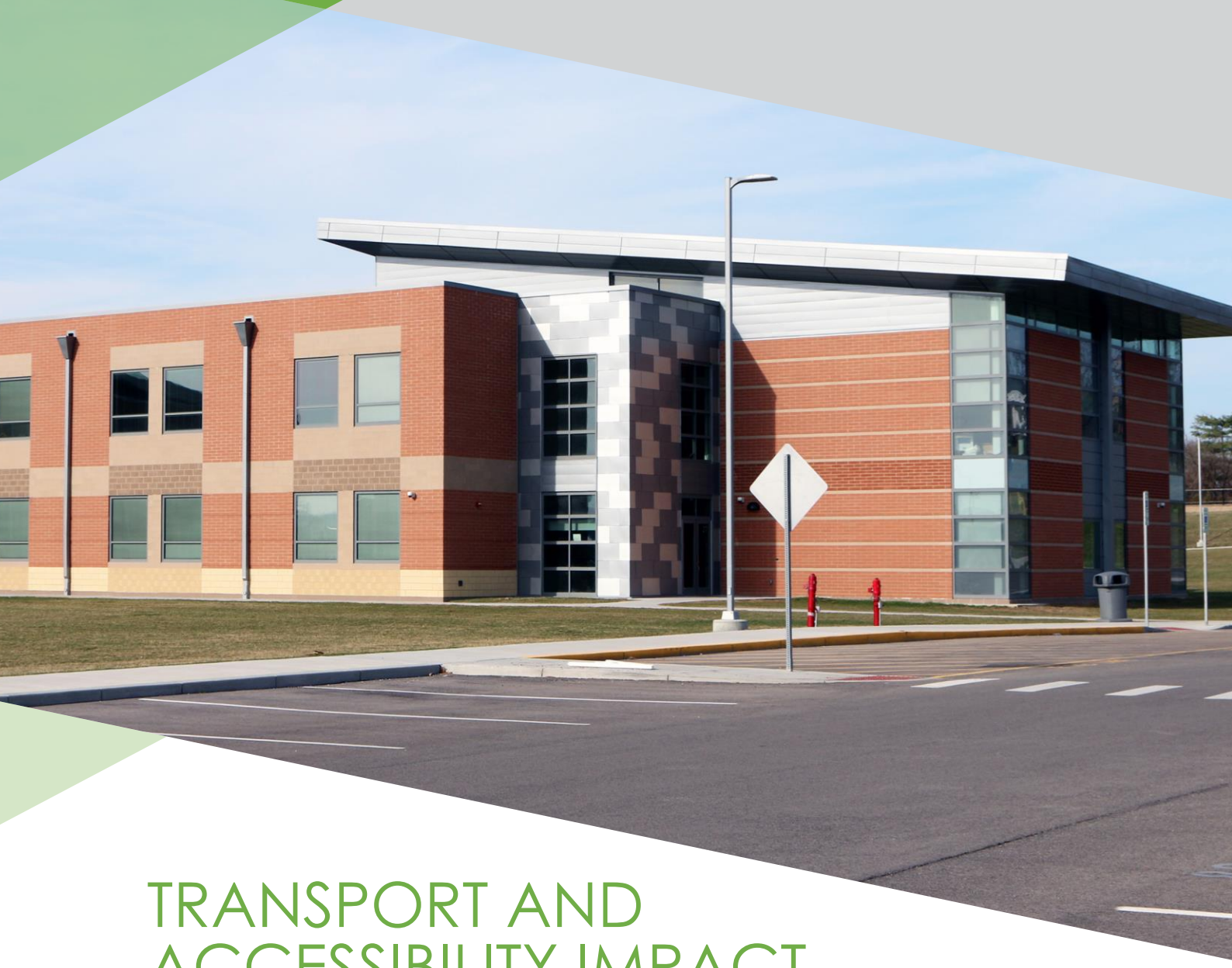
TRAFFIX
TRAFFIC AND TRANSPORT PLANNERS



TRANSPORT AND ACCESSIBILITY IMPACT ASSESSMENT

Eileen O'Connor Catholic School
84 Gavenlock Road, Mardi NSW 2259
SSD - 67173718

Reference: 23.104r01v05
Date: July 2025

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DOCUMENT VERIFICATION

Job Number	23.104			
Project	Proposed Eileen O'Connor Catholic School			
SSDA No.	SSD-67173718			
Client	Catholic Schools Broken Bay			
Revision	Date	Prepared By	Checked By	Signed
v05	07/07/2025	Stephan Hoang	Ben Liddell	

TRAFFIX

CONTENTS

1. INTRODUCTION

TRAFFIX has been commissioned by Catholic Schools Broken Bay to prepare a Transport and Accessibility Impact Assessment (TAIA) report in accordance with the technical requirements of the Secretary's Environmental Assessment Requirements (SEARs), and in support of the State Significant Development Application (SSD-67173718) for the proposed school at Lot 9 Section 4 on DP3368, Mardi, NSW.

The development is located within the Central Coast Local Government Area and has been assessed under that Council's controls. Reference should also be made to the Preliminary Construction Traffic and Pedestrian Management Plan and Green Travel Plan, prepared by TRAFFIX and submitted separately.

This report documents the findings of our investigations and should be read in the context of the Environmental Impact Statement (EIS), prepared separately.

The report is structured as follows:

- Section 2: Describes the site and its location
- Section 3: Summarises the relevant statutory policies and strategic plans
- Section 4: Outlines the SEARs and Council requirements
- Section 5: Documents existing traffic conditions
- Section 6: Describes the proposed development
- Section 7: Assesses the parking requirements
- Section 8: Assesses the traffic impacts
- Section 9: Preliminary Operational Traffic Management Plan
- Section 10: Discusses access and internal design aspects
- Section 11: Summaries the agency consultation
- Section 12: Presents the overall study conclusions

2. LOCATION AND SITE

The proposed site is within the north-western corner of the existing St Peters Catholic College site at 84 Gavenlock Road, Mardi (Lot 9, Section 4 in Deposited Plan (DP) 3368). The proposed Eileen O'Connor Catholic School site (identified in red) will have an area of 1.284 hectares, with frontage to Keefers Glen. In a regional context, it is located approximately 1.27 kilometres north-west of Tuggerah Railway Station and is approximately 15 kilometres north-east of the Gosford Central Business District.

It has a western frontage to Keefers Glen measuring approximately 86.7 metres, a northern boundary to residential properties, and eastern and southern boundaries to St Peters Catholic College. The site currently accommodates a dam, shed, and netball courts.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**. Reference should also be made to the Photographic Record presented in **Appendix A**, which provides an appreciation of the general character of roads and other key attributes in proximity to the site.

Figure 1: Location Plan

Figure 2: Site Plan

3. STRATEGIC CONTEXT

3.1 Strategic Plans

3.1.1 Future Transport Strategy 2056

This transport strategy document presents a vision for the transport system across NSW. The strategy outlines ideas to revitalise six (6) key cities, connect regional communities, and encourage thriving local neighbourhoods. The Six Cities Region includes the Lower Hunter and Greater Newcastle City, the Central Coast City, the Illawarra-Shoalhaven City, the Western Parkland City, the Central River City, and the Eastern Harbour City. The 30-minute concept outlined in the strategy will provide more 24/7 travel choices and seamless connections between transport modes, including walking and cycling. The key destinations that should be accessible by public transport within 30-minutes of cities is shown in **Figure 3** below:

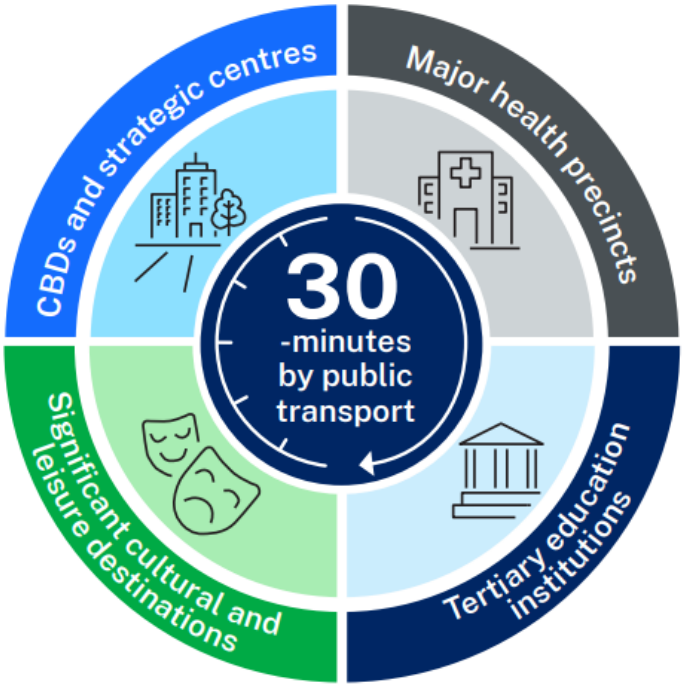


Figure 3: Key Destinations with 30-minutes of Cities

(Source: future.transport.nsw.gov.au)

3.1.2 State Infrastructure Strategy 2022 – 2042

The State Infrastructure Strategy is a 20-year infrastructure plan for the NSW Government which provides recommendations to best grow the State's economy, enhance productivity and improve living standards.

Specifically, in relation to integrating land use and infrastructure planning the strategy identifies the provision and use of infrastructure with the Greater Sydney Commission's three cities vision and the 10 Regional Plans is critical to maximising the effectiveness, efficiency, and endurance of both new and existing infrastructure. A summary of the key recommendations is presented below:

- Link integrated strategic land use and infrastructure planning;
- Support efficient development through shared-use corridors;
- Identify and protect corridors; and
- Strengthen government planning processes.

In summary, this document serves to support the three cities vision that is envisaged by the Future Transport Strategy 2056, looking beyond current projects and identifies policies and strategies that are required to provide infrastructure that will meet the demands of a growing population and economy.

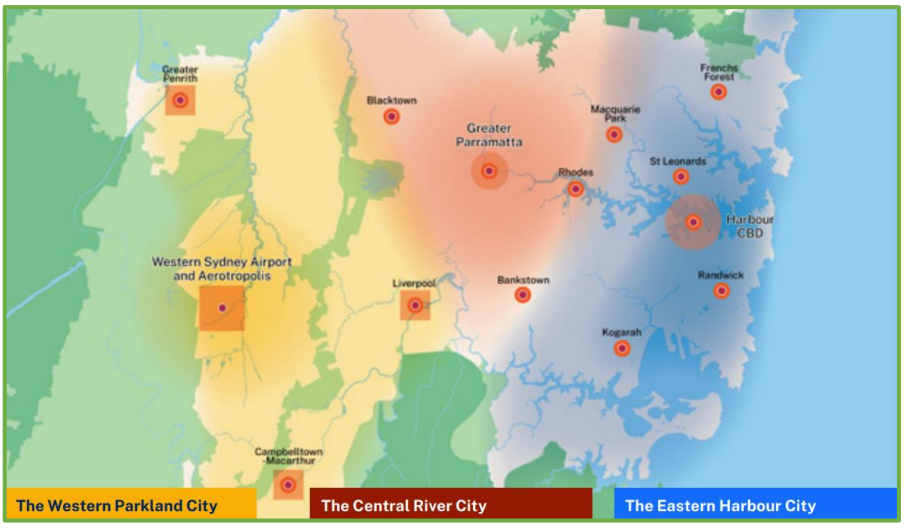


Figure 4: Three City Model

(Source: infrastructure.nsw.gov.au)

3.1.3 Central Coast Regional Plan 2041

This 20-year regional plan for the Central Coast Local Government Area has been prepared in collaboration with state agencies, Central Coast Council, and the Darkinjung Local Aboriginal Land Council. This plan was prepared alongside Transport for NSW's Central Coast Regional Transport Plan to coordinate a long-term vision for multimodal transport planning, noting the following transport planning objectives:

- Increased jobs closer to Central Coast residents;
- Connected region with a reduced dependency for private vehicles; and
- Reduced carbon emissions with an emphasis on sustainable infrastructure.

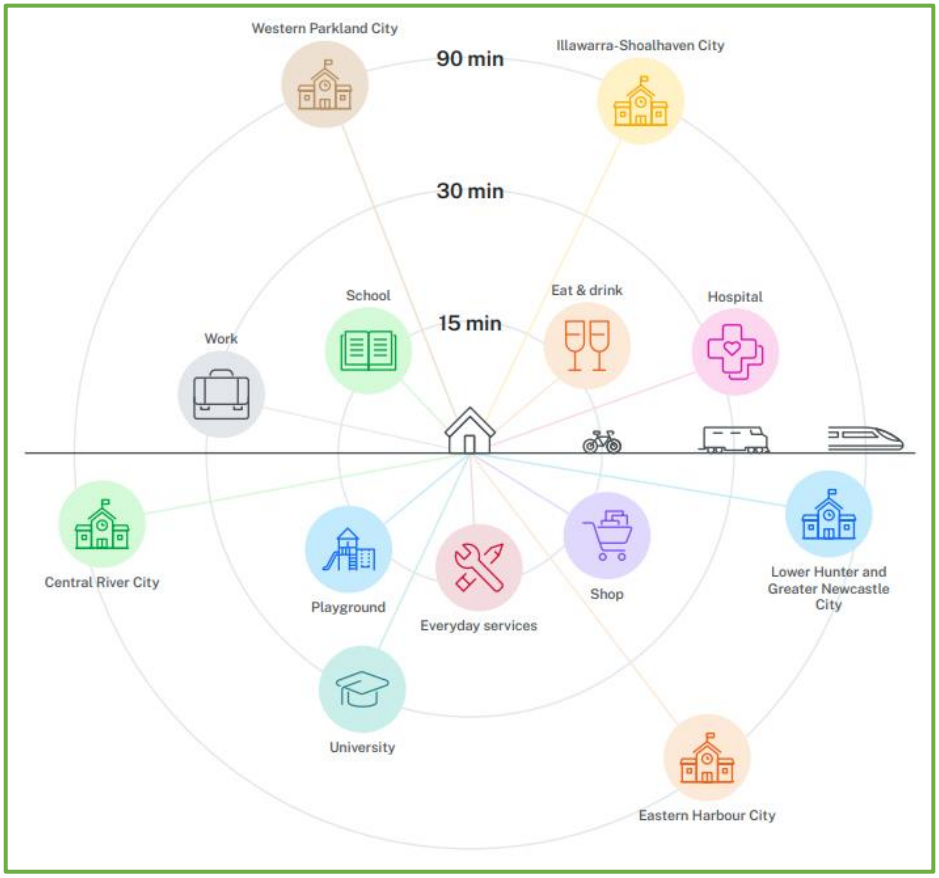


Figure 5: Key Destinations with 30-minutes of Cities

(Source: planning.nsw.gov.au)

3.1.4 Transport for NSW's Central Coast Regional Transport Plan

The Central Coast Regional Transport Plan provides a blueprint for the future of transport within the Central Coast region and a strategic direction for the delivery of major transport infrastructure and service projects over the next 20 years. The long-term vision provided within the Central Coast Regional Transport Plan seeks to achieve the following objectives:

- Upgrades and maintenance of approximately 256.52km of major roads, 869 bridges and local road networks within the region;
- Road safety and traffic management improvements throughout the region, for vehicle, cyclist, and pedestrians; and
- Upgrades and maintenance of railway stations and adjacent infrastructure such as commuter and staff parking, as well as upgrades to the public transport services within the region.

3.1.5 Summary

The subject development aligns with the above strategic policies by catering to a growing population, providing jobs for Central Coast residents, reducing dependency on private vehicles through the use of the Assisted School Travel Program and implementation of a Green Travel Plan, and improving public infrastructure through Section 7.11 contributions.

3.2 Development Control Plan

This plan provides development controls for developments within the Central Coast region. In relation to transport planning, this plan provides on-site parking provisions for various types of developments with an emphasis on public transport and active travel, noting the following relevant objectives:

- To accommodate an appropriate provision of on-site parking for various developments, keeping a balance between the needs of the proposed development and its use and vehicular, bicycle and pedestrian traffic;
- To ensure all parking areas provide sufficient manoeuvring areas for bicycles, light vehicles, and service vehicles;

- To promote the efficient use of car parking spaces through the consolidation of available car parking facilities; and
- To encourage the utilisation of public transport and active travel and reduce car parking demand over time.

3.3 Assisted School Travel Program (ASTP)

The Department of Education Assisted School Travel Program (ASTP) provides free specialised transport for eligible students with disability. As the proposed Eileen O'Conner Catholic School is specifically catered towards students with disability, it is envisioned that most students could be eligible for the travel program, with the school confirming that approximately 85% of students will likely utilise the program (based on experience with similar developments). The program links students with Assisted Travel Support Officers (ATSOs) which provide private transportation to and from school. The transportation services typically collect 1-9 students per route using a range of different vehicles, from standard passenger vehicles to larger commuter vans. More information relating to the ASTP can be found here: https://education.nsw.gov.au/schooling/parents-and-carers/going-to-school/astp.

4. ASSESSMENT REQUIREMENTS

4.1 SEARs Requirements

The Planning Secretary's Environmental Assessment Requirements (SEARs) outlines the transport and accessibility requirements for the SSD as stated below in **Table 1**.

Table 1: SEARs Requirements and References

SEARs Requirements	Reference
Traffic, Transport and Accessibility	
An analysis of the existing transport network, including the road hierarchy and any pedestrian, bicycle or public transport infrastructure, current daily and peak hour vehicle movements, and existing performance levels of nearby intersections.	**Refer to Section 5**
Details of the proposed development, including 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) and bus bays (if applicable), and provisions for servicing and loading/unloading.	**Refer to Sections 6, 7 & Appendix D**
Analysis of the impacts of the proposed development during construction and operation (including justification for the methodology used), including 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, identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cyclist conflict), and any cumulative impact from surrounding approved developments.	**Refer to Section 8 and CTMP Report prepared separately**
Measures to mitigate any traffic impacts, including details of any new or upgraded infrastructure to achieve acceptable performance and safety, and the timing, viability and mechanisms (including proposed arrangements with local councils or government agencies) of delivery of any infrastructure improvements in accordance with relevant standards.	**Refer to Section 8**
Measures to promote sustainable travel choices for employees, students and visitors, such as connections into existing walking and cycling networks, minimising car parking provision, encouraging car share and public transport, providing adequate bicycle parking and high quality end-of-trip facilities, and implementing a Green Travel Plan.	**Refer to Green Travel Plan prepared separately**
A preliminary operational traffic and access management plan for the development, including drop-off/pick-up zones, bus bays and their operations.	**Refer to Section 9**
Provide a Construction Traffic Management Plan detailing predicted construction vehicle 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 managed and mitigated.	**Refer to CTMP prepared separately**

4.2 Council Requirements

The Central Coast Council has reviewed the proposed scheme and provided their formal pre-development advice. The comments are outlined in **Table 2** below.

Table 2: Council Pre-DA Advice

Pre-DA Advice	Reference
Engineering and Traffic – 20 September 2023 Feedback	
Access to the proposed school is via the existing public road network through the existing residential subdivision. Council's traffic and transport engineer has provided comments and does not support any vehicle access via the use of Keefers Glen Road. An alternate access via the existing access arrangement from Gavenlock Road would be recommended.	**Refer to Section 8 and 10**
Proposed access via Gavenlock Road shall include a Traffic Assessment Report undertaken by a qualified and experienced civil/traffic/transport engineer. A preliminary access/intersection design shall be provided to support the application.	**Refer to Section 8 and 10**
The internal off-street carparking area will be required to be in accordance with the current version AS/NZS 2890. The design of the off-street carparking area shall be undertaken by a suitably qualified and experienced civil engineering consultant. The plans shall include a swept path analysis of the largest design vehicle overlaid on the carpark plans to demonstrate a compliant carpark and access design.	**Refer to Sections 10 & Appendix D**
The applicant seeks vehicular access for passenger vehicles and Buses to the new school via Keefers Glen on the western boundary of the site which is essentially a narrow lane which services 16 residential dwellings. Council will not support this proposal for the following reasons. • The proposed special needs school will generate considerably higher passenger vehicular movements than other schools of similar size. • Residents amenity will be severely affected by traffic and parking generated by the proposal. • Keefers Glen was not constructed to facilitate traffic loading associated with a traffic generating development. • The western boundary of the site is fully fenced, partly to prevent parents and students accessing the existing school via Keefers Glen. • The existing intersections in the vicinity of Keefers Glen will not support the swept path of buses. • All access to the new school is to be provided via the existing driveway on Gavenlock Road.	**Refer to Section 8 & Appendix D**

Engineering and Traffic – 10 July 2024 Feedback	
Concern is raised with the proposed vehicular access to the development from Keefers Glen, as the intended traffic will have a detrimental impact on the traffic movements and car parking through the existing residential area and impact on the amenity of the existing residents. The proposed vehicular access to the intended development should utilise the existing vehicular access to the site from Gavenlock Road. Please refer to the comments provided by Council's Traffic and Engineer.	**Refer to Section 8 and 10**
2.13 Transport and Parking Clause 2.13.3 of CCDCP 2022 requires the following car parking to be provided for the school containing primary and high school students: Primary school: 1 space per staff member and 14 drop off spaces (can be on-street) per 100 students. Secondary school: 1 space per staff and 7 drop off spaces (maybe onstreet) Minimum of 2 spaces for disabled students to be provided on site for Primary and Secondary and 1 space for Pre-schools 1 space per 8 senior/adult students for student parking Bus standing areas, parent drop-off and set-down are to be provided subject to a Transport Management Plan (TMP) based on anticipated mode split Adequate 'Kiss-and-Ride' facility is to be provided at all education establishments and is to be addressed in the TMP. It is suggested that details of the staff levels and the number of students (primary and secondary) are outlined within the required traffic and parking assessment report to demonstrate that the site can cater for the required car parking in accordance with the DCP car parking requirements and that there will be no impact on traffic movements in the vicinity of the site. Any variations to the required car parking requirements are to be suitably justified within the EIS and required traffic and parking impact assessment report.	**Refer to Section 7**
The applicant seeks vehicular access for passenger vehicles and Buses to the new school via Keefers Glen on the western boundary of the site which is essentially a narrow lane which services 16 residential dwellings. Council will not support this proposal for the following reasons. • The proposed special needs school will generate considerably higher passenger vehicular movements than other schools of similar size. • Residents amenity will be severely affected by traffic and parking generated by the proposal. • Keefers Glen was not constructed to facilitate traffic loading associated with a traffic generating development. • The western boundary of the site is fully fenced, partly to prevent parents and students accessing the existing school via Keefers Glen. • The existing intersections in the vicinity of Keefers Glen will not support the swept path of buses. • All access to the new school is to be provided via the existing driveway on Gavenlock Road.	**Refer to Section 8 & Appendix D**

5. EXISTING TRAFFIC CONDITIONS

5.1 Road Network

The road hierarchy in the vicinity of the site is shown in **Figure 6** with the following roads of particular interest:

- Pacific Highway: a TfNSW Highway (HW 10) that traverses in a north-south direction between the Queensland Border in the north and the Warringah Freeway in the south. Within the vicinity of the site, the Pacific Highway accommodates three (3) lanes of traffic within a divided carriageway and is subject to a 110km/hr speed zoning.
- Wyong Road: a TfNSW Main Road (MR 335), that generally traverses north-south between Old Maitland Road in the north and the intersection of The Entrance Road and Central Coast Highway in the south. In the vicinity of the site, Wyong Road generally accommodates two (2) lanes of traffic in each direction and is subject to a 70km/h speed zoning.
- Woodbury Park Drive: a local collector road that generally traverses north-south between Gavenlock Road in the north and Wyong Road in the south. In the vicinity of the site, Woodbury Road generally accommodates a single lane of traffic in each direction and is subject to a 50km/h speed zoning. Unrestricted kerbside parking is permitted along either side of the road.
- Gavenlock Road: a local road that generally traverses north-south between McPherson Road in the north and Anzac Road in the south. In the vicinity of the site, Gavenlock Road generally accommodates a single lane of traffic in each direction and is subject to 'School Zone' restrictions of 40km/h speed limits between 8:00am-9:30am and 2:30pm-4:00pm on school days and a speed limit of 50km/h outside of these times. Unrestricted kerbside parking is generally permitted along either side of the road.

- Brickendon Avenue: a local road that traverses east-west between Woodbury Park Drive in the east and The Sheiling in the west. Brickendon Avenue accommodates a single lane of traffic in each direction and is subject to a 50km/h speed zoning. Unrestricted kerbside parking is permitted along either side of the road.
- Wagners Place: a local road that traverses north-south between a cul-de-sac in the north and Woodbury Park Drive in the south. Wagners Place accommodates a single lane of traffic in each direction and is subject to a 50km/h speed zoning. Unrestricted kerbside parking is permitted along either side of the road.
- Deloraine Glen: a local road that traverses east-west between a cul-de-sac in the east and Wagners Place in the west. Deloraine Glen accommodates a single lane of traffic in each direction and is subject to a 50km/h speed zoning. Unrestricted kerbside parking is permitted along either side of the road.
- Keefers Glen: a local road that traverses north-south between Brickendon Avenue in the north and Deloraine Glen in the south. Keefers Glen generally accommodates a single lane of traffic in each direction and is subject to a 50km/h speed zoning. Unrestricted kerbside parking is permitted along either side of the road.

It can be seen from Figure 6 that the site is conveniently located with access to collector roads, and main arterial road serving the region, being Woodbury Park Drive and Wyong Road. As such, traffic can effectively be distributed onto the wider road network, minimising traffic impacts.

