8
9u	U	5	0.0	5	0.0	0.366	12.1	LOS A	2.0	14.7	0.39	0.56	0.39	33.7
Approach		391	3.0	391	3.0	0.366	5.6	LOS A	2.0	14.7	0.39	0.56	0.39	37.6
West: Healy Ave														
10	L2	46	13.6	46	13.6	0.212	5.4	LOS A	1.2	8.7	0.53	0.62	0.53	42.3
11	T1	102	0.0	102	0.0	0.212	5.1	LOS A	1.2	8.7	0.53	0.62	0.53	42.0
12	R2	59	3.6	59	3.6	0.212	9.2	LOS A	1.2	8.7	0.53	0.62	0.53	42.3
12u	U	1	0.0	1	0.0	0.212	12.4	LOS A	1.2	8.7	0.53	0.62	0.53	50.2
Approach		208	4.0	208	4.0	0.212	6.3	LOS A	1.2	8.7	0.53	0.62	0.53	42.2
All Vehicles		1165	2.9	1165	2.9	0.366	5.4	LOS A	2.0	14.7	0.45	0.57	0.45	38.1

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

Site: 101 [10. Wallarah Cct/ Long Reef Cct W - PM - 2034 (Site Folder: PM 2034 Base)]

Network: N101 [PM 2034 Base (Network Folder: General)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	%				[Veh. veh	Dist] m				
East: Wallarah Cct														
5	T1	1	0.0	1	0.0	0.002	0.1	LOS A	0.0	0.0	0.12	0.23	0.12	30.1
6	R2	1	0.0	1	0.0	0.002	3.7	LOS A	0.0	0.0	0.12	0.23	0.12	30.1
Approach		2	0.0	2	0.0	0.002	1.9	NA	0.0	0.0	0.12	0.23	0.12	30.1
North: Long Reef Cct														
7	L2	1	0.0	1	0.0	0.003	3.4	LOS A	0.0	0.0	0.01	0.47	0.01	33.4
9	R2	1	0.0	1	0.0	0.003	3.5	LOS A	0.0	0.0	0.01	0.47	0.01	33.4
Approach		2	0.0	2	0.0	0.003	3.5	LOS A	0.0	0.0	0.01	0.47	0.01	33.4
West: Wallarah Cct														
10	L2	1	0.0	1	0.0	0.002	3.4	LOS A	0.0	0.0	0.00	0.23	0.00	37.7
11	T1	1	0.0	1	0.0	0.002	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	37.7
Approach		2	0.0	2	0.0	0.002	1.7	NA	0.0	0.0	0.00	0.23	0.00	37.7
All Vehicles		6	0.0	6	0.0	0.003	2.4	NA	0.0	0.0	0.04	0.31	0.04	35.1

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [11. Wallarah Cct/ Long Reef Cct E - PM - 2034 (Site Folder: PM 2034 Base)]

Network: N101 [PM 2034 Base (Network Folder: General)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Wallarah Cct														
1	L2	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.30	0.00	46.4
2	T1	1	0.0	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.00	0.30	0.00	46.4
Approach		2	0.0	2	0.0	0.001	2.8	NA	0.0	0.0	0.00	0.30	0.00	46.4
North: Long Reef Cct														
8	T1	1	0.0	1	0.0	0.002	4.1	LOS A	0.0	0.0	0.02	0.56	0.02	42.4
9	R2	1	0.0	1	0.0	0.002	5.5	LOS A	0.0	0.0	0.02	0.56	0.02	42.4
Approach		2	0.0	2	0.0	0.002	4.8	LOS A	0.0	0.0	0.02	0.56	0.02	42.4
West: Wallarah Cct														
10	L2	1	0.0	1	0.0	0.001	4.5	LOS A	0.0	0.0	0.01	0.57	0.01	30.5
12	R2	1	0.0	1	0.0	0.001	4.4	LOS A	0.0	0.0	0.01	0.57	0.01	30.5
Approach		2	0.0	2	0.0	0.001	4.5	NA	0.0	0.0	0.01	0.57	0.01	30.5
All Vehicles		6	0.0	6	0.0	0.002	4.0	NA	0.0	0.0	0.01	0.47	0.01	40.8

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

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

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

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

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

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

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

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Appendix G. Future Year 2024 & 2034 with School + Mitigation Measures SIDRA Results

P2	Full	4	51.7	LOS E	0.0	0.0	0.95	0.95	220.3	219.2	1.00
North: Village Cct (SB)											
P3	Full	1	51.7	LOS E	0.0	0.0	0.95	0.95	218.7	217.2	0.99
West: Gregory Hills Dr (EB)											
P4	Full	4	51.7	LOS E	0.0	0.0	0.95	0.95	220.4	219.3	1.00
All Pedestrians		325	52.3	LOS E	1.0	1.0	0.96	0.96	217.5	214.7	0.99

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: 101 [2. Gregory Hills Dr/Golden Wattle Ave - AM - 2024
School (Site Folder: AM 2024 Base - School)]

Network: N101 [AM 2024
Base - School (Network Folder:
General)]

2. Gregory Hills Dr/Golden Wattle Ave
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	HV %	[Total veh/h]	HV %	v/c	sec		[Veh. veh]	Dist m				km/h
East: Gregory Hills D (WB)														
5	T1	796	3.0	796	3.0	0.208	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		796	3.0	796	3.0	0.208	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Golden Wattle Ave														
7	L2	101	4.2	101	4.2	0.110	7.5	LOS A	0.4	3.3	0.43	0.63	0.43	41.0
Approach		101	4.2	101	4.2	0.110	7.5	LOS A	0.4	3.3	0.43	0.63	0.43	41.0
West: Gregory Hills D (EB)														
10	L2	29	7.1	29	7.1	0.212	5.7	LOS A	0.0	0.0	0.00	0.04	0.00	55.2
11	T1	782	2.2	782	2.2	0.212	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
Approach		812	2.3	812	2.3	0.212	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.1
All Vehicles		1708	2.8	1708	2.8	0.212	0.6	NA	0.4	3.3	0.03	0.05	0.03	58.7

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

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

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

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

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

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

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


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MOVEMENT SUMMARY

 Site: 101 [3. Kavanagh St/ Gregory Hills Dr - AM - 2024 School
(Site Folder: AM 2024 Base - School)]

 Network: N101 [AM 2024
Base - School (Network Folder:
General)]

Kavanagh St/ Gregory Hills Dr

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 135 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Gregory Hills Dr (NB)														
1	L2	198	2.1	198	2.1	* 0.439	8.7	LOS A	3.7	26.3	0.13	0.34	0.13	49.6
2	T1	738	3.0	738	3.0	0.439	2.4	LOS A	3.7	26.3	0.11	0.17	0.11	53.4
Approach		936	2.8	936	2.8	0.439	3.7	LOS A	3.7	26.3	0.11	0.21	0.11	52.6
North: Gregory Hills Dr (SB)														
8	T1	853	2.1	853	2.1	0.332	3.9	LOS A	4.3	30.8	0.17	0.15	0.17	60.2
9	R2	38	8.3	38	8.3	* 0.105	12.9	LOS A	0.6	4.3	0.26	0.63	0.26	45.3
Approach		891	2.4	891	2.4	0.332	4.3	LOS A	4.3	30.8	0.17	0.17	0.17	59.7
West: RoadName														
10	L2	66	4.8	66	4.8	0.119	40.0	LOS C	3.1	22.5	0.75	0.72	0.75	10.7
12	R2	198	2.7	198	2.7	* 0.444	51.2	LOS D	11.1	79.3	0.90	0.80	0.90	23.6
Approach		264	3.2	264	3.2	0.444	48.4	LOS D	11.1	79.3	0.86	0.78	0.86	21.5
All Vehicles		2091	2.7	2091	2.7	0.444	9.6	LOS A	11.1	79.3	0.23	0.27	0.23	50.4

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Gregory Hills Dr (NB)											
P1	Full	1	61.6	LOS F	0.0	0.0	0.96	0.96	231.4	220.7	0.95
North: Gregory Hills Dr (SB)											
P3	Full	1	61.6	LOS F	0.0	0.0	0.96	0.96	231.3	220.5	0.95
West: RoadName											
P4	Full	1	61.6	LOS F	0.0	0.0	0.96	0.96	226.6	214.4	0.95
All Pedestrians		3	61.6	LOS F	0.0	0.0	0.96	0.96	229.7	218.5	0.95


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: 101 [4. Kavanagh St/ Oaklands Circuit/ Village Cct - AM - 2024 School (Site Folder: AM 2024 Base - School)]

 Network: N101 [AM 2024 Base - School (Network Folder: General)]

Kavangh St/ Oaklands Circuit/ Village Cct
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Village Cct														
1	L2	27	11.5	27	11.5	0.063	2.9	LOS A	0.3	2.3	0.39	0.51	0.39	35.6
2	T1	1	0.0	1	0.0	0.063	2.3	LOS A	0.3	2.3	0.39	0.51	0.39	38.5
3	R2	39	5.4	39	5.4	0.063	6.6	LOS A	0.3	2.3	0.39	0.51	0.39	35.6
3u	U	1	0.0	1	0.0	0.063	11.9	LOS A	0.3	2.3	0.39	0.51	0.39	45.4
Approach		68	7.7	68	7.7	0.063	5.2	LOS A	0.3	2.3	0.39	0.51	0.39	35.8
East: Kavanagh St (WB)														
4	L2	11	0.0	11	0.0	0.167	3.0	LOS A	0.9	6.3	0.16	0.37	0.16	39.8
5	T1	204	2.6	204	2.6	0.167	3.0	LOS A	0.9	6.3	0.16	0.37	0.16	37.3
6	R2	7	0.0	7	0.0	0.167	7.5	LOS A	0.9	6.3	0.16	0.37	0.16	43.2
6u	U	19	11.1	19	11.1	0.167	11.1	LOS A	0.9	6.3	0.16	0.37	0.16	37.3
Approach		241	3.1	241	3.1	0.167	3.8	LOS A	0.9	6.3	0.16	0.37	0.16	38.0
North: Oaklands Circuit														
7	L2	20	0.0	20	0.0	0.032	2.8	LOS A	0.2	1.1	0.40	0.46	0.40	33.8
8	T1	4	0.0	4	0.0	0.032	2.4	LOS A	0.2	1.1	0.40	0.46	0.40	39.1
9	R2	11	0.0	11	0.0	0.032	6.6	LOS A	0.2	1.1	0.40	0.46	0.40	33.8
9u	U	1	0.0	1	0.0	0.032	12.0	LOS A	0.2	1.1	0.40	0.46	0.40	44.7
Approach		36	0.0	36	0.0	0.032	4.1	LOS A	0.2	1.1	0.40	0.46	0.40	35.4
West: Kavanagh St (EB)														
10	L2	7	0.0	7	0.0	0.158	3.1	LOS A	0.9	6.1	0.22	0.38	0.22	39.4
11	T1	184	1.7	184	1.7	0.158	3.1	LOS A	0.9	6.1	0.22	0.38	0.22	36.5
12	R2	24	0.0	24	0.0	0.158	7.6	LOS A	0.9	6.1	0.22	0.38	0.22	41.8
12u	U	1	0.0	1	0.0	0.158	11.1	LOS A	0.9	6.1	0.22	0.38	0.22	36.5
Approach		217	1.5	217	1.5	0.158	3.7	LOS A	0.9	6.1	0.22	0.38	0.22	38.1
All Vehicles		562	2.8	562	2.8	0.167	3.9	LOS A	0.9	6.3	0.23	0.40	0.23	37.3

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

Site: 101 [5. Kavanagh St/ Wallarah Cct/ Junee St - AM - 2024
School (Site Folder: AM 2024 Base - School)]

Network: N101 [AM 2024
Base - School (Network Folder:
General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
East: Kavanagh St (WB)														
5	T1	240	3.1	240	3.1	0.126	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	49.8
6	R2	1	0.0	1	0.0	0.126	5.4	LOS A	0.0	0.1	0.00	0.00	0.00	42.8
Approach		241	3.1	241	3.1	0.126	0.0	NA	0.0	0.1	0.00	0.00	0.00	49.7
North: Junee St														
7	L2	2	0.0	2	0.0	0.012	4.1	LOS A	0.0	0.3	0.37	0.55	0.37	31.8
9	R2	8	0.0	8	0.0	0.012	5.4	LOS A	0.0	0.3	0.37	0.55	0.37	31.8
Approach		11	0.0	11	0.0	0.012	5.1	LOS A	0.0	0.3	0.37	0.55	0.37	31.8
West: Kavanagh St (EB)														
10	L2	5	0.0	5	0.0	0.119	4.5	LOS A	0.0	0.0	0.00	0.01	0.00	48.0
11	T1	224	1.4	224	1.4	0.119	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.0
Approach		229	1.4	229	1.4	0.119	0.1	NA	0.0	0.0	0.00	0.01	0.00	48.9
All Vehicles		481	2.2	481	2.2	0.126	0.2	NA	0.0	0.3	0.01	0.02	0.01	48.3

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

MOVEMENT SUMMARY

Site: 101 [6. Kavanagh St/ Wallarah Cct/ Audley Cct - AM - 2024
School (Site Folder: AM 2024 Base - School)]

Network: N101 [AM 2024
Base - School (Network Folder:
General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Audley Cct														
1	L2	21	10.0	21	10.0	0.025	3.7	LOS A	0.1	0.7	0.17	0.46	0.17	35.5
2	T1	2	0.0	2	0.0	0.025	3.6	LOS A	0.1	0.7	0.17	0.46	0.17	35.5
3	R2	5	0.0	5	0.0	0.025	6.3	LOS A	0.1	0.7	0.17	0.46	0.17	35.5
Approach		28	7.4	28	7.4	0.025	4.2	LOS A	0.1	0.7	0.17	0.46	0.17	35.5
East: Kavanagh St (WB)														
4	L2	6	33.3	6	33.3	0.147	4.8	LOS A	0.7	5.3	0.21	0.37	0.21	37.5
5	T1	79	6.7	79	6.7	0.147	0.3	LOS A	0.7	5.3	0.21	0.37	0.21	29.0
6	R2	166	1.3	166	1.3	0.147	4.9	LOS A	0.7	5.3	0.21	0.37	0.21	29.0
Approach		252	3.8	252	3.8	0.147	3.4	NA	0.7	5.3	0.21	0.37	0.21	29.8
North: Wallarah Cct/														
7	L2	157	0.0	157	0.0	0.136	3.6	LOS A	0.6	4.0	0.16	0.46	0.16	31.2
8	T1	1	0.0	1	0.0	0.136	3.8	LOS A	0.6	4.0	0.16	0.46	0.16	37.0
9	R2	24	8.7	24	8.7	0.136	6.1	LOS A	0.6	4.0	0.16	0.46	0.16	31.2
Approach		182	1.2	182	1.2	0.136	4.0	LOS A	0.6	4.0	0.16	0.46	0.16	31.3
West: Kavanagh St (EB)														
10	L2	22	0.0	22	0.0	0.055	4.7	LOS A	0.1	0.7	0.06	0.17	0.06	45.0
11	T1	68	4.6	68	4.6	0.055	0.0	LOS A	0.1	0.7	0.06	0.17	0.06	45.0
12	R2	12	0.0	12	0.0	0.055	4.8	LOS A	0.1	0.7	0.06	0.17	0.06	41.5
Approach		102	3.1	102	3.1	0.055	1.6	NA	0.1	0.7	0.06	0.17	0.06	44.1
All Vehicles		564	3.0	564	3.0	0.147	3.3	NA	0.7	5.3	0.16	0.36	0.16	34.5

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

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

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

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

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

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

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

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Project: C:\Users\user\Desktop\P1998v01_Existing School AM and PM Peak_05092022.sip9

MOVEMENT SUMMARY

Site: 101 [7. Kavanagh St/ Wallarah Cct - AM - 2024 School
(Site Folder: AM 2024 Base - School)]

Network: N101 [AM 2024
Base - School (Network Folder:
General)]

Kavanagh St/ Wallarah Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	%				[Veh. veh	Dist] m				
East: Kavanagh St (WB)														
5	T1	121	6.1	121	6.1	0.065	0.0	LOS A	0.0	0.1	0.01	0.00	0.01	49.8
6	R2	1	0.0	1	0.0	0.065	5.5	LOS A	0.0	0.1	0.01	0.00	0.01	49.8
Approach		122	6.0	122	6.0	0.065	0.1	NA	0.0	0.1	0.01	0.00	0.01	49.8
North: Wallarah Cct														
7	L2	3	0.0	3	0.0	0.189	3.7	LOS A	0.7	4.7	0.37	0.60	0.37	34.0
9	R2	181	0.0	181	0.0	0.189	4.9	LOS A	0.7	4.7	0.37	0.60	0.37	34.0
Approach		184	0.0	184	0.0	0.189	4.9	LOS A	0.7	4.7	0.37	0.60	0.37	34.0
West: Kavanagh St (EB)														
10	L2	189	0.0	189	0.0	0.153	4.6	LOS A	0.0	0.0	0.00	0.35	0.00	42.2
11	T1	98	3.2	98	3.2	0.153	0.0	LOS A	0.0	0.0	0.00	0.35	0.00	42.2
Approach		287	1.1	287	1.1	0.153	3.0	NA	0.0	0.0	0.00	0.35	0.00	42.2
All Vehicles		594	1.8	594	1.8	0.189	3.0	NA	0.7	4.7	0.12	0.36	0.12	39.7

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

MOVEMENT SUMMARY

Site: 101 [8. Village Cct/ Kavanagh St - AM - 2024 School (Site Folder: AM 2024 Base - School)]

Network: N101 [AM 2024 Base - School (Network Folder: General)]

Village Cct/ Kavanagh St
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Village Cct (NB)														
1	L2	3	0.0	3	0.0	0.141	5.6	LOS A	0.6	4.1	0.28	0.21	0.28	47.3
2	T1	154	2.7	154	2.7	0.141	0.6	LOS A	0.6	4.1	0.28	0.21	0.28	45.7
3	R2	80	0.0	80	0.0	0.141	5.6	LOS A	0.6	4.1	0.28	0.21	0.28	45.7
Approach		237	1.8	237	1.8	0.141	2.3	NA	0.6	4.1	0.28	0.21	0.28	45.7
East: Kavanagh St (WB)														
4	L2	71	0.0	71	0.0	0.422	5.7	LOS A	2.3	16.6	0.42	0.73	0.54	41.6
5	T1	38	0.0	38	0.0	0.422	6.8	LOS A	2.3	16.6	0.42	0.73	0.54	42.3
6	R2	215	2.9	215	2.9	0.422	9.5	LOS A	2.3	16.6	0.42	0.73	0.54	33.1
Approach		323	2.0	323	2.0	0.422	8.3	LOS A	2.3	16.6	0.42	0.73	0.54	37.7
North: Village Cct (SB)														
7	L2	184	2.9	184	2.9	0.166	3.9	LOS A	0.2	1.5	0.06	0.34	0.06	30.7
8	T1	96	6.6	96	6.6	0.166	0.1	LOS A	0.2	1.5	0.06	0.34	0.06	45.9
9	R2	21	0.0	21	0.0	0.166	4.4	LOS A	0.2	1.5	0.06	0.34	0.06	44.8
Approach		301	3.8	301	3.8	0.166	2.7	NA	0.2	1.5	0.06	0.34	0.06	42.1
West: Kavanagh St (EB)														
10	L2	4	0.0	4	0.0	0.055	5.0	LOS A	0.2	1.4	0.44	0.62	0.44	42.6
11	T1	39	0.0	39	0.0	0.055	5.8	LOS A	0.2	1.4	0.44	0.62	0.44	42.6
12	R2	1	0.0	1	0.0	0.055	7.2	LOS A	0.2	1.4	0.44	0.62	0.44	44.7
Approach		44	0.0	44	0.0	0.055	5.8	LOS A	0.2	1.4	0.44	0.62	0.44	42.7
All Vehicles		905	2.4	905	2.4	0.422	4.8	NA	2.3	16.6	0.26	0.46	0.31	41.3

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

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

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

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

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

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

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


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Project: C:\Users\user\Desktop\P1998v01_Existing School AM and PM Peak_05092022.sip9

MOVEMENT SUMMARY

 Site: 101 [9. Village Cct/ Healy Ave/ Gregory Hills Access - AM - 2024 School (Site Folder: AM 2024 Base - School)]

 Network: N101 [AM 2024 Base - School (Network Folder: General)]

Village Cct/ Healy Ave/ Gregory Hills Access
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Village Cct (NB)														
1	L2	72	5.9	72	5.9	0.355	4.3	LOS A	2.3	16.3	0.53	0.59	0.53	43.6
2	T1	234	2.3	234	2.3	0.355	4.4	LOS A	2.3	16.3	0.53	0.59	0.53	25.2
3	R2	66	3.2	66	3.2	0.355	8.3	LOS A	2.3	16.3	0.53	0.59	0.53	26.6
3u	U	4	0.0	4	0.0	0.355	10.6	LOS A	2.3	16.3	0.53	0.59	0.53	25.2
Approach		376	3.1	376	3.1	0.355	5.2	LOS A	2.3	16.3	0.53	0.59	0.53	34.1
East: Gregory Hills Access														
4	L2	65	0.0	65	0.0	0.191	3.9	LOS A	1.1	8.1	0.56	0.60	0.56	20.7
5	T1	41	5.1	41	5.1	0.191	3.8	LOS A	1.1	8.1	0.56	0.60	0.56	44.2
6	R2	76	2.8	76	2.8	0.191	7.4	LOS A	1.1	8.1	0.56	0.60	0.56	20.7
6u	U	2	0.0	2	0.0	0.191	10.5	LOS A	1.1	8.1	0.56	0.60	0.56	23.5
Approach		184	2.3	184	2.3	0.191	5.4	LOS A	1.1	8.1	0.56	0.60	0.56	33.3
North: Village Cct (SB)														
7	L2	178	3.6	178	3.6	0.412	5.6	LOS A	2.4	17.9	0.51	0.62	0.51	32.9
8	T1	162	6.5	162	6.5	0.412	5.7	LOS A	2.4	17.9	0.51	0.62	0.51	32.6
9	R2	47	4.4	47	4.4	0.412	9.7	LOS A	2.4	17.9	0.51	0.62	0.51	45.2
9u	U	5	40.0	5	40.0	0.412	14.2	LOS A	2.4	17.9	0.51	0.62	0.51	32.6
Approach		393	5.4	393	5.4	0.412	6.2	LOS A	2.4	17.9	0.51	0.62	0.51	36.0
West: Healy Ave														
10	L2	86	9.8	86	9.8	0.389	6.0	LOS A	2.6	18.7	0.65	0.73	0.65	42.1
11	T1	103	4.1	103	4.1	0.389	5.8	LOS A	2.6	18.7	0.65	0.73	0.65	41.8
12	R2	71	0.0	71	0.0	0.389	9.8	LOS A	2.6	18.7	0.65	0.73	0.65	42.1
12u	U	103	4.1	103	4.1	0.389	13.2	LOS A	2.6	18.7	0.65	0.73	0.65	49.8
Approach		363	4.6	363	4.6	0.389	8.7	LOS A	2.6	18.7	0.65	0.73	0.65	45.0
All Vehicles		1316	4.1	1316	4.1	0.412	6.5	LOS A	2.6	18.7	0.56	0.64	0.56	39.9

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

 **Site: 101v [10. Wallarah Cct/ Long Reef Cct W - AM - 2024 School (Site Folder: AM 2024 Base - School)]**

 **Network: N101 [AM 2024 Base - School (Network Folder: General)]**

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
East: Wallarah Cct														
5	T1	172	1.2	172	1.2	0.597	1.7	LOS A	1.8	12.7	0.35	0.32	0.45	26.0
6	R2	177	0.0	177	0.0	0.597	5.6	LOS A	1.8	12.7	0.35	0.32	0.45	26.0
Approach		348	0.6	348	0.6	0.597	3.6	NA	1.8	12.7	0.35	0.32	0.45	26.0
North: Long Reef Cct														
7	L2	7	0.0	7	0.0	0.033	6.9	LOS A	0.1	0.4	0.16	0.93	0.16	28.0
9	R2	7	0.0	7	0.0	0.033	9.0	LOS A	0.1	0.4	0.16	0.93	0.16	28.0
Approach		15	0.0	15	0.0	0.033	7.9	LOS A	0.1	0.4	0.16	0.93	0.16	28.0
West: Wallarah Cct														
10	L2	177	0.0	177	0.0	0.273	3.6	LOS A	0.6	4.1	0.15	0.43	0.15	35.2
11	T1	7	0.0	7	0.0	0.273	0.2	LOS A	0.6	4.1	0.15	0.43	0.15	35.2
Approach		184	0.0	184	0.0	0.273	3.5	NA	0.6	4.1	0.15	0.43	0.15	35.2
All Vehicles		547	0.4	547	0.4	0.597	3.7	NA	1.8	12.7	0.28	0.38	0.34	31.6

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

MOVEMENT SUMMARY

 **Site: 101v [11. Wallarah Cct/ Long Reef Cct E - AM - 2024**
School (Site Folder: AM 2024 Base - School)]

 **Network: N101 [AM 2024**
Base - School (Network Folder:
General)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Wallarah Cct														
1	L2	189	1.1	189	1.1	0.105	3.4	LOS A	0.0	0.2	0.01	0.45	0.01	32.4
2	T1	2	0.0	2	0.0	0.105	0.4	LOS A	0.0	0.2	0.01	0.45	0.01	32.4
Approach		192	1.1	192	1.1	0.105	3.4	NA	0.0	0.2	0.01	0.45	0.01	32.4
North: Long Reef Cct														
8	T1	168	0.0	168	0.0	0.336	6.9	LOS A	1.5	10.5	0.22	0.96	0.22	28.6
9	R2	168	0.0	168	0.0	0.336	8.0	LOS A	1.5	10.5	0.22	0.96	0.22	28.6
Approach		337	0.0	337	0.0	0.336	7.4	LOS A	1.5	10.5	0.22	0.96	0.22	28.6
West: Wallarah Cct														
10	L2	2	0.0	2	0.0	0.006	3.6	LOS A	0.0	0.2	0.01	0.48	0.01	26.4
12	R2	8	0.0	8	0.0	0.006	3.5	LOS A	0.0	0.2	0.01	0.48	0.01	26.4
Approach		11	0.0	11	0.0	0.006	3.5	NA	0.0	0.2	0.01	0.48	0.01	26.4
All Vehicles		539	0.4	539	0.4	0.336	5.9	NA	1.5	10.5	0.14	0.77	0.14	29.7

