17 June 2022

Chris Ritchie
Director, Industry Assessments
Department of Planning and Environment
4 Parramatta Square
12 Darcy Street
Parramatta NSW 2150

Dear Chris,

RE: Mamre Road Precinct – Request for Additional Information – Traffic Modelling

This letter is written in response to the NSW Department of Planning and Environment's (DPE) request for additional information, dated 7 June 2022 and ongoing discussions with Transport for NSW relating to the precinct-wide modelling and removal of the Southern Link Road in the 2026 scenario.

The Mamre Road Landowner's Group – East (LOG-E) has prepared this response to respond to items pertaining to traffic modelling and traffic warrants. This letter is accompanied by an Ason memo to comprehensively address each of the issues raised.

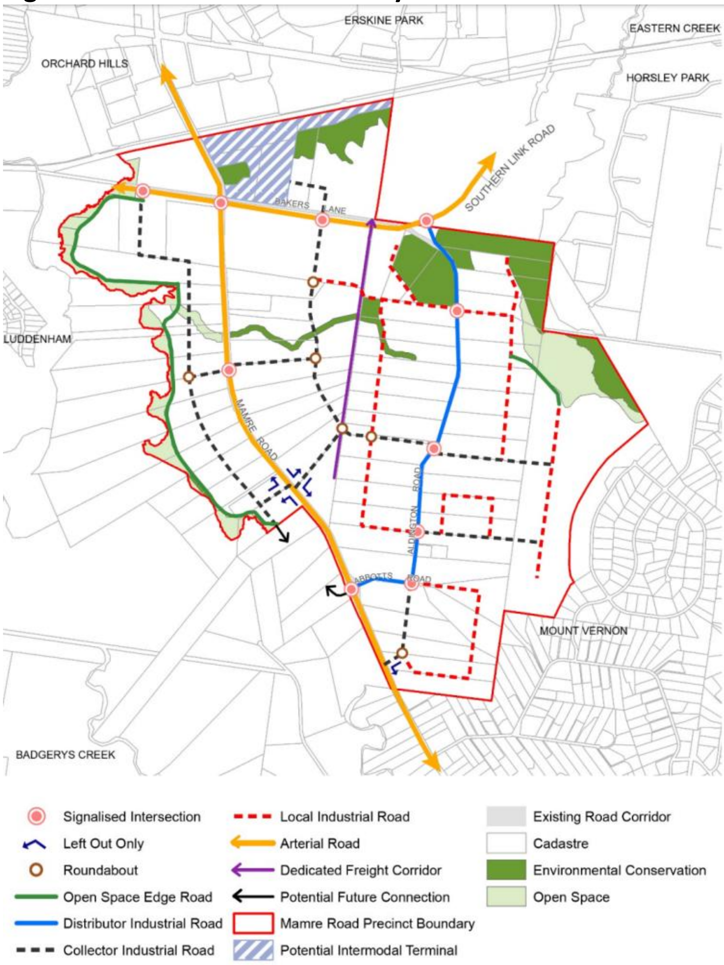
1. Aldington Road – Warrant Assessment

> ***The Intersection Warrant Analysis along Aldington Road: Modelling should take into account options for roundabouts and signals. If the warrants are not met (and signals cannot be supported within the medium and long term) there must be adequate land dedicated for the roundabouts in the interim.***

The approval of traffic warrants along Abbotts and Aldington Roads is critical to enable the delivery under the proposed Planning Agreement with Penrith City Council.

The identification of signalised intersections for this important corridor as it was determined through extensive modelling and consultation, which was used to inform the Mamre Road Precinct Development Control Plan (DCP) (refer to **Figure 1** below).

Figure 1 Road Network Hierarchy



To proceed with Penrith City Council on a design that reflects the DCP, the signalisation of intersections requires approval from Transport for NSW. The LOG-E has undertaken an assessment against Transport for NSW's *Traffic Signal Design – Section 2 – Warrants*, which is the guide for installation of traffic signals. It is important to note this document explicitly states it is a guide and traffic signals may be installed outside these criteria from external factors, such as public pressure or administrative direction.

The main criterion used to determine traffic signals is anticipated traffic flows through a corridor. The LOG-E instructed Ason to review the precinct-wide traffic model to determine if the 2026 scenario meets this criterion. The 2026 scenario identified the forecasted traffic flows do not meet the warrants for traffic generation under the guide. **However, the 2036 scenario does meet the warrants criteria and satisfies the medium-long term for the Precinct.**

While historically this criterion has been the main determinant factor to enable Transport for NSW to approval traffic signals, there are additional criteria to enable an approval outside of traffic generation and volume.

As stated earlier, the installation of signals may occur outside the guideline due to public pressure or an administrative directive. In the case of Abbotts and Aldington Roads intersections, the precinct-wide DCP should be recognised as an administrative direction as it identifies where signalised intersections are to be located. Further, Penrith City Council has stated their preference in signals due to their desire for the ultimate solution delivery under the planning agreement.

To assist in understanding its qualitative merits, the following table provides an assessment against the guide and its application to the Abbotts and Aldington Road corridor.

Table 1 Assessment against Traffic Warrants Guide

Traffic Warrant Criteria	Application to Abbotts and Aldington Roads
Traffic Flows	The 2026 modelling does not meet the traffic flows criterion in the guide. However, the 2026 scenario only assumes development on the Mamre Road Precinct Landowner Group sites. The 2036 modelling of the precinct, which is the ultimate scenario, does meet the traffic flow warrant criterion. Given the current demand and climate for zoned industrial land, it is noted there are more development applications along this corridor other than the Mamre Road Precinct Landowners Group. These sites will contribute to overall traffic generation as the Precinct is delivered. Therefore, it is our opinion requiring roundabout intersections will quickly result in redundant works. Further, it does not align with the ultimate, which Council is seeking to deliver in an efficient manner once versus a protracted staged delivery creating significant risks pertaining to cost blowout.
Traffic Conflicts	The relationship and interaction between trucks, light vehicles and pedestrians is a significant criterion for assessment of warrants. The strategic planning for Mamre Road Precinct identified the need to create an employment precinct which contributes toward all forms of transport, including cycling and walking. The delivery of signalised intersections enables safe crossings along the corridor for pedestrians and cyclists. Given the nature of trucks entering and exiting this corridor and their restricted visibility compared to light vehicles, traffic signals are required to minimise

	traffic conflict and enable a pedestrian safe environment along the corridor.
Traffic Accident Statistics	The statistics on traffic accidents is unknown for the upgraded corridor. It is viewed that the delivery of signalised intersections along the corridor will be a preventative measure to minimise risk associated with this criterion.
Access to Major Roads	As the precinct road network is delivered, the Abbotts and Aldington Road will become a major thoroughfare connecting Mamre Road to the future Southern Link Road. The precinct-wide modelling identifies a significant increase of traffic flows along this corridor once Southern Link Road is delivered, as it provides the most direct link route from Erskine Park to Elizabeth Drive.
Cost of Installation	The cost of installation of signals along Abbotts and Aldington Roads is factored into the Mamre Road Precinct Section 7.11 Contribution Plan and will be funded by developer contributions. Future costs and redundant works have no source of funding. The cost to deliver signalised intersection in today's dollars will be significantly cheaper compared to future augmentation. Therefore, it is the Government's best value for money to deliver the signals today versus future as money and levy mechanism is identified and developers are wiling to assist in delivering the ultimate in line with their forecasted delivery programs. This is not guaranteed in the future if signalised intersections are not delivered with the proposed planning agreement with Council.
Availability of Funds	The funds to deliver signalised intersections and the upgrade of Abbotts and Aldington Roads are available now via developers (under Section 7.11 contributions and works-in-kind). Further, Penrith City Council has been awarded funding by NSW Government to deliver the ultimate corridor including signalised intersections. This funding has been awarded on the basis the ultimate corridor can be delivered in line with delivery of industrial estates, which is occurring now and not in the future.

Maintenance Costs	Maintenance of signals, in the short term, can be facilitated via developers through either the planning agreement or contribution to ensure no additional costs are incurred in lieu of required traffic flows.
Practicality	The delivery of the ultimate outcome would simplify land acquisition and delivery of infrastructure. It significantly reduces the risk to fund future upgrades and minimises redundant works by developers or Council.
Feasibility	Traffic signals have been developed in the concept design and costing of the Section 7.11 contribution plan. This concept design has been endorsed by Council and DPE- Strategic Planning teams. It is understood a housekeeping amendment is currently being drafted based on the ultimate alignment. It does not consider any intersection treatments outside of signalised intersections as per the DCP.
Signposted speed limit is not more than 80km/hr	The signposted speed limit is expected to be 60km/hour along the corridor.

Further to the assessment against Transport for NSW guideline on signalised intersection, the Mainroads Western Australia Guide provides research and guidance on how roads should be designed for large vehicle, such as trucks. In a summary, it notes the following:

> *Needs of large vehicles signalised intersections are considered to provide a more convenient treatment for the drivers of large trucks than roundabouts, depending on the characteristics of the intersection. While trucks at times will encounter the inconvenience of coming to a complete stop at a red signal, they are often able to continue through a green signal. This is generally preferred to the inconvenience associated with negotiation a roundabout (Austroads, 2013), where multi-combinational vehicles struggle to "pick a gap" when the circulatory traffic is high due to poor acceleration characteristics. However, it should be noted that signalised intersections the traffic signal timing needs to accommodate the heavy vehicle acceleration characteristics.*

Based on the above information, we believe there is sufficient justification and support to approve signals given it is consistent with the medium-long term.

2. Mamre Road Precinct 2026 model updated based on reverse brief and discussions on 8 March 2022
This model was requested in order to review SSD applications in the area. The model requires updates as per below:
<u>Modelling Input Assumptions</u>
a. Road Network to be modelled (Figure 1): Option testing should be provided to understand the threshold that the intersection will operate at an unacceptable Level of Service

b. Table 2 Road Network Assumption – Mamre Road (south of Erskine Park Road): the lane assumptions are to be consistent with the existing (and approved) lane arrangements.

Scenario modelling was undertaken within the Southern Link Road in year 2026. The modelling shows how the Landowner's Group can unlock GFA in the short-medium term. A breakdown of this analysis is contained in the Ason memo attached.

3. Mamre Road Staging Strategy
Provide a copy of the traffic model underpinning the Mamre Road Precinct Staging Strategy presentation slides, which were presented to TfNSW and the Department on 13 April 2022.

The Ason memo outlines the proposed staging to ensure road hierarchy is completed as development progresses throughout the Mamre Road Precinct. As development progresses across the Precinct, we believe this staging strategy can be used to deliver the ultimate road network and enable the progressive development of the Precinct.

To assist with the sequencing, the LOG-E has prepared a summary of infrastructure works across the Mamre Road Precinct and the indicative costs for each upgrade. In summary, the landowners group via development applications and planning agreements has the ability to deliver 51% of the local road infrastructure within the Precinct. We ask the NSW Government to note the significant commitment, which is currently proposed to the LOG, given the 2026 scenario only assumes 75% of LOG-owned lands.

The remaining 18% can be delivered by other developers with current development applications within the system. This leaves the remaining 31% to be delivered by Council via contribution levies as future development is identified (refer to addendum in this letter).

The critical items to require NSW Government attention is the delivery of Mamre Road and Southern Link Road. While proposals are being sought for intersection upgrades along Mamre Road, it is critical for government to identify remaining funding as soon as possible to upgrade and deliver these road corridors. SIC funding has the ability to assist with kickstarting this work. The LOG-E has estimated value of contributions based on existing DAs to be $83,977,800.

The LOG-E has invested a significant amount of time, money and resources to develop this staging scenario to assist NSW Government to progress development applications within the Precinct. We believe development can be jointly delivered as infrastructure is invested. This is demonstrated by the LOG-E's intent to deliver the entire Abbotts and Aldington Road corridor with collaboration with Penrith City Council. It is also demonstrated in the overall staging strategy for the entire Precinct.

As you can appreciate, this item is extremely critical and sensitive to development viability in the Precinct. Given the model is owned by the Landowner's Group, we ask to be included on any decision or discussion on this item to ensure the Precinct can be logically delivered in line with the infrastructure and commercial frameworks of both public and private stakeholders.

If you have any questions please do not hesitate to contact us.

Regards,

Mamre Road Precinct Landowners Group – East

Richard Harris
Senior Development Manager
FIFECAPITAL

Michael Robinson
Acquisition Manager
FRASERS PROPERTY

Craig Lenarduzzi
National Development Manager
Workplace and Logistics
Stockland

Grace Macdonald
Planning Manager - NSW
ESR

Attachment A: Ason Memo

Breakdown in Section 7.11 Contribution Plan/ Staging

Mamre Road Precinct - DCP Contributions Plan 2021 (Section 7.11)							2026 Traffic Model Network Delivery Framework				2036 Traffic Model Network Delivery Framework				
Table 11 -IDC Background Report Mar 2022															
Code	Description	Length	Area	Cost of Works	Plan Administration	Total	% Total	Delivered by	Delivery Mechanism	Total	% Total	Delivered by	Delivery Mechanism	Total	
CR1	Collector Road	1,966		16,632,360	249,485	16,881,845	0%			-	100%	Private	Consent Condition WIK	16,881,845	
CR2	Collector Road	2,703		22,867,380	343,011	23,210,391	67%	GPT,Mirvac, Altis, Frasers	Consent Condition WIK	15,501,225	33%	Aliro, Private	Consent Condition WIK	7,709,165	
CR3	Collector Road	844		7,140,240	107,104	7,247,344	100%	Mirvac	Consent Condition WIK	7,247,344	0%			-	
CR4	Collector Road	802		6,784,920	101,774	6,886,694	0%			-	100%	FKC/Private	Consent Condition WIK	6,886,694	
CR5	Collector Road	774		6,548,040	98,221	6,646,261	100%	Altis	Consent Condition WIK	6,646,261	0%			-	
CR6	Collector Road	840		7,106,400	106,596	7,212,996	0%			-	100%	Fife-Stockland / Private	Consent Condition WIK	7,212,996	
CR7	Collector Road	640		5,414,400	81,216	5,495,616	0%			-	100%	Authority Lead	s7.11 Funds	5,495,616	
DR1	Distributor Road (Aldington Rd) incl Intersections)	3,629		55,181,847	827,728	56,009,575	63%	LOG-E (Phase 1,2 &3)	VPA WIK	35,465,409	37%	Authority Lead	s7.11 Funds	20,544,166	
RA1	Roundabout			450,000	6,750	456,750	0%			-	100%	Private	Consent Condition WIK	456,750	
RA2	Roundabout			450,000	6,750	456,750	0%			-	100%	Aliro/GPT	Consent Condition WIK	456,750	
RA3	Roundabout			450,000	6,750	456,750	100%	Mirvac	Consent Condition WIK	456,750	0%			-	
RA4	Roundabout			450,000	6,750	456,750	100%	Altis	Consent Condition WIK	456,750	0%			-	
RA5	Roundabout			450,000	6,750	456,750	100%	Frasers	Consent Condition WIK	456,750	0%			-	
RA6	Roundabout			450,000	6,750	456,750	0%			-	100%	Authority Lead	s7.11 Funds	456,750	
CR1A1	Collector Road - Land Acquisition		50,312			28,929,400	0%			-	100%	Private	Consent Condition WIK	28,929,400	
CR2A1	Collector Road - Land Acquisition		11,520			6,624,000	0%			-	100%	Private	Consent Condition WIK	6,624,000	
CR2A2	Collector Road - Land Acquisition		57,435			33,025,125	79%	GPT,Mirvac, Altis, Frasers	Consent Condition WIK	26,053,968	21%	Aliro	Consent Condition WIK	6,971,157	
CR3A1	Collector Road - Land Acquisition		5,429			3,121,675	0%			-	100%	Private	Consent Condition WIK	3,121,675	
CR3A2	Collector Road - Land Acquisition		15,320			8,809,000	100%	Mirvac	Consent Condition WIK	8,809,000	0%			-	
CR4A1	Collector Road - Land Acquisition		20,858			11,993,350	100%	FKC	Consent Condition WIK	11,993,350	0%			-	
CR5A1	Collector Road - Land Acquisition		5,682			3,267,150	0%			-	100%	Private	Consent Condition WIK	3,267,150	
CR5A2	Collector Road - Land Acquisition		13,512			7,769,400	100%	Altis	Consent Condition WIK	7,769,400	0%			-	
CR6A1	Collector Road - Land Acquisition		21,832			12,553,400	0%			-	100%	Fife-Stockland/Private	Consent Condition WIK	12,553,400	
CR7A1	Collector Road - Land Acquisition		15,447			8,882,025	0%			-	100%	Authority Lead	s7.11 Funds	8,882,025	
DR1A1	Distributor Road - Land Acquisition (good developable land)		50,037			28,771,275	90%	LOG-E (Phase 1,2 &3)	VPA WIK	25,894,148	10%	Authority Lead	s7.11 Funds	2,877,128	
DR1A2	Distributor Road - Land Acquisition (Constrained Land)		6,571			591,390	0%			-	100%	Athority Lead	s7.11 Funds	591,390	
RA1	Roundabout - Land Acquisition		1,500			862,500	0%			-	100%	Private	Consent Condition WIK	862,500	
RA2	Roundabout - Land Acquisition		1,500			862,500	0%			-	100%	Aliro/GPT	Consent Condition WIK	862,500	
RA3	Roundabout - Land Acquisition		1,500			862,500	100%	Mirvac	Consent Condition WIK	862,500	0%			-	
RA4	Roundabout - Land Acquisition		1,500			862,500	100%	Altis	Consent Condition WIK	862,500	0%			-	
RA5	Roundabout - Land Acquisition		1,200			690,000	100%	Frasers	Consent Condition WIK	690,000	0%			-	
RA6	Roundabout - Land Acquisition		1,500			862,500	0%			-	100%	Authority Lead	s7.11 Funds	862,500	
Sub Total		**12,198**	**282,655**	**130,375,587**	**1,955,634**	**291,670,911**		**Total**		**149,165,354**		**Total**		**142,505,557**	**291,670,911**

Yellow: To be delivered via Council/ Section 7.11 levies

17 June 2022

P1815 – Mamre Road Precinct – LOG East – Revised 2026 Modelling

To	Landowners Group – East	
FROM	Andrew Johnson (Director); Ason Group	
CC		
SUBJECT	Mamre Road Precinct – Revised Modelling and Warrants Assessment	

info@asongroup.com.au
+61 2 9083 6601
Suite 17.02, Level 17,
1 Castlereagh Street,
Sydney, NSW 2000
ABN: 81 168 423 872

Dear Landowners Group – East,

Ason Group have now completed the analysis of the road network conditions assuming the removal of the Southern Link Road (SLR) and the internal road network and demands which form part of the current SSDA applications relating to the broader Land Owners Group (LOG).

The analysis responds to the meeting held with Transport for NSW on the 8th March and subsequent agreed scoping study dated 15 March 2022. The analysis also considers and responds to the Request for information (RFI) received from the Department of Planning and Environment dated 7 June 2022.

Background

The Mamre Road Precinct Land Owners Group previously submitted Aimsun modelling to TfNSW in June 2021 for 2026 interim modelling and 2036 ultimate road network.

The 2036 modelling was endorsed by TfNSW and informed the adopted Mamre Road DCP Road Network. TfNSW was requested to undertake a sensitivity analysis and remove the inclusion of the Southern Link Road from the 2026 road network assumptions.

A scoping study was issued to TfNSW for review and comment on the 15th March 2022 and generally agreed with the following additions:

- Option testing should be provided to understand the intersection thresholds.
- The 75% LOG GFA assumptions to be modelled under the revised scenario and adjusted, if required.
- Mamre Road (south of Erskine Park Road) lane assumptions are to be consistent with the existing (and approved) lane arrangements
- An intersection warrant analysis is to be included for the key intersections along Aldington Road

Modelling Inputs Assumptions

For the purpose of this revised modelling, we adopted the previously agreed inputs documented in the TfNSW Mamre Road Modelling Outcomes memo, which forms the basis of all previous modelling completed for the precinct, including the June 2021 models submitted to TfNSW. A summary of the key input data and assumptions are listed below:

- Trip generation:
  - AM Peak: 0.23 trips per 100m^2
  - PM Peak: 0.24 trips per 100m^2
  - Daily: 2.91 trips per 100m^2
- Model Time Periods:
  - AM – 06:00 – 10:00
  - PM – 15:00 – 19:00
- Traffic Demand and Distribution
  - Background Growth per STFM LU19
  - Internal Travel Zones (WSEA) per TfNSW approved disaggregation
  - Mamre Road Travel Zones per Trip Generation profile based on approved Ason Group LUD Model
  - The traffic flows on Compass Drive and SLR diverted to Mamre Road in conjunction with the latest STFM data.

The location of the relevant sites forming part of the Land Owners Group are shown in **Figure 1**. The figure also demonstrates the extent of the road network (particularly internal road network) that forms part of the relevant applications currently under consideration by the Department of Planning and Environment.

Figure 1: Road network Extents and LOG Ownership

Figure – 2 shows the modelled Aimsun network with all key intersections in the precinct along Mamre Road and Aldington Road. As agreed, the SLR connection was removed between Compass drive and Aldington Road. The road network assumed includes all proposed or approved intersection layouts and the internal road network that can be delivered by the Land Owners Group as part of their current SSDA's.

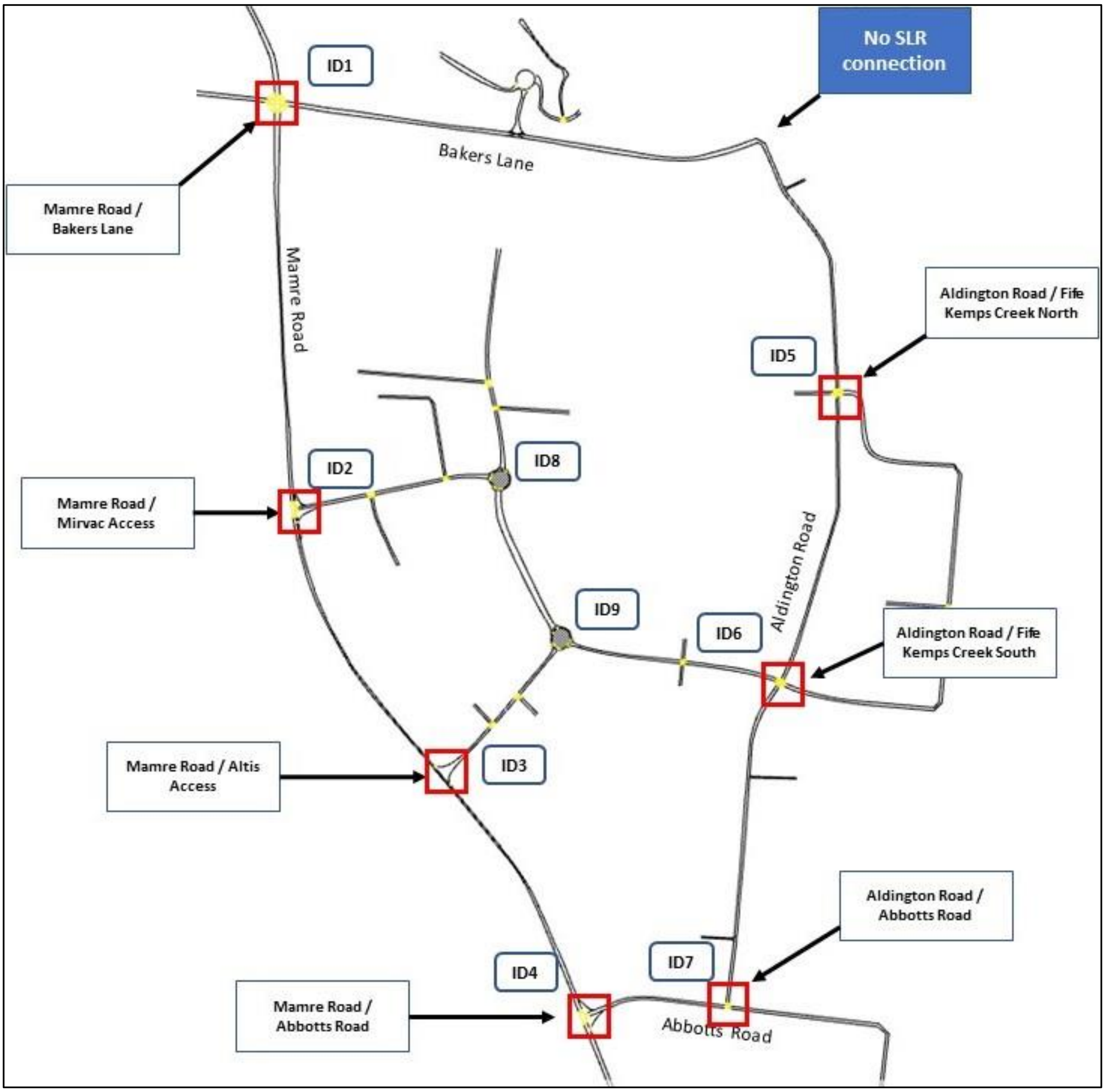


Figure 2: Aimsun network with key intersections

Adopted Intersection Layouts

Mamre Road / Bakers Lane

The adopted layout for the intersection of Mamre Road with Bakers Lane is shown in **Figure 3** below. The intersection reflects that currently under construction by Altis / Frasers JV as part of the relevant conditions of consent relating to SSDA 9522.

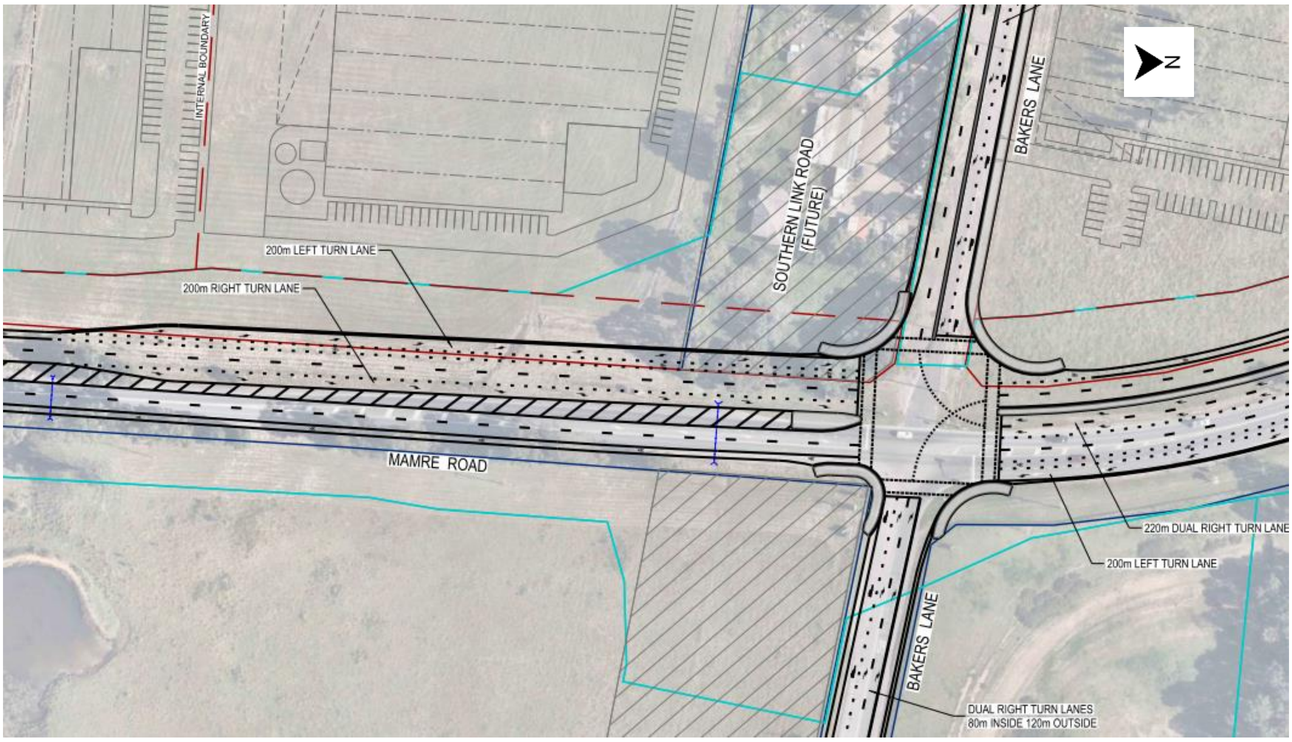


Figure 3: Mamre Road / Bakers Lane *Source: Altis*

Mamre Road / New Road (Mirvac Access)

The adopted layout for the intersection of Mamre Road with the new connection to the Mirvac Access Road 01 is shown in **Figure 4**. This layout is consistent with that required as part of approved SSD 10448.