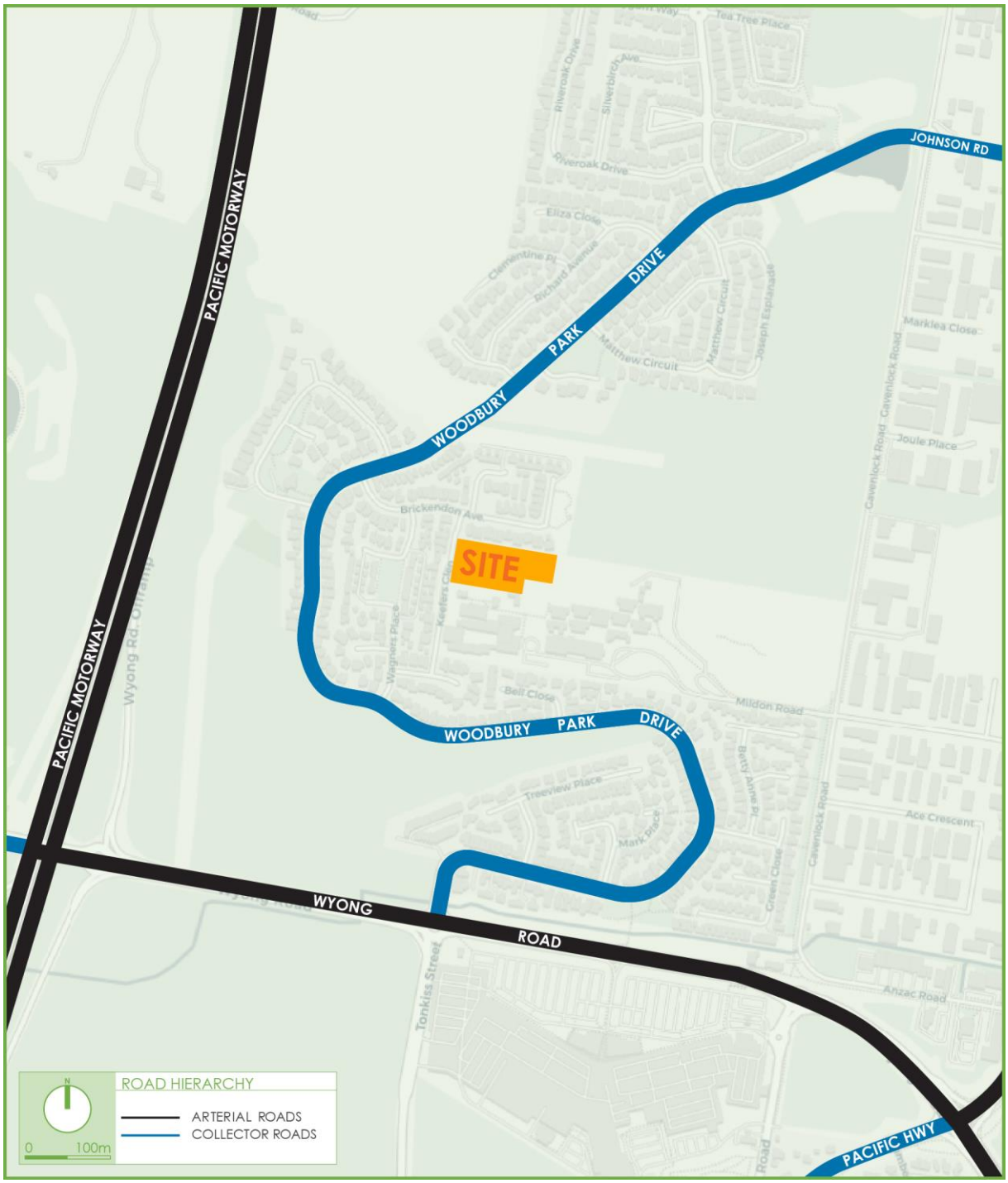


Figure 6: Road Hierarchy

5.2 Key Intersections

5.2.1 Wyong Road, Woodbury Park Drive, and Tonkiss Street

It can be seen from **Figure 7** that the intersection of Wyong Road, Woodbury Park Drive, and Tonkiss Street is a four-legged roundabout intersection. The main attributes of each approach outlined as follows:

Figure 7: Intersection of Wyong Road, Woodbury Park Drive and Tonkiss Street

- Wyong Road (east and west legs)
  - Both the eastbound and westbound approach provide a single through / left turn lane and single through / right turn lane.
- Woodbury Park Drive (north leg)
  - The southbound approach provides two (2) approach lanes comprising a single through / left turn lane and single through / right turn lane.
- Tonkiss Street (south leg)
  - The northbound approach provides two (2) approach lanes comprising a single through lane and a single through / right turn lane. A dedicated left turn slip lane is also provided.

5.2.2 Woodbury Park Drive and Wagners Place

It can be seen from **Figure 8** that the intersection of Woodbury Park Drive and Wagners Place is a three-legged priority intersection. The main attributes of each approach outlined as follows:

Figure 8: Intersection of Woodbury Park Drive and Wagners Place

- Woodbury Park Drive (east and west legs)
  - The eastbound approach provides a single lane of through traffic with left turn movements permitted.
  - The westbound approach provides a single lane of through traffic with right turn movements permitted.
- Wagners Place (north leg)
  - The southbound approach provides a single lane of traffic with left and right turn movements permitted.

5.2.3 Woodbury Park Drive and Brickendon Avenue

It can be seen from **Figure 9** that the intersection of Woodbury Park Drive and Brickendon Avenue is a three-legged priority intersection. The main attributes of each approach outlined as follows:

Figure 9: Intersection of Woodbury Park Drive and Brickendon Avenue

- Woodbury Park Drive (east and west legs)
  - The eastbound approach provides a single lane of through traffic with right turn movements permitted.
  - The westbound approach provides a single lane of through traffic with left turn movements permitted.
- Brickendon Avenue (south leg)
  - The northbound approach provides a single lane of traffic with left and right turn movements permitted.

5.2.4 Wagners Place and Deloraine Glen

It can be seen from **Figure 10** that the intersection of Wagners Place and Deloraine Glen is a three-legged priority intersection. The main attributes of each approach outlined as follows:

Figure 10: Intersection of Wagners Place and Deloraine Glen

- Wagners Place (north and south legs)
  - The northbound approach provides a single lane of through traffic with right turn movements permitted.
  - The southbound approach provides a single lane of through traffic with left turn movements permitted.
- Deloraine Glen (east leg)
  - The westbound approach provides a single lane of traffic with left and right turn movements permitted.

5.2.5 Deloraine Glen and Keefers Glen

It can be seen from **Figure 11** that the intersection of Deloraine Glen and Keefers Glen is a three-legged priority intersection. The main attributes of each approach outlined as follows:

Figure 11: Intersection of Deloraine Glen and Keefers Glen

- Deloraine Glen (east and west legs)
  - The eastbound approach provides a single lane of through traffic with left turn movements permitted.
  - The westbound approach provides a single lane of through traffic with right turn movements permitted.
- Keefers Glen (north leg)
  - The southbound approach provides a single lane of traffic with left and right turn movements permitted.

5.2.6 Brickendon Avenue and Hawthorne Place

It can be seen from **Figure 12** that the intersection of Brickendon Avenue and Hawthorne Place is a three-legged priority intersection. The main attributes of each approach outlined as follows:

Figure 12: Intersection of Brickendon Avenue and Hawthorne Place

- Brickendon Avenue (east and west legs)
  - The eastbound approach provides a single lane of through traffic with right turn movements permitted.
  - The westbound approach provides a single lane of through traffic with left turn movements permitted.
- Hawthorne Place (south leg)
  - The northbound approach provides a single lane of traffic with left and right turn movements permitted.

5.2.7 Brickendon Avenue and Keefers Glen

It can be seen from **Figure 13** that the intersection of Brickendon Avenue and Keefers Glen is a three-legged priority intersection. The main attributes of each approach outlined as follows:

Figure 13: Intersection of Brickendon Avenue and Keefers Glen

- Brickendon Avenue (east and west les)
  - The eastbound approach provides a single lane of through traffic with right turn movements permitted.
  - The westbound approach provides a single lane of through traffic with left turn movements permitted.
- Keefers Glen (south leg)
  - The northbound approach provides a single lane of traffic with left and right turn movements permitted.

5.3 Existing Intersection Volumes

5.3.1 Peak Hour Volumes

Intersection surveys were conducted at the seven (7) key intersections surrounding the site in 2023. From this, traffic volume data was obtained regarding the existing peak hour conditions in the morning and evening. The total traffic volumes through each key intersection in the critical AM peak and PM peak hours are summarised below.

- Wyong Road, Woodbury Park Drive and Tonkiss Street
  - 3,365 vehicles in the AM peak hour;
  - 3,848 vehicles in the PM peak hour;
- Woodbury Park Drive and Wagners Place
  - 296 vehicles in the AM peak hour;
  - 384 vehicles in the PM peak hour;
- Woodbury Park Drive and Brickendon Avenue
  - 271 vehicles in the AM peak hour;
  - 362 vehicles in the PM peak hour;
- Wagners Place and Deloraine Glen
  - 75 vehicles in the AM peak hour;
  - 88 vehicles in the PM peak hour;
- Deloraine Glen and Keefers Glen
  - 62 vehicles in the AM peak hour;
  - 71 vehicles in the PM peak hour;
- Brickendon Avenue and Hawthorne Place
  - 89 vehicles in the AM peak hour;
  - 88 vehicles in the PM peak hour;
- Brickendon Avenue and Keefers Glen
  - 93 vehicles in the AM peak hour;
  - 77 vehicles in the PM peak hour;

5.3.2 Daily Volumes

No recent TfNSW traffic volume counters are available in the vicinity of the site and the intersection surveys were conducted for the critical morning and evening peak periods only. It should be noted that in accordance with *Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings Management*, peak hour volumes are approximately 8 to 10% of the Average Annual Daily Traffic (AADT) for urban situations. Therefore, the following daily volumes (estimates) can be derived from the peak hour (greater of AM and PM volumes) surveys:

- Wyong Road, Woodbury Park Drive and Tonkiss Street — 38,480 to 48,100 vehicles/day
- Woodbury Park Drive and Wagners Place — 3,480 to 4,800 vehicles/day
- Woodbury Park Drive and Brickendon Avenue — 3,620 to 4,525 vehicles/day
- Wagners Place and Deloraine Glen — 880 to 1,100 vehicles/day
- Deloraine Glen and Keefers Glen — 710 to 888 vehicles/day
- Brickendon Avenue and Hawthorne Place — 890 to 1,113 vehicles/day
- Brickendon Avenue and Keefers Glen — 930 to 1,163 vehicles/day

It is also noteworthy that tube counts were conducted over a seven (7) day period from Friday 8th December 2023 till Thursday 14th December. The tube counts counted an average of 370 total daily vehicles along Keefers Glen, which provides a more realistic percentage of daily volume passing through the intersection of Brickendon Avenue and Keefers Glen, as well as the intersection of Deloraine Glen and Keefers Glen.

It is noteworthy that daily traffic volumes are not a relevant consideration for the assessment of the traffic network, which is based on intersection performance during peak (hourly) periods.

5.4 Sustainable Transport Options

5.4.1 Public Bus Services

The existing bus services that operate in the locality are shown in **Figure 14**, with the routes outlined as follows:

- 16 – The Entrance to Wyong
- 19 – Wyong to Gosford
- 24 – The Entrance to Wyong
- 26 - The Entrance to Wyong

It can be seen from Figure 14 that the school benefits from several bus services operating in the locality, with bus stops located in either direction within 250 metres of the site along Woodbury Park Drive.

Additionally, there are also existing bus services that provide pickup within St Peter's Catholic College in the afternoon, these include:

- 37 - Tuggerah to Gosford via Lisarow
- 79 - Lake Haven to Tuggerah via Woongarrah, Hamlyn Terrace & Wattanobi
- 80 - Tuggerah to Lake Haven via Pacific Hwy & Lake Haven Dr
- 82 - Lake Haven to Tuggerah via Wyongah, Tuggerawong & Tacoma
- 93 - Noraville to Tuggerah via Wyong & Toukley

5.4.2 Railway Services

The school is also serviced by Tuggerah Railway Station which is located approximately 1.3 kilometres southeast of the site, which provides services along the CCN Central Coast and Newcastle Line and South Coast Line, linking the site to the Sydney CBD, Hornsby, Newcastle, and the surrounding railway network.

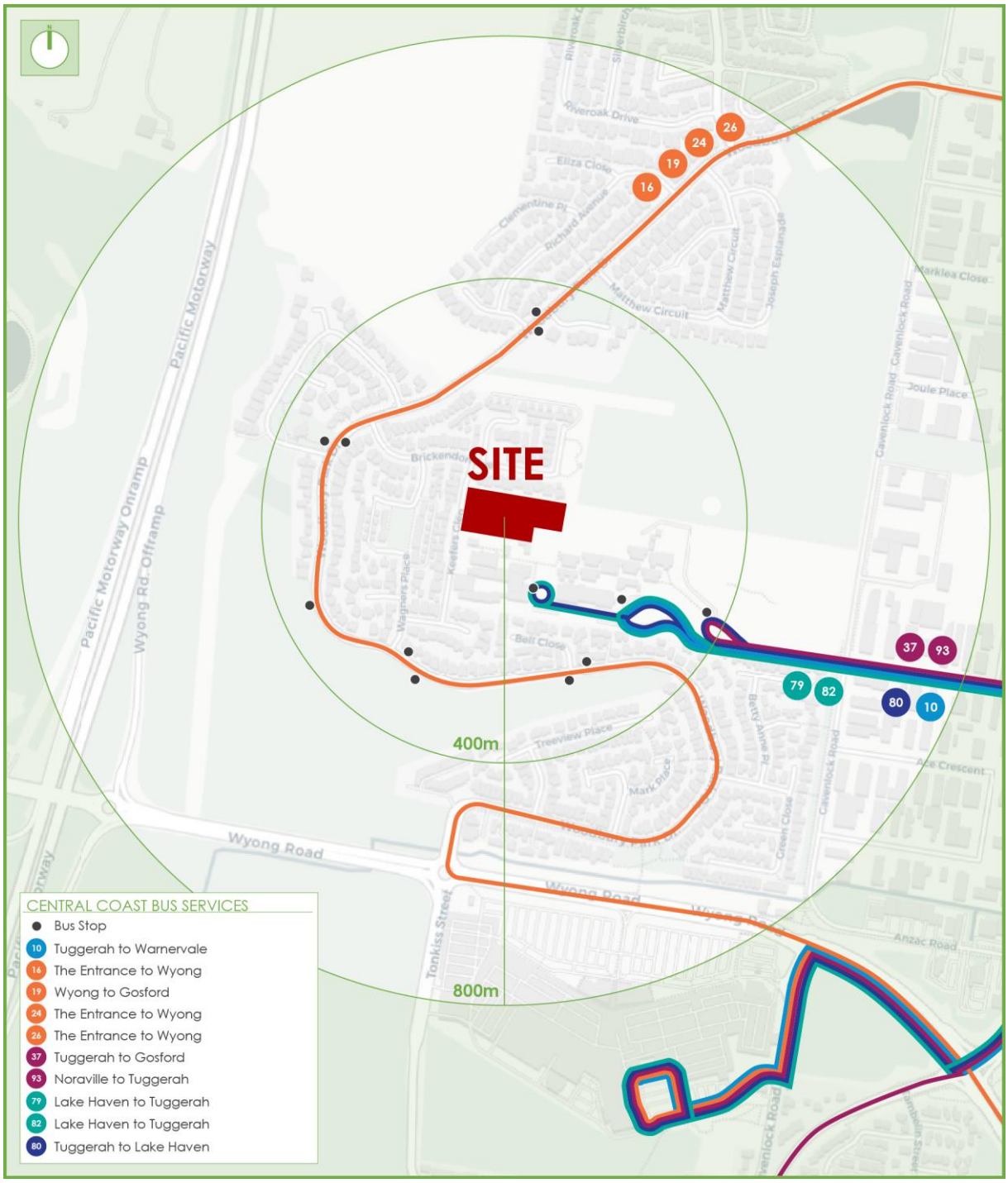


Figure 14: Public Transport

5.5 School Zones

The frontage of the proposed school currently accommodates 50km/h speed zoning. It is expected that a 40km/h school zone would be installed within the vicinity of the school, subject to SSDA approval and Transport for NSW assessment.

5.6 School Crossing Supervisor

The NSW school crossing supervisor program was contacted to determine the requirement for an application for a school crossing supervisor adjacent to the school. The School Crossing Supervisor Program assesses the nominated site against a set criterion. For a site to be eligible for a school crossing supervisor it must meet the following criteria:

- The site must have an existing children's crossing, pedestrian crossing (zebra) or combined crossing (children's and zebra).
- The crossing must be used by infant and/or primary school children.
- The site must be located within a 40km/h school zone.
- In the morning or afternoon, the crossing must register counts of either:
  - 50 or more unaccompanied infant and/or primary school children, or
  - 300 or more passenger car units (heavy vehicles over three tonnes unladen are counted as two passenger car units).
- The site must be considered a safe working environment for a school crossing supervisor.

It is noted that no children's crossings, pedestrian crossings are located within proximity of the subject site, and as such, the school will not be eligible for a crossing supervisor, based on the criteria listed above.

5.7 Pedestrian Infrastructure

The majority of public streets within the Mardi suburb provide grassed verges only with no formal paved pedestrian footpaths. Intersections generally have formed kerb ramps for future footpath connections. A shared pedestrian / cycle path is located along a section of Woodbury Park Drive, providing connections to the north towards the Pacific Highway. As part of the proposed development, a new pedestrian pathway is proposed along Keefers Glen

from the Eileen O'Conner Catholic School site to the intersection of Keefers Glen and Brickendon Avenue.

5.8 Cycling Infrastructure

The site is also located in proximity to separated, off-road shared paths and bicycle friendly roads available throughout the area. These cycleways can be used concurrently with other bicycle routes to provide connections to various areas. It is also noted that primary school aged children are permitted to cycle on pedestrian footpaths, where available. The existing cycling facilities and those that are proposed to be constructed in the future are presented in **Figure 15**, with the cycleways summarised as follows:

- Off-road Shared Paths: Sections of Woodbury Park Drive and Gavenlock road accommodate an off-road shared path. These paths provide access to areas such as Tuggerah and Wyong.
- Low-Traffic On-road Routes: Woodbury Park Drive accommodates low-traffic on-road routes. These routes provide access to areas such as Tuggerah and Wyong.
- Road Shoulder Routes: Wyong Road provides road shoulders accessible to cyclist. These routes provide access to areas such as Tuggerah and Wyong.

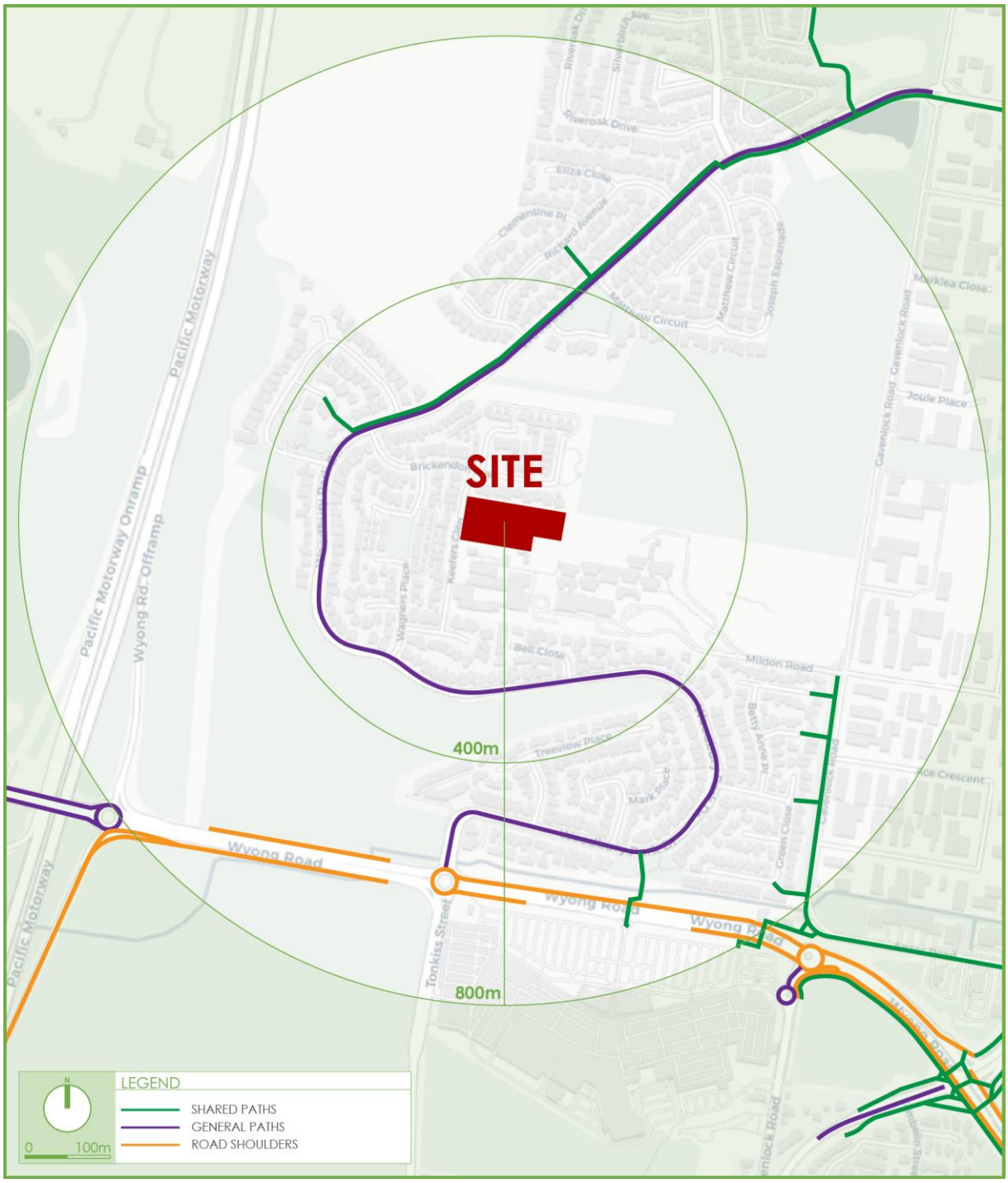


Figure 15: Existing Cycle Infrastructure

6. DESCRIPTION OF PROPOSED DEVELOPMENT

Catholic Schools Broken Bay (CSBB) is proposing construction of a new school for students with a disability at the purpose-built K-12 Eileen O'Connor Catholic School using land located in the north-western corner of St Peter's Catholic School at 84 Gavenlock Road, Mardi. The school will have capacity for 200 students and will provide education and allied health facilities.

The proposed development involves:

- Tree removal and infill of existing dam
- Site establishment and benching
- Construction of a part-two, part-three storey school campus comprising 20 General Learning Areas (GLA), flexible specialist learning areas, library, multipurpose hall, administration, staff facilities, storage, landscaping and playspaces
- Construction of two (2) new vehicle accessways from Keefers Glen and at-grade carpark (including bus parking) and covered drop off/pick up area
- Subdivision of land to create a new allotment for the school
- Widening of a portion of Keefers Glen

The parking and traffic impacts arising from the development in its entirety are discussed in **Section 7** and **Section 8**. Reference should be made to the architectural plans submitted separately to the Department of Planning and Environment which are presented at reduced scale in **Appendix B**.

7. PARKING REQUIREMENTS

7.1 Travel Characteristics

As the subject application relates to a new school with unique operational requirements, the below travel characteristics are expected based on the school's experience with similar types of development.

- No students will be allowed to drive to school, and this is unlikely given the nature of the school;
- 85% of students will use the assisted school travel program;
- 15% of students will arrive/depart via private vehicle (parents/carers);
- 100% of students are dropped-off/pick-up with no parents/carers allowed to exit vehicles;
- Drop-off/pick-up (DOPU) activities are highly managed, with staff escorting students to/from vehicles and the school marshalling area;
- ASTP vehicles carry between 1 and 9 students per trip, noting the variety of vehicles utilised;
- No students will cycle to/from school;
- It is envisaged that no students will use public transport to and from school, although the school does aim to support and assist students who are capable; and
- 90% of teachers will arrive/depart via private vehicles.

The above student and staff travel characteristics should be taken into account when assessing the car parking and traffic impacts of the subject development.

7.2 Car Parking

7.2.1 Staff

The Central Coast Development Control Plan (DCP) 2022, Chapter 2.13, provides car parking rates for school staff as follows:

- 1 car parking space per staff member.

Application of Council's nominal DCP parking rate to 71 staff requires the development to provide a total of 71 staff car parking spaces.

However, the Department of Planning and Environment and the Design Review Panel has advised that a reduced staff parking rate should be explored to improve landscaping and promote active and public transport. TRAFFIX has queried the Australian Bureau of Statistics (ABS) Journey to Work travel mode data for the Tuggerah Area. The ABS data suggests that approximately 86% of people that work in Tuggerah travel to work via private vehicle. As such, the following parking rate is considered appropriate and in-line with current demands;

- 0.86 car parking spaces per staff member.

The application of the above car parking rate requires the development to provide a total of 61 car parking spaces for the 71 staff members. The development proposes a total of 60 off-street staff parking spaces in-line with forecasted ABS demands. It should be noted that a site specific Green Travel Plan has been prepared, which seeks to reduce private vehicle trips for staff below ABS figures.

7.2.2 Student Drop-off and Pick-up

The Central Coast Development Control Plan (DCP) 2022, Chapter 2.13, provides car parking rates for student drop-off and pick-up as follows:

- 14 drop-off and pick-up spaces per 100 primary students; and
- 7 drop-off and pick-up spaces per 100 secondary students.

The above DCP parking rates may be relevant to a standard school, however, do not take into account the unique nature of the subject school and the travel characteristics discussed in Section 7.1 above. Therefore, it is considered appropriate to assess the student car parking requirements using a "first principles" method, having regard for the unique operational characteristics of the development. Specifically, the following factors have been utilised to derive the drop-off/pick-up demands:

- Maximum number of students on-site at any given time;
- 85% ASTP usage;

- ASTP Car Occupancy – Average of 4 students/vehicle;
- 15% private vehicle usage;
- 1.05 students/vehicle in private vehicles;
- Number of managed DOPU spaces;
- 30 minute drop-off/pick-up period;
- 90 second drop-off/pick-up duration; and
- 98th percentile queue factor.

Based on the factors above and a 98th percentile queuing analysis, the school requires five (5) managed DOPU parking spaces and an additional six (6) queuing spaces, for a total of 11 vehicles in the school.

In response, the proposed development provides five (5) managed DOPU spaces and room for an additional eight (8) cars to queue. The proposed DOPU arrangement will ensure that all vehicles are contained within the site with no overflow onto Keefers Glen.

7.2.3 Student Parking

The Central Coast Development Control Plan (DCP) 2022, Chapter 2.13, provides car parking rates for student parking as follows:

- 1 space per 8 senior/adult students.

Noting the nature of the school and the School's policy of no students driving, no student parking spaces are provided.

7.2.4 Visitor

The Central Coast DCP does not require visitor parking spaces for schools. However, due to the nature of the school, visiting specialist staff members will be attending the school to assist students throughout the day. As such, the five (5) drop-off and pick-up spaces will be available for visitors outside of school drop-off and pick-up periods. This is considered a good use of on-site car parking, given the porte-cochere parking is only utilised for a short period during drop-off and pick-up activities.

7.3 Accessible Parking

The Central Coast Development Control Plan (DCP) 2022, Part 2.13.3.7, requires developments to refer to the Building Code of Australia (BCA) for accessible parking rates. As such, the development being a Class 9b buildings (primary or secondary schools), is required to provide one (1) accessible parking space for every 100 car parking spaces or part thereof.

Reference should be made to the Access Consultant's report for more information.

7.4 Bicycle Parking

The Central Coast Development Control Plan (DCP) 2022, Part 2.13.3.8, provides the following bicycle parking rates for the development:

- Educational Development (Long Stay) – 1 space per 20 students.