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

P2	Full	316	52.3	LOS E	1.0	1.0	0.96	0.96	221.0	219.2	0.99
North: Village Cct (SB)											
P3	Full	316	52.3	LOS E	1.0	1.0	0.96	0.96	219.4	217.2	0.99
West: Gregory Hills Dr (EB)											
P4	Full	316	52.3	LOS E	1.0	1.0	0.96	0.96	221.0	219.3	0.99
All Pedestrians		1263	52.3	LOS E	1.0	1.0	0.96	0.96	219.7	217.6	0.99

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: 101 [2. Gregory Hills Dr/Golden Wattle Ave - AM - 2034
School (Site Folder: AM 2034 Base - School)]

Network: N101 [AM 2034
Base - School (Network Folder:
General)]

2. Gregory Hills Dr/Golden Wattle Ave
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]	v/c	sec		[Veh. veh]	[Dist m]				km/h
East: Gregory Hills D (WB)														
5	T1	948	3.1	948	3.1	0.248	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		948	3.1	948	3.1	0.248	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Golden Wattle Ave														
7	L2	120	3.5	120	3.5	0.140	8.0	LOS A	0.6	4.3	0.48	0.67	0.48	40.4
Approach		120	3.5	120	3.5	0.140	8.0	LOS A	0.6	4.3	0.48	0.67	0.48	40.4
West: Gregory Hills D (EB)														
10	L2	35	6.1	35	6.1	0.252	5.7	LOS A	0.0	0.0	0.00	0.04	0.00	55.4
11	T1	933	2.1	933	2.1	0.252	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
Approach		967	2.3	967	2.3	0.252	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.1
All Vehicles		2036	2.7	2036	2.7	0.252	0.6	NA	0.6	4.3	0.03	0.05	0.03	58.7

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

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

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

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

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

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

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


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Project: C:\Users\user\Desktop\P1998v01_Existing School AM and PM Peak_05092022.sip9

MOVEMENT SUMMARY

 Site: 101 [3. Kavanagh St/ Gregory Hills Dr - AM - 2034 School
(Site Folder: AM 2034 Base - School)]

 Network: N101 [AM 2034
Base - School (Network Folder:
General)]

Kavanagh St/ Gregory Hills Dr

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 135 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	[Veh. veh			Dist] m	v/c				
South: Gregory Hills Dr (NB)														
1	L2	206	2.0	206	2.0	* 0.484	7.6	LOS A	3.0	21.7	0.10	0.30	0.10	51.6
2	T1	879	3.0	879	3.0	0.484	1.2	LOS A	3.0	21.7	0.06	0.13	0.06	55.7
Approach		1085	2.8	1085	2.8	0.484	2.5	LOS A	3.0	21.7	0.07	0.16	0.07	54.9
North: Gregory Hills Dr (SB)														
8	T1	1016	2.1	1016	2.1	0.375	2.0	LOS A	3.1	22.2	0.10	0.09	0.10	62.0
9	R2	43	7.3	43	7.3	0.139	12.2	LOS A	0.6	4.7	0.25	0.63	0.25	45.8
Approach		1059	2.3	1059	2.3	0.375	2.4	LOS A	3.1	22.2	0.11	0.11	0.11	61.5
West: RoadName														
10	L2	77	4.1	77	4.1	* 0.160	45.1	LOS D	3.8	27.9	0.80	0.74	0.80	9.7
12	R2	209	2.5	209	2.5	0.578	56.6	LOS E	12.5	89.1	0.95	0.82	0.95	22.3
Approach		286	2.9	286	2.9	0.578	53.5	LOS D	12.5	89.1	0.91	0.80	0.91	20.0
All Vehicles		2431	2.6	2431	2.6	0.578	8.5	LOS A	12.5	89.1	0.19	0.22	0.19	51.6

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Gregory Hills Dr (NB)											
P1	Full	316	62.5	LOS F	1.2	1.2	0.97	0.97	232.2	220.7	0.95
North: Gregory Hills Dr (SB)											
P3	Full	316	62.5	LOS F	1.2	1.2	0.97	0.97	232.1	220.5	0.95
West: RoadName											
P4	Full	316	62.5	LOS F	1.2	1.2	0.97	0.97	227.4	214.4	0.94
All Pedestrians		947	62.5	LOS F	1.2	1.2	0.97	0.97	230.6	218.5	0.95

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: 101 [4. Kavanagh St/ Oaklands Circuit/ Village Cct - AM - 2034 School (Site Folder: AM 2034 Base - School)]

 Network: N101 [AM 2034 Base - School (Network Folder: General)]

Kavangh St/ Oaklands Circuit/ Village Cct
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Village Cct														
1	L2	33	9.7	33	9.7	0.074	2.9	LOS A	0.4	2.7	0.41	0.52	0.41	35.5
2	T1	1	0.0	1	0.0	0.074	2.4	LOS A	0.4	2.7	0.41	0.52	0.41	38.5
3	R2	45	4.7	45	4.7	0.074	6.7	LOS A	0.4	2.7	0.41	0.52	0.41	35.5
3u	U	1	0.0	1	0.0	0.074	12.0	LOS A	0.4	2.7	0.41	0.52	0.41	45.4
Approach		80	6.6	80	6.6	0.074	5.2	LOS A	0.4	2.7	0.41	0.52	0.41	35.8
East: Kavanagh St (WB)														
4	L2	13	0.0	13	0.0	0.178	3.0	LOS A	1.0	6.9	0.18	0.38	0.18	39.7
5	T1	212	2.5	212	2.5	0.178	3.0	LOS A	1.0	6.9	0.18	0.38	0.18	37.0
6	R2	8	0.0	8	0.0	0.178	7.5	LOS A	1.0	6.9	0.18	0.38	0.18	43.0
6u	U	22	9.5	22	9.5	0.178	11.2	LOS A	1.0	6.9	0.18	0.38	0.18	37.0
Approach		255	2.9	255	2.9	0.178	3.9	LOS A	1.0	6.9	0.18	0.38	0.18	37.7
North: Oaklands Circuit														
7	L2	24	0.0	24	0.0	0.038	2.9	LOS A	0.2	1.3	0.42	0.47	0.42	33.7
8	T1	4	0.0	4	0.0	0.038	2.5	LOS A	0.2	1.3	0.42	0.47	0.42	39.0
9	R2	13	0.0	13	0.0	0.038	6.8	LOS A	0.2	1.3	0.42	0.47	0.42	33.7
9u	U	1	0.0	1	0.0	0.038	12.1	LOS A	0.2	1.3	0.42	0.47	0.42	44.5
Approach		42	0.0	42	0.0	0.038	4.3	LOS A	0.2	1.3	0.42	0.47	0.42	35.1
West: Kavanagh St (EB)														
10	L2	8	0.0	8	0.0	0.172	3.2	LOS A	1.0	6.7	0.24	0.39	0.24	39.2
11	T1	194	1.6	194	1.6	0.172	3.2	LOS A	1.0	6.7	0.24	0.39	0.24	36.2
12	R2	29	0.0	29	0.0	0.172	7.7	LOS A	1.0	6.7	0.24	0.39	0.24	41.7
12u	U	1	0.0	1	0.0	0.172	11.2	LOS A	1.0	6.7	0.24	0.39	0.24	36.2
Approach		233	1.4	233	1.4	0.172	3.8	LOS A	1.0	6.7	0.24	0.39	0.24	38.0
All Vehicles		609	2.6	609	2.6	0.178	4.0	LOS A	1.0	6.9	0.25	0.41	0.25	37.1

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

Site: 101 [5. Kavanagh St/ Wallarah Cct/ Junee St - AM - 2034
School (Site Folder: AM 2034 Base - School)]

Network: N101 [AM 2034
Base - School (Network Folder:
General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
East: Kavanagh St (WB)														
5	T1	256	3.3	256	3.3	0.135	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	49.8
6	R2	1	0.0	1	0.0	0.135	5.5	LOS A	0.0	0.1	0.00	0.00	0.00	42.8
Approach		257	3.3	257	3.3	0.135	0.0	NA	0.0	0.1	0.00	0.00	0.00	49.8
North: Junee St														
7	L2	1	0.0	1	0.0	0.013	4.1	LOS A	0.0	0.3	0.41	0.57	0.41	31.4
9	R2	9	0.0	9	0.0	0.013	5.6	LOS A	0.0	0.3	0.41	0.57	0.41	31.4
Approach		11	0.0	11	0.0	0.013	5.4	LOS A	0.0	0.3	0.41	0.57	0.41	31.4
West: Kavanagh St (EB)														
10	L2	5	0.0	5	0.0	0.126	4.5	LOS A	0.0	0.0	0.00	0.01	0.00	48.1
11	T1	239	1.3	239	1.3	0.126	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.1
Approach		244	1.3	244	1.3	0.126	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.0
All Vehicles		512	2.3	512	2.3	0.135	0.2	NA	0.0	0.3	0.01	0.02	0.01	48.4

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

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

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

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

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

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

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

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Project: C:\Users\user\Desktop\P1998v01_Existing School AM and PM Peak_05092022.sip9

MOVEMENT SUMMARY

Site: 101 [6. Kavanagh St/ Wallarah Cct/ Audley Cct - AM - 2034
School (Site Folder: AM 2034 Base - School)]

Network: N101 [AM 2034
Base - School (Network Folder:
General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Audley Cct														
1	L2	25	8.3	25	8.3	0.028	3.7	LOS A	0.1	0.8	0.19	0.46	0.19	35.5
2	T1	2	0.0	2	0.0	0.028	3.7	LOS A	0.1	0.8	0.19	0.46	0.19	35.5
3	R2	5	0.0	5	0.0	0.028	6.6	LOS A	0.1	0.8	0.19	0.46	0.19	35.5
Approach		33	6.5	33	6.5	0.028	4.2	LOS A	0.1	0.8	0.19	0.46	0.19	35.5
East: Kavanagh St (WB)														
4	L2	6	33.3	6	33.3	0.157	4.9	LOS A	0.8	5.7	0.22	0.35	0.22	37.6
5	T1	94	5.6	94	5.6	0.157	0.3	LOS A	0.8	5.7	0.22	0.35	0.22	29.3
6	R2	167	1.3	167	1.3	0.157	4.9	LOS A	0.8	5.7	0.22	0.35	0.22	29.3
Approach		267	3.5	267	3.5	0.157	3.3	NA	0.8	5.7	0.22	0.35	0.22	30.1
North: Wallarah Cct/														
7	L2	159	0.0	159	0.0	0.140	3.7	LOS A	0.6	4.1	0.18	0.46	0.18	31.1
8	T1	1	0.0	1	0.0	0.140	4.0	LOS A	0.6	4.1	0.18	0.46	0.18	36.9
9	R2	24	8.7	24	8.7	0.140	6.4	LOS A	0.6	4.1	0.18	0.46	0.18	31.1
Approach		184	1.1	184	1.1	0.140	4.0	LOS A	0.6	4.1	0.18	0.46	0.18	31.2
West: Kavanagh St (EB)														
10	L2	22	0.0	22	0.0	0.063	4.7	LOS A	0.1	0.8	0.07	0.16	0.07	45.2
11	T1	81	3.9	81	3.9	0.063	0.1	LOS A	0.1	0.8	0.07	0.16	0.07	45.2
12	R2	14	0.0	14	0.0	0.063	4.9	LOS A	0.1	0.8	0.07	0.16	0.07	41.5
Approach		117	2.7	117	2.7	0.063	1.5	NA	0.1	0.8	0.07	0.16	0.07	44.2
All Vehicles		601	2.8	601	2.8	0.157	3.2	NA	0.8	5.7	0.18	0.35	0.18	34.8

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [7. Kavanagh St/ Wallarah Cct - AM - 2034 School
(Site Folder: AM 2034 Base - School)]

Network: N101 [AM 2034
Base - School (Network Folder:
General)]

Kavanagh St/ Wallarah Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%	[Veh. veh			Dist] m	v/c				
East: Kavanagh St (WB)														
5	T1	141	6.0	141	6.0	0.076	0.0	LOS A	0.0	0.1	0.01	0.00	0.01	49.8
6	R2	1	0.0	1	0.0	0.076	5.6	LOS A	0.0	0.1	0.01	0.00	0.01	49.8
Approach		142	5.9	142	5.9	0.076	0.1	NA	0.0	0.1	0.01	0.00	0.01	49.8
North: Wallarah Cct														
7	L2	3	0.0	3	0.0	0.201	3.8	LOS A	0.7	5.0	0.39	0.62	0.39	33.8
9	R2	185	0.0	185	0.0	0.201	5.2	LOS A	0.7	5.0	0.39	0.62	0.39	33.8
Approach		188	0.0	188	0.0	0.201	5.1	LOS A	0.7	5.0	0.39	0.62	0.39	33.8
West: Kavanagh St (EB)														
10	L2	193	0.0	193	0.0	0.163	4.6	LOS A	0.0	0.0	0.00	0.34	0.00	42.5
11	T1	113	2.8	113	2.8	0.163	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	42.5
Approach		305	1.0	305	1.0	0.163	2.9	NA	0.0	0.0	0.00	0.34	0.00	42.5
All Vehicles		636	1.8	636	1.8	0.201	2.9	NA	0.7	5.0	0.12	0.35	0.12	39.9

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [8. Village Cct/ Kavanagh St - AM - 2034 School (Site Folder: AM 2034 Base - School)]

Network: N101 [AM 2034 Base - School (Network Folder: General)]

Village Cct/ Kavanagh St
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Village Cct (NB)														
1	L2	3	0.0	3	0.0	0.158	5.8	LOS A	0.6	4.4	0.28	0.19	0.28	47.4
2	T1	182	2.3	182	2.3	0.158	0.6	LOS A	0.6	4.4	0.28	0.19	0.28	45.9
3	R2	81	0.0	81	0.0	0.158	5.8	LOS A	0.6	4.4	0.28	0.19	0.28	45.9
Approach		266	1.6	266	1.6	0.158	2.3	NA	0.6	4.4	0.28	0.19	0.28	45.9
East: Kavanagh St (WB)														
4	L2	71	0.0	71	0.0	0.494	6.3	LOS A	3.0	21.6	0.48	0.81	0.71	40.5
5	T1	38	0.0	38	0.0	0.494	8.0	LOS A	3.0	21.6	0.48	0.81	0.71	41.3
6	R2	240	3.1	240	3.1	0.494	11.0	LOS A	3.0	21.6	0.48	0.81	0.71	31.4
Approach		348	2.1	348	2.1	0.494	9.7	LOS A	3.0	21.6	0.48	0.81	0.71	36.0
North: Village Cct (SB)														
7	L2	201	2.6	201	2.6	0.188	4.0	LOS A	0.3	1.9	0.08	0.33	0.08	30.7
8	T1	114	6.5	114	6.5	0.188	0.1	LOS A	0.3	1.9	0.08	0.33	0.08	46.0
9	R2	25	0.0	25	0.0	0.188	4.5	LOS A	0.3	1.9	0.08	0.33	0.08	44.8
Approach		340	3.7	340	3.7	0.188	2.7	NA	0.3	1.9	0.08	0.33	0.08	42.3
West: Kavanagh St (EB)														
10	L2	4	0.0	4	0.0	0.060	5.1	LOS A	0.2	1.5	0.47	0.65	0.47	42.1
11	T1	39	0.0	39	0.0	0.060	6.3	LOS A	0.2	1.5	0.47	0.65	0.47	42.1
12	R2	1	0.0	1	0.0	0.060	7.6	LOS A	0.2	1.5	0.47	0.65	0.47	44.4
Approach		44	0.0	44	0.0	0.060	6.3	LOS A	0.2	1.5	0.47	0.65	0.47	42.2
All Vehicles		999	2.4	999	2.4	0.494	5.2	NA	3.0	21.6	0.29	0.47	0.37	40.7

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

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

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

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

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

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

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


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MOVEMENT SUMMARY

 Site: 101 [9. Village Cct/ Healy Ave/ Gregory Hills Access - AM - 2034 School (Site Folder: AM 2034 Base - School)]

 Network: N101 [AM 2034 Base - School (Network Folder: General)]

Village Cct/ Healy Ave/ Gregory Hills Access
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Village Cct (NB)														
1	L2	82	5.1	82	5.1	0.422	4.8	LOS A	2.9	20.7	0.61	0.64	0.61	43.2
2	T1	265	2.0	265	2.0	0.422	4.9	LOS A	2.9	20.7	0.61	0.64	0.61	24.3
3	R2	78	2.7	78	2.7	0.422	8.8	LOS A	2.9	20.7	0.61	0.64	0.61	25.9
3u	U	4	0.0	4	0.0	0.422	11.1	LOS A	2.9	20.7	0.61	0.64	0.61	24.3
Approach		429	2.7	429	2.7	0.422	5.7	LOS A	2.9	20.7	0.61	0.64	0.61	33.4
East: Gregory Hills Access														
4	L2	78	0.0	78	0.0	0.236	4.4	LOS A	1.5	10.9	0.63	0.64	0.63	19.9
5	T1	48	4.3	48	4.3	0.236	4.3	LOS A	1.5	10.9	0.63	0.64	0.63	43.7
6	R2	91	2.3	91	2.3	0.236	7.9	LOS A	1.5	10.9	0.63	0.64	0.63	19.9
6u	U	2	0.0	2	0.0	0.236	11.0	LOS A	1.5	10.9	0.63	0.64	0.63	22.8
Approach		219	1.9	219	1.9	0.236	5.9	LOS A	1.5	10.9	0.63	0.64	0.63	32.4
North: Village Cct (SB)														
7	L2	212	3.5	212	3.5	0.504	6.5	LOS A	3.4	24.8	0.54	0.67	0.56	31.8
8	T1	180	7.0	180	7.0	0.504	6.6	LOS A	3.4	24.8	0.54	0.67	0.56	31.3
9	R2	56	3.8	56	3.8	0.504	10.6	LOS A	3.4	24.8	0.54	0.67	0.56	44.6
9u	U	5	40.0	5	40.0	0.504	15.3	LOS B	3.4	24.8	0.54	0.67	0.56	31.3
Approach		453	5.3	453	5.3	0.504	7.1	LOS A	3.4	24.8	0.54	0.67	0.56	35.0
West: Healy Ave														
10	L2	103	9.2	103	9.2	0.483	6.9	LOS A	3.6	26.0	0.74	0.80	0.77	41.4
11	T1	122	3.4	122	3.4	0.483	6.7	LOS A	3.6	26.0	0.74	0.80	0.77	41.2
12	R2	81	0.0	81	0.0	0.483	10.7	LOS A	3.6	26.0	0.74	0.80	0.77	41.4
12u	U	122	3.4	122	3.4	0.483	14.1	LOS A	3.6	26.0	0.74	0.80	0.77	49.3
Approach		428	4.2	428	4.2	0.483	9.6	LOS A	3.6	26.0	0.74	0.80	0.77	44.4
All Vehicles		1529	3.8	1529	3.8	0.504	7.2	LOS A	3.6	26.0	0.63	0.69	0.64	39.2

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.


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

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

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

MOVEMENT SUMMARY

 **Site: 101v [10. Wallarah Cct/ Long Reef Cct W - AM - 2034 School (Site Folder: AM 2034 Base - School)]**

 **Network: N101 [AM 2034 Base - School (Network Folder: General)]**

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	HV %	[Veh. veh			Dist] m	v/c				
East: Wallarah Cct														
5	T1	173	1.2	173	1.2	0.540	1.3	LOS A	1.5	10.9	0.35	0.31	0.41	26.9
6	R2	177	0.0	177	0.0	0.540	5.2	LOS A	1.5	10.9	0.35	0.31	0.41	26.9
Approach		349	0.6	349	0.6	0.540	3.3	NA	1.5	10.9	0.35	0.31	0.41	26.9
North: Long Reef Cct														
7	L2	7	0.0	7	0.0	0.033	6.9	LOS A	0.1	0.4	0.16	0.93	0.16	28.0
9	R2	7	0.0	7	0.0	0.033	9.0	LOS A	0.1	0.4	0.16	0.93	0.16	28.0
Approach		15	0.0	15	0.0	0.033	7.9	LOS A	0.1	0.4	0.16	0.93	0.16	28.0
West: Wallarah Cct														
10	L2	177	0.0	177	0.0	0.275	3.6	LOS A	0.6	4.1	0.15	0.42	0.15	35.2
11	T1	8	0.0	8	0.0	0.275	0.2	LOS A	0.6	4.1	0.15	0.42	0.15	35.2
Approach		185	0.0	185	0.0	0.275	3.5	NA	0.6	4.1	0.15	0.42	0.15	35.2
All Vehicles		549	0.4	549	0.4	0.540	3.5	NA	1.5	10.9	0.27	0.37	0.32	32.0

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 **Site: 101v [11. Wallarah Cct/ Long Reef Cct E - AM - 2034 School (Site Folder: AM 2034 Base - School)]**

 **Network: N101 [AM 2034 Base - School (Network Folder: General)]**

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Wallarah Cct														
1	L2	189	1.1	189	1.1	0.105	3.4	LOS A	0.0	0.2	0.01	0.45	0.01	32.4
2	T1	2	0.0	2	0.0	0.105	0.4	LOS A	0.0	0.2	0.01	0.45	0.01	32.4
Approach		192	1.1	192	1.1	0.105	3.4	NA	0.0	0.2	0.01	0.45	0.01	32.4
North: Long Reef Cct														
8	T1	168	0.0	168	0.0	0.336	6.9	LOS A	1.5	10.5	0.22	0.96	0.22	28.6
9	R2	168	0.0	168	0.0	0.336	8.0	LOS A	1.5	10.5	0.22	0.96	0.22	28.6
Approach		337	0.0	337	0.0	0.336	7.4	LOS A	1.5	10.5	0.22	0.96	0.22	28.6
West: Wallarah Cct														
10	L2	2	0.0	2	0.0	0.006	3.6	LOS A	0.0	0.2	0.01	0.48	0.01	26.4
12	R2	8	0.0	8	0.0	0.006	3.5	LOS A	0.0	0.2	0.01	0.48	0.01	26.4
Approach		11	0.0	11	0.0	0.006	3.5	NA	0.0	0.2	0.01	0.48	0.01	26.4
All Vehicles		539	0.4	539	0.4	0.336	5.9	NA	1.5	10.5	0.14	0.77	0.14	29.7

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

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

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

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

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

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

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

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P2	Full	9	44.2	LOS E	0.0	0.0	0.94	0.94	212.8	219.2	1.03
North: Village Cct (SB)											
P3	Full	1	44.2	LOS E	0.0	0.0	0.94	0.94	211.3	217.2	1.03
West: Gregory Hills Dr (EB)											
P4	Full	2	44.2	LOS E	0.0	0.0	0.94	0.94	212.9	219.3	1.03
All Pedestrians		17	44.2	LOS E	0.0	0.0	0.94	0.94	211.8	217.9	1.03

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.

