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Project title WSU Bankstown

Job number

263785-00

cc Kurt Freeburn

File reference

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Date

6 July 2020

Subject Gateway Determination - Further Traffic Considerations

1 Introduction and Context

A Planning Proposal was lodged to amend the maximum height of buildings and floor space ratio development standards and introduce a local provision to maintain solar access to public open space for land at 74 Rickard Road and part of 375 Chapel Road, Bankstown. This Planning Proposal is in association with the proposed new Western Sydney University (WSU) Bankstown City Campus (BCC) Development, a 21-storey building (including two basement levels) for education use and associated research space, conference facilities and retail uses.

The Department of Planning Industry and Environment (DPIE) prepared a Gateway Determination letter dated 10 June 2020 which requested the following:

“1. Prior to community consultation, the planning proposal is to be amended to:

(g) provide further traffic modelling as outlined in the ‘Peer Review of Transport and Traffic’ prepared by TTPP, dated 13 September 2019;”

Arup has prepared this note to summarise the additional traffic assessment undertaken to satisfy the conditions of the Gateway Determination for the Planning Proposal. This note supplements the Transport Management and Accessibility Plan (TMAP) for the proposed WSU BCC Development in July 2019.

1.1 Peer Review of Transport and Traffic

In September 2019, The Transport Planning Partnership (TTPP) undertook a peer review of the TMAP on behalf of Canterbury-Bankstown Council (Council). In December 2019, Arup prepared a response to the peer review based on items contained within *Section 5 Conclusion* of the document.

Upon further review, there are recommendations within the body of the report that also required comments and detail. This note addresses the outstanding items relating specifically to the traffic modelling commentary as noted in the Gateway Determination, as noted in Table 1.

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Table 1: Peer review recommendations relating specifically to traffic modelling

Peer Review Recommendation/Reference	Arup Reference in this note
Executive Summary	
<p>Traffic modelling and road network operation</p> <ul style="list-style-type: none"> Additional traffic modelling is required to fully appreciate the implications of the planning proposal on the surrounding road network. 	Noted, the peer review recommendations have been taken into consideration, and where appropriate Arup's modelling has been updated. Further detailed responses to each item of the peer review recommendations are provided in subsequent sections.
<ul style="list-style-type: none"> Calibration of models to observed traffic conditions is required to reflect actual conditions (i.e. vehicle queuing). 	The documented modifications from the TTPP report are provided in Section 2.2, with the Arup responses which demonstrate how these have been addressed.
<ul style="list-style-type: none"> Future scenario modelling required to determine implication of proposal in say +5 or +10 years' time. Currently only existing plus development scenarios have been considered. 	Completed - additional scenarios have been modelled as described in Section 2.1. Arup's December 2019 Report provided a future year 2036 scenario. An additional interim year 2026 scenario has been introduced to address TTPA's comments.
Section 2.3 Road Network Assessment	
Based on the modelling outputs, only year 2018 has been assessed (i.e. no future year scenario). It is recommended that a +5 or +10-year future case scenario be assessed with and without the proposed development.	Completed as above. Refer to Section 2.1.
No queue length data is provided. It is recommended that queue length data is collected to assess the validity of the traffic models.	Completed – additional queue length data provided in all output tables below and detailed output files in Appendix 1.
<p>No traffic surveys or modelling has been undertaken at the above intersections. The above intersections are circled red, with the surveyed intersections shown in black in the following figure. It is noted that the intersection impacts at the Rickard Road-Jacobs Street intersection could potentially be exacerbated as a result of motorists (egress) wishing to turn back onto Stacey Street, as shown in orange dashed line below.</p> <p>Traffic associated with the proposed development is expected to be diluted due to it being distributed to different turning movements and</p>	<p>The extent of modelling has been increased to include:</p> <ul style="list-style-type: none"> Rickard Rd / Sir Joseph Banks St Rickard Rd / Kitchener Pde French Ave / Chapel Rd <p>This extended study area shows minimal delays at the additional sites.</p> <p>This is further addressed in Section 2.3</p>

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Peer Review Recommendation/Reference	Arup Reference in this note
across a number of local intersections. Therefore, any intersection modelling at the above additional intersections is unlikely to register any noticeable traffic impacts based on the anticipated development traffic generated by the proposed development. However, it is recommended that the impacts of the above intersections be assessed and justified accordingly to support the proposed development.	
Section 2.3 SIDRA Traffic Models	
TTPP has reviewed the SIDRA traffic models provided by Council on 9 July 2019 (SIDRA Ref: WSU Bankstown Network Model) In summary, the SIDRA traffic models should be updated and/or justified accordingly. The above changes may affect the traffic modelling results and should be updated and documented accordingly for Council review.	Arup have updated the SIDRA traffic models where appropriate, and any variances to the TTPA recommendations have been justified in Section 2.2.
Section 5 Conclusion	
The traffic model only assessed Year 2018. The traffic modelling should consider a +5 or +10-year future case scenario with and without the proposed development.	Complete - Arup have provided additional scenarios as recommended by TTPA in Section 2.1.
The traffic modelling did not consider the impacts of the existing two driveways off Rickard Road. It is recommended that access to the site and The Appian Way access is included in the traffic modelling assessment.	Complete - additional modelling undertaken of the laneways as noted in Section 2.4.
No queue length data has been collected to calibrate the traffic models. It is recommended that queue length data be collected during AM and PM peak periods to assess the validity of the traffic models.	Noted - additional detail added in all output tables and detailed output files in Appendix 1.
The traffic modelling assessment should consider a wider study area to assess the wider traffic implications arising from the proposed development.	Complete – as noted above and addressed in Section 2.3.

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2 Additional Traffic Assessment

2.1 Additional modelling scenarios

The existing and future year performance of the intersections of Chapel Road and Jacobs Street with Rickard Road were assessed using SIDRA 8 Isolated Intersection software in the previously prepared TMAP. These intersections were selected as they are adjacent to the proposed site and are expected to experience the largest relative impact as a result of the development given the traffic distribution expected.

A morning (AM) peak hour (8:30am to 9:30am) and an evening (PM) peak hour (4:45pm to 5:45pm) were modelled for the following scenarios in the previous TMAP:

- **Existing Year** – traffic volumes based on traffic surveys commissioned by Arup in September 2018; and
- **Future Year** – traffic volumes from the Bankstown Complete Streets project in 2036 with traffic generated as a result of the development.

Growth rates to the 'Future Year' scenario were based on the modelling report dated 18 April 2019 by GTA Consultants associated with the Bankstown Complete Streets project. This report provides existing (2018) and forecast future (2036) mid-block volumes at key locations in the CBD. Rickard Road (50m west of Chapel Road) was the nearest location to the project and was therefore used for the background growth, with results presented in Table 2.

Table 2: Future mid-block traffic volumes (Rickard Road)

Time period	Existing (2018)			Future (2036)			Growth
	EB	WB	Total	EB	WB	Total	
AM Peak Hour	916	480	1,396	993	439	1,432	+2.5%
PM Peak Hour	928	1144	2,072	787	1000	1,787	-13%

An interim modelling scenario (future 2026 traffic volumes + traffic associated with the development) was developed and assessed based on the request from the Peer Review. A total growth of 2.5% in traffic volumes by 2036 was interpolated to a growth of 1.1% by 2026 for the AM peak hour. Similarly, to the 2036 scenario, no growth has been applied to the PM peak hour, consistent with Bankstown Complete Streets document.

Therefore, the following scenarios were modelled consistent with RMS Modelling Guidelines dated March 2013 requirements which outline opening year in 2026 and the 10-year horizon:

- Existing Base Year 2018 – *previously modelled*
- Interim Base Year 2026 (background growth and no development traffic)
- Interim Development Year 2026 (background growth and with development traffic)
- Future Base Year 2036 (background growth and no development traffic)
- Future Development Year 2036 (background growth and with development traffic) – *previously modelled*

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2.2 Traffic modelling updates

A number of updates have been made to the SIDRA models presented in the TMAP (i.e. the intersection of Chapel Road and Jacobs Street with Rickard Road). A summary of the comments presented in the peer review that have been addressed in the updated models is provided in Table 3.

Table 3: Peer review comments addressed in SIDRA model updates

No.	Peer Review Comment	Arup Response
Intersection Level		
1	The right turn bay from Rickard Road (east leg) into Jacobs Street (north leg) in the SIDRA model is shorter than the existing. The existing right-turn lane is approximately 70m in length. This right-turn lane has been modelled as 35m.	Modelling updated – geometry modified in SIDRA.
2	The left turn from Jacobs Street (south leg) into Rickard Road (west leg) in the westbound direction is a give way slip lane. This give way slip lane has been coded as a signalised left turn in the SIDRA model.	Modelling updated – geometry modified in SIDRA.
3	The peak flow period of 60 minutes has been modelled while the maximum peak flow period is 30 minutes. Peak flow period should reflect the intersection count data and any variation should be justified and documented based on RMS modelling guidelines.	Modelling updated – peak flow factor adjusted to 60 minutes in SIDRA.
4	The speed limit on the south approach to the Chapel Road/Rickard Road intersection is 40km/h, while the SIDRA model shows it is coded as 60 km/h.	Modelling updated – speed limits modified in SIDRA.
5	The speed limit of Jacobs Street is incorrect. The speed limit on Jacobs Street is 50km/h and 40 km/h on the north and south approach to the Rickard Road/Jacobs Street intersection respectively.	Modelling updated – speed limits modified in SIDRA.
6	The modelled traffic signals at the intersection of Rickard Road/Chapel Road do not replicate the existing signal phasing configuration (i.e. missing filtered right-turn in the modelled B phase) and phasing sequence.	Modelling updated – phasing modified in SIDRA.
7	The modelled traffic signals at the intersection of Rickard Road/Jacobs Street do not replicate the existing signals phasing configuration (i.e. B phase and C phase has been modelled as a split phase, but the traffic control signal plan indicates that these movements run under D phase, which is not a split phase) and phasing sequence.	No updates made – models confirmed to already reflect correct TCS phasing.
8	Pedestrian protection (i.e. 5-7 seconds delay for vehicles turning left) has not been modelled which results in an overestimation of intersection capacity.	No updates made – intersections have been modelled with priority settings so that traffic movements give way to pedestrians as per the RMS Modelling Guidelines.
9	The SIDRA default pedestrian walking speed of 1.3m/s has been used. Pedestrian walking speed should be adjusted to 1.2 m/s based on RMS modelling guidelines.	Modelling updated – walking speed adjusted to 1.2m/s in SIDRA.
10	The default peak flow factor has been changed from 95% to 100%. Any variation should be justified.	SIDRA forces 100% peak flow factor when the peak flow period is the same as the maximum peak flow period (60 minutes – the change made as per comment 3). No modification is required.

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No.	Peer Review Comment	Arup Response
11	The default pedestrian volume of 50 pedestrians/hour has been used for these intersections. It is expected that the actual pedestrian volumes may be higher due to the shopping centre and community services in the vicinity of the study area.	Modelling updated – modified SIDRA with actual pedestrian flows taken from surveys undertaken in March 2020.
Network level		
1	The timing option for modelling the existing condition should be set as "user given phase time" while it is modelled as "Practical Cycle Time" which is not acceptable.	Modelling updated – timing option set as "User Given Cycle Time" in SIDRA given variability in phasing.
2	Modelled AM and PM peak signals phasing configuration is the same as in SCATS but cycle and phases times are different due to adopting "practical cycle time" instead of "user given phase time".	Modelling updated – timing option set as "User Given Cycle Time" in SIDRA.
3	50 seconds cycle time is not the actual cycle time for these intersections during peak periods.	Modelling updated – cycle times adjusted to 90 seconds in SIDRA as observed.
4	The network peak flow period is set up as 30 minutes while peak flow period is set up as 60 minutes at intersection level which are not consistent.	Modelling updated – network peak flow period now set to 60 minutes in SIDRA.
5	The proposed WSU Bankstown Campus is located between the two modelled intersections. The model has not included the two existing driveways (i.e. The Appian Way and Library driveway). Motorists entering and exiting Rickard Road will negatively impact traffic movements along Rickard Road. It is recommended that access to the site and The Appian Way access is included in the traffic modelling assessment.	Modelling updated – now modelled additional intersections in SIDRA. See Section 2.4.
6	There is a high midblock flow difference during both AM peak period. In the AM, the midblock flow difference between the two intersection is up to 147 vehicles/hour, while in the PM the difference is up to 12 vehicles/hour under the existing base case.	Modelling updated – this has been reviewed and confirmed that variances are due to driveway access roads. This has now been updated as noted in item 5 above.
7	The number of lane changes are too high for this small network which results in unrealistic delay calculation	Comments reviewed with no updates required – individual intersection results reported, not the network results. The network has been modelled as per the observed geometry. No further modification to SIDRA undertaken.
8	The modelled queue length is not consistent with the typical queuing condition estimated by Google Maps on the ground during peak periods.	No updates required - modelled queue length is taken as per observations on site which provides improved representations over Google Maps given that it averages travel speeds across a series of days and users, not necessarily traffic queues.

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No.	Peer Review Comment	Arup Response
9	The modelling results are not a good estimation of the current traffic condition on the ground estimated by Google Maps.	As noted in item 8 above, no updates are required as they are based on site observations. .