Application of the above bicycle parking rate to the proposed 200 students generates a requirement for an additional 10 bicycle spaces. However, due to the nature of the school, it is envisioned that no students will cycle to and from school, as such, no student bicycle parking spaces are proposed for the school.

It should be noted that the proposed development provides six (6) staff bicycle parking spaces and associated end-of-trip facilities to encourage the use of sustainable transport options, addressing the DoPE's early engagement feedback.

7.5 Motorcycle Parking

The Central Coast Development Control Plan (DCP) 2022, Part 2.13.3.9, provides a motorcycle parking rate of 1 space per 50 car spaces. Application of this rate results in a requirement for two (2) motorcycle parking spaces. In response, the proposed development provides two (2) motorcycle spaces, satisfying DCP requirements.

7.6 Mini-Vans

The Central Coast DCP does not require educational developments to provide parking for mini-vans. Nevertheless, the school proposes two (2) parking spaces for 12 seater mini-vans which will service the school during school hours only. It is emphasised that the mini-vans are not used

for student drop-off or pick-up and will only be used for external school activities, like excursions etc.

7.7 Waste Collection

The school will be serviced by an 11.8m Waste Collection vehicle, and this will be undertaken from within the site. Reference should be made to MRA Consulting Group's report for further details relating to waste management.

8. TRAFFIC AND TRANSPORT IMPACTS

8.1 Existing Trip Generation

The subject site is currently unoccupied and as such, the site does not currently generate any traffic.

8.2 School Operations

The TfNSW Guide to Transport Impact Assessment (2024) does not provide traffic generation rates for educational developments that support children with disabilities. As such, a "first principles" method has been utilised to assess the traffic generation of the proposed school. Specifically, the following factors have been utilised to derive the expected traffic generation:

- Maximum of 200 students on-site at any given time;
- Maximum of 71 staff on-site at any given time;
- School start/finish times;
- AM School Peak: 8-9am;
- PM School Peak: 2:30-3:30pm;
- 85% ASTP usage;
- ASTP Car Occupancy – Average of 4 students/vehicle;
- 15% private vehicle usage;
- 1.05 students/vehicle in private vehicles;
- No students will use public transport, utilise bicycles or walk to and from school;
- 100% private vehicle usage for staff (conservative assumption);
- Staff Car Occupancy – 1 staff/vehicle; and
- 20% of staff members will leave during the afternoon school peak, while the remaining 80% of staff members will leave after the school peak.

It is noted that the above assumptions are based on information provided by St Peter's Catholic College, which currently incorporates an ASPECT component within its existing operations. This

provides valuable regional context regarding the functioning of educational establishments that support students with disabilities. In addition, operational insights from other existing ASPECT sites have also been considered to inform a clearer understanding of the likely future operations of the proposed site.

8.3 Trip Generation

Taking in to account the above proposed school operations, the below trip generation breakdown is envisioned in **Table 3**:

Table 3: Proposed Trip Generation

Trips	AM (8am-9am)		PM (2:30pm-3:30pm)	
	IN	OUT	IN	OUT
Staff Trips	71	0	0	14
Student Trips using ASTP	43	43	43	43
Students Trip using Private Vehicles	29	29	29	29
Total Student Trips	71	71	71	71
Total Vehicle Trips	**142**	**71**	**71**	**85**

In summary, the traffic generation of the proposed school, comprising of 200 students and 71 staff members results in the following trip generation:

- 213 vehicle trips per hour in the AM peak period (142 in, 71 out); and
- 156 vehicle trips per hour in the PM peak period (71 in, 85 out).

8.4 Intersection Performance

8.4.1 Traffic Surveys

For the purposes of assessing the traffic impacts of this development, surveys were undertaken of the most critical intersections within proximity of the site. This survey was performed during the peak periods between 7:00am to 9:00am and 2:00pm to 4:00pm In August and December 2023 at the following key intersection:

- Wyong Road, Woodbury Park Drive, and Tonkiss Street;
- Woodbury Park Drive and Wagners Place;

- Woodbury Park Drive and Brickendon Avenue;
- Wagners Place and Deloraine Glen;
- Deloraine Glen and Keefers Glen;
- Brickendon Avenue and Hawthorne Place; and
- Brickendon Avenue and Keefers Glen.

8.4.2 Trip Distribution

As the proposed development is a private school catering specifically for disabled students, the below assumptions have been made:

- 20% of traffic will arrive or depart from the north, from areas such as Wyong and Woongarrah; and
- 80% of traffic will arrive or depart from the south, with the below split at the intersection of Wyong Road, Woodbury Park Drive, and Tonkiss Street:
  - 40% of traffic will arrive from the west along Wyong Road; and
  - 40% of traffic will arrive from the east along Wyong Road.

The above assumptions form the basis of the traffic flow diagrams presented in **Figure 16** and **17** below.

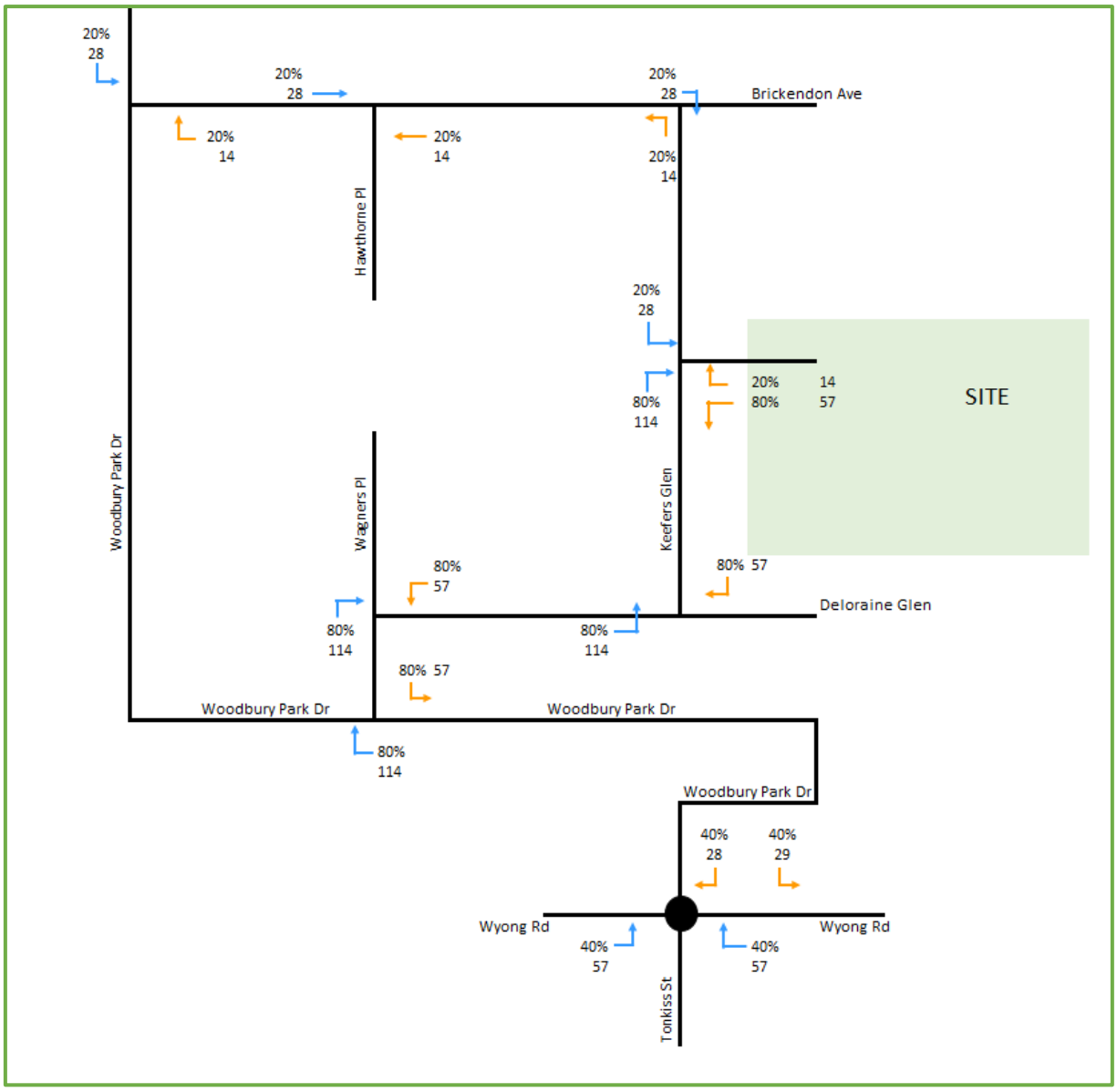


Figure 16: AM Net Traffic Trips

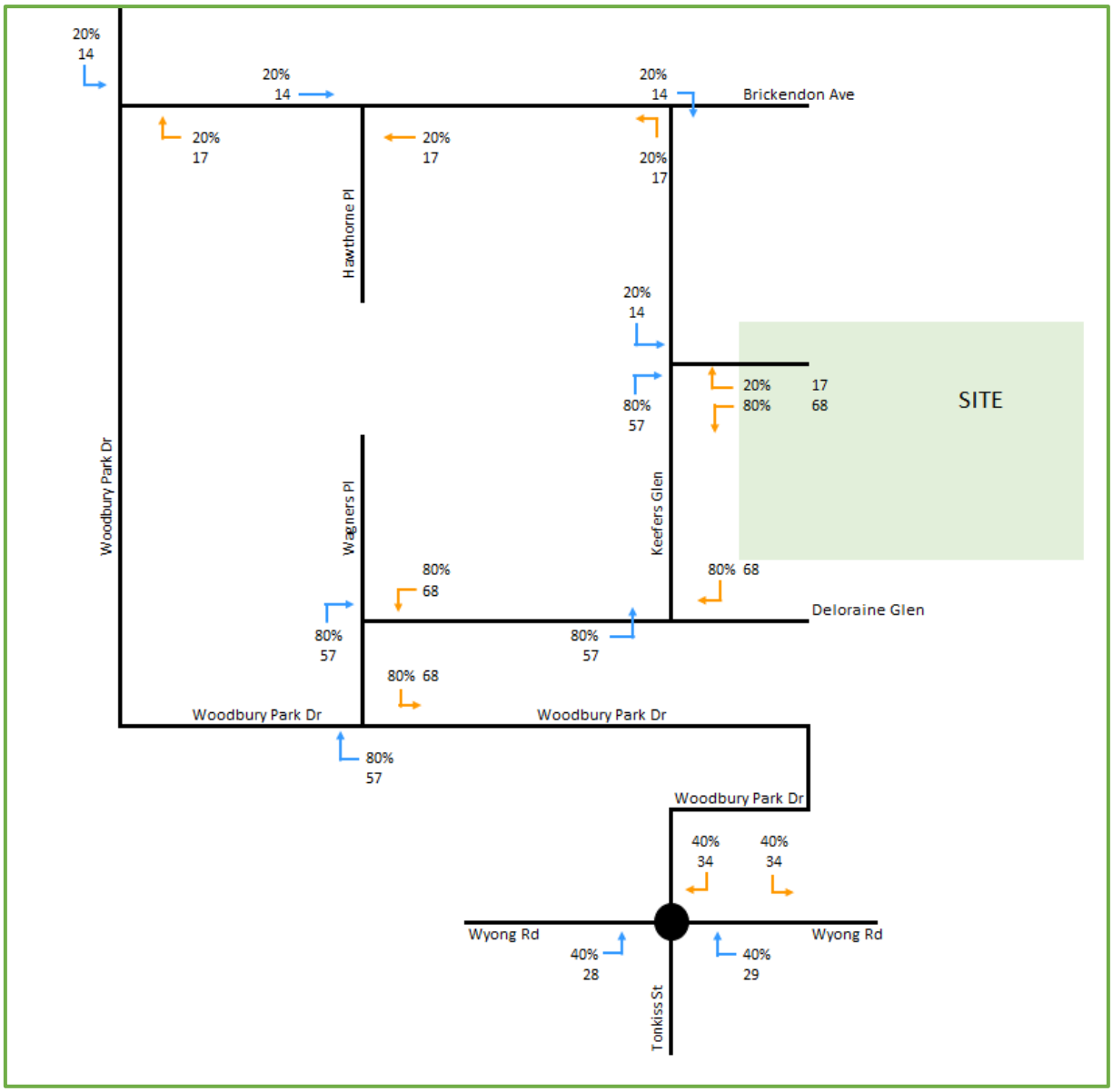


Figure 17: PM Net Traffic Trips

8.4.3 Nearby Approved Developments

In order to assess the cumulative impacts of nearby approved developments, the DA traffic reports/Council's Assessment Reports of the following developments were scrutinised. It should be noted that the SEARs states that only approved developments should be assessed in the scenarios detailed above. The nearby approved developments are provided below, with the below notes:

- 57-59 Gavenlock Road, Tuggerah
  - (DA/1827/2022)
  - Under construction. Included in cumulative assessment.

Noting the above, the traffic volumes from the approved industrial development, 57-59 Gavenlock Road, Tuggerah has been assessed along Wyong Road, being the likely traffic route for a portion of traffic movements. The traffic generated by the above approved, but not yet constructed developments, equates to the following:

57-59 Gavenlock Road, Tuggerah	-1 veh/hr in the AM peak	(-1 in,0 out); and
	-1 veh/hr in the PM peak	(0 in, -1 out).

It is clear from the net traffic impacts above, the approved development would not impact the key intersections discussed in Section 5.2.

8.4.4 Modelling Scenarios

In order to assess the potential traffic impacts of a proposed development, the following scenarios were assessed:

- Base Case;
- Base Case + Development; and
- Base Case + 10 Year Growth (Requested by TfNSW).

8.4.5 SIDRA Intersection Analysis

The surveys were analysed using the SIDRA Intersection 9 computer program to determine their performance characteristics under existing traffic conditions. The SIDRA model produces a range of outputs, the most useful of which are the Degree of Saturation (DoS) and Average Vehicle Delay per vehicle (AVD). The AVD is in turn related to a level of service (LoS) criteria. These performance measures can be interpreted using the following explanations:

DoS the DoS is a measure of the operational performance of individual intersections. As both queue length and delay increase rapidly as DoS approaches 1, it is usual to attempt to keep DoS to less than 0.9. When DoS exceeds 0.9 residual queues can be anticipated, as occurs at many major intersections throughout the metropolitan area

during peak periods. In this regard, a practical limit at 1.1 can be assumed. For intersections controlled by roundabout or give way / stop control, satisfactory intersection operation is generally indicated by a DoS of 0.8 or less.

AVD the AVD for individual intersections provides a measure of the operational performance of an intersection. In general, levels of acceptability of AVD for individual intersections depend on the time of day (motorists generally accept higher delays during peak commuter periods) and the road system being modelled (motorists are more likely to accept longer delays on side streets than on the main road system).

LoS this is a comparative measure which provides an indication of the operating performance of an intersection as shown in **Table 4**.

Table 4: Intersection Performance Indicators (TfNSW)

Level of Service (LoS)	Average Delay per Vehicle (secs/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 and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode
F	More than 70	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment.

A summary of the modelled results is provided in **Tables 5** to **7** for the existing scenarios. Reference should also be made to the SIDRA outputs provided in **Appendix C**, which provide detailed results for each movement.

8.4.6 2023 Base Case Scenario

Table 5: 2023 Base Case Scenario

Intersection	Control Type	Period	Degree of Saturation	Intersection Delay	Level of Service
Wyong Road, Woodbury Park Drive and Tonkiss Street	Roundabout	AM	0.300	19.0	B
		PM	0.802	19.5	B
Woodbury Park Drive and Wagners Place	Priority	AM	0.067	6.2	A
		PM	0.127	6.6	A
Woodbury Park Drive and Brickendon Ave	Priority	AM	0.058	6.3	A
		PM	0.102	6.7	A
Wagners Place and Deloraine Glen	Priority	AM	0.007	5.5	A
		PM	0.004	5.5	A
Deloraine Glen and Keefers Glen	Priority	AM	0.025	5.5	A
		PM	0.023	5.6	A
Brickendon Avenue and Hawthorne Place	Priority	AM	0.009	5.7	A
		PM	0.022	5.7	A
Brickendon Avenue and Keefers Glen	Priority	AM	0.023	5.6	A
			0.026	5.6	A

It can be seen from Table 5 that key intersections within the vicinity of the site currently operate at a LoS 'A' during both peak periods with the exception of the Wyong Road, Woodbury Park Drive, and Tonkiss Street intersection which operates at a LoS 'B'. All intersections operate at satisfactory LoS with spare capacity.

8.4.7 2023 Base Case Plus Development Scenario

Table 6: 2023 Base Case Plus Development Scenario

Intersection	Control Type	Period	Degree of Saturation	Intersection Delay	Level of Service
Wyong Road, Woodbury Park Drive and Tonkiss Street	Roundabout	AM	0.427	21.0	B
		PM	0.837	21.3	B
Woodbury Park Drive and Wagners Place	Priority	AM	0.137	6.1	A
		PM	0.165	6.4	A
Woodbury Park Drive and Brickendon Ave	Priority	AM	0.053	6.5	A
		PM	0.102	6.8	A
Wagners Place and Deloraine Glen	Priority	AM	0.007	5.5	A
		PM	0.004	5.5	A
Deloraine Glen and Keefers Glen	Priority	AM	0.076	5.7	A
		PM	0.081	5.7	A
Brickendon Avenue and Hawthorne Place	Priority	AM	0.009	5.8	A
		PM	0.030	5.8	A
Brickendon Avenue and Keefers Glen	Priority	AM	0.032	5.6	A
			0.037	5.6	A

It can be seen from Table 6 that the key intersections in the vicinity of the site will continue to operate at existing levels of service. Most intersections experience small increases in degree of saturation and intersection delays; however, the increases are considered minor, and no concerns are raised in terms of intersection performance.

Based on the above results, no infrastructure upgrades (for intersection performance) are considered necessary to facilitate the proposed development.

8.4.8 2023 Base Case Plus 10 Year Growth Scenario

Table 7: 2023 Base Case Plus 10 year Growth Scenario

Intersection	Control Type	Period	Degree of Saturation	Intersection Delay	Level of Service
Wyong Road, Woodbury Park Drive and Tonkiss Street	Roundabout	AM	0.651	43.0	D
		PM	1.027	65.0	E
Woodbury Park Drive and Wagners Place	Priority	AM	0.078	6.4	A
		PM	0.148	6.8	A
Woodbury Park Drive and Brickendon Ave	Priority	AM	0.069	6.4	A
		PM	0.057	6.9	A
Wagners Place and Deloraine Glen	Priority	AM	0.008	5.5	A
		PM	0.005	5.5	A
Deloraine Glen and Keefers Glen	Priority	AM	0.029	5.6	A
		PM	0.026	5.6	A
Brickendon Avenue and Hawthorne Place	Priority	AM	0.023	5.7	A
		PM	0.025	5.7	A
Brickendon Avenue and Keefers Glen	Priority	AM	0.027	5.6	A
			0.030	5.6	A

The '2023 Base Case Plus 10 Year Growth Plus Development' scenario reflects traffic conditions arising from 10 years of 'background' traffic growth at a compounded rate of 1.5% per annum (confirmed by TfNSW), which is a cumulative increase of 16% on all movements at all intersections. This growth rate scenario was requested by Transport for New South Wales and considers the impacts of sustained growth in the Central Coast area generally, which is a scenario that Council and TfNSW will be required to address in any event (even without the development), in terms of road network performance and required associated infrastructure.

It can be seen from Table 7 that the intersections at Wagners Place, Brickendon Avenue and Keefers Glen, being local roads, will continue to operate at LoS 'A' with minimal increases to intersection delays.

The roundabout intersection of Wyong Road, Woodbury Park Drive, and Tonkiss Street will operate at a LoS 'D' in the AM peak and Los 'E' in the PM peak. This intersection is currently operating at a LoS 'B' in the AM and PM peak periods, and the 16% increase in traffic across

all legs significantly impacts its performance. Consideration by TfNSW and Council should be given to infrastructure improvements at these intersections prior to 2033.

With respect to the proposed scheme, there are minor increases to traffic through the roundabout as discussed in Section 8.4.2. In addition, the cumulative traffic growth represented by this scenario already takes account of future development of the subject site, as it does the region generally.

8.4.9 Summary

In summary, the '2023 Base Case Plus Development' scenario demonstrates that the proposed development does not have any adverse impacts to key intersections near the site, with all intersections maintaining their levels of services during both peak periods.

Based on the above results and discussions, no infrastructure upgrades (for intersection performance) or mitigating measures are considered necessary to facilitate the proposed development.

8.5 Pedestrian Connectivity

The proposed development proposes the construction of an off-road pedestrian footpath on the eastern side of Keefers Glen. The footpath will extend from the pedestrian access point on Keefers Glen to the existing kerb ramp at the intersection of Keefers Glen and Brickendon Avenue.

The proposed pedestrian footpath may be utilised by staff of the subject development and is available for use by the general public. Reference should be made to any civil engineering plans prepared for the subject SSDA.

8.6 Pedestrian Safety

As discussed above, the proposal seeks to provide a paved pedestrian footpath to connect the school with existing pedestrian infrastructure. This footpath will increase safety for all pedestrians near the development, by providing a paved path separated from vehicular traffic. It is also noteworthy that due to the student profiles / travel characteristic discussed in Section 7.1 above, it is not expected that a significant number of students (if any) will walk to / from the school.

Surrounding roads will be subject to 40km/hr school zone speed limits during critical student drop-off and pick-up periods, further increasing pedestrian safety in the vicinity of the site. New access driveways provide compliant visual splays in accordance with AS2890.1 (2004) to ensure pedestrians are clearly visible to motorists exiting the subject development. External to the site, key intersections are provided with sufficient pedestrian infrastructure.

In summary, the proposed development will not have any adverse impacts on pedestrian safety, noting school peak periods generally occur outside of network peak periods, school zone speed limits, the specialised nature of the subject school, and the additional pedestrian infrastructure proposed under the subject SSDA.

8.7 Bicycle Safety

Bicycle activity within the vicinity of the site is low, and the off-road shared path discussed in Section 5.8 provides cyclists with a safe north-south connection along Woodbury Park Drive. It is also noteworthy that due to the student profiles / travel characteristic discussed in Section 7.1 above, it is not expected that a significant number of students (if any) will cycle to / from the school. Any adults/staff riding near the site, can ride on the public road as required under the NSW Road Rules.

In summary, the proposed development will not have any adverse impacts on cyclist safety, noting the nature of the development and the existing number of cyclists in the area.

8.8 Road Upgrades

The subject SSDA seeks to upgrade Keefers Glen by widening the existing road pavement to provide a minimum 6.0 metre wide carriageway (kerb to kerb) along its entire length (approx. 250m). The proposed widening will improve vehicle movements along Keefers Glen during school drop-off and pick-up times and addresses concerns raised by nearby residents during community consultation. The amount of widening required depends on the existing road formation which currently varies in width between Brickendon Avenue and Deloraine Glen.

Reference should be made to any civil engineering plans prepared for the subject SSDA. The above upgrades will require Council approval under the Roads Act and can be further detailed at Construction Certificate stage in response to suitable Condition of Consent.

9. PRELIMINARY OPERATIONAL TRAFFIC MANAGEMENT PLAN

9.1 Off-Street Parking

60 staff car parking spaces will be provided onsite, and the school can manage the allocation of these spaces accordingly. Five (5) short-term drop-off and pick-up (DOPU) spaces will be provided near the School's pedestrian entry point. These spaces will be managed by staff during student drop-off and pick-up activities. Outside of drop-off and pick-up periods, visitors will be permitted to park in these spaces.

Parents/carers dropping-off or picking-up students can do so from the short-term parking spaces only and will not be permitted to park and enter the school. This policy will be clearly communicated to parents/carer prior to students commencing education at the school and will be reinforced through school communications (emails, newsletters etc.).

9.2 Drop-off / Pick-up Times

The school proposes the following student drop-off and pick-up times. As mentioned in Section 7.1 above, a large proportion of student trips will be via the ASTP.

- Primary Students
  - Drop-off 8:40am to 9:00am; and
  - Pick-up 2:50pm to 3:20pm.
- Secondary Students
  - Drop-off 8:40am to 9:00am; and
  - Pick-up 2:50pm to 3:20pm.

9.3 Drop-off and Pick-up Management Arrangements

In order to increase the efficiency of the pick-up and drop-off spaces, the following operational management arrangements are proposed:

- All drivers are to enter the site via the northern "Entry Only" driveway;

- Parents/carers/ASTP drivers are to enter the short-term DOPU spaces within the on-site porte cochere area;
- Students will be marshalled within the school building during DOPU activities;
- School staff will manage the movements of students between the marshalling area and vehicles. Five (5) dedicated spaces will be managed by staff. Other vehicles are to queue behind the five (5) dedicated spaces, and are not to overtake parked vehicles within the porte cochere area, unless instructed by the managing school staff member;
- Parents/carers are not to exit parked vehicles during DOPU operations;
- Parents/carers/ASTP drivers are to follow all directions of staff on-site in order to maintain safe and efficient traffic flow; and
- The school will actively promote road safety to parents, carers and visitors of the school through the newsletter and other forms of media.

9.4 Bicycle Facilities

A total of six (6) staff bicycle parking spaces are proposed within the school grounds. The school will ensure bicycle parking is made available to all staff and is maintained to a satisfactory level.

9.5 Mini-Van Parking

Two (2) on-site mini-van parking spaces are provided on-site for school owned vans. Vans will be parked on-site when not in use and the spaces cannot be allocated to other uses (staff, visitors etc.). It is emphasised that the vans are not used for student drop-off or pick-up and will only be used for external school activities, like excursions etc.

9.6 Emergency Vehicles

Emergency Vehicles are exempt from parking restrictions and therefore would be permitted to park along the school frontage or on-site, as necessary. In addition, a emergency vehicle access road is provided around the perimeter of the school to facilitate fire truck access.

9.7 Waste Collection

All waste collection activities associated with deliveries will be carried out on-site by a private waste contractor. It is noted that waste collection activities would generally occur outside of school hours and arrivals will be scheduled to ensure that loading does not occur on-street.

All waste bins will be stored within a dedicated area and bins will be transferred between the bin area and waste vehicle by the private contractor.

Reference is made to the Operational Waste Management Plan prepared by MRA Consulting which assumes that general waste and recycling will be collected up to three (3) times per week each.

10. ACCESS AND INTERNAL DESIGN ASPECTS

10.1 Site Vehicular Access

The development proposes a total of 60 staff parking spaces with access from Keefers Glen, a local road. It will therefore require a Category 2 driveway under AS2890.1 (2004), being a combined entry and exit width of 6.0 to 9.0 metres, or a separated entry and exit with a minimum width of 3.0m each. In response, a separated 8.5-metre-wide entry driveway and 6.0-metre-wide entry/exit driveway has been provided in accordance with AS2890.1 (2004). The proposed vehicular access will be a shared access between staff, students drop off/pickup, visitors, and service vehicles.