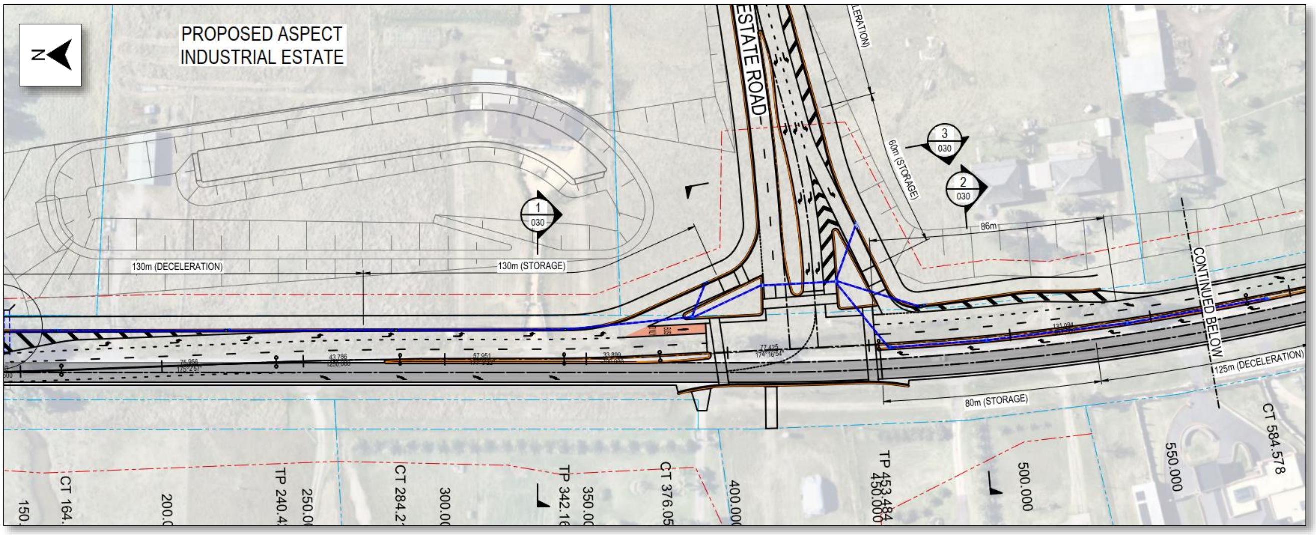


Figure 4: Mamre Road / MIRVAC *Source: MIRVAC Drawing No. 2021_19_SKJ0009*

Mamre Road / Altis Left in Left out

The intersection providing access to the Altis development is shown in **Figure 5**. This access is consistent with the requirements of the recently endorsed DCP Road Network and forms part of the current application SSD 17647189 being assessed by DPE.

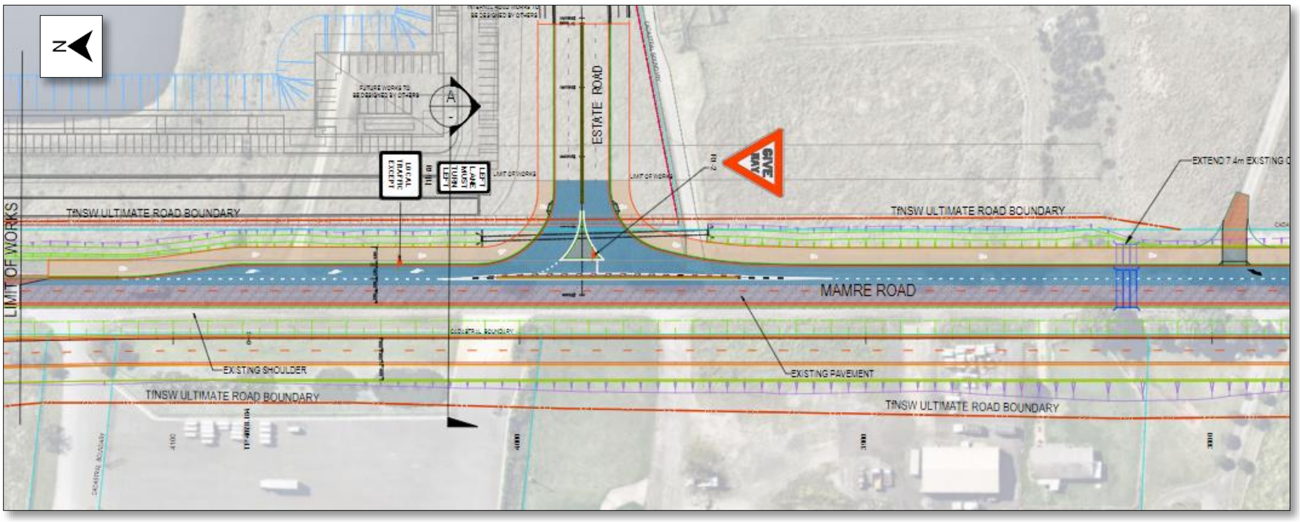


Figure 5: Mamre Road / Altis Left in Left Out *Source: Altis*

Mamre Road / Abbotts Road

The layout adopted for the Mamre Road with Abbotts Road intersection is consistent with the VPA Letter of Offer and design previously presented to TfNSW.

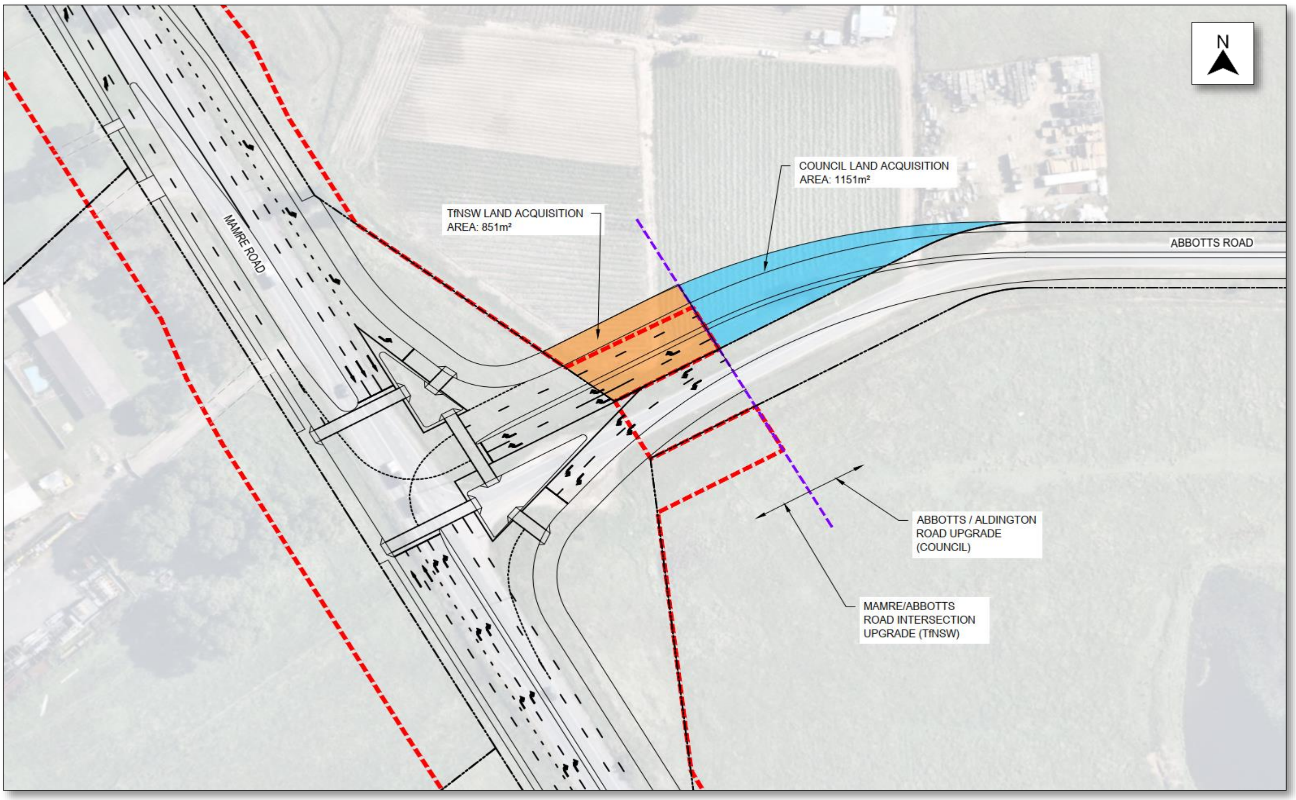


Figure 6: Mamre Road / Abbotts Road *Source: AT&T Drawing No. 21-843-5KC025*

Aldington Road Corridor

The intersections along Aldington Road have been modelled as signalised intersections consistent with the endorsed DCP Road network. Three signalised junctions were included in the modelling including

- Aldington Road / New Road (north) – providing access to Fife Kemps Creek (North) and Frasers North developments,
- Aldington Road / New Road (south) – similarly providing access to the southern extent of the Fife Kemps Creek (south) development and Frasers South development, and
- Aldington Road / Abbotts Road.

The detailed layout of all intersections is shown in **Figure - 8** to **Figure – 10**.

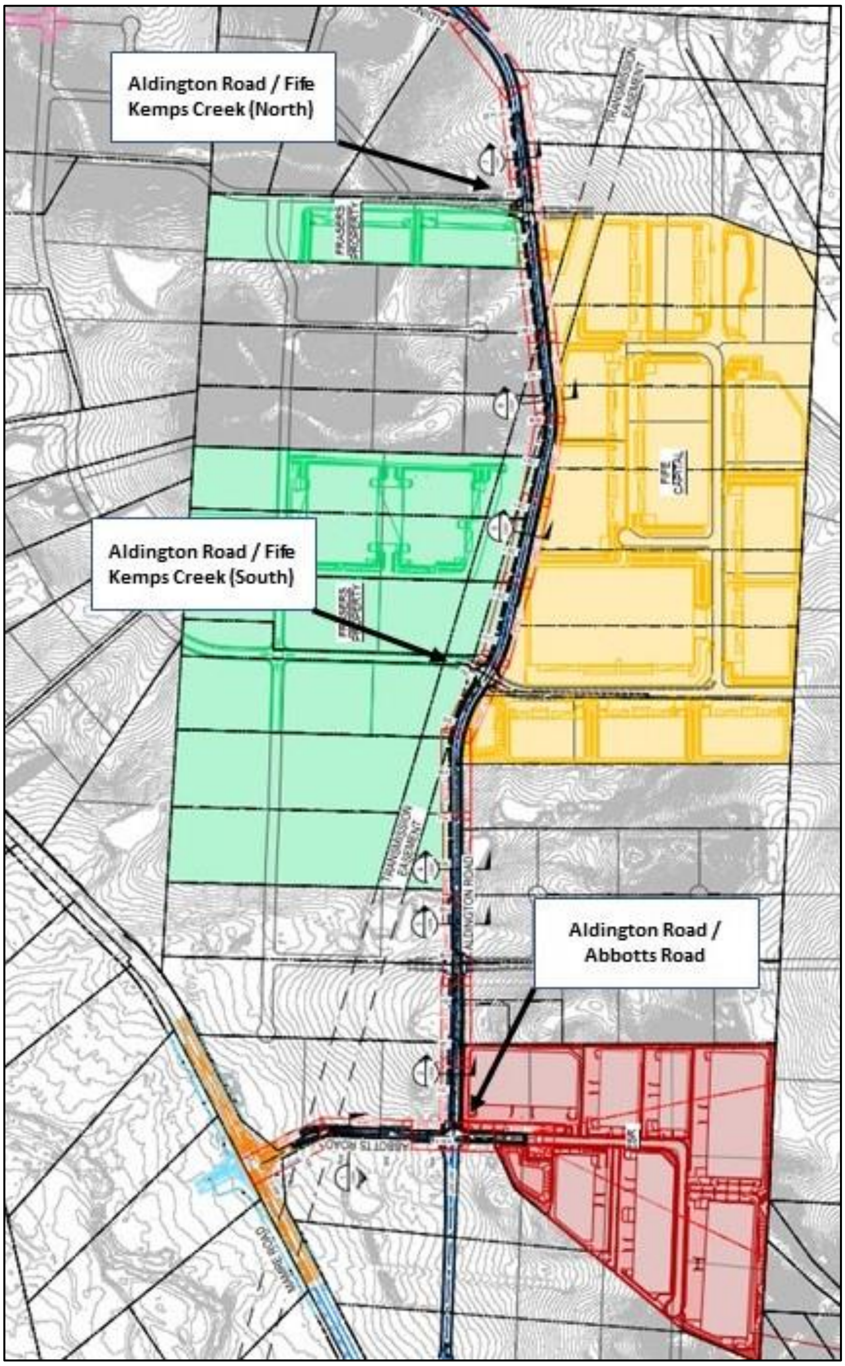


Figure 7: Intersections along Aldington Road *Source: AT&L Drawing No. 21-843-C502*

The detailed layout of each intersection is provided below. All layouts are consistent with the current VPA Offer proposed by the Land Owners Group (East). The layouts have also been generally endorsed by Penrith Council, subject to confirmation through modelling.

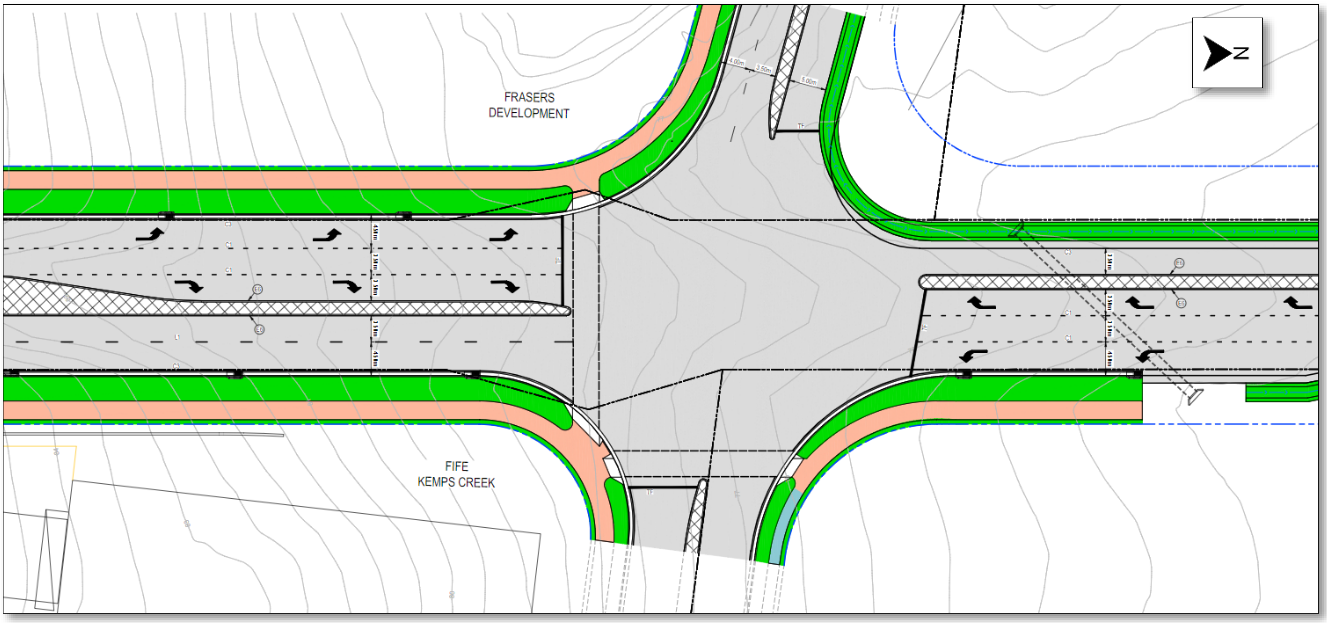


Figure 8: Aldington Road / Fife Kemps Creek (north) *Source: AT&L Drawing No. 21-843-C565*

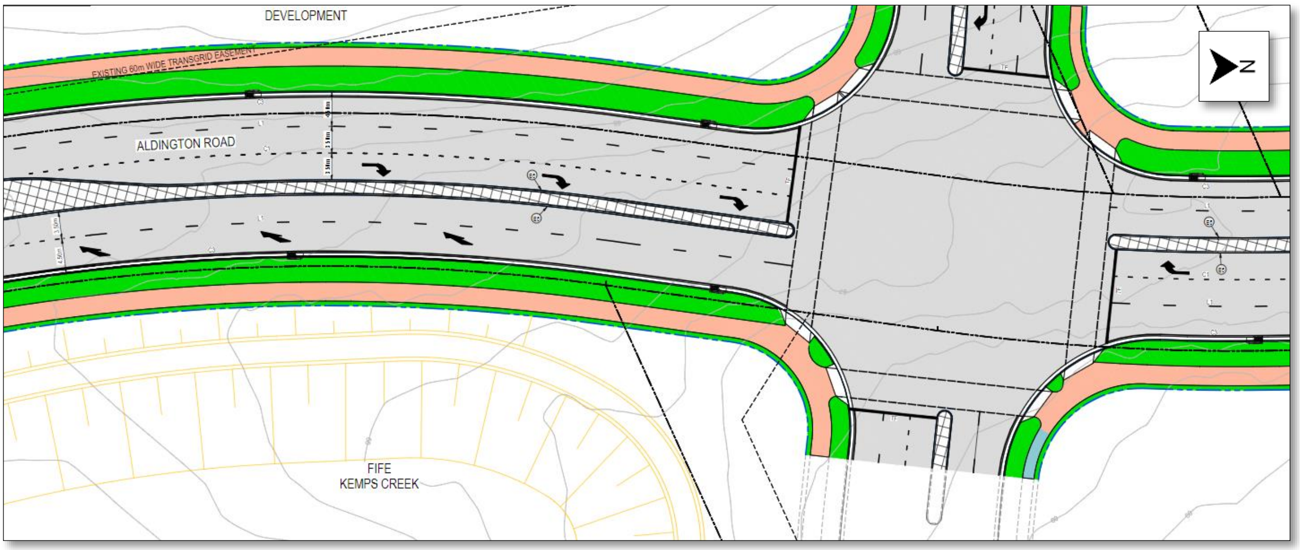


Figure 9: Aldington Road / Fife Kemps Creek (south) *Source: AT&L Drawing No. 21-843-C559*

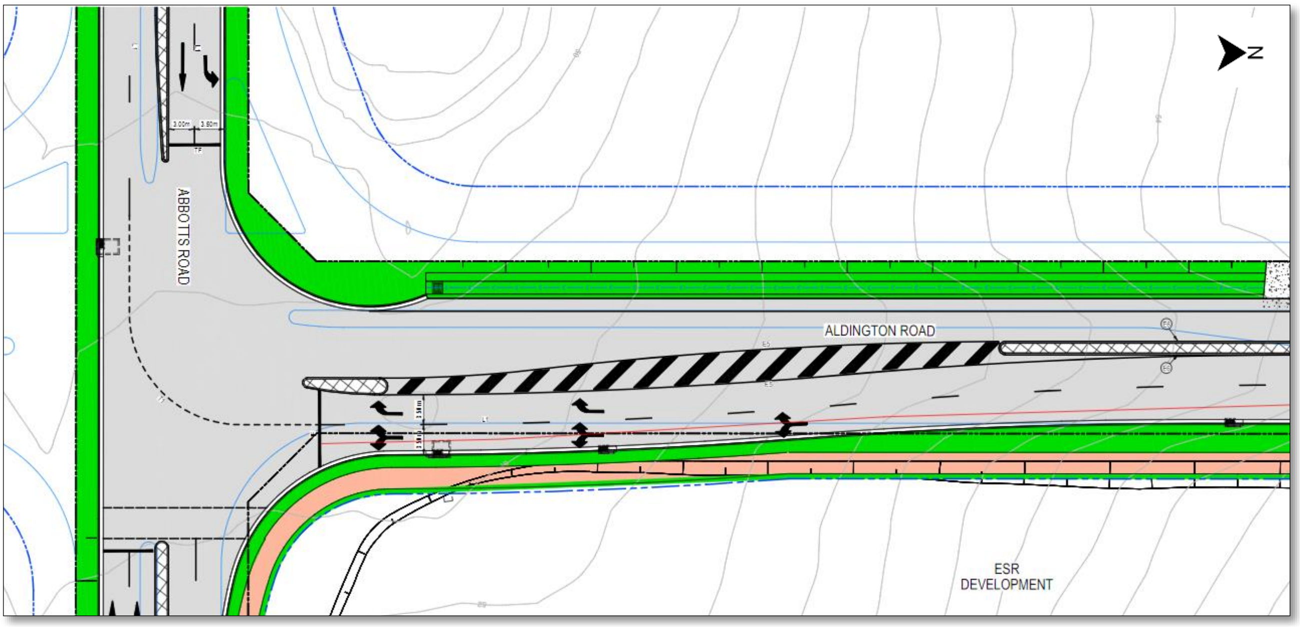


Figure 10: Aldington Road / Abbotts Road (Interim Layout)*Source: AT&L Drawing No. 21-843-C554*

Scenario 1

An initial modelling assumption of 57.5% of the total GFA was adopted to identify the operation of the network. The scenario included:

- Approximately 990,215m^2 of the total GFA
- The road network as currently proposed. That is, completely consistent with either the current SSDA applications, approved intersection layouts or current VPA offers.
- Internal road network assumed to be delivered by 2026.

The road network and intersection layouts are shown in **Figure 11.** The local road network, including Aldington Road and Abbotts Road (shown as Purple in the figure), will be delivered by developers and form part of the current SSD application under assessment by the department. For clarity, all purple roads can be delivered by 2026 via estate delivery or Works-in-Kind Agreements..

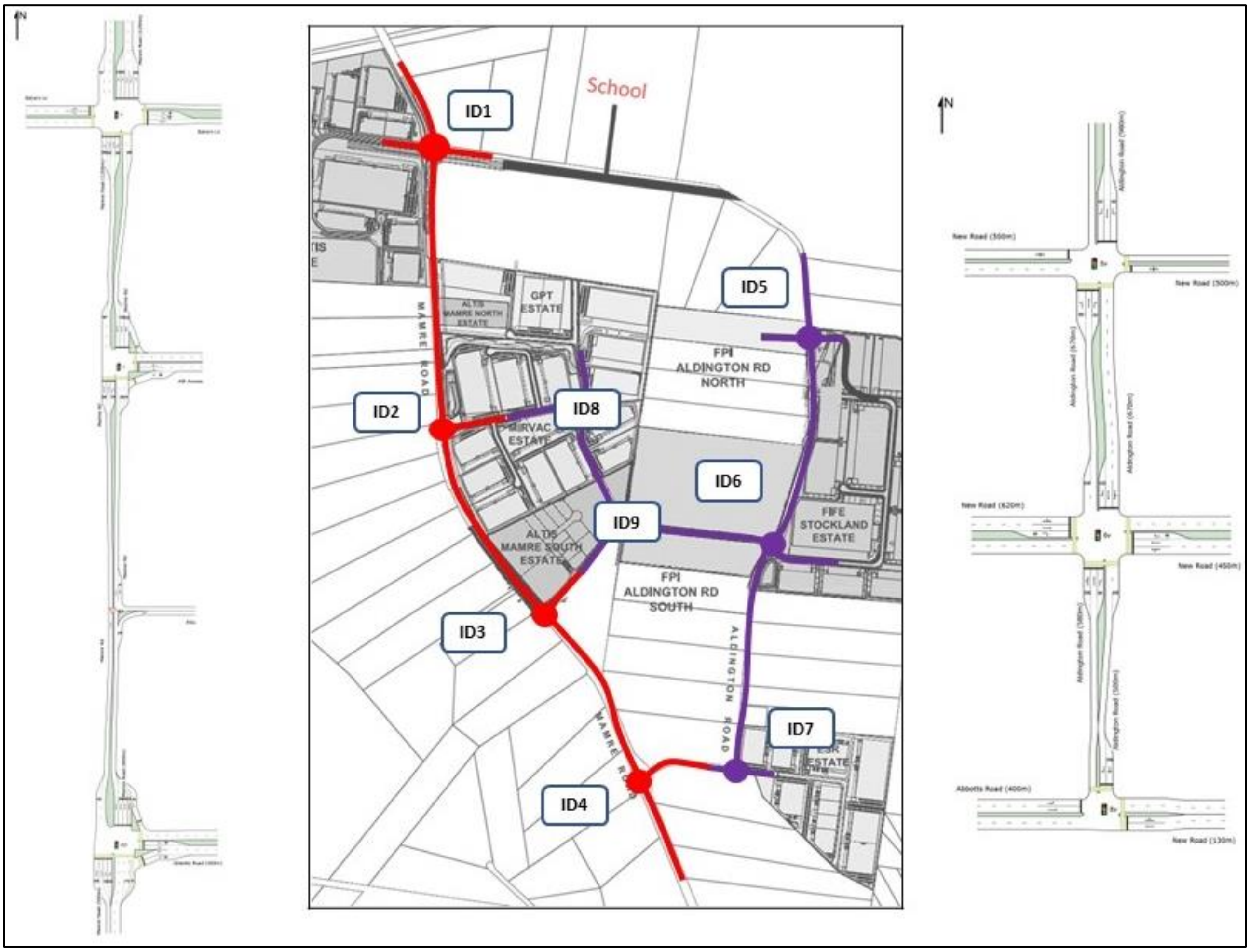


Figure 11: Precinct Key Intersection under Scenario 1

Table 2 summarises the SIDRA results for Scenario 1 and indicates that the assumed layout in both Mamre Road and Aldington Road corridor complied with the revised TfNSW threshold. A detailed SIDRA summary of all intersections is shown in **Attachment 1**.

TABLE 2 1 SCENARIO 1 – SIDRA RESULTS

ID	Intersection	Control	Approach	AM			TfNSW Guidelines Compliance	PM			TfNSW Guidelines Compliance
				DOS	LOS	Queue		DOS	LOS	Queue	
1	Mamre Road / Bakers Lane	**Signal**	S	0.76	B	205	✓	0.83	B	257	✓
			E	0.78	F	38	x	0.87	F	110	x
			N	0.72	E	54	x	0.87	D	315	✓
			W	0.86	C	26	✓	0.66	E	75	x
			Overall	**0.86**	**D**	**205**	**x**	**0.87**	**D**	**315**	**x**
2	Mamre Road / Mirvac Access	**Signal**	S	0.48	B	129	✓	0.75	B	133	✓
			E	0.51	D	91	✓	0.64	D	110	✓
			N	0.67	B	208	✓	0.87	C	355	✓
			Overall	**0.67**	**B**	**208**	✓	**0.87**	**C**	**355**	✓
3	Mamre Road / Altis Access	**Priority (Left In Left Out)**	S	0.66	A	-	✓	0.73	A	-	✓
			E	0.09	A	-	✓	0.18	A	-	✓
			N	0.59	A	-	✓	0.88	A	-	✓
			Overall	**0.66**	**A**	**-**	✓	0.88	A	-	✓
4	Mamre Road / Abbotts Road	**Signal**	S	0.39	A	22	✓	0.63	A	70	✓
			E	0.18	D	14	✓	0.28	D	21	✓
			N	0.34	A	37	✓	0.60	A	94	✓
			Overall	**0.39**	**A**	**37**	✓	0.63	A	94	✓
5	Aldington Road / Fife Kemps Creek (North)	**Signal**	S	0.06	C	10	✓	0.10	D	12	✓
			E	0.13	C	21	✓	0.15	B	30	✓
			N	0.25	B	28	✓	0.14	C	17	✓
			W	0.19	C	11	✓	0.12	C	6	✓
			Overall	**0.25**	**B**	**28**	✓	0.15	C	30	✓
6	Aldington Road / Fife Kemps Creek (South)	**Signal**	S	0.09	C	13	✓	0.30	C	46	✓
			E	0.31	D	32	✓	0.30	C	55	✓
			N	0.03	C	5	✓	0.10	D	14	✓
			W	0.23	C	22	✓	0.13	C	12	✓
			Overall	**0.31**	**C**	**32**	✓	**0.30**	**C**	**55**	✓
7	Aldington Road / Abbotts Road	**Signal**	E	0.04	D	7	✓	0.07	A	13	✓
			N	0.03	D	3	✓	0.05	D	6	✓
			W	0.13	A	27	✓	0.30	B	56	✓
			Overall	**0.13**	**B**	**27**	✓	**0.30**	**B**	**56**	✓
8	Internal Roundabout (Mirvac)	Roundabout	S	0.19	A	7	✓	0.22	A	12	✓
			N	0.11	A	3	✓	0.06	A	4	✓
			W	0.19	A	5	✓	0.06	A	3	✓
			Overall	**0.19**	**A**	**7**	✓	**0.22**	**A**	**12**	✓
9	Internal Roundabout (Altis)	Roundabout	S	0.14	A	6	✓	0.22	A	7	✓
			N	0.05	A	1	✓	0.03	A	1	✓
			W	0.19	A	5	✓	0.08	A	2	✓
			Overall	**0.19**	**A**	**6**	✓	0.22	A	7	✓

The modelling demonstrates that all intersections and movements operate within the thresholds set by TfNSW. All legs of all intersections comply with the original thresholds set by TfNSW in 2020, with the exception of the eastern approach to the Mamre Road / Bakers Lane intersection which operate with LoS of F and with delays of 77.1 and 74.5sec in the morning and evening peak period respectively. This minor non-compliance is acceptable noting that this intersection will likely be further upgraded in the short to medium term and that its overall LoS still meets the RMS Guide thresholds for signalised intersections.

The modelling demonstrates that subject to the delivery of the nominated infrastructure, including the internal road networks (which from part of the current SSDA's) and the upgrades as proposed to the Mamre Road corridor (including those currently under construction or proposed as part of the relevant VPA Offer), the network can accommodated approximately 990,215m^2 of development.

Scenario 2

A second modelling scenario assuming 75% of the total GFA was modelled to identify the additional road network upgrades required. The scenario included:

- 1,291,584m^2 of total GFA within the Precinct
- The road network as adopted for Scenario 1 with the following additional upgrades:
  - Widening of Mamre Road to four lanes (2 northbound and 2 southbound) between Bakers Lane and the Mirvac access intersection.
  - Upgrade to Mamre Road / Bakers Lane
    - North Approach – additional short through lane and dedicated left slip lane
    - East Approach – Dedicated left slip lane
    - West approach – Dedicated left slip lane
    - South approach – additional short through lane, dedicated left slip lane and additional departure lane

Figure 12 below shows the assumed Mamre Road and Aldington Road corridor, the required upgrades are listed below and highlighted blue in the figure.