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MOVEMENT SUMMARY

Site: 101 [2. Gregory Hills Dr/Golden Wattle Ave - PM - 2024
School (Site Folder: PM 2024 Base - School)]

Network: N101 [PM 2024
Base - School (Network Folder:
General)]

2. Gregory Hills Dr/Golden Wattle Ave
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
East: Gregory Hills D (WB)														
5	T1	856	4.3	856	4.3	0.226	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		856	4.3	856	4.3	0.226	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Golden Wattle Ave														
7	L2	1	0.0	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.35	0.51	0.35	41.7
Approach		1	0.0	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.35	0.51	0.35	41.7
West: Gregory Hills D (EB)														
10	L2	24	0.0	24	0.0	0.168	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	56.7
11	T1	618	2.9	618	2.9	0.168	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
Approach		642	2.8	642	2.8	0.168	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.2
All Vehicles		1499	3.7	1499	3.7	0.226	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.7

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 Site: 101 [3. Kavanagh St/ Gregory Hills Dr - PM - 2024 School
(Site Folder: PM 2024 Base - School)]

 Network: N101 [PM 2024
Base - School (Network Folder:
General)]

Kavanagh St/ Gregory Hills Dr

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Gregory Hills Dr (NB)														
1	L2	203	2.1	203	2.1	* 0.479	8.2	LOS A	3.6	25.8	0.13	0.33	0.13	50.5
2	T1	817	4.4	817	4.4	0.479	1.9	LOS A	3.6	25.8	0.10	0.17	0.10	54.3
Approach		1020	3.9	1020	3.9	0.479	3.2	LOS A	3.6	25.8	0.11	0.20	0.11	53.5
North: Gregory Hills Dr (SB)														
8	T1	639	2.6	639	2.6	0.241	2.1	LOS A	1.8	13.1	0.11	0.09	0.11	61.9
9	R2	60	3.5	60	3.5	* 0.158	11.5	LOS A	0.8	5.7	0.26	0.64	0.26	46.5
Approach		699	2.7	699	2.7	0.241	2.9	LOS A	1.8	13.1	0.12	0.14	0.12	60.9
West: RoadName														
10	L2	47	4.4	47	4.4	0.090	37.6	LOS C	2.0	14.5	0.76	0.71	0.76	11.2
12	R2	187	1.7	187	1.7	* 0.490	50.2	LOS D	9.8	69.5	0.93	0.81	0.93	24.0
Approach		235	2.2	235	2.2	0.490	47.7	LOS D	9.8	69.5	0.90	0.79	0.90	22.4
All Vehicles		1954	3.3	1954	3.3	0.490	8.4	LOS A	9.8	69.5	0.21	0.25	0.21	50.7

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Gregory Hills Dr (NB)											
P1	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	223.9	220.7	0.99
North: Gregory Hills Dr (SB)											
P3	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
West: RoadName											
P4	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.1	214.4	0.98
All Pedestrians		3	54.2	LOS E	0.0	0.0	0.95	0.95	222.3	218.5	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: 101 [4. Kavanagh St/ Oaklands Circuit/ Village Cct - PM - 2024 School (Site Folder: PM 2024 Base - School)]

 Network: N101 [PM 2024 Base - School (Network Folder: General)]

Kavangh St/ Oaklands Circuit/ Village Cct
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Village Cct														
1	L2	17	0.0	17	0.0	0.042	2.6	LOS A	0.2	1.5	0.36	0.49	0.36	35.9
2	T1	4	0.0	4	0.0	0.042	2.2	LOS A	0.2	1.5	0.36	0.49	0.36	38.8
3	R2	26	0.0	26	0.0	0.042	6.4	LOS A	0.2	1.5	0.36	0.49	0.36	35.9
3u	U	2	0.0	2	0.0	0.042	11.8	LOS A	0.2	1.5	0.36	0.49	0.36	45.7
Approach		49	0.0	49	0.0	0.042	5.0	LOS A	0.2	1.5	0.36	0.49	0.36	36.8
East: Kavanagh St (WB)														
4	L2	39	5.4	39	5.4	0.173	3.0	LOS A	0.9	6.6	0.15	0.38	0.15	39.8
5	T1	182	2.9	182	2.9	0.173	3.0	LOS A	0.9	6.6	0.15	0.38	0.15	37.2
6	R2	15	0.0	15	0.0	0.173	7.5	LOS A	0.9	6.6	0.15	0.38	0.15	43.2
6u	U	16	0.0	16	0.0	0.173	11.0	LOS A	0.9	6.6	0.15	0.38	0.15	37.2
Approach		252	2.9	252	2.9	0.173	3.7	LOS A	0.9	6.6	0.15	0.38	0.15	38.6
North: Oaklands Circuit														
7	L2	16	0.0	16	0.0	0.021	2.7	LOS A	0.1	0.7	0.38	0.43	0.38	34.2
8	T1	2	0.0	2	0.0	0.021	2.2	LOS A	0.1	0.7	0.38	0.43	0.38	39.3
9	R2	5	0.0	5	0.0	0.021	6.5	LOS A	0.1	0.7	0.38	0.43	0.38	34.2
9u	U	1	0.0	1	0.0	0.021	11.9	LOS A	0.1	0.7	0.38	0.43	0.38	45.1
Approach		24	0.0	24	0.0	0.021	3.9	LOS A	0.1	0.7	0.38	0.43	0.38	35.7
West: Kavanagh St (EB)														
10	L2	6	0.0	6	0.0	0.153	3.1	LOS A	0.8	5.8	0.20	0.38	0.20	39.4
11	T1	178	1.2	178	1.2	0.153	3.1	LOS A	0.8	5.8	0.20	0.38	0.20	36.6
12	R2	26	0.0	26	0.0	0.153	7.6	LOS A	0.8	5.8	0.20	0.38	0.20	41.8
12u	U	2	0.0	2	0.0	0.153	11.1	LOS A	0.8	5.8	0.20	0.38	0.20	36.6
Approach		213	1.0	213	1.0	0.153	3.7	LOS A	0.8	5.8	0.20	0.38	0.20	38.3
All Vehicles		538	1.8	538	1.8	0.173	3.9	LOS A	0.9	6.6	0.20	0.39	0.20	38.0

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

Site: 101 [5. Kavanagh St/ Wallarah Cct/ Junee St - PM - 2024
School (Site Folder: PM 2024 Base - School)]

Network: N101 [PM 2024
Base - School (Network Folder:
General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	%				[Veh. veh	Dist] m				
East: Kavanagh St (WB)														
5	T1	200	2.6	200	2.6	0.107	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	49.4
6	R2	3	0.0	3	0.0	0.107	5.3	LOS A	0.0	0.2	0.01	0.01	0.01	42.7
Approach		203	2.6	203	2.6	0.107	0.1	NA	0.0	0.2	0.01	0.01	0.01	49.1
North: Junee St														
7	L2	1	0.0	1	0.0	0.008	4.0	LOS A	0.0	0.2	0.36	0.53	0.36	32.0
9	R2	6	0.0	6	0.0	0.008	5.1	LOS A	0.0	0.2	0.36	0.53	0.36	32.0
Approach		7	0.0	7	0.0	0.008	4.9	LOS A	0.0	0.2	0.36	0.53	0.36	32.0
West: Kavanagh St (EB)														
10	L2	5	0.0	5	0.0	0.110	4.5	LOS A	0.0	0.0	0.00	0.01	0.00	48.0
11	T1	208	1.0	208	1.0	0.110	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	48.9
Approach		214	1.0	214	1.0	0.110	0.1	NA	0.0	0.0	0.00	0.01	0.00	48.9
All Vehicles		424	1.7	424	1.7	0.110	0.2	NA	0.0	0.2	0.01	0.02	0.01	48.2

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

MOVEMENT SUMMARY

Site: 101 [6. Kavanagh St/ Wallarah Cct/ Audley Cct - PM - 2024
School (Site Folder: PM 2024 Base - School)]

Network: N101 [PM 2024
Base - School (Network Folder:
General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Audley Cct														
1	L2	13	0.0	13	0.0	0.011	3.6	LOS A	0.0	0.3	0.15	0.44	0.15	35.7
2	T1	1	0.0	1	0.0	0.011	3.3	LOS A	0.0	0.3	0.15	0.44	0.15	35.7
3	R2	1	0.0	1	0.0	0.011	5.8	LOS A	0.0	0.3	0.15	0.44	0.15	35.7
Approach		15	0.0	15	0.0	0.011	3.7	LOS A	0.0	0.3	0.15	0.44	0.15	35.7
East: Kavanagh St (WB)														
4	L2	6	0.0	6	0.0	0.119	4.8	LOS A	0.6	4.1	0.19	0.34	0.19	38.0
5	T1	75	7.0	75	7.0	0.119	0.2	LOS A	0.6	4.1	0.19	0.34	0.19	29.7
6	R2	126	0.0	126	0.0	0.119	4.8	LOS A	0.6	4.1	0.19	0.34	0.19	29.7
Approach		207	2.5	207	2.5	0.119	3.2	NA	0.6	4.1	0.19	0.34	0.19	30.7
North: Wallarah Cct/														
7	L2	144	0.0	144	0.0	0.120	3.6	LOS A	0.5	3.5	0.16	0.46	0.16	31.2
8	T1	1	0.0	1	0.0	0.120	3.5	LOS A	0.5	3.5	0.16	0.46	0.16	36.9
9	R2	21	0.0	21	0.0	0.120	5.3	LOS A	0.5	3.5	0.16	0.46	0.16	31.2
Approach		166	0.0	166	0.0	0.120	3.8	LOS A	0.5	3.5	0.16	0.46	0.16	31.3
West: Kavanagh St (EB)														
10	L2	17	0.0	17	0.0	0.055	4.7	LOS A	0.1	0.8	0.08	0.17	0.08	45.0
11	T1	69	3.0	69	3.0	0.055	0.1	LOS A	0.1	0.8	0.08	0.17	0.08	45.0
12	R2	16	0.0	16	0.0	0.055	4.8	LOS A	0.1	0.8	0.08	0.17	0.08	41.5
Approach		102	2.1	102	2.1	0.055	1.6	NA	0.1	0.8	0.08	0.17	0.08	43.8
All Vehicles		491	1.5	491	1.5	0.120	3.1	NA	0.6	4.1	0.15	0.35	0.15	35.1

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

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

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

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

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

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

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

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Project: C:\Users\user\Desktop\P1998v01_Existing School AM and PM Peak_05092022.sip9

MOVEMENT SUMMARY

Site: 101 [7. Kavanagh St/ Wallarah Cct - PM - 2024 School
(Site Folder: PM 2024 Base - School)]

Network: N101 [PM 2024
Base - School (Network Folder:
General)]

Kavanagh St/ Wallarah Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total HV veh/h	%				[Veh. veh	Dist] m				
East: Kavanagh St (WB)														
5	T1	107	4.9	107	4.9	0.058	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	49.8
6	R2	1	0.0	1	0.0	0.058	5.4	LOS A	0.0	0.1	0.01	0.01	0.01	49.8
Approach		108	4.9	108	4.9	0.058	0.1	NA	0.0	0.1	0.01	0.01	0.01	49.8
North: Wallarah Cct														
7	L2	1	0.0	1	0.0	0.167	3.7	LOS A	0.6	4.4	0.35	0.59	0.35	34.1
9	R2	160	6.6	160	6.6	0.167	4.9	LOS A	0.6	4.4	0.35	0.59	0.35	34.1
Approach		161	6.5	161	6.5	0.167	4.9	LOS A	0.6	4.4	0.35	0.59	0.35	34.1
West: Kavanagh St (EB)														
10	L2	142	0.0	142	0.0	0.130	4.6	LOS A	0.0	0.0	0.00	0.31	0.00	43.0
11	T1	103	2.0	103	2.0	0.130	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	43.0
Approach		245	0.9	245	0.9	0.130	2.7	NA	0.0	0.0	0.00	0.31	0.00	43.0
All Vehicles		515	3.5	515	3.5	0.167	2.8	NA	0.6	4.4	0.11	0.33	0.11	40.0

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

MOVEMENT SUMMARY

Site: 101 [8. Village Cct/ Kavanagh St - PM - 2024 School (Site Folder: PM 2024 Base - School)]

Network: N101 [PM 2024 Base - School (Network Folder: General)]

Village Cct/ Kavanagh St
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Village Cct (NB)														
1	L2	3	0.0	3	0.0	0.109	5.5	LOS A	0.4	2.8	0.24	0.18	0.24	47.6
2	T1	127	4.1	127	4.1	0.109	0.4	LOS A	0.4	2.8	0.24	0.18	0.24	46.1
3	R2	56	0.0	56	0.0	0.109	5.5	LOS A	0.4	2.8	0.24	0.18	0.24	46.1
Approach		186	2.8	186	2.8	0.109	2.0	NA	0.4	2.8	0.24	0.18	0.24	46.2
East: Kavanagh St (WB)														
4	L2	66	0.0	66	0.0	0.324	5.2	LOS A	1.4	10.3	0.39	0.67	0.42	42.7
5	T1	36	0.0	36	0.0	0.324	5.5	LOS A	1.4	10.3	0.39	0.67	0.42	43.4
6	R2	171	4.3	171	4.3	0.324	7.8	LOS A	1.4	10.3	0.39	0.67	0.42	35.2
Approach		273	2.7	273	2.7	0.324	6.9	LOS A	1.4	10.3	0.39	0.67	0.42	39.7
North: Village Cct (SB)														
7	L2	135	3.1	135	3.1	0.139	3.9	LOS A	0.0	0.2	0.01	0.28	0.01	34.1
8	T1	119	4.4	119	4.4	0.139	0.0	LOS A	0.0	0.2	0.01	0.28	0.01	46.9
9	R2	3	0.0	3	0.0	0.139	4.3	LOS A	0.0	0.2	0.01	0.28	0.01	45.6
Approach		257	3.7	257	3.7	0.139	2.1	NA	0.0	0.2	0.01	0.28	0.01	44.7
West: Kavanagh St (EB)														
10	L2	2	0.0	2	0.0	0.037	4.9	LOS A	0.1	0.9	0.40	0.57	0.40	43.3
11	T1	29	0.0	29	0.0	0.037	5.2	LOS A	0.1	0.9	0.40	0.57	0.40	43.3
12	R2	1	0.0	1	0.0	0.037	6.8	LOS A	0.1	0.9	0.40	0.57	0.40	45.1
Approach		33	0.0	33	0.0	0.037	5.2	LOS A	0.1	0.9	0.40	0.57	0.40	43.4
All Vehicles		748	3.0	748	3.0	0.324	4.0	NA	1.4	10.3	0.22	0.41	0.23	42.9

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

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

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

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

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

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

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

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Project: C:\Users\user\Desktop\P1998v01_Existing School AM and PM Peak_05092022.sip9

MOVEMENT SUMMARY

 Site: 101 [9. Village Cct/ Healy Ave/ Gregory Hills Access - PM - 2024 School (Site Folder: PM 2024 Base - School)]

 Network: N101 [PM 2024 Base - School (Network Folder: General)]

Village Cct/ Healy Ave/ Gregory Hills Access
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Village Cct (NB)														
1	L2	64	6.6	64	6.6	0.299	4.5	LOS A	1.8	13.3	0.55	0.62	0.55	43.2
2	T1	153	5.5	153	5.5	0.299	4.6	LOS A	1.8	13.3	0.55	0.62	0.55	24.5
3	R2	84	0.0	84	0.0	0.299	8.4	LOS A	1.8	13.3	0.55	0.62	0.55	26.0
3u	U	1	0.0	1	0.0	0.299	10.8	LOS A	1.8	13.3	0.55	0.62	0.55	24.5
Approach		302	4.2	302	4.2	0.299	5.7	LOS A	1.8	13.3	0.55	0.62	0.55	34.0
East: Gregory Hills Access														
4	L2	75	0.0	75	0.0	0.242	3.5	LOS A	1.5	10.4	0.53	0.58	0.53	21.4
5	T1	68	0.0	68	0.0	0.242	3.3	LOS A	1.5	10.4	0.53	0.58	0.53	44.5
6	R2	105	0.0	105	0.0	0.242	7.0	LOS A	1.5	10.4	0.53	0.58	0.53	21.4
6u	U	2	0.0	2	0.0	0.242	10.2	LOS A	1.5	10.4	0.53	0.58	0.53	24.0
Approach		251	0.0	251	0.0	0.242	5.0	LOS A	1.5	10.4	0.53	0.58	0.53	35.3
North: Village Cct (SB)														
7	L2	207	0.0	207	0.0	0.380	5.2	LOS A	2.2	15.5	0.46	0.60	0.46	33.3
8	T1	119	6.2	119	6.2	0.380	5.4	LOS A	2.2	15.5	0.46	0.60	0.46	33.1
9	R2	49	6.4	49	6.4	0.380	9.5	LOS A	2.2	15.5	0.46	0.60	0.46	45.4
9u	U	5	0.0	5	0.0	0.380	12.6	LOS A	2.2	15.5	0.46	0.60	0.46	33.1
Approach		381	2.8	381	2.8	0.380	5.9	LOS A	2.2	15.5	0.46	0.60	0.46	36.6
West: Healy Ave														
10	L2	41	17.9	41	17.9	0.284	5.7	LOS A	1.7	12.4	0.57	0.68	0.57	42.4
11	T1	86	0.0	86	0.0	0.284	5.2	LOS A	1.7	12.4	0.57	0.68	0.57	42.2
12	R2	63	3.3	63	3.3	0.284	9.4	LOS A	1.7	12.4	0.57	0.68	0.57	42.4
12u	U	86	0.0	86	0.0	0.284	12.6	LOS A	1.7	12.4	0.57	0.68	0.57	50.2
Approach		277	3.4	277	3.4	0.284	8.5	LOS A	1.7	12.4	0.57	0.68	0.57	45.6
All Vehicles		1211	2.7	1211	2.7	0.380	6.3	LOS A	2.2	15.5	0.52	0.62	0.52	39.8

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

 **Site: 101v [10. Wallarah Cct/ Long Reef Cct W - PM - 2024**
School (Site Folder: PM 2024 Base - School)]

 **Network: N101 [PM 2024**
Base - School (Network Folder:
General)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
East: Wallarah Cct														
5	T1	157	0.0	157	0.0	0.499	0.6	LOS A	0.9	6.2	0.28	0.25	0.29	28.7
6	R2	135	0.0	135	0.0	0.499	4.4	LOS A	0.9	6.2	0.28	0.25	0.29	28.7
Approach		292	0.0	292	0.0	0.499	2.3	NA	0.9	6.2	0.28	0.25	0.29	28.7
North: Long Reef Cct														
7	L2	2	0.0	2	0.0	0.009	6.9	LOS A	0.0	0.1	0.15	0.92	0.15	28.4
9	R2	2	0.0	2	0.0	0.009	8.3	LOS A	0.0	0.1	0.15	0.92	0.15	28.4
Approach		4	0.0	4	0.0	0.009	7.6	LOS A	0.0	0.1	0.15	0.92	0.15	28.4
West: Wallarah Cct														
10	L2	135	0.0	135	0.0	0.205	3.6	LOS A	0.4	3.0	0.14	0.43	0.14	35.2
11	T1	4	0.0	4	0.0	0.205	0.2	LOS A	0.4	3.0	0.14	0.43	0.14	35.2
Approach		139	0.0	139	0.0	0.205	3.5	NA	0.4	3.0	0.14	0.43	0.14	35.2
All Vehicles		435	0.0	435	0.0	0.499	2.8	NA	0.9	6.2	0.23	0.32	0.24	32.6

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

MOVEMENT SUMMARY

 **Site: 101v [11. Wallarah Cct/ Long Reef Cct E - PM - 2024**
School (Site Folder: PM 2024 Base - School)]

 **Network: N101 [PM 2024**
Base - School (Network Folder:
General)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Wallarah Cct														
1	L2	141	0.0	141	0.0	0.081	3.4	LOS A	0.1	0.5	0.02	0.43	0.02	32.5
2	T1	6	0.0	6	0.0	0.081	0.3	LOS A	0.1	0.5	0.02	0.43	0.02	32.5
Approach		147	0.0	147	0.0	0.081	3.3	NA	0.1	0.5	0.02	0.43	0.02	32.5
North: Long Reef Cct														
8	T1	152	0.0	152	0.0	0.294	6.9	LOS A	1.3	8.8	0.21	0.96	0.21	28.9
9	R2	152	0.0	152	0.0	0.294	7.6	LOS A	1.3	8.8	0.21	0.96	0.21	28.9
Approach		303	0.0	303	0.0	0.294	7.2	LOS A	1.3	8.8	0.21	0.96	0.21	28.9
West: Wallarah Cct														
10	L2	6	0.0	6	0.0	0.006	3.6	LOS A	0.0	0.2	0.04	0.46	0.04	26.5
12	R2	3	0.0	3	0.0	0.006	3.6	LOS A	0.0	0.2	0.04	0.46	0.04	26.5
Approach		9	0.0	9	0.0	0.006	3.6	NA	0.0	0.2	0.04	0.46	0.04	26.5
All Vehicles		460	0.0	460	0.0	0.294	5.9	NA	1.3	8.8	0.14	0.78	0.14	29.8

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

P2	Full	9	44.2	LOS E	0.0	0.0	0.94	0.94	212.8	219.2	1.03
North: Village Cct (SB)											
P3	Full	1	44.2	LOS E	0.0	0.0	0.94	0.94	211.3	217.2	1.03
West: Gregory Hills Dr (EB)											
P4	Full	2	44.2	LOS E	0.0	0.0	0.94	0.94	212.9	219.3	1.03
All Pedestrians		17	44.2	LOS E	0.0	0.0	0.94	0.94	211.8	217.9	1.03

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: 101 [2. Gregory Hills Dr/Golden Wattle Ave - PM - 2034
School (Site Folder: PM 2034 Base - School)]

Network: N101 [PM 2034
Base - School (Network Folder:
General)]

2. Gregory Hills Dr/Golden Wattle Ave
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]	v/c	sec		[Veh. veh]	[Dist m]				km/h
East: Gregory Hills D (WB)														
5	T1	1020	4.2	1020	4.2	0.269	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1020	4.2	1020	4.2	0.269	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
North: Golden Wattle Ave														
7	L2	1	0.0	1	0.0	0.001	7.0	LOS A	0.0	0.0	0.38	0.52	0.38	41.4
Approach		1	0.0	1	0.0	0.001	7.0	LOS A	0.0	0.0	0.38	0.52	0.38	41.4
West: Gregory Hills D (EB)														
10	L2	29	0.0	29	0.0	0.200	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	56.7
11	T1	737	2.9	737	2.9	0.200	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.3
Approach		766	2.7	766	2.7	0.200	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.2
All Vehicles		1787	3.6	1787	3.6	0.269	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6

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

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

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

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

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

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

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

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Project: C:\Users\user\Desktop\P1998v01_Existing School AM and PM Peak_05092022.sip9

MOVEMENT SUMMARY

 Site: 101 [3. Kavanagh St/ Gregory Hills Dr - PM - 2034 School
(Site Folder: PM 2034 Base - School)]

 Network: N101 [PM 2034
Base - School (Network Folder:
General)]

Kavanagh St/ Gregory Hills Dr

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c			sec	[Veh. veh				
South: Gregory Hills Dr (NB)														
1	L2	220	1.9	220	1.9	*0.543	7.2	LOS A	2.9	21.0	0.09	0.29	0.09	52.5
2	T1	974	4.3	974	4.3	0.543	1.1	LOS A	2.9	21.0	0.06	0.13	0.06	56.0
Approach		1194	3.9	1194	3.9	0.543	2.2	LOS A	2.9	21.0	0.07	0.16	0.07	55.3
North: Gregory Hills Dr (SB)														
8	T1	762	2.6	762	2.6	0.281	1.5	LOS A	1.7	11.8	0.08	0.07	0.08	62.6
9	R2	71	3.0	71	3.0	*0.208	10.5	LOS A	0.9	6.1	0.24	0.64	0.24	47.3
Approach		833	2.7	833	2.7	0.281	2.2	LOS A	1.7	11.8	0.09	0.12	0.09	61.5
West: RoadName														
10	L2	55	3.8	55	3.8	0.110	39.4	LOS C	2.4	17.2	0.78	0.72	0.78	10.8
12	R2	198	1.6	198	1.6	*0.562	52.6	LOS D	10.7	75.7	0.96	0.82	0.96	23.3
Approach		253	2.1	253	2.1	0.562	49.8	LOS D	10.7	75.7	0.92	0.79	0.92	21.6
All Vehicles		2279	3.2	2279	3.2	0.562	7.5	LOS A	10.7	75.7	0.17	0.22	0.17	51.8

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Gregory Hills Dr (NB)											
P1	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	223.9	220.7	0.99
North: Gregory Hills Dr (SB)											
P3	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
West: RoadName											
P4	Full	1	54.2	LOS E	0.0	0.0	0.95	0.95	219.1	214.4	0.98
All Pedestrians		3	54.2	LOS E	0.0	0.0	0.95	0.95	222.3	218.5	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: 101 [4. Kavanagh St/ Oaklands Circuit/ Village Cct - PM - 2034 School (Site Folder: PM 2034 Base - School)]

 Network: N101 [PM 2034 Base - School (Network Folder: General)]

Kavangh St/ Oaklands Circuit/ Village Cct
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Village Cct														
1	L2	20	0.0	20	0.0	0.050	2.7	LOS A	0.2	1.7	0.38	0.50	0.38	35.8
2	T1	4	0.0	4	0.0	0.050	2.3	LOS A	0.2	1.7	0.38	0.50	0.38	38.7
3	R2	32	0.0	32	0.0	0.050	6.5	LOS A	0.2	1.7	0.38	0.50	0.38	35.8
3u	U	2	0.0	2	0.0	0.050	11.9	LOS A	0.2	1.7	0.38	0.50	0.38	45.6
Approach		58	0.0	58	0.0	0.050	5.1	LOS A	0.2	1.7	0.38	0.50	0.38	36.6
East: Kavanagh St (WB)														
4	L2	45	4.7	45	4.7	0.190	3.1	LOS A	1.0	7.5	0.17	0.39	0.17	39.7
5	T1	194	2.7	194	2.7	0.190	3.0	LOS A	1.0	7.5	0.17	0.39	0.17	36.9
6	R2	18	0.0	18	0.0	0.190	7.5	LOS A	1.0	7.5	0.17	0.39	0.17	43.0
6u	U	19	0.0	19	0.0	0.190	11.0	LOS A	1.0	7.5	0.17	0.39	0.17	36.9
Approach		276	2.7	276	2.7	0.190	3.8	LOS A	1.0	7.5	0.17	0.39	0.17	38.5
North: Oaklands Circuit														
7	L2	19	0.0	19	0.0	0.024	2.8	LOS A	0.1	0.8	0.40	0.43	0.40	34.2
8	T1	2	0.0	2	0.0	0.024	2.4	LOS A	0.1	0.8	0.40	0.43	0.40	39.3
9	R2	5	0.0	5	0.0	0.024	6.6	LOS A	0.1	0.8	0.40	0.43	0.40	34.2
9u	U	1	0.0	1	0.0	0.024	12.0	LOS A	0.1	0.8	0.40	0.43	0.40	45.1
Approach		27	0.0	27	0.0	0.024	3.8	LOS A	0.1	0.8	0.40	0.43	0.40	35.6
West: Kavanagh St (EB)														
10	L2	7	0.0	7	0.0	0.165	3.2	LOS A	0.9	6.3	0.23	0.39	0.23	39.2
11	T1	185	1.1	185	1.1	0.165	3.1	LOS A	0.9	6.3	0.23	0.39	0.23	36.2
12	R2	32	0.0	32	0.0	0.165	7.6	LOS A	0.9	6.3	0.23	0.39	0.23	41.7
12u	U	2	0.0	2	0.0	0.165	11.2	LOS A	0.9	6.3	0.23	0.39	0.23	36.2
Approach		226	0.9	226	0.9	0.165	3.8	LOS A	0.9	6.3	0.23	0.39	0.23	38.1
All Vehicles		587	1.6	587	1.6	0.190	4.0	LOS A	1.0	7.5	0.22	0.40	0.22	37.9

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

Site: 101 [5. Kavanagh St/ Wallarah Cct/ Junee St - PM - 2034
School (Site Folder: PM 2034 Base - School)]