In terms of providing access via Keefers Glen, the following points are noteworthy and should be taken into consideration:

- Frontage to and access from Keefers Glen provides the Eileen O'Connor Catholic School the opportunity to establish its own presence and identity within the community, assisting to uplift and promote the students, raising awareness for special needs, and helping to build a more inclusive community;
- The proposed site for the new Eileen O'Connor Catholic School will be sub-divided from the existing St Peters Catholic College site with both Schools to be operated completely independently;
- The chosen site and frontage from Keefers Glen prioritises student safety by assisting management of risks due to bushfire and flooding;
- Vehicle access via Keefers Glen reduces conflicts of vehicles travelling through the existing St Peters Catholic College site;
- The proposed development does not have any adverse impacts to key intersections near the site, with all intersections maintaining their levels of services during both peak periods;
- The subject SSDA seeks to upgrade Keefers Glen by widening the existing road pavement to provide a minimum 6.0 metre wide carriageway (kerb to kerb) along its entire length (approx. 250m). The proposed widening will improve vehicle movements along Keefers Glen during school drop-off and pick-up times.

Swept path analysis has been conducted of all critical movements. This analysis is provided within **Appendix D** and demonstrates satisfactory movements, including movements for the School's mini-vans.

10.2 Internal Design

The internal car park complies with the requirements of AS2890.1 (2004), AS2890.2 (2018) and AS2890.6 (2022), and the following characteristics are noteworthy:

- All standard staff car parking spaces have been designed in accordance with User Class 1A being for staff parking. These spaces are provided with a minimum space length of 5.4m, a minimum width of 2.4m and a minimum aisle width of 5.8m.
- All accessible parking spaces have been designed in accordance with AS2890.6 (2022), being 2.4m wide, 5.4m long and situated immediately adjacent to a dedicated shared area.
- All motorcycle parking spaces are designed in accordance with AS2890.1 (2004), being 2.5m long and 1.2m wide.
- All spaces located adjacent to obstructions of greater than 150mm in height are provided with an additional width of 300mm.
- Driveway visual splays have been provided in accordance with AS2890.1 (2004).

10.3 Summary

In summary, the internal configuration of the car park has been designed in accordance with AS2890.1 (2004), AS2890.2 (2018), and AS2890.6 (2022). It is however envisaged that a standard condition of consent could be imposed requiring compliance with these standards and as such any minor amendments considered necessary (if any) can be dealt with prior to the release of any Construction Certificate.

11. CONSULTATION

A summary of the stakeholder correspondence is provided in **Table 8** below.

Table 8: Stakeholder Consultation Summary

Stakeholder	How this group was consulted and when	Issues Discussed	Project Response
Transport for NSW Marg Johnston – Team Leader Development Services Northern Region Timothy Chapman – Development Services Case Officer	Microsoft Team Meeting on Tuesday 9 April 2024.	The following matters were discussed in the Microsoft Teams Meeting: • Operational nature of the school. • Scope of traffic surveys at public intersections. • Vehicle access and on-site car parking. • Scope of SIDRA modelling. • Inclusion of Preliminary Construction Traffic Management Plan (CTMP) and Green Travel Plan (GTP).	TRAFFIX reviewed the feedback provided by TfNSW at the Microsoft Teams Meeting on Tuesday 9 April 2024 and updated the study methodology, including: • Provide a 10 Year Background Growth Scenario with a 1.5% compounded growth rate.
Central Coast Council	Pre-DA Meeting. Microsoft Team Meeting on 20 September 2023.	TRAFFIX did not attend this Pre-DA meeting, however, Council's Pre-DA comments and our responses are outlined in Table 2 above.	TRAFFIX did not attend this Pre-DA meeting, however, Council's Pre-DA comments and our responses are outlined in Table 2 above.
Central Coast Council Ross Edwards – Town Planner Belinda Jennett - Observer Sevie Crayn - Ecologist Steve McDonald – Traffic Engineer Johnson Zhang – Water and Sewer Brendan Dee – Senior Development Engineer Col Downey – Waste Craig Glynn – Trees (Comments) Andrew Dewar – Flooding Engineer Mark Wasson – Urban Design	Pre-DA Meeting. Microsoft Team Meeting on Wednesday 10 July 2024.	The following traffic matters were discussed in the Microsoft Teams Meeting: • Onsite car parking provision for staff and drop off spaces for students. • Vehicle access via Keefers Glen	Updates to the proposed school were undertaken by the project architect, as required.

12. CONCLUSIONS

The following matters are noteworthy:

- The State Significant Development Application seeks approval for the new Eileen O'Connor Catholic School at Lot 9 Section 4 on DP3368, Mardi. The proposed development comprises subdivision of land and the construction and operation of a school development. The proposal includes learning areas, staff facilities, special learning areas, a library, and capacity for 200 students and 71 staff.
- The subject site has access to the public transport network with reliable access to rail services via Tuggerah Railway Station, and various bus stops along Woodbury Park Drive. However, information has been supplied by the school regarding expected student travel behaviours as discussed in Section 7.1 and these have been used to determine the parking and drop-off and pick-up demands.
- A "first principles" approach has been used to determine the total parking demands associated with the proposed development. The development provides a total of 60 staff parking spaces and five (5) short term drop-off and pick-up bays. The provision is considered acceptable and takes into consideration a "worse-case" scenario of all teachers driving to/from the site.
- The traffic generation arising from the development equates to an additional 213 vehicle trips in the morning peak hour and 156 vehicle trips in the afternoon peak hour as discussed in Section 8.3. The traffic distribution and SIDRA modelling demonstrates that the additional vehicle trips will have negligible impacts on the road network. Based on the above results, no infrastructure upgrades (for intersection performance) are considered necessary to facilitate the proposed development.
- External footpath and road upgrades are discussed in Section 8.5 and 8.8, respectively.
- The at-grade carparks have been assessed to comply with the requirements of AS2890.1 (2004), AS2890.2 (2018) and AS2890.6 (2022), thereby ensuring safe and efficient operation.
- Waste vehicles will utilise the turning areas provided on-site, with servicing completed outside of peak periods.
- A summary of agency consultation is presented in Section 11.

This traffic impact assessment therefore demonstrates that the subject proposal is supportable on traffic planning grounds, subject to the school implementing additional parking initiatives. TRAFFIX anticipates an ongoing involvement during the development approval process.

APPENDIX A

Photographic Record

Keefers Glen Frontage Southern View

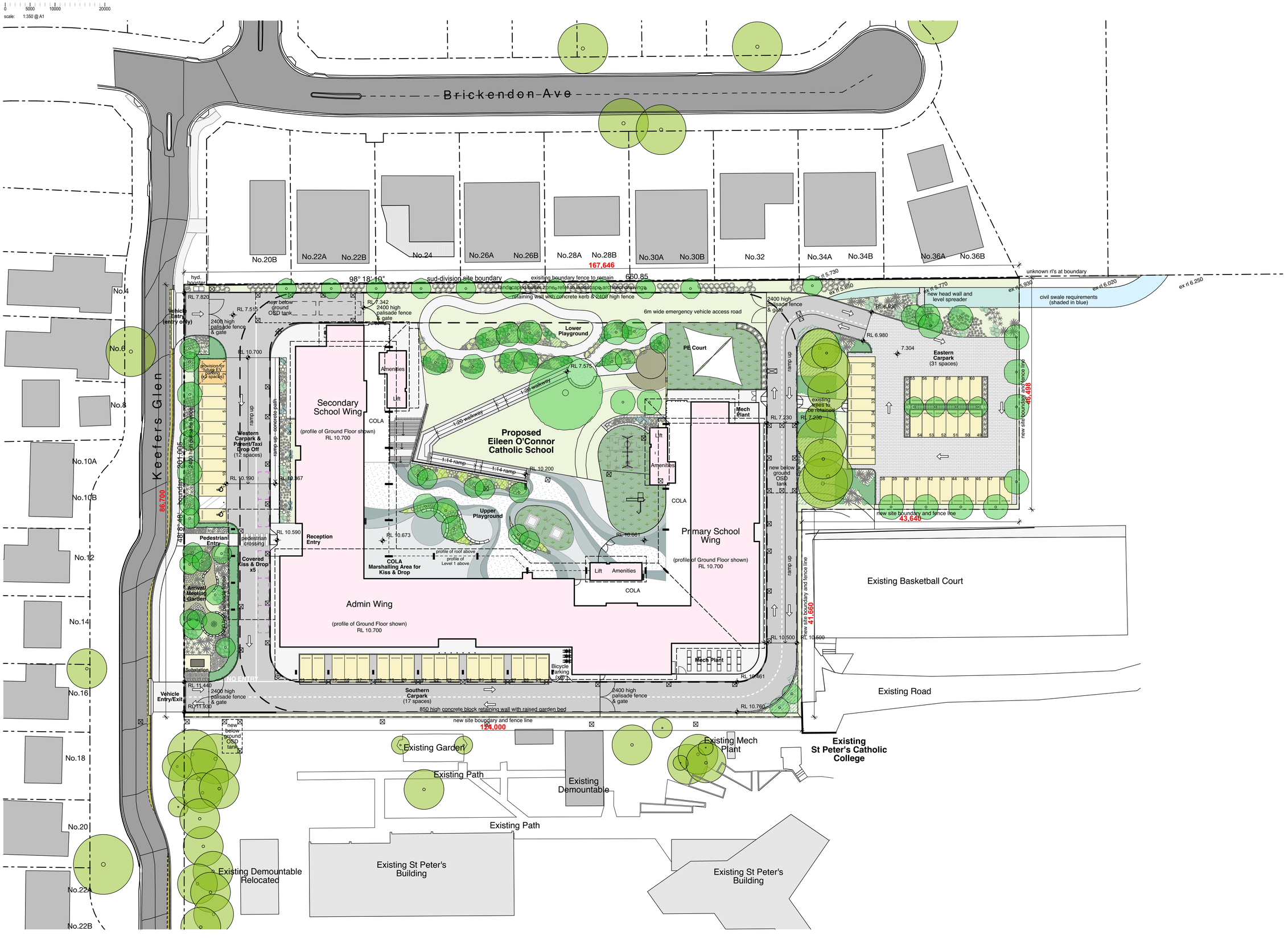
Keefers Glen Frontage Northern View

Proposed Site Northern Entry Location

Proposed Site Southern Entry/Exit Location

APPENDIX B

Architectural Plans



01 **Proposed Site Plan**
1:350

Stanton Dahl Architects
PO Box 833, Epping, NSW 1710, Australia
Tel +61 2 8876 5300
www.stantondahl.com.au

Rev	Issue	Date
P1	Prelim Issue for Co-ord	13/03/24
P2	Issue to QS	12/04/24
P3	SDRP Response Draft	28/05/24
P4	Revised Design Issued for QS Cost Estimate	03/06/24
P5	Issue for Sub-Division Co-ordination	07/06/24
P6	Issue For Co-ordination	01/07/24
P7	Issue for Sub-Consultant Co-ord	30/07/24
P8	Draft Issue for Client Review	08/08/24
P9	Issue for Co-ordination	20/08/24
P10	RFS Redesign for Client Review	11/10/24
P11	RFS Redesign for Client Review	15/10/24
P12	Issue for Client Review & Co-ordination	15/11/24
P13	Issue for Consultant Co-ordination	19/12/24
P14	Issue for Consultant Co-ordination	10/03/25

Amendments

Stanton Dahl Architects

Eileen O'Connor Catholic School

CATHOLIC SCHOOLS Broken Bay

RP INFRASTRUCTURE

Eileen O'Connor Catholic School

Catholic Schools Office, Broken Bay Diocese (CSBB)
84 Gavenlock Road,
Mardi, NSW 2259

Drawn; RW
Checked; DM
Plot date; 9/3/2025

Scale;1:350 as noted @ A1

Project No;
2637.20

Drawing No; A0106

Revision#; P14

Proposed Site Plan

APPENDIX C

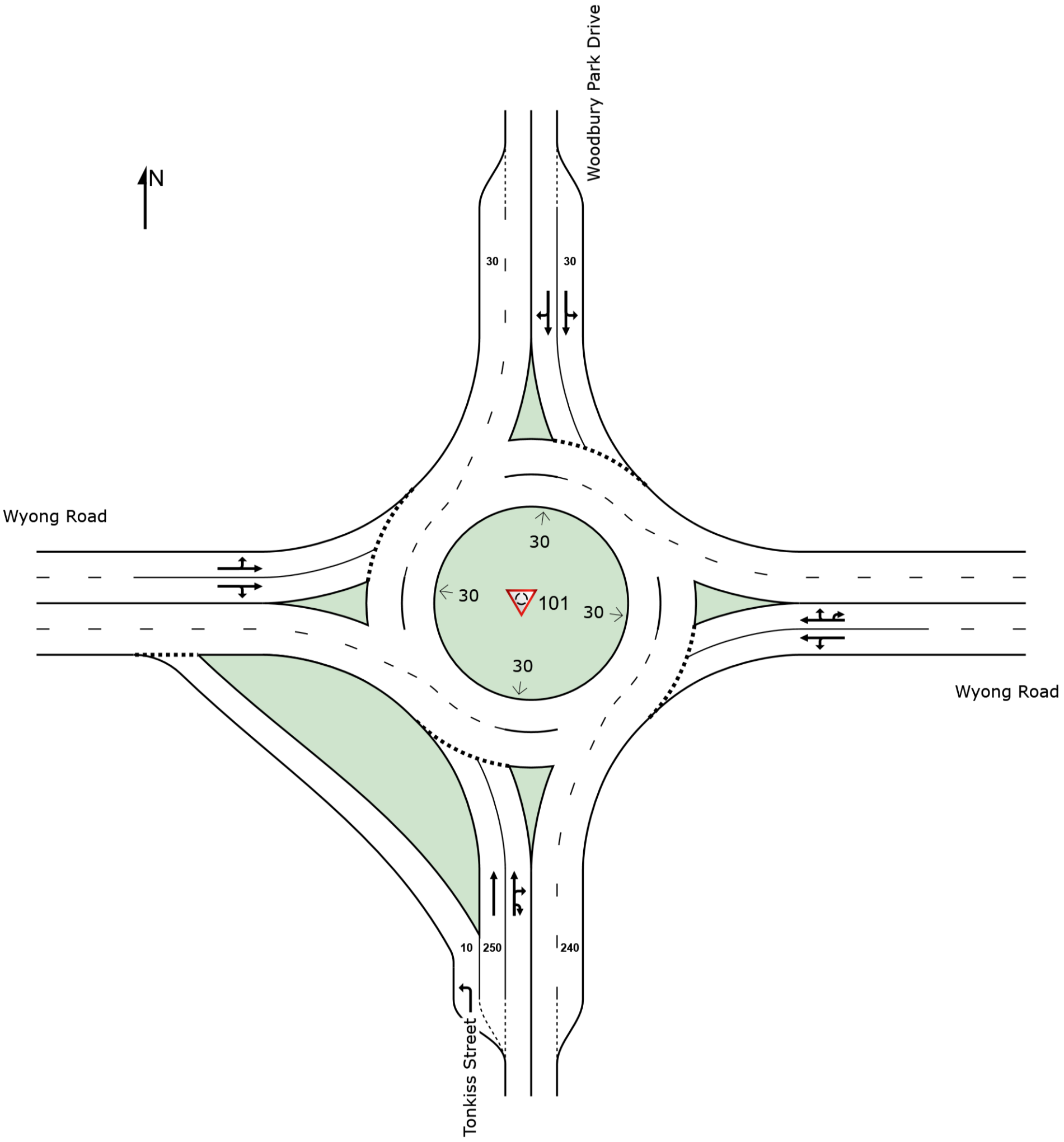
SIDRA Outputs

SITE LAYOUT

Site: 101 [101 Wyong Rd / Woodbury Pk Dr / Tonkiss St EX AM (Site Folder: Existing)]

Intersection: Wyong Road / Woodbury Park Drive / Tonkiss Street
Exisiting AM Peak
8:00am - 9:00am
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

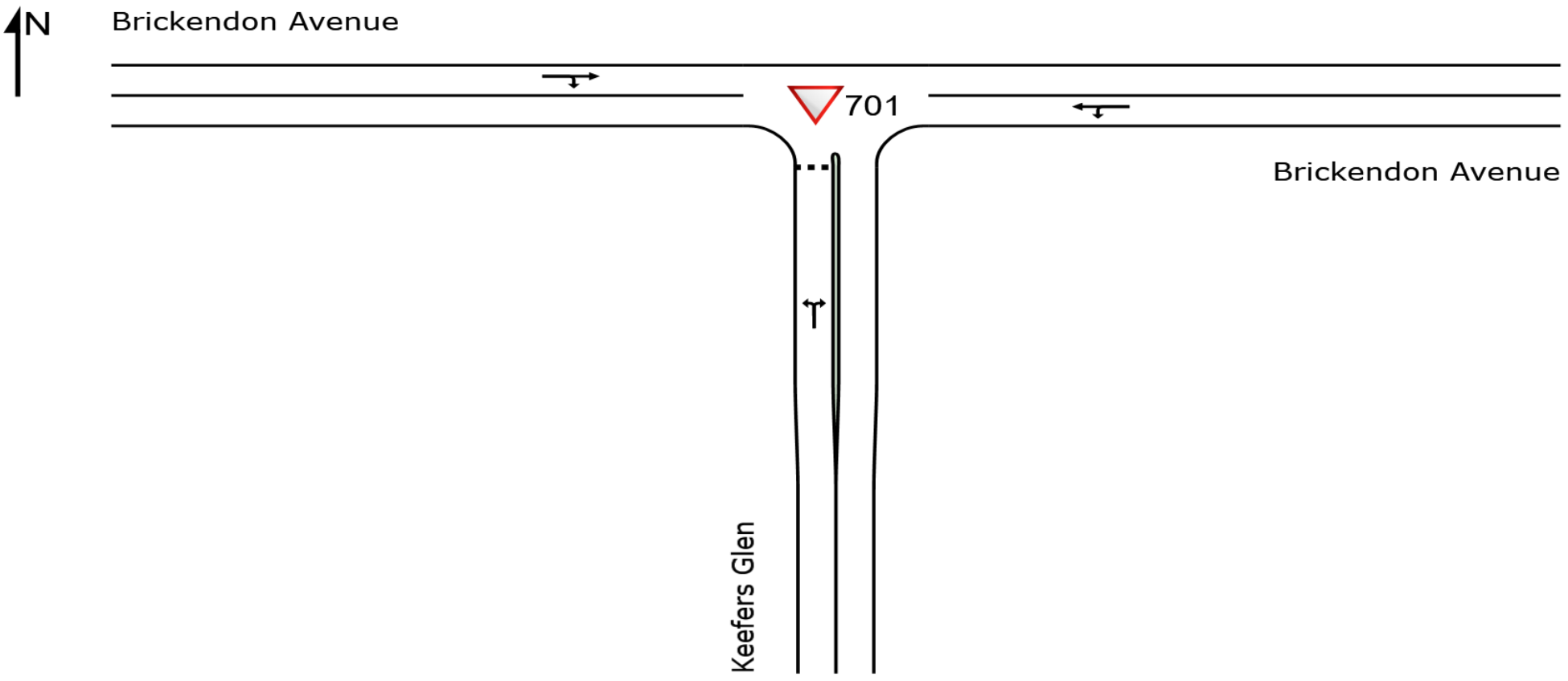


SITE LAYOUT

Site: 701 [701 Brickendon Ave / Keefers Glen EX AM (Site Folder: Existing)]

Intersection: Brickendon Avenue / Keefers Glen
Existing AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

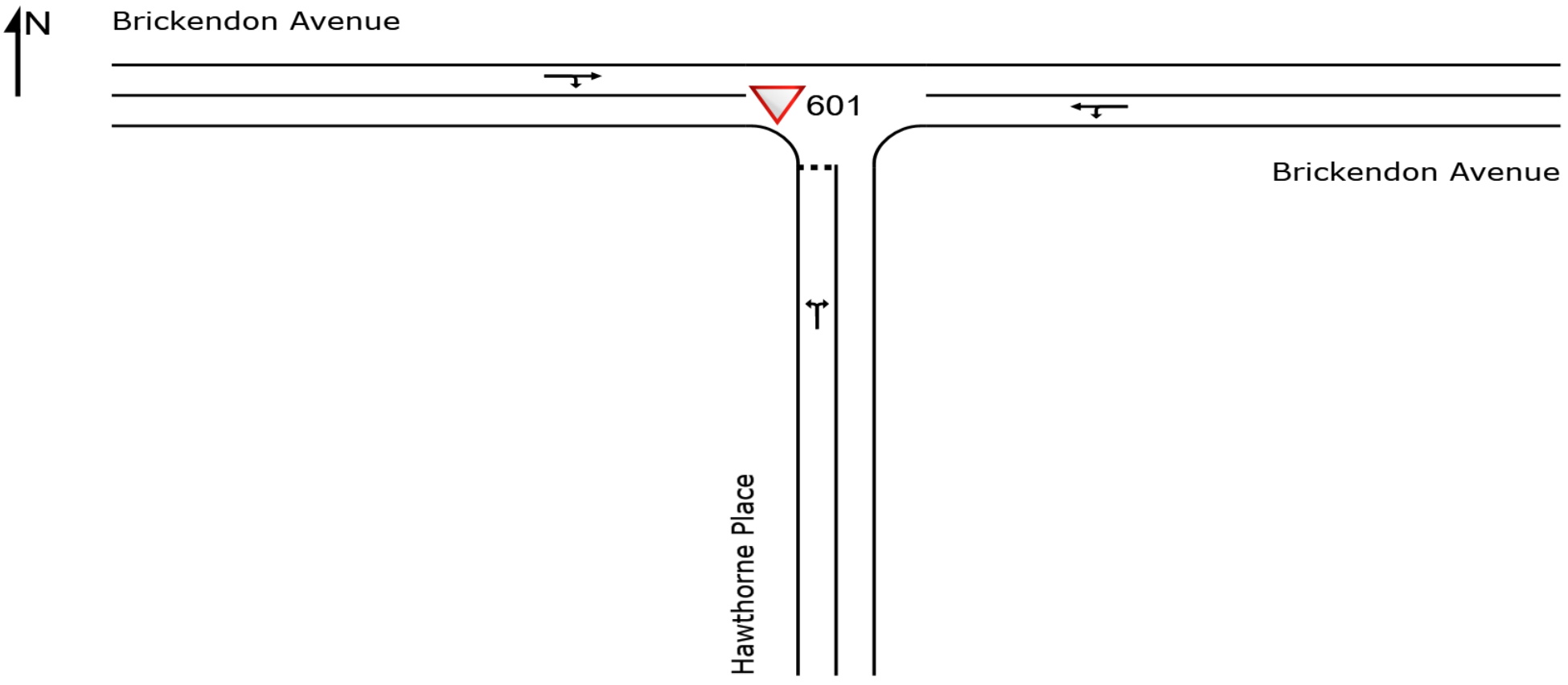


SITE LAYOUT

Site: 601 [601 Brickendon Ave / Hawthorn Pl EX AM (Site Folder: Existing)]

Intersection: Brickendon Avenue / Hawthorne Place
Existing AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

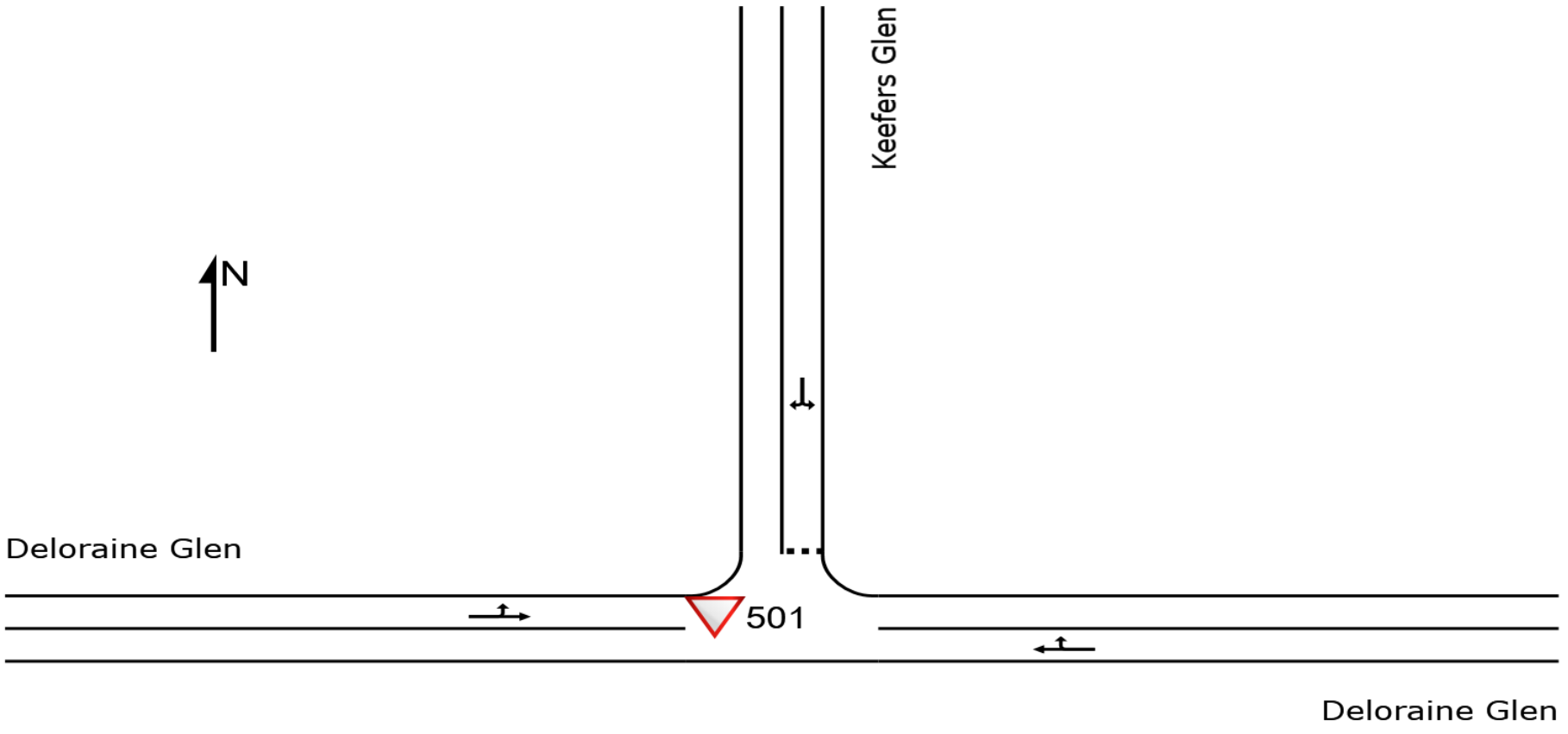


SITE LAYOUT

Site: 501 [501 Deloraine Glen / Keefers Glen EX AM (Site Folder: Existing)]