With these updates, the results remain ultimately unchanged from those previously presented. The results of the updated models are presented below.

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It is important to understand that the traffic capacity of the intersections adjacent to the site as well as the wider road network. This performance of the identified intersections has been assessed in terms of the following three factors for each intersection:

- Degree of Saturation (DoS)
- Average Delay (seconds per vehicle)
- Level of Service (LoS)

In urban areas, the traffic capacity of the major road network is generally a function of the performance of key intersections. This performance is quantified in terms of Level of Service (LoS) and is based on the average delay per vehicle. LoS ranges from A = very good to F = unsatisfactory (see Table 4).

Table 4 Level of service criteria for intersections

Level of Service	Average delay (seconds)	Description
A	Less than 14	Good operation
B	15 to 28	Good with acceptable delays and spare capacity
C	29 to 42	Satisfactory
D	43 to 56	Operating near capacity
E	57 to 70	At capacity. At signals, incidents will cause excessive delays. Roundabouts require other control mode
F	Greater than 71	Unsatisfactory with excessive queuing

Another common measure of intersection performance is the degree of saturation (DoS), which provides an overall measure of the capability of the intersection to accommodate additional traffic. A DoS of 1.0 indicates that an intersection is operating at capacity. The desirable maximum degree of saturation for an intersection is 0.9.

Table 5: Rickard Road / Jacobs Street modelling results

Scenario	AM Peak				PM Peak			
	Delay (s)	LoS	Queue Length (m)	DoS	Delay (s)	LoS	Queue Length (m)	DoS
Existing Base Year	29	C	102	0.69	27	B	112	0.67
Interim Base Year 2026	29	C	103	0.70	27	B	112	0.67
Interim Development Year 2026	30	C	115	0.79	29	C	123	0.74
Future Base Year 2036	33	C	136	0.83	27	B	115	0.68
Future Development Year 2036	29	C	105	0.71	30	C	138	0.80

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Table 6: Rickard Road / Chapel Road modelling results

Scenario	AM Peak				PM Peak			
	Delay (s)	LoS	Queue Length (m)	DoS	Delay (s)	LoS	Queue Length (m)	DoS
Existing Base Year	23	B	79	0.67	26	B	109	0.76
Interim Base Year 2026	23	B	80	0.68	26	B	109	0.76
Interim Development Year 2026	23	B	81	0.69	27	B	115	0.77
Future Base Year 2036	23	B	83	0.69	26	B	114	0.79
Future Development Year 2036	23	B	80	0.68	26	B	113	0.78

From these updated modelling results, it remains that the resulting traffic impacts from the WSU BCC development will have a proportionally negligible impact on the performance of the intersections, which currently, and in the future, operate satisfactorily.

2.3 Wider traffic assessment

The Peer Review noted that a wider traffic assessment was not conducted across the area. The TMAP considered a robust traffic generation and traffic distribution development scenario, based student current catchment and car parking assessment across the road network. The outlined intersections that the Peer Review noted are provided in Figure 1.



Figure 1: Peer Review distribution comments

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It was noted that no traffic surveys or modelling has been undertaken at the above intersections. The above intersections are circled red, with the surveyed intersections shown in black in the following figure. It is noted that the intersection impacts at the Rickard Road-Jacobs Street intersection could potentially be exacerbated as a result of motorists (egress) wishing to turn back onto Stacey Street, as shown in orange dashed line below.

In line with the recommendation in the Peer Review, the extent of modelled intersections for an existing year scenario (2018) has been increased to include the following signalised intersections:

- Rickard Road / Sir Joseph Banks Street.
- Rickard Road / Kitchener Parade; and
- French Avenue / Chapel Road.

Given the current restrictions imposed by the COVID-19 outbreak, traffic surveys are unlikely to be representative of typical traffic patterns. Therefore, to inform the existing level of traffic on these intersections, SCATS data from September 2018 (the same time period of data collected for the previous models) was used. As such, no intersection count data is available at the priority intersections south of the site, but site observations in 2018 undertaken as part of the TMAP indicated that there was minimal delay at these sites.

These intersections were only modelled for the existing scenario. The results of this are shown in Table 7, Table 8 and Table 9.

Table 7: Rickard Road / Sir Joseph Banks Street modelling results

Time period	AM Peak				PM Peak			
	Delay (s)	LoS	Queue Length (m)	DoS	Delay (s)	LoS	Queue Length (m)	DoS
Existing Base Year	18	B	45	0.77	22	B	91	0.84
Future Base Year 2036	19	B	47	0.79	23	B	97	0.86

Table 8: Rickard Road / Kitchener Parade Street modelling results

Time period	AM Peak				PM Peak			
	Delay (s)	LoS	Queue Length (m)	DoS	Delay (s)	LoS	Queue Length (m)	DoS
Existing Base Year	12	A	56	0.79	23	B	102	0.79
Future Base Year 2036	12.2	A	58	0.80	23	B	107	0.81

Table 9: French Avenue / Chapel Road modelling results

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Time period	AM Peak				PM Peak			
	Delay (s)	LoS	Queue Length (m)	DoS	Delay (s)	LoS	Queue Length (m)	DoS
Existing Base Year	10	A	18	0.32	11	A	34	0.55
Future Base Year 2036	10	A	19	0.33	12	A	39	0.63

The modelling results show that all three modelled intersections are working well within capacity, with minimal delay which reflects site observations undertaken.

The TMAP indicates that peak hour trips from the development are predicted as follows:

- 140 inbound and 51 outbound car trips in the AM peak hour
- 35 inbound and 105 outbound car trips in the PM peak hour

This conservatively assumes that the existing carpark site is not generating any traffic. The traffic volumes at the surrounding intersection approaches and associated increases are noted in Table 10, with locations referenced in Figure 2.

Table 10: Development traffic proportions

Location	AM Peak Hour			PM Peak Hour		
	2018 Directional traffic flow	Estimated Development Traffic	% of base traffic	2018 Directional traffic flow	Estimated Development Traffic	% of base traffic
1. Rickard Road Eastbound (west of Chapel Road)	490	20	4%	760	35	5%
2. Rickard Road Eastbound (east of Jacobs Street)	840	110	13%	960	35	4%
3. Chapel Road Northbound	500	20	4%	550	30	5%
4. Chapel Road Southbound	560	20	4%	610	30	5%
5. Jacobs Street Northbound	230	40	17%	450	45	10%
6. Jacobs Street Southbound	230	20	9%	320	35	11%

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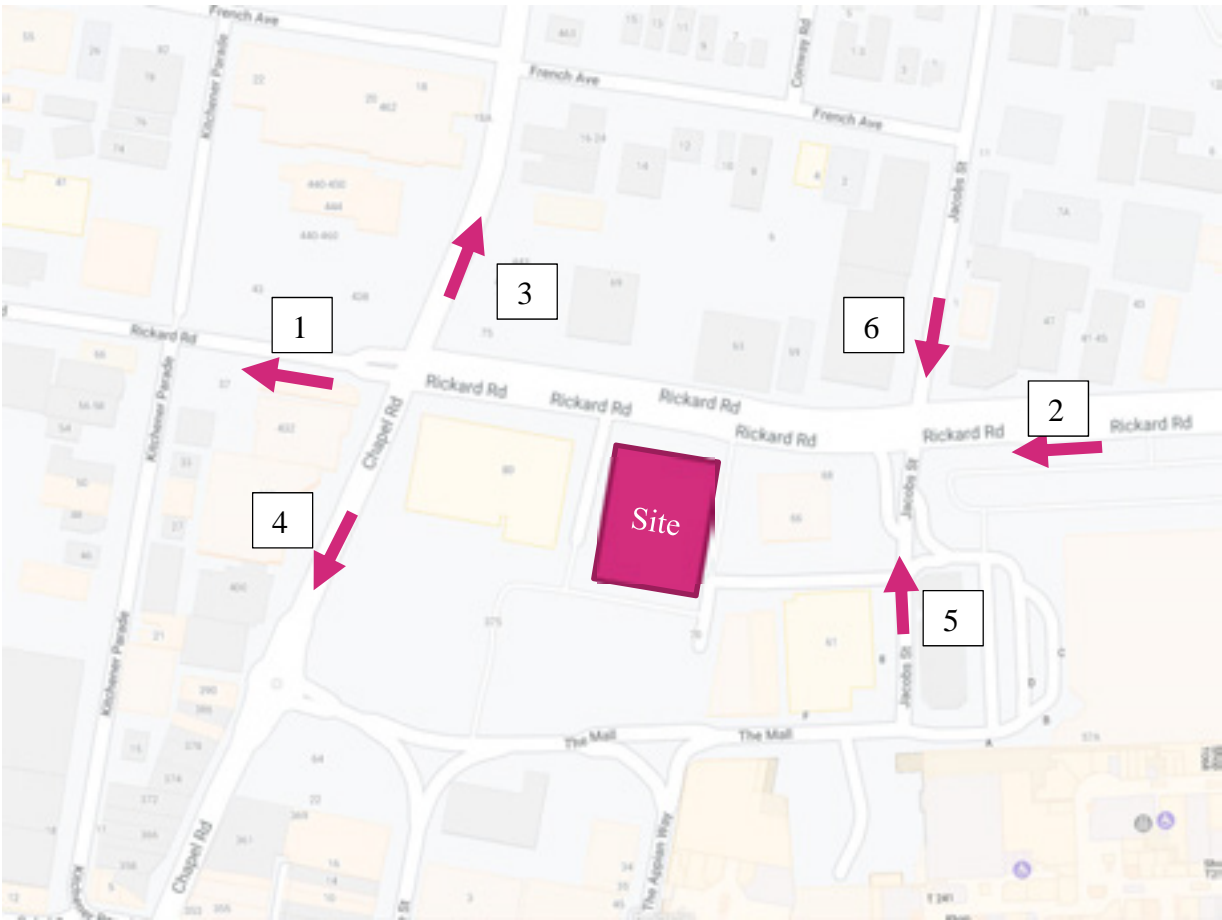


Figure 2: Traffic locations

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Given that the development flows account for approximately 4-5% average additional traffic beyond the two adjacent signalised intersections, the level of development traffic expected to pass through each of the intersections is unlikely to register any noticeable traffic impacts. These traffic flows will distribute into different directions at each of the adjacent intersections into less proportional movement.

This is also reflected in the comment from the Peer Review stating the following:

*“Traffic associated with the proposed development is expected to be diluted due to it being distributed to different turning movements and across a number of local intersections. Therefore, any intersection modelling at the above additional intersections **is unlikely to register any noticeable traffic impacts based on the anticipated development** traffic generated by the proposed development. However, it is recommended that the impacts of the above intersections be assessed and justified accordingly to support the proposed development.”*

2.4 Modelling of laneways on Rickard Road

There are two access roads off Rickard Road: The Appian Way; and the Bankstown Library and Knowledge Centre access. The traffic modelling has been updated to consider the impacts of the development on these existing two access roads.

Traffic counts recorded during a site visit in September 2018 were used to estimate the existing level of traffic on both access roads. The forecast traffic volumes for the future scenarios were calculated in line with the other traffic modelling, using the growth rates outlined in the Bankstown Complete Streets document. The results are shown in Table 11 and Table 12.

Table 11: AM Peak Hour - Access roads off Rickard Road modelling results

Scenario	Library Access				Appian Way			
	Delay (s)	LoS	Queue Length (m)	DoS	Delay (s)	LoS	Queue Length (m)	DoS
Existing Base Year	6	A	1	0.20	5	A	0	0.20
Interim Base Year 2026	6	A	1	0.20	5	A	0	0.20
Interim Development Year 2026	6	A	3	0.21	5	A	0	0.20
Future Base Year 2036	6	A	1	0.20	5	A	0	0.20
Future Development Year 2036	6	A	3	0.22	5	A	0	0.20

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Table 12: PM Peak Hour - Access roads off Rickard Road modelling results

Scenario	Library Access				Appian Way			
	Delay (s)	LoS	Queue Length (m)	DoS	Delay (s)	LoS	Queue Length (m)	DoS
Existing Base Year	6	A	1	0.26	5	A	0	0.26
Interim Base Year 2026	6	A	1	0.26	5	A	0	0.26
Interim Development Year 2026	6	A	3	0.28	5	A	0	0.26
Future Base Year 2036	6	A	1	0.26	5	A	0	0.26
Future Development Year 2036	6	A	3	0.28	5	A	0	0.26

The modelling results show that the growth in traffic both in background and the development will have minimal impact on the performance of these two access roads.

Based on the above analysis and findings from the traffic modelling, the impact of the development on the surrounding road network is relatively low and manageable and can be expected to improve with the draft Bankstown Complete Streets project proposals.

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3 Summary

Walker commissioned Arup to prepare this note which summarises the additional traffic assessment undertaken to satisfy the conditions of the Gateway Determination for the Planning Proposal. This note supplements the Transport Management and Accessibility Plan (TMAP) for the proposed Western Sydney University Bankstown City Campus Development in July 2019.