Network: N101 [PM 2034
Base - School (Network Folder:
General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
East: Kavanagh St (WB)														
5	T1	216	2.4	216	2.4	0.115	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	49.4
6	R2	3	0.0	3	0.0	0.115	5.4	LOS A	0.0	0.2	0.01	0.01	0.01	42.7
Approach		219	2.4	219	2.4	0.115	0.1	NA	0.0	0.2	0.01	0.01	0.01	49.2
North: Junee St														
7	L2	1	0.0	1	0.0	0.009	4.1	LOS A	0.0	0.2	0.38	0.54	0.38	31.9
9	R2	7	0.0	7	0.0	0.009	5.2	LOS A	0.0	0.2	0.38	0.54	0.38	31.9
Approach		8	0.0	8	0.0	0.009	5.1	LOS A	0.0	0.2	0.38	0.54	0.38	31.9
West: Kavanagh St (EB)														
10	L2	5	0.0	5	0.0	0.117	4.5	LOS A	0.0	0.0	0.00	0.01	0.00	48.0
11	T1	222	0.9	222	0.9	0.117	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.0
Approach		227	0.9	227	0.9	0.117	0.1	NA	0.0	0.0	0.00	0.01	0.00	48.9
All Vehicles		455	1.6	455	1.6	0.117	0.2	NA	0.0	0.2	0.01	0.02	0.01	48.2

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

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

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

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

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

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

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

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Project: C:\Users\user\Desktop\P1998v01_Existing School AM and PM Peak_05092022.sip9

MOVEMENT SUMMARY

Site: 101 [6. Kavanagh St/ Wallarah Cct/ Audley Cct - PM - 2034
School (Site Folder: PM 2034 Base - School)]

Network: N101 [PM 2034
Base - School (Network Folder:
General)]

Kavanagh St/ Wallarah Cct/ Audley Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Audley Cct														
1	L2	15	0.0	15	0.0	0.012	3.6	LOS A	0.0	0.3	0.17	0.44	0.17	35.6
2	T1	1	0.0	1	0.0	0.012	3.4	LOS A	0.0	0.3	0.17	0.44	0.17	35.6
3	R2	1	0.0	1	0.0	0.012	6.1	LOS A	0.0	0.3	0.17	0.44	0.17	35.6
Approach		17	0.0	17	0.0	0.012	3.8	LOS A	0.0	0.3	0.17	0.44	0.17	35.6
East: Kavanagh St (WB)														
4	L2	7	0.0	7	0.0	0.129	4.8	LOS A	0.6	4.4	0.20	0.32	0.20	38.1
5	T1	88	6.0	88	6.0	0.129	0.3	LOS A	0.6	4.4	0.20	0.32	0.20	30.1
6	R2	128	0.0	128	0.0	0.129	4.9	LOS A	0.6	4.4	0.20	0.32	0.20	30.1
Approach		224	2.3	224	2.3	0.129	3.1	NA	0.6	4.4	0.20	0.32	0.20	31.1
North: Wallarah Cct/														
7	L2	145	0.0	145	0.0	0.123	3.7	LOS A	0.5	3.6	0.18	0.46	0.18	31.1
8	T1	1	0.0	1	0.0	0.123	3.7	LOS A	0.5	3.6	0.18	0.46	0.18	36.9
9	R2	21	0.0	21	0.0	0.123	5.6	LOS A	0.5	3.6	0.18	0.46	0.18	31.1
Approach		167	0.0	167	0.0	0.123	3.9	LOS A	0.5	3.6	0.18	0.46	0.18	31.2
West: Kavanagh St (EB)														
10	L2	17	0.0	17	0.0	0.064	4.7	LOS A	0.1	1.0	0.09	0.16	0.09	45.1
11	T1	82	2.6	82	2.6	0.064	0.1	LOS A	0.1	1.0	0.09	0.16	0.09	45.1
12	R2	19	0.0	19	0.0	0.064	4.9	LOS A	0.1	1.0	0.09	0.16	0.09	41.5
Approach		118	1.8	118	1.8	0.064	1.5	NA	0.1	1.0	0.09	0.16	0.09	43.9
All Vehicles		526	1.4	526	1.4	0.129	3.0	NA	0.6	4.4	0.17	0.33	0.17	35.4

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [7. Kavanagh St/ Wallarah Cct - AM - PM - 2034
School (Site Folder: PM 2034 Base - School)]

Network: N101 [PM 2034
Base - School (Network Folder:
General)]

Kavanagh St/ Wallarah Cct
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%	[Veh. veh			Dist] m	v/c				
East: Kavanagh St (WB)														
5	T1	123	4.3	123	4.3	0.066	0.0	LOS A	0.0	0.1	0.01	0.00	0.01	49.8
6	R2	1	0.0	1	0.0	0.066	5.4	LOS A	0.0	0.1	0.01	0.00	0.01	49.8
Approach		124	4.2	124	4.2	0.066	0.1	NA	0.0	0.1	0.01	0.00	0.01	49.8
North: Wallarah Cct														
7	L2	1	0.0	1	0.0	0.177	3.8	LOS A	0.6	4.7	0.38	0.61	0.38	33.9
9	R2	162	7.8	162	7.8	0.177	5.1	LOS A	0.6	4.7	0.38	0.61	0.38	33.9
Approach		163	7.7	163	7.7	0.177	5.1	LOS A	0.6	4.7	0.38	0.61	0.38	33.9
West: Kavanagh St (EB)														
10	L2	144	0.0	144	0.0	0.139	4.6	LOS A	0.0	0.0	0.00	0.30	0.00	43.3
11	T1	119	1.8	119	1.8	0.139	0.0	LOS A	0.0	0.0	0.00	0.30	0.00	43.3
Approach		263	0.8	263	0.8	0.139	2.5	NA	0.0	0.0	0.00	0.30	0.00	43.3
All Vehicles		551	3.6	551	3.6	0.177	2.7	NA	0.6	4.7	0.11	0.32	0.11	40.3

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

Site: 101 [8. Village Cct/ Kavanagh St - PM - 2034 School (Site Folder: PM 2034 Base - School)]

Network: N101 [PM 2034 Base - School (Network Folder: General)]

Village Cct/ Kavanagh St
Site Category: 2022 Base
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Village Cct (NB)														
1	L2	3	0.0	3	0.0	0.122	5.6	LOS A	0.4	3.0	0.24	0.16	0.24	47.7
2	T1	151	3.5	151	3.5	0.122	0.5	LOS A	0.4	3.0	0.24	0.16	0.24	46.4
3	R2	56	0.0	56	0.0	0.122	5.6	LOS A	0.4	3.0	0.24	0.16	0.24	46.4
Approach		209	2.5	209	2.5	0.122	1.9	NA	0.4	3.0	0.24	0.16	0.24	46.4
East: Kavanagh St (WB)														
4	L2	67	0.0	67	0.0	0.370	5.6	LOS A	1.8	13.2	0.44	0.73	0.53	42.1
5	T1	36	0.0	36	0.0	0.370	6.2	LOS A	1.8	13.2	0.44	0.73	0.53	42.8
6	R2	188	4.5	188	4.5	0.370	8.7	LOS A	1.8	13.2	0.44	0.73	0.53	34.0
Approach		292	2.9	292	2.9	0.370	7.7	LOS A	1.8	13.2	0.44	0.73	0.53	38.6
North: Village Cct (SB)														
7	L2	147	2.9	147	2.9	0.157	3.9	LOS A	0.0	0.2	0.01	0.27	0.01	34.5
8	T1	140	3.8	140	3.8	0.157	0.0	LOS A	0.0	0.2	0.01	0.27	0.01	47.1
9	R2	3	0.0	3	0.0	0.157	4.4	LOS A	0.0	0.2	0.01	0.27	0.01	45.7
Approach		291	3.3	291	3.3	0.157	2.0	NA	0.0	0.2	0.01	0.27	0.01	45.0
West: Kavanagh St (EB)														
10	L2	2	0.0	2	0.0	0.040	5.0	LOS A	0.1	1.0	0.43	0.60	0.43	42.9
11	T1	29	0.0	29	0.0	0.040	5.5	LOS A	0.1	1.0	0.43	0.60	0.43	42.9
12	R2	1	0.0	1	0.0	0.040	7.1	LOS A	0.1	1.0	0.43	0.60	0.43	44.9
Approach		33	0.0	33	0.0	0.040	5.6	LOS A	0.1	1.0	0.43	0.60	0.43	43.0
All Vehicles		824	2.8	824	2.8	0.370	4.1	NA	1.8	13.2	0.24	0.42	0.27	42.6

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 Site: 101 [9. Village Cct/ Healy Ave/ Gregory Hills Access - PM - 2034 School (Site Folder: PM 2034 Base - School)]

 Network: N101 [PM 2034 Base - School (Network Folder: General)]

Village Cct/ Healy Ave/ Gregory Hills Access
Site Category: 2022 Base
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Village Cct (NB)														
1	L2	73	5.8	73	5.8	0.356	5.0	LOS A	2.3	16.7	0.62	0.67	0.62	42.8
2	T1	169	5.6	169	5.6	0.356	5.1	LOS A	2.3	16.7	0.62	0.67	0.62	23.5
3	R2	100	0.0	100	0.0	0.356	8.9	LOS A	2.3	16.7	0.62	0.67	0.62	25.3
3u	U	1	0.0	1	0.0	0.356	11.3	LOS A	2.3	16.7	0.62	0.67	0.62	23.5
Approach		343	4.0	343	4.0	0.356	6.2	LOS A	2.3	16.7	0.62	0.67	0.62	33.2
East: Gregory Hills Access														
4	L2	89	0.0	89	0.0	0.299	4.0	LOS A	2.0	13.8	0.59	0.62	0.59	20.6
5	T1	81	0.0	81	0.0	0.299	3.8	LOS A	2.0	13.8	0.59	0.62	0.59	44.1
6	R2	126	0.0	126	0.0	0.299	7.4	LOS A	2.0	13.8	0.59	0.62	0.59	20.6
6u	U	2	0.0	2	0.0	0.299	10.6	LOS A	2.0	13.8	0.59	0.62	0.59	23.4
Approach		299	0.0	299	0.0	0.299	5.4	LOS A	2.0	13.8	0.59	0.62	0.59	34.6
North: Village Cct (SB)														
7	L2	247	0.0	247	0.0	0.464	5.8	LOS A	2.9	20.5	0.49	0.63	0.49	32.6
8	T1	131	6.5	131	6.5	0.464	6.0	LOS A	2.9	20.5	0.49	0.63	0.49	32.2
9	R2	59	5.4	59	5.4	0.464	10.0	LOS A	2.9	20.5	0.49	0.63	0.49	45.0
9u	U	5	0.0	5	0.0	0.464	13.2	LOS A	2.9	20.5	0.49	0.63	0.49	32.2
Approach		442	2.6	442	2.6	0.464	6.5	LOS A	2.9	20.5	0.49	0.63	0.49	36.0
West: Healy Ave														
10	L2	48	17.4	48	17.4	0.350	6.2	LOS A	2.2	16.1	0.64	0.73	0.64	42.0
11	T1	102	0.0	102	0.0	0.350	5.7	LOS A	2.2	16.1	0.64	0.73	0.64	41.8
12	R2	73	2.9	73	2.9	0.350	9.9	LOS A	2.2	16.1	0.64	0.73	0.64	42.0
12u	U	102	0.0	102	0.0	0.350	13.1	LOS A	2.2	16.1	0.64	0.73	0.64	49.9
Approach		325	3.2	325	3.2	0.350	9.0	LOS A	2.2	16.1	0.64	0.73	0.64	45.2
All Vehicles		1409	2.5	1409	2.5	0.464	6.8	LOS A	2.9	20.5	0.58	0.66	0.58	39.2

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

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

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

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

MOVEMENT SUMMARY

 **Site: 101v [10. Wallarah Cct/ Long Reef Cct W - PM - 2034 School (Site Folder: PM 2034 Base - School)]**

 **Network: N101 [PM 2034 Base - School (Network Folder: General)]**

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
East: Wallarah Cct														
5	T1	158	0.0	158	0.0	0.584	4.7	LOS A	2.0	14.3	0.57	0.45	0.97	19.7
6	R2	136	0.0	136	0.0	0.584	9.5	LOS A	2.0	14.3	0.57	0.45	0.97	19.7
Approach		294	0.0	294	0.0	0.584	6.9	NA	2.0	14.3	0.57	0.45	0.97	19.7
North: Long Reef Cct														
7	L2	2	0.0	2	0.0	0.017	9.3	LOS A	0.0	0.2	0.58	0.91	0.58	25.4
9	R2	2	0.0	2	0.0	0.017	13.4	LOS A	0.0	0.2	0.58	0.91	0.58	25.4
Approach		4	0.0	4	0.0	0.017	11.4	LOS A	0.0	0.2	0.58	0.91	0.58	25.4
West: Wallarah Cct														
10	L2	136	0.0	136	0.0	0.315	6.2	LOS A	0.7	4.9	0.51	0.69	0.55	33.0
11	T1	4	0.0	4	0.0	0.315	2.7	LOS A	0.7	4.9	0.51	0.69	0.55	33.0
Approach		140	0.0	140	0.0	0.315	6.1	NA	0.7	4.9	0.51	0.69	0.55	33.0
All Vehicles		438	0.0	438	0.0	0.584	6.7	NA	2.0	14.3	0.55	0.53	0.83	26.9

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

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

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

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

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

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

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

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MOVEMENT SUMMARY

 **Site: 101v [11. Wallarah Cct/ Long Reef Cct E - PM - 2034 School (Site Folder: PM 2034 Base - School)]**

 **Network: N101 [PM 2034 Base - School (Network Folder: General)]**

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Wallarah Cct														
1	L2	143	0.0	143	0.0	0.083	3.4	LOS A	0.1	0.6	0.02	0.42	0.02	32.5
2	T1	7	0.0	7	0.0	0.083	0.3	LOS A	0.1	0.6	0.02	0.42	0.02	32.5
Approach		151	0.0	151	0.0	0.083	3.3	NA	0.1	0.6	0.02	0.42	0.02	32.5
North: Long Reef Cct														
8	T1	152	0.0	152	0.0	0.294	6.9	LOS A	1.3	8.9	0.21	0.96	0.21	28.9
9	R2	152	0.0	152	0.0	0.294	7.6	LOS A	1.3	8.9	0.21	0.96	0.21	28.9
Approach		303	0.0	303	0.0	0.294	7.2	LOS A	1.3	8.9	0.21	0.96	0.21	28.9
West: Wallarah Cct														
10	L2	7	0.0	7	0.0	0.007	3.6	LOS A	0.0	0.2	0.05	0.45	0.05	26.4
12	R2	3	0.0	3	0.0	0.007	3.6	LOS A	0.0	0.2	0.05	0.45	0.05	26.4
Approach		11	0.0	11	0.0	0.007	3.6	NA	0.0	0.2	0.05	0.45	0.05	26.4
All Vehicles		464	0.0	464	0.0	0.294	5.9	NA	1.3	8.9	0.14	0.77	0.14	29.8

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

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

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

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

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

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

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

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Appendix H. Detailed Stakeholder Engagement

New Primary School in Gregory Hills

Transport Working Group 01

Date: 30 June 2022

Reference: P1998p0 Version: v01

Distribution: SINSW, Camden Council, TfNSW

Agenda

- Introductions and Apologies
- Transport Working Group Meeting Purpose
- Background
- Transport Strategy Session:
 - New School Concept Plan
 - Catchment Analysis
 - Parking Restriction Options
 - Pedestrian Infrastructure Options
 - Next Step

Meeting Attendees

Organisation	Name	Role
SINSW	Laukik Rane Shay Bergin Rebecca Lehman Sarah Kelly Bill Kabbout Jarred Statham	Project Director (Delivery) Senior Project Director (Delivery) Sustainable Transport Advisor Principal Planner Associate Project Director (Infrastructure Delivery) Senior Statutory Planning Officer (Business Enablement)
Jacobs	Marisa Sidoti Nick Marcovich Alastair Burdon-Jones	Senior Project Manager Project Manager Graduate Project Manager
DFP Planning	Natasha Bartley	Principal Planner
Camden Council	Michelle Kramer Tom Allen Roy El Kazzi	Road Safety Officer Team Leader: Traffic and Road Safety Traffic Engineer
TfNSW	Bikram Singh	Network and Safety Officer (Western Parkland City)
Ason Group	Dora Choi Wendy Zheng	Principal Lead: Traffic Management & Operations Senior Traffic Engineer
Apologies	TfNSW: Daryl Ninham DFP Planning: Ellen Robertshaw	Senior Manager Network and Safety Services (Western Parkland City) Director

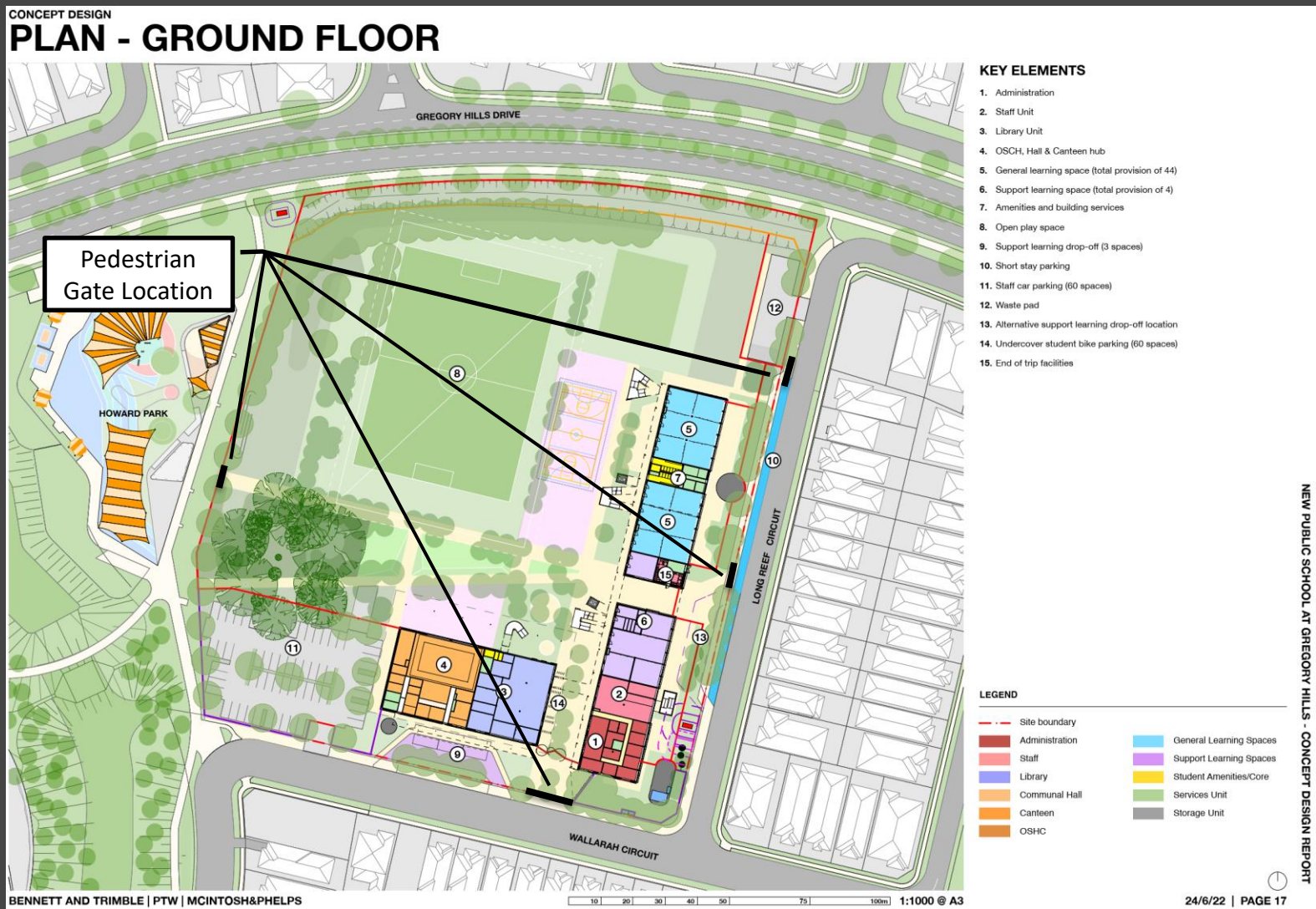
Transport Working Group - Meeting Purposes

- The Transport Working Group (TWG) has been established to enable SINSW to share project information with both council (abbreviation) and Transport for New South Wales (TfNSW) in order to:
 - Increase awareness of upcoming projects in the planning phase to minimize surprises when planning applications are made
 - Identify potential issues related to projects
 - Work through solutions to risks and problems raised in the TWG forum to enable improved planning applications that respond to the needs of all parties in a transparent and positive way
- The working group is intended to cover projects within the council under the SINSW delivery program of works. It will also involve other projects from across the SINSW portfolio that are located within the council boundary.
- The School Community Group area is from eagle eye and the Asset Management Unit contact is from eagleeye.
- The TWG is initially formed to review school project name and may consider the road safety, school and public bus service planning and active transport planning for additional projects within the LGA or region as required.

Background

- Gregory Hills is located in the South-West growth area
- A new CORE35 primary school has been proposed for the area to cater for the population growth
 - 1,012 students
 - 44 Learning Spaces
 - 60 bicycle parking spaces
 - 60 staff parking spaces
 - 3 SELU drop off / pick up spaces
 - 10 indented short stay parking spaces on Long Reef Circuit
 - Waste Pad and associated access driveway and circulation area to enable forwards in / forwards out
 - Footpath (3.0m wide) along the Long Reef Circuit and Wallarah Circuit frontages of the school
- The development is for a new public school located on land bound by Gregory Hills Drive, Long Reef Circuit and Wallarah Circuit, Gregory Hills.
- On 27th April 2022, the Secretary of the of the DPE issued Secretary's Environmental Assessment Requirements (SEARs) for SSDA Application No. SSD-41306367. This report has been prepared to address the SEARs requirements.