Intersection: Deloraine Glen / Keefers Glen
Exisiting AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

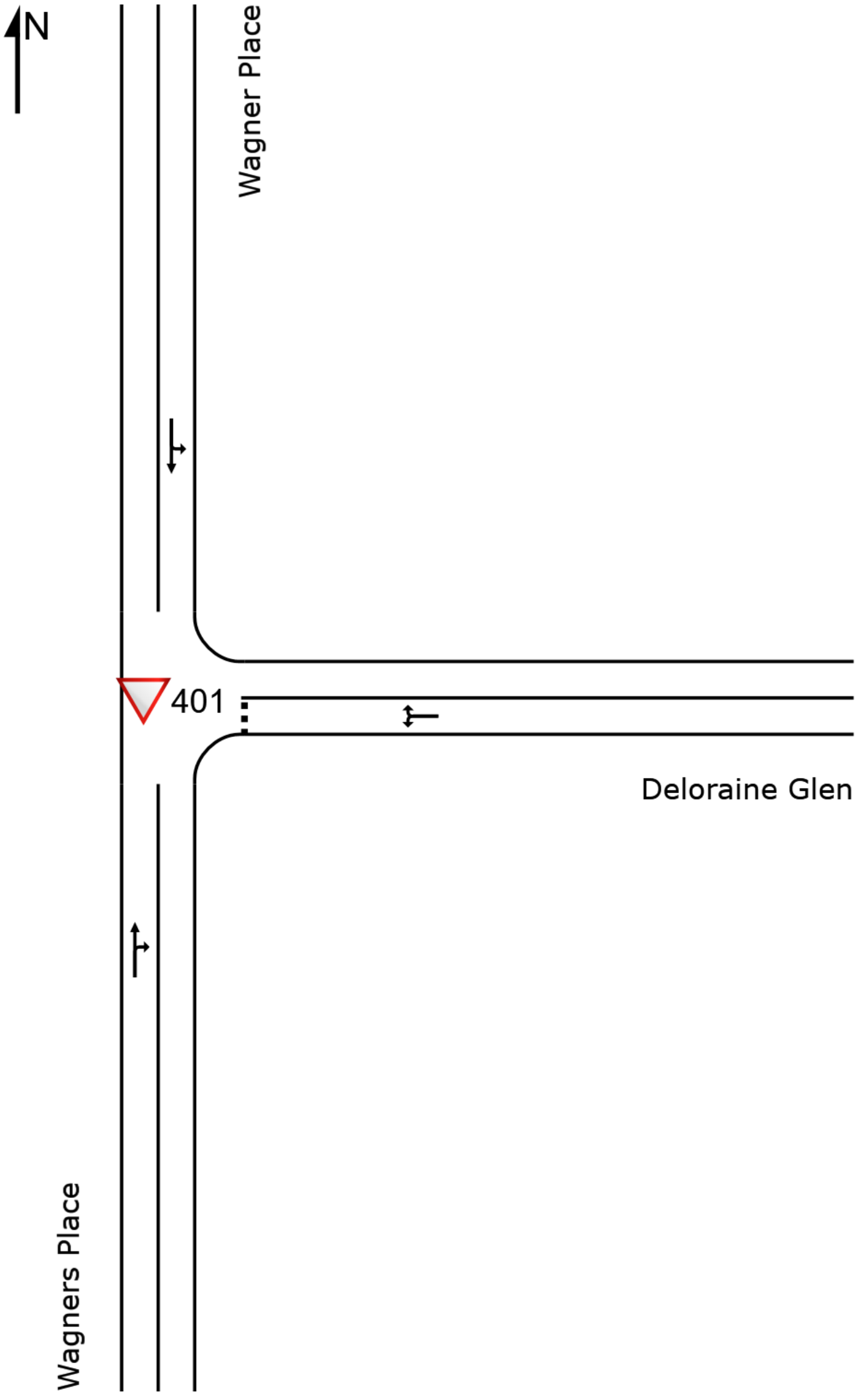


SITE LAYOUT

Site: 401 [401 Wagners Pl / Deloraine Glen EX AM (Site Folder: Existing)]

Intersection: Wagners Place / Deloraine Glen
Exisiting AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

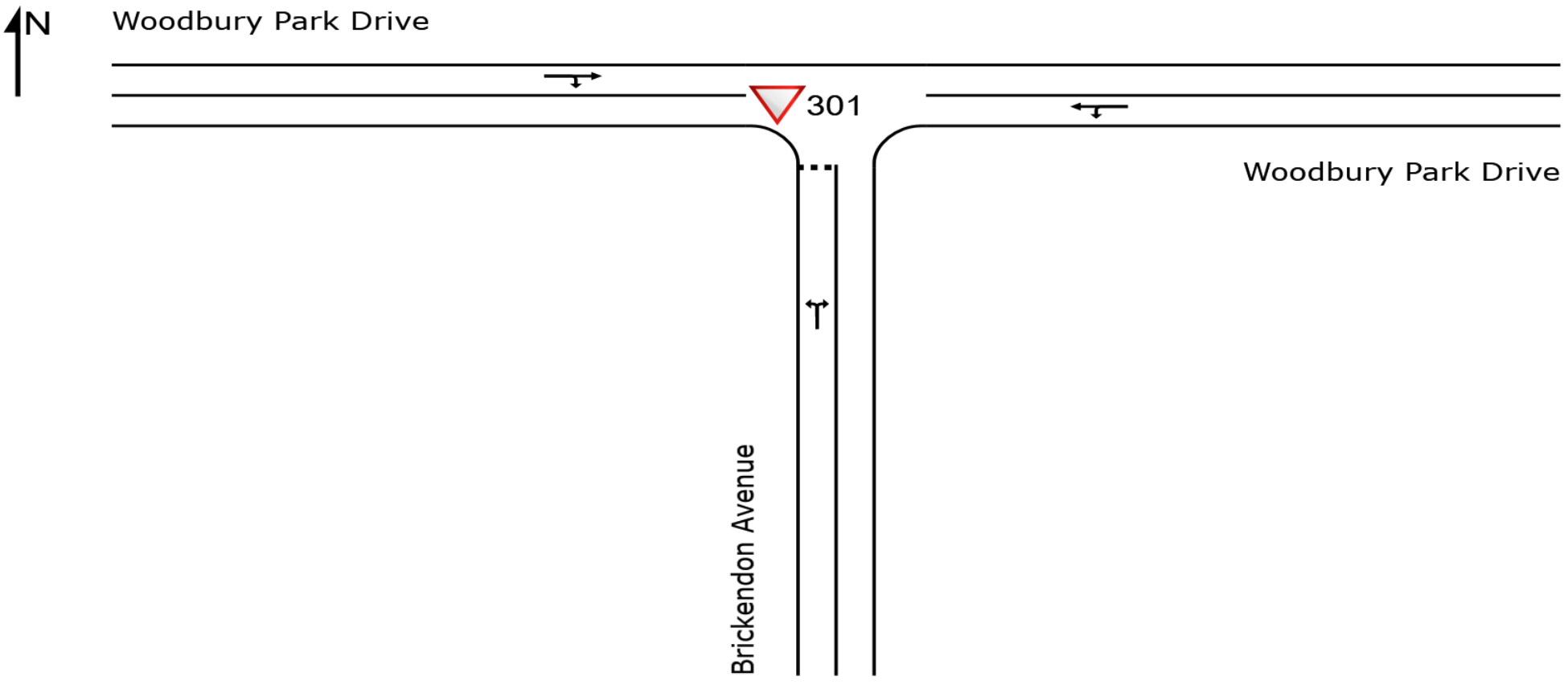


SITE LAYOUT

Site: 301 [301 Woodbury Pk Dr / Brickendon Ave EX AM (Site Folder: Existing)]

Intersection: Woodbury Park Drive / Brickendon Avenue
Exisiting AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

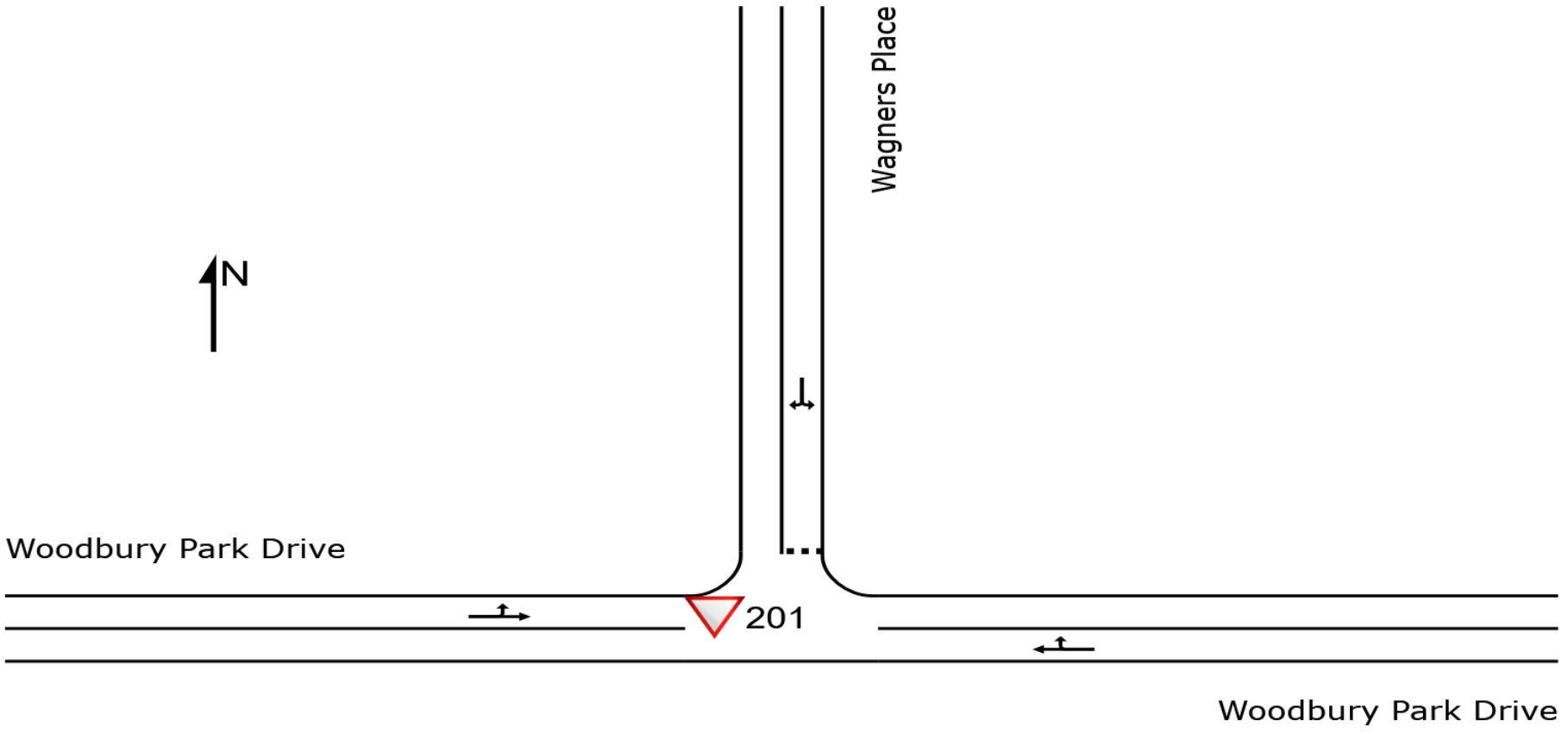


SITE LAYOUT

Site: 201 [201 Woodbury Pk Dr / Wagners Pl EX AM (Site Folder: Existing)]

Intersection: Woodbury Park Drive / Wagners Place
Exisiting AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



USER REPORT FOR SITE

Project: 23.104m01v01 TRAFFIX St Peters Eileen School

Output produced by SIDRA INTERSECTION Version: 9.1.1.200 **Template: Movement Summaries**

Site: 101 [101 Wyong Rd / Woodbury Pk Dr / Tonkiss St EX AM (Site Folder: Existing)]

Intersection: Wyong Road / Woodbury Park Drive / Tonkiss Street
Exisiting AM Peak
8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tonkiss Street															
1	L2	All MCs	84	1.3	84	1.3	0.071	4.9	LOS A	0.4	2.5	0.60	0.59	0.60	55.6
2	T1	All MCs	31	0.0	31	0.0	0.057	5.3	LOS A	0.3	2.1	0.62	0.60	0.62	56.2
3	R2	All MCs	44	7.1	44	7.1	0.057	10.8	LOS A	0.3	2.1	0.63	0.70	0.63	53.2
3u	U	All MCs	6	16.7	6	16.7	0.057	13.4	LOS A	0.3	2.1	0.63	0.70	0.63	54.4
Approach			165	3.2	165	3.2	0.071	6.9	LOS A	0.4	2.5	0.62	0.63	0.62	55.1
East: Wyong Road															
4	L2	All MCs	111	1.0	111	1.0	0.544	8.2	LOS A	4.1	31.5	0.75	0.72	0.85	54.9
5	T1	All MCs	798	13.1	798	13.1	0.544	7.8	LOS A	4.1	31.5	0.75	0.74	0.87	52.6
6	R2	All MCs	54	7.8	54	7.8	0.544	13.8	LOS A	3.9	30.5	0.75	0.76	0.88	54.4
6u	U	All MCs	1	0.0	1	0.0	0.544	15.8	LOS B	3.9	30.5	0.75	0.76	0.88	52.0
Approach			963	11.4	963	11.4	0.544	8.2	LOS A	4.1	31.5	0.75	0.74	0.86	53.1
North: Woodbury Park Drive															
7	L2	All MCs	118	3.6	118	3.6	0.300	10.4	LOS A	1.7	12.4	0.90	0.88	0.91	54.2
8	T1	All MCs	55	1.9	55	1.9	0.300	12.3	LOS A	1.7	12.4	0.89	0.92	0.91	54.5
9	R2	All MCs	74	0.0	74	0.0	0.300	19.0	LOS B	1.5	10.5	0.86	0.96	0.91	51.0
Approach			246	2.1	246	2.1	0.300	13.4	LOS A	1.7	12.4	0.89	0.91	0.91	53.4
West: Wyong Road															
10	L2	All MCs	17	25.0	17	25.0	0.790	5.4	LOS A	9.2	67.2	0.62	0.47	0.62	55.1
11	T1	All MCs	1686	5.4	1686	5.4	0.790	4.9	LOS A	9.2	67.2	0.63	0.50	0.63	53.0
12	R2	All MCs	464	1.1	464	1.1	0.790	10.6	LOS A	9.1	65.5	0.66	0.56	0.66	53.9
Approach			2167	4.7	2167	4.7	0.790	6.1	LOS A	9.2	67.2	0.64	0.51	0.64	53.3
All Vehicles			3542	6.2	3542	6.2	0.790	7.2	LOS A	9.2	67.2	0.69	0.61	0.72	53.3

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

Site: 201 [201 Woodbury Pk Dr / Wagners Pl EX AM (Site Folder: Existing)]

Intersection: Woodbury Park Drive / Wagners Place
Exisiting AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Woodbury Park Drive															
5	T1	All MCs	73	7.2	73	7.2	0.067	0.0	LOS A	0.2	1.8	0.18	0.26	0.18	58.4
6	R2	All MCs	44	0.0	44	0.0	0.067	6.2	LOS A	0.2	1.8	0.18	0.26	0.18	56.0
Approach			117	4.5	117	4.5	0.067	2.3	NA	0.2	1.8	0.18	0.26	0.18	57.6
North: Wagners Place															
7	L2	All MCs	47	0.0	47	0.0	0.055	4.3	LOS A	0.2	1.4	0.24	0.54	0.24	54.9
9	R2	All MCs	23	0.0	23	0.0	0.055	4.7	LOS A	0.2	1.4	0.24	0.54	0.24	49.0
Approach			71	0.0	71	0.0	0.055	4.4	LOS A	0.2	1.4	0.24	0.54	0.24	53.8
West: Woodbury Park Drive															
10	L2	All MCs	3	0.0	3	0.0	0.068	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	18.1
11	T1	All MCs	124	5.1	124	5.1	0.068	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
Approach			127	5.0	127	5.0	0.068	0.2	NA	0.0	0.0	0.00	0.01	0.00	58.8
All Vehicles			315	3.7	315	3.7	0.068	1.9	NA	0.2	1.8	0.12	0.22	0.12	57.5

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

Site: 301 [301 Woodbury Pk Dr / Brickendon Ave EX AM (Site Folder: Existing)]

Intersection: Woodbury Park Drive / Brickendon Avenue
Exisiting AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickendon Avenue															
1	L2	All MCs	26	0.0	26	0.0	0.058	5.8	LOS A	0.2	1.4	0.22	0.57	0.22	48.4
3	R2	All MCs	42	5.0	42	5.0	0.058	6.3	LOS A	0.2	1.4	0.22	0.57	0.22	53.0
Approach			68	3.1	68	3.1	0.058	6.1	LOS A	0.2	1.4	0.22	0.57	0.22	51.8
East: Woodbury Park Drive															
4	L2	All MCs	34	0.0	34	0.0	0.064	5.6	LOS A	0.0	0.0	0.00	0.17	0.00	56.7
5	T1	All MCs	85	6.2	85	6.2	0.064	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	59.0
Approach			119	4.4	119	4.4	0.064	1.6	NA	0.0	0.0	0.00	0.17	0.00	58.4
West: Woodbury Park Drive															
11	T1	All MCs	89	5.9	89	5.9	0.053	0.0	LOS A	0.1	0.4	0.05	0.07	0.05	59.6
12	R2	All MCs	8	0.0	8	0.0	0.053	6.2	LOS A	0.1	0.4	0.05	0.07	0.05	54.6
Approach			98	5.4	98	5.4	0.053	0.5	NA	0.1	0.4	0.05	0.07	0.05	59.4
All Vehicles			285	4.4	285	4.4	0.064	2.3	NA	0.2	1.4	0.07	0.23	0.07	57.5

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

Site: 401 [401 Wagners Pl / Deloraine Glen EX AM (Site Folder: Existing)]

Intersection: Wagners Place / Deloraine Glen
Exisiting AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wagners Place															
2	T1	All MCs	3	0.0	3	0.0	0.017	0.0	LOS A	0.1	0.5	0.06	0.49	0.06	47.1
3	R2	All MCs	27	0.0	27	0.0	0.017	3.8	LOS A	0.1	0.5	0.06	0.49	0.06	31.9
Approach			31	0.0	31	0.0	0.017	3.4	NA	0.1	0.5	0.06	0.49	0.06	33.7
East: Deloraine Glen															
4	L2	All MCs	36	0.0	36	0.0	0.023	4.3	LOS A	0.1	0.6	0.05	0.54	0.05	31.4
6	R2	All MCs	1	0.0	1	0.0	0.023	4.3	LOS A	0.1	0.6	0.05	0.54	0.05	38.9
Approach			37	0.0	37	0.0	0.023	4.3	LOS A	0.1	0.6	0.05	0.54	0.05	31.7
North: Wagner Place															
7	L2	All MCs	1	0.0	1	0.0	0.007	5.5	LOS A	0.0	0.0	0.00	0.05	0.00	41.7
8	T1	All MCs	12	0.0	12	0.0	0.007	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	57.9
Approach			13	0.0	13	0.0	0.007	0.5	NA	0.0	0.0	0.00	0.05	0.00	56.0
All Vehicles			80	0.0	80	0.0	0.023	3.4	NA	0.1	0.6	0.05	0.44	0.05	36.2

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

Site: 501 [501 Deloraine Glen / Keefers Glen EX AM (Site Folder: Existing)]

Intersection: Deloraine Glen / Keefers Glen
Exisiting AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Deloraine Glen															
5	T1	All MCs	5	0.0	5	0.0	0.003	0.0	LOS A	0.0	0.0	0.03	0.10	0.03	54.8
6	R2	All MCs	1	0.0	1	0.0	0.003	3.4	LOS A	0.0	0.0	0.03	0.10	0.03	50.6
Approach			6	0.0	6	0.0	0.003	0.6	NA	0.0	0.0	0.03	0.10	0.03	53.1
North: Keefers Glen															
7	L2	All MCs	1	0.0	1	0.0	0.025	5.5	LOS A	0.1	0.6	0.06	0.58	0.06	42.8
9	R2	All MCs	31	0.0	31	0.0	0.025	5.5	LOS A	0.1	0.6	0.06	0.58	0.06	42.5
Approach			32	0.0	32	0.0	0.025	5.5	LOS A	0.1	0.6	0.06	0.58	0.06	42.6
West: Deloraine Glen															
10	L2	All MCs	24	0.0	24	0.0	0.015	4.3	LOS A	0.0	0.0	0.00	0.50	0.00	45.9
11	T1	All MCs	3	0.0	3	0.0	0.015	0.0	LOS A	0.0	0.0	0.00	0.50	0.00	38.6
Approach			27	0.0	27	0.0	0.015	3.8	NA	0.0	0.0	0.00	0.50	0.00	45.5
All Vehicles			65	0.0	65	0.0	0.025	4.3	NA	0.1	0.6	0.03	0.50	0.03	44.2

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

Site: 601 [601 Brickendon Ave / Hawthorn Pl EX AM (Site Folder: Existing)]

Intersection: Brickendon Avenue / Hawthorne Place
Existing AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Hawthorne Place															
1	L2	All MCs	13	0.0	13	0.0	0.009	5.6	LOS A	0.0	0.2	0.11	0.54	0.11	39.5
3	R2	All MCs	1	0.0	1	0.0	0.009	5.7	LOS A	0.0	0.2	0.11	0.54	0.11	36.8
Approach			14	0.0	14	0.0	0.009	5.6	LOS A	0.0	0.2	0.11	0.54	0.11	39.3
East: Brickendon Avenue															
4	L2	All MCs	1	0.0	1	0.0	0.020	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	50.0
5	T1	All MCs	38	0.0	38	0.0	0.020	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.3
Approach			39	0.0	39	0.0	0.020	0.1	NA	0.0	0.0	0.00	0.02	0.00	59.0
West: Brickendon Avenue															
11	T1	All MCs	38	0.0	38	0.0	0.023	0.0	LOS A	0.0	0.2	0.03	0.08	0.03	56.1
12	R2	All MCs	5	0.0	5	0.0	0.023	5.5	LOS A	0.0	0.2	0.03	0.08	0.03	48.6
Approach			43	0.0	43	0.0	0.023	0.7	NA	0.0	0.2	0.03	0.08	0.03	54.7
All Vehicles			96	0.0	96	0.0	0.023	1.2	NA	0.0	0.2	0.03	0.12	0.03	52.2

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

Site: 701 [701 Brickendon Ave / Keefers Glen EX AM (Site Folder: Existing)]

Intersection: Brickendon Avenue / Keefers Glen
Existing AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keefers Glen															
1	L2	All MCs	31	0.0	31	0.0	0.023	5.6	LOS A	0.1	0.6	0.06	0.55	0.06	35.4
3	R2	All MCs	5	0.0	5	0.0	0.023	5.6	LOS A	0.1	0.6	0.06	0.55	0.06	46.2
Approach			36	0.0	36	0.0	0.023	5.6	LOS A	0.1	0.6	0.06	0.55	0.06	37.1
East: Brickendon Avenue															
4	L2	All MCs	9	0.0	9	0.0	0.013	5.5	LOS A	0.0	0.0	0.00	0.23	0.00	51.5
5	T1	All MCs	15	0.0	15	0.0	0.013	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	53.2
Approach			24	0.0	24	0.0	0.013	2.2	NA	0.0	0.0	0.00	0.23	0.00	52.3
West: Brickendon Avenue															
11	T1	All MCs	6	0.0	6	0.0	0.021	0.0	LOS A	0.1	0.7	0.09	0.47	0.09	48.1
12	R2	All MCs	32	0.0	32	0.0	0.021	4.7	LOS A	0.1	0.7	0.09	0.47	0.09	44.9
Approach			38	0.0	38	0.0	0.021	3.9	NA	0.1	0.7	0.09	0.47	0.09	45.3
All Vehicles			98	0.0	98	0.0	0.023	4.1	NA	0.1	0.7	0.06	0.44	0.06	43.1

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

Site: 102 [102 Wyong Rd / Woodbury Pk Dr / Tonkiss St EX PM (Site Folder: Existing)]

Intersection: Wyong Road / Woodbury Park Drive / Tonkiss Street
Exisiting PM Peak
3:00pm - 4:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tonkiss Street															
1	L2	All MCs	397	1.6	397	1.6	0.458	7.3	LOS A	3.3	23.2	0.89	0.84	0.97	54.9
2	T1	All MCs	84	2.5	84	2.5	0.257	7.2	LOS A	1.7	11.8	0.82	0.73	0.82	55.8
3	R2	All MCs	182	1.7	182	1.7	0.257	12.5	LOS A	1.7	11.8	0.87	0.81	0.87	52.6
3u	U	All MCs	4	0.0	4	0.0	0.257	14.8	LOS B	1.7	11.8	0.87	0.81	0.87	54.1
Approach			667	1.7	667	1.7	0.458	8.7	LOS A	3.3	23.2	0.88	0.82	0.92	54.4
East: Wyong Road															
4	L2	All MCs	137	0.0	137	0.0	0.802	11.4	LOS A	10.9	79.6	0.93	0.91	1.27	53.8
5	T1	All MCs	1333	5.7	1333	5.7	0.802	11.1	LOS A	10.9	79.6	0.93	0.93	1.29	50.9
6	R2	All MCs	76	6.9	76	6.9	0.802	17.5	LOS B	10.4	76.4	0.94	0.94	1.32	53.1
6u	U	All MCs	14	0.0	14	0.0	0.802	19.5	LOS B	10.4	76.4	0.94	0.94	1.32	50.0
Approach			1559	5.2	1559	5.2	0.802	11.5	LOS A	10.9	79.6	0.93	0.93	1.29	51.4
North: Woodbury Park Drive															
7	L2	All MCs	84	5.0	84	5.0	0.179	8.4	LOS A	1.0	7.1	0.85	0.84	0.85	55.0
8	T1	All MCs	51	2.1	51	2.1	0.179	9.9	LOS A	1.0	7.1	0.83	0.89	0.83	55.3
9	R2	All MCs	28	0.0	28	0.0	0.179	15.6	LOS B	0.9	6.0	0.82	0.90	0.82	53.1
Approach			163	3.2	163	3.2	0.179	10.1	LOS A	1.0	7.1	0.84	0.87	0.84	54.8
West: Wyong Road															
10	L2	All MCs	17	25.0	17	25.0	0.748	8.2	LOS A	8.3	62.1	0.78	0.73	0.93	54.6
11	T1	All MCs	1227	7.3	1227	7.3	0.748	7.6	LOS A	8.3	62.1	0.79	0.75	0.94	52.1
12	R2	All MCs	417	1.3	417	1.3	0.748	13.5	LOS A	8.2	59.6	0.80	0.79	0.97	52.9
Approach			1661	6.0	1661	6.0	0.748	9.1	LOS A	8.3	62.1	0.79	0.76	0.95	52.4
All Vehicles			4051	4.9	4051	4.9	0.802	10.0	LOS A	10.9	79.6	0.86	0.84	1.07	52.6