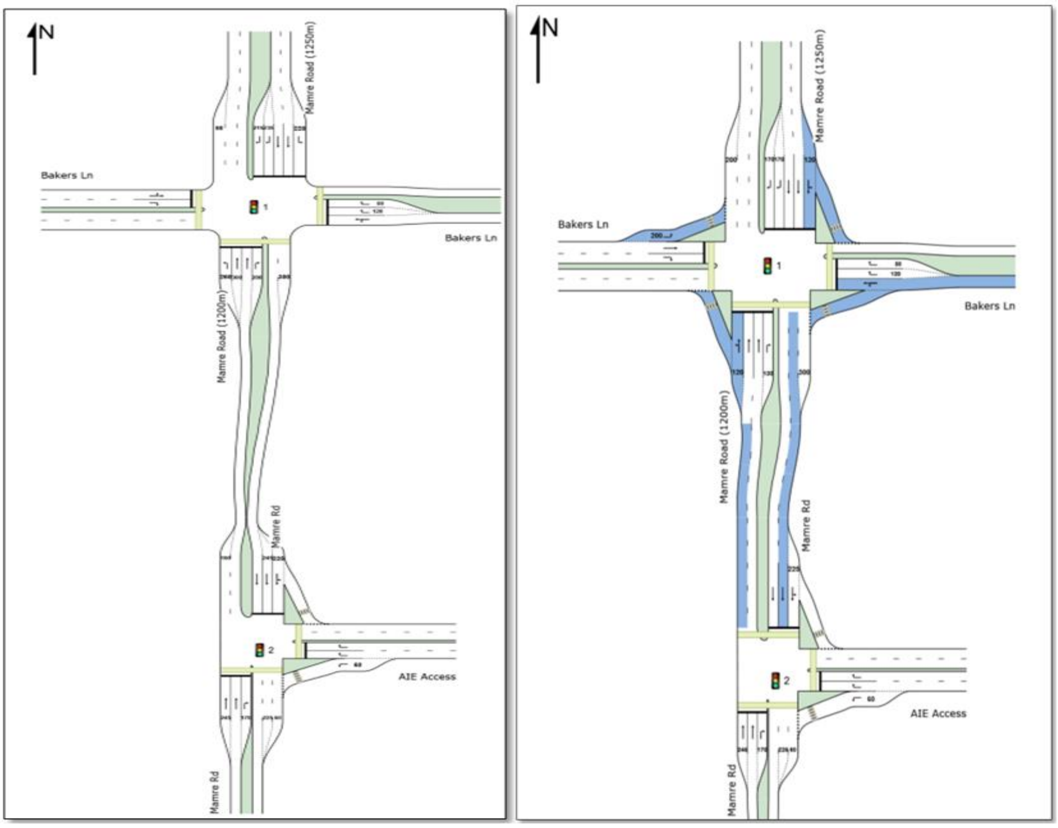


Figure 12: Additional Upgrades under 75% GFA Scenario

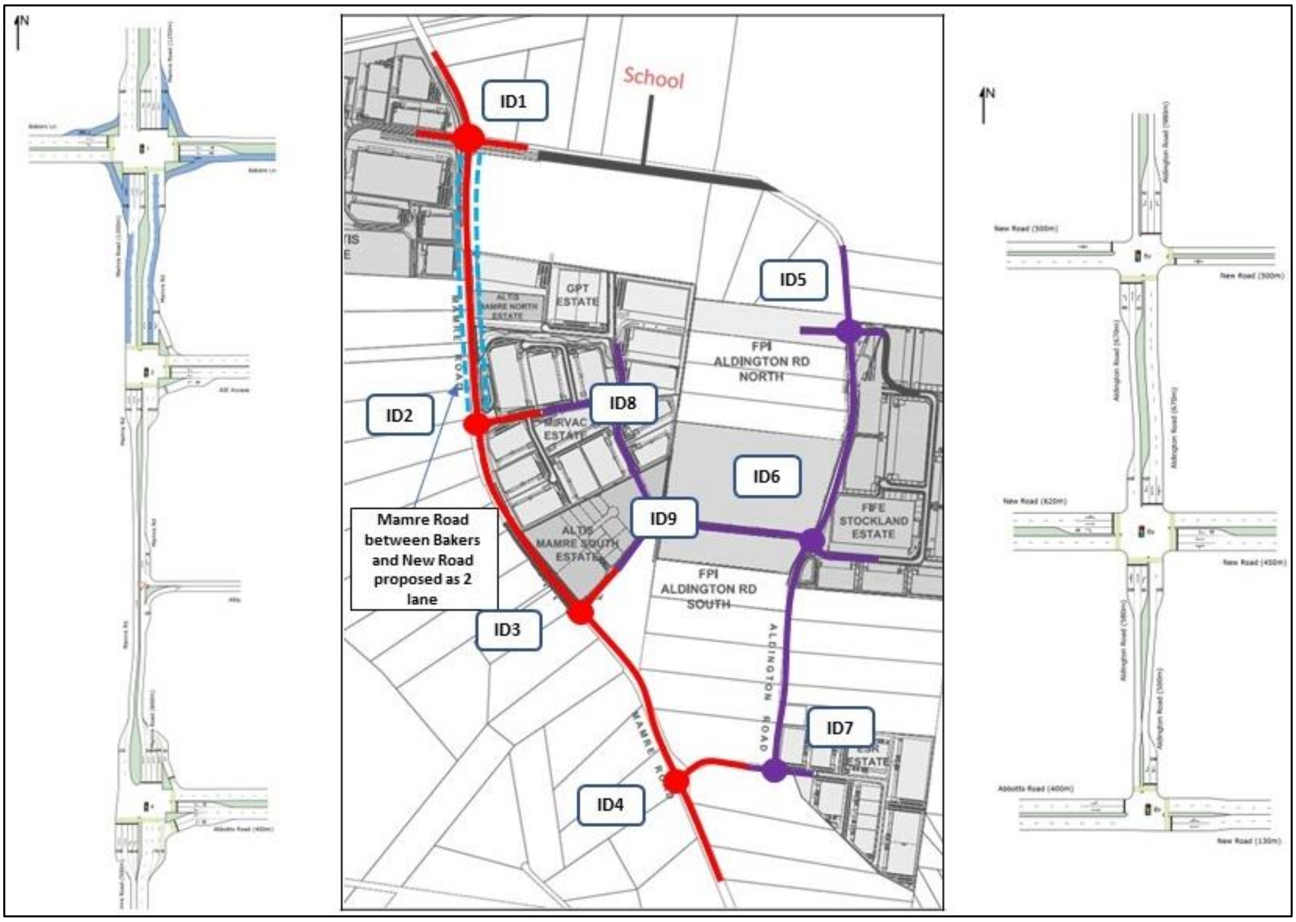


Figure 13: Precinct Key Intersection under 75% GFA

The results of the modelling are provided in **Table 3** with detailed SIDRA movement/layout summary included at **Attachment 2.** The modelling demonstrates:

- Generally improved network operation with reduced queues and delays at Bakers Lane with Mamre Road
- All intersections and individual legs operate with delays and degree of saturation within the limits set by TfNSW
- Spare capacity at all intersections to enable further development above the 1,291,584m^2 modelled.

The additional upgrades identified can therefore accommodate at least the 1,291,584m^2 GFA of the relevant Land Owners Group. Additional capacity would also be available for smaller applications within the precinct that would unlikely result in any further degradation below the acceptable thresholds nominated by TfNSW.

It is noted that additional capacity may also be available within the network having consideration to the trip rates required for adoption. The rates, which are significantly higher than those established through surveys or inherent within he RMS Guide to Traffic Generating Developments, in our view overestimate the future transport demands and therefore reflect a worst case analysis.

TABLE 3 2 SCENARIO 2 – SIDRA RESULTS

ID	Intersection	Control	Approach	AM			TfNSW Guidelines Compliance	PM			TfNSW Guidelines Compliance
				DOS	LOS	Queue		DOS	LOS	Queue	
1	Mamre Road / Bakers Lane	Signal	S	0.90	D	310	✓	0.89	C	332	✓
			E	0.30	D	31	✓	0.74	D	118	✓
			N	0.86	C	295	✓	0.85	C	282	✓
			W	0.29	C	40	✓	0.48	D	90	✓
			Overall	**0.90**	**C**	**310**	✓	**0.89**	**C**	**332**	✓
2	Mamre Road / Mirvac Access	Signal	S	0.73	B	142	✓	0.88	B	171	✓
			E	0.71	D	138	✓	0.79	D	149	✓
			N	0.58	B	178	✓	0.90	D	405	✓
			Overall	**0.72**	**B**	**178**	✓	**0.90**	**C**	**405**	✓
3	Mamre Road / Altis Access	Priority (Left In Left Out)	S	0.67	A	-	✓	0.82	A	-	✓
			E	0.11	A	-	✓	0.30	C	-	✓
			N	0.57	A	-	✓	0.89	C	-	✓
			Overall	**0.67**	**A**	**-**	✓	**0.89**	**C**	**-**	✓
4	Mamre Road / Abbotts Road	Signal	S	0.48	A	31	✓	0.84	B	105	✓
			E	0.06	D	11	✓	0.48	D	37	✓
			N	0.35	A	51	✓	0.64	A	109	✓
			Overall	**0.48**	**A**	**51**	✓	**0.84**	**B**	**109**	✓
5	Aldington Road / Fife Kemps Creek (North)	Signal	S	0.05	B	9	✓	0.21	C	34	✓
			E	0.15	C	26	✓	0.21	C	39	✓
			N	0.25	B	27	✓	0.14	C	23	✓
			W	0.20	C	7	✓	0.19	C	10	✓
			Overall	**0.25**	**B**	**27**	✓	**0.21**	**C**	**39**	✓
6	Aldington Road / Fife Kemps Creek (South)	Signal	S	0.20	C	35	✓	0.41	D	69	✓
			E	0.26	D	40	✓	0.41	C	75	✓
			N	0.03	C	5	✓	0.20	C	31	✓
			W	0.19	C	18	✓	0.30	C	31	✓
			Overall	**0.26**	**C**	**40**	✓	**0.41**	**C**	**75**	✓
7	Aldington Road / Abbotts Road	Signal	E	0.21	B	24	✓	0.10	A	18	✓
			N	0.04	D	4	✓	0.19	D	23	✓
			W	0.21	B	48	✓	0.46	B	113	✓
			Overall	**0.21**	**B**	**48**	✓	**0.46**	**B**	**113**	✓
8	Internal Roundabout (Mirvac)	Roundabout	S	0.21	A	16	✓	0.30	A	18	✓
			N	0.07	A	4	✓	0.10	A	4	✓
			W	0.19	A	10	✓	0.15	A	9	✓
			Overall	**0.21**	**A**	**16**	✓	**0.30**	**A**	**18**	✓
9	Internal Roundabout (Altis South)	Roundabout	S	0.14	A	10	✓	0.28	A	16	✓
			N	0.13	A	8	✓	0.12	A	9	✓
			W	0.11	A	5	✓	0.10	A	4	✓
			Overall	**0.14**	**A**	**10**	✓	0.28	A	16	✓

Ultimate Precinct Delivery

Based on the modelling completed for the corridor the following additional works must be considered to release further capacity in the network to enable further development within the precinct:

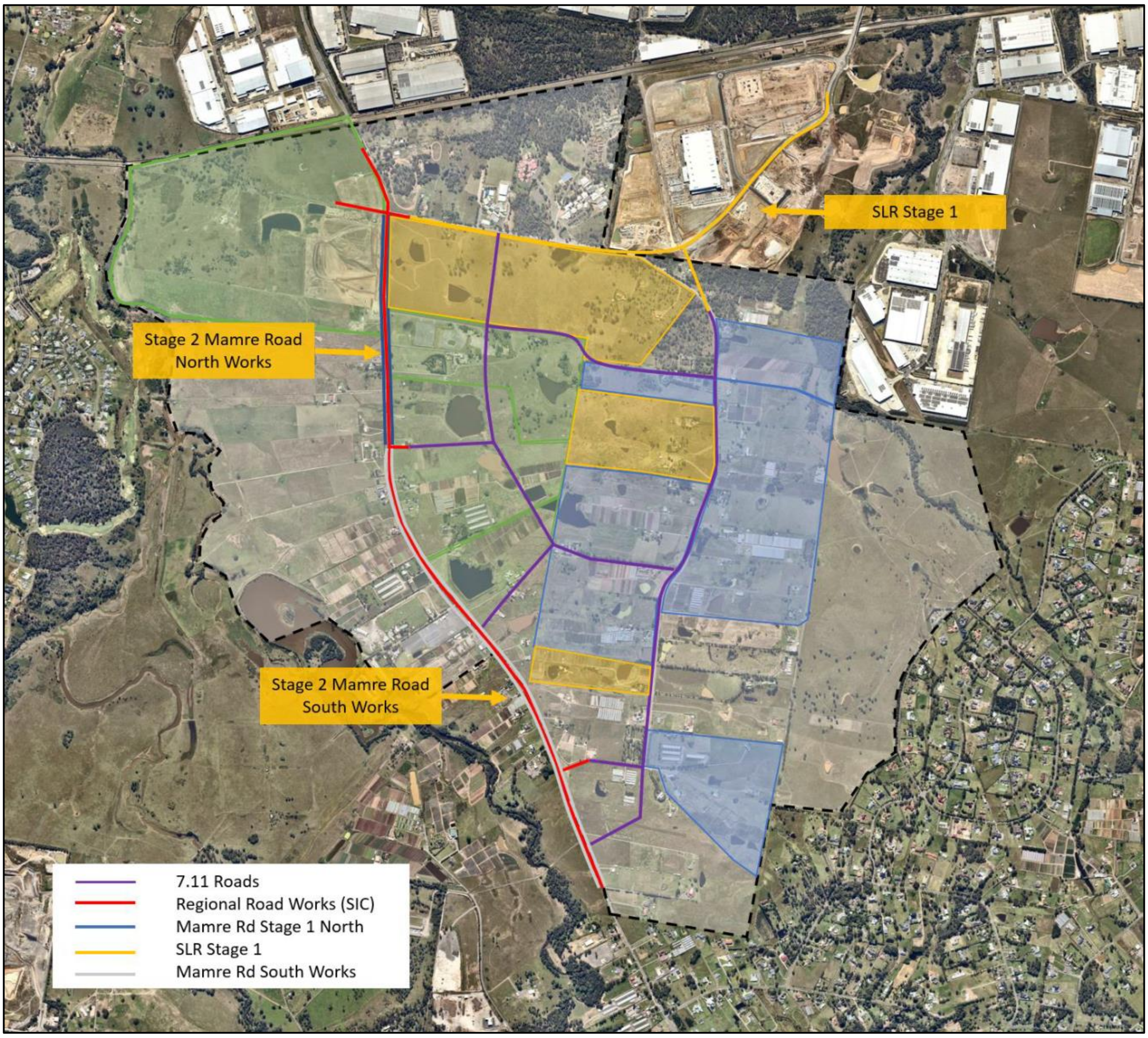


Figure 13: Additional Road Network Upgrades

The main constraint within the network is the lack of north-south capacity. The logical next stage of works is the delivery of the SLR Stage 1, which would provide a connection between Mamre Road and Compass Drive (including a new connection with Aldington Road). This connection would provide direct access to Lenore Drive, reducing the reliance on Erskine Park Road and Mamre Road and providing an alternate route to the M7 and M4 motorways.

Additional localised capacity can also be achieved through the further widening of Mamre Road, between Mirvac Site Access to Kerrs Road (see Figure 13). This widening would provide additional north-south capacity.

The delivery of SLR combined with regional network upgrades assumed in the Governments Strategic Modelling and Works Programs will support the delivery of the Precinct. These upgrades are to be programmed and coordinated by Transport for NSW.

Traffic Signal Warrant

At the request of TfNSW a traffic warrant assessment has been completed for the design horizon year of 2026 (Scenario 2) and 2036 under full development of the precinct. It is noted that whilst this assessment has been completed, the need for signals should be considered across multiple criteria and not just the warrants in isolation, particularly for Greenfield developments.

The RMS Traffic Signal Design – Section 2 stipulates:

"traffic signals are sometimes installed due to public pressure or an administrative directive irrespective of the general warrants".

In the case of the Aldington Road intersections the Mamre Road Precinct DCP can be seen as an administrative directive, that identifies where signalised intersections are to be located. The Penrith City Council has also made it clear that they prefer signals in part due to the delivery of what is viewed at the ultimate solution for the intersections, which has cost and delivery implications.

Notwithstanding this, a traffic warrant assessment was conducted in accordance with the guidelines set forth by the RTA in the *Traffic Signal Design Section 2 – Warrants,* the traffic flow warrants are listed below:

- Traffic Demand:
  - The major road flow exceeds 600 vehicles/hour in each direction, and
  - The minor road flow exceeds 200 vehicles/hours in one direction.
- Continuous Traffic:
  - The major road flow exceeds 900 vehicles/hour in each direction, and
  - The minor road flow exceeds 100 vehicles/hour in one direction.

Table 3 below summarizes the traffic signal warrant for intersections along Mamre Road and Aldington Road corridor for the 2026 and 2036 scenarios. A detailed analysis of each movement and approach is also provided in **Attachment 3**.

TABLE 4 TRAFFIC SIGNAL WARRANT

#	Key Intersections	Traffic Signal Warrant Satisfied – 2026 (Scenario 2)		Traffic Signal Warrant Satisfied – 2036	
		AM	PM	AM	PM
1	Mamre Road / Bakers Lane	✓	✓	✓	✓
2	Mamre Road / Mirvac Access	✓	✓	✓	✓
3	Mamre Road / Abbotts Road	✓	✓	✓	✓
4	Aldington Road / Fife Kemps Creek (North)	X	X	✓	✓
5	Aldington Road / Fife Kemps Creek (south)	X	X	✓	✓
6	Aldington Road / Abbotts Road	X	X	✓	✓

The warrant assessment demonstrates compliance with all proposed signalised intersections by 2036.

Whilst technical traffic flow warrants are not met under the 2026 Scenario, further considerations must be considered as noted in the RMS Traffic Signal Design strategic direction. The relevant qualitative merits considered under the Guide are outlined in Table 5.

TABLE 5 CONSIDERATIONS IN SIGNALISATION OF ALDINGTON ROAD

Factors for Consideration	Application to Aldington Road
Traffic flows	The 2026 modelling does not meet the traffic flows criterion in the guide. However, the 2026 scenario only assumes development on the Mamre Road Precinct Landowner Group sites. The 2036 modelling of the precinct, which is the ultimate scenario, does meet the traffic flow warrant criterion. Given the current demand for zoned industrial land, it is noted there are more development applications along this corridor other than the Mamre Road Precinct Landowners Group. These sites will contribute to overall traffic generation as the Precinct is delivered.
Traffic conflicts	The relationship and interaction between trucks, light vehicles and pedestrians is a significant criterion for assessment of warrants. The strategic planning for Mamre Road Precinct identified the need to create an employment precinct which contributes toward all forms of transport, including cycling and walking. The delivery of signalised intersections enables safe crossings along the corridor for pedestrians and cyclists. Given the nature of trucks entering and exiting this corridor and their restricted visibility compared to light vehicles, traffic signals are required to minimise traffic conflict and enable a pedestrian safe environment along the corridor.
Traffic accident statistics	The statistics on traffic accidents is unknown for the upgraded corridor. It is viewed that the delivery of signalised intersections along the corridor will be a preventative measure to minimise risk associated with this criterion
Pedestrian requirements	Pedestrian access is being encouraged with a requirement for Green Travel Plans, bus routes. Crossing facilities must be provided within the corridor to facilitate safe pedestrian movements
Access to major roads	Aldington Road and Abbotts Road are designated as Distributor Industrial roads under the Mamre Road Precinct DCP. As the precinct road network is delivered, Abbotts Road and Aldington Road will become a major thoroughfare connecting Mamre Road to the future Southern Link Road. The precinct-wide modelling identifies a significant increase of traffic flows along this corridor once Southern Link Road is delivered, as it provides the most direct link route from Erskine Park to Elizabeth Drive.
Cost of installation	The cost of installation of signals along Abbotts and Aldington Roads is factored into the Mamre Road Precinct Section 7.11 Contribution Plan and will be funded by developer contributions. Future costs and redundant works have no source of funding.

	The cost to deliver signalised intersection in today's dollars will be significantly cheaper compared to future augmentation. Therefore, it is the Government's best value for money to deliver the signals today versus future as money and levy mechanism is identified and developers are wiling to assist in delivering the ultimate in line with their forecasted delivery programs. This is not guaranteed in the future if signalised intersections are not delivered with the proposed planning agreement with Council
Availability of funds	The funds to deliver signalised intersections and the upgrade of Abbotts and Aldington Roads are available now via developers (under Section 7.11 contributions and works-in-kind). Further, Penrith City Council has been awarded funding by NSW Government to deliver the ultimate corridor including signalised intersections. This funding has been awarded on the basis the ultimate corridor can be delivered in line with delivery of industrial estates, which is occurring now and not in the future.
Maintenance Costs	Maintenance of signals, in the short term, can be facilitated via developers through either the planning agreement or contribution to ensure no additional costs are incurred in lieu of required traffic flows.
Practicality	The delivery of the ultimate outcome would simplify land acquisition and delivery of infrastructure. It significantly reduces the risk to fund future upgrades and minimises redundant works by developers or Council.
Feasibility	Traffic signals have been developed in the concept design and costing of the Section 7.11 contribution plan. This concept design has been endorsed by Council and DPE- Strategic Planning teams. It is understood a housekeeping amendment is currently being drafted based on the ultimate alignment. It does not consider any intersection treatments outside of signalised intersections as per the DCP.
Signposted speed limit is not more than 80km/hr	Signposted speed limit expected to be 60km/hr.

Noting the above, there is sufficient justification for TfNSW to approve signals along Aldington Road, consistent with he recently endorsed Mamre Road DCP. The construction of signals will improve traffic and road user safety with minimal, if any, impact to TfNSW. Furthermore, there is sufficient risk that funding for future signalisation of the subject intersections would not be available in the future.

Summary

Based on the analysis and set of assumptions outlined above the following conclusion have been reached:

Scenario 1

- The road network currently proposed or under construction by Land Owners Group members can deliver up to 900,000 m^2,
- All intersections along the Mamre Road and Aldington Road corridor complied with the TfNSW threshold for both Delays and practical capacity.

Scenario 2

- To support the additional GFA (up to 1,291,584m^2) some upgrades to the road network would be required to retain the operating thresholds set by TfNSW.
- These upgrades would include:
  - Widening of Mamre Road to four lanes (2 northbound and 2 southbound) between Bakers Lane and the Mirvac access intersection.
  - Upgrade to Mamre Road / Bakers Lane
- The modelling demonstrates that with the aforementioned upgrades all intersection along Mamre Road and Aldington corridor operates at LoS C or better.

Ultimate Precinct Delivery

- Additional capacity can be delivered within the precinct through additional road network upgrades.
- These upgrades have not been considered as part of this analysis however would include:
  - Delivery of SLR Stage 1
  - Duplication of Mamre Road through lanes, south of the Mirvac Access Road
  - Regional road network upgrades previously identified by TfNSW and included in the current strategic modelling for WSEA and broader Aerotropolis.

Traffic Signal Warrant

- Under the modelled scenarios, the traffic signal warrants on Aldington Road are not met in the 2026 scenario. However, the 2036 modelling confirms Aldington Road corridor requires signalised intersection, therefore satisfying the medium-long term requirement.
- Traffic signal warrants are not the only criteria that should be considered in TfNSW's assessment and consideration to all road users and the recently endorsed DCP must also be considered.

Based on the above, we see no impediment to the approval of the current SSDA applications that form the Land Owners Group East. Additionally, the modelling demonstrates that the proposed road network meets all of TfNSW requirements.

Yours sincerely,

Andrew Johnson

Director

E andrew.johnson@asongroup.com.au

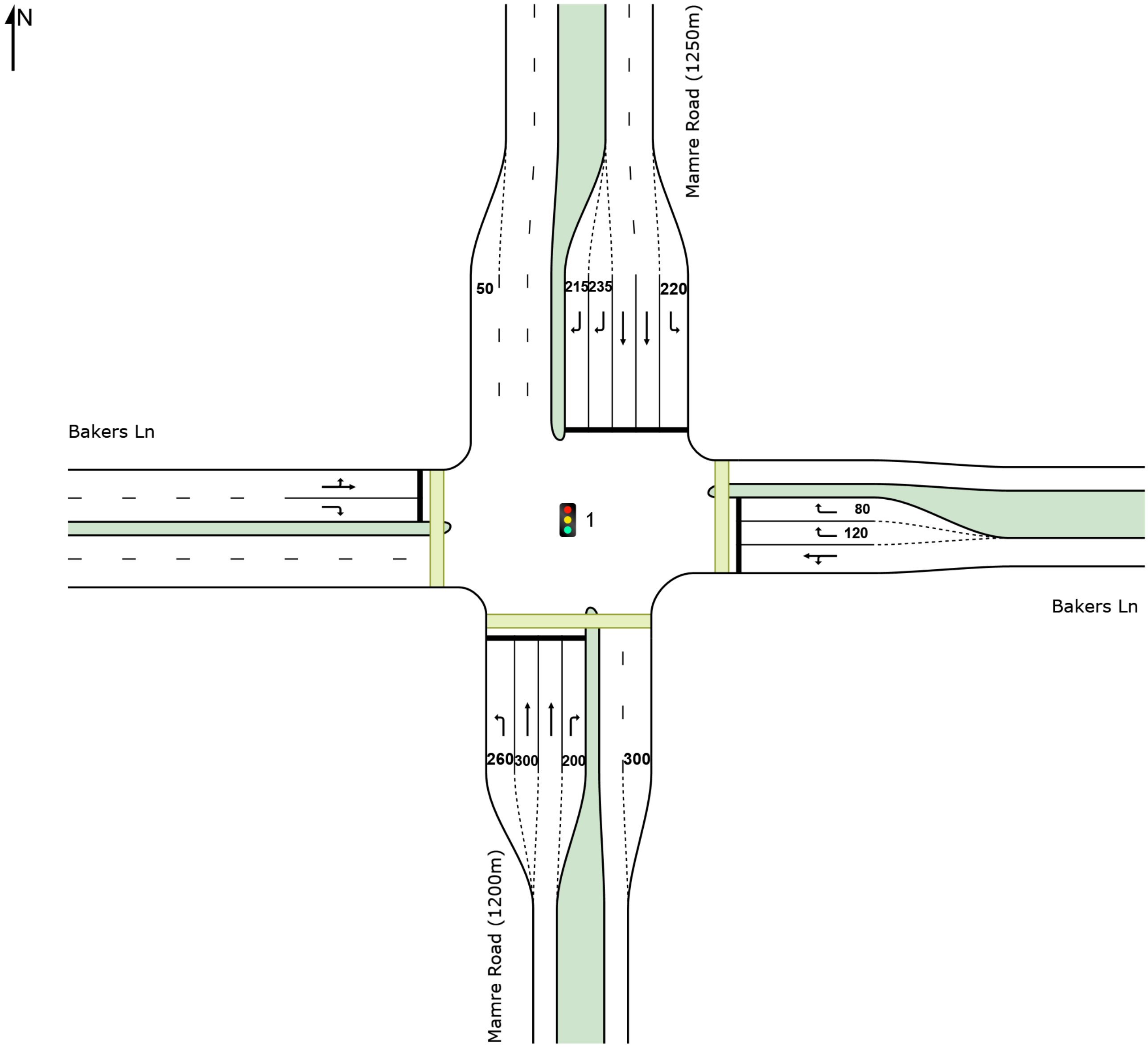
Attachment 1

SITE LAYOUT

Site: 1 [[ID: 1] (AM) Bakers Lane / Mamre Road - AM (Site Folder: 2026 - AM 60% GFA)]

Bakers Lane / Mamre Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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



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MOVEMENT SUMMARY

Site: 1 [[ID: 1] (AM) Bakers Lane / Mamre Road - AM (Site Folder: 2026 - AM 60% GFA)]

Bakers Lane / Mamre Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 122 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Road (1200m)														
1	L2	21	15	22	70.3	0.039	14.6	LOS B	0.3	4.7	0.44	0.68	0.44	57.1
2	T1	1242	245	1307	19.7	0.761	14.8	LOS B	22.8	205.4	0.64	0.59	0.64	70.6
3	R2	45	7	47	15.6	* 0.719	77.6	LOS F	3.1	24.8	1.00	0.81	1.24	40.1
Approach		1308	267	1377	20.4	0.761	17.0	LOS B	22.8	205.4	0.65	0.59	0.66	69.0
East: Bakers Ln														
4	L2	2	1	2	50.0	0.018	194.5	LOS F	0.1	1.3	0.88	0.63	0.88	48.6
5	T1	1	0	1	0.0	0.018	44.2	LOS D	0.1	1.3	0.88	0.63	0.88	39.5
6	R2	149	9	157	6.0	* 0.776	75.8	LOS F	5.1	37.5	1.00	0.85	1.27	42.4
Approach		152	10	160	6.6	0.776	77.1	LOS F	5.1	37.5	1.00	0.84	1.26	42.4
North: Mamre Road (1250m)														
7	L2	362	0	381	0.0	0.237	9.3	LOS A	4.7	33.0	0.23	0.69	0.23	70.1
8	T1	1633	230	1719	14.1	* 0.724	74.7	LOS F	6.4	53.6	0.14	0.13	0.14	78.8
9	R2	227	34	239	14.9	0.394	54.3	LOS D	6.3	53.2	0.92	0.79	0.92	43.7
Approach		2222	264	2339	11.9	0.724	62.0	LOS E	6.4	53.6	0.23	0.29	0.23	72.7
West: Bakers Ln														
10	L2	101	30	106	29.7	0.116	12.7	LOS A	1.9	20.1	0.32	0.62	0.32	56.3
11	T1	1	0	1	0.0	0.116	5.5	LOS A	1.9	20.1	0.32	0.62	0.32	55.2
12	R2	33	10	35	30.3	* 0.855	82.4	LOS F	2.5	26.2	1.00	0.95	1.60	35.2
Approach		135	40	142	29.6	0.855	29.7	LOS C	2.5	26.2	0.49	0.70	0.64	49.2
All Vehicles		3817	581	4018	15.2	0.855	46.0	LOS D	22.8	205.4	0.41	0.43	0.43	68.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mamre Road (1200m)												
P1	Full	10	11	55.2	LOS E	0.0	0.0	0.95	0.95	229.3	226.4	0.99
East: Bakers Ln												
P2	Full	10	11	55.2	LOS E	0.0	0.0	0.95	0.95	223.4	218.7	0.98
West: Bakers Ln												