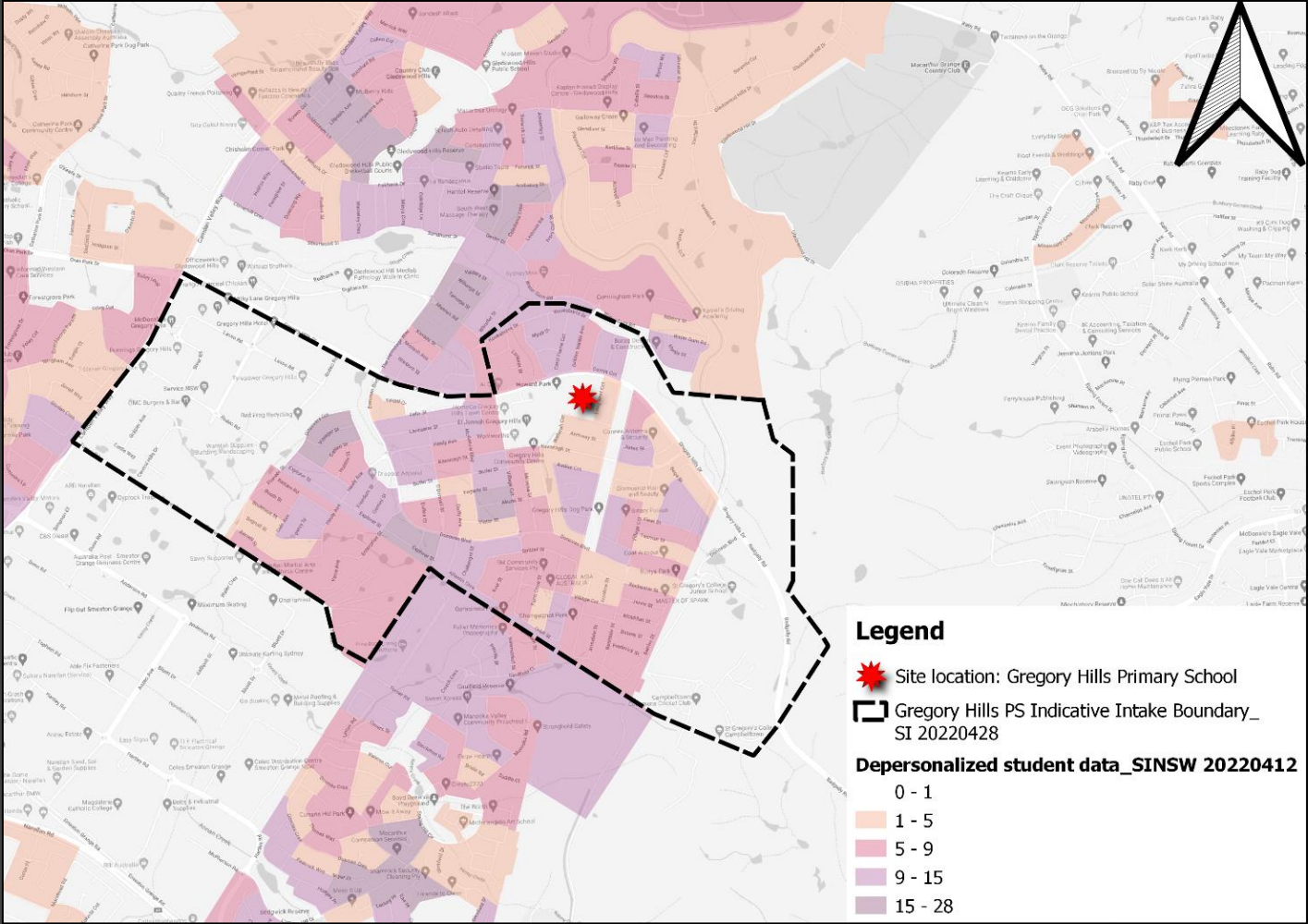
New Primary School Concept Plan



New Primary School Concept Plan



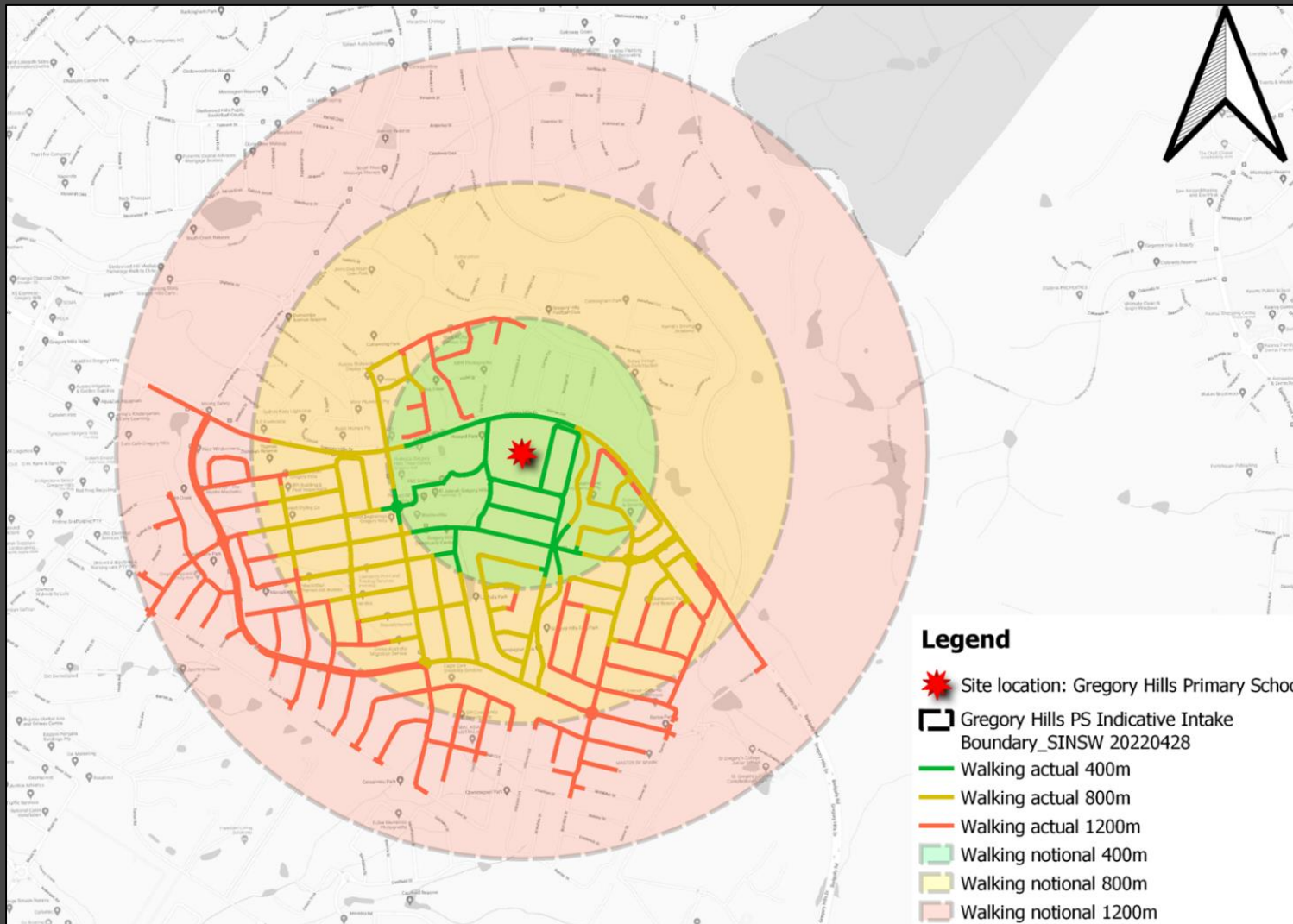
Proposed School Catchment



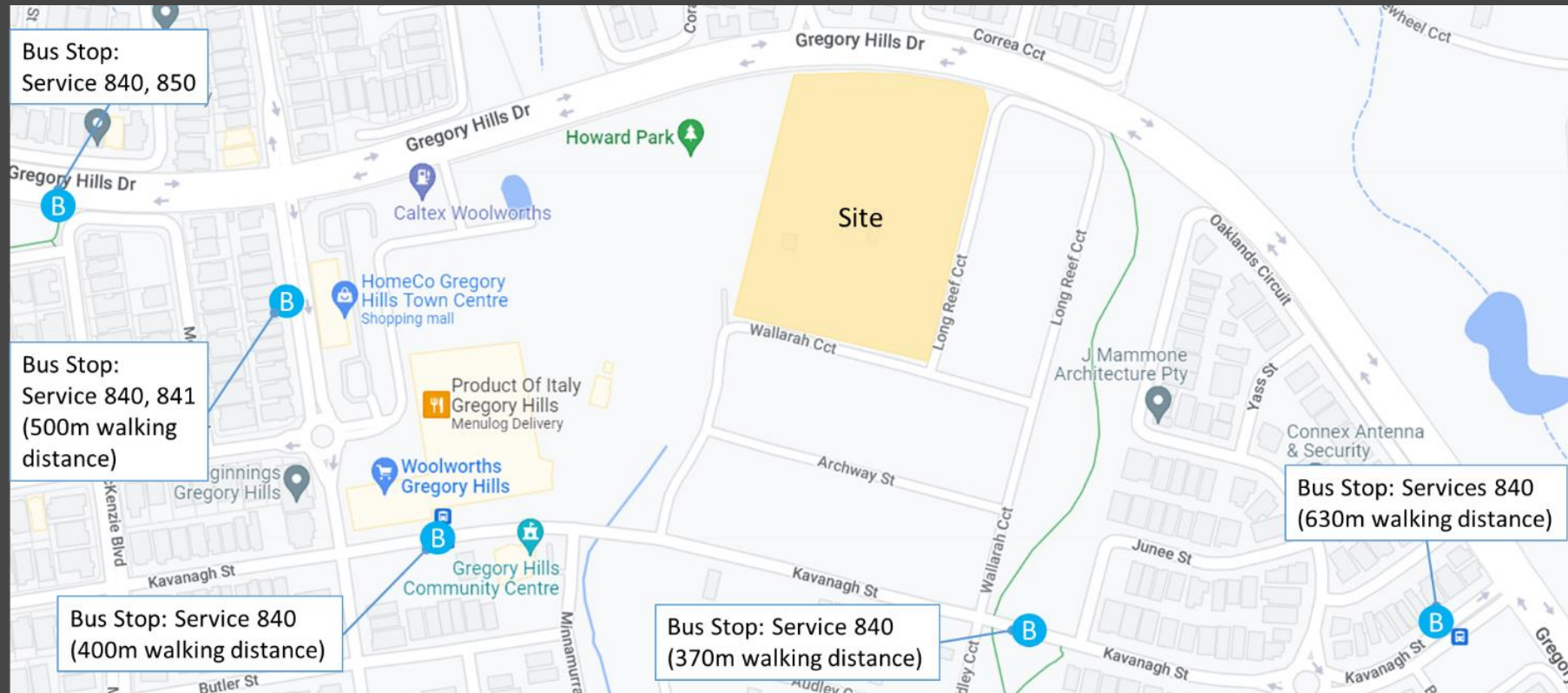
Depersonalized Student Data Catchment Analysis

Catchment Analysis	Notional (within crow flies)		Actual (on path / using road network as a proxy)	
1-400m (5-min walk)	89	18%	16	3%
401m-800m (10-min walk)	176	36%	152	31%
801m-1200m (15-min walk)	169	35%	192	39%
Total number of students within walking distance to school	434	89%	360	74%
1201m-1600m crow flies / 2300m on path (excl from SSTS Primary)	49	10%	127	26%
Total number of students not eligible for free SSTS	483	99%	487	100%
Within 400m of public transport stop / station / wharf that brings them closer to school	380	78%	310	64%
Within 800m of public transport that brings them closer to school	487	100%	434	89%
# outside SSTS zone, with PT access with no PT option	4	1%	0	0%
# outside SSTS zone, with PT access	0	0%	0	0%
OOSH placements				
No. of students north of Gregory Hills Dr	56		56	
Total No. of students within indicative enrolment boundary	487		487	

Walking Catchment



Existing Bus Stop Locations



Proposed Parking Restrictions Option 01

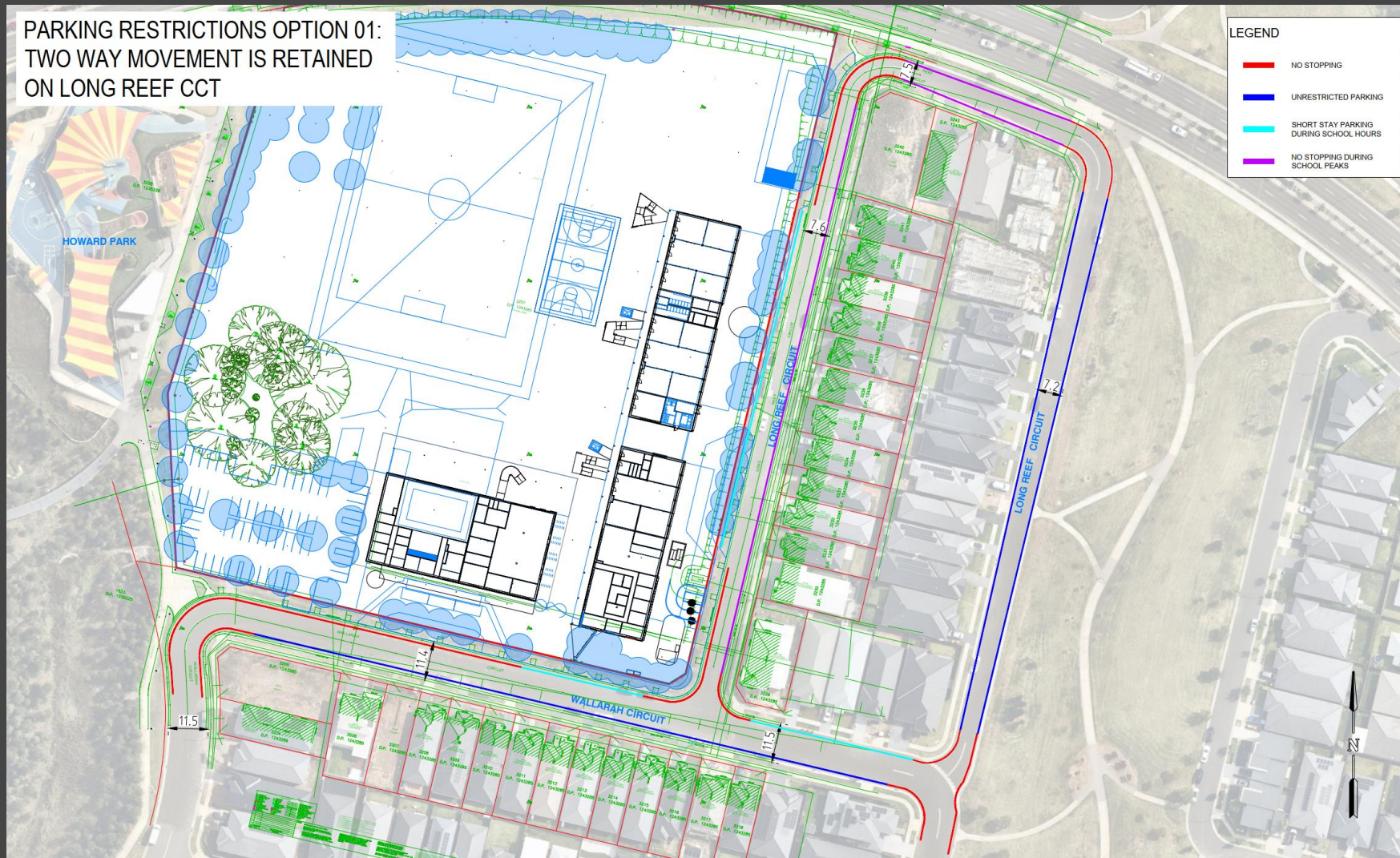
➤ Parking Restriction Option 01:

- 36m of short term parking retained on Wallarah Circuit school frontage east of support learning drop off bay
- Existing unrestricted parking on Wallarah Circuit between school and park retained as short term parking during school hours
- 100m of short term parking provided on western side of Long Reef Circuit (school frontage)
- Two way traffic flow is retained on Long Reef Circuit
- Existing unrestricted parking retained on western side of Long Reef Circuit (residential side)
- No stopping restrictions during school hours applied on eastern side of Long Reef Circuit (school frontage and park frontage)
- No stopping restrictions during school hours applied on both sides of Long Reef Circuit (northern section)

➤ Constraints:

- Width of Long Reef Circuit being 7.2-7.6m face of kerb to face of kerb
- No stopping restrictions on Wallarah Circuit and Long Reef Circuit will reduce the amount of parking available to existing residents on weekdays
- Residents living on the school frontage section of Long Reef Circuit will lose unrestricted all day parking in front of their residence

Proposed Parking Restrictions Option 01



Proposed Parking Restrictions

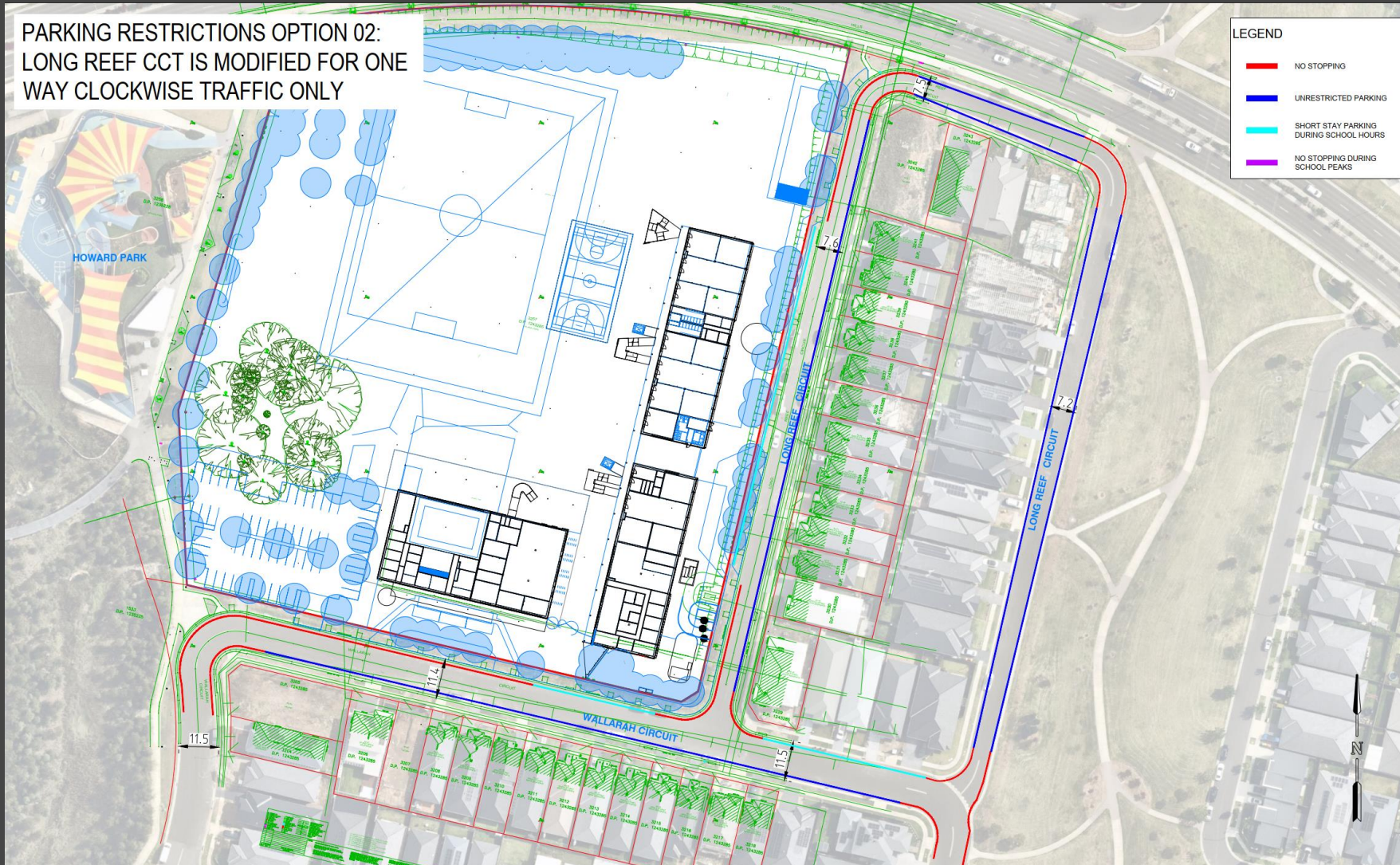
➤ Parking Restriction Option 02:

- 36m of short term parking retained on Wallarah Circuit school frontage east of support learning drop off bay
- Existing unrestricted parking on Wallarah Circuit between school and park retained as short term parking during school hours
- 100m of short term parking provided on western side of Long Reef Circuit (school frontage)
- One way clockwise traffic flow is proposed on Long Reef Circuit
- Existing unrestricted parking on Long Reef Circuit is retained on residential frontage
- No stopping restrictions during school hours applied on both sides of Long Reef Circuit (northern section)

➤ Constraints:

- Width of Long Reef Circuit being 7.2-7.6m face of kerb to face of kerb
- No stopping restrictions on Wallarah Circuit and Long Reef Circuit will reduce the amount of parking available to existing residents on weekdays
- Council waste pick up would be unable to service residents on the school frontage

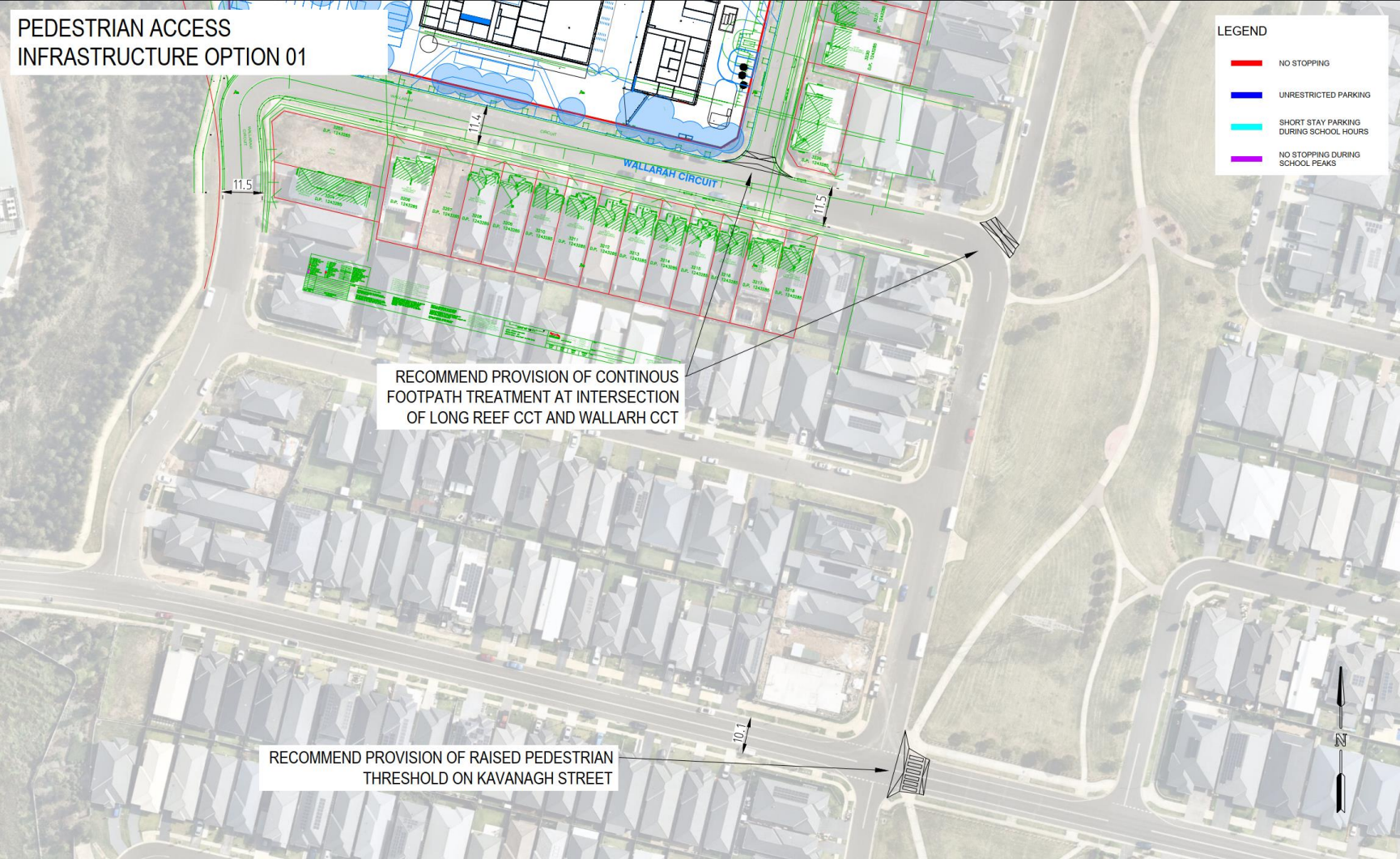
Proposed Parking Restrictions Option 02



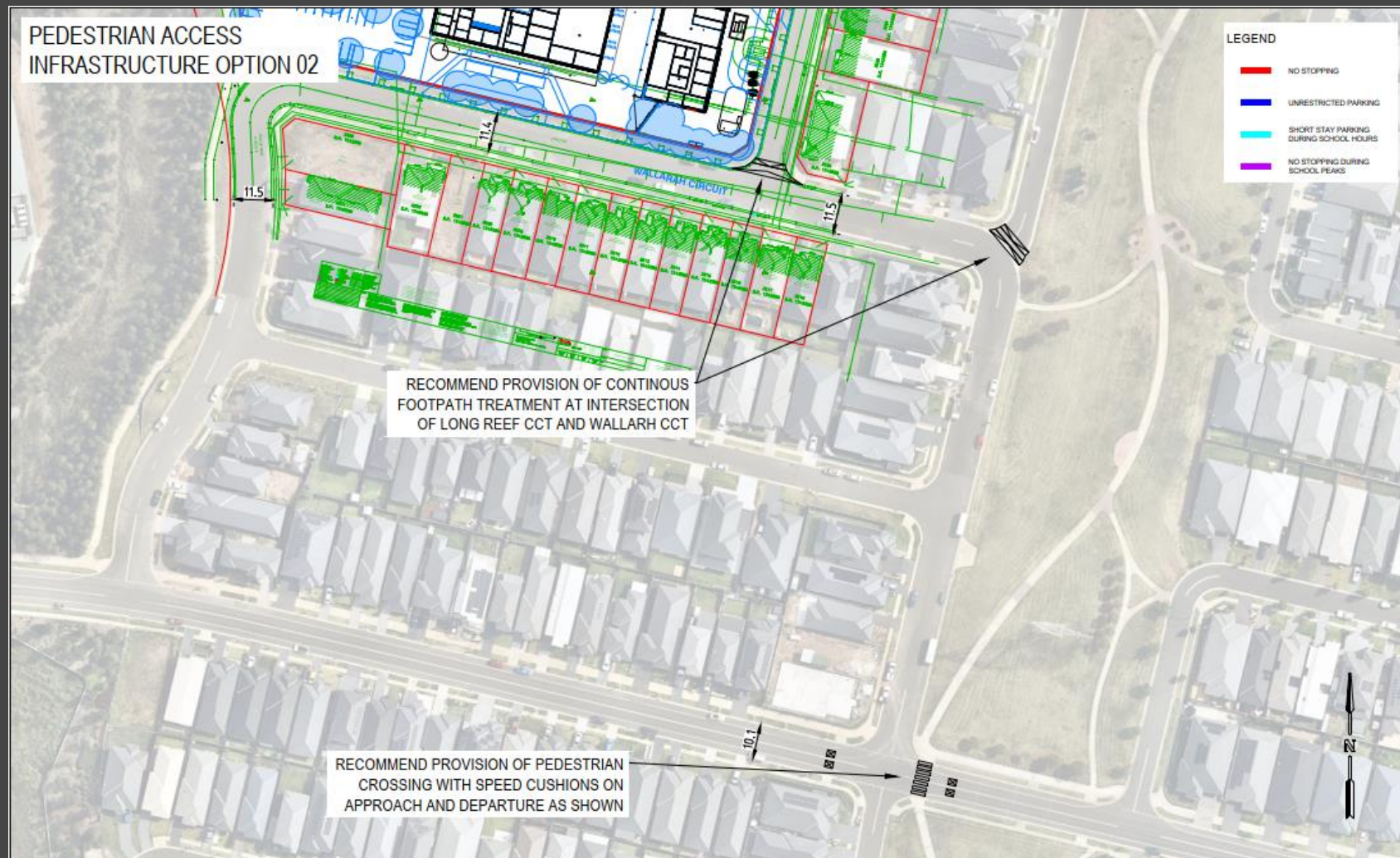
Proposed Pedestrian Infrastructure Summary

- Long Reef Circuit
 - Continuous footpath proposed on Long Reef Circuit at intersections with Wallarah Circuit to facilitate access to / from school from the park
- Kavanagh Street
 - Option 01: raised pedestrian threshold (wombat crossing) on Kavanagh Street east of Wallarah Circuit
 - Option 02: pedestrian crossing (zebra crossing) on Kavanagh Street east of Wallarah Circuit with rubber speed humps on approach and departure to the crossing
- Purpose
 - The new primary school in Gregory Hills is located to the north of the proposed enrolment catchment and is within walking distance to most students within the catchment.
 - Signalised crossing infrastructure is in place across Gregory Hills Drive and Village Circuit to allow students from the north and west to cross safely to school
 - A roundabout with pedestrian crossing facilities is located at intersection of Village Circuit and Healy Avenue to allow students from the west and south west to cross to the Town Centre then walk safely to school
 - The safe crossing location on Kavanagh Street has been selected east of Wallarah Circuit to connect the shared paths in the park and access to the bus stop on Kavanagh Street (between Wallarah Circuit and Junee Street) for students from south of the catchment
 - The safe crossing locations on Long Reef Circuit will connect the school to the park and students from east of the catchment.