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

Site: 202 [202 Woodbury Pk Dr / Wagners Pl EX PM (Site Folder: Existing)]

Intersection: Woodbury Park Drive / Wagners Place
Exisiting PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Woodbury Park Drive															
5	T1	All MCs	182	5.8	182	5.8	0.127	0.0	LOS A	0.3	2.2	0.12	0.16	0.12	59.1
6	R2	All MCs	45	4.7	45	4.7	0.127	6.6	LOS A	0.3	2.2	0.12	0.16	0.12	56.8
Approach			227	5.6	227	5.6	0.127	1.3	NA	0.3	2.2	0.12	0.16	0.12	58.7
North: Wagners Place															
7	L2	All MCs	27	0.0	27	0.0	0.033	4.3	LOS A	0.1	0.9	0.26	0.54	0.26	54.9
9	R2	All MCs	13	8.3	13	8.3	0.033	5.4	LOS A	0.1	0.9	0.26	0.54	0.26	48.3
Approach			40	2.6	40	2.6	0.033	4.6	LOS A	0.1	0.9	0.26	0.54	0.26	53.7
West: Woodbury Park Drive															
10	L2	All MCs	6	0.0	6	0.0	0.073	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	18.1
11	T1	All MCs	131	6.5	131	6.5	0.073	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.8
Approach			137	6.2	137	6.2	0.073	0.3	NA	0.0	0.0	0.00	0.03	0.00	57.8
All Vehicles			404	5.5	404	5.5	0.127	1.3	NA	0.3	2.2	0.09	0.15	0.09	58.0

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

Site: 302 [302 Woodbury Pk Dr / Brickendon Ave EX PM (Site Folder: Existing)]

Intersection: Woodbury Park Drive / Brickendon Avenue
Exisiting PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickendon Avenue															
1	L2	All MCs	17	0.0	17	0.0	0.047	5.9	LOS A	0.2	1.1	0.29	0.58	0.29	48.1
3	R2	All MCs	35	0.0	35	0.0	0.047	6.7	LOS A	0.2	1.1	0.29	0.58	0.29	53.1
Approach			52	0.0	52	0.0	0.047	6.4	LOS A	0.2	1.1	0.29	0.58	0.29	52.0
East: Woodbury Park Drive															
4	L2	All MCs	31	0.0	31	0.0	0.077	5.6	LOS A	0.0	0.0	0.00	0.13	0.00	56.9
5	T1	All MCs	113	7.5	113	7.5	0.077	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	59.2
Approach			143	5.9	143	5.9	0.077	1.2	NA	0.0	0.0	0.00	0.13	0.00	58.8
West: Woodbury Park Drive															
11	T1	All MCs	167	6.3	167	6.3	0.102	0.0	LOS A	0.1	1.0	0.06	0.09	0.06	59.5
12	R2	All MCs	19	5.6	19	5.6	0.102	6.7	LOS A	0.1	1.0	0.06	0.09	0.06	54.0
Approach			186	6.2	186	6.2	0.102	0.7	NA	0.1	1.0	0.06	0.09	0.06	59.2
All Vehicles			381	5.2	381	5.2	0.102	1.7	NA	0.2	1.1	0.07	0.17	0.07	58.3

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

Site: 402 [402 Wagners Pl / Deloraine Glen EX PM (Site Folder: Existing)]

Intersection: Wagners Place / Deloraine Glen
Exisiting PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wagners Place															
2	T1	All MCs	13	0.0	13	0.0	0.027	0.0	LOS A	0.1	0.9	0.05	0.42	0.05	48.9
3	R2	All MCs	37	0.0	37	0.0	0.027	3.8	LOS A	0.1	0.9	0.05	0.42	0.05	33.4
Approach			49	0.0	49	0.0	0.027	2.8	NA	0.1	0.9	0.05	0.42	0.05	37.9
East: Deloraine Glen															
4	L2	All MCs	36	0.0	36	0.0	0.023	4.3	LOS A	0.1	0.6	0.04	0.54	0.04	31.5
6	R2	All MCs	1	0.0	1	0.0	0.023	4.3	LOS A	0.1	0.6	0.04	0.54	0.04	39.0
Approach			37	0.0	37	0.0	0.023	4.3	LOS A	0.1	0.6	0.04	0.54	0.04	31.8
North: Wagner Place															
7	L2	All MCs	1	0.0	1	0.0	0.004	5.5	LOS A	0.0	0.0	0.00	0.07	0.00	41.2
8	T1	All MCs	7	0.0	7	0.0	0.004	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	57.0
Approach			8	0.0	8	0.0	0.004	0.7	NA	0.0	0.0	0.00	0.07	0.00	54.2
All Vehicles			95	0.0	95	0.0	0.027	3.2	NA	0.1	0.9	0.04	0.44	0.04	37.0

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

Site: 502 [502 Deloraine Glen / Keefers Glen EX PM (Site Folder: Existing)]

Intersection: Deloraine Glen / Keefers Glen
Exisiting PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Deloraine Glen															
5	T1	All MCs	8	0.0	8	0.0	0.006	0.0	LOS A	0.0	0.1	0.05	0.12	0.05	53.7
6	R2	All MCs	2	0.0	2	0.0	0.006	3.4	LOS A	0.0	0.1	0.05	0.12	0.05	50.3
Approach			11	0.0	11	0.0	0.006	0.7	NA	0.0	0.1	0.05	0.12	0.05	52.2
North: Keefers Glen															
7	L2	All MCs	1	0.0	1	0.0	0.023	5.6	LOS A	0.1	0.5	0.09	0.57	0.09	42.7
9	R2	All MCs	27	0.0	27	0.0	0.023	5.5	LOS A	0.1	0.5	0.09	0.57	0.09	42.4
Approach			28	0.0	28	0.0	0.023	5.5	LOS A	0.1	0.5	0.09	0.57	0.09	42.4
West: Deloraine Glen															
10	L2	All MCs	25	0.0	25	0.0	0.019	4.3	LOS A	0.0	0.0	0.00	0.40	0.00	47.2
11	T1	All MCs	11	0.0	11	0.0	0.019	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	41.5
Approach			36	0.0	36	0.0	0.019	3.1	NA	0.0	0.0	0.00	0.40	0.00	46.4
All Vehicles			75	0.0	75	0.0	0.023	3.7	NA	0.1	0.5	0.04	0.43	0.04	44.9

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

Site: 602 [602 Brickendon Ave / Hawthorn Pl EX PM (Site Folder: Existing)]

Intersection: Brickendon Avenue / Hawthorne Place
Existing PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Hawthorne Place															
1	L2	All MCs	6	0.0	6	0.0	0.006	5.6	LOS A	0.0	0.1	0.12	0.54	0.12	39.4
3	R2	All MCs	2	0.0	2	0.0	0.006	5.7	LOS A	0.0	0.1	0.12	0.54	0.12	36.7
Approach			8	0.0	8	0.0	0.006	5.7	LOS A	0.0	0.1	0.12	0.54	0.12	38.8
East: Brickendon Avenue															
4	L2	All MCs	1	0.0	1	0.0	0.022	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	50.0
5	T1	All MCs	42	0.0	42	0.0	0.022	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.4
Approach			43	0.0	43	0.0	0.022	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.1
West: Brickendon Avenue															
11	T1	All MCs	31	0.0	31	0.0	0.022	0.0	LOS A	0.1	0.4	0.07	0.16	0.07	52.3
12	R2	All MCs	11	0.0	11	0.0	0.022	5.7	LOS A	0.1	0.4	0.07	0.16	0.07	46.6
Approach			41	0.0	41	0.0	0.022	1.5	NA	0.1	0.4	0.07	0.16	0.07	50.3
All Vehicles			93	0.0	93	0.0	0.022	1.2	NA	0.1	0.4	0.04	0.13	0.04	51.8

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

Site: 702 [702 Brickendon Ave / Keefers Glen EX PM (Site Folder: Existing)]

Intersection: Brickendon Avenue / Keefers Glen
Existing PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keefers Glen															
1	L2	All MCs	35	0.0	35	0.0	0.026	5.6	LOS A	0.1	0.7	0.05	0.56	0.05	35.5
3	R2	All MCs	5	0.0	5	0.0	0.026	5.5	LOS A	0.1	0.7	0.05	0.56	0.05	46.3
Approach			40	0.0	40	0.0	0.026	5.5	LOS A	0.1	0.7	0.05	0.56	0.05	37.0
East: Brickendon Avenue															
4	L2	All MCs	2	0.0	2	0.0	0.006	5.5	LOS A	0.0	0.0	0.00	0.11	0.00	53.3
5	T1	All MCs	9	0.0	9	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	56.6
Approach			12	0.0	12	0.0	0.006	1.0	NA	0.0	0.0	0.00	0.11	0.00	55.7
West: Brickendon Avenue															
11	T1	All MCs	12	0.0	12	0.0	0.016	0.0	LOS A	0.1	0.5	0.05	0.35	0.05	50.9
12	R2	All MCs	18	0.0	18	0.0	0.016	4.7	LOS A	0.1	0.5	0.05	0.35	0.05	46.8
Approach			29	0.0	29	0.0	0.016	2.8	NA	0.1	0.5	0.05	0.35	0.05	48.1
All Vehicles			81	0.0	81	0.0	0.026	3.9	NA	0.1	0.7	0.04	0.42	0.04	42.1

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

Organisation: TRAFFIX PTY LTD | Licence: NETWORK / 1PC | Created: Friday, 7 February 2025 10:25:03 AM
Project: T:\Synergy\Projects\23\23.104\Modelling\23.104m01v01 TRAFFIX St Peters Eileen School.sip9

USER REPORT FOR SITE

Project: 23.104m01v01 TRAFFIX St Peters Eileen School

Output produced by SIDRA INTERSECTION Version: 9.1.1.200 **Template: Movement Summaries**

Site: 103 [103 Wyong Rd / Woodbury Pk Dr / Tonkiss St EX+DEV AM (Site Folder: Existing + Development)]

Intersection: Wyong Road / Woodbury Park Drive / Tonkiss Street
Exisiting + Development AM Peak
8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tonkiss Street															
1	L2	All MCs	84	1.3	84	1.3	0.072	4.9	LOS A	0.4	2.6	0.62	0.59	0.62	55.6
2	T1	All MCs	31	0.0	31	0.0	0.060	5.5	LOS A	0.3	2.3	0.66	0.61	0.66	56.1
3	R2	All MCs	44	7.1	44	7.1	0.060	10.9	LOS A	0.3	2.3	0.67	0.71	0.67	53.1
3u	U	All MCs	6	16.7	6	16.7	0.060	13.5	LOS A	0.3	2.3	0.67	0.71	0.67	54.4
Approach			165	3.2	165	3.2	0.072	7.0	LOS A	0.4	2.6	0.64	0.63	0.64	55.0
East: Wyong Road															
4	L2	All MCs	111	1.0	111	1.0	0.603	9.0	LOS A	5.1	39.2	0.81	0.78	0.97	54.6
5	T1	All MCs	798	13.1	798	13.1	0.603	8.6	LOS A	5.1	39.2	0.81	0.80	0.98	52.0
6	R2	All MCs	114	3.7	114	3.7	0.603	14.5	LOS A	4.9	37.2	0.81	0.83	1.00	54.0
6u	U	All MCs	1	0.0	1	0.0	0.603	16.7	LOS B	4.9	37.2	0.81	0.83	1.00	51.2
Approach			1023	10.7	1023	10.7	0.603	9.3	LOS A	5.1	39.2	0.81	0.80	0.98	52.7
North: Woodbury Park Drive															
7	L2	All MCs	148	2.8	148	2.8	0.431	12.6	LOS A	2.8	19.8	0.95	0.96	1.09	53.3
8	T1	All MCs	55	1.9	55	1.9	0.431	14.2	LOS A	2.8	19.8	0.93	0.98	1.08	54.0
9	R2	All MCs	103	0.0	103	0.0	0.431	21.2	LOS B	2.3	16.3	0.90	1.01	1.07	49.9
Approach			306	1.7	306	1.7	0.431	15.8	LOS B	2.8	19.8	0.93	0.98	1.08	52.3
West: Wyong Road															
10	L2	All MCs	77	5.5	77	5.5	0.860	7.4	LOS A	14.1	103.1	0.83	0.67	0.92	54.8
11	T1	All MCs	1686	5.4	1686	5.4	0.860	7.4	LOS A	14.2	102.8	0.85	0.69	0.95	52.0
12	R2	All MCs	464	1.1	464	1.1	0.860	13.6	LOS A	14.2	102.8	0.87	0.72	1.00	53.0
Approach			2227	4.5	2227	4.5	0.860	8.7	LOS A	14.2	103.1	0.85	0.69	0.96	52.4
All Vehicles			3722	5.9	3722	5.9	0.860	9.4	LOS A	14.2	103.1	0.84	0.75	0.96	52.6

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

Site: 203 [203 Woodbury Pk Dr / Wagners Pl EX+DEV AM (Site Folder: Existing + Development)]

Intersection: Woodbury Park Drive / Wagners Place
Exisiting + Development AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Woodbury Park Drive															
5	T1	All MCs	73	7.2	73	7.2	0.141	0.0	LOS A	0.7	5.0	0.25	0.43	0.25	57.4
6	R2	All MCs	164	0.0	164	0.0	0.141	6.1	LOS A	0.7	5.0	0.25	0.43	0.25	54.8
Approach			237	2.2	237	2.2	0.141	4.2	NA	0.7	5.0	0.25	0.43	0.25	55.7
North: Wagners Place															
7	L2	All MCs	107	0.0	107	0.0	0.098	4.3	LOS A	0.4	2.7	0.25	0.54	0.25	54.9
9	R2	All MCs	23	0.0	23	0.0	0.098	5.3	LOS A	0.4	2.7	0.25	0.54	0.25	48.9
Approach			131	0.0	131	0.0	0.098	4.5	LOS A	0.4	2.7	0.25	0.54	0.25	54.3
West: Woodbury Park Drive															
10	L2	All MCs	3	0.0	3	0.0	0.068	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	18.1
11	T1	All MCs	124	5.1	124	5.1	0.068	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
Approach			127	5.0	127	5.0	0.068	0.2	NA	0.0	0.0	0.00	0.01	0.00	58.8
All Vehicles			495	2.3	495	2.3	0.141	3.2	NA	0.7	5.0	0.19	0.35	0.19	56.3

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

Site: 303 [303 Woodbury Pk Dr / Brickendon Ave EX+DEV AM (Site Folder: Existing + Development)]

Intersection: Woodbury Park Drive / Brickendon Avenue
Exisiting + Development AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickendon Avenue															
1	L2	All MCs	26	0.0	26	0.0	0.072	5.8	LOS A	0.3	1.8	0.24	0.58	0.24	48.3
3	R2	All MCs	57	3.7	57	3.7	0.072	6.3	LOS A	0.3	1.8	0.24	0.58	0.24	53.1
Approach			83	2.5	83	2.5	0.072	6.2	LOS A	0.3	1.8	0.24	0.58	0.24	52.1
East: Woodbury Park Drive															
4	L2	All MCs	63	0.0	63	0.0	0.079	5.6	LOS A	0.0	0.0	0.00	0.25	0.00	56.1
5	T1	All MCs	85	6.2	85	6.2	0.079	0.0	LOS A	0.0	0.0	0.00	0.25	0.00	58.5
Approach			148	3.5	148	3.5	0.079	2.4	NA	0.0	0.0	0.00	0.25	0.00	57.6
West: Woodbury Park Drive															
11	T1	All MCs	89	5.9	89	5.9	0.053	0.0	LOS A	0.1	0.4	0.05	0.07	0.05	59.6
12	R2	All MCs	8	0.0	8	0.0	0.053	6.5	LOS A	0.1	0.4	0.05	0.07	0.05	54.5
Approach			98	5.4	98	5.4	0.053	0.6	NA	0.1	0.4	0.05	0.07	0.05	59.4
All Vehicles			329	3.8	329	3.8	0.079	2.8	NA	0.3	1.8	0.08	0.28	0.08	57.0

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

Site: 403 [403 Wagners Pl / Deloraine Glen EX+DEV AM (Site Folder: Existing + Development)]

Intersection: Wagners Place / Deloraine Glen
Exisiting +Development AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wagners Place															
2	T1	All MCs	3	0.0	3	0.0	0.084	0.0	LOS A	0.4	2.8	0.06	0.54	0.06	46.2
3	R2	All MCs	147	0.0	147	0.0	0.084	3.8	LOS A	0.4	2.8	0.06	0.54	0.06	31.1
Approach			151	0.0	151	0.0	0.084	3.7	NA	0.4	2.8	0.06	0.54	0.06	31.5
East: Deloraine Glen															
4	L2	All MCs	96	0.0	96	0.0	0.060	4.3	LOS A	0.2	1.7	0.05	0.54	0.05	31.4
6	R2	All MCs	1	0.0	1	0.0	0.060	4.5	LOS A	0.2	1.7	0.05	0.54	0.05	38.9
Approach			97	0.0	97	0.0	0.060	4.3	LOS A	0.2	1.7	0.05	0.54	0.05	31.5
North: Wagner Place															
7	L2	All MCs	1	0.0	1	0.0	0.007	5.5	LOS A	0.0	0.0	0.00	0.05	0.00	41.7
8	T1	All MCs	12	0.0	12	0.0	0.007	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	57.9
Approach			13	0.0	13	0.0	0.007	0.5	NA	0.0	0.0	0.00	0.05	0.00	56.0
All Vehicles			260	0.0	260	0.0	0.084	3.8	NA	0.4	2.8	0.06	0.51	0.06	32.7

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

Site: 503 [503 Deloraine Glen / Keefers Glen EX+DEV AM (Site Folder: Existing + Development)]

Intersection: Deloraine Glen / Keefers Glen
Exisiting +Development AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Deloraine Glen															
5	T1	All MCs	5	0.0	5	0.0	0.003	0.0	LOS A	0.0	0.0	0.09	0.12	0.09	53.7
6	R2	All MCs	1	0.0	1	0.0	0.003	4.2	LOS A	0.0	0.0	0.09	0.12	0.09	50.3
Approach			6	0.0	6	0.0	0.003	0.7	NA	0.0	0.0	0.09	0.12	0.09	52.4
North: Keefers Glen															
7	L2	All MCs	1	0.0	1	0.0	0.076	5.6	LOS A	0.3	1.8	0.14	0.57	0.14	42.4
9	R2	All MCs	91	0.0	91	0.0	0.076	5.7	LOS A	0.3	1.8	0.14	0.57	0.14	42.1
Approach			92	0.0	92	0.0	0.076	5.7	LOS A	0.3	1.8	0.14	0.57	0.14	42.1
West: Deloraine Glen															
10	L2	All MCs	144	0.0	144	0.0	0.079	4.3	LOS A	0.0	0.0	0.00	0.55	0.00	45.2
11	T1	All MCs	3	0.0	3	0.0	0.079	0.0	LOS A	0.0	0.0	0.00	0.55	0.00	37.2
Approach			147	0.0	147	0.0	0.079	4.2	NA	0.0	0.0	0.00	0.55	0.00	45.1
All Vehicles			245	0.0	245	0.0	0.079	4.7	NA	0.3	1.8	0.05	0.55	0.05	44.0

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

Site: 603 [603 Brickendon Ave / Hawthorn Pl EX+DEV AM (Site Folder: Existing + Development)]

Intersection: Brickendon Avenue / Hawthorne Place
Existing + Development AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Hawthorne Place															
1	L2	All MCs	13	0.0	13	0.0	0.009	5.7	LOS A	0.0	0.2	0.13	0.54	0.13	39.3
3	R2	All MCs	1	0.0	1	0.0	0.009	5.8	LOS A	0.0	0.2	0.13	0.54	0.13	36.7
Approach			14	0.0	14	0.0	0.009	5.7	LOS A	0.0	0.2	0.13	0.54	0.13	39.1
East: Brickendon Avenue															
4	L2	All MCs	1	0.0	1	0.0	0.028	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	50.1
5	T1	All MCs	53	0.0	53	0.0	0.028	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.5
Approach			54	0.0	54	0.0	0.028	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.2
West: Brickendon Avenue															
11	T1	All MCs	67	0.0	67	0.0	0.038	0.0	LOS A	0.0	0.2	0.02	0.05	0.02	57.5
12	R2	All MCs	5	0.0	5	0.0	0.038	5.6	LOS A	0.0	0.2	0.02	0.05	0.02	49.3
Approach			73	0.0	73	0.0	0.038	0.4	NA	0.0	0.2	0.02	0.05	0.02	56.5
All Vehicles			140	0.0	140	0.0	0.038	0.8	NA	0.0	0.2	0.02	0.08	0.02	54.3

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

Site: 703 [703 Brickendon Ave / Keefers Glen EX+DEV AM (Site Folder: Existing + Development)]

Intersection: Brickendon Avenue / Keefers Glen
Existing +Development AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keefers Glen															
1	L2	All MCs	45	0.0	45	0.0	0.032	5.6	LOS A	0.1	0.9	0.06	0.55	0.06	35.5
3	R2	All MCs	5	0.0	5	0.0	0.032	5.6	LOS A	0.1	0.9	0.06	0.55	0.06	46.2
Approach			51	0.0	51	0.0	0.032	5.6	LOS A	0.1	0.9	0.06	0.55	0.06	36.6
East: Brickendon Avenue															
4	L2	All MCs	9	0.0	9	0.0	0.013	5.5	LOS A	0.0	0.0	0.00	0.23	0.00	51.5
5	T1	All MCs	15	0.0	15	0.0	0.013	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	53.2
Approach			24	0.0	24	0.0	0.013	2.2	NA	0.0	0.0	0.00	0.23	0.00	52.3
West: Brickendon Avenue															
11	T1	All MCs	6	0.0	6	0.0	0.038	0.0	LOS A	0.2	1.2	0.09	0.51	0.09	47.3
12	R2	All MCs	61	0.0	61	0.0	0.038	4.7	LOS A	0.2	1.2	0.09	0.51	0.09	44.4
Approach			67	0.0	67	0.0	0.038	4.3	NA	0.2	1.2	0.09	0.51	0.09	44.6
All Vehicles			142	0.0	142	0.0	0.038	4.4	NA	0.2	1.2	0.06	0.48	0.06	42.3

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

Site: 104 [104 Wyong Rd / Woodbury Pk Dr / Tonkiss St EX+DEV PM (Site Folder: Existing + Development)]

Intersection: Wyong Road / Woodbury Park Drive / Tonkiss Street
Exisiting +Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tonkiss Street															
1	L2	All MCs	397	1.6	397	1.6	0.475	7.7	LOS A	3.5	24.6	0.91	0.86	1.00	54.9
2	T1	All MCs	84	2.5	84	2.5	0.273	7.6	LOS A	1.8	13.0	0.85	0.76	0.85	55.8
3	R2	All MCs	182	1.7	182	1.7	0.273	13.0	LOS A	1.8	13.0	0.90	0.82	0.90	52.5
3u	U	All MCs	4	0.0	4	0.0	0.273	15.3	LOS B	1.8	13.0	0.90	0.82	0.90	54.1
Approach			667	1.7	667	1.7	0.475	9.2	LOS A	3.5	24.6	0.90	0.83	0.95	54.4
East: Wyong Road															
4	L2	All MCs	137	0.0	137	0.0	0.837	12.9	LOS A	12.5	91.4	0.97	1.00	1.43	53.1
5	T1	All MCs	1333	5.7	1333	5.7	0.837	12.8	LOS A	12.5	91.4	0.97	1.01	1.45	49.9
6	R2	All MCs	106	5.0	106	5.0	0.837	19.2	LOS B	11.9	87.1	0.97	1.03	1.49	52.3
6u	U	All MCs	14	0.0	14	0.0	0.837	21.3	LOS B	11.9	87.1	0.97	1.03	1.49	48.9
Approach			1589	5.1	1589	5.1	0.837	13.3	LOS A	12.5	91.4	0.97	1.01	1.45	50.5
North: Woodbury Park Drive															
7	L2	All MCs	120	3.5	120	3.5	0.264	8.6	LOS A	1.5	10.8	0.88	0.86	0.88	55.0
8	T1	All MCs	51	2.1	51	2.1	0.264	10.0	LOS A	1.5	10.8	0.86	0.90	0.86	55.0
9	R2	All MCs	64	0.0	64	0.0	0.264	15.9	LOS B	1.3	9.1	0.85	0.92	0.85	52.4
Approach			235	2.2	235	2.2	0.264	10.9	LOS A	1.5	10.8	0.86	0.88	0.86	54.3
West: Wyong Road															
10	L2	All MCs	46	9.1	46	9.1	0.777	8.6	LOS A	9.3	69.1	0.83	0.79	1.02	54.7
11	T1	All MCs	1227	7.3	1227	7.3	0.777	8.4	LOS A	9.3	69.1	0.83	0.80	1.04	51.9
12	R2	All MCs	417	1.3	417	1.3	0.777	14.4	LOS A	9.1	66.1	0.84	0.84	1.07	52.7
Approach			1691	5.9	1691	5.9	0.777	9.9	LOS A	9.3	69.1	0.83	0.81	1.04	52.3
All Vehicles			4182	4.7	4182	4.7	0.837	11.1	LOS A	12.5	91.4	0.90	0.89	1.18	52.2

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

Site: 204 [204 Woodbury Pk Dr / Wagners Pl EX+DEV PM (Site Folder: Existing + Development)]

Intersection: Woodbury Park Drive / Wagners Place
Exisiting +Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Woodbury Park Drive															
5	T1	All MCs	182	5.8	182	5.8	0.165	0.0	LOS A	0.6	4.7	0.20	0.27	0.20	58.4
6	R2	All MCs	105	2.0	105	2.0	0.165	6.4	LOS A	0.6	4.7	0.20	0.27	0.20	56.0
Approach			287	4.4	287	4.4	0.165	2.4	NA	0.6	4.7	0.20	0.27	0.20	57.7
North: Wagners Place															
7	L2	All MCs	99	0.0	99	0.0	0.083	4.3	LOS A	0.3	2.3	0.25	0.54	0.25	54.9
9	R2	All MCs	13	8.3	13	8.3	0.083	5.9	LOS A	0.3	2.3	0.25	0.54	0.25	48.3
Approach			112	0.9	112	0.9	0.083	4.5	LOS A	0.3	2.3	0.25	0.54	0.25	54.5
West: Woodbury Park Drive															
10	L2	All MCs	6	0.0	6	0.0	0.073	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	18.1
11	T1	All MCs	131	6.5	131	6.5	0.073	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.8
Approach			137	6.2	137	6.2	0.073	0.3	NA	0.0	0.0	0.00	0.03	0.00	57.8
All Vehicles			536	4.1	536	4.1	0.165	2.3	NA	0.6	4.7	0.16	0.26	0.16	57.2