The Department of Planning Industry and Environment prepared a Gateway Determination letter dated 10 June 2020 which requested the following:

“1. Prior to community consultation, the planning proposal is to be amended to:

(g) provide further traffic modelling as outlined in the ‘Peer Review of Transport and Traffic’ prepared by TTPP, dated 13 September 2019;”

The additional traffic assessment provided in this note has been undertaken to satisfy The Transport Planning Partnership (TTPP) peer review of the TMAP commentary and includes:

- Additional traffic modelling scenarios, including the opening interim year 2026 and all scenarios with and without development traffic;
- Traffic modelling updates to modelling files as per the recommendations;
- A wider traffic assessment including additional intersections across the CBD; and
- Modelling of the access laneways on Rickard Road.

The assessment does not present anything contrary to that previously presented in the TMAP and provides reassurance that the traffic impacts of the development are relatively low and manageable.

DOCUMENT CHECKING (not mandatory for File Note)

	Prepared by	Checked by	Approved by
Name	Sophie Zachulski / Vanessa Ly-Dam	James Turner	James Turner
Signature			

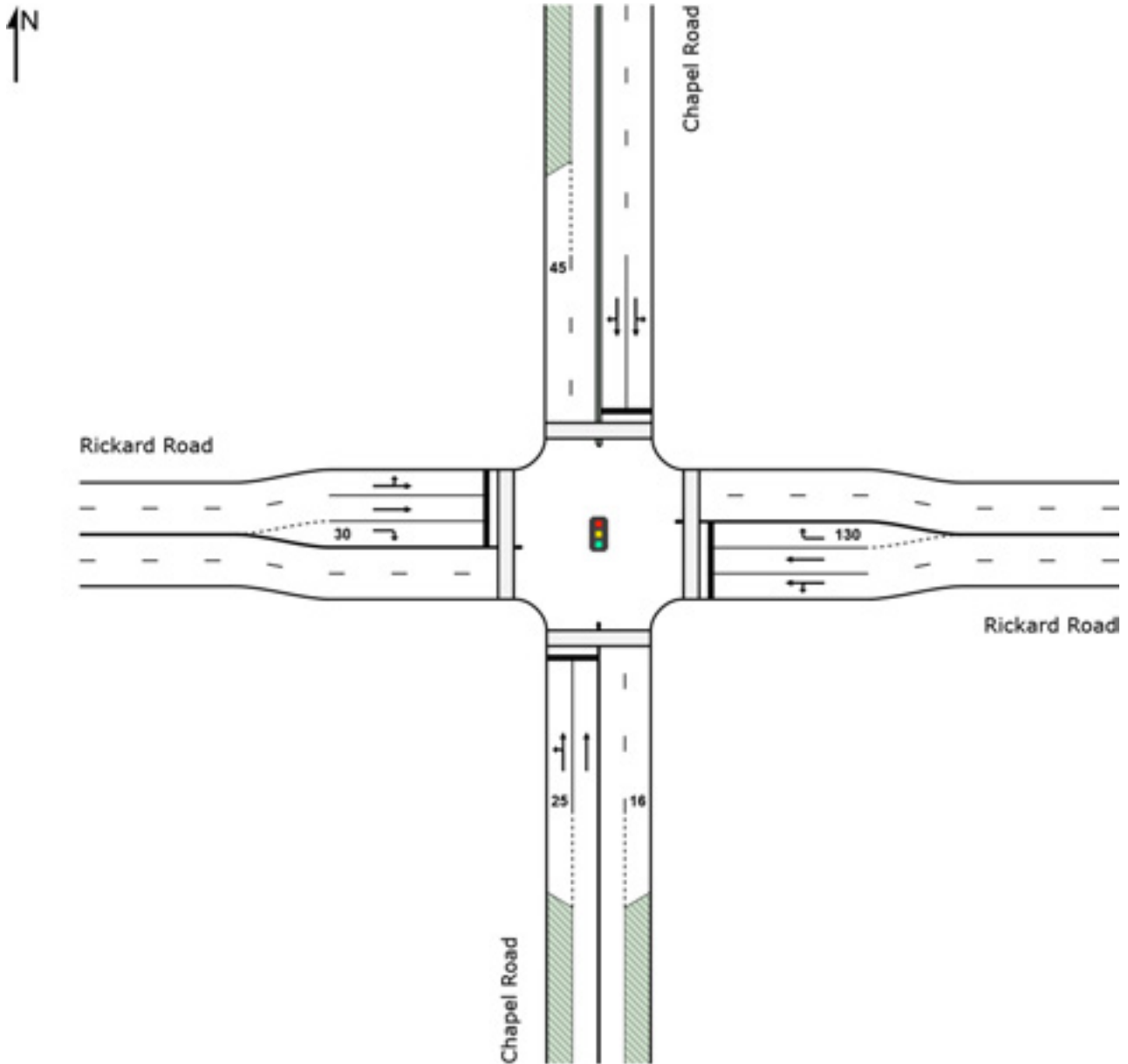
SITE LAYOUT

 Site: [AM_Ex_Rickard Rd_Chapel Rd]

AM Existing

Site Category: (None)

Signals - Fixed Time Isolated



MOVEMENT SUMMARY

 Site: [AM_Ex_Rickard Rd_Chapel Rd]

AM Existing

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 70 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Chapel Road												
1	L2	146	0.0	0.208	11.9	LOS A	2.5	17.2	0.52	0.64	0.52	25.2
2	T1	253	0.8	0.496	22.6	LOS B	7.2	51.1	0.87	0.73	0.87	22.5
Approach		399	0.5	0.496	18.7	LOS B	7.2	51.1	0.74	0.70	0.74	23.3
East: Rickard Road												
4	L2	94	1.1	0.383	28.4	LOS B	5.4	38.0	0.86	0.75	0.86	26.1
5	T1	306	1.3	0.383	22.3	LOS B	5.9	41.8	0.85	0.71	0.85	26.8
6	R2	165	13.9	0.372	24.3	LOS B	4.4	34.8	0.85	0.78	0.85	26.2
Approach		565	5.0	0.383	23.9	LOS B	5.9	41.8	0.85	0.74	0.85	26.5
North: Chapel Road												
7	L2	176	13.6	0.192	14.5	LOS A	3.1	24.0	0.54	0.71	0.54	32.3
8	T1	264	1.1	0.656	25.6	LOS B	9.6	67.8	0.94	0.82	0.97	22.6
9	R2	39	0.0	0.656	31.1	LOS C	9.6	67.8	0.94	0.82	0.97	16.3
Approach		479	5.6	0.656	21.9	LOS B	9.6	67.8	0.79	0.78	0.81	25.3
West: Rickard Road												
10	L2	82	0.0	0.667	30.1	LOS C	11.2	78.6	0.94	0.82	0.96	19.5
11	T1	576	0.5	0.667	24.3	LOS B	11.2	78.6	0.92	0.80	0.95	25.7
12	R2	205	0.5	0.364	19.9	LOS B	4.9	34.3	0.79	0.78	0.79	23.0
Approach		863	0.5	0.667	23.8	LOS B	11.2	78.6	0.89	0.80	0.91	24.6
All Vehicles		2306	2.6	0.667	22.5	LOS B	11.2	78.6	0.83	0.76	0.85	25.0

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.

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

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	108	29.4	LOS C	0.2	0.2	0.92	0.92	
P2	East Full Crossing	93	29.4	LOS C	0.2	0.2	0.92	0.92	
P3	North Full Crossing	66	29.3	LOS C	0.1	0.1	0.92	0.92	
P4	West Full Crossing	90	29.4	LOS C	0.2	0.2	0.92	0.92	
All Pedestrians		357	29.4	LOS C			0.92	0.92	

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: [AM_2026_Rickard Rd_Chapel Rd_Without Dev]**

Interim Without Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 70 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Chapel Road												
1	L2	148	0.0	0.211	11.9	LOS A	2.5	17.5	0.52	0.64	0.52	25.1
2	T1	256	0.8	0.505	22.6	LOS B	7.3	51.8	0.87	0.73	0.87	22.5
Approach		404	0.5	0.505	18.7	LOS B	7.3	51.8	0.74	0.70	0.74	23.3
East: Rickard Road												
4	L2	95	1.1	0.386	28.4	LOS B	5.4	38.4	0.86	0.75	0.86	26.1
5	T1	309	1.3	0.386	22.3	LOS B	6.0	42.3	0.85	0.72	0.85	26.8
6	R2	167	13.8	0.379	24.4	LOS B	4.5	35.4	0.85	0.78	0.85	26.2
Approach		571	4.9	0.386	23.9	LOS B	6.0	42.3	0.85	0.74	0.85	26.5
North: Chapel Road												
7	L2	178	13.5	0.194	14.5	LOS A	3.1	24.2	0.54	0.71	0.54	32.3
8	T1	267	1.1	0.663	25.7	LOS B	9.7	68.8	0.94	0.82	0.98	22.5
9	R2	39	0.0	0.663	31.3	LOS C	9.7	68.8	0.94	0.82	0.98	16.2
Approach		484	5.6	0.663	22.0	LOS B	9.7	68.8	0.80	0.78	0.82	25.3
West: Rickard Road												
10	L2	83	0.0	0.677	30.3	LOS C	11.4	80.4	0.94	0.83	0.97	19.4
11	T1	582	0.5	0.677	24.5	LOS B	11.4	80.4	0.92	0.81	0.96	25.6
12	R2	207	0.5	0.368	20.0	LOS B	4.9	34.8	0.79	0.78	0.79	23.0
Approach		872	0.5	0.677	24.0	LOS B	11.4	80.4	0.89	0.80	0.92	24.5
All Vehicles		2331	2.6	0.677	22.6	LOS B	11.4	80.4	0.84	0.76	0.85	25.0

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.

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

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	109	29.4	LOS C	0.2	0.2	0.92	0.92	
P2	East Full Crossing	94	29.4	LOS C	0.2	0.2	0.92	0.92	
P3	North Full Crossing	67	29.3	LOS C	0.1	0.1	0.92	0.92	
P4	West Full Crossing	91	29.4	LOS C	0.2	0.2	0.92	0.92	
All Pedestrians		361	29.4	LOS C			0.92	0.92	

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:** [AM_2026_Rickard Rd_Chapel Rd_With Dev]

Interim With Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 70 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Chapel Road												
1	L2	148	0.0	0.211	11.9	LOS A	2.5	17.5	0.52	0.64	0.52	25.1
2	T1	256	0.8	0.505	22.6	LOS B	7.3	51.8	0.87	0.73	0.87	22.5
Approach		404	0.5	0.505	18.7	LOS B	7.3	51.8	0.74	0.70	0.74	23.3
East: Rickard Road												
4	L2	97	1.0	0.410	30.2	LOS C	5.4	37.9	0.89	0.76	0.89	25.0
5	T1	311	1.3	0.410	22.9	LOS B	6.4	45.2	0.86	0.72	0.86	26.5
6	R2	169	13.6	0.385	25.0	LOS B	4.6	36.1	0.86	0.78	0.86	25.8
Approach		577	4.9	0.410	24.7	LOS B	6.4	45.2	0.87	0.75	0.87	26.0
North: Chapel Road												
7	L2	178	13.5	0.194	14.5	LOS A	3.1	24.2	0.54	0.71	0.54	32.3
8	T1	267	1.1	0.663	25.7	LOS B	9.7	68.8	0.94	0.82	0.98	22.5
9	R2	39	0.0	0.663	31.3	LOS C	9.7	68.8	0.94	0.82	0.98	16.2
Approach		484	5.6	0.663	22.0	LOS B	9.7	68.8	0.80	0.78	0.82	25.3
West: Rickard Road												
10	L2	83	0.0	0.689	30.7	LOS C	11.6	81.3	0.95	0.84	0.99	19.2
11	T1	582	0.5	0.689	24.8	LOS B	11.6	81.3	0.92	0.82	0.97	25.4
12	R2	207	0.5	0.386	21.5	LOS B	5.2	36.5	0.82	0.78	0.82	22.0
Approach		872	0.5	0.689	24.6	LOS B	11.6	81.3	0.90	0.81	0.94	24.1
All Vehicles		2337	2.6	0.689	23.1	LOS B	11.6	81.3	0.84	0.77	0.86	24.7

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.