Proposed Pedestrian Infrastructure Option 01



Proposed Pedestrian Infrastructure Option 02



New Primary School in Gregory Hills

Transport Working Group 02

Date: 18 July 2022

Reference: P1998p04

Version: v01

Distribution: SINSW, Camden Council, TfNSW

Agenda

- Introductions and Apologies
- Overview of Transport Working Group 01 meeting outcome
- Depersonalised student data analysis
- Parking Restriction options
- Sightline Assessment (staff carpark)
- Preliminary Bus Service Discussion

Meeting Attendees

Organisation	Name	Role
SINSW	Laukik Rane Shay Bergin Rebecca Lehman Sarah Kelly Bill Kabbout Jarred Statham	Project Director (Delivery) Senior Project Director (Delivery) Sustainable Transport Advisor Principal Planner Associate Project Director (Infrastructure Delivery) Senior Statutory Planning Officer (Business Enablement)
Jacobs	Nick Marcovich Pedro Franchi Alastair Burdon-Jones	Senior Project Manager Project Manager Graduate Project Manager
DFP Planning	Natasha Bartley	Principal Planner
Camden Council	Michelle Kramer Tom Allen Roy El Kazzi	Road Safety Officer Team Leader: Traffic and Road Safety Traffic Engineer
Lipman	Joshua Chapman	Design Manager
Ason Group	Dora Choi Wendy Zheng	Principal Lead: Traffic Management & Operations Senior Traffic Engineer
Apologies	Bikram Singh Daryl Ninham	Network and Safety Officer (Western Parkland City)

Overview of Transport Working Group 01 meeting outcome

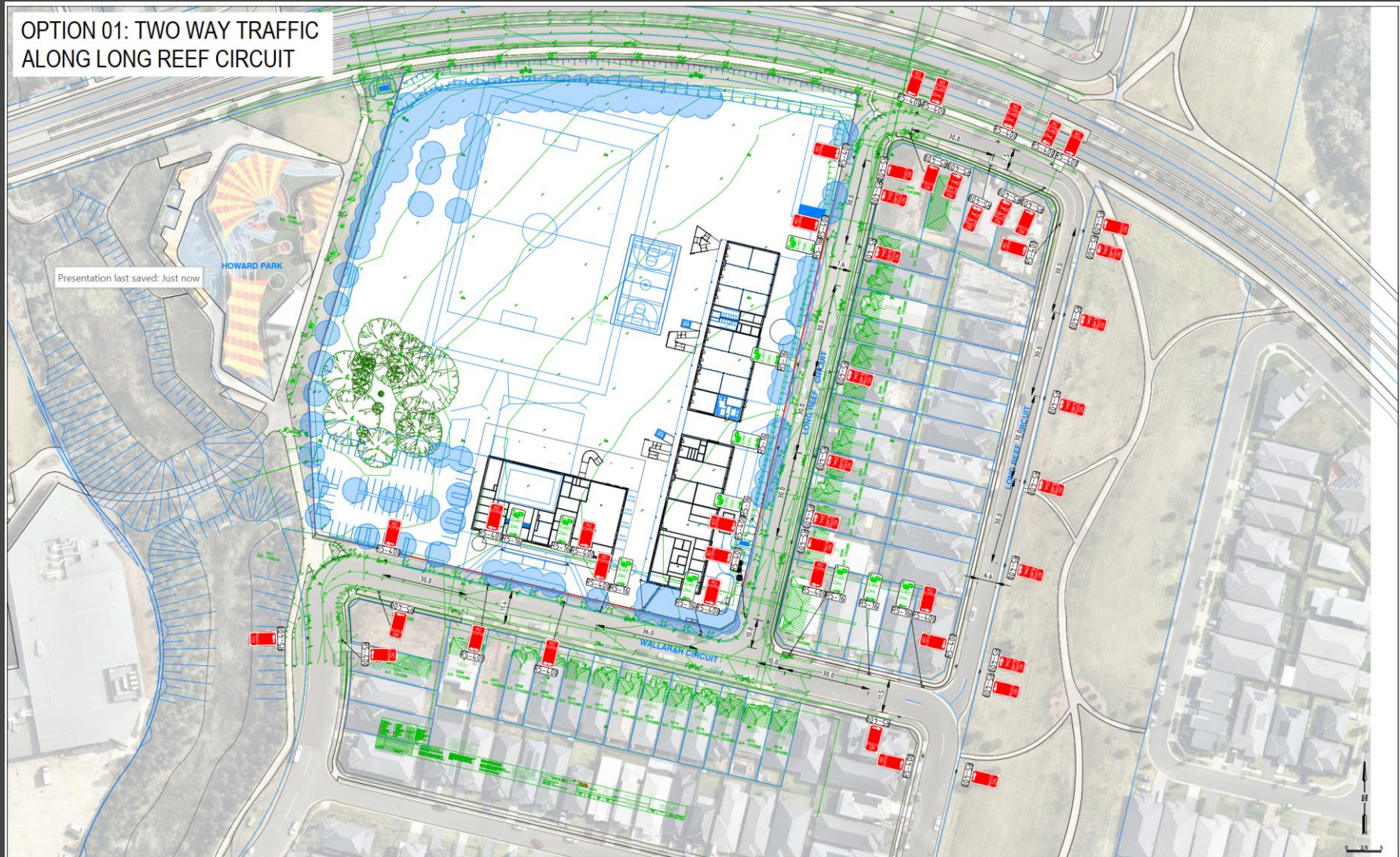
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Proposed Parking Restrictions Option 01



Proposed Parking Restrictions

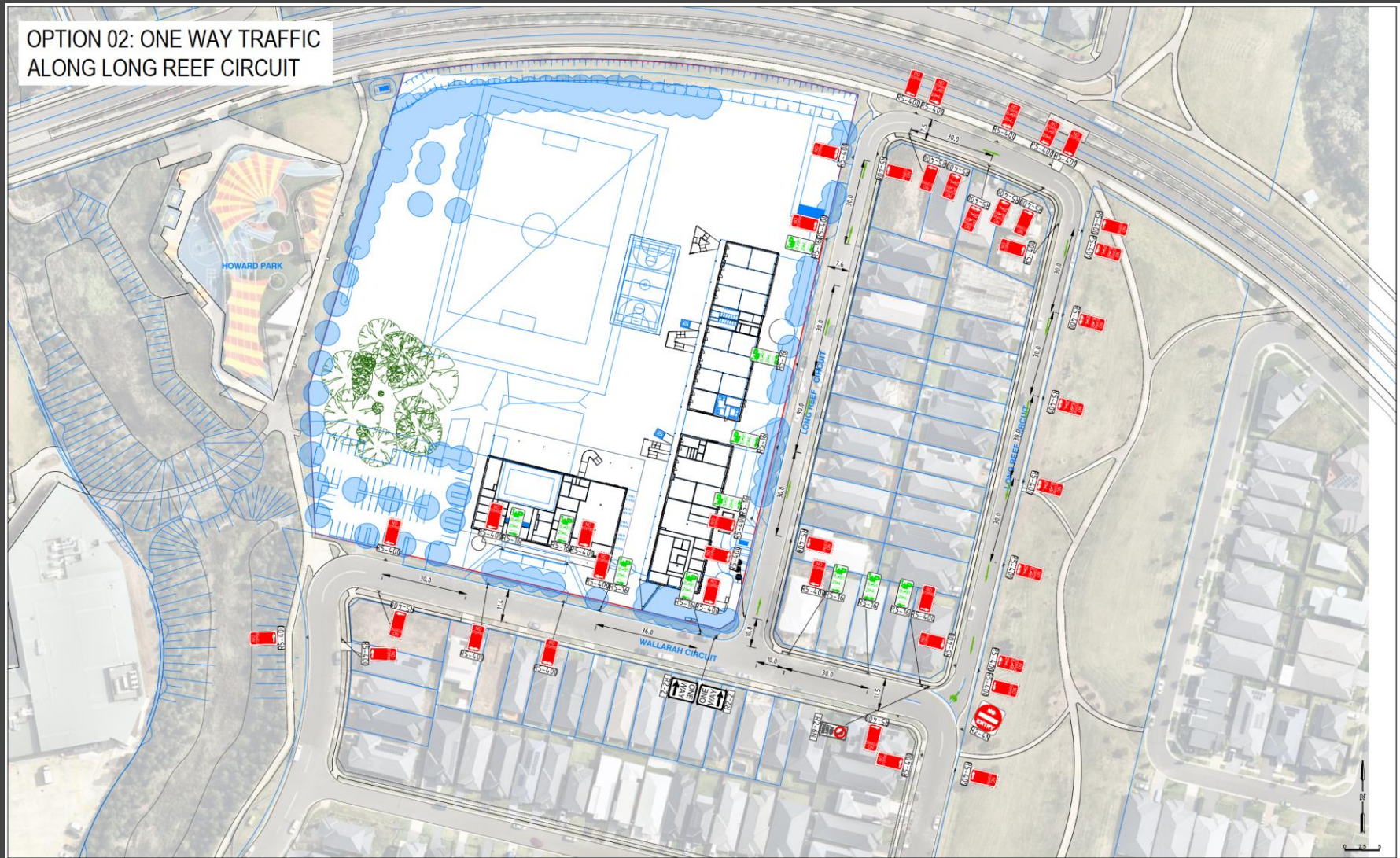
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- Council waste pick up would be unable to service residents on the school frontage

Proposed Parking Restrictions Option 02



Staff Carpark Access – Sightline Assessment

- Staff carpark access is proposed to be on Wallarah Circuit, adjacent to the vehicle access to Howard Park
- Due to the location a sightline assessment was requested to assess for safety
- Sightline from the carpark has been assessed in accordance to AS2890.1:2004 for a comfortable distance of 69m
- Sightline to the carpark access from Wallarah Circuit (northbound) has been assessed in accordance to Austroads Guide to Road Design Part 3: 2021 – Line of sight on horizontal curves

Staff Carpark Sightline Assessment



Preliminary Bus Service Discussion

Level 7, 177 Pacific Highway
North Sydney, NSW 2060
PO Box 632
North Sydney, NSW 2059
Australia
T +61 2 9928 2100
F +61 2 9928 2444

Subject Transport Working Group (TWG) Mtg No 1

Project School Infrastructure NSW Gregory Hill Primary School

Project No. IW269600 File MM - 220704 - GHPS - TWG Meeting Minutes No. 1

Prepared by Alastair Burdon-Jones Phone No.

Location MS Teams Date/Time 04 July 2022

Participants

Name	Initial	Organisation and Role	Email	Attend /Apology (A/G)
Tom Allen	TA	Camden Council – Team Leader: Traffic and Road Safety	Tom.Allen@camden.nsw.gov.au	A
Michelle Kramer	MK	Camden Council - Road Safety Officer	Michelle.Kramer@camden.nsw.gov.au	A
Roy El Kazzi	REK	Camden Council - Traffic Engineer	Roy.Kazzi@camden.nsw.gov.au	A
Bikram Singh	BS	TfNSW – Network and Safety Officer (Western Parkland City)	bikram.singh2@transport.nsw.gov.au	A
Darryl Ninham	DN	TfNSW - Senior Manager Network and Safety Services	Daryl.Ninham2@transport.nsw.gov.au	G
Shay Bergin	SB	SINSW – Senior Project Director Delivery	Shay.Bergin1@det.nsw.edu.au	A
Laukik Rane	LR	SINSW – Project Director Delivery	Laukik.Rane@det.nsw.edu.au	A
Jarred Statham	JS	SINSW - Senior Statutory Planning Officer	jarred.statham3@det.nsw.edu.au	A
Sarah Kelly	SK	SINSW - Principal Planner	Sarah.kelly97@det.nsw.gov.au	A
Bill Kabbout	BK	SINSW – A Project Director Delivery	Bill.Elkabbout@det.nsw.edu.au	A
Dora Choi	DC	Ason - Principal Lead - Traffic Mgt & Operations	dora.choi@asongroup.com.au	A
Wendy Zheng	WZ	Ason - Senior Traffic Design Engineer	wendy.zheng@asongroup.com.au	A
Natasha Bartley	NB	DFP - Principal Planner	nbartley@dfpplanning.com.au	A

Name	Initial	Organisation and Role	Email	Attend /Apology (A/G)
Marcus Trimble	MT	Bennett and Trimble - Architect	marcus@bennettandtrimble.com	A
Nick Marcovich	NM	Jacobs - Project Director	nick.marcovich@jacobs.com	
Marisa Sidoti	MS	Jacobs - Project Manager Design	Marisa.Sidoti@jacobs.com	A
Brendan Madders	BM	Jacobs - Senior Project Manager	Brendan.Madders@jacobs.com	G
Alastair Burdon-Jones	ABJ	Jacobs - Assistant Project Manager	Alastair.burdonjones@jacobs.com	A

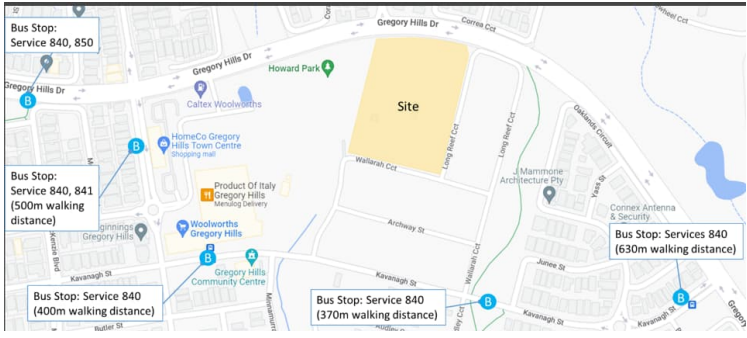
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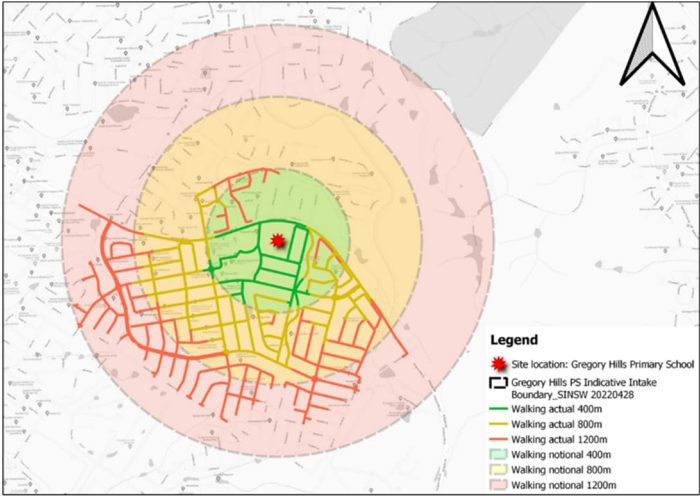

 Sophie le Mauff – WSP sophie.lemauff@wsp.com


 Jessica Walker – WSP Jessica.Walker@wsp.com

 Rebecca Lehman - SINSW rebecca.lehman@det.nsw.edu.au

Notes	Action
<p>1 Presentation and Context</p> <p>Ason (DC) introduced the project, general objectives and inclusions, and approximate program. See attached copy of the presentation for reference.</p> <p>On 27 April 2022, Secretary's Environmental Assessment Requirements (SEARs) response for SSDA Application No. SSD-41306367 was received.</p> <p>The team is working towards preparing documents for the pending SSDA application and to address the SEARs requirements.</p>	Note
<p>2 Project Overview - Key Items and Actions</p> <p>Gregory Hills is located in the South-West growth area. The development is for a new primary school located on land bound by Gregory Hills Drive, Long Reef Circuit and Wallarah Circuit, Gregory Hills. A new CORE35 primary school is proposed for the area to cater for the population growth. The scope is:</p> <ul style="list-style-type: none"> • 1,012 students • 44 Learning Spaces • 60 bicycle parking spaces 	Note

Notes	Action
<ul style="list-style-type: none"> • 60 staff parking spaces • Support Unit drop off / pick up spaces • 10 indented short stay parking spaces on Long Reef Circuit • Waste Pad and associated access driveway and circulation area to enable forwards in / forwards out • Footpath (3.0m wide) along the Long Reef Circuit and Wallarah Circuit frontages of the school 	Note
<p>3 Transport Working Group – Meeting Purpose</p> <p>The Transport Working Group (TWG) is established to enable SINSW to share project information with both Camden Council (Council) and Transport for New South Wales (TfNSW) to:</p> <ul style="list-style-type: none"> • Increase awareness of upcoming projects in the planning phase to minimize surprises when planning applications are made • Identify potential issues related to projects • Work through solutions to risks and problems raised in the TWG forum to enable improved planning applications that respond to the needs of all parties in a transparent and positive way 	Note
<p>4 Travel Mode Analysis</p> <p>Ason (DC) advised:</p> <ul style="list-style-type: none"> • The school does not qualify for school bus services, this will inform the bus parking requirements in and around the school • There are several public bus stops surrounding the school, which are expected to be used by parents in on-going journeys after dropping their kids off at the school – refer to image extracted below. 	Note
	Note

Notes	Action
<p>An assessment of students' home locations around the Gregory Hills site has shown a large proportion of students are within the 800m walking distance of the school; it is expected this will be one of the major ways students will travel to the school. Routes shown in the image extracted below:</p> 	<p>Note</p>
<p>5 Parking Options</p> <p>Idented parking provided the south-west corner of the site, this is parking space limited in size by several protected trees just north of the car park.</p> <p>Two options were proposed:</p> <p>Option 1: Convert Long Reef Circuit into a one-way route. Provision of a continuous footpath at the intersection of Long Reef CCT and Wallarah CCT that is 3 m Wide.</p> <p>Implications: No stopping restrictions to West and North of the site/Long Reef CCT. Restricted parking suggested during school peak times only</p> 	<p>Note</p> <p>Note</p>

Notes	Action
<p>Option 2: Reconfigure Long Reef Circuit Long Reef CCT is modified for one-way clockwise traffic only. Implications: This option maintains more parking for dwellings. Restricted parking suggested during school peak times only</p>  <p>Feedback from Camden Council: Council (MK) noted that Option 2 would not be viable clockwise as residents' bin collection can only occur from the Left-Hand Side (LHS) of the disposal truck.</p> <p>Council (MK) agreed with the indented parking, however raised a concern that it may not be sufficient as a large amount of this parking would be occupied by minibuses. It was suggested that additional indented parking could be introduced along Wallarah CCT.</p> <p>Council (TA) noted that the proposed parking restrictions along these roads would be difficult to implement for established housing, as residents are likely to object. Not all houses necessarily have space to park their cars off the public road. Council would unlikely approve parking restrictions as they wouldn't want pass restrictions that were against public opinion.</p> <p>Council (MK) requested a letter describing the two options in greater detail to Council, they will provide feedback in the next TWG meeting.</p>	<p>Note</p> <p>Ason to explore and provide comments</p> <p>Note</p> <p>Ason (DC) to provide Camden council with an options letter</p>
<p>6 Bus Stops and Vehicular Access</p> <p>Ason (DC) explained there is no parking for large buses at the school; it was proposed use of shopping centre bus stop (already well established and sheltered) located on Village CCT be used for school excursions. This requires collaboration and discussions with school principal to develop procedure to</p>	<p>Ason (DC) Jacobs SINSW</p>

Notes	Action
<p>safely move students from the school to the shopping centre bus terminal.</p> <p>It was also explained that swept paths and bends are not suitable for regular bus movements - manoeuvring may be difficult.</p> <p>Council (TA) suggested that firm protocols be written, advocated, and implemented by DoE to ensure bus routes are well understood and communicated to ensure access to the one way/narrow streets are avoided.</p>	<p>Note</p> <p>SINSW, Ason</p>
<p>7 Mini-Bus Parking</p> <p>Minibuses will be used to transport students for OSCH (pre and after school care) and used for Support Units.</p> <p>To alleviate school, start and finish times, as well as drop off and pick up of students staying at OSCH, Ason (DC) suggested that their arrival/departure times are staggered.</p> <p>Council (MK) suggested an alternative solution to consider indented parking at Wallarah CCT parallel to Riparian way (north/south) as bus zone to be used for minibuses to drop off students.</p> <p>Council (MK) also noted that minibus pick up/drop off points to be sign posted as a bus zone. Activity is expected to increase over the long term as the school is more established.</p> <p>To be investigated further by Ason and the project team.</p>	<p>Note</p> <p>Ason</p> <p>Bennett and Trimble</p> <p>Jacobs</p> <p>SINSW</p>
<p>8 Pedestrian Crossings</p> <p>Ason (DC) presented locations for two pedestrian wombat crossings:</p> <ul style="list-style-type: none"> • Corner of Long Reef and Wallarah CCTs • Corner Kavanagh St and Wallarah CCT <p>This was generally supported by Council.</p>	<p>Note</p>
<p>9 Gregory Hills Drive – Signal Crossing</p> <p>Ason (DC) noted that they have observed during their traffic survey several parents crossing the main Gregory Hills Drive between 7:30-8:30am.</p> <p>This is flagged as a <i>major risk</i>, but as there are (currently) only 30 students north of the Gregory Hills Drive thus insufficient student numbers to justify the construction of a signal crossing. Council noted this, and this issue is to be further discussed at the next TWG.</p>	<p>Note</p>
<p>10 Next Steps</p> <p>DC will submit a letter to council outlining the proposed two options in further detail to get feedback from Camden Council.</p> <p>Ason (DC) advised that survey data that can be shared with Council or other relevant groups on request.</p>	<p>DC to issue letter to Camden Council.</p>

Notes		Action
11	Presentation A copy of the presentation prepared by Ason is attached to these meeting minutes for reference	Note
12	Next Meeting TWG No 2 is to be held in two weeks - 18 th July 2022.	Note

New Primary School in Gregory Hills

Transport Working Group 01

Date: 30 June 2022

Reference: P1998p0 Version: v01

Distribution: SINSW, Camden Council, TfNSW

Agenda

- Introductions and Apologies
- Transport Working Group Meeting Purpose
- Background
- Transport Strategy Session:
 - New School Concept Plan
 - Catchment Analysis
 - Parking Restriction Options
 - Pedestrian Infrastructure Options
 - Next Step

Meeting Attendees

Organisation	Name	Role
SINSW	Laukik Rane Shay Bergin Rebecca Lehman Sarah Kelly Bill Kabbout Jarred Statham	Project Director (Delivery) Senior Project Director (Delivery) Sustainable Transport Advisor Principal Planner Associate Project Director (Infrastructure Delivery) Senior Statutory Planning Officer (Business Enablement)
Jacobs	Marisa Sidoti Nick Marcovich Alastair Burdon-Jones	Senior Project Manager Project Manager Graduate Project Manager
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Apologies	TfNSW: Daryl Ninham DFP Planning: Ellen Robertshaw	Senior Manager Network and Safety Services (Western Parkland City) Director

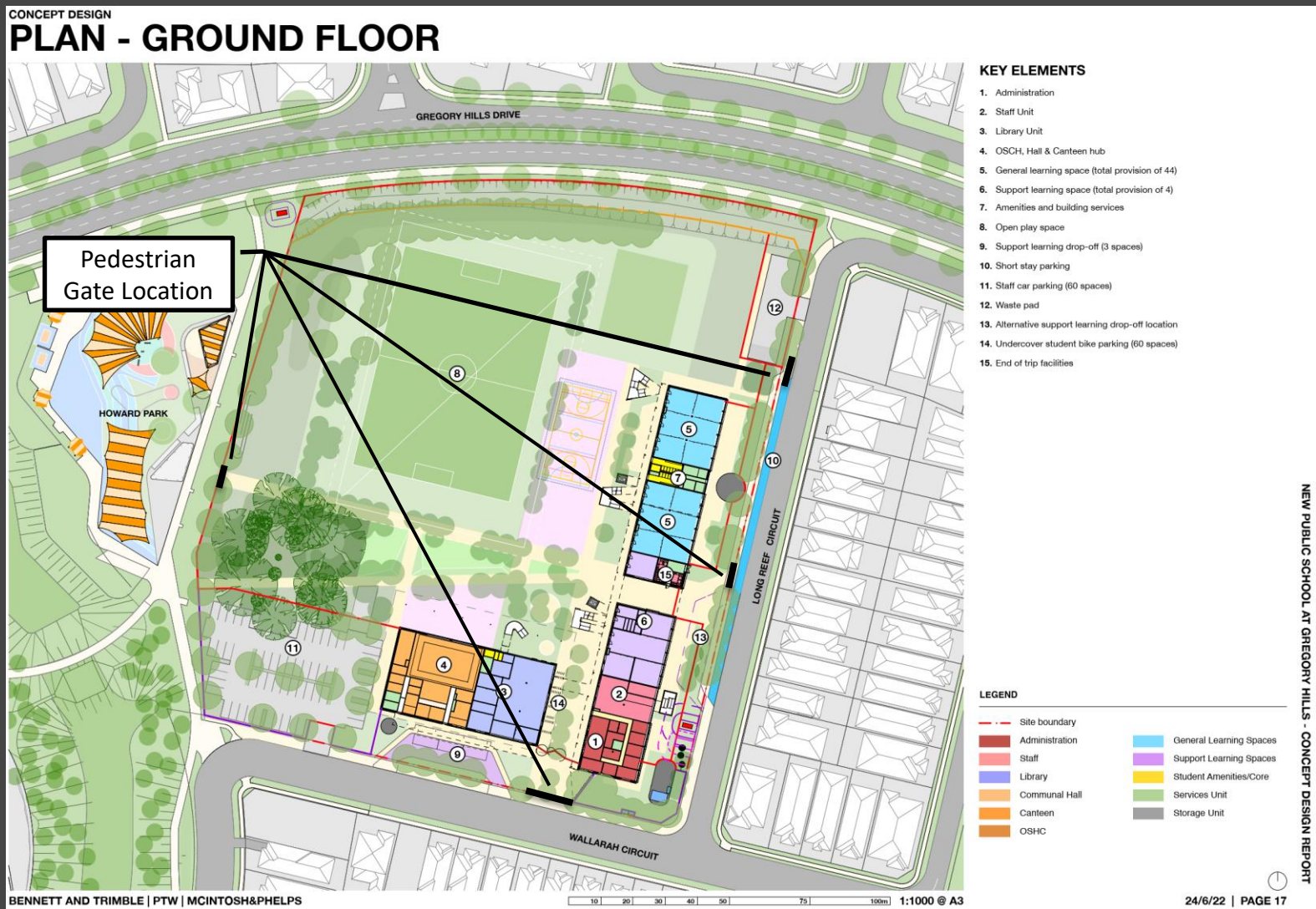
Transport Working Group - Meeting Purposes

- The Transport Working Group (TWG) has been established to enable SINSW to share project information with both council (abbreviation) and Transport for New South Wales (TfNSW) in order to:
 - Increase awareness of upcoming projects in the planning phase to minimize surprises when planning applications are made
 - Identify potential issues related to projects
 - Work through solutions to risks and problems raised in the TWG forum to enable improved planning applications that respond to the needs of all parties in a transparent and positive way
- The working group is intended to cover projects within the council under the SINSW delivery program of works. It will also involve other projects from across the SINSW portfolio that are located within the council boundary.
- The School Community Group area is from eagle eye and the Asset Management Unit contact is from eagleeye.
- The TWG is initially formed to review school project name and may consider the road safety, school and public bus service planning and active transport planning for additional projects within the LGA or region as required.