P4 Full	10	11	55.2	LOS E	0.0	0.0	0.95	0.95	223.9	219.4	0.98
All Pedestrians	30	32	55.2	LOS E	0.0	0.0	0.95	0.95	225.6	221.5	0.98

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

MOVEMENT SUMMARY

Site: 1 [[ID: 1] Bakers Lane / Mamre Road - PM (Site Folder: 2026 - PM 60% GFA)]

Bakers Lane / Mamre Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Road (1200m)														
1	L2	92	18	97	19.6	0.084	11.5	LOS A	1.5	12.8	0.28	0.68	0.28	58.9
2	T1	1424	209	1499	14.7	0.826	18.1	LOS B	30.8	257.3	0.73	0.69	0.76	68.8
3	R2	5	0	5	0.0	0.056	68.3	LOS E	0.3	2.1	0.98	0.65	0.98	43.9
Approach		1521	227	1601	14.9	0.826	17.9	LOS B	30.8	257.3	0.71	0.69	0.73	68.1
East: Bakers Ln														
4	L2	33	0	35	0.0	0.132	124.7	LOS F	1.9	13.0	0.91	0.73	0.91	47.4
5	T1	1	0	1	0.0	0.132	52.8	LOS D	1.9	13.0	0.91	0.73	0.91	36.4
6	R2	453	9	477	2.0	* 0.865	70.9	LOS F	15.4	109.9	1.00	0.94	1.28	43.8
Approach		487	9	513	1.8	0.865	74.5	LOS F	15.4	109.9	0.99	0.92	1.25	44.0
North: Mamre Road (1250m)														
7	L2	145	2	153	1.6	0.107	11.2	LOS A	2.4	16.8	0.29	0.69	0.29	68.3
8	T1	1436	259	1512	18.0	* 0.868	57.4	LOS E	36.1	314.5	0.80	0.79	0.86	66.3
9	R2	56	39	59	69.6	* 0.619	77.8	LOS F	1.9	25.9	1.00	0.79	1.18	38.0
Approach		1637	300	1723	18.3	0.868	54.0	LOS D	36.1	314.5	0.76	0.78	0.82	65.1
West: Bakers Ln														
10	L2	149	22	157	14.8	0.659	63.1	LOS E	9.1	75.4	0.99	0.83	1.03	41.0
11	T1	1	0	1	0.0	* 0.659	54.1	LOS D	9.1	75.4	0.99	0.83	1.03	35.7
12	R2	117	22	123	18.8	0.559	57.4	LOS E	6.9	61.3	0.98	0.80	0.98	40.9
Approach		267	44	281	16.5	0.659	60.5	LOS E	9.1	75.4	0.99	0.82	1.01	40.9
All Vehicles		3912	580	4118	14.8	0.868	42.9	LOS D	36.1	314.5	0.78	0.77	0.85	61.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mamre Road (1200m)												
P1	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	228.3	226.4	0.99
East: Bakers Ln												
P2	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	222.4	218.7	0.98
West: Bakers Ln												

P4	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	222.9	219.4	0.98
All Pedestrians		30	32	54.2	LOS E	0.0	0.0	0.95	0.95	224.6	221.5	0.99

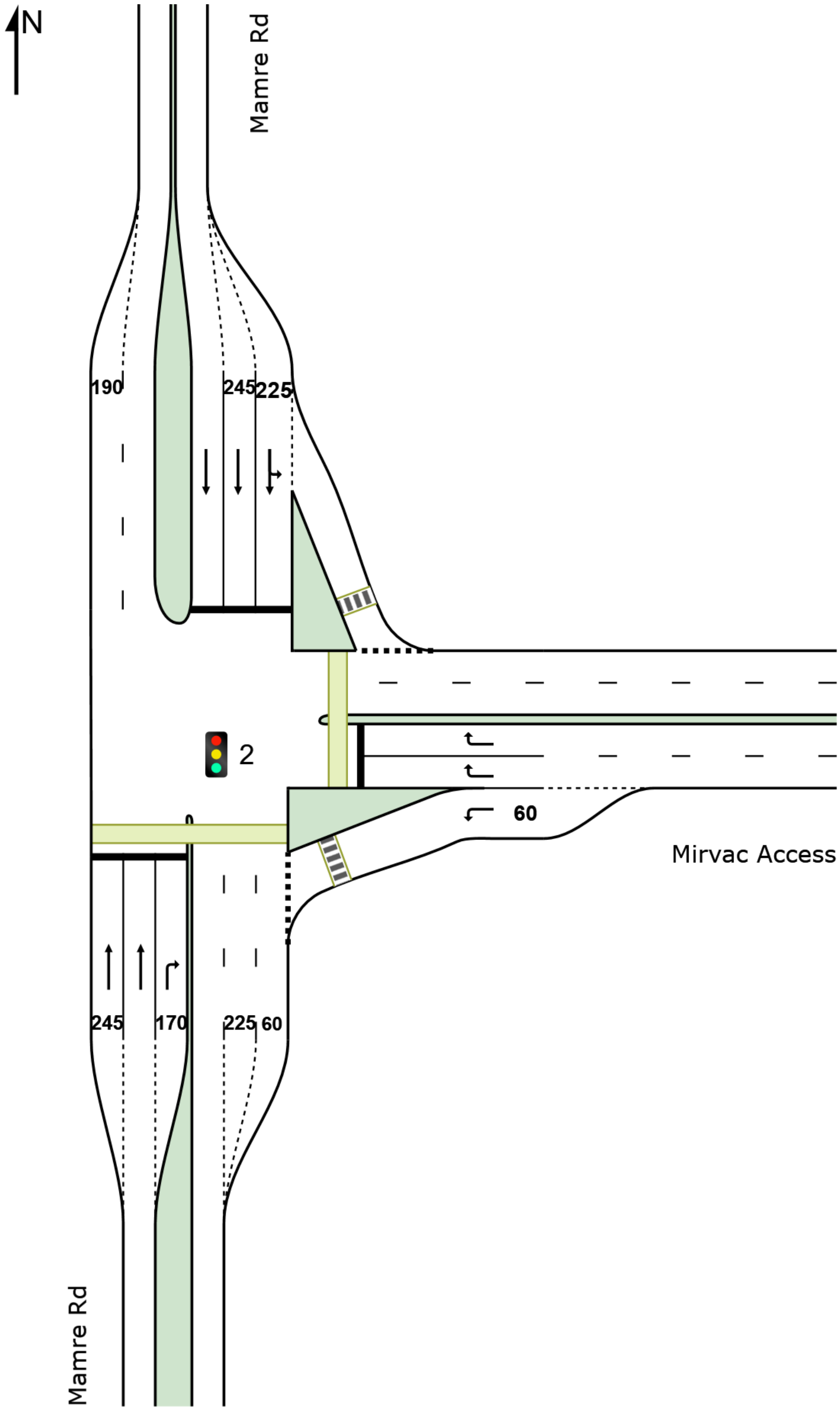
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 2 [[ID: 2] (AM) Mamre x Mirvac Access - AM (Site Folder: 2026 - AM 60% GFA)]

Mamre Road x Mirvac Access
Site Category: Proposed Interim
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



MOVEMENT SUMMARY

Site: 2 [[ID: 2] (AM) Mamre x Mirvac Access - AM (Site Folder: 2026 - AM 60% GFA)]

Mamre Road x Mirvac Access
Site Category: Proposed Interim
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Rd														
2	T1	1062	128	1118	12.1	0.475	13.6	LOS A	16.0	129.0	0.54	0.49	0.54	57.9
3	R2	37	16	39	43.2	* 0.262	61.5	LOS E	2.2	25.8	0.95	0.74	0.95	29.5
Approach		1099	144	1157	13.1	0.475	15.2	LOS B	16.0	129.0	0.55	0.50	0.55	56.1
East: Mirvac Access														
4	L2	22	6	23	27.3	0.036	15.7	LOS B	0.4	4.3	0.38	0.59	0.38	47.3
6	R2	264	135	278	51.1	* 0.506	53.1	LOS D	7.3	90.9	0.92	0.80	0.92	30.8
Approach		286	141	301	49.3	0.506	50.2	LOS D	7.3	90.9	0.88	0.79	0.88	31.7
North: Mamre Rd														
7	L2	590	137	621	23.2	0.501	8.4	LOS A	6.1	56.4	0.27	0.66	0.27	51.8
8	T1	1098	129	1156	11.7	* 0.670	26.7	LOS B	25.6	207.7	0.82	0.74	0.82	47.2
Approach		1688	266	1777	15.8	0.670	20.3	LOS B	25.6	207.7	0.63	0.71	0.63	48.7
All Vehicles		3073	551	3235	17.9	0.670	21.2	LOS B	25.6	207.7	0.62	0.64	0.62	48.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mamre Rd												
P1	Full	50	53	50.5	LOS E	0.2	0.2	0.92	0.92	222.5	223.5	1.00
East: Mirvac Access												
P2	Full	50	53	22.9	LOS C	0.1	0.1	0.62	0.62	189.8	217.0	1.14
All Pedestrians		100	105	36.7	LOS D	0.2	0.2	0.77	0.77	206.1	220.3	1.07

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

MOVEMENT SUMMARY

Site: 2 [[ID: 2] Mamre x Mirvac Access - PM (Site Folder: 2026 - PM 60% GFA)]

Mamre Road x Mirvac Access
Site Category: Proposed Interim
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Rd														
2	T1	1102	114	1160	10.3	0.488	16.5	LOS B	16.8	133.3	0.54	0.49	0.54	57.8
3	R2	132	24	139	18.2	* 0.751	67.1	LOS E	8.5	75.1	1.00	0.87	1.16	28.3
Approach		1234	138	1299	11.2	0.751	21.9	LOS B	16.8	133.3	0.59	0.53	0.61	52.0
East: Mirvac Access														
4	L2	45	5	47	11.1	0.066	26.8	LOS B	1.2	9.8	0.52	0.64	0.52	43.2
6	R2	404	112	425	27.7	* 0.637	56.7	LOS E	11.5	110.1	0.96	0.83	0.96	29.6
Approach		449	117	473	26.1	0.637	53.7	LOS D	11.5	110.1	0.92	0.81	0.92	30.6
North: Mamre Rd														
7	L2	145	90	153	62.1	0.161	9.4	LOS A	1.5	19.9	0.24	0.62	0.24	50.9
8	T1	1408	190	1482	13.5	* 0.869	40.9	LOS C	43.1	355.4	0.96	0.96	1.06	40.9
Approach		1553	280	1635	18.0	0.869	38.0	LOS C	43.1	355.4	0.90	0.93	0.98	41.7
All Vehicles		3236	535	3406	16.5	0.869	34.0	LOS C	43.1	355.4	0.78	0.76	0.83	42.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mamre Rd												
P1	Full	50	53	50.5	LOS E	0.2	0.2	0.92	0.92	222.5	223.5	1.00
East: Mirvac Access												
P2	Full	50	53	22.9	LOS C	0.1	0.1	0.62	0.62	189.8	217.0	1.14
All Pedestrians		100	105	36.7	LOS D	0.2	0.2	0.77	0.77	206.1	220.3	1.07

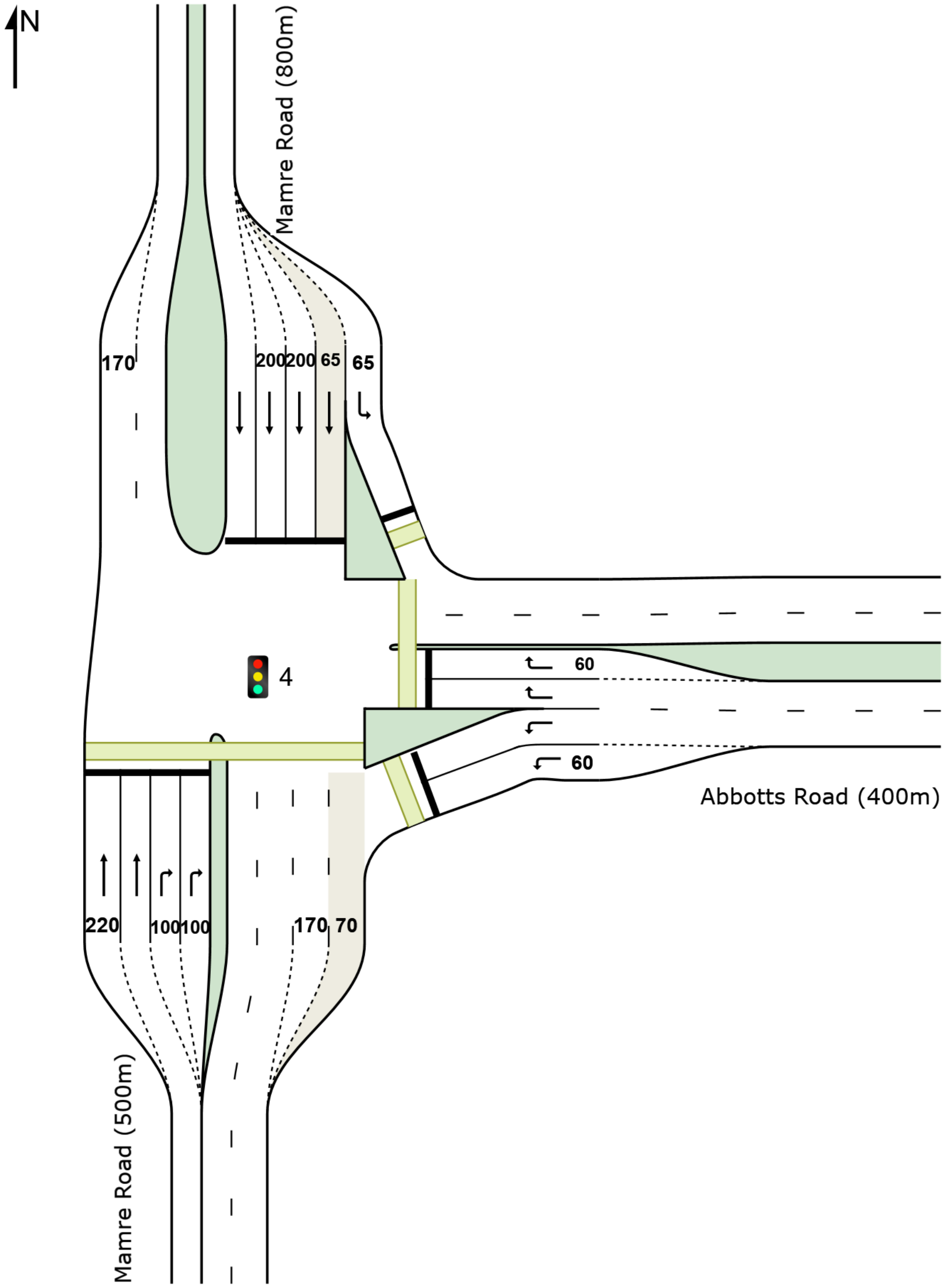
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 4 [[ID: 4] Abbotts Road / Mamre Road - AM (Site Folder: 2026 - AM 60% GFA)]

Abbotts Road / Mamre Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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



MOVEMENT SUMMARY

Site: 4 [[ID: 4] Abbotts Road / Mamre Road - AM (Site Folder: 2026 - AM 60% GFA)]

Abbotts Road / Mamre Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Road (500m)														
2	T1	1067	131	1123	12.3	0.387	1.7	LOS A	1.0	8.4	0.03	0.03	0.03	79.6
3	R2	88	35	93	39.8	* 0.323	46.1	LOS D	2.1	21.9	0.95	0.75	0.95	35.1
Approach		1155	166	1216	14.4	0.387	5.1	LOS A	2.1	21.9	0.10	0.09	0.10	74.4
East: Abbotts Road (400m)														
4	L2	20	5	21	25.0	0.034	38.7	LOS C	0.6	5.7	0.73	0.66	0.73	34.9
6	R2	41	19	43	46.3	* 0.179	62.7	LOS E	1.2	14.0	0.94	0.72	0.94	30.5
Approach		61	24	64	39.3	0.179	54.9	LOS D	1.2	14.0	0.87	0.70	0.87	31.5
North: Mamre Road (800m)														
7	L2	105	17	111	16.2	0.112	16.8	LOS B	2.5	21.6	0.42	0.70	0.42	55.5
8	T1	997	146	1049	14.6	* 0.338	5.6	LOS A	4.4	37.1	0.23	0.21	0.23	73.5
Approach		1102	163	1160	14.8	0.338	6.7	LOS A	4.4	37.1	0.25	0.25	0.25	71.4
All Vehicles		2318	353	2440	15.2	0.387	7.2	LOS A	4.4	37.1	0.19	0.18	0.19	70.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mamre Road (500m)												
P1	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	234.8	234.8	1.00
East: Abbotts Road (400m)												
P2	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	221.3	217.2	0.98
P2B	Slip/ Bypass	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	215.3	209.4	0.97
North: Mamre Road (800m)												
P3B	Slip/ Bypass	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	212.0	205.2	0.97
All Pedestrians		40	42	54.2	LOS E	0.0	0.0	0.95	0.95	220.8	216.7	0.98

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

MOVEMENT SUMMARY

Site: 4 [[ID: 4] Abbotts Road / Mamre Road - PM (Site Folder: 2026 - PM 60% GFA)]

Abbotts Road / Mamre Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Road (500m)														
2	T1	1137	122	1197	10.7	0.409	2.2	LOS A	1.2	9.3	0.04	0.03	0.04	79.5
3	R2	281	35	296	12.5	* 0.626	61.2	LOS E	8.4	70.0	0.99	0.82	1.00	30.6
Approach		1418	157	1493	11.1	0.626	13.9	LOS A	8.4	70.0	0.22	0.19	0.23	64.3
East: Abbotts Road (400m)														
4	L2	69	14	73	20.3	0.110	42.8	LOS D	2.1	18.7	0.75	0.71	0.75	35.1
6	R2	82	12	86	14.6	* 0.280	63.7	LOS E	2.4	20.7	0.96	0.74	0.96	33.4
Approach		151	26	159	17.2	0.280	54.1	LOS D	2.4	20.7	0.87	0.73	0.87	34.1
North: Mamre Road (800m)														
7	L2	22	17	23	77.3	0.041	17.5	LOS B	0.5	7.5	0.39	0.66	0.39	53.3
8	T1	1799	234	1894	13.0	* 0.595	8.0	LOS A	11.5	94.0	0.34	0.31	0.34	71.9
Approach		1821	251	1917	13.8	0.595	8.1	LOS A	11.5	94.0	0.34	0.31	0.34	71.7
All Vehicles		3390	434	3568	12.8	0.626	12.6	LOS A	11.5	94.0	0.31	0.28	0.32	65.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mamre Road (500m)												
P1	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	234.8	234.8	1.00
East: Abbotts Road (400m)												
P2	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	221.3	217.2	0.98
P2B	Slip/ Bypass	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	215.3	209.4	0.97
North: Mamre Road (800m)												
P3B	Slip/ Bypass	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	212.0	205.2	0.97
All Pedestrians		40	42	54.2	LOS E	0.0	0.0	0.95	0.95	220.8	216.7	0.98

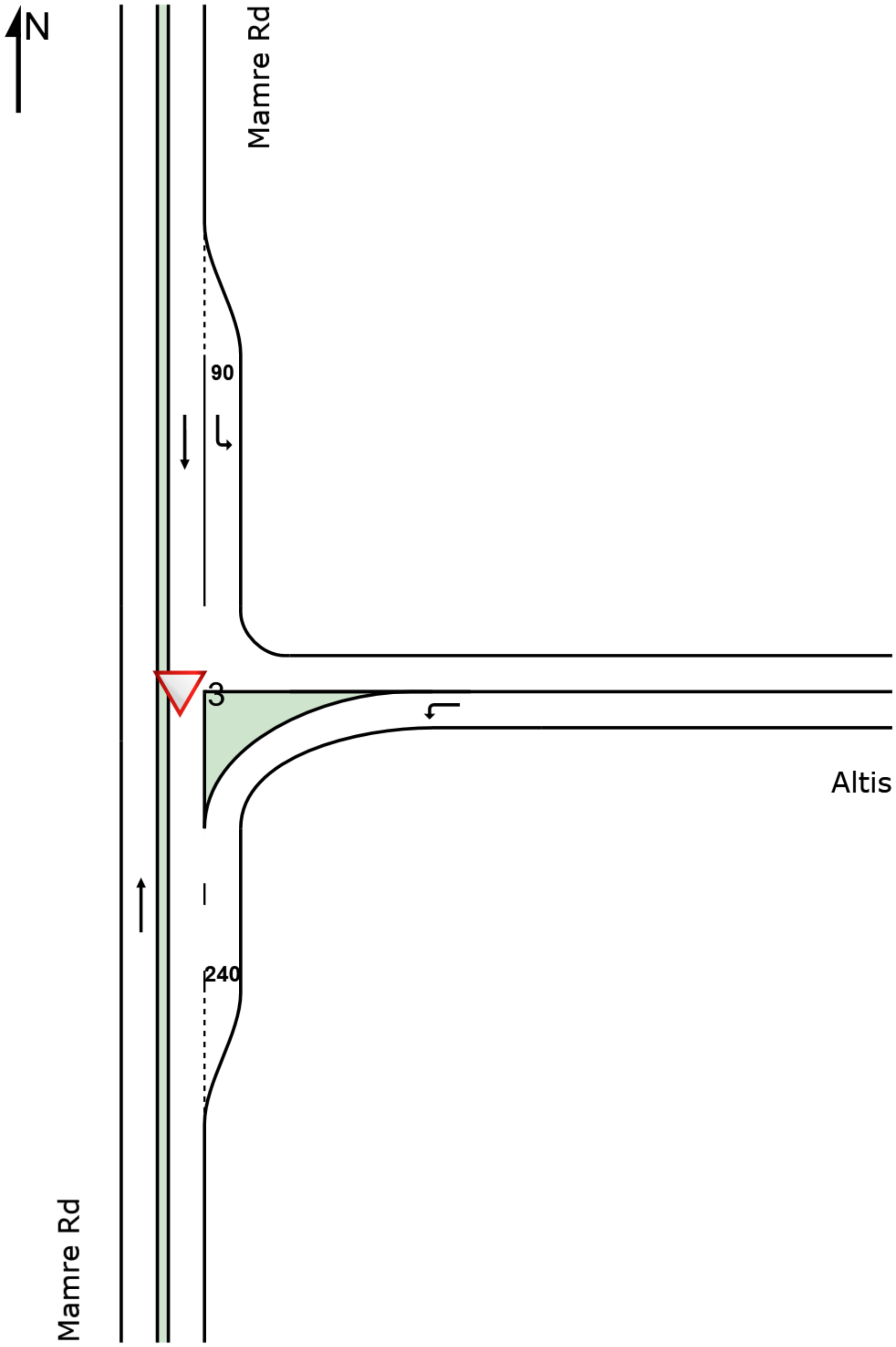
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

SITE LAYOUT

▽ Site: 3 [[ID: [3] (AM) Mamre Rd x Altis Access - AM (Site Folder: 2026 - AM 60% GFA)]

Mamre Road x Altis Access
Site Category: (None)
Give-Way (Two-Way)

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



MOVEMENT SUMMARY

▽ Site: 3 [[ID: [3] (AM) Mamre Rd x Altis Access - AM (Site Folder: 2026 - AM 60% GFA)]

Mamre Road x Altis Access
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Rd														
2	T1	1098	149	1156	13.6	0.664	0.4	LOS A	0.0	0.0	0.00	0.01	0.00	78.0
Approach		1098	149	1156	13.6	0.664	0.4	NA	0.0	0.0	0.00	0.01	0.00	78.0
East: Altis														
4	L2	106	44	112	41.5	0.085	10.7	LOS A	0.0	0.0	0.00	0.51	0.00	53.2
Approach		106	44	112	41.5	0.085	10.7	NA	0.0	0.0	0.00	0.51	0.00	53.2
North: Mamre Rd														
7	L2	110	15	116	13.6	0.071	7.2	LOS A	0.0	0.0	0.00	0.63	0.00	60.2
8	T1	988	119	1040	12.0	0.592	0.3	LOS A	0.0	0.0	0.00	0.01	0.00	78.3
Approach		1098	134	1156	12.2	0.592	1.0	NA	0.0	0.0	0.00	0.07	0.00	76.0
All Vehicles		2302	327	2423	14.2	0.664	1.1	NA	0.0	0.0	0.00	0.06	0.00	75.4

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

MOVEMENT SUMMARY

▽ Site: 101 [[ID: 3] Mamre Rd x Altis Access - PM (Site Folder: 2026 - PM 60% GFA)]

Mamre Road x Altis Road
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Rd														
2	T1	1225	10.9	1289	10.9	0.726	0.5	LOS A	0.0	0.0	0.00	0.01	0.00	77.9
Approach		1225	10.9	1289	10.9	0.726	0.5	NA	0.0	0.0	0.00	0.01	0.00	77.9
East: Altis														
4	L2	279	16.0	294	16.0	0.182	13.3	LOS A	0.0	0.0	0.00	0.52	0.00	54.2
Approach		279	16.0	294	16.0	0.182	13.3	NA	0.0	0.0	0.00	0.52	0.00	54.2
North: Mamre Rd														
7	L2	26	50.0	27	50.0	0.021	7.8	LOS A	0.0	0.0	0.00	0.62	0.00	50.6
8	T1	1457	13.1	1534	13.1	0.878	1.6	LOS A	0.0	0.0	0.00	0.00	0.00	75.5
Approach		1483	13.8	1561	13.8	0.878	1.7	NA	0.0	0.0	0.00	0.01	0.00	74.8
All Vehicles		2987	12.8	3144	12.8	0.878	2.3	NA	0.0	0.0	0.00	0.06	0.00	73.4

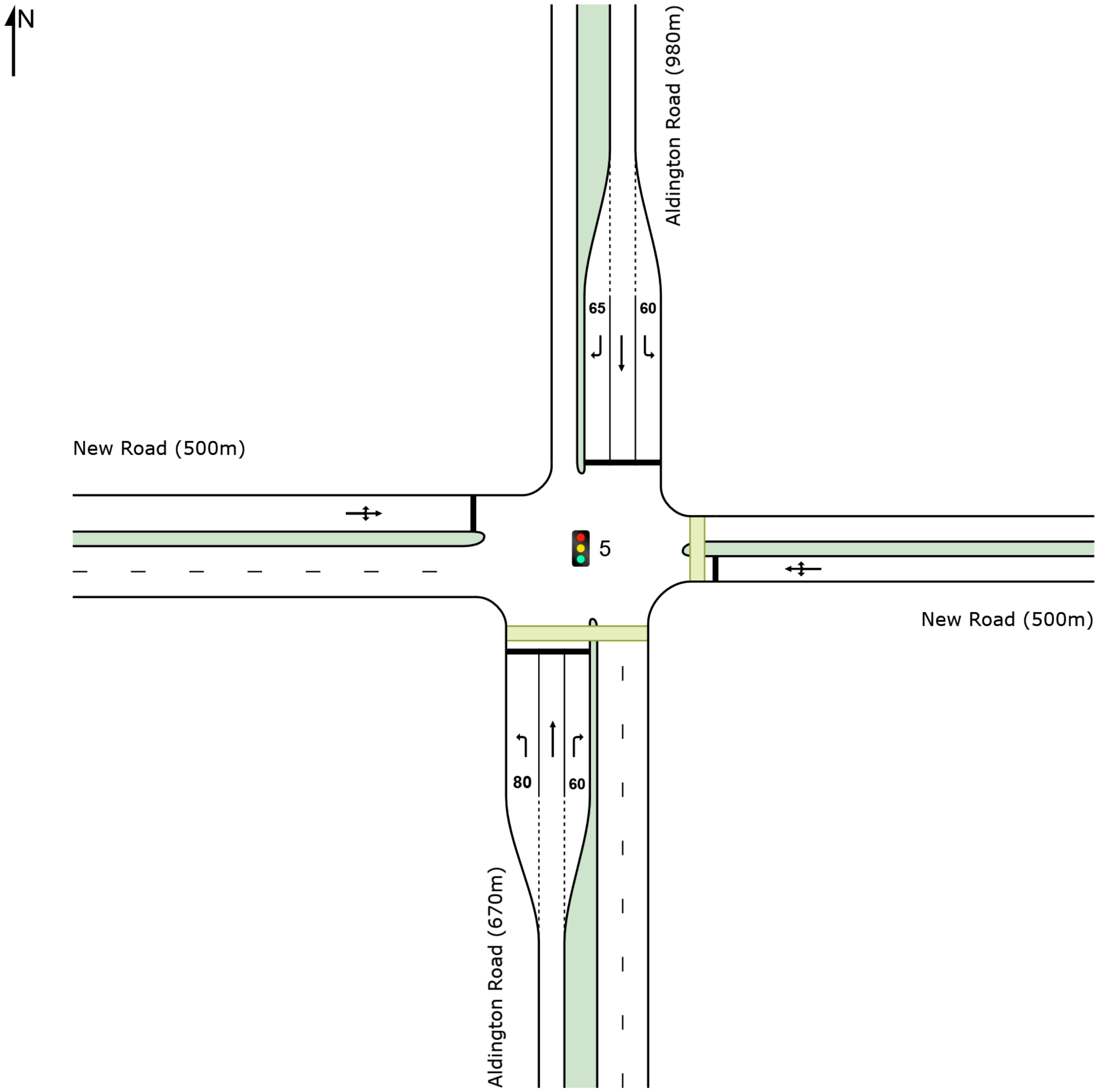
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS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