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

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	349	29.7	LOS C	0.6	0.6	0.93	0.93	
P2	East Full Crossing	334	29.7	LOS C	0.6	0.6	0.93	0.93	
P3	North Full Crossing	115	29.4	LOS C	0.2	0.2	0.92	0.92	
P4	West Full Crossing	139	29.4	LOS C	0.3	0.3	0.92	0.92	
All Pedestrians		937	29.6	LOS C			0.93	0.93	

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: [AM_Fu_Rickard Rd_Chapel Rd_Without Dev]**

AM Future Without Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 70 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Chapel Road												
1	L2	150	0.0	0.214	11.9	LOS A	2.5	17.7	0.53	0.64	0.53	25.1
2	T1	259	0.8	0.515	22.7	LOS B	7.4	52.5	0.87	0.73	0.87	22.4
Approach		409	0.5	0.515	18.7	LOS B	7.4	52.5	0.75	0.70	0.75	23.3
East: Rickard Road												
4	L2	96	1.0	0.392	28.5	LOS B	5.5	39.0	0.86	0.75	0.86	26.0
5	T1	314	1.3	0.392	22.3	LOS B	6.1	43.0	0.85	0.72	0.85	26.8
6	R2	170	14.1	0.389	25.0	LOS B	4.7	36.5	0.86	0.78	0.86	25.8
Approach		580	5.0	0.392	24.1	LOS B	6.1	43.0	0.86	0.74	0.86	26.3
North: Chapel Road												
7	L2	181	13.8	0.197	14.5	LOS B	3.2	24.8	0.54	0.71	0.54	32.3
8	T1	271	1.1	0.676	26.0	LOS B	10.0	70.6	0.95	0.84	0.99	22.3
9	R2	40	0.0	0.676	31.6	LOS C	10.0	70.6	0.95	0.84	0.99	16.1
Approach		492	5.7	0.676	22.2	LOS B	10.0	70.6	0.80	0.79	0.83	25.1
West: Rickard Road												
10	L2	84	0.0	0.688	30.6	LOS C	11.8	82.6	0.95	0.84	0.98	19.2
11	T1	590	0.5	0.688	24.8	LOS B	11.8	82.6	0.92	0.82	0.97	25.4
12	R2	210	0.5	0.375	20.6	LOS B	5.1	35.9	0.80	0.78	0.80	22.6
Approach		884	0.5	0.688	24.3	LOS B	11.8	82.6	0.90	0.81	0.93	24.3
All Vehicles		2365	2.7	0.688	22.9	LOS B	11.8	82.6	0.84	0.77	0.86	24.8

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.

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

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	111	29.4	LOS C	0.2	0.2	0.92	0.92	
P2	East Full Crossing	95	29.4	LOS C	0.2	0.2	0.92	0.92	
P3	North Full Crossing	68	29.3	LOS C	0.1	0.1	0.92	0.92	
P4	West Full Crossing	92	29.4	LOS C	0.2	0.2	0.92	0.92	
All Pedestrians		366	29.4	LOS C			0.92	0.92	

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:** [AM_Fu_Rickard Rd_Chapel Rd]

AM Future With Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 70 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Chapel Road												
1	L2	146	0.0	0.208	11.9	LOS A	2.5	17.2	0.52	0.64	0.52	25.2
2	T1	253	0.8	0.496	22.6	LOS B	7.2	51.1	0.87	0.73	0.87	22.5
Approach		399	0.5	0.496	18.7	LOS B	7.2	51.1	0.74	0.70	0.74	23.3
East: Rickard Road												
4	L2	106	0.9	0.428	30.4	LOS C	5.6	39.4	0.89	0.77	0.89	24.9
5	T1	318	1.3	0.428	23.0	LOS B	6.7	47.4	0.87	0.73	0.87	26.4
6	R2	177	13.0	0.399	25.0	LOS B	4.8	37.7	0.86	0.78	0.86	25.8
Approach		601	4.7	0.428	24.9	LOS B	6.7	47.4	0.87	0.75	0.87	25.9
North: Chapel Road												
7	L2	176	13.6	0.192	14.5	LOS A	3.1	24.0	0.54	0.71	0.54	32.3
8	T1	264	1.1	0.656	25.6	LOS B	9.6	67.8	0.94	0.82	0.97	22.6
9	R2	39	0.0	0.656	31.1	LOS C	9.6	67.8	0.94	0.82	0.97	16.3
Approach		479	5.6	0.656	21.9	LOS B	9.6	67.8	0.79	0.78	0.81	25.3
West: Rickard Road												
10	L2	82	0.0	0.680	30.4	LOS C	11.3	79.5	0.94	0.83	0.98	19.3
11	T1	576	0.5	0.680	24.6	LOS B	11.3	79.5	0.92	0.81	0.96	25.6
12	R2	205	0.5	0.386	22.1	LOS B	5.2	36.6	0.83	0.78	0.83	21.7
Approach		863	0.5	0.680	24.5	LOS B	11.3	79.5	0.90	0.80	0.93	24.2
All Vehicles		2342	2.6	0.680	23.1	LOS B	11.3	79.5	0.84	0.77	0.86	24.7

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.

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

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	351	29.7	LOS C	0.6	0.6	0.93	0.93	
P2	East Full Crossing	335	29.7	LOS C	0.6	0.6	0.93	0.93	
P3	North Full Crossing	115	29.4	LOS C	0.2	0.2	0.92	0.92	
P4	West Full Crossing	140	29.4	LOS C	0.3	0.3	0.92	0.92	
All Pedestrians		941	29.6	LOS C			0.93	0.93	

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:** [PM_Ex_Rickard Rd_Chapel Rd]

PM Existing

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Chapel Road												
1	L2	160	0.6	0.300	30.5	LOS C	5.5	38.8	0.82	0.75	0.82	16.0
2	T1	229	0.0	0.439	26.2	LOS B	7.9	55.3	0.83	0.69	0.83	20.7
Approach		389	0.3	0.439	28.0	LOS B	7.9	55.3	0.83	0.72	0.83	18.7
East: Rickard Road												
4	L2	137	2.9	0.440	26.1	LOS B	10.7	75.8	0.77	0.72	0.77	27.7
5	T1	561	0.9	0.440	20.1	LOS B	11.2	79.0	0.76	0.68	0.76	28.3
6	R2	263	10.3	0.755	38.1	LOS C	11.5	87.5	0.93	0.91	1.08	20.4
Approach		961	3.7	0.755	25.9	LOS B	11.5	87.5	0.81	0.75	0.85	25.4
North: Chapel Road												
7	L2	234	12.8	0.516	36.5	LOS C	8.9	69.2	0.90	0.81	0.90	20.6
8	T1	345	0.0	0.721	31.8	LOS C	15.6	109.1	0.95	0.85	0.99	19.8
9	R2	37	0.0	0.721	37.4	LOS C	15.6	109.1	0.95	0.85	0.99	14.5
Approach		616	4.9	0.721	33.9	LOS C	15.6	109.1	0.93	0.84	0.96	19.8
West: Rickard Road												
10	L2	53	0.0	0.219	16.1	LOS B	5.0	35.4	0.54	0.52	0.54	29.5
11	T1	412	0.7	0.219	10.8	LOS A	5.2	36.4	0.54	0.48	0.54	37.4
12	R2	126	0.0	0.338	25.5	LOS B	3.9	27.6	0.79	0.77	0.79	19.9
Approach		591	0.5	0.338	14.4	LOS A	5.2	36.4	0.59	0.55	0.59	32.1
All Vehicles		2557	2.7	0.755	25.5	LOS B	15.6	109.1	0.79	0.72	0.81	23.8

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.

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

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	57	39.3	LOS D	0.1	0.1	0.94	0.94	
P2	East Full Crossing	144	39.4	LOS D	0.3	0.3	0.94	0.94	
P3	North Full Crossing	60	39.3	LOS D	0.1	0.1	0.94	0.94	
P4	West Full Crossing	39	39.3	LOS D	0.1	0.1	0.93	0.93	
All Pedestrians		300	39.4	LOS D			0.94	0.94	

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:** [PM_2026_Rickard Rd_Chapel Rd_Without Dev]

PM Interim Without Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Chapel Road												
1	L2	160	0.6	0.300	30.5	LOS C	5.5	38.8	0.82	0.75	0.82	16.0
2	T1	229	0.0	0.439	26.2	LOS B	7.9	55.3	0.83	0.69	0.83	20.7
Approach		389	0.3	0.439	28.0	LOS B	7.9	55.3	0.83	0.72	0.83	18.7
East: Rickard Road												
4	L2	137	2.9	0.440	26.1	LOS B	10.7	75.8	0.77	0.72	0.77	27.7
5	T1	561	0.9	0.440	20.1	LOS B	11.2	79.0	0.76	0.68	0.76	28.3
6	R2	263	10.3	0.755	38.1	LOS C	11.5	87.5	0.93	0.91	1.08	20.4
Approach		961	3.7	0.755	25.9	LOS B	11.5	87.5	0.81	0.75	0.85	25.4
North: Chapel Road												
7	L2	234	12.8	0.516	36.5	LOS C	8.9	69.2	0.90	0.81	0.90	20.6
8	T1	345	0.0	0.721	31.8	LOS C	15.6	109.1	0.95	0.85	0.99	19.8
9	R2	37	0.0	0.721	37.4	LOS C	15.6	109.1	0.95	0.85	0.99	14.5
Approach		616	4.9	0.721	33.9	LOS C	15.6	109.1	0.93	0.84	0.96	19.8
West: Rickard Road												
10	L2	53	0.0	0.219	16.1	LOS B	5.0	35.4	0.54	0.52	0.54	29.5
11	T1	412	0.7	0.219	10.8	LOS A	5.2	36.4	0.54	0.48	0.54	37.4
12	R2	126	0.0	0.338	25.5	LOS B	3.9	27.6	0.79	0.77	0.79	19.9
Approach		591	0.5	0.338	14.4	LOS A	5.2	36.4	0.59	0.55	0.59	32.1
All Vehicles		2557	2.7	0.755	25.5	LOS B	15.6	109.1	0.79	0.72	0.81	23.8

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.

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

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	58	39.3	LOS D	0.1	0.1	0.94	0.94	
P2	East Full Crossing	146	39.4	LOS D	0.4	0.4	0.94	0.94	
P3	North Full Crossing	61	39.3	LOS D	0.1	0.1	0.94	0.94	
P4	West Full Crossing	39	39.3	LOS D	0.1	0.1	0.93	0.93	
All Pedestrians		304	39.4	LOS D			0.94	0.94	

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:** [PM_2026_Rickard Rd_Chapel Rd_With Dev]

PM Interim With Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Chapel Road												
1	L2	160	0.6	0.325	32.3	LOS C	5.7	40.2	0.85	0.76	0.85	15.4
2	T1	229	0.0	0.460	27.1	LOS B	8.0	56.3	0.84	0.70	0.84	20.3
Approach		389	0.3	0.460	29.2	LOS C	8.0	56.3	0.84	0.73	0.84	18.2
East: Rickard Road												
4	L2	145	2.8	0.460	27.7	LOS B	11.0	78.5	0.79	0.74	0.79	26.7
5	T1	569	0.9	0.460	20.7	LOS B	11.8	83.6	0.78	0.69	0.78	27.9
6	R2	271	10.0	0.774	39.4	LOS C	12.2	92.4	0.94	0.92	1.11	19.9
Approach		985	3.7	0.774	26.9	LOS B	12.2	92.4	0.82	0.76	0.87	24.8
North: Chapel Road												
7	L2	234	12.8	0.563	38.5	LOS C	9.2	71.6	0.93	0.82	0.93	19.9
8	T1	345	0.0	0.760	34.8	LOS C	16.4	114.7	0.98	0.90	1.06	18.6
9	R2	37	0.0	0.760	40.4	LOS C	16.4	114.7	0.98	0.90	1.06	13.7
Approach		616	4.9	0.760	36.6	LOS C	16.4	114.7	0.96	0.87	1.01	18.9
West: Rickard Road												
10	L2	53	0.0	0.214	15.6	LOS B	4.9	34.5	0.52	0.51	0.52	30.1
11	T1	412	0.7	0.214	10.2	LOS A	5.0	35.5	0.52	0.47	0.52	38.1
12	R2	126	0.0	0.337	26.4	LOS B	4.0	28.2	0.80	0.78	0.80	19.5
Approach		591	0.5	0.337	14.1	LOS A	5.0	35.5	0.58	0.54	0.58	32.3
All Vehicles		2581	2.7	0.774	26.6	LOS B	16.4	114.7	0.80	0.73	0.83	23.2

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.

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

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	297	39.7	LOS D	0.7	0.7	0.95	0.95
P2	East Full Crossing	384	39.8	LOS D	0.9	0.9	0.95	0.95
P3	North Full Crossing	108	39.4	LOS D	0.3	0.3	0.94	0.94
P4	West Full Crossing	87	39.3	LOS D	0.2	0.2	0.94	0.94
All Pedestrians		876	39.7	LOS D			0.94	0.94

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: [PM_Fu_Rickard Rd_Chapel Rd_Without Dev]**

PM Future Without Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Chapel Road												
1	L2	164	0.6	0.307	30.5	LOS C	5.7	39.9	0.82	0.76	0.82	15.9
2	T1	235	0.0	0.458	26.3	LOS B	8.1	56.9	0.83	0.69	0.83	20.7
Approach		399	0.3	0.458	28.0	LOS B	8.1	56.9	0.83	0.72	0.83	18.6
East: Rickard Road												
4	L2	140	2.9	0.451	26.2	LOS B	11.0	78.1	0.77	0.72	0.77	27.6
5	T1	575	0.9	0.451	20.2	LOS B	11.5	81.4	0.77	0.68	0.77	28.3
6	R2	270	10.4	0.787	40.7	LOS C	12.4	94.5	0.95	0.94	1.15	19.6
Approach		985	3.8	0.787	26.7	LOS B	12.4	94.5	0.82	0.76	0.87	24.9
North: Chapel Road												
7	L2	240	12.9	0.529	36.6	LOS C	9.2	71.4	0.91	0.81	0.91	20.6
8	T1	354	0.0	0.742	32.6	LOS C	16.3	114.3	0.96	0.87	1.02	19.4
9	R2	38	0.0	0.742	38.2	LOS C	16.3	114.3	0.96	0.87	1.02	14.3
Approach		632	4.9	0.742	34.5	LOS C	16.3	114.3	0.94	0.85	0.98	19.6
West: Rickard Road												
10	L2	54	0.0	0.224	16.1	LOS B	5.2	36.4	0.54	0.52	0.54	29.5
11	T1	422	0.7	0.224	10.8	LOS A	5.3	37.4	0.54	0.48	0.54	37.4
12	R2	129	0.0	0.351	26.4	LOS B	4.1	28.8	0.80	0.78	0.80	19.5
Approach		605	0.5	0.351	14.6	LOS B	5.3	37.4	0.60	0.55	0.60	31.9
All Vehicles		2621	2.7	0.787	26.0	LOS B	16.3	114.3	0.80	0.73	0.83	23.5

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.