Background

- Gregory Hills is located in the South-West growth area
- A new CORE35 primary school has been proposed for the area to cater for the population growth
 - 1,012 students
 - 44 Learning Spaces
 - 60 bicycle parking spaces
 - 60 staff parking spaces
 - 3 SELU drop off / pick up spaces
 - 10 indented short stay parking spaces on Long Reef Circuit
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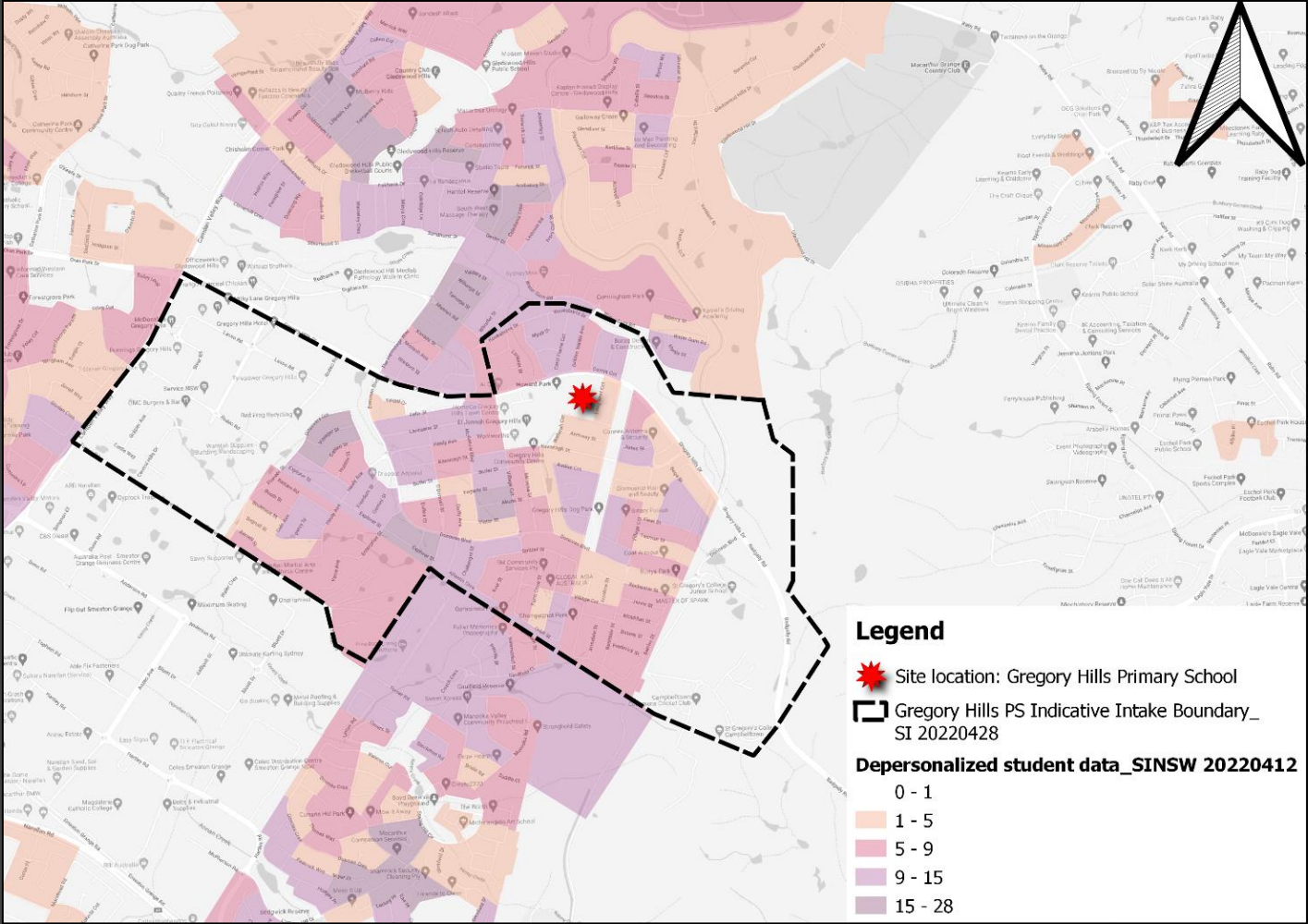
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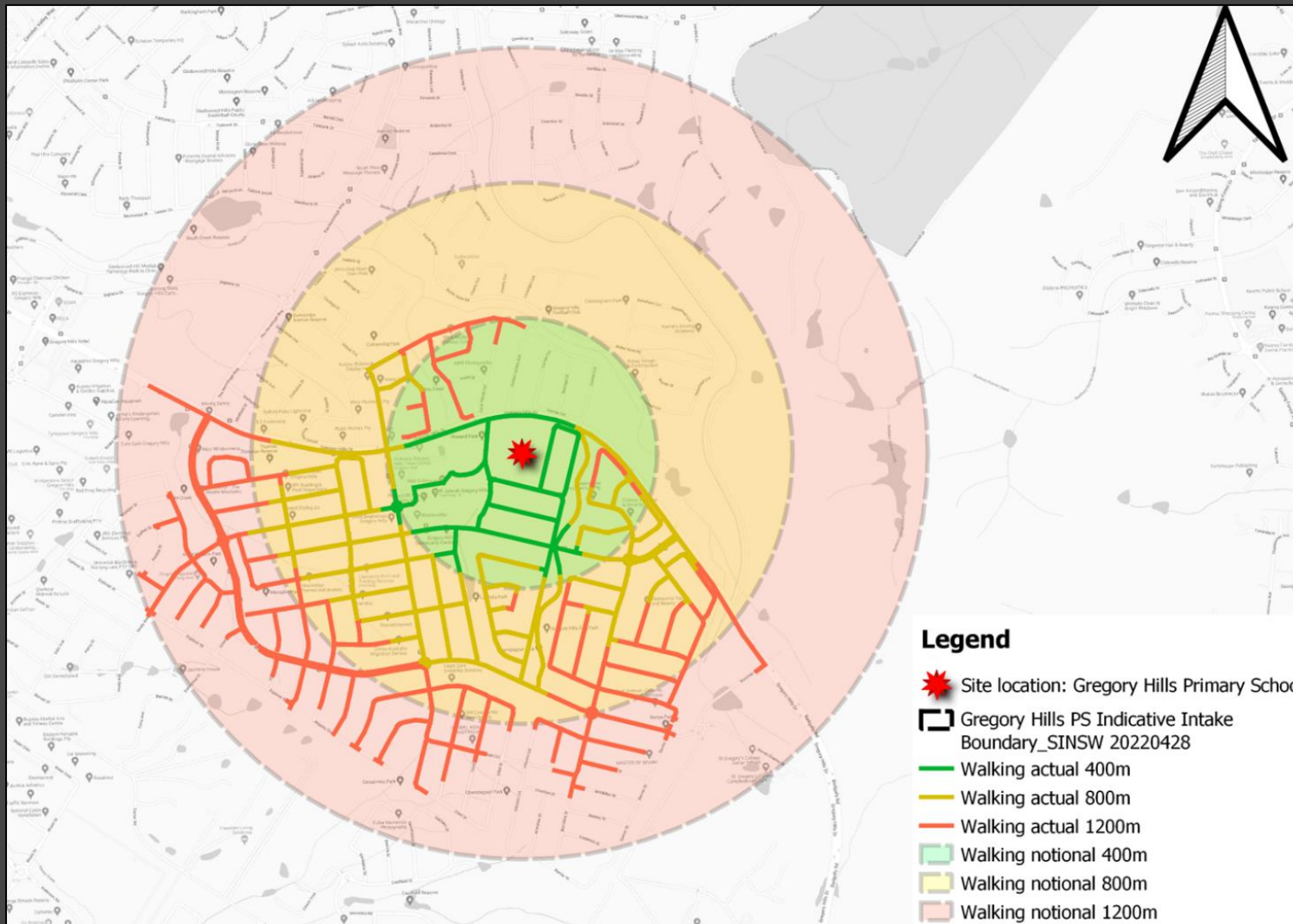
Proposed School Catchment



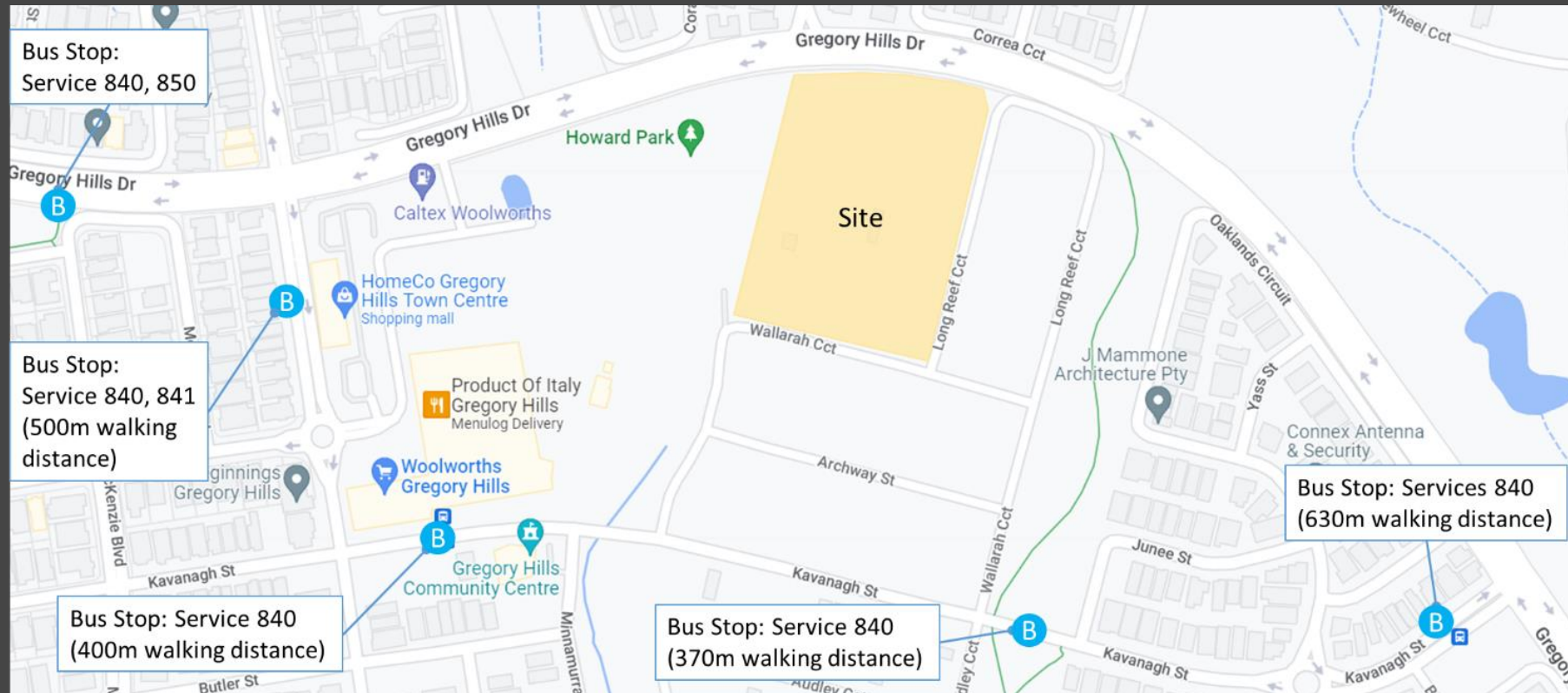
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Existing Bus Stop Locations



Proposed Parking Restrictions Option 01

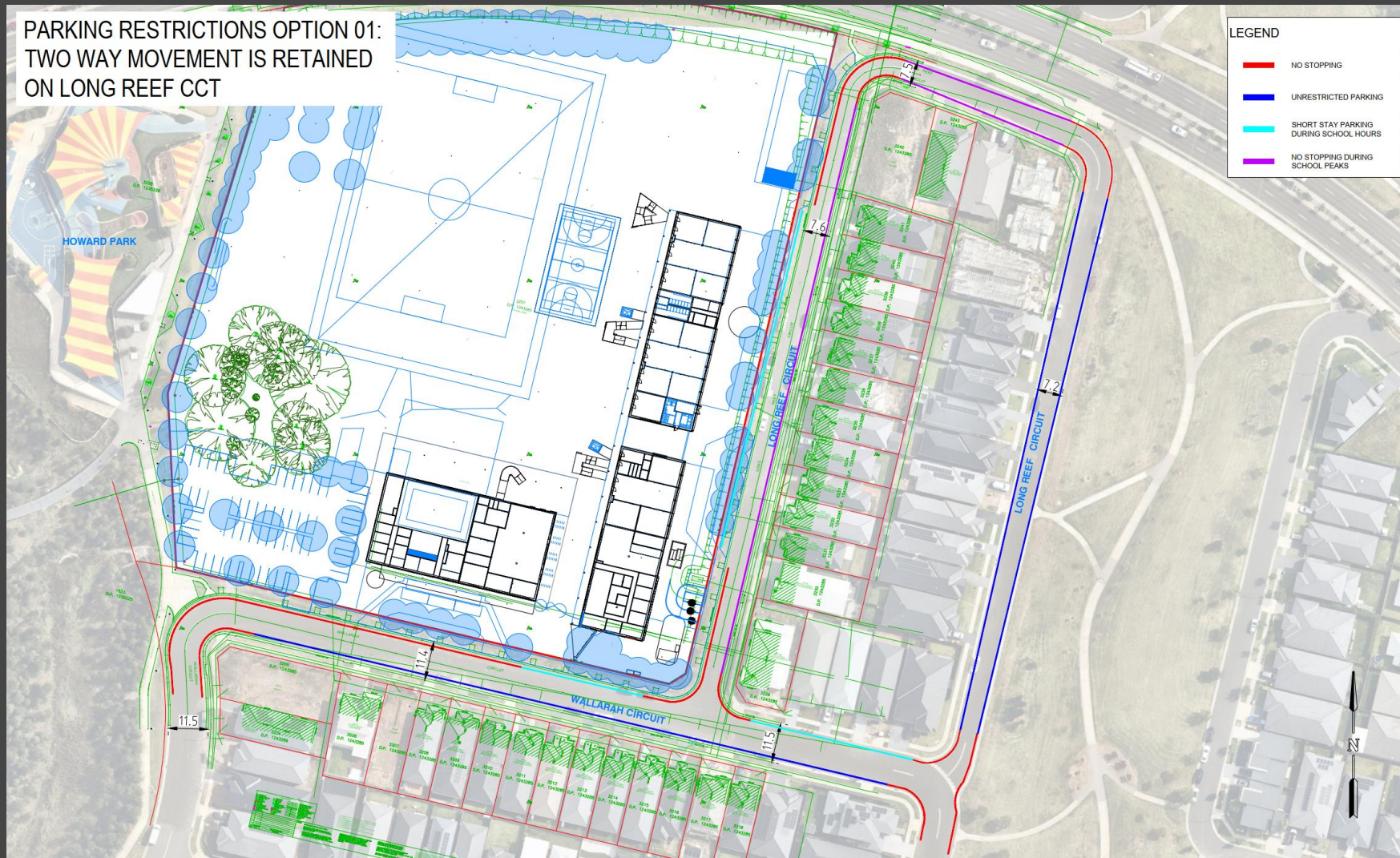
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➤ Constraints:

- Width of Long Reef Circuit being 7.2-7.6m face of kerb to face of kerb
- No stopping restrictions on Wallarah Circuit and Long Reef Circuit will reduce the amount of parking available to existing residents on weekdays
- Residents living on the school frontage section of Long Reef Circuit will lose unrestricted all day parking in front of their residence

Proposed Parking Restrictions Option 01



Proposed Parking Restrictions

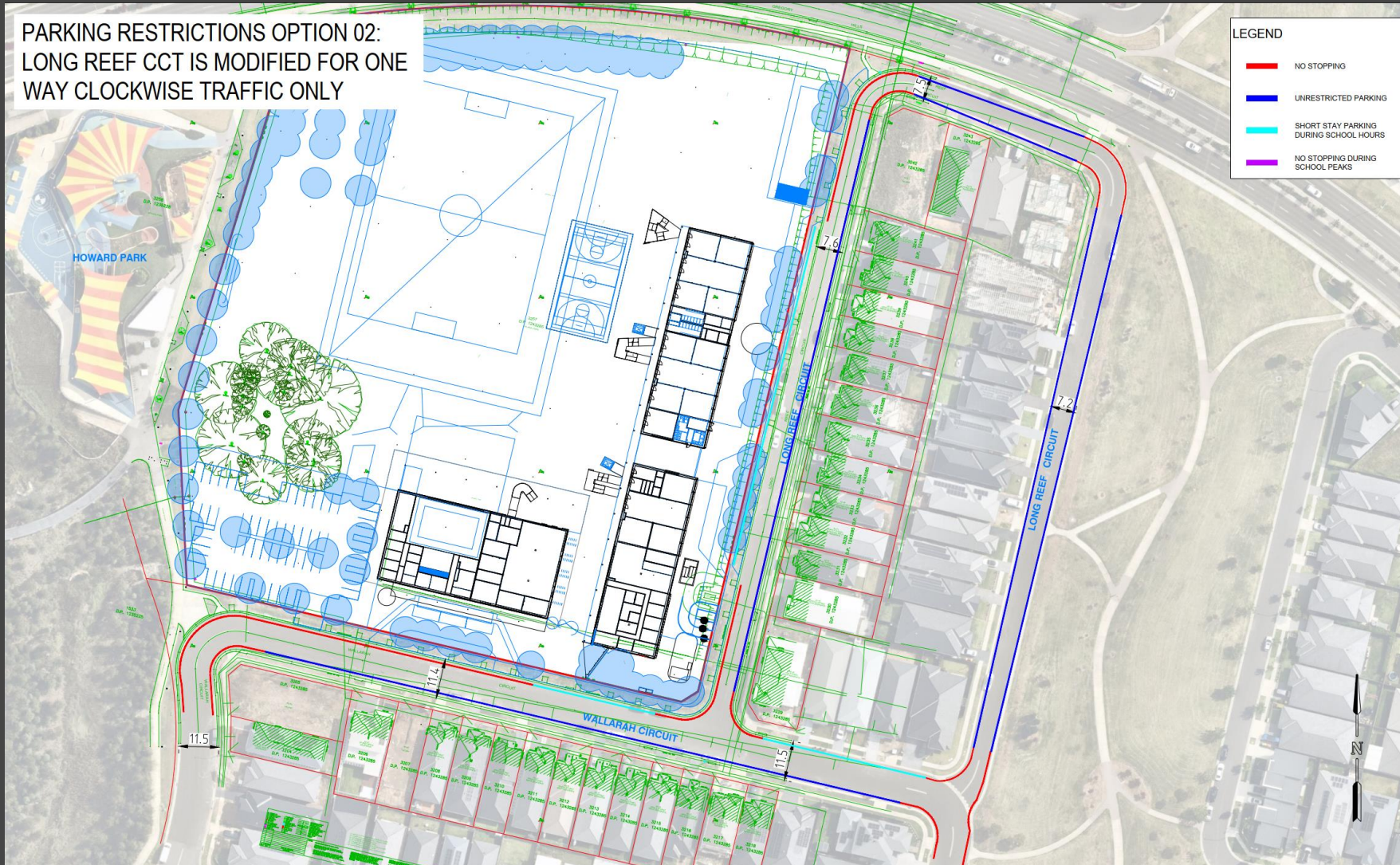
➤ Parking Restriction Option 02:

- 36m of short term parking retained on Wallarah Circuit school frontage east of support learning drop off bay
- Existing unrestricted parking on Wallarah Circuit between school and park retained as short term parking during school hours
- 100m of short term parking provided on western side of Long Reef Circuit (school frontage)
- One way clockwise traffic flow is proposed on Long Reef Circuit
- Existing unrestricted parking on Long Reef Circuit is retained on residential frontage
- No stopping restrictions during school hours applied on both sides of Long Reef Circuit (northern section)

➤ Constraints:

- Width of Long Reef Circuit being 7.2-7.6m face of kerb to face of kerb
- No stopping restrictions on Wallarah Circuit and Long Reef Circuit will reduce the amount of parking available to existing residents on weekdays
- Council waste pick up would be unable to service residents on the school frontage

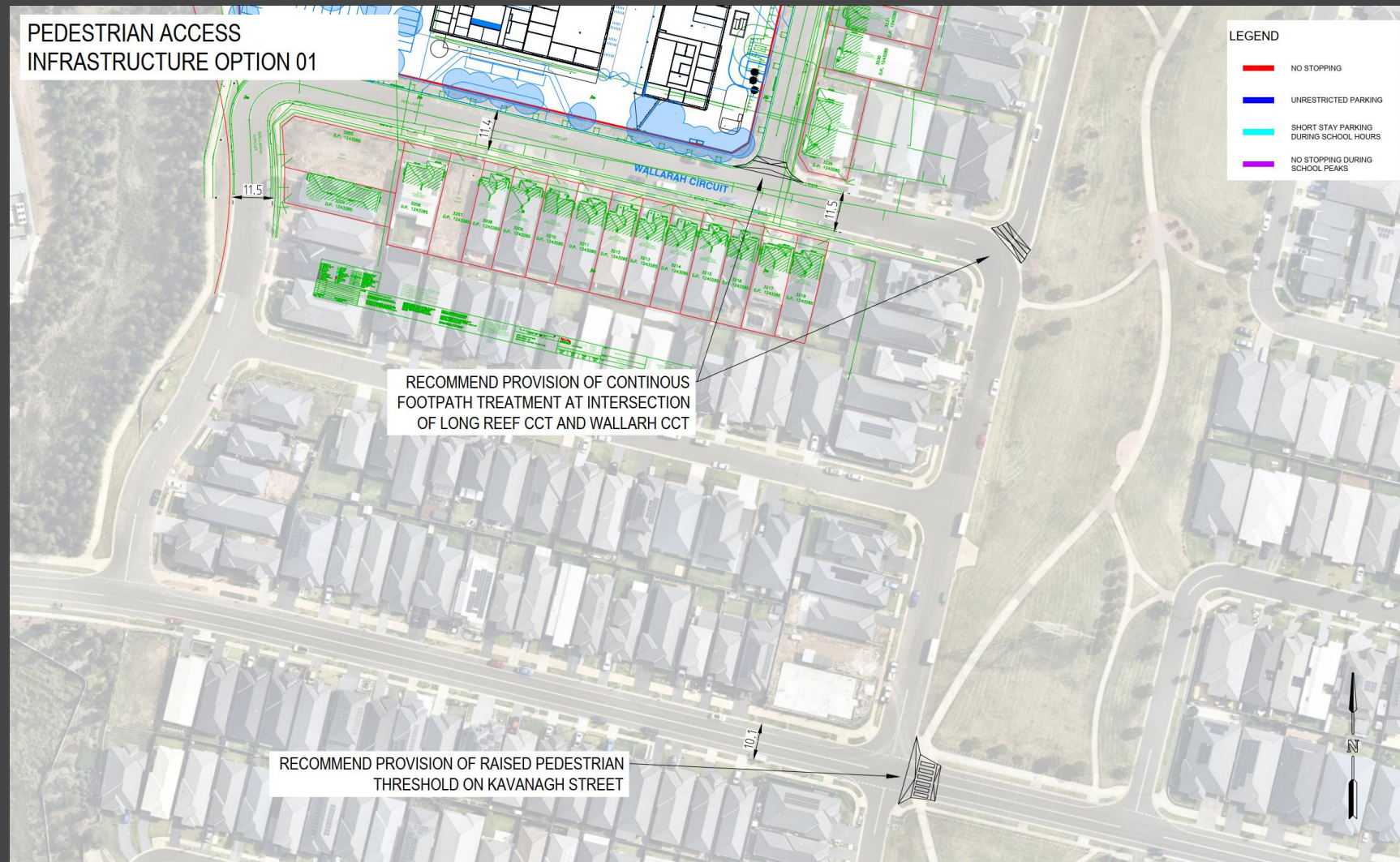
Proposed Parking Restrictions Option 02



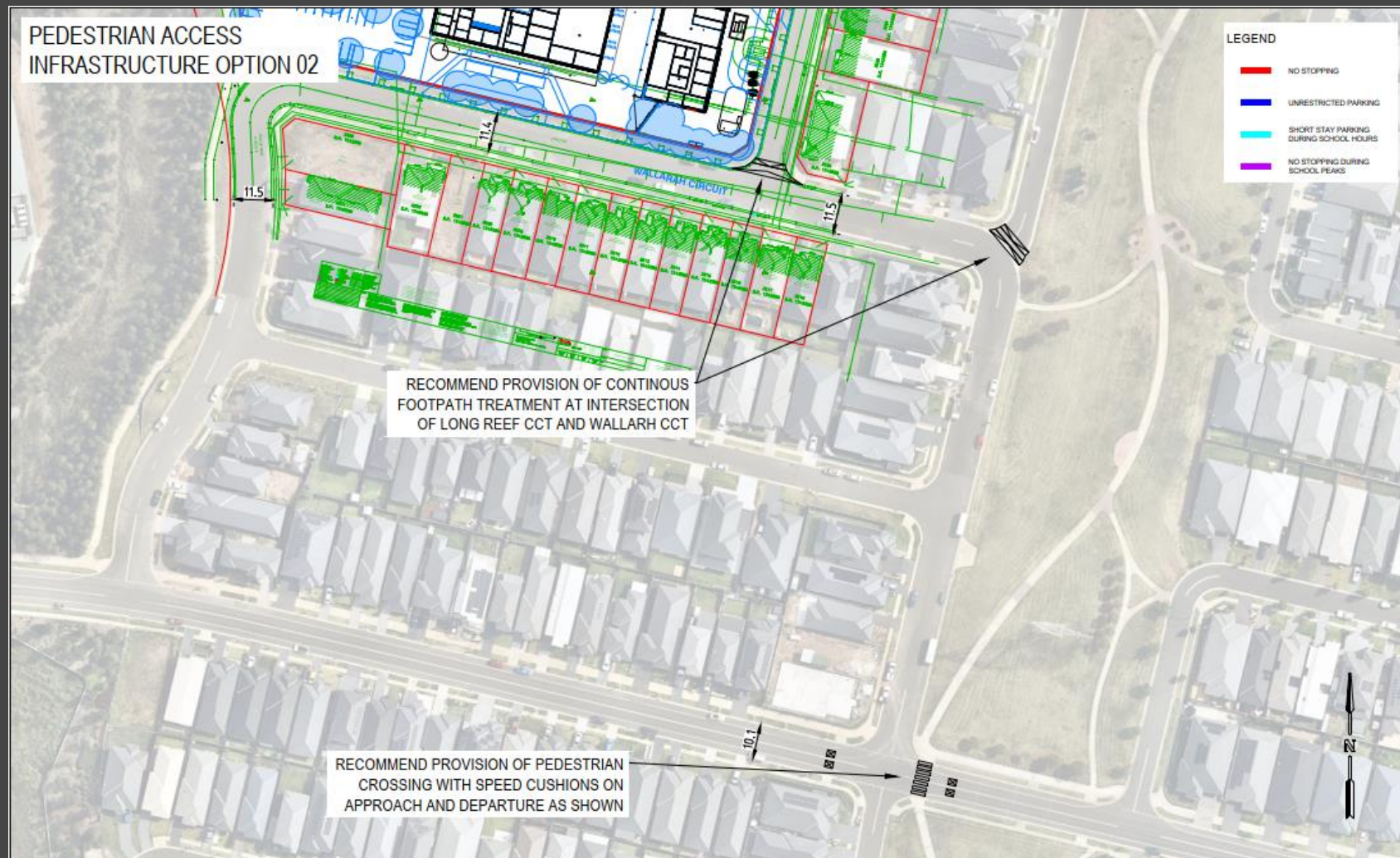
Proposed Pedestrian Infrastructure Summary

- Long Reef Circuit
 - Continuous footpath proposed on Long Reef Circuit at intersections with Wallarah Circuit to facilitate access to / from school from the park
- Kavanagh Street
 - Option 01: raised pedestrian threshold (wombat crossing) on Kavanagh Street east of Wallarah Circuit
 - Option 02: pedestrian crossing (zebra crossing) on Kavanagh Street east of Wallarah Circuit with rubber speed humps on approach and departure to the crossing
- Purpose
 - The new primary school in Gregory Hills is located to the north of the proposed enrolment catchment and is within walking distance to most students within the catchment.
 - Signalised crossing infrastructure is in place across Gregory Hills Drive and Village Circuit to allow students from the north and west to cross safely to school
 - A roundabout with pedestrian crossing facilities is located at intersection of Village Circuit and Healy Avenue to allow students from the west and south west to cross to the Town Centre then walk safely to school
 - The safe crossing location on Kavanagh Street has been selected east of Wallarah Circuit to connect the shared paths in the park and access to the bus stop on Kavanagh Street (between Wallarah Circuit and Junee Street) for students from south of the catchment
 - The safe crossing locations on Long Reef Circuit will connect the school to the park and students from east of the catchment.