SITE LAYOUT

Site: 5 [[ID: 5] Aldington Road /Bakers Lane / Fife Kemps Creek (North) - PM (Site Folder: 2026 - PM 60% GFA)]

Aldington Road /Bakers Lane / Fife Kemps Creek (North)
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



MOVEMENT SUMMARY

Site: 5 [[ID: 5] Aldington Road /Bakers Lane / Fife Kemps Creek (North) - AM (Site Folder: 2026 - AM 60% GFA)]

Aldington Road /Bakers Lane / Fife Kemps Creek (North)
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aldington Road (670m)														
1	L2	7	6	7	85.7	0.022	27.1	LOS B	0.2	4.6	0.58	0.65	0.58	39.9
2	T1	33	0	35	0.0	0.060	32.5	LOS C	1.4	10.1	0.75	0.56	0.75	45.3
3	R2	2	1	2	50.0	0.015	57.6	LOS E	0.1	1.1	0.91	0.63	0.91	31.3
Approach		42	7	44	16.7	0.060	32.8	LOS C	1.4	10.1	0.73	0.58	0.73	43.8
East: New Road (500m)														
4	L2	1	0	1	0.0	0.127	37.9	LOS C	3.0	20.8	0.77	0.72	0.77	36.5
5	T1	1	0	1	0.0	0.127	33.4	LOS C	3.0	20.8	0.77	0.72	0.77	33.0
6	R2	64	0	67	0.0	0.127	37.9	LOS C	3.0	20.8	0.77	0.72	0.77	39.8
Approach		66	0	69	0.0	0.127	37.9	LOS C	3.0	20.8	0.77	0.72	0.77	39.7
North: Aldington Road (980m)														
7	L2	259	0	273	0.0	* 0.249	12.1	LOS A	4.0	28.3	0.52	0.72	0.52	49.6
8	T1	1	0	1	0.0	0.002	31.4	LOS C	0.0	0.3	0.72	0.44	0.72	45.6
9	R2	31	0	33	0.0	0.149	57.8	LOS E	1.8	12.3	0.93	0.72	0.93	34.8
Approach		291	0	306	0.0	0.249	17.1	LOS B	4.0	28.3	0.56	0.72	0.56	47.4
West: New Road (500m)														
10	L2	12	3	13	25.0	* 0.194	33.4	LOS C	0.8	11.4	0.93	0.71	0.93	40.7
11	T1	1	0	1	0.0	* 0.194	28.5	LOS C	0.8	11.4	0.93	0.71	0.93	34.6
12	R2	11	9	12	81.8	0.194	34.0	LOS C	0.8	11.4	0.93	0.71	0.93	36.5
Approach		24	12	25	50.0	0.194	33.5	LOS C	0.8	11.4	0.93	0.71	0.93	38.7
All Vehicles		423	19	445	4.5	0.249	22.8	LOS B	4.0	28.3	0.63	0.70	0.63	45.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Aldington Road (670m)												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.7	221.5	0.99
East: New Road (500m)												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	216.6	211.0	0.97
All		0	105	54.3	LOS E	0.2	0.2	0.95	0.95	220.6	216.3	0.98

MOVEMENT SUMMARY

Site: 5 [[ID: 5] Aldington Road /Bakers Lane / Fife Kemps Creek (North) - PM (Site Folder: 2026 - PM 60% GFA)]

Aldington Road /Bakers Lane / Fife Kemps Creek (North)
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aldington Road (670m)														
1	L2	23	6	24	26.1	0.056	38.6	LOS C	1.0	9.2	0.75	0.70	0.75	36.5
2	T1	32	0	34	0.0	0.103	45.8	LOS D	1.7	11.8	0.88	0.65	0.88	41.1
3	R2	3	0	3	0.0	0.016	57.2	LOS E	0.2	1.2	0.91	0.63	0.91	31.5
Approach		58	6	61	10.3	0.103	43.5	LOS D	1.7	11.8	0.83	0.67	0.83	39.0
East: New Road (500m)														
4	L2	4	3	4	75.0	0.149	25.9	LOS B	4.1	29.8	0.62	0.70	0.62	39.1
5	T1	1	0	1	0.0	* 0.149	20.6	LOS B	4.1	29.8	0.62	0.70	0.62	37.2
6	R2	110	0	116	0.0	0.149	25.1	LOS B	4.1	29.8	0.62	0.70	0.62	43.9
Approach		115	3	121	2.6	0.149	25.1	LOS B	4.1	29.8	0.62	0.70	0.62	43.7
North: Aldington Road (980m)														
7	L2	34	0	36	0.0	0.031	10.4	LOS A	0.4	3.1	0.41	0.65	0.41	50.4
8	T1	43	2	45	4.7	* 0.144	46.3	LOS D	2.3	16.6	0.89	0.67	0.89	41.0
9	R2	4	0	4	0.0	0.021	57.3	LOS E	0.2	1.6	0.92	0.64	0.92	34.9
Approach		81	2	85	2.5	0.144	31.8	LOS C	2.3	16.6	0.69	0.66	0.69	43.9
West: New Road (500m)														
10	L2	12	0	13	0.0	* 0.123	35.8	LOS C	0.9	6.1	0.94	0.70	0.94	40.4
11	T1	1	0	1	0.0	* 0.123	31.2	LOS C	0.9	6.1	0.94	0.70	0.94	33.7
12	R2	9	0	9	0.0	0.123	35.7	LOS C	0.9	6.1	0.94	0.70	0.94	37.4
Approach		22	0	23	0.0	0.123	35.6	LOS C	0.9	6.1	0.94	0.70	0.94	39.0
All Vehicles		276	11	291	4.0	0.149	31.8	LOS C	4.1	29.8	0.71	0.68	0.71	42.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

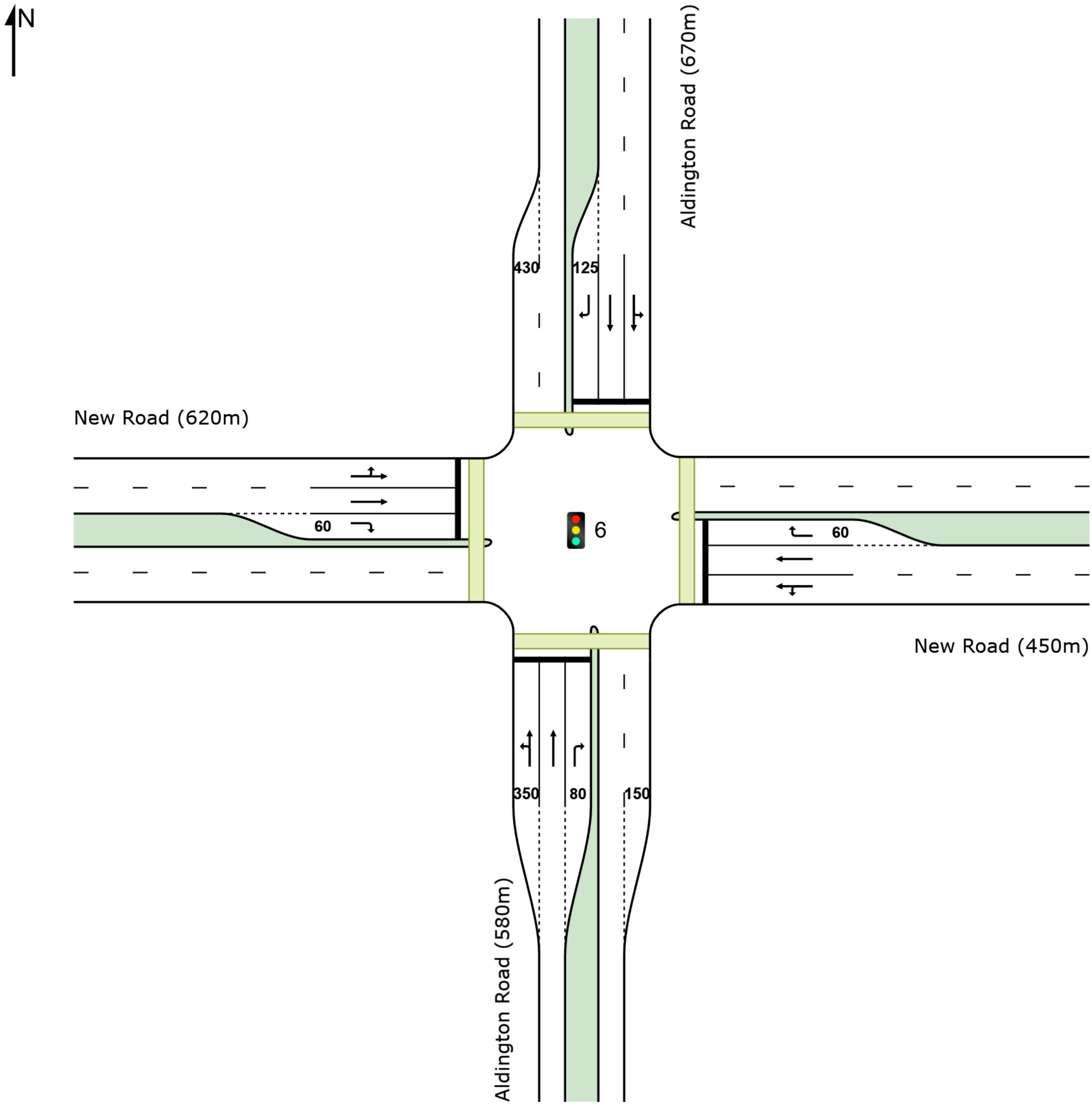
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Aldington Road (670m)												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.7	221.5	0.99
East: New Road (500m)												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	216.6	211.0	0.97
All		0	105	54.3	LOS E	0.2	0.2	0.95	0.95	220.6	216.3	0.98

SITE LAYOUT

Site: 6 [[ID: 6] Aldington Road /Bakers Lane / Fife Kemps Creek (South) - AM (Site Folder: 2026 - AM 60% GFA)]

Aldington Road /Bakers Lane / Fife Kemps Creek (South)
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



MOVEMENT SUMMARY

Site: 6 [[ID: 6] Aldington Road /Bakers Lane / Fife Kemps Creek (South) - AM (Site Folder: 2026 - AM 60% GFA)]

Aldington Road /Bakers Lane / Fife Kemps Creek (South)
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aldington Road (580m)														
1	L2	35	17	37	48.6	0.101	36.7	LOS C	1.5	17.1	0.73	0.72	0.73	36.9
2	T1	5	3	5	60.0	* 0.039	49.5	LOS D	0.3	4.2	0.89	0.60	0.89	36.4
3	R2	32	11	34	34.4	0.064	30.9	LOS C	1.2	11.2	0.66	0.69	0.66	37.9
Approach		72	31	76	43.1	0.101	35.0	LOS C	1.5	17.1	0.71	0.70	0.71	37.2
East: New Road (450m)														
4	L2	7	0	7	0.0	0.334	56.2	LOS D	2.8	38.8	0.94	0.73	0.94	30.6
5	T1	85	61	89	71.8	* 0.334	52.2	LOS D	2.8	38.8	0.94	0.73	0.94	29.8
6	R2	33	0	35	0.0	0.131	53.6	LOS D	1.8	12.6	0.91	0.72	0.91	31.8
Approach		125	61	132	48.8	0.334	52.8	LOS D	2.8	38.8	0.93	0.73	0.93	30.4
North: Aldington Road (670m)														
7	L2	1	0	1	0.0	0.017	34.2	LOS C	0.1	1.4	0.86	0.59	0.86	38.3
8	T1	4	3	4	75.0	0.020	40.5	LOS C	0.1	2.2	0.87	0.58	0.87	38.6
9	R2	7	6	7	85.7	0.027	31.8	LOS C	0.3	5.1	0.64	0.65	0.64	39.5
Approach		12	9	13	75.0	0.027	34.9	LOS C	0.3	5.1	0.74	0.62	0.74	39.1
West: New Road (620m)														
10	L2	7	6	7	85.7	* 0.258	37.7	LOS C	1.2	20.6	0.92	0.70	0.92	36.5
11	T1	51	50	54	98.0	* 0.258	44.0	LOS D	1.7	26.5	0.93	0.71	0.93	31.7
12	R2	2	1	2	50.0	0.013	54.2	LOS D	0.1	1.1	0.89	0.62	0.89	31.7
Approach		60	57	63	95.0	0.258	43.6	LOS D	1.7	26.5	0.93	0.70	0.93	32.3
All Vehicles		269	158	283	58.7	0.334	45.2	LOS D	2.8	38.8	0.86	0.71	0.86	32.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Aldington Road (580m)												
P1	Full	50	53	26.2	LOS C	0.1	0.1	0.90	0.90	195.8	220.5	1.13
East: New Road (450m)												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	225.0	222.0	0.99
North: Aldington Road (670m)												

P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	223.9	220.5	0.98
West: New Road (620m)												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.7	221.5	0.99
All Pedestrians		0	211	47.3	LOS E	0.2	0.2	0.94	0.94	217.4	221.1	1.02

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

MOVEMENT SUMMARY

Site: 6 [[ID: 6] Aldington Road /Bakers Lane / Fife Kemps Creek (South) - PM (Site Folder: 2026 - PM 60% GFA)]

Aldington Road /Bakers Lane / Fife Kemps Creek (South)
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aldington Road (580m)														
1	L2	116	16	122	13.8	0.245	37.7	LOS C	5.2	44.8	0.77	0.76	0.77	36.8
2	T1	22	2	23	9.1	* 0.091	48.7	LOS D	1.2	9.0	0.90	0.65	0.90	36.6
3	R2	113	12	119	10.6	* 0.301	46.1	LOS D	5.7	45.7	0.86	0.77	0.86	33.0
Approach		251	30	264	12.0	0.301	42.4	LOS C	5.7	45.7	0.82	0.76	0.82	35.1
East: New Road (450m)														
4	L2	12	5	13	41.7	0.298	40.8	LOS C	5.4	55.2	0.82	0.68	0.82	34.6
5	T1	216	65	227	30.1	* 0.298	36.2	LOS C	5.6	55.2	0.82	0.68	0.82	34.2
6	R2	28	0	29	0.0	0.055	37.8	LOS C	1.2	8.7	0.76	0.69	0.76	36.3
Approach		256	70	269	27.3	0.298	36.6	LOS C	5.6	55.2	0.82	0.68	0.82	34.4
North: Aldington Road (670m)														
7	L2	3	2	3	66.7	0.024	32.7	LOS C	0.2	1.9	0.84	0.62	0.84	39.2
8	T1	8	1	8	12.5	0.029	42.6	LOS D	0.3	2.9	0.88	0.60	0.88	38.3
9	R2	41	1	43	2.4	0.098	43.5	LOS D	2.0	14.0	0.81	0.72	0.81	36.4
Approach		52	4	55	7.7	0.098	42.7	LOS D	2.0	14.0	0.82	0.70	0.82	36.8
West: New Road (620m)														
10	L2	9	5	9	55.6	0.126	31.3	LOS C	0.6	7.4	0.89	0.67	0.89	38.8
11	T1	27	26	28	96.3	* 0.126	41.3	LOS C	0.9	11.7	0.90	0.67	0.90	32.3
12	R2	1	0	1	0.0	0.004	52.6	LOS D	0.1	0.4	0.88	0.59	0.88	32.6
Approach		37	31	39	83.8	0.126	39.2	LOS C	0.9	11.7	0.90	0.66	0.90	33.9
All Vehicles		596	135	627	22.7	0.301	39.7	LOS C	5.7	55.2	0.83	0.71	0.83	34.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Aldington Road (580m)												
P1	Full	50	53	24.4	LOS C	0.1	0.1	0.90	0.90	194.0	220.5	1.14
East: New Road (450m)												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	225.0	222.0	0.99
North: Aldington Road (670m)												

P3 Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	223.9	220.5	0.98
West: New Road (620m)											
P4 Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.7	221.5	0.99
All Pedestrians	0	211	46.8	LOS E	0.2	0.2	0.94	0.94	216.9	221.1	1.02

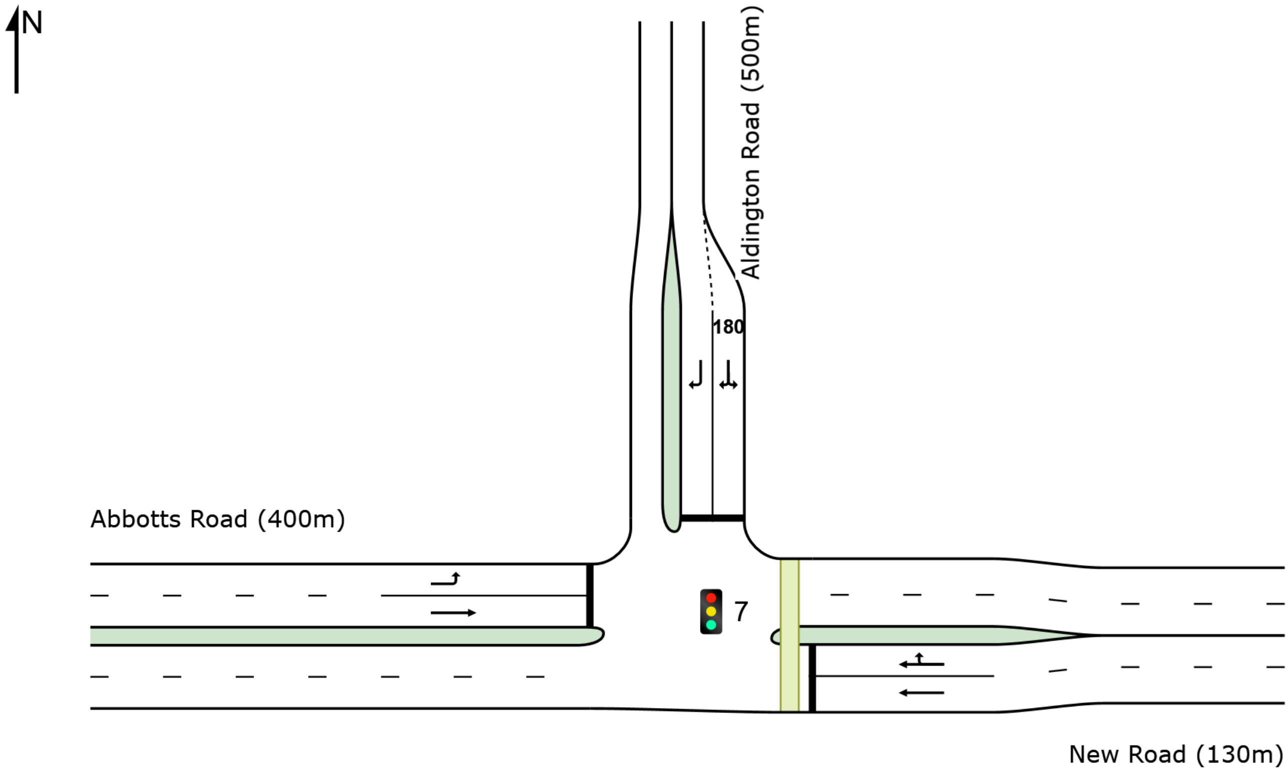
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 7 [[ID: 7] Aldington Road / Abbotts Road - AM (Site Folder: 2026 - AM 60% GFA)]

Aldington Road / Abbotts Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



MOVEMENT SUMMARY

Site: 7 [[ID: 7] Aldington Road / Abbotts Road - AM (Site Folder: 2026 - AM 60% GFA)]

Aldington Road / Abbotts Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: New Road (130m)														
5	T1	51	21	54	41.2	0.039	11.8	LOS A	0.7	7.2	0.42	0.32	0.42	42.6
6	R2	1	0	1	0.0	* 0.039	30.6	LOS C	0.7	7.2	0.67	0.50	0.67	33.9
Approach		52	21	55	40.4	0.039	12.2	LOS A	0.7	7.2	0.43	0.33	0.43	42.4
North: Aldington Road (500m)														
7	L2	1	0	1	0.0	0.028	48.3	LOS D	0.3	3.4	0.84	0.67	0.84	26.0
9	R2	11	4	12	36.4	* 0.028	49.3	LOS D	0.3	3.4	0.84	0.67	0.84	30.4
Approach		12	4	13	33.3	0.028	49.3	LOS D	0.3	3.4	0.84	0.67	0.84	30.1
West: Abbotts Road (400m)														
10	L2	71	30	75	42.3	0.101	16.0	LOS B	1.8	18.6	0.43	0.67	0.43	44.1
11	T1	122	22	128	18.0	* 0.132	11.3	LOS A	3.1	27.0	0.44	0.48	0.44	43.1
Approach		193	52	203	26.9	0.132	13.0	LOS A	3.1	27.0	0.44	0.55	0.44	43.6
All Vehicles		257	77	271	30.0	0.132	14.6	LOS B	3.1	27.0	0.45	0.51	0.45	42.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New Road (130m)												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	222.7	219.0	0.98
All Pedestrians		0	53	54.3	LOS E	0.2	0.2	0.95	0.95	222.7	219.0	0.98

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

MOVEMENT SUMMARY

Site: 7 [[ID: 7] Aldington Road / Abbotts Road - PM (Site Folder: 2026 - PM 60% GFA)]

Aldington Road / Abbotts Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: New Road (130m)														
5	T1	131	20	138	15.3	0.066	9.0	LOS A	1.6	13.2	0.39	0.32	0.39	45.7
6	R2	1	0	1	0.0	* 0.066	18.8	LOS B	1.6	13.2	0.51	0.40	0.51	41.2
Approach		132	20	139	15.2	0.066	9.1	LOS A	1.6	13.2	0.40	0.32	0.40	45.6
North: Aldington Road (500m)														
7	L2	1	0	1	0.0	0.053	48.8	LOS D	0.6	6.4	0.84	0.69	0.84	25.9
9	R2	21	6	22	28.6	* 0.053	49.7	LOS D	0.6	6.4	0.85	0.69	0.85	30.4
Approach		22	6	23	27.3	0.053	49.7	LOS D	0.6	6.4	0.85	0.69	0.85	30.2
West: Abbotts Road (400m)														
10	L2	248	29	261	11.7	* 0.265	16.9	LOS B	6.9	56.4	0.49	0.72	0.49	44.5
11	T1	65	23	68	35.4	0.086	11.1	LOS A	1.6	17.2	0.43	0.45	0.43	43.4
Approach		313	52	329	16.6	0.265	15.7	LOS B	6.9	56.4	0.48	0.66	0.48	44.3
All Vehicles		467	78	492	16.7	0.265	15.4	LOS B	6.9	56.4	0.47	0.57	0.47	43.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New Road (130m)												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	222.7	219.0	0.98
All Pedestrians		0	53	54.3	LOS E	0.2	0.2	0.95	0.95	222.7	219.0	0.98

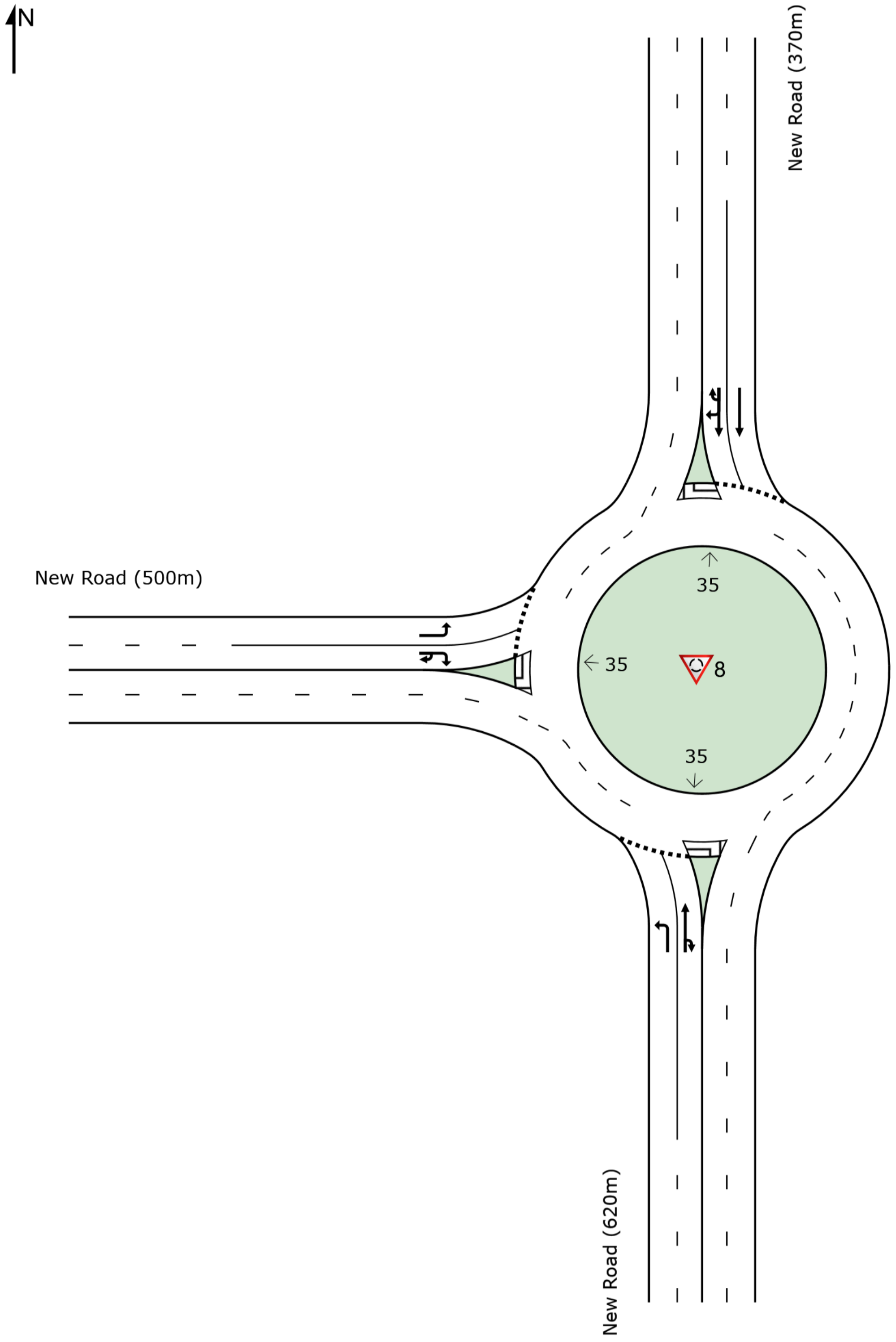
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 8 [[ID: 8] Internal Road Roundabout (Mirvac) - AM (Site Folder: 2026 - AM 60% GFA)]

Internal Road Roundabout (Mirvac)
Site Category: (None)
Roundabout

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



MOVEMENT SUMMARY

Site: 8 [[ID: 8] Internal Road Roundabout (Mirvac) - AM (Site Folder: 2026 - AM 60% GFA)]

Internal Road Roundabout (Mirvac)
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Road (620m)														
1	L2	81	36	85	44.4	0.078	2.7	LOS A	0.4	4.4	0.18	0.31	0.18	48.5
2	T1	124	85	131	68.5	0.122	2.1	LOS A	0.7	9.8	0.19	0.22	0.19	50.2
3u	U	1	0	1	0.0	0.122	9.7	LOS A	0.7	9.8	0.19	0.22	0.19	52.4
Approach		206	121	217	58.7	0.122	2.4	LOS A	0.7	9.8	0.18	0.26	0.18	49.5
North: New Road (370m)														
8	T1	238	77	251	32.4	0.110	2.0	LOS A	0.6	6.3	0.20	0.25	0.20	50.1
9	R2	26	13	27	50.0	0.110	8.3	LOS A	0.6	6.4	0.21	0.31	0.21	49.9
9u	U	1	0	1	0.0	0.110	9.7	LOS A	0.6	6.4	0.21	0.31	0.21	53.1
Approach		265	90	279	34.0	0.110	2.6	LOS A	0.6	6.4	0.20	0.26	0.20	50.1
West: New Road (500m)														
10	L2	24	10	25	41.7	0.029	3.9	LOS A	0.1	1.5	0.41	0.41	0.41	47.3
12	R2	41	6	43	14.6	0.032	8.4	LOS A	0.2	1.5	0.36	0.55	0.36	47.4
12u	U	1	0	1	0.0	0.032	10.1	LOS A	0.2	1.5	0.36	0.55	0.36	48.8
Approach		66	16	69	24.2	0.032	6.8	LOS A	0.2	1.5	0.38	0.50	0.38	47.4
All Vehicles		537	227	565	42.3	0.122	3.1	LOS A	0.7	9.8	0.21	0.29	0.21	49.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 8 [[ID: 8] Internal Road Roundabout Mirvac - PM (Site Folder: 2026 - PM 60% GFA)]