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

Site: 304 [304 Woodbury Pk Dr / Brickendon Ave EX+DEV PM (Site Folder: Existing + Development)]

Intersection: Woodbury Park Drive / Brickendon Avenue
Exisiting + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickendon Avenue															
1	L2	All MCs	17	0.0	17	0.0	0.066	5.9	LOS A	0.2	1.6	0.31	0.60	0.31	48.1
3	R2	All MCs	53	0.0	53	0.0	0.066	6.7	LOS A	0.2	1.6	0.31	0.60	0.31	53.0
Approach			69	0.0	69	0.0	0.066	6.5	LOS A	0.2	1.6	0.31	0.60	0.31	52.3
East: Woodbury Park Drive															
4	L2	All MCs	45	0.0	45	0.0	0.085	5.6	LOS A	0.0	0.0	0.00	0.17	0.00	56.6
5	T1	All MCs	113	7.5	113	7.5	0.085	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	58.9
Approach			158	5.3	158	5.3	0.085	1.6	NA	0.0	0.0	0.00	0.17	0.00	58.4
West: Woodbury Park Drive															
11	T1	All MCs	167	6.3	167	6.3	0.102	0.0	LOS A	0.1	1.0	0.07	0.09	0.07	59.5
12	R2	All MCs	19	5.6	19	5.6	0.102	6.8	LOS A	0.1	1.0	0.07	0.09	0.07	54.0
Approach			186	6.2	186	6.2	0.102	0.7	NA	0.1	1.0	0.07	0.09	0.07	59.2
All Vehicles			414	4.8	414	4.8	0.102	2.0	NA	0.2	1.6	0.08	0.21	0.08	57.9

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

Site: 404 [404 Wagners Pl / Deloraine Glen EX+DEV PM (Site Folder: Existing + Development)]

Intersection: Wagners Place / Deloraine Glen
Exisiting +Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wagners Place															
2	T1	All MCs	13	0.0	13	0.0	0.061	0.0	LOS A	0.3	2.0	0.05	0.49	0.05	47.3
3	R2	All MCs	97	0.0	97	0.0	0.061	3.8	LOS A	0.3	2.0	0.05	0.49	0.05	32.0
Approach			109	0.0	109	0.0	0.061	3.3	NA	0.3	2.0	0.05	0.49	0.05	34.1
East: Deloraine Glen															
4	L2	All MCs	107	0.0	107	0.0	0.067	4.3	LOS A	0.3	1.9	0.04	0.54	0.04	31.5
6	R2	All MCs	1	0.0	1	0.0	0.067	4.4	LOS A	0.3	1.9	0.04	0.54	0.04	39.0
Approach			108	0.0	108	0.0	0.067	4.3	LOS A	0.3	1.9	0.04	0.54	0.04	31.6
North: Wagner Place															
7	L2	All MCs	1	0.0	1	0.0	0.004	5.5	LOS A	0.0	0.0	0.00	0.07	0.00	41.2
8	T1	All MCs	7	0.0	7	0.0	0.004	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	57.0
Approach			8	0.0	8	0.0	0.004	0.7	NA	0.0	0.0	0.00	0.07	0.00	54.2
All Vehicles			226	0.0	226	0.0	0.067	3.7	NA	0.3	2.0	0.04	0.50	0.04	33.7

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

Site: 504 [504 Deloraine Glen / Keefers Glen EX+DEV PM (Site Folder: Existing + Development)]

Intersection: Deloraine Glen / Keefers Glen
Exisiting + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Deloraine Glen															
5	T1	All MCs	8	0.0	8	0.0	0.006	0.0	LOS A	0.0	0.1	0.09	0.13	0.09	53.1
6	R2	All MCs	2	0.0	2	0.0	0.006	3.9	LOS A	0.0	0.1	0.09	0.13	0.09	50.1
Approach			11	0.0	11	0.0	0.006	0.8	NA	0.0	0.1	0.09	0.13	0.09	51.8
North: Keefers Glen															
7	L2	All MCs	1	0.0	1	0.0	0.082	5.6	LOS A	0.3	1.9	0.13	0.57	0.13	42.4
9	R2	All MCs	99	0.0	99	0.0	0.082	5.7	LOS A	0.3	1.9	0.13	0.57	0.13	42.2
Approach			100	0.0	100	0.0	0.082	5.7	LOS A	0.3	1.9	0.13	0.57	0.13	42.2
West: Deloraine Glen															
10	L2	All MCs	85	0.0	85	0.0	0.051	4.3	LOS A	0.0	0.0	0.00	0.50	0.00	45.8
11	T1	All MCs	11	0.0	11	0.0	0.051	0.0	LOS A	0.0	0.0	0.00	0.50	0.00	38.5
Approach			96	0.0	96	0.0	0.051	3.9	NA	0.0	0.0	0.00	0.50	0.00	45.5
All Vehicles			206	0.0	206	0.0	0.082	4.6	NA	0.3	1.9	0.07	0.52	0.07	43.8

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

Site: 604 [604 Brickendon Ave / Hawthorn Pl EX+DEV PM (Site Folder: Existing + Development)]

Intersection: Brickendon Avenue / Hawthorne Place
Existing + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Hawthorne Place															
1	L2	All MCs	6	0.0	6	0.0	0.006	5.7	LOS A	0.0	0.2	0.14	0.54	0.14	39.2
3	R2	All MCs	2	0.0	2	0.0	0.006	5.8	LOS A	0.0	0.2	0.14	0.54	0.14	36.6
Approach			8	0.0	8	0.0	0.006	5.7	LOS A	0.0	0.2	0.14	0.54	0.14	38.6
East: Brickendon Avenue															
4	L2	All MCs	1	0.0	1	0.0	0.031	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	50.1
5	T1	All MCs	60	0.0	60	0.0	0.031	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.6
Approach			61	0.0	61	0.0	0.031	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.3
West: Brickendon Avenue															
11	T1	All MCs	45	0.0	45	0.0	0.030	0.0	LOS A	0.1	0.4	0.06	0.12	0.06	53.9
12	R2	All MCs	11	0.0	11	0.0	0.030	5.8	LOS A	0.1	0.4	0.06	0.12	0.06	47.4
Approach			56	0.0	56	0.0	0.030	1.1	NA	0.1	0.4	0.06	0.12	0.06	52.1
All Vehicles			125	0.0	125	0.0	0.031	0.9	NA	0.1	0.4	0.04	0.10	0.04	53.5

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

Site: 704 [704 Brickendon Ave / Keefers Glen EX+DEV PM (Site Folder: Existing + Development)]

Intersection: Brickendon Avenue / Keefers Glen
Existing + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keefers Glen															
1	L2	All MCs	53	0.0	53	0.0	0.037	5.6	LOS A	0.1	1.0	0.05	0.56	0.05	35.5
3	R2	All MCs	5	0.0	5	0.0	0.037	5.5	LOS A	0.1	1.0	0.05	0.56	0.05	46.3
Approach			58	0.0	58	0.0	0.037	5.6	LOS A	0.1	1.0	0.05	0.56	0.05	36.5
East: Brickendon Avenue															
4	L2	All MCs	2	0.0	2	0.0	0.006	5.5	LOS A	0.0	0.0	0.00	0.11	0.00	53.3
5	T1	All MCs	9	0.0	9	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	56.6
Approach			12	0.0	12	0.0	0.006	1.0	NA	0.0	0.0	0.00	0.11	0.00	55.7
West: Brickendon Avenue															
11	T1	All MCs	12	0.0	12	0.0	0.024	0.0	LOS A	0.1	0.8	0.05	0.42	0.05	49.4
12	R2	All MCs	33	0.0	33	0.0	0.024	4.7	LOS A	0.1	0.8	0.05	0.42	0.05	45.8
Approach			44	0.0	44	0.0	0.024	3.5	NA	0.1	0.8	0.05	0.42	0.05	46.6
All Vehicles			114	0.0	114	0.0	0.037	4.3	NA	0.1	1.0	0.05	0.46	0.05	41.1

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

USER REPORT FOR SITE

Project: 23.104m01v01 TRAFFIX St Peters Eileen School

Output produced by SIDRA INTERSECTION Version: 9.1.1.200 **Template: Movement Summaries**

Site: 105 [105 Wyong Rd / Woodbury Pk Dr / Tonkiss St EX+10YR AM (Site Folder: Existing + 10yr Growth)]

Intersection: Wyong Road / Woodbury Park Drive / Tonkiss Street
10yr Growth AM Peak
8:00am - 9:00am
Site Category: (None)
Roundabout
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tonkiss Street															
1	L2	All MCs	98	1.3	98	1.3	0.093	5.3	LOS A	0.5	3.6	0.70	0.64	0.70	55.4
2	T1	All MCs	35	0.0	35	0.0	0.075	5.8	LOS A	0.4	3.1	0.71	0.64	0.71	56.0
3	R2	All MCs	51	7.1	51	7.1	0.075	11.2	LOS A	0.4	3.1	0.72	0.73	0.72	53.0
3u	U	All MCs	7	16.7	7	16.7	0.075	13.9	LOS A	0.4	3.1	0.72	0.73	0.72	54.3
Approach			192	3.2	192	3.2	0.093	7.3	LOS A	0.5	3.6	0.71	0.66	0.71	54.8
East: Wyong Road															
4	L2	All MCs	128	1.0	128	1.0	0.728	12.0	LOS A	7.9	60.0	0.94	0.93	1.26	53.6
5	T1	All MCs	926	13.1	926	13.1	0.728	11.6	LOS A	7.9	60.0	0.93	0.95	1.28	50.6
6	R2	All MCs	62	7.8	62	7.8	0.728	17.8	LOS B	7.3	56.1	0.93	0.96	1.29	52.8
6u	U	All MCs	1	0.0	1	0.0	0.728	19.8	LOS B	7.3	56.1	0.93	0.96	1.29	49.7
Approach			1118	11.4	1118	11.4	0.728	12.0	LOS A	7.9	60.0	0.93	0.94	1.28	51.2
North: Woodbury Park Drive															
7	L2	All MCs	137	3.6	137	3.6	0.651	31.3	LOS C	5.0	35.8	1.00	1.11	1.44	46.4
8	T1	All MCs	64	1.9	64	1.9	0.651	34.7	LOS C	5.0	35.8	0.99	1.11	1.41	47.8
9	R2	All MCs	86	0.0	86	0.0	0.651	43.5	LOS D[11]	4.0	27.9	0.97	1.11	1.37	42.9
Approach			286	2.1	286	2.1	0.651	35.7	LOS C	5.0	35.8	0.99	1.11	1.41	45.7
West: Wyong Road															
10	L2	All MCs	20	25.0	20	25.0	0.934	9.5	LOS A	23.3	171.2	1.00	0.73	1.13	54.0
11	T1	All MCs	1957	5.4	1957	5.4	0.934	9.1	LOS A	23.4	169.0	1.00	0.76	1.15	51.2
12	R2	All MCs	539	1.1	539	1.1	0.934	15.7	LOS B	23.4	169.0	1.00	0.81	1.18	52.3
Approach			2515	4.7	2515	4.7	0.934	10.5	LOS A	23.4	171.2	1.00	0.77	1.15	51.6
All Vehicles			4111	6.2	4111	6.2	0.934	12.5	LOS A	23.4	171.2	0.97	0.84	1.18	51.0

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

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

Site: 205 [205 Woodbury Pk Dr / Wagners Pl EX+10YR AM (Site Folder: Existing + 10yr Growth)]

Intersection: Woodbury Park Drive / Wagners Place
10yr Growth AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Woodbury Park Drive															
5	T1	All MCs	84	7.2	84	7.2	0.078	0.0	LOS A	0.3	2.1	0.19	0.27	0.19	58.4
6	R2	All MCs	51	0.0	51	0.0	0.078	6.4	LOS A	0.3	2.1	0.19	0.27	0.19	56.0
Approach			136	4.5	136	4.5	0.078	2.4	NA	0.3	2.1	0.19	0.27	0.19	57.6
North: Wagners Place															
7	L2	All MCs	55	0.0	55	0.0	0.065	4.4	LOS A	0.2	1.7	0.26	0.55	0.26	54.9
9	R2	All MCs	27	0.0	27	0.0	0.065	4.9	LOS A	0.2	1.7	0.26	0.55	0.26	48.9
Approach			82	0.0	82	0.0	0.065	4.5	LOS A	0.2	1.7	0.26	0.55	0.26	53.8
West: Woodbury Park Drive															
10	L2	All MCs	4	0.0	4	0.0	0.078	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	18.1
11	T1	All MCs	144	5.1	144	5.1	0.078	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
Approach			148	5.0	148	5.0	0.078	0.2	NA	0.0	0.0	0.00	0.01	0.00	58.8
All Vehicles			365	3.7	365	3.7	0.078	2.0	NA	0.3	2.1	0.13	0.23	0.13	57.5

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

Site: 305 [305 Woodbury Pk Dr / Brickendon Ave EX+10YR AM (Site Folder: Existing + 10yr Growth)]

Intersection: Woodbury Park Drive / Brickendon Avenue
10yr Growth AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickendon Avenue															
1	L2	All MCs	31	0.0	31	0.0	0.069	5.8	LOS A	0.2	1.7	0.25	0.58	0.25	48.3
3	R2	All MCs	49	5.0	49	5.0	0.069	6.4	LOS A	0.2	1.7	0.25	0.58	0.25	53.0
Approach			79	3.1	79	3.1	0.069	6.2	LOS A	0.2	1.7	0.25	0.58	0.25	51.8
East: Woodbury Park Drive															
4	L2	All MCs	39	0.0	39	0.0	0.074	5.6	LOS A	0.0	0.0	0.00	0.17	0.00	56.7
5	T1	All MCs	99	6.2	99	6.2	0.074	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	59.0
Approach			138	4.4	138	4.4	0.074	1.6	NA	0.0	0.0	0.00	0.17	0.00	58.4
West: Woodbury Park Drive															
11	T1	All MCs	104	5.9	104	5.9	0.061	0.0	LOS A	0.1	0.5	0.05	0.07	0.05	59.6
12	R2	All MCs	10	0.0	10	0.0	0.061	6.4	LOS A	0.1	0.5	0.05	0.07	0.05	54.6
Approach			114	5.4	114	5.4	0.061	0.6	NA	0.1	0.5	0.05	0.07	0.05	59.4
All Vehicles			331	4.4	331	4.4	0.074	2.3	NA	0.2	1.7	0.08	0.23	0.08	57.5

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

Site: 405 [405 Wagners Pl / Deloraine Glen EX+10YR AM (Site Folder: Existing + 10yr Growth)]

Intersection: Wagners Place / Deloraine Glen
10yr Growth AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wagners Place															
2	T1	All MCs	4	0.0	4	0.0	0.020	0.0	LOS A	0.1	0.6	0.06	0.49	0.06	47.1
3	R2	All MCs	32	0.0	32	0.0	0.020	3.8	LOS A	0.1	0.6	0.06	0.49	0.06	31.8
Approach			35	0.0	35	0.0	0.020	3.4	NA	0.1	0.6	0.06	0.49	0.06	33.7
East: Deloraine Glen															
4	L2	All MCs	42	0.0	42	0.0	0.027	4.3	LOS A	0.1	0.7	0.06	0.54	0.06	31.4
6	R2	All MCs	1	0.0	1	0.0	0.027	4.3	LOS A	0.1	0.7	0.06	0.54	0.06	38.9
Approach			43	0.0	43	0.0	0.027	4.3	LOS A	0.1	0.7	0.06	0.54	0.06	31.7
North: Wagner Place															
7	L2	All MCs	1	0.0	1	0.0	0.008	5.5	LOS A	0.0	0.0	0.00	0.05	0.00	41.7
8	T1	All MCs	13	0.0	13	0.0	0.008	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	57.9
Approach			15	0.0	15	0.0	0.008	0.5	NA	0.0	0.0	0.00	0.05	0.00	56.0
All Vehicles			93	0.0	93	0.0	0.027	3.4	NA	0.1	0.7	0.05	0.44	0.05	36.2

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

Site: 505 [505 Deloraine Glen / Keefers Glen EX+10YR AM (Site Folder: Existing + 10yr Growth)]

Intersection: Deloraine Glen / Keefers Glen
10yr Growth AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Deloraine Glen															
5	T1	All MCs	6	0.0	6	0.0	0.004	0.0	LOS A	0.0	0.0	0.04	0.10	0.04	54.7
6	R2	All MCs	1	0.0	1	0.0	0.004	3.4	LOS A	0.0	0.0	0.04	0.10	0.04	50.6
Approach			7	0.0	7	0.0	0.004	0.6	NA	0.0	0.0	0.04	0.10	0.04	53.1
North: Keefers Glen															
7	L2	All MCs	1	0.0	1	0.0	0.029	5.6	LOS A	0.1	0.6	0.07	0.58	0.07	42.8
9	R2	All MCs	35	0.0	35	0.0	0.029	5.5	LOS A	0.1	0.6	0.07	0.58	0.07	42.5
Approach			37	0.0	37	0.0	0.029	5.5	LOS A	0.1	0.6	0.07	0.58	0.07	42.5
West: Deloraine Glen															
10	L2	All MCs	28	0.0	28	0.0	0.017	4.3	LOS A	0.0	0.0	0.00	0.50	0.00	45.9
11	T1	All MCs	4	0.0	4	0.0	0.017	0.0	LOS A	0.0	0.0	0.00	0.50	0.00	38.6
Approach			32	0.0	32	0.0	0.017	3.8	NA	0.0	0.0	0.00	0.50	0.00	45.5
All Vehicles			76	0.0	76	0.0	0.029	4.3	NA	0.1	0.6	0.04	0.50	0.04	44.2

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

Site: 605 [605 Brickendon Ave / Hawthorn Pl EX+10YR AM (Site Folder: Existing + 10yr Growth)]

Intersection: Brickendon Avenue / Hawthorne Place
10yr Growth AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Hawthorne Place															
1	L2	All MCs	15	0.0	15	0.0	0.010	5.7	LOS A	0.0	0.3	0.12	0.54	0.12	39.4
3	R2	All MCs	1	0.0	1	0.0	0.010	5.7	LOS A	0.0	0.3	0.12	0.54	0.12	36.7
Approach			16	0.0	16	0.0	0.010	5.7	LOS A	0.0	0.3	0.12	0.54	0.12	39.2
East: Brickendon Avenue															
4	L2	All MCs	1	0.0	1	0.0	0.023	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	50.0
5	T1	All MCs	44	0.0	44	0.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.3
Approach			45	0.0	45	0.0	0.023	0.1	NA	0.0	0.0	0.00	0.02	0.00	59.0
West: Brickendon Avenue															
11	T1	All MCs	44	0.0	44	0.0	0.026	0.0	LOS A	0.0	0.2	0.03	0.08	0.03	56.0
12	R2	All MCs	6	0.0	6	0.0	0.026	5.6	LOS A	0.0	0.2	0.03	0.08	0.03	48.6
Approach			50	0.0	50	0.0	0.026	0.7	NA	0.0	0.2	0.03	0.08	0.03	54.6
All Vehicles			111	0.0	111	0.0	0.026	1.2	NA	0.0	0.3	0.03	0.12	0.03	52.2

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

Site: 705 [705 Brickendon Ave / Keefers Glen EX+10YR AM (Site Folder: Existing + 10yr Growth)]

Intersection: Brickendon Avenue / Keefers Glen
10yr Gowth AM Peak
8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keefers Glen															
1	L2	All MCs	35	0.0	35	0.0	0.027	5.6	LOS A	0.1	0.7	0.07	0.55	0.07	35.4
3	R2	All MCs	6	0.0	6	0.0	0.027	5.6	LOS A	0.1	0.7	0.07	0.55	0.07	46.2
Approach			42	0.0	42	0.0	0.027	5.6	LOS A	0.1	0.7	0.07	0.55	0.07	37.1
East: Brickendon Avenue															
4	L2	All MCs	11	0.0	11	0.0	0.015	5.5	LOS A	0.0	0.0	0.00	0.23	0.00	51.5
5	T1	All MCs	17	0.0	17	0.0	0.015	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	53.2
Approach			28	0.0	28	0.0	0.015	2.2	NA	0.0	0.0	0.00	0.23	0.00	52.3
West: Brickendon Avenue															
11	T1	All MCs	7	0.0	7	0.0	0.025	0.0	LOS A	0.1	0.8	0.09	0.47	0.09	48.0
12	R2	All MCs	37	0.0	37	0.0	0.025	4.8	LOS A	0.1	0.8	0.09	0.47	0.09	44.9
Approach			44	0.0	44	0.0	0.025	4.0	NA	0.1	0.8	0.09	0.47	0.09	45.3
All Vehicles			114	0.0	114	0.0	0.027	4.1	NA	0.1	0.8	0.06	0.44	0.06	43.1

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

Site: 106 [106 Wyong Rd / Woodbury Pk Dr / Tonkiss St EX+10YR PM (Site Folder: Existing + 10yr Growth)]

Intersection: Wyong Road / Woodbury Park Drive / Tonkiss Street
10year Growth PM Peak
3:00pm - 4:00pm
Site Category: (None)
Roundabout
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tonkiss Street															
1	L2	All MCs	461	1.6	461	1.6	0.658	11.9	LOS A	5.6	39.7	1.00	0.98	1.26	53.2
2	T1	All MCs	98	2.5	98	2.5	0.357	9.0	LOS A	2.5	17.8	0.89	0.82	0.89	55.7
3	R2	All MCs	211	1.7	211	1.7	0.357	14.1	LOS A	2.5	17.8	0.95	0.85	0.97	52.2
3u	U	All MCs	5	0.0	5	0.0	0.357	16.4	LOS B	2.5	17.8	0.95	0.85	0.97	53.8
Approach			775	1.7	775	1.7	0.658	12.2	LOS A	5.6	39.7	0.97	0.92	1.13	53.3
East: Wyong Road															
4	L2	All MCs	159	0.0	159	0.0	1.027	55.2	LOS D[11]	46.0	335.2	1.00	2.31	4.03	39.0
5	T1	All MCs	1547	5.7	1547	5.7	1.027	55.7	LOS D[11]	46.0	335.2	1.00	2.29	4.03	33.0
6	R2	All MCs	88	6.9	88	6.9	1.027	63.1	LOS E[11]	41.0	301.0	1.00	2.26	4.04	39.1
6u	U	All MCs	16	0.0	16	0.0	1.027	65.0	LOS E[11]	41.0	301.0	1.00	2.26	4.04	32.9
Approach			1809	5.2	1809	5.2	1.027	56.1	LOS D[11]	46.0	335.2	1.00	2.29	4.03	34.0
North: Woodbury Park Drive															
7	L2	All MCs	98	5.0	98	5.0	0.292	11.5	LOS A	1.8	12.8	0.94	0.90	0.94	53.7
8	T1	All MCs	59	2.1	59	2.1	0.292	13.7	LOS A	1.8	12.8	0.91	0.94	0.93	54.0
9	R2	All MCs	33	0.0	33	0.0	0.292	19.7	LOS B	1.5	10.6	0.89	0.95	0.92	51.3
Approach			189	3.2	189	3.2	0.292	13.6	LOS A	1.8	12.8	0.92	0.92	0.94	53.4
West: Wyong Road															
10	L2	All MCs	20	25.0	20	25.0	0.908	14.2	LOS A	17.4	129.6	1.00	1.08	1.56	52.6
11	T1	All MCs	1424	7.3	1424	7.3	0.908	13.6	LOS A	17.4	129.6	1.00	1.09	1.57	49.1
12	R2	All MCs	484	1.3	484	1.3	0.908	20.1	LOS B	17.0	122.9	1.00	1.11	1.62	50.3
Approach			1928	6.0	1928	6.0	0.908	15.3	LOS B	17.4	129.6	1.00	1.09	1.58	49.5
All Vehicles			4701	4.9	4701	4.9	1.027	30.4	LOS C	46.0	335.2	0.99	1.52	2.43	43.5

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

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

Site: 206 [206 Woodbury Pk Dr / Wagners Pl EX+10YR PM (Site Folder: Existing + 10yr Growth)]

Intersection: Woodbury Park Drive / Wagners Place
10yr Growth PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Woodbury Park Drive															
5	T1	All MCs	211	5.8	211	5.8	0.148	0.0	LOS A	0.4	2.7	0.13	0.17	0.13	59.1
6	R2	All MCs	53	4.7	53	4.7	0.148	6.8	LOS A	0.4	2.7	0.13	0.17	0.13	56.8
Approach			264	5.6	264	5.6	0.148	1.4	NA	0.4	2.7	0.13	0.17	0.13	58.7
North: Wagners Place															
7	L2	All MCs	32	0.0	32	0.0	0.040	4.4	LOS A	0.1	1.0	0.29	0.55	0.29	54.8
9	R2	All MCs	15	8.3	15	8.3	0.040	5.7	LOS A	0.1	1.0	0.29	0.55	0.29	48.2
Approach			46	2.6	46	2.6	0.040	4.8	LOS A	0.1	1.0	0.29	0.55	0.29	53.6
West: Woodbury Park Drive															
10	L2	All MCs	7	0.0	7	0.0	0.085	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	18.1
11	T1	All MCs	151	6.5	151	6.5	0.085	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.8
Approach			159	6.2	159	6.2	0.085	0.3	NA	0.0	0.0	0.00	0.03	0.00	57.8
All Vehicles			469	5.5	469	5.5	0.148	1.3	NA	0.4	2.7	0.10	0.16	0.10	58.0

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

Site: 306 [306 Woodbury Pk Dr / Brickendon Ave EX+10YR PM (Site Folder: Existing + 10yr Growth)]