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

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	58	39.3	LOS D	0.1	0.1	0.94	0.94	
P2	East Full Crossing	147	39.4	LOS D	0.4	0.4	0.94	0.94	
P3	North Full Crossing	62	39.3	LOS D	0.1	0.1	0.94	0.94	
P4	West Full Crossing	40	39.3	LOS D	0.1	0.1	0.93	0.93	
All Pedestrians		307	39.4	LOS D			0.94	0.94	

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:** [PM_Fu_Rickard Rd_Chapel Rd]

PM Future With Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Chapel Road												
1	L2	160	0.6	0.312	31.4	LOS C	5.6	39.5	0.83	0.76	0.83	15.7
2	T1	229	0.0	0.460	27.1	LOS B	8.0	56.3	0.84	0.70	0.84	20.3
Approach		389	0.3	0.460	28.8	LOS C	8.0	56.3	0.84	0.72	0.84	18.3
East: Rickard Road												
4	L2	155	2.6	0.451	25.6	LOS B	11.1	78.9	0.76	0.72	0.76	27.9
5	T1	579	0.9	0.451	19.5	LOS B	11.7	82.6	0.76	0.68	0.76	28.7
6	R2	281	9.6	0.781	39.3	LOS C	12.7	96.1	0.94	0.93	1.12	20.0
Approach		1015	3.5	0.781	25.9	LOS B	12.7	96.1	0.81	0.75	0.86	25.4
North: Chapel Road												
7	L2	234	12.8	0.538	37.5	LOS C	9.1	70.4	0.91	0.82	0.91	20.3
8	T1	345	0.0	0.749	33.7	LOS C	16.1	113.0	0.97	0.89	1.04	19.0
9	R2	37	0.0	0.749	39.3	LOS C	16.1	113.0	0.97	0.89	1.04	14.0
Approach		616	4.9	0.749	35.5	LOS C	16.1	113.0	0.95	0.86	0.99	19.2
West: Rickard Road												
10	L2	53	0.0	0.214	15.6	LOS B	4.9	34.5	0.52	0.51	0.52	30.1
11	T1	412	0.7	0.214	10.2	LOS A	5.0	35.5	0.52	0.47	0.52	38.1
12	R2	126	0.0	0.342	25.6	LOS B	4.0	27.7	0.79	0.78	0.79	19.9
Approach		591	0.5	0.342	14.0	LOS A	5.0	35.5	0.58	0.54	0.58	32.5
All Vehicles		2611	2.7	0.781	25.9	LOS B	16.1	113.0	0.79	0.73	0.82	23.6

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.

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

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	58	39.3	LOS D	0.1	0.1	0.94	0.94	
P2	East Full Crossing	148	39.4	LOS D	0.4	0.4	0.94	0.94	
P3	North Full Crossing	62	39.3	LOS D	0.1	0.1	0.94	0.94	
P4	West Full Crossing	40	39.3	LOS D	0.1	0.1	0.93	0.93	
All Pedestrians		308	39.4	LOS D			0.94	0.94	

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.

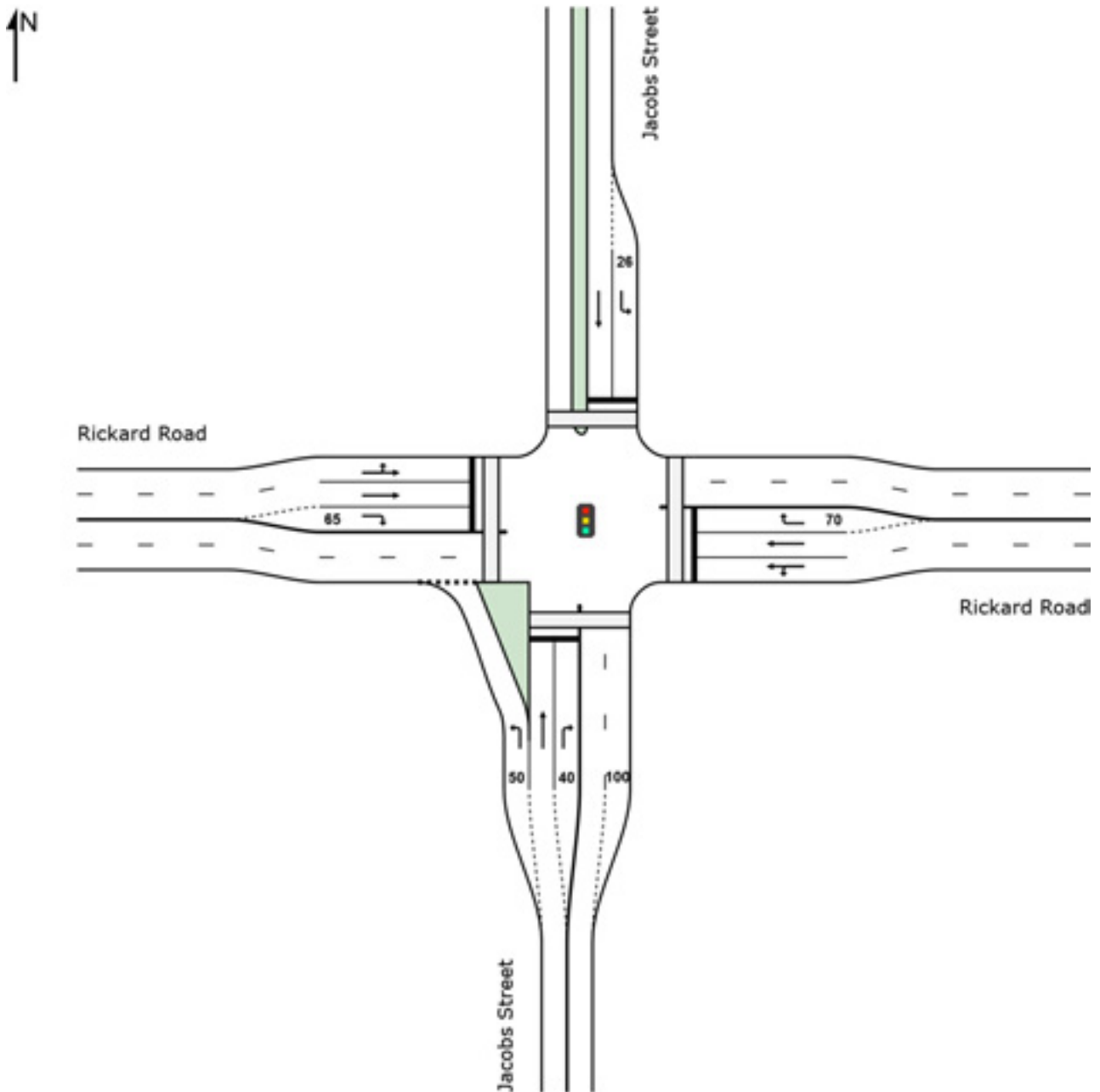
SITE LAYOUT

 Site: [AM_Ex_Rickard Rd_Jacobs St]

AM Existing

Site Category: (None)

Signals - Fixed Time Isolated



MOVEMENT SUMMARY

 Site: [AM_Ex_Rickard Rd_Jacobs St]

AM Existing

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Jacobs Street												
1	L2	105	26.7	0.105	6.2	LOS A	1.1	9.8	0.33	0.53	0.33	35.6
2	T1	40	0.0	0.264	44.5	LOS D	1.8	12.3	0.98	0.71	0.98	25.1
3	R2	87	14.9	0.666	51.3	LOS D	4.1	32.3	1.00	0.85	1.15	13.6
Approach		232	17.7	0.666	29.7	LOS C	4.1	32.3	0.69	0.68	0.75	22.5
East: Rickard Road												
4	L2	86	10.5	0.690	38.7	LOS C	13.6	97.4	0.96	0.84	0.98	19.0
5	T1	607	0.0	0.690	32.9	LOS C	14.5	101.5	0.96	0.83	0.97	24.1
6	R2	150	0.0	0.265	18.9	LOS B	3.4	24.0	0.74	0.75	0.74	39.4
Approach		843	1.1	0.690	31.0	LOS C	14.5	101.5	0.92	0.82	0.93	26.5
North: Jacobs Street												
7	L2	128	0.8	0.195	17.1	LOS B	2.7	19.1	0.73	0.73	0.73	36.8
8	T1	104	0.0	0.282	35.7	LOS C	4.0	28.0	0.90	0.73	0.90	27.5
Approach		232	0.4	0.282	25.4	LOS B	4.0	28.0	0.80	0.73	0.80	32.0
West: Rickard Road												
10	L2	32	0.0	0.475	35.8	LOS C	9.0	62.9	0.89	0.75	0.89	34.3
11	T1	455	0.0	0.475	30.2	LOS C	9.2	64.5	0.89	0.75	0.89	25.4
12	R2	242	10.7	0.514	21.7	LOS B	6.0	45.6	0.87	0.80	0.87	28.2
Approach		729	3.6	0.514	27.7	LOS B	9.2	64.5	0.88	0.77	0.88	26.8
All Vehicles		2036	3.8	0.690	29.0	LOS C	14.5	101.5	0.87	0.77	0.88	26.9

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.

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

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	108	39.4	LOS D	0.3	0.3	0.94	0.94
P2	East Full Crossing	93	39.4	LOS D	0.2	0.2	0.94	0.94
P3	North Full Crossing	66	39.3	LOS D	0.2	0.2	0.94	0.94
P4	West Full Crossing	50	39.3	LOS D	0.1	0.1	0.94	0.94
All Pedestrians		317	39.3	LOS D			0.94	0.94

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:** [AM_2026_Rickard Rd_Jacobs St_Without Dev]

AM Interim Without Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Jacobs Street												
1	L2	106	26.4	0.106	6.4	LOS A	1.2	10.3	0.34	0.54	0.34	35.4
2	T1	40	0.0	0.264	44.5	LOS D	1.8	12.3	0.98	0.71	0.98	25.1
3	R2	88	14.8	0.673	51.4	LOS D	4.1	32.6	1.00	0.86	1.15	13.6
Approach		234	17.5	0.673	29.9	LOS C	4.1	32.6	0.70	0.69	0.76	22.5
East: Rickard Road												
4	L2	87	10.3	0.698	38.9	LOS C	13.8	99.1	0.96	0.85	0.99	19.0
5	T1	614	0.0	0.698	33.1	LOS C	14.7	103.2	0.96	0.84	0.98	24.0
6	R2	152	0.0	0.269	19.0	LOS B	3.5	24.3	0.74	0.75	0.74	39.4
Approach		853	1.1	0.698	31.2	LOS C	14.7	103.2	0.92	0.82	0.94	26.5
North: Jacobs Street												
7	L2	129	0.8	0.196	17.1	LOS B	2.7	19.3	0.73	0.73	0.73	36.8
8	T1	105	0.0	0.285	35.7	LOS C	4.0	28.2	0.90	0.73	0.90	27.4
Approach		234	0.4	0.285	25.4	LOS B	4.0	28.2	0.80	0.73	0.80	32.0
West: Rickard Road												
10	L2	32	0.0	0.479	35.8	LOS C	9.1	63.6	0.89	0.75	0.89	34.3
11	T1	460	0.0	0.479	30.3	LOS C	9.3	65.3	0.89	0.75	0.89	25.4
12	R2	244	10.7	0.520	22.0	LOS B	6.0	46.0	0.88	0.80	0.88	28.0
Approach		736	3.5	0.520	27.8	LOS B	9.3	65.3	0.89	0.77	0.89	26.7
All Vehicles		2057	3.7	0.698	29.2	LOS C	14.7	103.2	0.87	0.78	0.89	26.9

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.