Internal Road Roundabout (Mirvac)
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Road (620m)														
1	L2	284	44	299	15.5	0.190	2.5	LOS A	1.1	9.2	0.20	0.33	0.20	48.6
2	T1	253	74	266	29.2	0.221	2.1	LOS A	1.3	12.2	0.24	0.24	0.24	50.1
3u	U	1	0	1	0.0	0.221	9.8	LOS A	1.3	12.2	0.24	0.24	0.24	52.3
Approach		538	118	566	21.9	0.221	2.4	LOS A	1.3	12.2	0.22	0.29	0.22	49.3
North: New Road (370m)														
8	T1	82	58	86	70.7	0.057	1.9	LOS A	0.3	3.2	0.06	0.27	0.06	49.8
9	R2	54	8	57	14.8	0.057	7.6	LOS A	0.3	3.2	0.05	0.47	0.05	48.4
9u	U	1	0	1	0.0	0.057	9.5	LOS A	0.3	3.2	0.05	0.47	0.05	50.4
Approach		137	66	144	48.2	0.057	4.2	LOS A	0.3	4.0	0.06	0.35	0.06	49.3
West: New Road (500m)														
10	L2	67	11	71	16.4	0.058	3.6	LOS A	0.3	2.9	0.46	0.45	0.46	47.3
12	R2	3	2	3	66.7	0.005	10.4	LOS A	0.0	0.3	0.49	0.55	0.49	46.2
12u	U	1	0	1	0.0	0.005	11.0	LOS A	0.0	0.3	0.49	0.55	0.49	47.8
Approach		71	13	75	18.3	0.058	4.0	LOS A	0.3	2.9	0.46	0.45	0.46	47.3
All Vehicles		746	197	785	26.4	0.221	2.9	LOS A	1.3	12.2	0.21	0.31	0.21	49.1

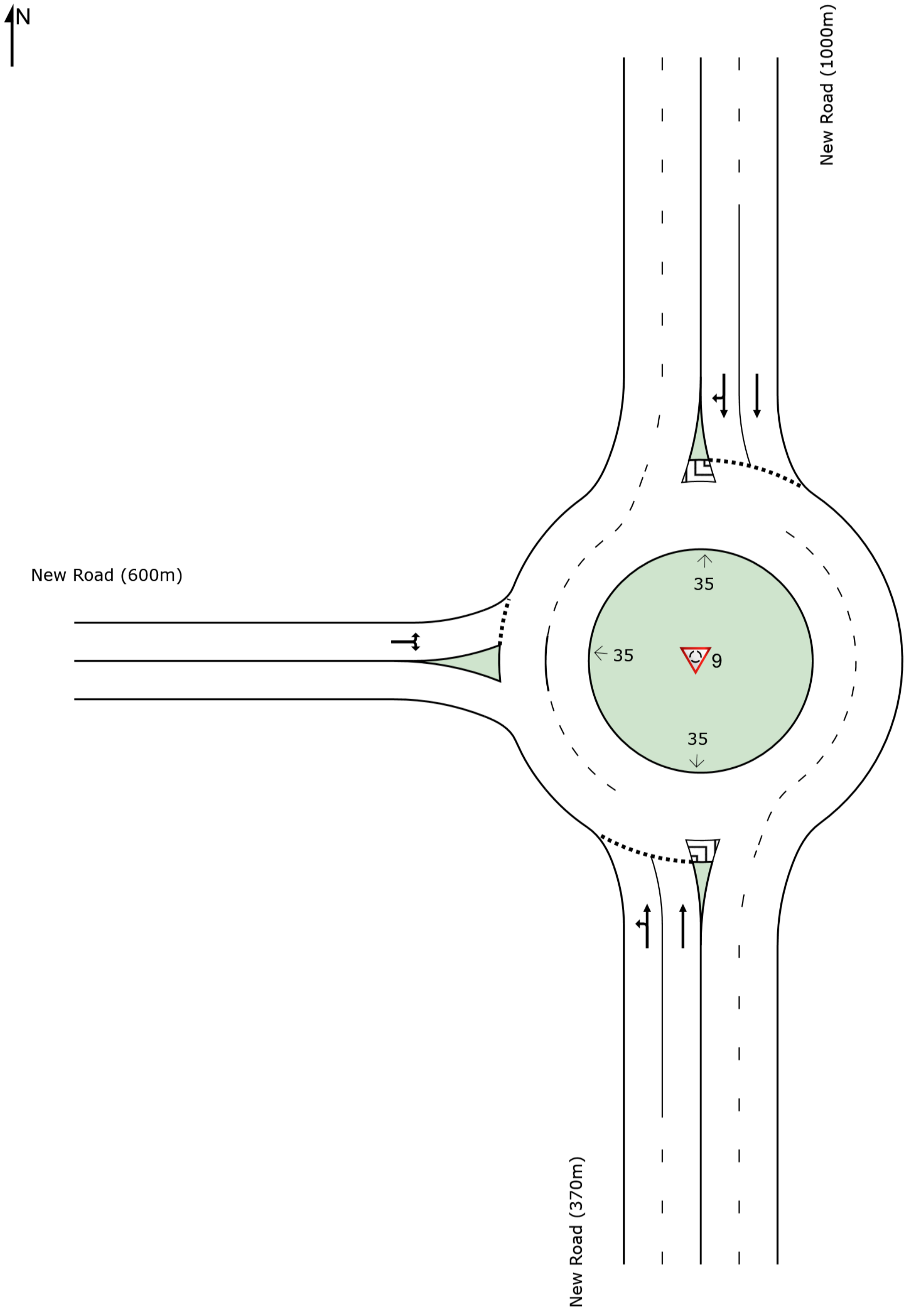
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 9 [[ID: 9] Internal Road Roundabout (Altis)- AM (Site Folder: 2026 - AM 60% GFA)]

Internal Road Roundabout (Altis)
Site Category: (None)
Roundabout

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



MOVEMENT SUMMARY

Site: 9 [[ID: 9] Internal Road Roundabout (Altis)- AM (Site Folder: 2026 - AM 60% GFA)]

Internal Road Roundabout (Altis)
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Road (370m)														
1	L2	150	94	158	62.7	0.142	3.1	LOS A	0.4	6.2	0.16	0.35	0.16	47.9
2	T1	1	0	1	0.0	0.001	1.8	LOS A	0.0	0.0	0.13	0.20	0.13	50.5
Approach		151	94	159	62.3	0.142	3.1	LOS A	0.4	6.2	0.16	0.35	0.16	48.0
North: New Road (1000m)														
8	T1	26	12	27	46.2	0.030	2.8	LOS A	0.1	1.0	0.29	0.31	0.29	49.9
9	R2	58	23	61	39.7	0.051	8.5	LOS A	0.2	1.7	0.27	0.57	0.27	48.1
Approach		84	35	88	41.7	0.051	6.7	LOS A	0.2	1.7	0.27	0.49	0.27	48.6
West: New Road (600m)														
10	L2	1	0	1	0.0	0.188	2.1	LOS A	0.4	4.5	0.01	0.55	0.01	47.5
12	R2	242	78	255	32.2	0.188	7.7	LOS A	0.4	4.5	0.01	0.55	0.01	48.0
Approach		243	78	256	32.1	0.188	7.7	LOS A	0.4	4.5	0.01	0.55	0.01	48.0
All Vehicles		478	207	503	43.3	0.188	6.1	LOS A	0.4	6.2	0.10	0.48	0.10	48.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 9 [[ID: 9] Internal Road Roundabout Altis - PM (Site Folder: 2026 - PM 60% GFA)]

Internal Road Roundabout Altis
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Road (370m)														
1	L2	325	89	342	27.4	0.221	2.6	LOS A	0.7	7.2	0.07	0.33	0.07	48.5
2	T1	1	0	1	0.0	0.001	1.7	LOS A	0.0	0.0	0.06	0.19	0.06	50.8
Approach		326	89	343	27.3	0.221	2.6	LOS A	0.7	7.2	0.07	0.33	0.07	48.5
North: New Road (1000m)														
8	T1	52	5	55	9.6	0.032	1.8	LOS A	0.1	0.6	0.14	0.22	0.14	50.2
9	R2	8	8	8	100.0	0.015	9.3	LOS A	0.0	0.9	0.22	0.48	0.22	47.2
Approach		60	13	63	21.7	0.032	2.8	LOS A	0.1	0.9	0.15	0.25	0.15	49.7
West: New Road (600m)														
10	L2	1	0	1	0.0	0.083	2.1	LOS A	0.2	2.3	0.01	0.52	0.01	47.5
12	R2	86	62	91	72.1	0.083	8.0	LOS A	0.2	2.3	0.01	0.52	0.01	47.6
Approach		87	62	92	71.3	0.083	7.9	LOS A	0.2	2.3	0.01	0.52	0.01	47.6
All Vehicles		473	164	498	34.7	0.221	3.6	LOS A	0.7	7.2	0.07	0.35	0.07	48.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

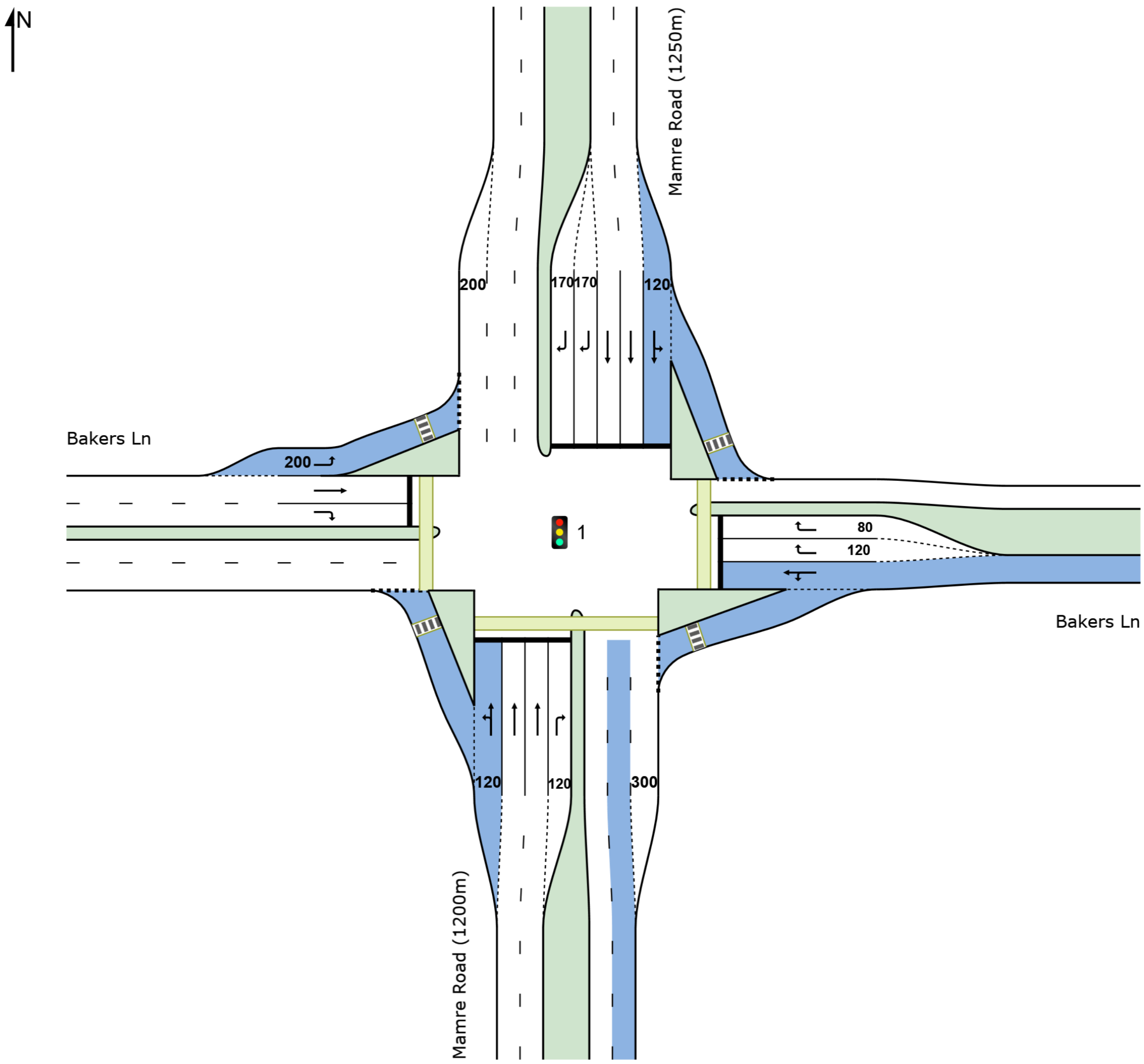
Attachment 2

SITE LAYOUT

Site: 1 [ID [1]. Mamre Road / Bakers Lane - AM (Site Folder: 2026 - AM - 75% GFA)]

Mamre Road / Bakers Lane
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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



MOVEMENT SUMMARY

Site: 1 [ID [1]. Mamre Road / Bakers Lane - AM (Site Folder: 2026 - AM - 75% GFA)]

Mamre Road / Bakers Lane
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Road (1200m)														
1	L2	44	25	46	56.8	0.896	54.2	LOS D	21.6	209.1	0.83	0.98	1.10	45.1
2	T1	1343	276	1414	20.6	0.896	44.5	LOS D	34.1	310.4	0.92	0.97	1.11	57.3
3	R2	28	6	29	21.4	* 0.129	56.2	LOS D	1.5	12.6	0.90	0.73	0.90	45.2
Approach		1415	307	1489	21.7	0.896	45.1	LOS D	34.1	310.4	0.92	0.97	1.10	56.7
East: Bakers Ln														
4	L2	7	6	7	85.7	0.022	26.8	LOS B	0.2	2.8	0.54	0.65	0.54	57.3
5	T1	1	0	1	0.0	* 0.022	19.1	LOS B	0.2	2.8	0.54	0.65	0.54	49.3
6	R2	156	4	164	2.6	* 0.300	57.2	LOS E	4.4	31.2	0.93	0.77	0.93	47.8
Approach		164	10	173	6.1	0.300	55.7	LOS D	4.4	31.2	0.91	0.76	0.91	48.1
North: Mamre Road (1250m)														
7	L2	367	0	386	0.0	0.859	22.9	LOS B	22.5	174.0	0.56	0.74	0.64	63.9
8	T1	1575	248	1658	15.7	* 0.859	26.6	LOS B	34.4	294.6	0.78	0.80	0.86	64.4
9	R2	275	39	289	14.2	0.414	51.0	LOS D	7.3	61.6	0.90	0.80	0.90	44.7
Approach		2217	287	2334	12.9	0.859	29.0	LOS C	34.4	294.6	0.76	0.79	0.83	61.6
West: Bakers Ln														
10	L2	106	40	112	37.7	0.205	23.9	LOS B	3.5	40.3	0.60	0.68	0.60	51.7
11	T1	1	0	1	0.0	0.009	58.2	LOS E	0.1	0.4	0.96	0.56	0.96	35.9
12	R2	43	21	45	48.8	0.292	56.1	LOS D	2.5	31.4	0.93	0.75	0.93	40.1
Approach		150	61	158	40.7	0.292	33.4	LOS C	3.5	40.3	0.70	0.70	0.70	47.7
All Vehicles		3946	665	4154	16.9	0.896	36.0	LOS C	34.4	310.4	0.82	0.85	0.93	58.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mamre Road (1200m)												
P1	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	231.0	229.9	1.00
East: Bakers Ln												
P2	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	222.4	218.7	0.98
West: Bakers Ln												

P4	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	222.9	219.4	0.98
All Pedestrians		30	32	54.2	LOS E	0.0	0.0	0.95	0.95	225.5	222.7	0.99

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

MOVEMENT SUMMARY

Site: 1 [ID [1]. Mamre Road / Bakers Lane - PM (Site Folder: 2026 - PM - 75% GFA)]

Mamre Road / Bakers Lane
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total	HV]	DEMAND FLOWS [Total	HV]	Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE [Veh.	Dist]	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		veh/h	veh/h	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (1200m)														
1	L2	150	25	158	16.7	0.893	43.7	LOS D	29.2	254.6	0.81	0.97	1.00	48.1
2	T1	1614	292	1699	18.1	* 0.893	38.5	LOS C	38.2	331.8	0.89	0.94	1.03	60.3
3	R2	10	0	11	0.0	0.067	63.3	LOS E	0.6	4.1	0.95	0.68	0.95	45.4
Approach		1774	317	1867	17.9	0.893	39.0	LOS C	38.2	331.8	0.88	0.94	1.03	59.2
East: Bakers Ln														
4	L2	12	0	13	0.0	0.027	22.0	LOS B	0.4	3.1	0.56	0.66	0.56	63.7
5	T1	3	2	3	66.7	* 0.027	16.6	LOS B	0.4	3.1	0.56	0.66	0.56	50.1
6	R2	558	9	587	1.6	* 0.735	56.5	LOS E	16.6	117.7	0.99	0.86	1.04	48.0
Approach		573	11	603	1.9	0.735	55.6	LOS D	16.6	117.7	0.98	0.86	1.02	48.3
North: Mamre Road (1250m)														
7	L2	187	31	197	16.6	0.852	29.5	LOS C	19.2	178.2	0.60	0.77	0.72	57.8
8	T1	1454	305	1531	21.0	0.852	28.9	LOS C	31.7	282.2	0.79	0.82	0.88	63.5
9	R2	62	37	65	59.7	* 0.376	69.1	LOS E	2.0	23.8	0.98	0.74	0.98	40.0
Approach		1703	373	1793	21.9	0.852	30.4	LOS C	31.7	282.2	0.78	0.81	0.87	61.9
West: Bakers Ln														
10	L2	208	46	219	22.1	0.479	41.7	LOS C	9.7	90.4	0.83	0.80	0.83	49.1
11	T1	1	0	1	0.0	0.008	56.9	LOS E	0.1	0.4	0.95	0.56	0.95	36.3
12	R2	144	27	152	18.8	0.474	49.7	LOS D	7.9	69.5	0.92	0.80	0.92	42.9
Approach		353	73	372	20.7	0.479	45.0	LOS D	9.7	90.4	0.87	0.80	0.87	46.3
All Vehicles		4403	774	4635	17.6	0.893	38.3	LOS C	38.2	331.8	0.86	0.87	0.95	57.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Mamre Road (1200m)												
P1	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	231.0	229.9	1.00
East: Bakers Ln												
P2	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	222.4	218.7	0.98
West: Bakers Ln												

P4 Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	222.9	219.4	0.98
All Pedestrians	30	32	54.2	LOS E	0.0	0.0	0.95	0.95	225.5	222.7	0.99

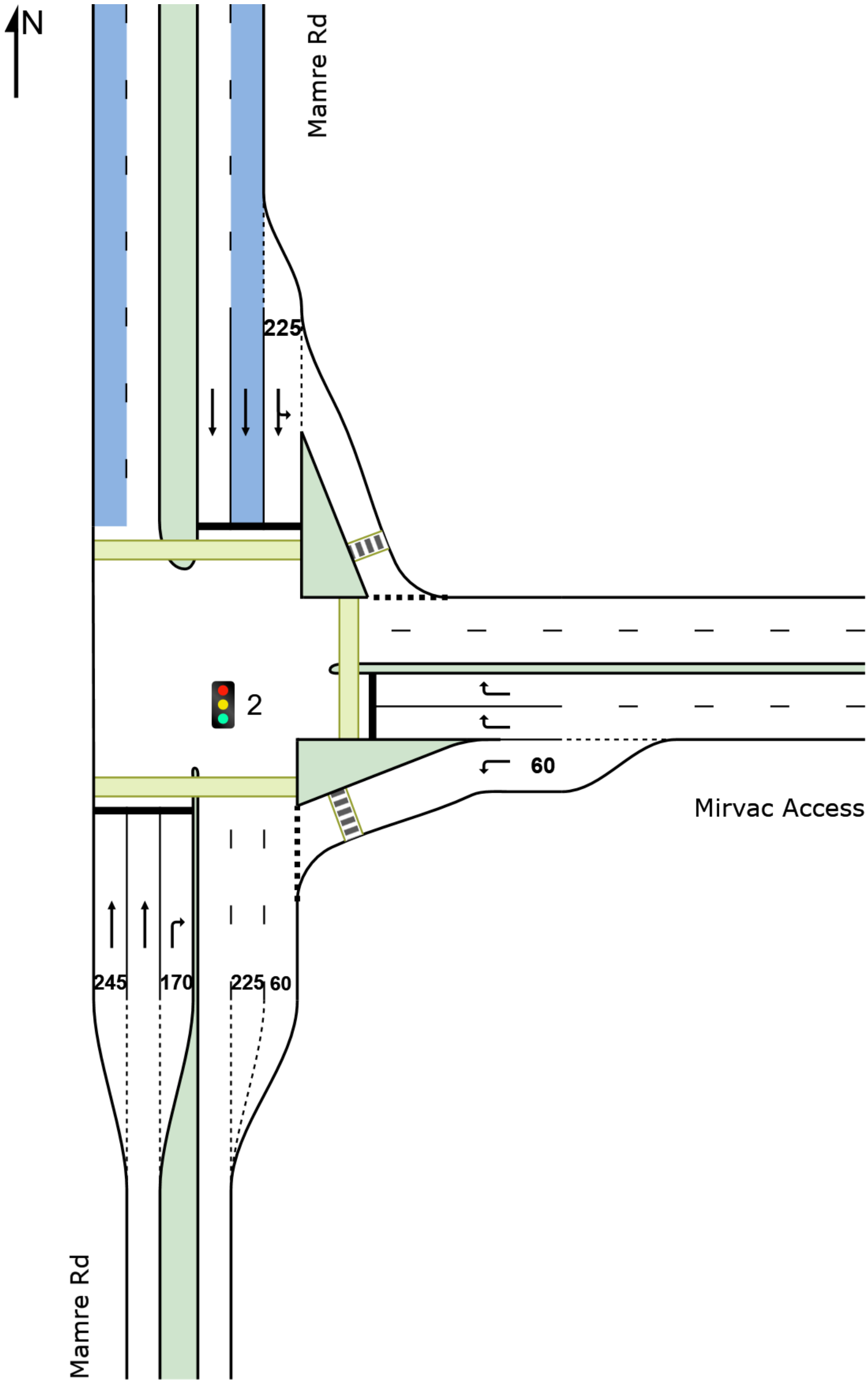
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 2 [ID [2]. Mamre Road / Mirvac Access - AM (Site Folder: 2026 - AM - 75% GFA)]

Mamre Road x Mirvac Access
Site Category: Proposed Interim
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



MOVEMENT SUMMARY

Site: 2 [ID [2]. Mamre Road / Mirvac Access - AM (Site Folder: 2026 - AM - 75% GFA)]

Mamre Road x Mirvac Access
Site Category: Proposed Interim
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Rd														
2	T1	1053	138	1108	13.1	0.499	12.5	LOS A	17.1	142.4	0.58	0.53	0.58	56.3
3	R2	48	16	51	33.3	* 0.726	75.5	LOS F	3.3	34.5	1.00	0.84	1.26	26.6
Approach		1101	154	1159	14.0	0.726	15.3	LOS B	17.1	142.4	0.60	0.54	0.61	53.7
East: Mirvac Access														
4	L2	34	16	36	47.1	0.068	14.8	LOS B	0.6	8.0	0.36	0.60	0.36	47.1
6	R2	376	175	396	46.5	* 0.711	54.4	LOS D	11.5	137.6	0.98	0.87	1.05	29.9
Approach		410	191	432	46.6	0.711	51.1	LOS D	11.5	137.6	0.92	0.85	0.99	30.8
North: Mamre Rd														
7	L2	586	95	617	16.2	0.473	8.4	LOS A	6.2	54.0	0.27	0.66	0.27	51.8
8	T1	1009	145	1062	14.4	* 0.582	22.0	LOS B	21.0	177.9	0.74	0.66	0.74	49.9
Approach		1595	240	1679	15.0	0.582	17.0	LOS B	21.0	177.9	0.56	0.66	0.56	50.6
All Vehicles		3106	585	3269	18.8	0.726	20.9	LOS B	21.0	177.9	0.62	0.64	0.64	47.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mamre Rd												
P1	Full	50	53	47.8	LOS E	0.2	0.2	0.89	0.89	219.7	223.5	1.02
East: Mirvac Access												
P2	Full	50	53	19.9	LOS B	0.1	0.1	0.58	0.58	186.8	217.0	1.16
North: Mamre Rd												
P3	Full	50	53	47.8	LOS E	0.2	0.2	0.89	0.89	220.1	224.0	1.02
All Pedestrians		150	158	38.5	LOS D	0.2	0.2	0.79	0.79	208.9	221.5	1.06

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

MOVEMENT SUMMARY

Site: 2 [ID [2]. Mamre Road / Mirvac Access - PM (Site Folder: 2026 - PM - 75% GFA)]

Mamre Road x Mirvac Access
Site Category: Proposed Interim
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Rd														
2	T1	1228	155	1293	12.6	0.565	12.3	LOS A	20.6	170.6	0.60	0.55	0.60	56.4
3	R2	150	19	158	12.7	* 0.879	75.6	LOS F	10.5	87.6	1.00	0.97	1.38	26.6
Approach		1378	174	1451	12.6	0.879	19.2	LOS B	20.6	170.6	0.64	0.59	0.68	50.3
East: AIE Access														
4	L2	23	6	24	26.1	0.038	31.3	LOS C	0.7	6.7	0.53	0.63	0.53	43.2
6	R2	493	142	519	28.8	* 0.786	57.1	LOS E	15.7	149.3	1.00	0.91	1.12	28.2
Approach		516	148	543	28.7	0.786	55.9	LOS D	15.7	149.3	0.98	0.90	1.10	28.6
North: Mamre Rd														
7	L2	181	135	191	74.6	0.209	9.6	LOS A	2.0	27.8	0.24	0.62	0.24	50.7
8	T1	1482	205	1560	13.8	* 0.900	47.6	LOS D	49.1	404.5	0.99	1.02	1.13	38.6
Approach		1663	340	1751	20.4	0.900	43.5	LOS D	49.1	404.5	0.91	0.98	1.03	39.7
All Vehicles		3557	662	3744	18.6	0.900	35.9	LOS C	49.1	404.5	0.81	0.82	0.91	40.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mamre Rd												
P1	Full	50	53	47.8	LOS E	0.2	0.2	0.89	0.89	219.7	223.5	1.02
East: AIE Access												
P2	Full	50	53	22.3	LOS C	0.1	0.1	0.61	0.61	189.2	217.0	1.15
North: Mamre Rd												
P3	Full	50	53	47.8	LOS E	0.2	0.2	0.89	0.89	220.1	224.0	1.02
All Pedestrians		150	158	39.3	LOS D	0.2	0.2	0.80	0.80	209.7	221.5	1.06

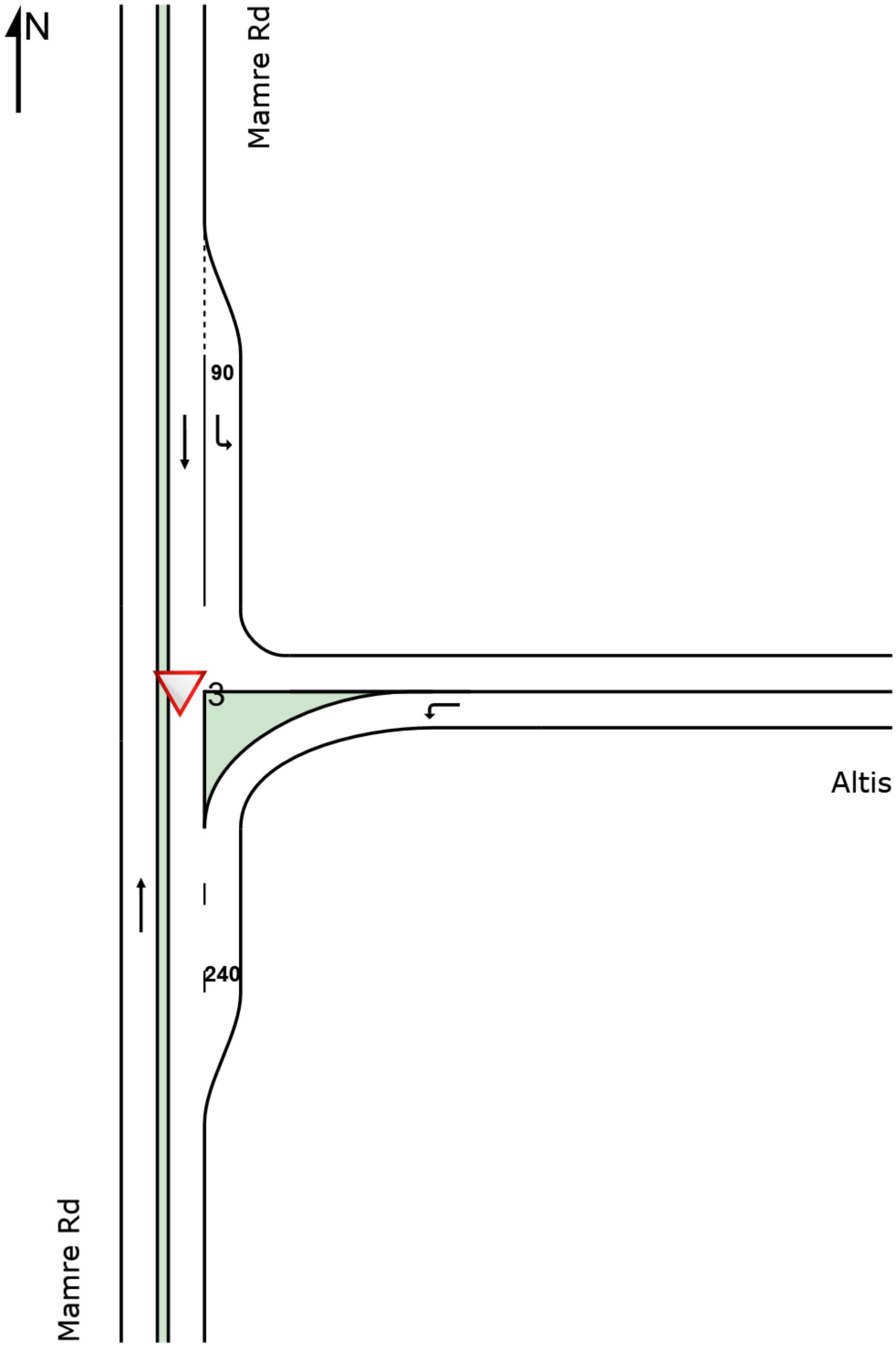
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