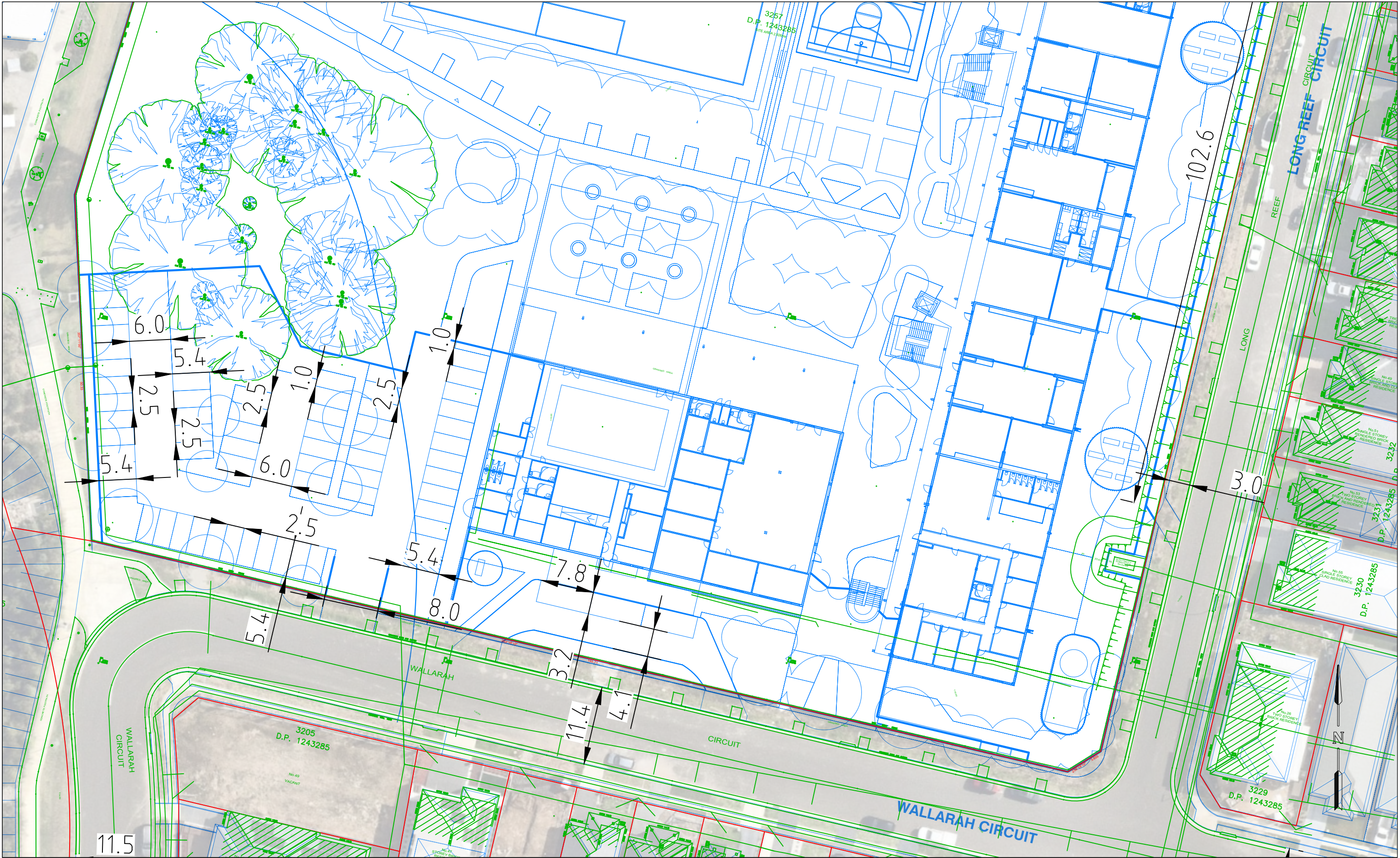
Proposed Pedestrian Infrastructure Option 01



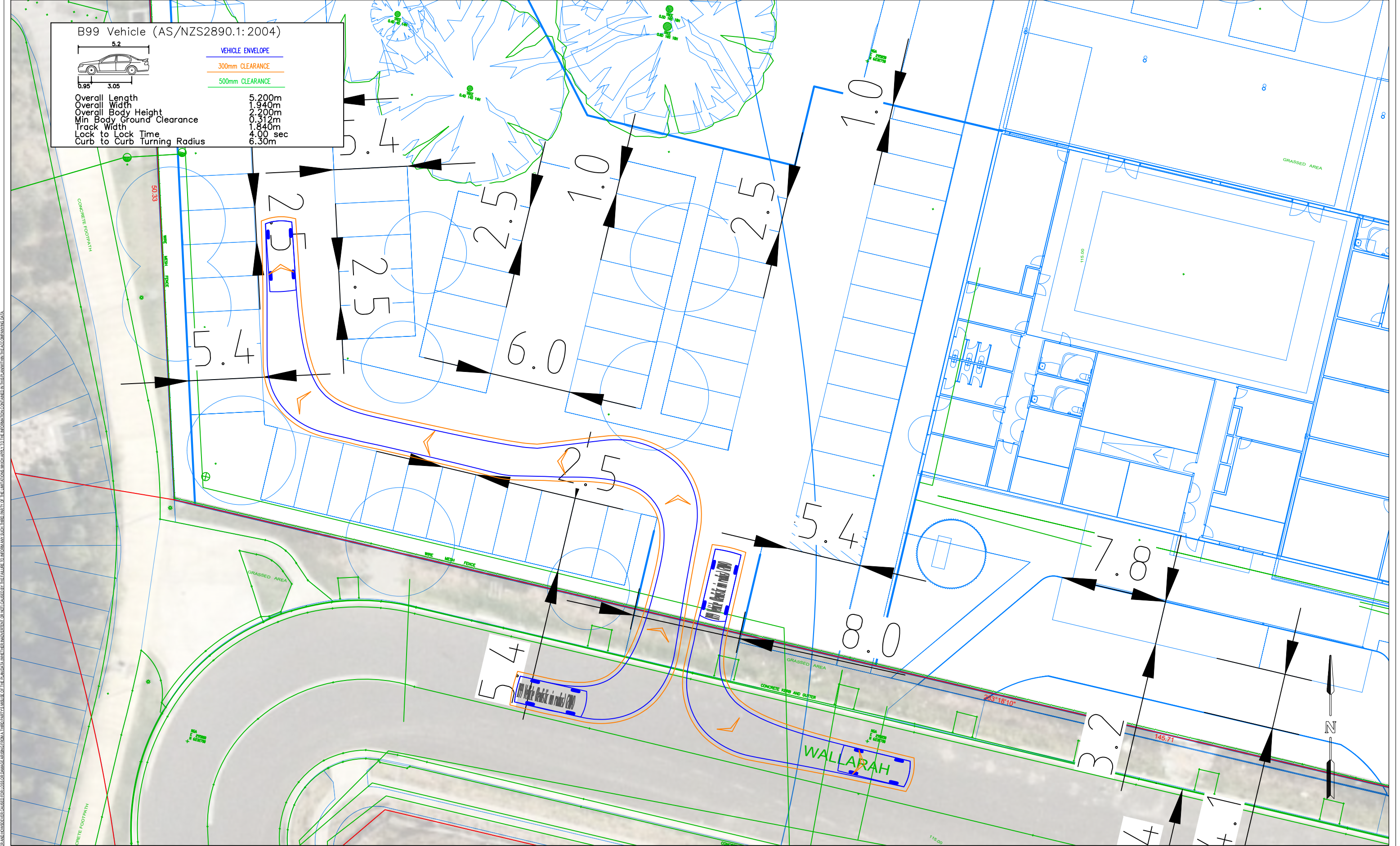
Proposed Pedestrian Infrastructure Option 02



Appendix I. Design Review

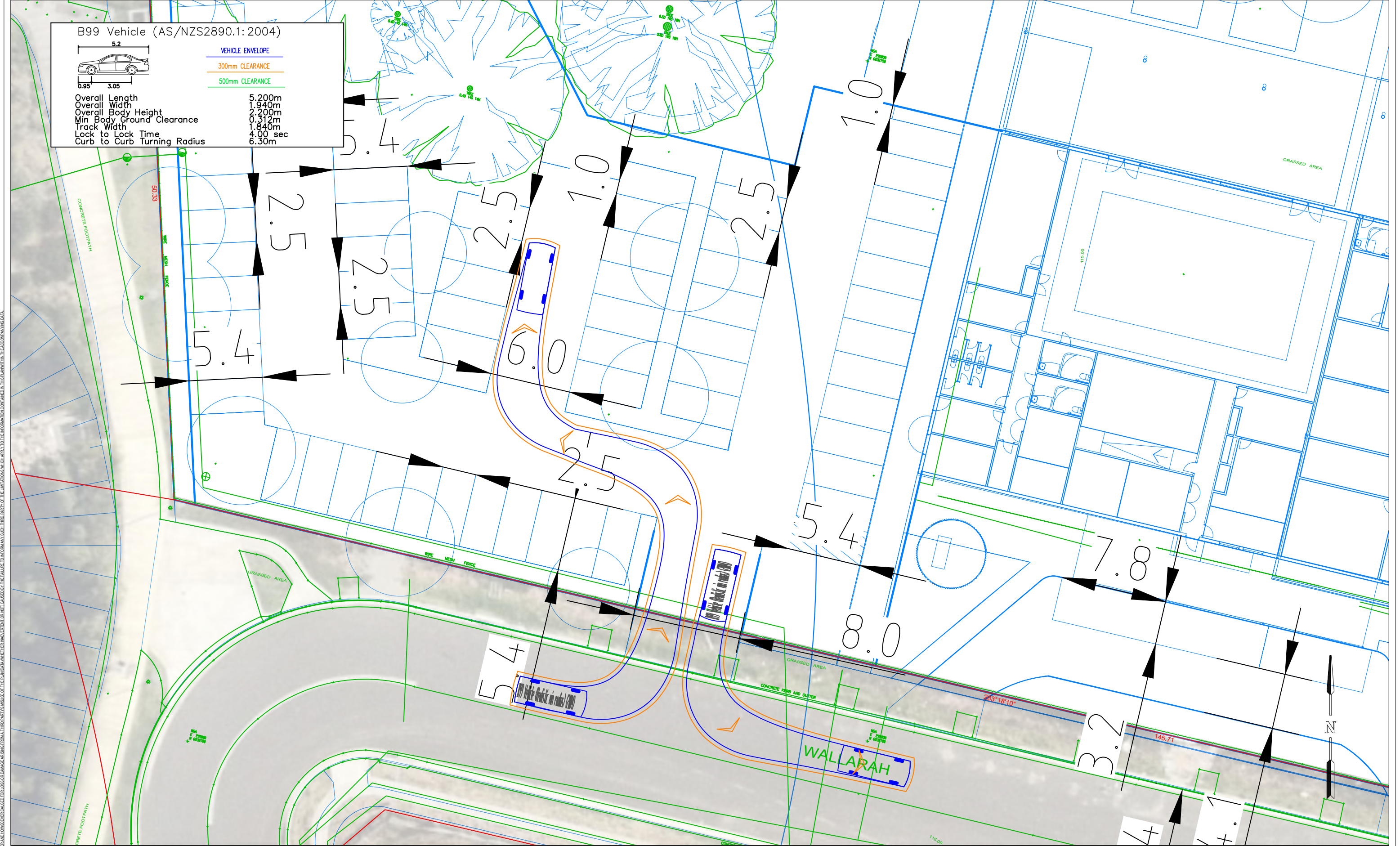


<div>GENERAL NOTES</div> <div>This drawing is provided for information purposes only and should not be used for construction. Base Plan (blue) prepared by Bennett and Trimble, received 20.09.22, survey (green) provided by Jacobs, received 28.03.22. Long Reef Circuit has a posted speed limit of 50km/hr. Swept path assessments completed at 5km/hr internally and 10 km/h externally and 300mm clearance.</div>	DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION		
	Meg Kong	A3	SINSW	GENERAL ASSESSMENT		
	APPROVED BY	DATE	PROJECT			
	X.XXXX	25.08.2021	1998			
SCALE	0 5 10		NEW PRIMARY SCHOOL AT GREGORY HILLS		FILE NAME	SHEET
2:1					AG1998-03-v05.dwg	AG00
<div><div>asongroup</div><div>Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au</div></div>						



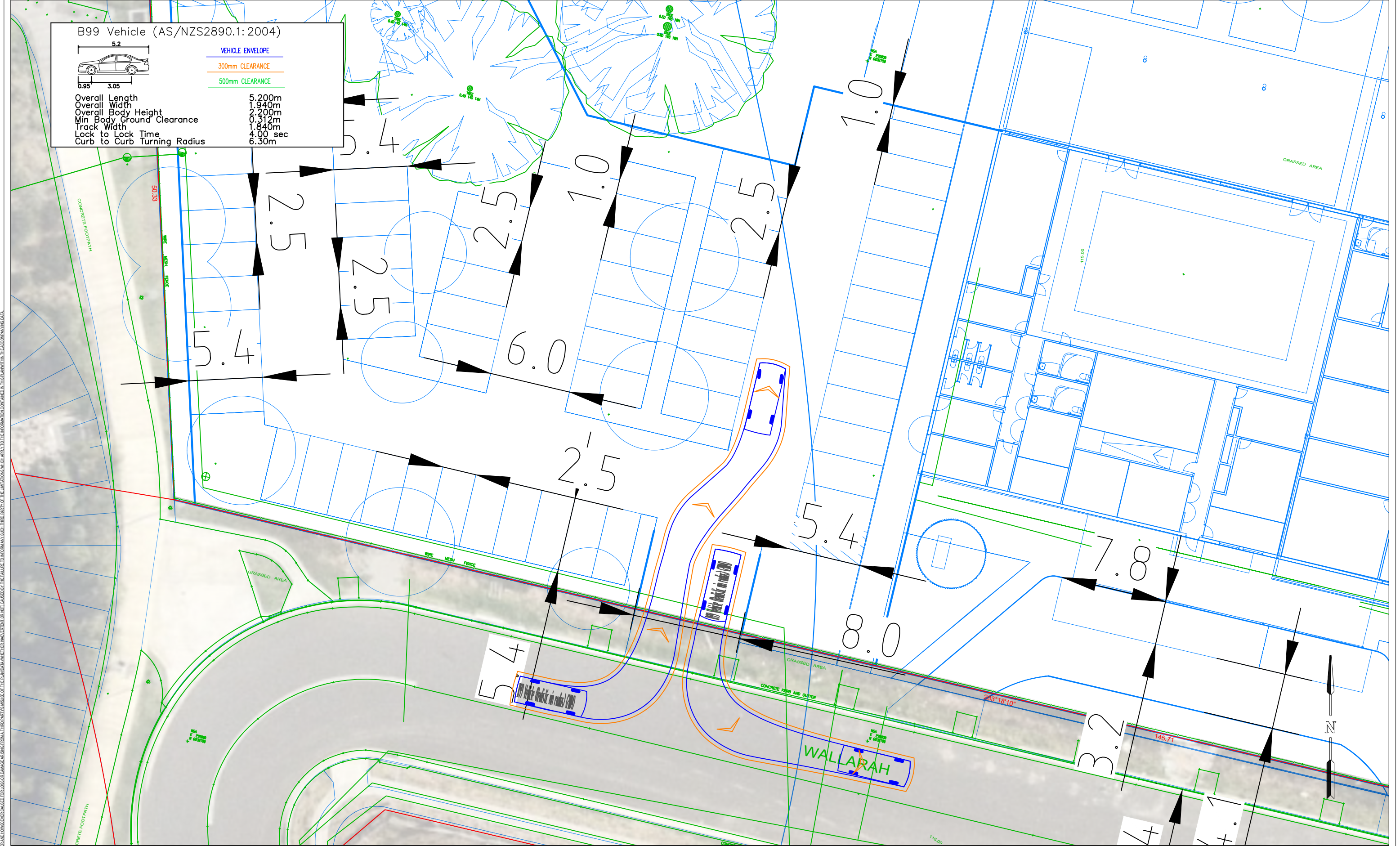
GENERAL NOTES This drawing is provided for information purposes only and should not be used for construction. Base Plan (blue) prepared by Bennett and Trimble, received 20.09.22, survey (green) provided by Jacobs, received 28.03.22. Long Reef Circuit has a posted speed limit of 50km/hr. Swept path assessments completed at 5km/hr internally and 10 km/h externally and 300mm clearance. Design vehicle: B99 Vehicle Check Vehicle: B99 Vehicle		DESIGNED Meg Kong	PAPER SIZE A3	CLIENT SINSW	DOCUMENT INFORMATION	
		APPROVED BY X.XXXX	DATE 25.08.2021	PROJECT 1998	SWEPT PATH ASSESSMENT	
		SCALE 1:250_m		NEW PRIMARY SCHOOL AT GREGORY HILLS	STAFF CAR PARK ACCESS	SHEET AG01
					FILE NAME AG1998-03-v05.dwg	

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info@asongroup.com.au



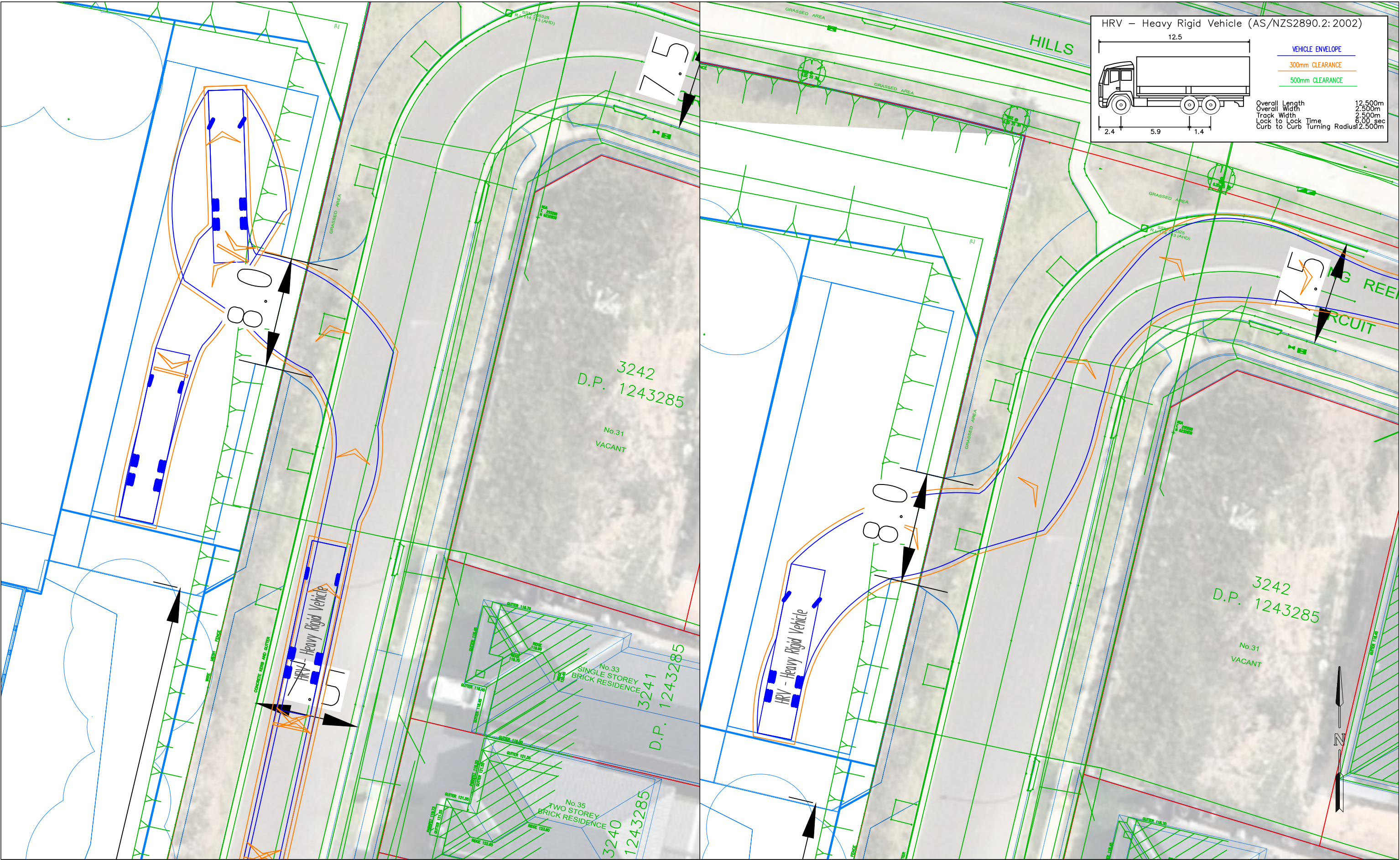
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		APPROVED BY X.XXXX	DATE 25.08.2021	PROJECT 1998	SWEPT PATH ASSESSMENT	
		SCALE 1:250_m		NEW PRIMARY SCHOOL AT GREGORY HILLS	STAFF CAR PARK ACCESS	
					FILE NAME AG1998-03-v05.dwg	SHEET AG02

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info@asongroup.com.au



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		APPROVED BY X.XXXX	DATE 25.08.2021	PROJECT 1998	SWEPT PATH ASSESSMENT	
		SCALE 1:250_m		NEW PRIMARY SCHOOL AT GREGORY HILLS	STAFF CAR PARK ACCESS	
					FILE NAME AG1998-03-v05.dwg	SHEET AG03

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GENERAL NOTES

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Base Plan (blue) prepared by Bennett and Trimble, received 20.09.22, survey (green) provided by Jacobs, received 28.03.22.

Long Reef Circuit has a posted speed limit of 50km/hr.

Swept path assessments completed at 5km/hr internally and 10 km/h externally and 300mm clearance.

Design vehicle: MRV Check Vehicle: HRV

DESIGNED	PAPER SIZE
Meg Kong	A3
APPROVED BY	DATE
X.XXXX	25.08.2021
SCALE	
1:250_m	0 2.5 5

CLIENT	
SINSW	
PROJECT	
1998	
NEW PRIMARY SCHOOL AT GREGORY HILLS	

DOCUMENT INFORMATION	
SWEPT PATH ASSESSMENT	
WASTE PAD ACCESS	
FILE NAME	SHEET
AG1998-03-v05.dwg	AG04

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Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au