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

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	109	39.4	LOS D	0.3	0.3	0.94	0.94
P2	East Full Crossing	94	39.4	LOS D	0.2	0.2	0.94	0.94
P3	North Full Crossing	67	39.3	LOS D	0.2	0.2	0.94	0.94
P4	West Full Crossing	91	39.3	LOS D	0.2	0.2	0.94	0.94
All Pedestrians		361	39.4	LOS D			0.94	0.94

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:** [AM_2026_Rickard Rd_Jacobs St_With Dev]

AM Interim With Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Jacobs Street												
1	L2	115	24.3	0.116	6.7	LOS A	1.4	11.6	0.36	0.55	0.36	35.3
2	T1	40	0.0	0.308	46.0	LOS D	1.8	12.5	0.99	0.72	0.99	24.6
3	R2	88	14.8	0.786	54.9	LOS D	4.3	34.1	1.00	0.96	1.36	13.0
Approach		243	16.9	0.786	30.6	LOS C	4.3	34.1	0.69	0.72	0.83	22.2
East: Rickard Road												
4	L2	87	10.3	0.746	42.0	LOS C	14.9	106.5	0.98	0.89	1.06	17.9
5	T1	647	0.0	0.746	35.3	LOS C	16.4	114.9	0.98	0.89	1.05	23.1
6	R2	152	0.0	0.279	19.6	LOS B	3.6	25.0	0.75	0.75	0.75	39.0
Approach		886	1.0	0.746	33.3	LOS C	16.4	114.9	0.94	0.86	1.00	25.5
North: Jacobs Street												
7	L2	129	0.8	0.203	17.9	LOS B	2.9	20.2	0.74	0.73	0.74	36.3
8	T1	105	0.0	0.255	33.7	LOS C	3.9	27.3	0.87	0.72	0.87	28.1
Approach		234	0.4	0.255	25.0	LOS B	3.9	27.3	0.80	0.72	0.80	32.2
West: Rickard Road												
10	L2	32	0.0	0.479	35.8	LOS C	9.1	63.6	0.89	0.75	0.89	34.3
11	T1	460	0.0	0.479	30.3	LOS C	9.3	65.3	0.89	0.75	0.89	25.4
12	R2	244	10.7	0.561	23.3	LOS B	6.2	47.2	0.92	0.81	0.92	27.2
Approach		736	3.5	0.561	28.2	LOS B	9.3	65.3	0.90	0.77	0.90	26.5
All Vehicles		2099	3.7	0.786	30.3	LOS C	16.4	114.9	0.88	0.80	0.92	26.3

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.

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

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	349	39.8	LOS D	0.8	0.8	0.95	0.95
P2	East Full Crossing	334	39.8	LOS D	0.8	0.8	0.95	0.95
P3	North Full Crossing	115	39.4	LOS D	0.3	0.3	0.94	0.94
P4	West Full Crossing	139	39.4	LOS D	0.3	0.3	0.94	0.94
All Pedestrians		937	39.7	LOS D			0.94	0.94

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:** [AM_Fu_Rickard Rd_Jacobs St_Without Dev]

AM Future Without Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Jacobs Street												
1	L2	108	26.9	0.109	6.4	LOS A	1.2	10.6	0.34	0.54	0.34	35.3
2	T1	41	0.0	0.270	44.6	LOS D	1.8	12.6	0.98	0.72	0.98	25.0
3	R2	89	14.6	0.680	51.5	LOS D	4.2	33.0	1.00	0.86	1.16	13.6
Approach		238	17.6	0.680	29.9	LOS C	4.2	33.0	0.70	0.69	0.76	22.5
East: Rickard Road												
4	L2	88	10.2	0.706	39.2	LOS C	14.1	101.0	0.96	0.85	1.00	18.9
5	T1	622	0.0	0.706	33.4	LOS C	15.0	105.3	0.96	0.85	0.99	23.9
6	R2	154	0.0	0.274	19.0	LOS B	3.5	24.7	0.74	0.75	0.74	39.4
Approach		864	1.0	0.706	31.4	LOS C	15.0	105.3	0.92	0.83	0.95	26.4
North: Jacobs Street												
7	L2	131	0.8	0.199	17.1	LOS B	2.8	19.6	0.73	0.73	0.73	36.8
8	T1	107	0.0	0.290	35.7	LOS C	4.1	28.8	0.90	0.73	0.90	27.4
Approach		238	0.4	0.290	25.5	LOS B	4.1	28.8	0.81	0.73	0.81	32.0
West: Rickard Road												
10	L2	33	0.0	0.486	35.9	LOS C	9.2	64.6	0.89	0.76	0.89	34.3
11	T1	466	0.0	0.486	30.3	LOS C	9.5	66.4	0.89	0.75	0.89	25.4
12	R2	248	10.9	0.532	22.1	LOS B	6.1	46.9	0.89	0.81	0.89	27.9
Approach		747	3.6	0.532	27.9	LOS B	9.5	66.4	0.89	0.77	0.89	26.7
All Vehicles		2087	3.8	0.706	29.3	LOS C	15.0	105.3	0.87	0.78	0.89	26.8

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.

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

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	111	39.4	LOS D	0.3	0.3	0.94	0.94
P2	East Full Crossing	95	39.4	LOS D	0.2	0.2	0.94	0.94
P3	North Full Crossing	68	39.3	LOS D	0.2	0.2	0.94	0.94
P4	West Full Crossing	92	39.4	LOS D	0.2	0.2	0.94	0.94
All Pedestrians		366	39.4	LOS D			0.94	0.94

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:** [AM_Fu_Rickard Rd_Jacobs St]

AM Future

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Jacobs Street												
1	L2	143	19.6	0.142	7.4	LOS A	1.9	15.5	0.39	0.56	0.39	35.2
2	T1	40	0.0	0.231	43.1	LOS D	1.7	12.0	0.96	0.71	0.96	25.4
3	R2	117	11.1	0.765	52.2	LOS D	5.6	43.0	1.00	0.94	1.26	13.5
Approach		300	13.7	0.765	29.6	LOS C	5.6	43.0	0.71	0.73	0.81	22.3
East: Rickard Road												
4	L2	86	10.5	0.832	47.1	LOS D	17.5	125.4	1.00	0.99	1.21	16.5
5	T1	700	0.0	0.832	40.8	LOS C	19.4	135.5	1.00	0.99	1.19	21.2
6	R2	150	0.0	0.291	20.8	LOS B	3.7	25.8	0.77	0.76	0.77	38.3
Approach		936	1.0	0.832	38.1	LOS C	19.4	135.5	0.96	0.95	1.13	23.4
North: Jacobs Street												
7	L2	128	0.8	0.208	17.9	LOS B	2.8	19.6	0.75	0.73	0.75	36.3
8	T1	104	0.0	0.253	33.7	LOS C	3.9	27.1	0.87	0.72	0.87	28.1
Approach		232	0.4	0.253	24.9	LOS B	3.9	27.1	0.81	0.73	0.81	32.2
West: Rickard Road												
10	L2	32	0.0	0.496	36.8	LOS C	9.1	63.9	0.90	0.76	0.90	33.9
11	T1	455	0.0	0.496	31.2	LOS C	9.4	65.7	0.90	0.76	0.90	25.0
12	R2	242	10.7	0.603	24.9	LOS B	6.4	49.1	0.94	0.81	0.94	26.3
Approach		729	3.6	0.603	29.3	LOS C	9.4	65.7	0.92	0.78	0.92	25.9
All Vehicles		2197	3.5	0.832	32.7	LOS C	19.4	135.5	0.90	0.84	0.98	25.1

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.

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

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	351	39.8	LOS D	0.9	0.9	0.95	0.95
P2	East Full Crossing	335	39.8	LOS D	0.8	0.8	0.95	0.95
P3	North Full Crossing	116	39.4	LOS D	0.3	0.3	0.94	0.94
P4	West Full Crossing	140	39.4	LOS D	0.3	0.3	0.94	0.94
All Pedestrians		942	39.7	LOS D			0.94	0.94

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:** [PM_Ex_Rickard Rd_Jacobs St]

PM Existing

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Jacobs Street												
1	L2	227	15.4	0.232	7.1	LOS A	3.0	23.9	0.40	0.58	0.40	36.0
2	T1	72	0.0	0.277	39.1	LOS C	2.9	20.6	0.94	0.72	0.94	26.6
3	R2	148	6.1	0.624	45.3	LOS D	6.5	47.8	0.99	0.82	1.03	14.9
Approach		447	9.8	0.624	24.9	LOS B	6.5	47.8	0.68	0.68	0.70	24.9
East: Rickard Road												
4	L2	91	9.9	0.665	34.3	LOS C	15.1	108.1	0.92	0.81	0.92	20.8
5	T1	722	0.0	0.665	28.6	LOS C	16.0	111.9	0.92	0.80	0.92	26.1
6	R2	142	0.0	0.389	24.2	LOS B	4.0	28.1	0.82	0.76	0.82	36.3
Approach		955	0.9	0.665	28.5	LOS B	16.0	111.9	0.91	0.80	0.91	27.5
North: Jacobs Street												
7	L2	236	0.0	0.545	23.3	LOS B	6.2	43.1	0.93	0.80	0.93	33.6
8	T1	86	0.0	0.209	33.3	LOS C	3.2	22.1	0.86	0.71	0.86	28.3
Approach		322	0.0	0.545	26.0	LOS B	6.2	43.1	0.91	0.78	0.91	32.0
West: Rickard Road												
10	L2	32	0.0	0.410	31.3	LOS C	8.7	60.9	0.83	0.71	0.83	36.5
11	T1	475	0.6	0.410	25.8	LOS B	8.8	62.2	0.83	0.70	0.83	27.7
12	R2	130	24.6	0.559	26.9	LOS B	3.8	31.8	0.92	0.78	0.92	24.9
Approach		637	5.5	0.559	26.3	LOS B	8.8	62.2	0.85	0.72	0.85	27.8
All Vehicles		2361	3.7	0.665	26.9	LOS B	16.0	111.9	0.85	0.75	0.85	27.9

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.

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

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	57	39.3	LOS D	0.1	0.1	0.94	0.94
P2	East Full Crossing	144	39.4	LOS D	0.3	0.3	0.94	0.94
P3	North Full Crossing	60	39.3	LOS D	0.1	0.1	0.94	0.94
P4	West Full Crossing	39	39.3	LOS D	0.1	0.1	0.93	0.93
All Pedestrians		300	39.4	LOS D			0.94	0.94

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:** [PM_2026_Rickard Rd_Jacobs St_Without Dev]

PM Interim Without Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Jacobs Street												
1	L2	227	15.4	0.232	7.1	LOS A	3.0	23.9	0.40	0.58	0.40	36.0
2	T1	72	0.0	0.277	39.1	LOS C	2.9	20.6	0.94	0.72	0.94	26.6
3	R2	148	6.1	0.624	45.3	LOS D	6.5	47.8	0.99	0.82	1.03	14.9
Approach		447	9.8	0.624	24.9	LOS B	6.5	47.8	0.68	0.68	0.70	24.9
East: Rickard Road												
4	L2	91	9.9	0.665	34.3	LOS C	15.1	108.1	0.92	0.81	0.92	20.8
5	T1	722	0.0	0.665	28.6	LOS C	16.0	111.9	0.92	0.80	0.92	26.1
6	R2	142	0.0	0.389	24.2	LOS B	4.0	28.1	0.82	0.76	0.82	36.3
Approach		955	0.9	0.665	28.5	LOS B	16.0	111.9	0.91	0.80	0.91	27.5
North: Jacobs Street												
7	L2	236	0.0	0.545	23.3	LOS B	6.2	43.1	0.93	0.80	0.93	33.6
8	T1	86	0.0	0.209	33.3	LOS C	3.2	22.1	0.86	0.71	0.86	28.3
Approach		322	0.0	0.545	26.0	LOS B	6.2	43.1	0.91	0.78	0.91	32.0
West: Rickard Road												
10	L2	32	0.0	0.410	31.3	LOS C	8.7	60.9	0.83	0.71	0.83	36.5
11	T1	475	0.6	0.410	25.8	LOS B	8.8	62.2	0.83	0.70	0.83	27.7
12	R2	130	24.6	0.559	26.9	LOS B	3.8	31.8	0.92	0.78	0.92	24.9
Approach		637	5.5	0.559	26.3	LOS B	8.8	62.2	0.85	0.72	0.85	27.8
All Vehicles		2361	3.7	0.665	26.9	LOS B	16.0	111.9	0.85	0.75	0.85	27.9

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.

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

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	58	39.3	LOS D	0.1	0.1	0.94	0.94
P2	East Full Crossing	146	39.4	LOS D	0.4	0.4	0.94	0.94
P3	North Full Crossing	61	39.3	LOS D	0.1	0.1	0.94	0.94
P4	West Full Crossing	40	39.3	LOS D	0.1	0.1	0.93	0.93
All Pedestrians		305	39.4	LOS D			0.94	0.94

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:** [PM_2026_Rickard Rd_Jacobs St_With Dev]

PM Interim With Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Jacobs Street												
1	L2	229	15.3	0.231	7.4	LOS A	3.2	25.1	0.41	0.58	0.41	35.7
2	T1	72	0.0	0.302	40.2	LOS C	3.0	20.9	0.95	0.73	0.95	26.3
3	R2	148	6.1	0.680	47.2	LOS D	6.7	49.2	1.00	0.86	1.10	14.5
Approach		449	9.8	0.680	25.8	LOS B	6.7	49.2	0.69	0.70	0.73	24.5
East: Rickard Road												
4	L2	91	9.9	0.736	38.6	LOS C	16.2	115.8	0.96	0.87	1.02	19.1
5	T1	730	0.0	0.736	32.4	LOS C	17.6	123.4	0.96	0.87	1.01	24.4
6	R2	142	0.0	0.350	23.0	LOS B	3.8	26.8	0.81	0.76	0.81	36.9
Approach		963	0.9	0.736	31.6	LOS C	17.6	123.4	0.94	0.85	0.98	26.0
North: Jacobs Street												
7	L2	236	0.0	0.497	22.3	LOS B	6.0	42.3	0.90	0.80	0.90	34.1
8	T1	86	0.0	0.209	33.3	LOS C	3.2	22.1	0.86	0.71	0.86	28.3
Approach		322	0.0	0.497	25.2	LOS B	6.0	42.3	0.89	0.77	0.89	32.3
West: Rickard Road												
10	L2	32	0.0	0.440	33.1	LOS C	9.0	63.0	0.86	0.73	0.86	35.6
11	T1	475	0.6	0.440	27.6	LOS B	9.2	64.5	0.86	0.72	0.86	26.8
12	R2	130	24.6	0.487	26.3	LOS B	3.6	30.2	0.93	0.78	0.93	25.2
Approach		637	5.5	0.487	27.6	LOS B	9.2	64.5	0.87	0.74	0.87	27.1
All Vehicles		2371	3.7	0.736	28.6	LOS C	17.6	123.4	0.87	0.78	0.89	27.1

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.