▽ Site: 3 [ID [3]. Mamre Road / Altis Access - AM (Site Folder: 2026 - AM - 75% GFA)]

Mamre Road x Altis Access
Site Category: (None)
Give-Way (Two-Way)

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



MOVEMENT SUMMARY

▽ Site: 3 [ID [3]. Mamre Road / Altis Access - AM (Site Folder: 2026 - AM - 75% GFA)]

Mamre Road x Altis Access
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Rd														
2	T1	1098	154	1156	14.0	0.670	0.4	LOS A	0.0	0.0	0.00	0.01	0.00	77.8
Approach		1098	154	1156	14.0	0.670	0.4	NA	0.0	0.0	0.00	0.01	0.00	77.8
East: Altis														
4	L2	137	53	144	38.7	0.113	7.2	LOS A	0.0	0.0	0.00	0.51	0.00	53.2
Approach		137	53	144	38.7	0.113	7.2	NA	0.0	0.0	0.00	0.51	0.00	53.2
North: Mamre Rd														
7	L2	119	21	125	17.6	0.080	7.2	LOS A	0.0	0.0	0.00	0.63	0.00	58.6
8	T1	923	139	972	15.1	0.571	0.4	LOS A	0.0	0.0	0.00	0.02	0.00	77.9
Approach		1042	160	1097	15.4	0.571	1.2	NA	0.0	0.0	0.00	0.09	0.00	75.0
All Vehicles		2277	367	2397	16.1	0.670	1.2	NA	0.0	0.0	0.00	0.08	0.00	74.4

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

MOVEMENT SUMMARY

▽ Site: 3 [ID [3]. Mamre Road / Altis Access - PM (Site Folder: 2026 - PM - 75% GFA)]

Mamre Road x Altis Access
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Rd														
2	T1	1350	172	1421	12.7	0.817	0.8	LOS A	0.0	0.0	0.00	0.01	0.00	76.6
Approach		1350	172	1421	12.7	0.817	0.8	NA	0.0	0.0	0.00	0.01	0.00	76.6
East: Altis														
4	L2	468	62	493	13.2	0.301	37.1	LOS C	0.0	0.0	0.00	0.52	0.00	54.3
Approach		468	62	493	13.2	0.301	37.1	NA	0.0	0.0	0.00	0.52	0.00	54.3
North: Mamre Rd														
7	L2	31	22	33	71.0	0.030	7.9	LOS A	0.0	0.0	0.00	0.62	0.00	44.9
8	T1	1479	187	1557	12.6	0.887	36.5	LOS C	0.0	0.0	0.00	0.00	0.00	75.3
Approach		1510	209	1589	13.8	0.887	35.9	NA	0.0	0.0	0.00	0.01	0.00	74.3
All Vehicles		3328	443	3503	13.3	0.887	21.8	NA	0.0	0.0	0.00	0.08	0.00	71.4

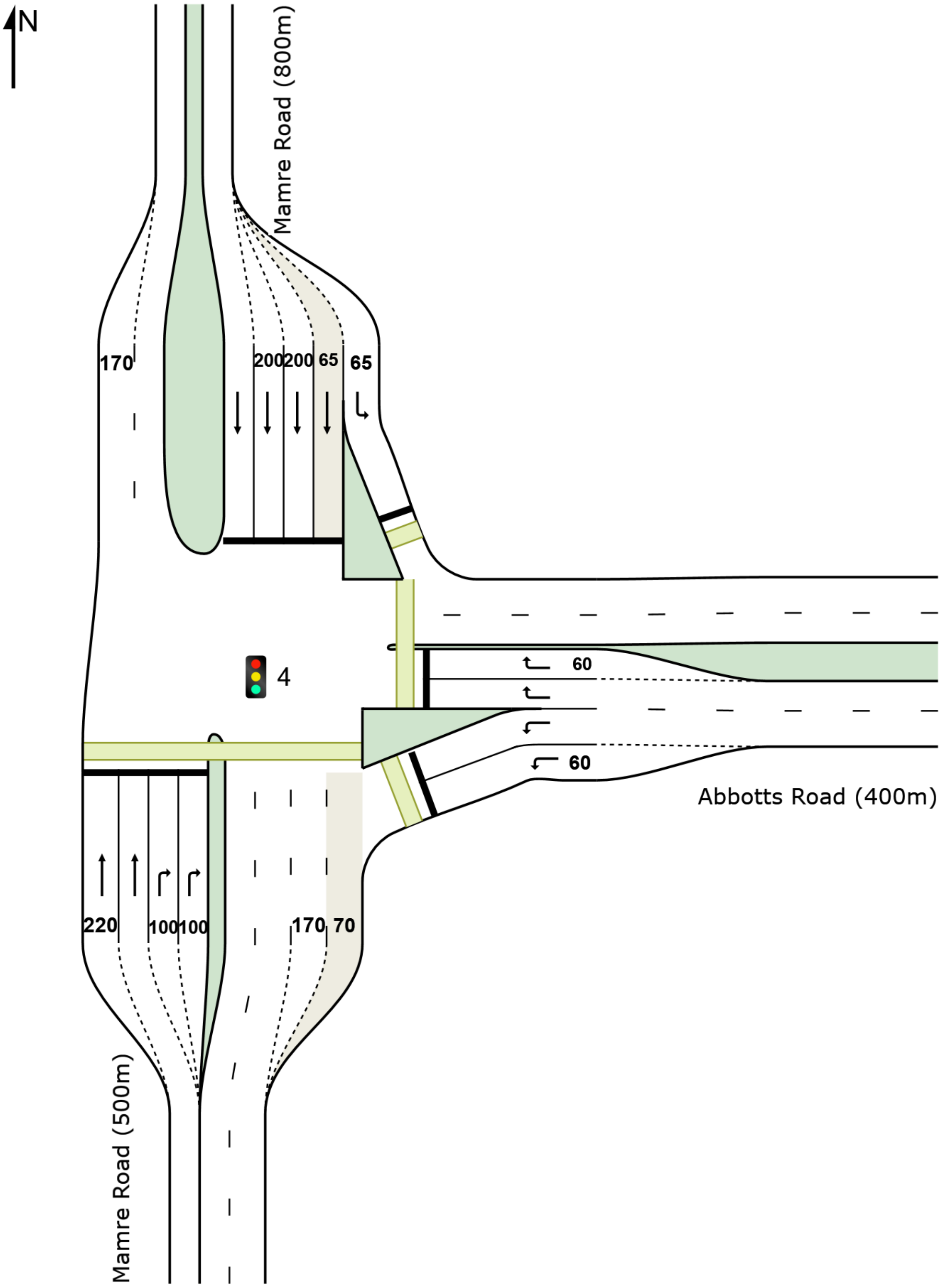
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS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

SITE LAYOUT

Site: 4 [ID [4]. Mamre Road / Abbotts Road - AM (Site Folder: 2026 - AM - 75% GFA)]

Mamre Road / Abbotts Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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



MOVEMENT SUMMARY

Site: 4 [ID [4]. Mamre Road / Abbotts Road - AM (Site Folder: 2026 - AM - 75% GFA)]

Mamre Road / Abbotts Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Road (500m)														
2	T1	1076	146	1133	13.6	* 0.424	1.9	LOS A	1.1	9.2	0.04	0.03	0.04	79.4
3	R2	121	55	127	45.5	0.475	44.0	LOS D	2.8	30.9	0.98	0.77	0.98	35.8
Approach		1197	201	1260	16.8	0.475	6.1	LOS A	2.8	30.9	0.13	0.11	0.13	72.9
East: Abbotts Road (400m)														
4	L2	31	17	33	54.8	0.061	35.2	LOS C	0.9	11.3	0.69	0.67	0.69	33.1
6	R2	23	8	24	34.8	* 0.063	54.6	LOS D	0.6	6.6	0.88	0.69	0.88	33.5
Approach		54	25	57	46.3	0.063	43.5	LOS D	0.9	11.3	0.77	0.68	0.77	33.3
North: Mamre Road (800m)														
7	L2	138	27	145	19.6	0.170	19.9	LOS B	3.9	36.0	0.49	0.72	0.49	53.3
8	T1	918	160	966	17.4	0.353	8.8	LOS A	5.7	50.7	0.33	0.29	0.33	70.0
Approach		1056	187	1112	17.7	0.353	10.3	LOS A	5.7	50.7	0.35	0.34	0.35	67.4
All Vehicles		2307	413	2428	17.9	0.475	8.9	LOS A	5.7	50.7	0.25	0.23	0.25	68.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mamre Road (500m)												
P1	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	234.8	234.8	1.00
East: Abbotts Road (400m)												
P2	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	221.3	217.2	0.98
P2B	Slip/ Bypass	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	215.3	209.4	0.97
North: Mamre Road (800m)												
P3B	Slip/ Bypass	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	212.0	205.2	0.97
All Pedestrians		40	42	54.2	LOS E	0.0	0.0	0.95	0.95	220.8	216.7	0.98

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

MOVEMENT SUMMARY

Site: 4 [ID [4]. Mamre Road / Abbotts Road - PM (Site Folder: 2026 - PM - 75% GFA)]

Abbotts Road / Mamre Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Road (500m)														
2	T1	1232	131	1297	10.6	0.445	3.0	LOS A	1.3	10.8	0.04	0.04	0.04	79.5
3	R2	368	51	387	13.9	* 0.837	70.1	LOS E	12.4	105.3	1.00	0.93	1.26	28.3
Approach		1600	182	1684	11.4	0.837	18.4	LOS B	12.4	105.3	0.26	0.24	0.32	60.5
East: Abbotts Road (400m)														
4	L2	126	24	133	19.0	0.190	45.7	LOS D	3.9	32.8	0.77	0.73	0.77	35.1
6	R2	112	36	118	32.1	* 0.482	67.1	LOS E	3.5	37.4	0.99	0.77	0.99	31.0
Approach		238	60	251	25.2	0.482	55.8	LOS D	3.9	37.4	0.87	0.75	0.87	32.8
North: Mamre Road (800m)														
7	L2	30	18	32	60.0	0.048	17.2	LOS B	0.7	8.7	0.40	0.67	0.40	54.0
8	T1	1943	236	2045	12.1	* 0.639	9.0	LOS A	13.4	109.1	0.36	0.33	0.36	71.6
Approach		1973	254	2077	12.9	0.639	9.1	LOS A	13.4	109.1	0.36	0.34	0.36	71.3
All Vehicles		3811	496	4012	13.0	0.837	15.9	LOS B	13.4	109.1	0.35	0.32	0.38	62.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mamre Road (500m)												
P1	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	234.8	234.8	1.00
East: Abbotts Road (400m)												
P2	Full	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	221.3	217.2	0.98
P2B	Slip/ Bypass	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	215.3	209.4	0.97
North: Mamre Road (800m)												
P3B	Slip/ Bypass	10	11	54.2	LOS E	0.0	0.0	0.95	0.95	212.0	205.2	0.97
All Pedestrians		40	42	54.2	LOS E	0.0	0.0	0.95	0.95	220.8	216.7	0.98

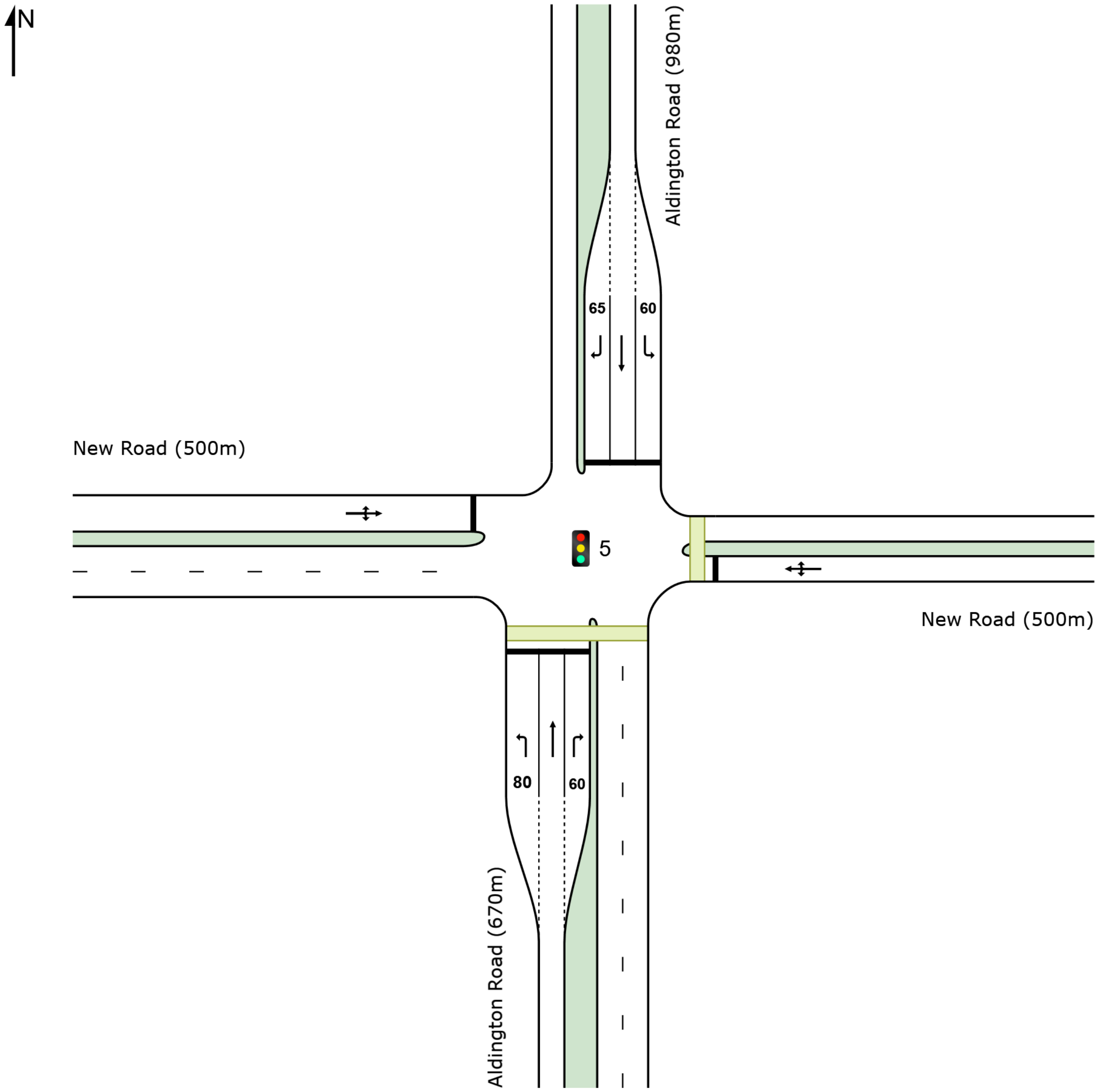
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

SITE LAYOUT

Site: 5 [ID [5]. Aldington Road / Fife Kemps Creek North - AM (Site Folder: 2026 - AM - 75% GFA)]

Aldington Road / Fife Kemps Creek North
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



MOVEMENT SUMMARY

Site: 5 [ID [5]. Aldington Road / Fife Kemps Creek North - AM (Site Folder: 2026 - AM - 75% GFA)]

Aldington Road / Fife Kemps Creek North
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aldington Road (670m)														
1	L2	6	3	6	50.0	0.011	25.9	LOS B	0.2	2.0	0.58	0.64	0.58	40.9
2	T1	26	2	27	7.7	0.050	29.5	LOS C	1.1	9.1	0.71	0.53	0.71	46.3
3	R2	1	0	1	0.0	0.007	60.1	LOS E	0.1	0.4	0.93	0.59	0.93	30.9
Approach		33	5	35	15.2	0.050	29.8	LOS C	1.1	9.1	0.70	0.55	0.70	45.0
East: New Road (500m)														
4	L2	1	0	1	0.0	0.150	35.2	LOS C	3.8	26.4	0.75	0.73	0.75	37.4
5	T1	1	0	1	0.0	0.150	30.6	LOS C	3.8	26.4	0.75	0.73	0.75	33.8
6	R2	85	0	89	0.0	0.150	35.2	LOS C	3.8	26.4	0.75	0.73	0.75	40.6
Approach		87	0	92	0.0	0.150	35.1	LOS C	3.8	26.4	0.75	0.73	0.75	40.5
North: Aldington Road (980m)														
7	L2	289	0	304	0.0	* 0.249	10.3	LOS A	3.9	27.2	0.45	0.70	0.45	50.5
8	T1	1	0	1	0.0	0.002	28.5	LOS B	0.0	0.3	0.69	0.42	0.69	46.7
9	R2	28	0	29	0.0	0.188	62.6	LOS E	1.7	11.7	0.96	0.72	0.96	33.7
Approach		318	0	335	0.0	0.249	14.9	LOS B	3.9	27.2	0.49	0.70	0.49	48.3
West: New Road (500m)														
10	L2	8	0	8	0.0	* 0.200	36.4	LOS C	0.7	6.9	0.96	0.70	0.96	40.3
11	T1	1	0	1	0.0	* 0.200	31.8	LOS C	0.7	6.9	0.96	0.70	0.96	33.5
12	R2	12	8	13	66.7	0.200	37.0	LOS C	0.7	6.9	0.96	0.70	0.96	36.1
Approach		21	8	22	38.1	0.200	36.5	LOS C	0.7	6.9	0.96	0.70	0.96	37.7
All Vehicles		459	13	483	2.8	0.249	20.8	LOS B	3.9	27.2	0.58	0.70	0.58	45.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Aldington Road (670m)												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.7	221.5	0.99
East: New Road (500m)												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	216.6	211.0	0.97
All		0	105	54.3	LOS E	0.2	0.2	0.95	0.95	220.6	216.3	0.98

MOVEMENT SUMMARY

Site: 5 [ID [5]. Aldington Road / Fife Kemps Creek North - PM (Site Folder: 2026 - PM - 75% GFA)]

Aldington Road / Fife Kemps Creek North
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aldington Road (670m)														
1	L2	17	6	18	35.3	0.031	28.5	LOS B	0.6	5.6	0.62	0.67	0.62	40.0
2	T1	101	0	106	0.0	* 0.209	37.4	LOS C	4.9	34.0	0.82	0.66	0.82	43.7
3	R2	1	0	1	0.0	0.006	57.8	LOS E	0.1	0.4	0.92	0.59	0.92	31.4
Approach		119	6	125	5.0	0.209	36.3	LOS C	4.9	34.0	0.80	0.66	0.80	43.1
East: New Road (500m)														
4	L2	1	0	1	0.0	0.212	34.5	LOS C	5.6	39.1	0.75	0.74	0.75	37.6
5	T1	1	0	1	0.0	* 0.212	29.9	LOS C	5.6	39.1	0.75	0.74	0.75	34.0
6	R2	127	0	134	0.0	0.212	34.5	LOS C	5.6	39.1	0.75	0.74	0.75	40.8
Approach		129	0	136	0.0	0.212	34.4	LOS C	5.6	39.1	0.75	0.74	0.75	40.8
North: Aldington Road (980m)														
7	L2	32	0	34	0.0	0.030	10.7	LOS A	0.4	2.8	0.42	0.65	0.42	50.2
8	T1	69	0	73	0.0	0.143	36.7	LOS C	3.3	22.8	0.81	0.63	0.81	43.9
9	R2	1	0	1	0.0	0.006	57.8	LOS E	0.1	0.4	0.92	0.60	0.92	34.8
Approach		102	0	107	0.0	0.143	28.7	LOS C	3.3	22.8	0.69	0.64	0.69	45.5
West: New Road (500m)														
10	L2	18	0	19	0.0	* 0.189	33.5	LOS C	1.3	9.6	0.94	0.72	0.94	41.1
11	T1	1	0	1	0.0	* 0.189	28.9	LOS C	1.3	9.6	0.94	0.72	0.94	34.4
12	R2	20	2	21	10.0	0.189	33.5	LOS C	1.3	9.6	0.94	0.72	0.94	38.0
Approach		39	2	41	5.1	0.189	33.4	LOS C	1.3	9.6	0.94	0.72	0.94	39.5
All Vehicles		389	8	409	2.1	0.212	33.4	LOS C	5.6	39.1	0.77	0.69	0.77	42.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

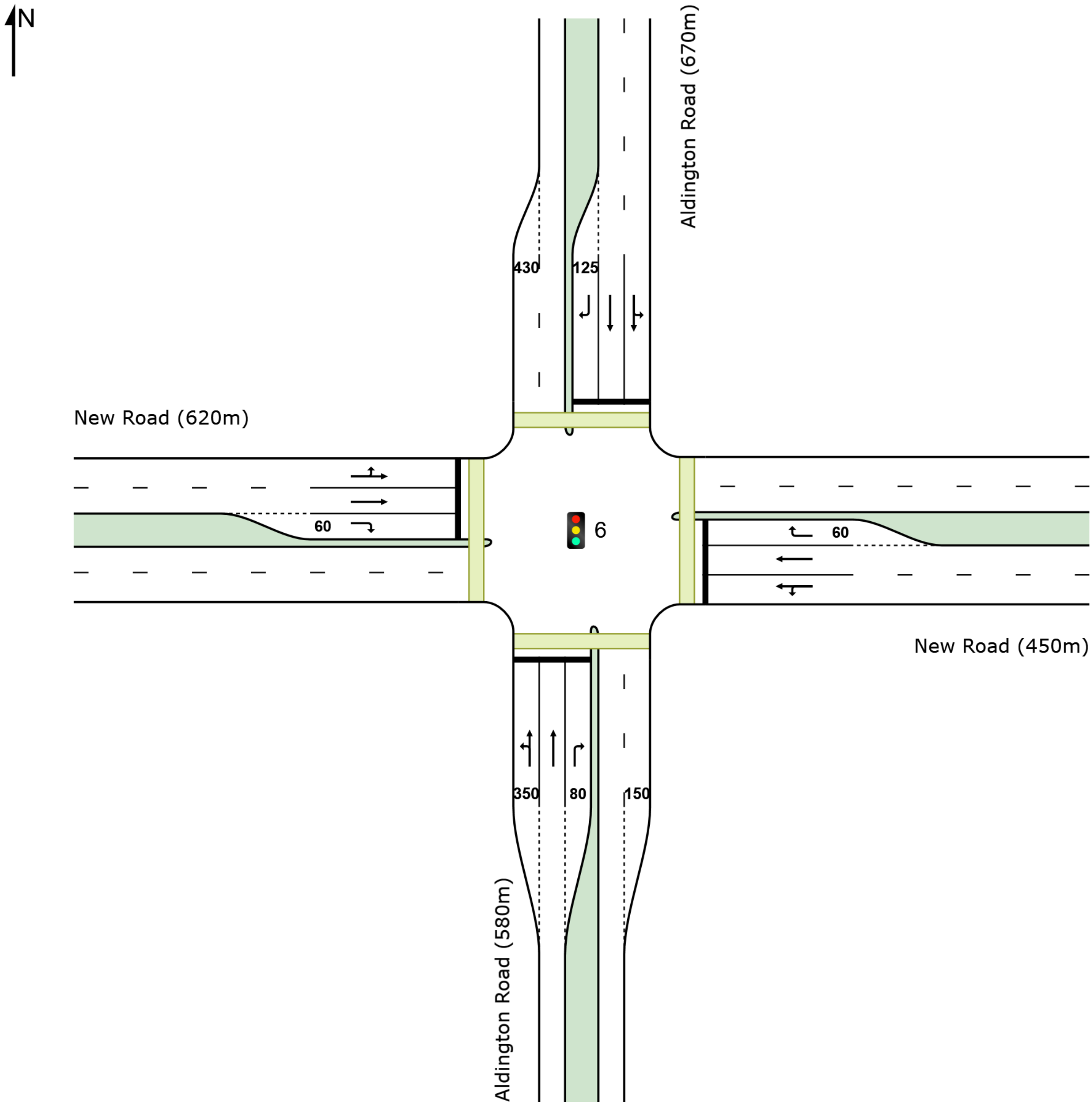
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Aldington Road (670m)												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.7	221.5	0.99
East: New Road (500m)												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	216.6	211.0	0.97
All		0	105	54.3	LOS E	0.2	0.2	0.95	0.95	220.6	216.3	0.98

SITE LAYOUT

Site: 6 [ID [6]. Aldington Road / Fife Kemps Creek South- AM (Site Folder: 2026 - AM - 75% GFA)]

Aldington Road / Fife Kemps Creek South
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



MOVEMENT SUMMARY

Site: 6 [ID [6]. Aldington Road / Fife Kemps Creek South- AM (Site Folder: 2026 - AM - 75% GFA)]

Aldington Road / Fife Kemps Creek South
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aldington Road (580m)														
1	L2	62	38	65	61.3	0.197	38.2	LOS C	2.8	34.7	0.76	0.74	0.76	36.4
2	T1	24	2	25	8.3	* 0.103	49.0	LOS D	1.3	10.5	0.90	0.66	0.90	36.6
3	R2	60	30	63	50.0	0.188	38.7	LOS C	2.7	33.2	0.76	0.74	0.76	35.0
Approach		146	70	154	47.9	0.197	40.2	LOS C	2.8	34.7	0.78	0.73	0.78	35.9
East: New Road (450m)														
4	L2	7	6	7	85.7	0.259	49.0	LOS D	2.7	40.1	0.87	0.69	0.87	31.5
5	T1	94	63	99	67.0	* 0.259	43.9	LOS D	2.7	39.9	0.87	0.69	0.87	32.0
6	R2	1	0	1	0.0	0.003	44.1	LOS D	0.0	0.3	0.81	0.59	0.81	34.4
Approach		102	69	107	67.6	0.259	44.3	LOS D	2.7	40.1	0.87	0.69	0.87	32.0
North: Aldington Road (670m)														
7	L2	1	0	1	0.0	0.006	32.6	LOS C	0.1	0.5	0.85	0.58	0.85	38.8
8	T1	2	1	2	50.0	0.008	41.0	LOS C	0.1	0.7	0.87	0.55	0.87	38.6
9	R2	8	7	8	87.5	0.030	37.2	LOS C	0.3	4.7	0.71	0.66	0.71	37.9
Approach		11	8	12	72.7	0.030	37.5	LOS C	0.3	4.7	0.75	0.63	0.75	38.1
West: New Road (620m)														
10	L2	5	4	5	80.0	* 0.185	35.2	LOS C	0.8	12.7	0.91	0.68	0.91	37.4
11	T1	38	37	40	97.4	* 0.185	42.4	LOS C	1.2	18.3	0.92	0.68	0.92	32.1
12	R2	1	0	1	0.0	0.004	52.6	LOS D	0.1	0.4	0.88	0.59	0.88	32.6
Approach		44	41	46	93.2	0.185	41.8	LOS C	1.2	18.3	0.92	0.68	0.92	32.7
All Vehicles		303	188	319	62.0	0.259	41.7	LOS C	2.8	40.1	0.83	0.70	0.83	34.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Aldington Road (580m)												
P1	Full	50	53	24.8	LOS C	0.1	0.1	0.90	0.90	194.4	220.5	1.13
East: New Road (450m)												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	225.0	222.0	0.99
North: Aldington Road (670m)												

P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	223.9	220.5	0.98
West: New Road (620m)												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.7	221.5	0.99
All Pedestrians		0	211	46.9	LOS E	0.2	0.2	0.94	0.94	217.0	221.1	1.02

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

MOVEMENT SUMMARY

Site: 6 [ID [6]. Aldington Road / Fife Kemps Creek South- PM (Site Folder: 2026 - PM - 75% GFA)]

Aldington Road / Fife Kemps Creek South
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aldington Road (580m)														
1	L2	159	30	167	18.9	0.358	39.3	LOS C	7.5	68.6	0.81	0.79	0.81	36.2
2	T1	21	1	22	4.8	* 0.083	48.6	LOS D	1.1	8.3	0.90	0.65	0.90	36.7
3	R2	159	22	167	13.8	* 0.405	45.1	LOS D	8.1	68.6	0.87	0.79	0.87	33.2
Approach		339	53	357	15.6	0.405	42.6	LOS D	8.1	68.6	0.84	0.78	0.84	34.9
East: New Road (450m)														
4	L2	80	18	84	22.5	0.406	42.7	LOS D	8.0	74.5	0.86	0.75	0.86	33.7
5	T1	225	62	237	27.6	* 0.406	39.4	LOS C	8.0	74.5	0.87	0.73	0.87	33.1
6	R2	17	0	18	0.0	0.037	39.9	LOS C	0.8	5.4	0.78	0.67	0.78	35.6
Approach		322	80	339	24.8	0.406	40.2	LOS C	8.0	74.5	0.86	0.74	0.86	33.4
North: Aldington Road (670m)														
7	L2	1	1	1	100.0	0.006	23.0	LOS B	0.0	0.7	0.67	0.59	0.67	40.7
8	T1	2	0	2	0.0	0.007	45.3	LOS D	0.1	0.7	0.87	0.55	0.87	37.5
9	R2	88	5	93	5.7	0.196	42.3	LOS C	4.2	30.8	0.81	0.75	0.81	36.7
Approach		91	6	96	6.6	0.196	42.1	LOS C	4.2	30.8	0.81	0.75	0.81	36.8
West: New Road (620m)														
10	L2	76	5	80	6.6	0.295	27.5	LOS B	2.8	24.7	0.88	0.75	0.88	40.7
11	T1	49	48	52	98.0	* 0.295	43.1	LOS D	2.8	24.7	0.92	0.73	0.92	31.8
12	R2	4	3	4	75.0	0.041	56.5	LOS D	0.2	3.9	0.90	0.66	0.90	30.7
Approach		129	56	136	43.4	0.295	34.3	LOS C	2.8	30.6	0.90	0.74	0.90	36.9
All Vehicles		881	195	927	22.1	0.406	40.5	LOS C	8.1	74.5	0.86	0.75	0.86	34.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Aldington Road (580m)												
P1	Full	50	53	24.4	LOS C	0.1	0.1	0.90	0.90	194.0	220.5	1.14
East: New Road (450m)												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	225.0	222.0	0.99
North: Aldington Road (670m)												