Intersection: Woodbury Park Drive / Brickendon Avenue
10yr Growth PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickendon Avenue															
1	L2	All MCs	20	0.0	20	0.0	0.057	5.9	LOS A	0.2	1.4	0.32	0.60	0.32	48.0
3	R2	All MCs	40	0.0	40	0.0	0.057	6.9	LOS A	0.2	1.4	0.32	0.60	0.32	53.0
Approach			60	0.0	60	0.0	0.057	6.6	LOS A	0.2	1.4	0.32	0.60	0.32	51.9
East: Woodbury Park Drive															
4	L2	All MCs	35	0.0	35	0.0	0.089	5.6	LOS A	0.0	0.0	0.00	0.13	0.00	56.9
5	T1	All MCs	131	7.5	131	7.5	0.089	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	59.2
Approach			166	5.9	166	5.9	0.089	1.2	NA	0.0	0.0	0.00	0.13	0.00	58.8
West: Woodbury Park Drive															
11	T1	All MCs	194	6.3	194	6.3	0.119	0.0	LOS A	0.2	1.2	0.07	0.09	0.07	59.5
12	R2	All MCs	22	5.6	22	5.6	0.119	6.9	LOS A	0.2	1.2	0.07	0.09	0.07	54.0
Approach			216	6.2	216	6.2	0.119	0.7	NA	0.2	1.2	0.07	0.09	0.07	59.2
All Vehicles			442	5.2	442	5.2	0.119	1.7	NA	0.2	1.4	0.08	0.17	0.08	58.3

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

Site: 406 [406 Wagners Pl / Deloraine Glen EX+10YR PM (Site Folder: Existing + 10yr Growth)]

Intersection: Wagners Place / Deloraine Glen
10yr Growth PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wagners Place															
2	T1	All MCs	15	0.0	15	0.0	0.032	0.0	LOS A	0.1	1.0	0.05	0.42	0.05	48.9
3	R2	All MCs	43	0.0	43	0.0	0.032	3.8	LOS A	0.1	1.0	0.05	0.42	0.05	33.3
Approach			57	0.0	57	0.0	0.032	2.8	NA	0.1	1.0	0.05	0.42	0.05	37.9
East: Deloraine Glen															
4	L2	All MCs	42	0.0	42	0.0	0.027	4.3	LOS A	0.1	0.7	0.04	0.54	0.04	31.5
6	R2	All MCs	1	0.0	1	0.0	0.027	4.3	LOS A	0.1	0.7	0.04	0.54	0.04	39.0
Approach			43	0.0	43	0.0	0.027	4.3	LOS A	0.1	0.7	0.04	0.54	0.04	31.8
North: Wagner Place															
7	L2	All MCs	1	0.0	1	0.0	0.005	5.5	LOS A	0.0	0.0	0.00	0.07	0.00	41.2
8	T1	All MCs	9	0.0	9	0.0	0.005	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	56.9
Approach			10	0.0	10	0.0	0.005	0.7	NA	0.0	0.0	0.00	0.07	0.00	54.2
All Vehicles			110	0.0	110	0.0	0.032	3.2	NA	0.1	1.0	0.04	0.43	0.04	36.9

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

Site: 506 [506 Deloraine Glen / Keefers Glen EX+10YR PM (Site Folder: Existing + 10yr Growth)]

Intersection: Deloraine Glen / Keefers Glen
10yr Growth PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Deloraine Glen															
5	T1	All MCs	10	0.0	10	0.0	0.006	0.0	LOS A	0.0	0.1	0.05	0.12	0.05	53.6
6	R2	All MCs	2	0.0	2	0.0	0.006	3.5	LOS A	0.0	0.1	0.05	0.12	0.05	50.3
Approach			12	0.0	12	0.0	0.006	0.7	NA	0.0	0.1	0.05	0.12	0.05	52.1
North: Keefers Glen															
7	L2	All MCs	1	0.0	1	0.0	0.026	5.6	LOS A	0.1	0.6	0.09	0.57	0.09	42.6
9	R2	All MCs	32	0.0	32	0.0	0.026	5.6	LOS A	0.1	0.6	0.09	0.57	0.09	42.4
Approach			33	0.0	33	0.0	0.026	5.6	LOS A	0.1	0.6	0.09	0.57	0.09	42.4
West: Deloraine Glen															
10	L2	All MCs	29	0.0	29	0.0	0.022	4.3	LOS A	0.0	0.0	0.00	0.40	0.00	47.2
11	T1	All MCs	12	0.0	12	0.0	0.022	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	41.5
Approach			42	0.0	42	0.0	0.022	3.1	NA	0.0	0.0	0.00	0.40	0.00	46.4
All Vehicles			87	0.0	87	0.0	0.026	3.7	NA	0.1	0.6	0.04	0.43	0.04	44.8

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

Site: 606 [606 Brickendon Ave / Hawthorn Pl EX+10YR PM (Site Folder: Existing + 10yr Growth)]

Intersection: Brickendon Avenue / Hawthorne Place
10yr Growth PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Hawthorne Place															
1	L2	All MCs	7	0.0	7	0.0	0.007	5.7	LOS A	0.0	0.2	0.13	0.54	0.13	39.3
3	R2	All MCs	2	0.0	2	0.0	0.007	5.7	LOS A	0.0	0.2	0.13	0.54	0.13	36.7
Approach			10	0.0	10	0.0	0.007	5.7	LOS A	0.0	0.2	0.13	0.54	0.13	38.7
East: Brickendon Avenue															
4	L2	All MCs	1	0.0	1	0.0	0.026	4.7	LOS A	0.0	0.0	0.00	0.01	0.00	50.0
5	T1	All MCs	49	0.0	49	0.0	0.026	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.4
Approach			50	0.0	50	0.0	0.026	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.1
West: Brickendon Avenue															
11	T1	All MCs	35	0.0	35	0.0	0.025	0.0	LOS A	0.1	0.5	0.07	0.16	0.07	52.2
12	R2	All MCs	12	0.0	12	0.0	0.025	5.7	LOS A	0.1	0.5	0.07	0.16	0.07	46.5
Approach			48	0.0	48	0.0	0.025	1.5	NA	0.1	0.5	0.07	0.16	0.07	50.2
All Vehicles			108	0.0	108	0.0	0.026	1.2	NA	0.1	0.5	0.04	0.13	0.04	51.7

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

Site: 706 [706 Brickendon Ave / Keefers Glen EX+10YR PM (Site Folder: Existing + 10yr Growth)]

Intersection: Brickendon Avenue / Keefers Glen
10yr Growth PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

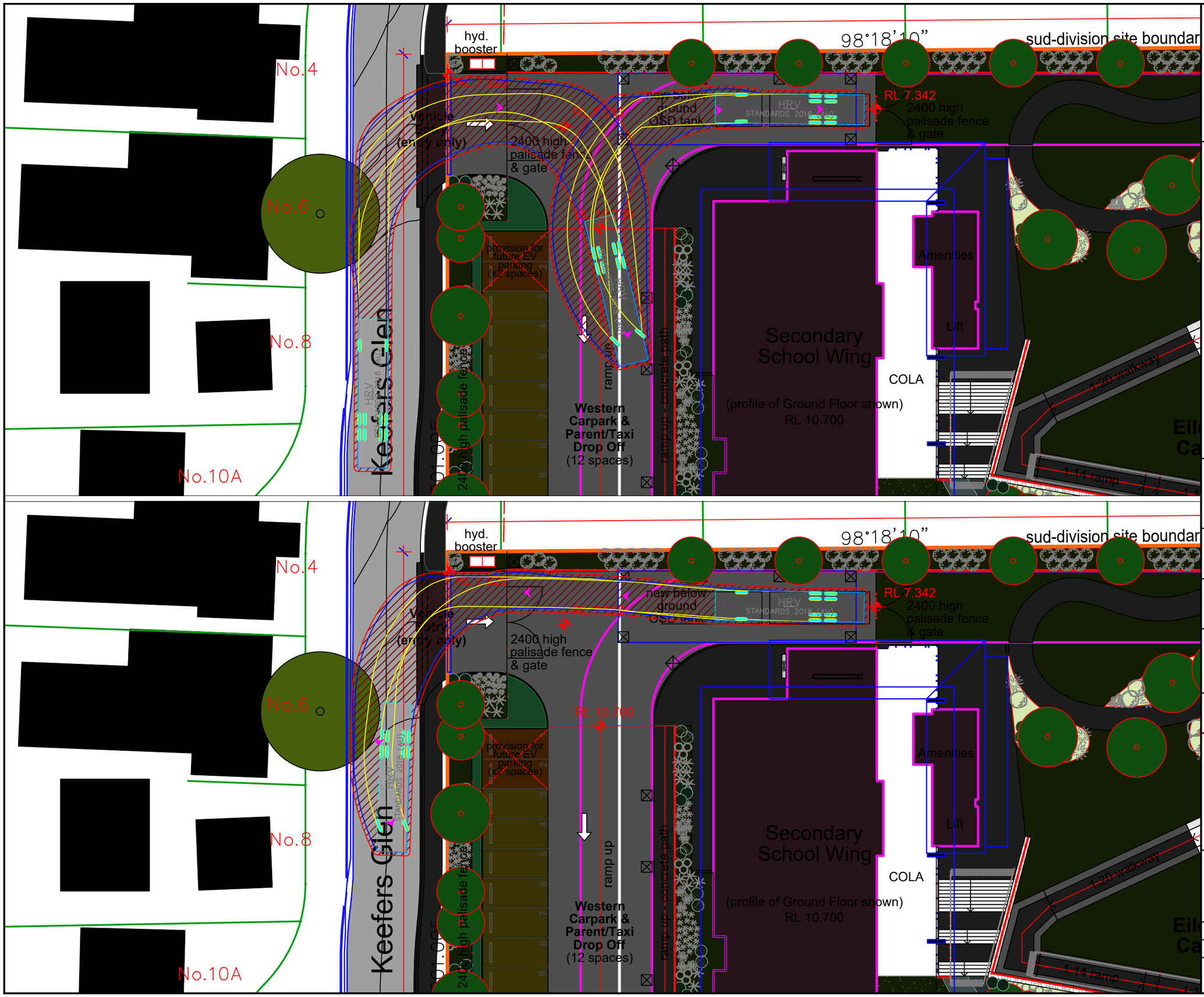
Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keefers Glen															
1	L2	All MCs	40	0.0	40	0.0	0.030	5.6	LOS A	0.1	0.8	0.05	0.56	0.05	35.5
3	R2	All MCs	6	0.0	6	0.0	0.030	5.5	LOS A	0.1	0.8	0.05	0.56	0.05	46.3
Approach			46	0.0	46	0.0	0.030	5.6	LOS A	0.1	0.8	0.05	0.56	0.05	37.0
East: Brickendon Avenue															
4	L2	All MCs	2	0.0	2	0.0	0.007	5.5	LOS A	0.0	0.0	0.00	0.11	0.00	53.3
5	T1	All MCs	11	0.0	11	0.0	0.007	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	56.6
Approach			13	0.0	13	0.0	0.007	1.0	NA	0.0	0.0	0.00	0.11	0.00	55.7
West: Brickendon Avenue															
11	T1	All MCs	13	0.0	13	0.0	0.019	0.0	LOS A	0.1	0.6	0.06	0.35	0.06	50.9
12	R2	All MCs	21	0.0	21	0.0	0.019	4.7	LOS A	0.1	0.6	0.06	0.35	0.06	46.8
Approach			34	0.0	34	0.0	0.019	2.8	NA	0.1	0.6	0.06	0.35	0.06	48.1
All Vehicles			94	0.0	94	0.0	0.030	3.9	NA	0.1	0.8	0.05	0.42	0.05	42.1

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

APPENDIX D

Swept Path Analysis



Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards *(AS/NZS 2890.1:2004 Parking facilities - Off-street car parking,* and/or *AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Swept Path Analysis	SH	05-02-25

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
Stanton Dahl Architects

Client
Stanton Dahl Architects

Scale / Plan Orientation

0 3 6 9 12m

1:300 @ A3

Project Description
St Peter's Eileen O'Connor School

Drawing Prepared By

TRAFFIX
TRAFFIC AND TRANSPORT PLANNERS

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PO Box 1124
Strawberry Hills, NSW 2012

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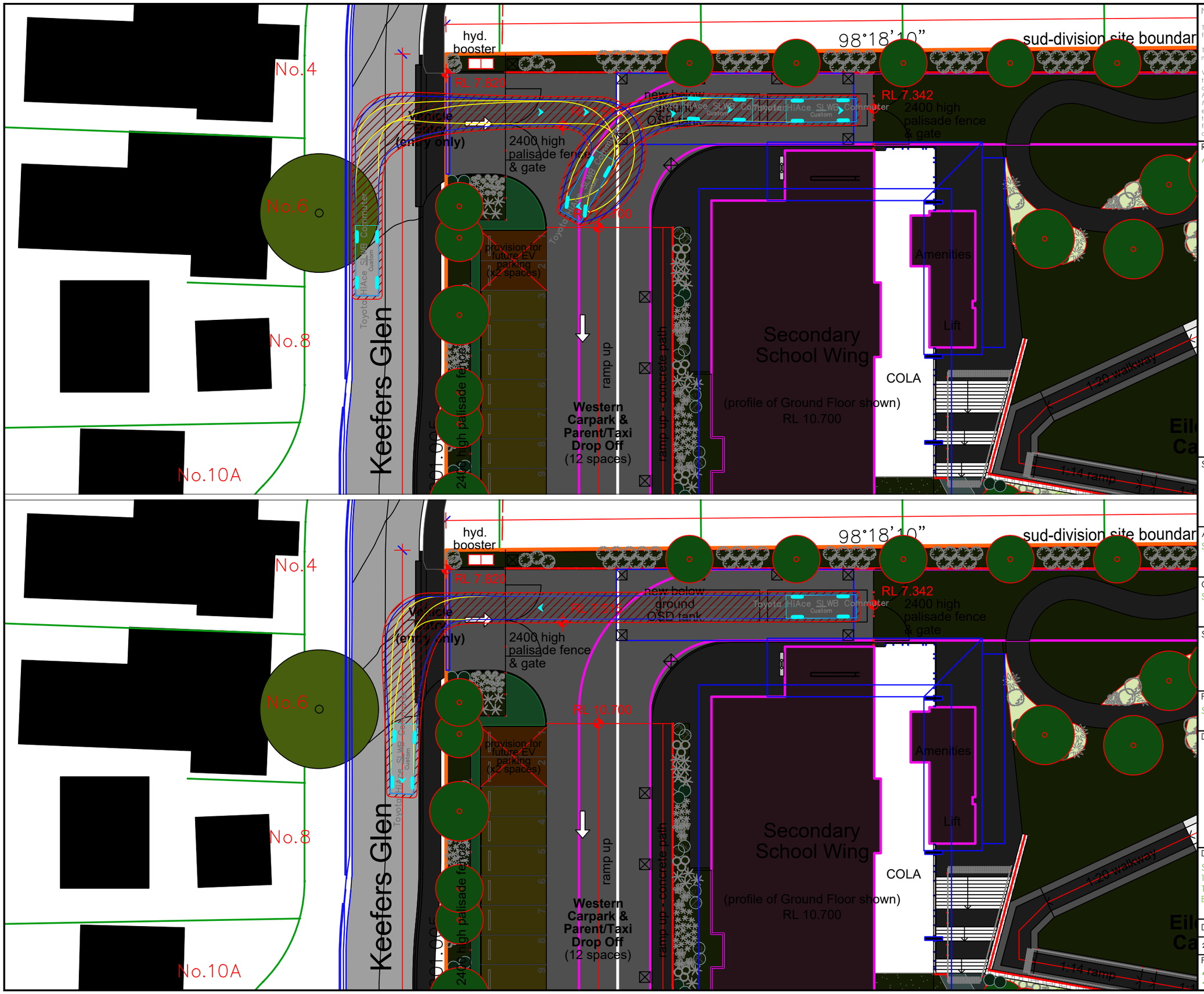
Drawing Title
Swept Path Analysis
12.5m Heavy Rigid Vehicle
Top: Entry Movement
Bottom: Exit Movement

Drawn:	Checked:	Date:
SH	BL	05-02-25

23.104d08v02 TRAFFIX [250310 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.104	DA	TX.01	A



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Rev.	Revision Note	By.	Date
A	Swept Path Analysis	SH	05-02-25

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
Stanton Dahl Architects

Client
Stanton Dahl Architects

Scale / Plan Orientation

0 3 6 9 12m

1:300 @ A3

Project Description
St Peter's Eileen O'Connor School

Drawing Prepared By

TRAFFIX
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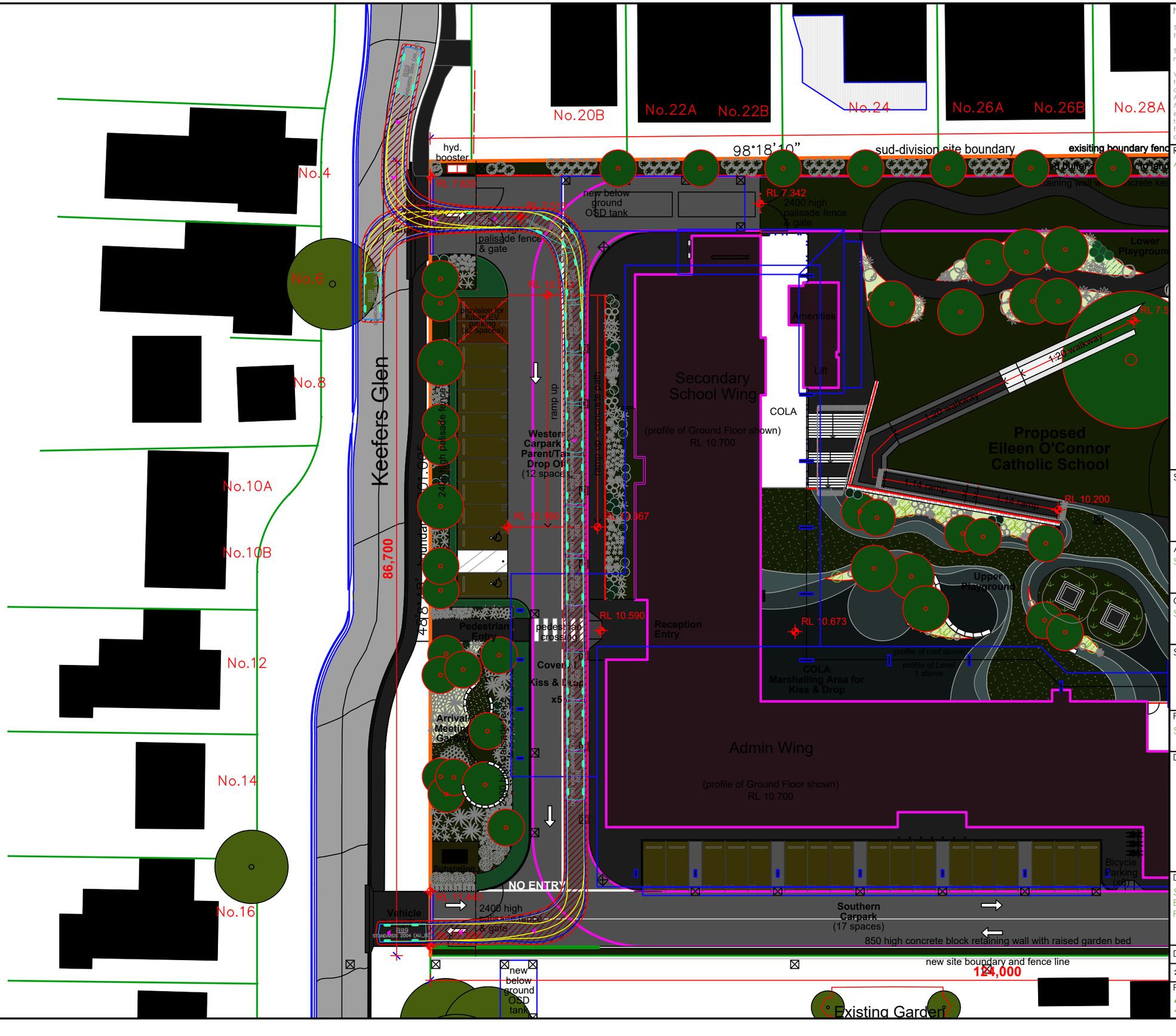
Drawing Title
Swept Path Analysis
12 Seater Toyota HiAce SLWB
Top: Entry Movement
Bottom: Exit Movement

Drawn:	Checked:	Date:
SH	BL	05-02-25

23.104d08v02 TRAFFIX [250310 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.104	DA	TX.02	A



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Rev.	Revision Note	By.	Date
A	Swept Path Analysis	SH	05-02-25

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
Stanton Dahl Architects

Client
Stanton Dahl Architects

Scale / Plan Orientation

0 4 8 12 16m

1:400 @ A3

Project Description
St Peter's Eileen O'Connor School

Drawing Prepared By

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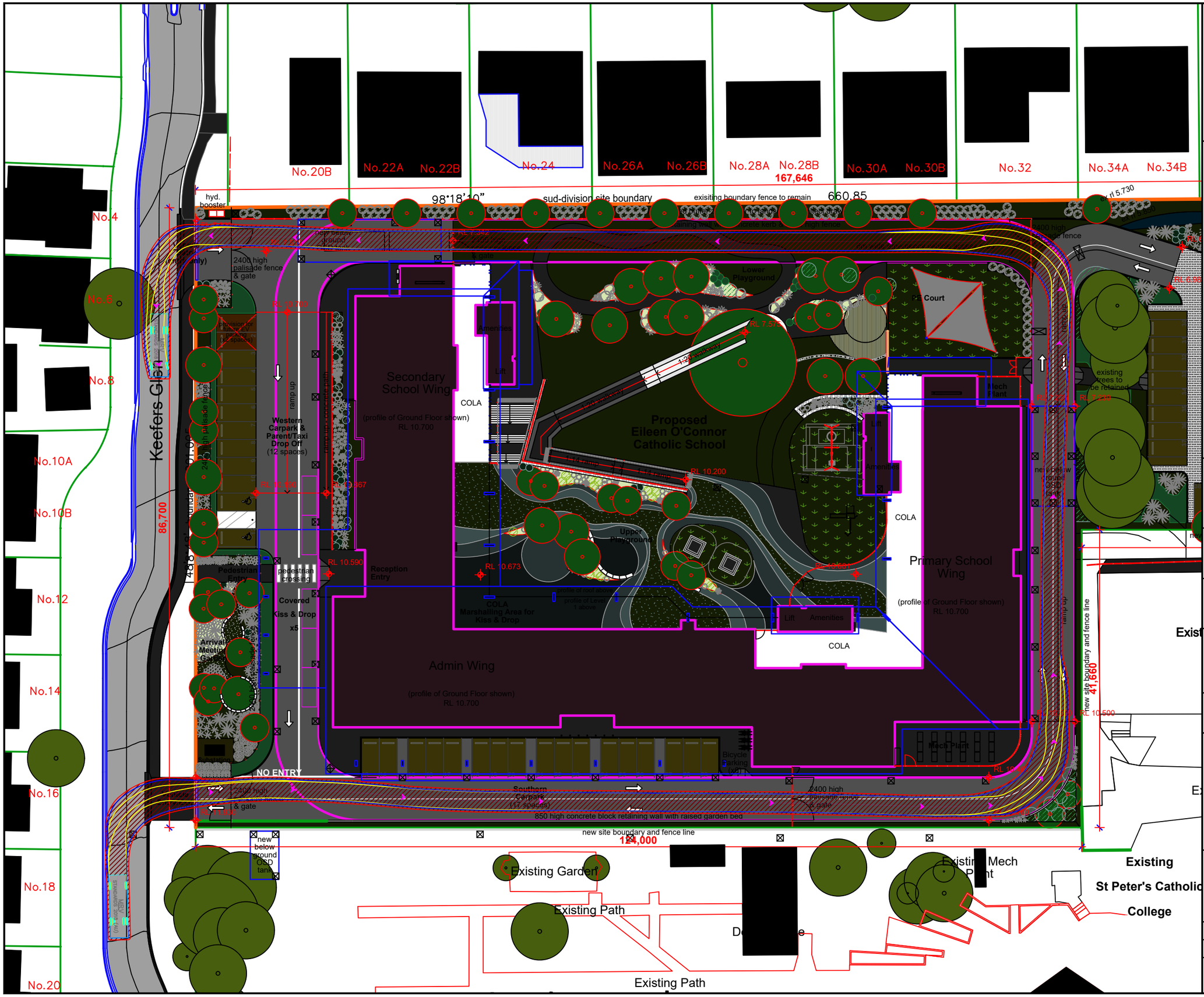
Drawing Title
Swept Path Analysis
B99 Vehicle
Pick Up / Drop Off Circulation

Drawn:	Checked:	Date:
SH	BL	05-02-25

23.104d08v02 TRAFFIX [250310 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.104	DA	TX.03	A



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Rev.	Revision Note	By.	Date
A	Swept Path Analysis	SH	05-02-25

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
Stanton Dahl Architects

Client
Stanton Dahl Architects

Scale / Plan Orientation

0 5 10 15 20m

1:500 @ A3

Project Description
St Peter's Eileen O'Connor School

Drawing Prepared By

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Drawing Title
Swept Path Analysis
8.8m Medium Rigid Vehicle
Emergency Vehicle Circulation

Drawn:	Checked:	Date:
SH	BL	05-02-25

23.104d08v02 TRAFFIX [250310 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.104	DA	TX.04	A

o.24
No.26A
No.26B
No.28A
No.28B
167,646
No.30A
No.30B
No.32
No.34A
No.34B
No.36A
No.36B
sud-division site boundary
exisiting boundary fence to remain
660.85
unknown rl's at boundar
ex rl 5.730
ex rl 5.930
ex rl 5.770
new head wall and level spreader
civil swale required (shaded in blue)
6m wide emergency vehicle access road
2400 high palisade fence & gate
Lower Playground
RL 7.575
1:20 walkway
1:20 walkway
1:14 ramp
1:14 ramp
RL 10.200
Proposed Eileen O'Connor Catholic School
PE Court
Mech Plant
existing trees to be retained
RL 7.230
RL 7.230
Lift
Amenities
COLA
new below ground OSD tank
Carpark (01 spaces)
new site boundary and fence line
43,498
Upper Playground
RL 10.661
profile of roof above
profile of Level 1 above
Primary School Wing
(profile of Ground Floor shown)
RL 10.700
Lift
Amenities
COLA
ramp up
new site boundary and fence line
43,640
Existing Basketball Court
41,660
RL 10.500
Bicycle Parking (x2)
Mech Plant
RL 10
2400 high palisade fence & gate
850 high concrete block retaining wall with raised garden bed
new site boundary and fence line
124,000
Existing Road
sting Garden
Existing Mech Plant
Existing

Notes:

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Rev.	Revision Note	By.	Date
A	Swept Path Analysis	SH	02-07-25

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
Stanton Dahl Architects

Client
Stanton Dahl Architects

Scale / Plan Orientation
0 4 8 12 16m
1:400 @ A3

Project Description
St Peter's Eileen O'Connor School

Drawing Prepared By

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Drawing Title
Swept Path Analysis
B99 Vehicle
Eastern Carpark

Drawn:	Checked:	Date:
SH	BL	02-07-25

23.104d08v02 TRAFFIX [250310 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.104	DA	TX.05	A