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

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	297	39.7	LOS D	0.7	0.7	0.95	0.95
P2	East Full Crossing	384	39.8	LOS D	0.9	0.9	0.95	0.95
P3	North Full Crossing	108	39.4	LOS D	0.3	0.3	0.94	0.94
P4	West Full Crossing	87	39.3	LOS D	0.2	0.2	0.94	0.94
All Pedestrians		876	39.7	LOS D			0.94	0.94

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: [PM_Fu_Rickard Rd_Jacobs St_Without Dev]**

PM Future Without Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Jacobs Street												
1	L2	233	15.5	0.239	7.4	LOS A	3.2	25.7	0.41	0.58	0.41	35.6
2	T1	74	0.0	0.285	39.1	LOS C	3.0	21.2	0.94	0.72	0.94	26.6
3	R2	151	6.0	0.636	45.5	LOS D	6.6	48.9	1.00	0.83	1.05	14.9
Approach		458	9.8	0.636	25.1	LOS B	6.6	48.9	0.69	0.69	0.71	24.8
East: Rickard Road												
4	L2	93	9.7	0.681	34.5	LOS C	15.6	111.5	0.93	0.81	0.93	20.7
5	T1	740	0.0	0.681	28.8	LOS C	16.5	115.4	0.93	0.81	0.93	26.0
6	R2	146	0.0	0.405	24.2	LOS B	4.1	29.0	0.82	0.76	0.82	36.3
Approach		979	0.9	0.681	28.7	LOS C	16.5	115.4	0.91	0.80	0.91	27.4
North: Jacobs Street												
7	L2	242	0.0	0.558	23.4	LOS B	6.3	44.4	0.93	0.80	0.93	33.5
8	T1	88	0.0	0.214	33.3	LOS C	3.2	22.7	0.87	0.71	0.87	28.2
Approach		330	0.0	0.558	26.0	LOS B	6.3	44.4	0.91	0.78	0.91	32.0
West: Rickard Road												
10	L2	33	0.0	0.420	31.5	LOS C	8.9	62.7	0.83	0.71	0.83	36.4
11	T1	487	0.6	0.420	25.9	LOS B	9.1	64.1	0.83	0.71	0.83	27.7
12	R2	133	24.8	0.582	27.4	LOS B	3.9	32.8	0.94	0.79	0.95	24.6
Approach		653	5.5	0.582	26.5	LOS B	9.1	64.1	0.85	0.72	0.86	27.7
All Vehicles		2420	3.7	0.681	27.0	LOS B	16.5	115.4	0.85	0.76	0.86	27.8

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.

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

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	58	39.3	LOS D	0.1	0.1	0.94	0.94
P2	East Full Crossing	148	39.4	LOS D	0.4	0.4	0.94	0.94
P3	North Full Crossing	62	39.3	LOS D	0.1	0.1	0.94	0.94
P4	West Full Crossing	40	39.3	LOS D	0.1	0.1	0.93	0.93
All Pedestrians		308	39.4	LOS D			0.94	0.94

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: [PM_Fu_Rickard Rd_Jacobs St]**

PM Future With Development

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Jacobs Street												
1	L2	259	13.5	0.262	7.8	LOS A	3.8	30.0	0.44	0.60	0.44	35.4
2	T1	72	0.0	0.277	39.1	LOS C	2.9	20.6	0.94	0.72	0.94	26.6
3	R2	178	5.1	0.745	47.9	LOS D	8.2	59.9	1.00	0.91	1.16	14.4
Approach		509	8.6	0.745	26.3	LOS B	8.2	59.9	0.70	0.72	0.76	24.1
East: Rickard Road												
4	L2	91	9.9	0.799	41.8	LOS C	19.0	135.3	0.99	0.94	1.11	18.1
5	T1	790	0.0	0.799	35.4	LOS C	19.8	138.3	0.98	0.93	1.10	23.1
6	R2	142	0.0	0.368	23.8	LOS B	3.9	27.5	0.82	0.76	0.82	36.5
Approach		1023	0.9	0.799	34.4	LOS C	19.8	138.3	0.96	0.91	1.06	24.7
North: Jacobs Street												
7	L2	236	0.0	0.520	22.6	LOS B	6.0	42.3	0.91	0.80	0.91	33.9
8	T1	86	0.0	0.209	33.3	LOS C	3.2	22.1	0.86	0.71	0.86	28.3
Approach		322	0.0	0.520	25.5	LOS B	6.0	42.3	0.90	0.77	0.90	32.2
West: Rickard Road												
10	L2	32	0.0	0.440	33.1	LOS C	9.0	63.0	0.86	0.73	0.86	35.6
11	T1	475	0.6	0.440	27.6	LOS B	9.2	64.5	0.86	0.72	0.86	26.8
12	R2	130	24.6	0.546	27.8	LOS B	3.7	31.1	0.96	0.79	0.96	24.5
Approach		637	5.5	0.546	27.9	LOS B	9.2	64.5	0.88	0.74	0.88	26.9
All Vehicles		2491	3.5	0.799	29.9	LOS C	19.8	138.3	0.88	0.81	0.93	26.3

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.

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

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	298	39.7	LOS D	0.7	0.7	0.95	0.95
P2	East Full Crossing	388	39.8	LOS D	0.9	0.9	0.95	0.95
P3	North Full Crossing	110	39.4	LOS D	0.3	0.3	0.94	0.94
P4	West Full Crossing	88	39.3	LOS D	0.2	0.2	0.94	0.94
All Pedestrians		884	39.7	LOS D			0.94	0.94

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.

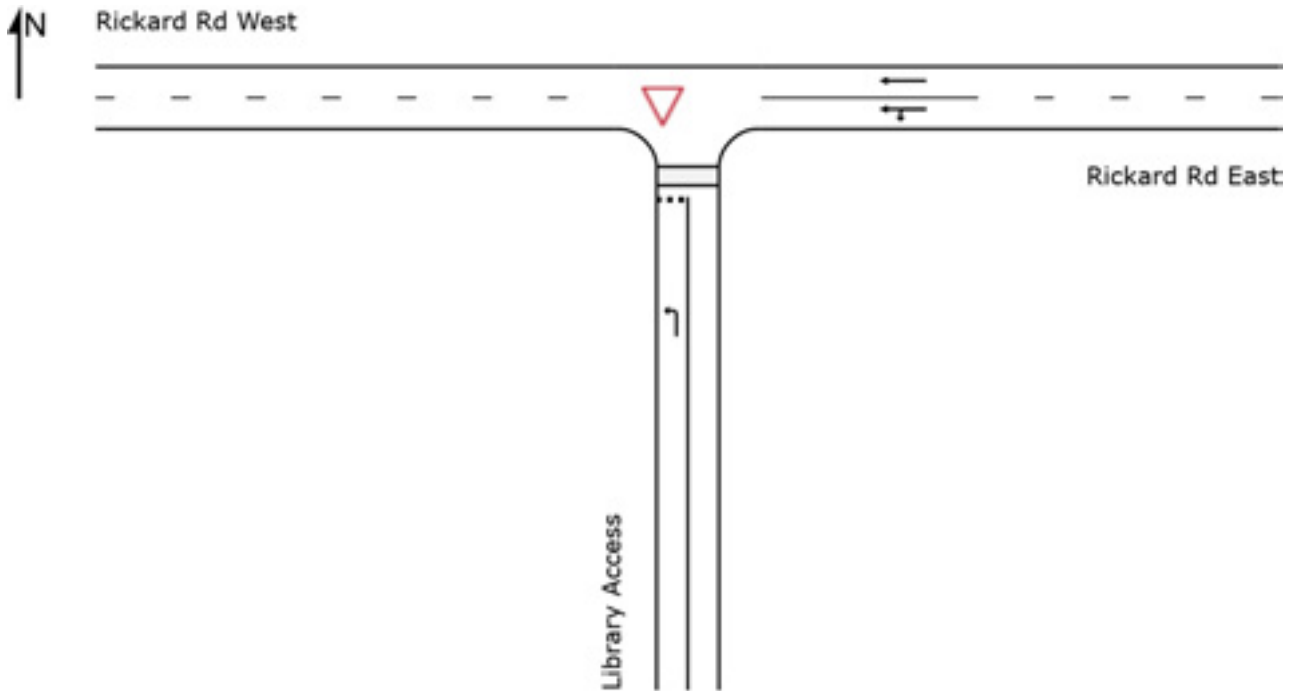
SITE LAYOUT

▽ Site: [2018_Library Access- AM]

Existing

Site Category: (None)

Giveway / Yield (Two-Way)



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Organisation: ARUP PTY LTD | Created: Wednesday, 1 July 2020 11:32:52 AM

Project: \\global.arup.com\australasia\SYD\Projects\263000\263785-00 WSU Bankstown Campus\Work\Internal\Analysis\SIDRA\Rickard Rd_LibraryAndAppian.sip8

MOVEMENT SUMMARY

▽ Site: [2018_Library Access- AM]

Existing
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Library Access												
1	L2	4	0.0	0.004	5.1	LOS A	0.0	0.1	0.39	0.54	0.39	31.2
Approach		4	0.0	0.004	5.1	LOS A	0.0	0.1	0.39	0.54	0.39	31.2
East: Rickard Rd East												
4	L2	13	0.0	0.197	5.8	LOS A	0.1	0.7	0.01	0.02	0.01	48.9
5	T1	751	0.0	0.197	0.0	LOS A	0.1	0.7	0.01	0.01	0.01	59.4
Approach		763	0.0	0.197	0.1	NA	0.1	0.7	0.01	0.01	0.01	59.2
All Vehicles		767	0.0	0.197	0.1	NA	0.1	0.7	0.01	0.01	0.01	59.1

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

MOVEMENT SUMMARY

▽ Site: [2026_Library Access_Without Dev - AM]

Interim Without Development

Site Category: (None)

Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Library Access												
1	L2	4	0.0	0.004	5.1	LOS A	0.0	0.1	0.39	0.54	0.39	31.2
Approach		4	0.0	0.004	5.1	LOS A	0.0	0.1	0.39	0.54	0.39	31.2
East: Rickard Rd East												
4	L2	13	0.0	0.199	5.8	LOS A	0.1	0.7	0.01	0.02	0.01	48.9
5	T1	759	0.0	0.199	0.0	LOS A	0.1	0.7	0.01	0.01	0.01	59.4
Approach		772	0.0	0.199	0.1	NA	0.1	0.7	0.01	0.01	0.01	59.3
All Vehicles		776	0.0	0.199	0.1	NA	0.1	0.7	0.01	0.01	0.01	59.1

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.