P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	223.9	220.5	0.98
West: New Road (620m)												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.7	221.5	0.99
All Pedestrians		0	211	46.8	LOS E	0.2	0.2	0.94	0.94	216.9	221.1	1.02

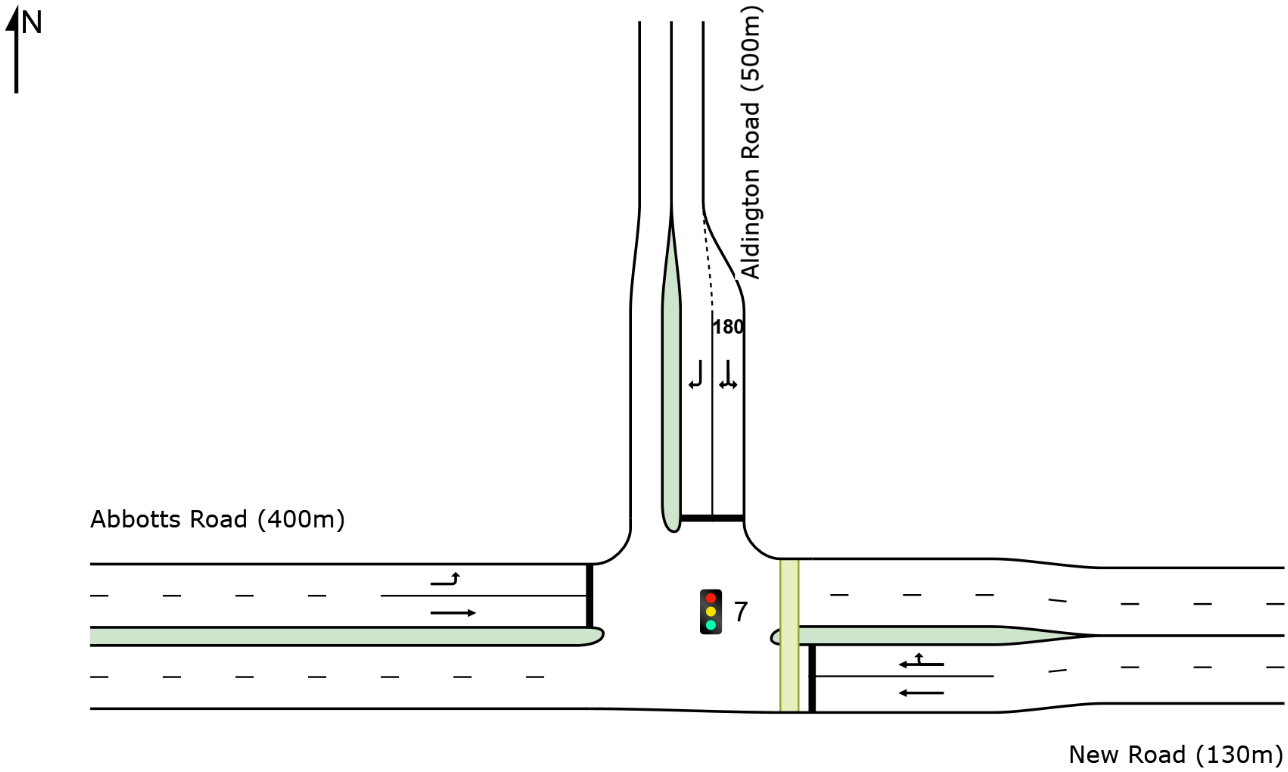
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 7 [ID [7]. Aldington Road / Abbotts Road - AM (Site Folder: 2026 - AM - 75% GFA)]

Aldington Road / Abbotts Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



MOVEMENT SUMMARY

Site: 7 [ID [7]. Aldington Road / Abbotts Road - AM (Site Folder: 2026 - AM - 75% GFA)]

Aldington Road / Abbotts Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: New Road (130m)														
5	T1	42	17	44	40.5	0.049	5.3	LOS A	0.7	8.5	0.31	0.24	0.31	49.9
6	R2	39	19	41	48.7	* 0.207	52.1	LOS D	2.1	23.7	0.89	0.74	0.89	24.1
Approach		81	36	85	44.4	0.207	27.8	LOS B	2.1	23.7	0.59	0.48	0.59	31.9
North: Aldington Road (500m)														
7	L2	1	0	1	0.0	0.037	48.8	LOS D	0.3	4.4	0.84	0.68	0.84	25.9
9	R2	12	7	13	58.3	* 0.037	50.1	LOS D	0.3	4.4	0.84	0.67	0.84	29.9
Approach		13	7	14	53.8	0.037	50.0	LOS D	0.3	4.4	0.84	0.67	0.84	29.6
West: Abbotts Road (400m)														
10	L2	105	51	111	48.6	0.208	24.8	LOS B	3.7	43.8	0.60	0.73	0.60	39.2
11	T1	155	31	163	20.0	* 0.214	19.6	LOS B	5.4	47.7	0.60	0.58	0.60	36.4
Approach		260	82	274	31.5	0.214	21.7	LOS B	5.4	47.7	0.60	0.64	0.60	37.9
All Vehicles		354	125	373	35.3	0.214	24.1	LOS B	5.4	47.7	0.61	0.61	0.61	36.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New Road (130m)												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	222.7	219.0	0.98
All Pedestrians		0	53	54.3	LOS E	0.2	0.2	0.95	0.95	222.7	219.0	0.98

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

MOVEMENT SUMMARY

Site: 8v [ID [7]. Aldington Road / Abbotts Road - PM (Site Folder: 2026 - PM - 75% GFA)]

Aldington Road / Abbotts Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: New Road (130m)														
5	T1	142	30	149	21.1	0.102	12.3	LOS A	2.0	18.0	0.43	0.35	0.43	42.2
6	R2	8	0	8	0.0	* 0.102	41.8	LOS C	1.8	15.4	0.80	0.63	0.80	28.9
Approach		150	30	158	20.0	0.102	13.9	LOS A	2.0	18.0	0.45	0.36	0.45	41.0
North: Aldington Road (500m)														
7	L2	1	0	1	0.0	0.187	50.3	LOS D	2.3	22.5	0.88	0.75	0.88	25.4
9	R2	87	23	92	26.4	* 0.187	51.0	LOS D	2.3	22.5	0.88	0.75	0.88	30.1
Approach		88	23	93	26.1	0.187	51.0	LOS D	2.3	22.6	0.88	0.75	0.88	30.1
West: Abbotts Road (400m)														
10	L2	324	50	341	15.4	* 0.459	27.2	LOS B	13.0	112.9	0.70	0.79	0.70	38.9
11	T1	84	25	88	29.8	0.129	18.8	LOS B	2.8	27.6	0.57	0.55	0.57	37.0
Approach		408	75	429	18.4	0.459	25.4	LOS B	13.0	112.9	0.68	0.74	0.68	38.7
All Vehicles		646	128	680	19.8	0.459	26.2	LOS B	13.0	112.9	0.65	0.65	0.65	37.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New Road (130m)												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	222.7	219.0	0.98
All Pedestrians		0	53	54.3	LOS E	0.2	0.2	0.95	0.95	222.7	219.0	0.98

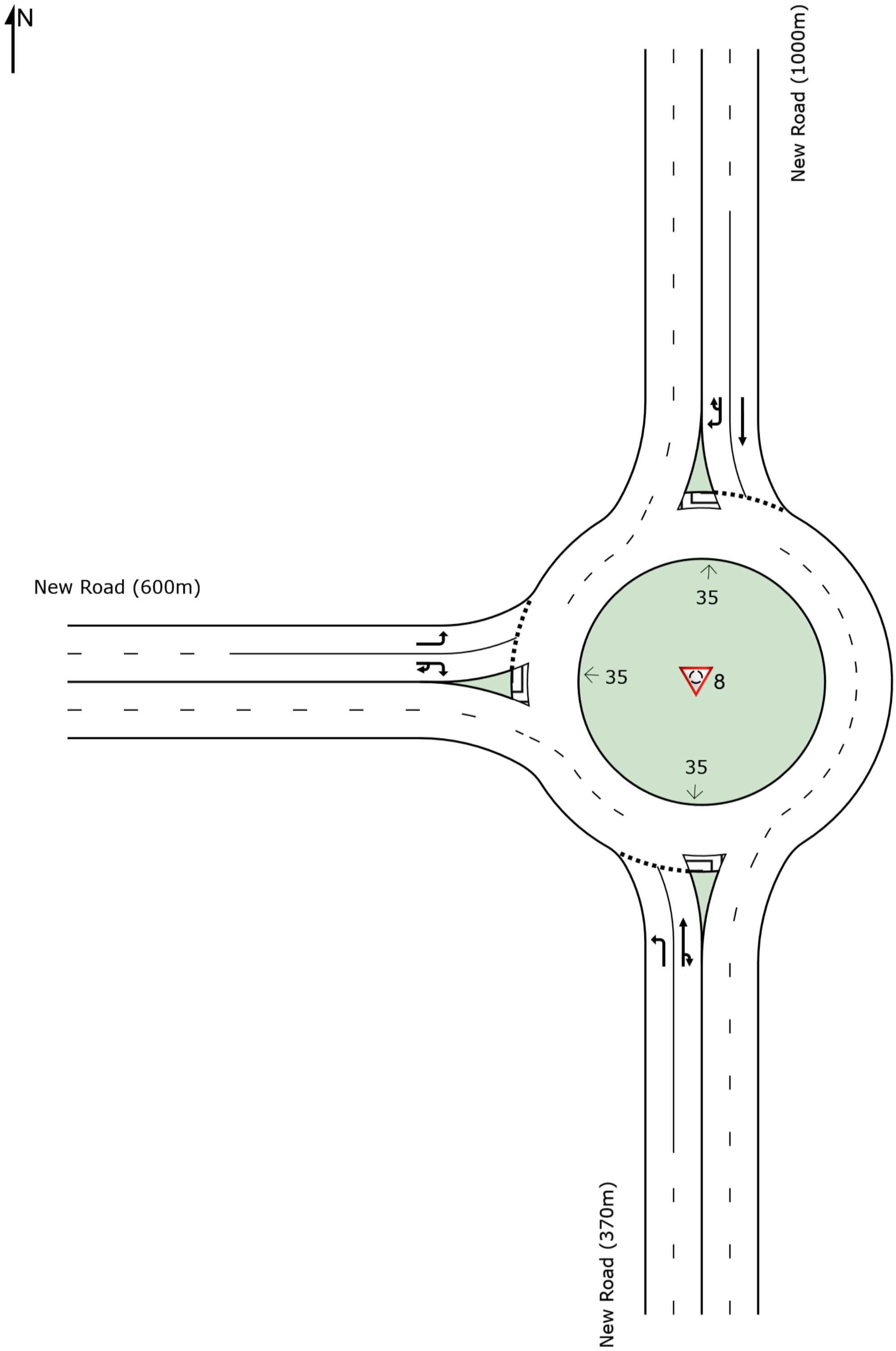
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 8 [ID [8]. Internal Road Roundabout (Mirvac) - AM (Site Folder: 2026 - AM - 75% GFA)]

Internal Road Roundabout (Mirvac)
Site Category: (None)
Roundabout

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



MOVEMENT SUMMARY

Site: 8 [ID [8]. Internal Road Roundabout (Mirvac) - AM (Site Folder: 2026 - AM - 75% GFA)]

Internal Road Roundabout (Mirvac)
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Road (370m)														
1	L2	223	121	235	54.3	0.207	3.1	LOS A	1.2	15.6	0.31	0.37	0.31	47.8
2	T1	1	0	1	0.0	0.002	2.0	LOS A	0.0	0.1	0.25	0.45	0.25	48.5
3u	U	1	0	1	0.0	0.002	9.9	LOS A	0.0	0.1	0.25	0.45	0.25	50.5
Approach		225	121	237	53.8	0.207	3.2	LOS A	1.2	15.6	0.31	0.37	0.31	47.8
North: New Road (1000m)														
8	T1	29	10	31	34.5	0.044	4.7	LOS A	0.2	2.5	0.51	0.45	0.51	49.2
9	R2	68	26	72	38.2	0.069	9.5	LOS A	0.3	3.8	0.47	0.61	0.47	47.7
9u	U	1	0	1	0.0	0.069	10.6	LOS A	0.3	3.8	0.47	0.61	0.47	49.2
Approach		98	36	103	36.7	0.069	8.1	LOS A	0.3	3.8	0.48	0.56	0.48	48.1
West: New Road (600m)														
10	L2	1	0	1	0.0	0.001	2.2	LOS A	0.0	0.0	0.03	0.31	0.03	49.4
12	R2	292	76	307	26.0	0.192	7.7	LOS A	1.1	10.1	0.03	0.55	0.03	48.0
12u	U	1	0	1	0.0	0.192	9.5	LOS A	1.1	10.1	0.03	0.55	0.03	49.8
Approach		294	76	309	25.9	0.192	7.7	LOS A	1.1	10.1	0.03	0.55	0.03	48.0
All Vehicles		617	233	649	37.8	0.207	6.1	LOS A	1.2	15.6	0.21	0.49	0.21	48.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 8 [ID [8]. Internal North Rounabout (Mirvac)- PM (Site Folder: 2026 - PM - 75% GFA)]

Internal Road Roundabout (Mirvac)
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Road (370m)														
1	L2	390	106	411	27.2	0.297	3.0	LOS A	1.9	18.4	0.35	0.39	0.35	47.9
2	T1	1	0	1	0.0	0.002	2.1	LOS A	0.0	0.1	0.28	0.45	0.28	48.5
3u	U	1	0	1	0.0	0.002	10.0	LOS A	0.0	0.1	0.28	0.45	0.28	50.4
Approach		392	106	413	27.0	0.297	3.0	LOS A	1.9	18.4	0.35	0.39	0.35	47.9
North: New Road (1000m)														
8	T1	93	18	98	19.4	0.095	3.2	LOS A	0.5	4.2	0.43	0.37	0.43	49.5
9	R2	99	29	104	29.3	0.082	8.8	LOS A	0.4	3.8	0.40	0.58	0.40	48.0
9u	U	1	0	1	0.0	0.082	10.4	LOS A	0.4	3.8	0.40	0.58	0.40	49.3
Approach		193	47	203	24.4	0.095	6.1	LOS A	0.5	4.2	0.41	0.48	0.41	48.6
West: New Road (600m)														
10	L2	1	0	1	0.0	0.001	2.2	LOS A	0.0	0.0	0.03	0.31	0.03	49.4
12	R2	200	92	211	46.0	0.150	7.8	LOS A	0.8	9.2	0.04	0.53	0.04	47.7
12u	U	1	0	1	0.0	0.150	9.5	LOS A	0.8	9.2	0.04	0.53	0.04	49.8
Approach		202	92	213	45.5	0.150	7.8	LOS A	0.8	9.2	0.04	0.53	0.04	47.7
All Vehicles		787	245	828	31.1	0.297	5.0	LOS A	1.9	18.4	0.28	0.45	0.28	48.1

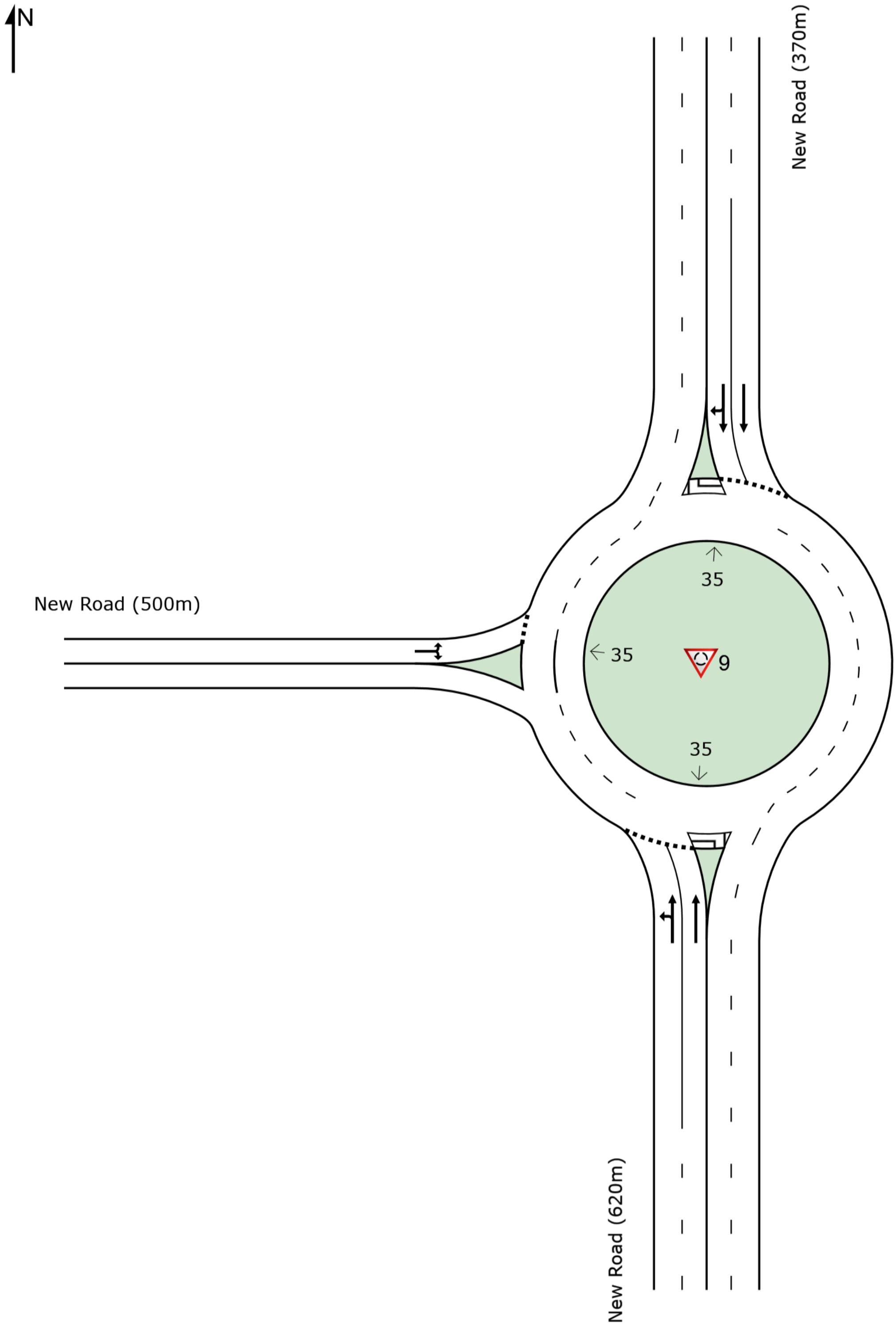
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 9 [ID [9]. Internal Road Roundabout (Altis) - AM (Site Folder: 2026 - AM - 75% GFA)]

Internal Road Roundabout Altis
Site Category: (None)
Roundabout

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



MOVEMENT SUMMARY

Site: 9 [ID [9]. Internal Road Roundabout (Altis) - AM (Site Folder: 2026 - AM - 75% GFA)]

Internal Road Roundabout Altis
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Road (620m)														
1	L2	108	46	114	42.6	0.142	2.7	LOS A	0.8	9.7	0.18	0.28	0.18	48.6
2	T1	194	111	204	57.2	0.142	2.2	LOS A	0.8	9.7	0.20	0.24	0.20	50.2
Approach		302	157	318	52.0	0.142	2.3	LOS A	0.8	10.2	0.19	0.25	0.19	49.6
North: New Road (370m)														
8	T1	295	76	311	25.8	0.129	2.0	LOS A	0.8	7.3	0.22	0.25	0.22	50.0
9	R2	28	10	29	35.7	0.129	8.3	LOS A	0.7	7.5	0.23	0.31	0.23	50.1
Approach		323	86	340	26.6	0.129	2.5	LOS A	0.8	7.5	0.22	0.26	0.22	50.0
West: New Road (500m)														
10	L2	31	15	33	48.4	0.106	4.8	LOS A	0.5	4.8	0.45	0.60	0.45	45.1
12	R2	45	9	47	20.0	0.106	9.4	LOS A	0.5	4.8	0.45	0.60	0.45	48.1
Approach		76	24	80	31.6	0.106	7.5	LOS A	0.5	4.8	0.45	0.60	0.45	47.0
All Vehicles		701	267	738	38.1	0.142	3.0	LOS A	0.8	10.2	0.23	0.29	0.23	49.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 9 [ID [9]. Internal South Rounabout (Altis) - PM (Site Folder: 2026 - PM - 75% GFA)]

Internal Road Roundabout (Altis)
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: New Road (620m)														
1	L2	300	41	316	13.7	0.277	3.2	LOS A	1.7	15.0	0.40	0.40	0.40	48.1
2	T1	346	99	364	28.6	0.277	3.0	LOS A	1.7	15.0	0.43	0.37	0.43	49.3
Approach		646	140	680	21.7	0.277	3.1	LOS A	1.7	15.9	0.42	0.38	0.42	48.7
North: New Road (370m)														
8	T1	133	87	140	65.4	0.122	2.0	LOS A	0.8	6.8	0.15	0.25	0.15	49.9
9	R2	162	24	171	14.8	0.122	7.7	LOS A	0.8	6.8	0.13	0.51	0.13	47.8
Approach		295	111	311	37.6	0.122	5.1	LOS A	0.8	9.4	0.14	0.39	0.14	48.8
West: New Road (500m)														
10	L2	48	10	51	20.8	0.096	4.6	LOS A	0.4	4.1	0.53	0.60	0.53	46.5
12	R2	18	8	19	44.4	0.096	10.6	LOS A	0.4	4.1	0.53	0.60	0.53	49.0
Approach		66	18	69	27.3	0.096	6.2	LOS A	0.4	4.1	0.53	0.60	0.53	47.3
All Vehicles		1007	269	1060	26.7	0.277	3.9	LOS A	1.7	15.9	0.34	0.40	0.34	48.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Attachment 3 - Traffic Signal Warrant Analysis

TABLE 6 TRAFFIC WARRANT FOR 2026 – 1,290,000M² GFA

ID	Intersection	Warrant A	Major Road>900vph	Minor>100vph	Major>900vph	Minor>100vph	Traffic Flow Warrant Met?
		Warrant B	Major Road>600vph	Minor>200vph	Major>600vph	Minor>200vph	
		Hour	**South (veh)**	**East (veh)**	**North (veh)**	**West (veh)**	
1	Mamre Road / Bakers Lane	7-8AM	1,415	164	2,217	150	Yes
		8-9AM	1,525	429	2,120	215	Yes
		3-4PM	1,774	573	1,703	355	Yes
		4-5PM	1,734	497	1,502	412	Yes
2	Mamre Road / Mirvac Access	7-8AM	1,101	410	1,595	-	Yes
		8-9AM	1,180	509	1,561	-	Yes
		3-4PM	1,378	516	1,663	-	Yes
		4-5PM	1,381	551	1,603	-	Yes
4	Mamre Road / Abbotts Road	3-4PM	1,600	240	1,973	-	Yes
		4-5PM	1,663	295	1,906	-	Yes
		5-6PM	1,385	163	1,791	-	Yes
		6-7PM	968	151	1,141	-	Yes
5	Aldington Road / Fife Kemps Creek (North)	7-8AM	33	87	318	21	No
		8-9AM	74	103	240	26	No
		3-4PM	119	129	102	39	No
		4-5PM	173	209	58	53	No
6	Aldington Road / Fife Kemps Creek (South)	7-8AM	146	102	11	44	No
		8-9AM	152	115	10	74	No
		3-4PM	339	322	91	129	No
		4-5PM	382	246	50	247	No
7	Aldington Road / Abbotts Road	7-8AM	-	81	13	260	No
		8-9AM	-	95	21	228	No
		3-4PM	-	150	88	408	No
		4-5PM	-	157	196	468	No

TABLE 7 TRAFFIC WARRANT FOR 2036 NETWORK – FULL PRECINCT

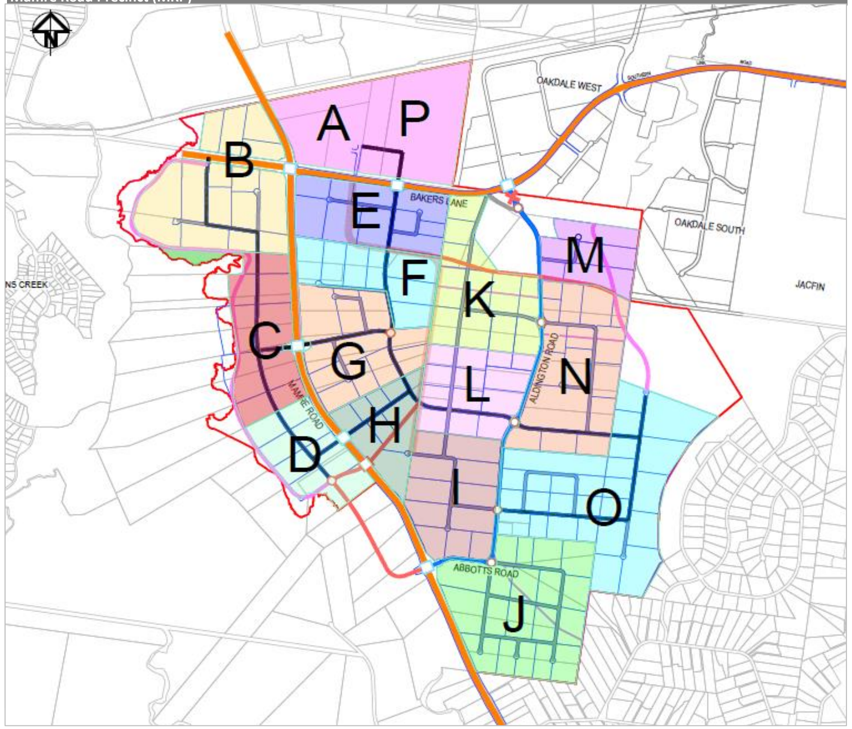
ID	Intersection	Warrant A	Major Road>900vph	Minor>100vph	Major>900vph	Minor>100vph	Traffic Flow Warrant Met?
		Warrant B	Major Road>600vph	Minor>200vph	Major>600vph	Minor>200vph	
		Hour	South (veh)	East (veh)	North (veh)	West (veh)	
1	Mamre Road / Bakers Lane	7-8AM	2,137	902	2,881	233	Yes
		8-9AM	2,250	922	2,703	312	Yes
		3-4PM	2,278	875	1,703	355	Yes
		4-5PM	1,584	759	1,924	496	Yes
2	Mamre Road / Mirvac Access	7-8AM	1,898	389	2,761	245	Yes
		8-9AM	2,027	259	2,952	277	Yes
		3-4PM	2,094	162	2,878	277	Yes
		4-5PM	2,192	166	1,371	752	Yes
4	Mamre Road / Abbotts Road	3-4PM	2,505	138	2,180	134	Yes
		4-5PM	2,661	157	2,157	174	Yes
		5-6PM	2,814	138	2,013	210	Yes
		6-7PM	2,000	123	1,490	208	Yes
5	Aldington Road / Fife Kemps Creek (North)	7-8AM	655	201	2,111	327	Yes
		8-9AM	717	223	2,193	224	Yes
		3-4PM	839	260	1,913	264	Yes
		4-5PM	601	416	1,454	205	Yes
6	Aldington Road / Fife Kemps Creek (South)	7-8AM	720	203	1,044	211	Yes
		8-9AM	798	202	1,082	206	Yes
		3-4PM	859	210	1,045	210	Yes
		4-5PM	648	237	1,156	203	Yes
7	Aldington Road / Abbotts Road	7-8AM	119	123	1,088	1,240	Yes
		8-9AM	143	112	1,065	1,171	Yes
		3-4PM	300	108	1,552	1,021	Yes
		4-5PM	202	201	1,266	881	Yes

Mamre Road Precinct - Trip Generation

asongroup

Modelling Year - Year 2026

Mamre Road Precinct (MRP)



Mamre Road Precinct - Hourly Trip Generation Summary (S:56%)

All Vehicle Hourly Trip Generation

Start Time	All Vehicle	Light Vehicle	Heavy Vehicle	Rigid	Semi-trailer	B-double
0:00	34	0	34	0	20	14
1:00	161	110	51	0	40	11
2:00	178	110	68	27	30	11
3:00	281	220	61	27	20	14
4:00	905	769	136	81	30	25
5:00	1,636	1,318	318	188	91	39
6:00	2,203	1,758	445	295	111	39
7:00	2,301	1,758	543	349	141	54
8:00	2,052	1,428	624	429	141	54
9:00	1,780	1,099	681	483	141	57
10:00	1,549	879	670	456	171	43
11:00	1,659	989	670	456	171	43
12:00	1,602	989	613	429	141	43
13:00	1,859	1,209	650	456	151	43
14:00	2,197	1,648	549	403	111	36
15:00	2,257	1,758	499	349	111	39
16:00	2,459	1,978	482	349	101	32
17:00	1,842	1,538	304	215	60	29
18:00	1,232	989	243	161	60	21
19:00	651	549	102	54	30	18
20:00	428	330	98	54	30	14
21:00	428	330	98	54	30	14
22:00	295	220	75	27	30	18
23:00	74	0	74	27	40	7
Total	**30,062**	**21,973**	**8,089**	**5,367**	**2,004**	**718**