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

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

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

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

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

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Organisation: ARUP PTY LTD | Processed: Wednesday, 1 July 2020 11:22:32 AM

Project: \\global.arup.com\australasia\SYD\Projects\263000\263785-00 WSU Bankstown Campus\Work\Internal\Analysis\SIDRA\Rickard Rd_LibraryAndAppian.sip8

MOVEMENT SUMMARY

▽ Site: [2026_Library Access_With Dev - AM]

Interim With Development
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Library Access												
1	L2	6	0.0	0.005	5.0	LOS A	0.0	0.1	0.38	0.54	0.38	31.3
Approach		6	0.0	0.005	5.0	LOS A	0.0	0.1	0.38	0.54	0.38	31.3
East: Rickard Rd East												
4	L2	48	0.0	0.213	5.8	LOS A	0.4	2.7	0.05	0.07	0.05	46.7
5	T1	759	0.0	0.213	0.0	LOS A	0.4	2.7	0.02	0.03	0.02	58.2
Approach		807	0.0	0.213	0.4	NA	0.4	2.7	0.02	0.04	0.02	57.4
All Vehicles		814	0.0	0.213	0.4	NA	0.4	2.7	0.02	0.04	0.02	57.2

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

MOVEMENT SUMMARY

▽ Site: [2036_Library Access_Without Dev - AM]

Future Without Development
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Library Access												
1	L2	4	0.0	0.004	5.1	LOS A	0.0	0.1	0.40	0.54	0.40	31.2
Approach		4	0.0	0.004	5.1	LOS A	0.0	0.1	0.40	0.54	0.40	31.2
East: Rickard Rd East												
4	L2	13	0.0	0.202	5.8	LOS A	0.1	0.7	0.01	0.02	0.01	48.9
5	T1	769	0.0	0.202	0.0	LOS A	0.1	0.7	0.01	0.01	0.01	59.4
Approach		782	0.0	0.202	0.1	NA	0.1	0.7	0.01	0.01	0.01	59.3
All Vehicles		786	0.0	0.202	0.1	NA	0.1	0.7	0.01	0.01	0.01	59.1

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

MOVEMENT SUMMARY

▽ Site: [2036_Library Access_With Dev - AM]

Future With Development
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Library Access												
1	L2	6	0.0	0.005	5.0	LOS A	0.0	0.1	0.38	0.54	0.38	31.3
Approach		6	0.0	0.005	5.0	LOS A	0.0	0.1	0.38	0.54	0.38	31.3
East: Rickard Rd East												
4	L2	48	0.0	0.215	5.8	LOS A	0.4	2.7	0.04	0.07	0.04	46.8
5	T1	769	0.0	0.215	0.0	LOS A	0.4	2.7	0.02	0.03	0.02	58.2
Approach		818	0.0	0.215	0.4	NA	0.4	2.7	0.02	0.03	0.02	57.4
All Vehicles		824	0.0	0.215	0.4	NA	0.4	2.7	0.02	0.04	0.02	57.2

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

MOVEMENT SUMMARY

▽ Site: [2018_Library Access - PM]

Existing
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Library Access												
1	L2	16	0.0	0.016	5.7	LOS A	0.1	0.4	0.46	0.61	0.46	30.2
Approach		16	0.0	0.016	5.7	LOS A	0.1	0.4	0.46	0.61	0.46	30.2
East: Rickard Rd East												
4	L2	13	0.0	0.261	5.8	LOS A	0.1	0.8	0.01	0.01	0.01	49.1
5	T1	1001	0.0	0.261	0.0	LOS A	0.1	0.8	0.00	0.01	0.00	59.5
Approach		1014	0.0	0.261	0.1	NA	0.1	0.8	0.01	0.01	0.01	59.4
All Vehicles		1029	0.0	0.261	0.2	NA	0.1	0.8	0.01	0.02	0.01	58.8

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

MOVEMENT SUMMARY

▽ Site: [2026_Library Access_Without Dev - PM]

Interim Without Development

Site Category: (None)

Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Library Access												
1	L2	16	0.0	0.016	5.7	LOS A	0.1	0.4	0.46	0.61	0.46	30.2
Approach		16	0.0	0.016	5.7	LOS A	0.1	0.4	0.46	0.61	0.46	30.2
East: Rickard Rd East												
4	L2	13	0.0	0.261	5.8	LOS A	0.1	0.8	0.01	0.01	0.01	49.1
5	T1	1001	0.0	0.261	0.0	LOS A	0.1	0.8	0.00	0.01	0.00	59.5
Approach		1014	0.0	0.261	0.1	NA	0.1	0.8	0.01	0.01	0.01	59.4
All Vehicles		1029	0.0	0.261	0.2	NA	0.1	0.8	0.01	0.02	0.01	58.8

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.

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

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

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

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

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

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Organisation: ARUP PTY LTD | Processed: Wednesday, 1 July 2020 11:26:32 AM

Project: \\global.arup.com\\australasia\\SYD\\Projects\\263000\\263785-00 WSU Bankstown Campus\\Work\\Internal\\Analysis\\SIDRA\\Rickard Rd_LibraryAndAppian.sip8

MOVEMENT SUMMARY

▽ Site: [2026_Library Access_With Dev - PM]

Interim With Development
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Library Access												
1	L2	74	0.0	0.071	5.7	LOS A	0.3	1.9	0.46	0.65	0.46	30.2
Approach		74	0.0	0.071	5.7	LOS A	0.3	1.9	0.46	0.65	0.46	30.2
East: Rickard Rd East												
4	L2	48	0.0	0.275	5.8	LOS A	0.4	2.9	0.04	0.06	0.04	47.4
5	T1	1001	0.0	0.275	0.0	LOS A	0.4	2.9	0.02	0.03	0.02	58.5
Approach		1049	0.0	0.275	0.3	NA	0.4	2.9	0.02	0.03	0.02	58.0
All Vehicles		1123	0.0	0.275	0.6	NA	0.4	2.9	0.05	0.07	0.05	55.7

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

MOVEMENT SUMMARY

▽ Site: [2036_Library Access_Without Dev - PM]

Future Without Development
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Library Access												
1	L2	16	0.0	0.016	5.7	LOS A	0.1	0.4	0.46	0.61	0.46	30.2
Approach		16	0.0	0.016	5.7	LOS A	0.1	0.4	0.46	0.61	0.46	30.2
East: Rickard Rd East												
4	L2	13	0.0	0.261	5.8	LOS A	0.1	0.8	0.01	0.01	0.01	49.1
5	T1	1001	0.0	0.261	0.0	LOS A	0.1	0.8	0.00	0.01	0.00	59.5
Approach		1014	0.0	0.261	0.1	NA	0.1	0.8	0.01	0.01	0.01	59.4
All Vehicles		1029	0.0	0.261	0.2	NA	0.1	0.8	0.01	0.02	0.01	58.8

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

MOVEMENT SUMMARY

▽ Site: [2036_Library Access_With Dev - PM]

Future With Development
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Library Access												
1	L2	74	0.0	0.071	5.7	LOS A	0.3	1.9	0.46	0.65	0.46	30.2
Approach		74	0.0	0.071	5.7	LOS A	0.3	1.9	0.46	0.65	0.46	30.2
East: Rickard Rd East												
4	L2	48	0.0	0.275	5.8	LOS A	0.4	2.9	0.04	0.06	0.04	47.4
5	T1	1001	0.0	0.275	0.0	LOS A	0.4	2.9	0.02	0.03	0.02	58.5
Approach		1049	0.0	0.275	0.3	NA	0.4	2.9	0.02	0.03	0.02	58.0
All Vehicles		1123	0.0	0.275	0.6	NA	0.4	2.9	0.05	0.07	0.05	55.7

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

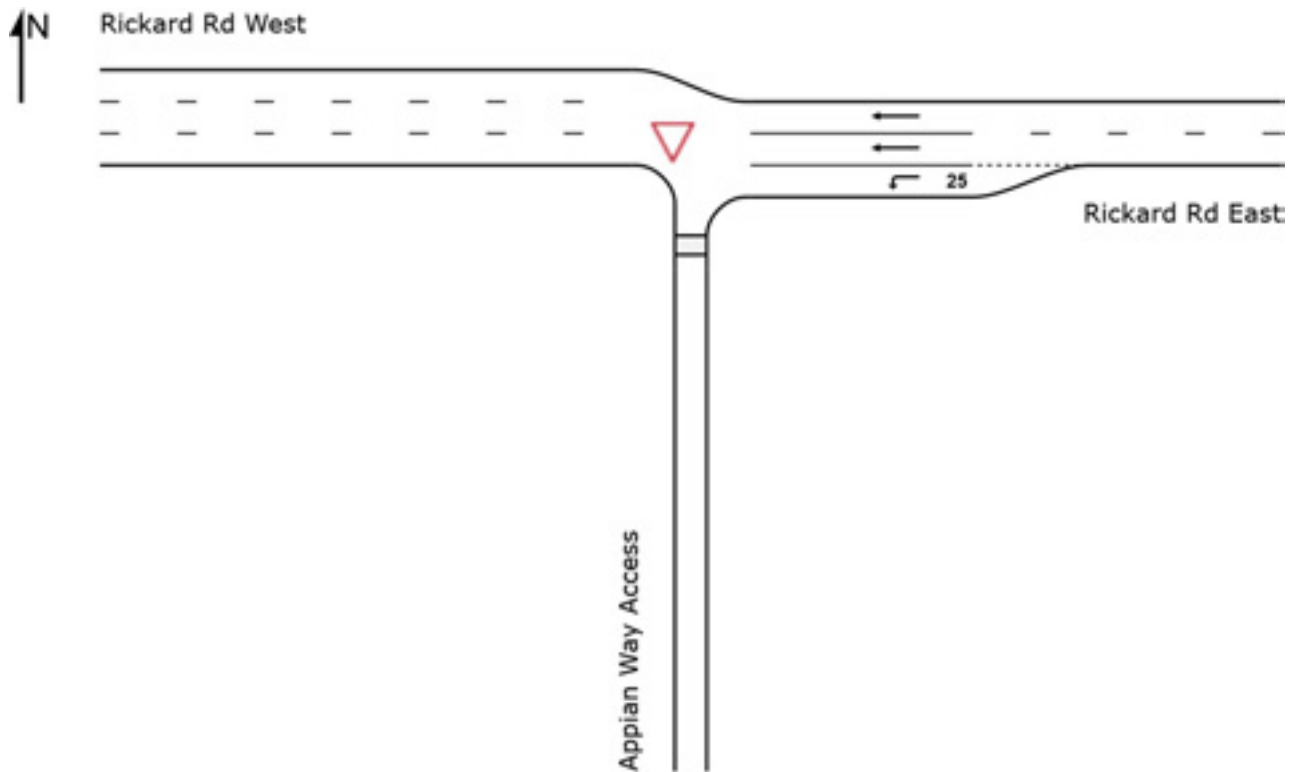
SITE LAYOUT

▽ Site: [2018_Appian Way Access - AM]

Existing

Site Category: (None)

Giveaway / Yield (Two-Way)



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MOVEMENT SUMMARY

▽ Site: [2018_Appian Way Access - AM]

Existing

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Rickard Rd East												
4	L2	76	0.0	0.041	4.7	LOS A	0.0	0.0	0.00	0.57	0.00	32.1
5	T1	751	0.0	0.192	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	43.4
Approach		826	0.0	0.192	3.5	NA	0.0	0.0	0.00	0.52	0.00	42.4
All Vehicles		826	0.0	0.192	3.5	NA	0.0	0.0	0.00	0.52	0.00	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.

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

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

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

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

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

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MOVEMENT SUMMARY

▽ Site: [2026_Appian Way Access_Without Dev - AM]

Interim Without Development
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Rickard Rd East												
4	L2	77	0.0	0.041	4.7	LOS A	0.0	0.0	0.00	0.57	0.00	32.1
5	T1	759	0.0	0.195	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	36.0
Approach		836	0.0	0.195	3.5	NA	0.0	0.0	0.00	0.52	0.00	35.5
All Vehicles		836	0.0	0.195	3.5	NA	0.0	0.0	0.00	0.52	0.00	35.5

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.

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

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

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

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

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

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MOVEMENT SUMMARY

▽ Site: [2026_Appian Way Access_With Dev - AM]

Interim With Development
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Rickard Rd East												
4	L2	113	0.0	0.061	4.7	LOS A	0.0	0.0	0.00	0.57	0.00	32.1
5	T1	759	0.0	0.195	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	36.0
Approach		872	0.0	0.195	3.5	NA	0.0	0.0	0.00	0.52	0.00	35.4
All Vehicles		872	0.0	0.195	3.5	NA	0.0	0.0	0.00	0.52	0.00	35.4

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.

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

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

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

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MOVEMENT SUMMARY

▽ Site: [2036_Appian Way Access_Without Dev - AM]

Future Without Development
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Rickard Rd East												
4	L2	78	0.0	0.042	4.7	LOS A	0.0	0.0	0.00	0.57	0.00	32.1
5	T1	769	0.0	0.197	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	36.0
Approach		847	0.0	0.197	3.5	NA	0.0	0.0	0.00	0.52	0.00	35.5
All Vehicles		847	0.0	0.197	3.5	NA	0.0	0.0	0.00	0.52	0.00	35.5

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.

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

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

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

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

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

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MOVEMENT SUMMARY

▽ Site: [2036_Appian Way Access_With Dev - AM]

Future With Development

Site Category: (None)

Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Rickard Rd East												
4	L2	114	0.0	0.061	4.7	LOS A	0.0	0.0	0.00	0.57	0.00	32.1
5	T1	769	0.0	0.197	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	36.0
Approach		883	0.0	0.197	3.5	NA	0.0	0.0	0.00	0.52	0.00	35.4
All Vehicles		883	0.0	0.197	3.5	NA	0.0	0.0	0.00	0.52	0.00	35.4

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.

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

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

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

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MOVEMENT SUMMARY

▽ Site: [2018_Appian Way Access - PM]

Existing

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Rickard Rd East												
4	L2	76	0.0	0.041	4.7	LOS A	0.0	0.0	0.00	0.57	0.00	32.1
5	T1	1001	0.0	0.257	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	43.4
Approach		1077	0.0	0.257	3.4	NA	0.0	0.0	0.00	0.52	0.00	42.7
All Vehicles		1077	0.0	0.257	3.4	NA	0.0	0.0	0.00	0.52	0.00	42.7

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.

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

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

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

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

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

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MOVEMENT SUMMARY

▽ Site: [2026_Appian Way Access_Without Dev - PM]

Interim Without Development
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Rickard Rd East												
4	L2	3	0.0	0.002	4.7	LOS A	0.0	0.0	0.00	0.57	0.00	32.1
5	T1	1001	0.0	0.257	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	36.0
Approach		1004	0.0	0.257	3.3	NA	0.0	0.0	0.00	0.52	0.00	35.9
All Vehicles		1004	0.0	0.257	3.3	NA	0.0	0.0	0.00	0.52	0.00	35.9

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.

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

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

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

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

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

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MOVEMENT SUMMARY

▽ Site: [2026_Appian Way Access_With Dev - PM]

Interim With Development
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Rickard Rd East												
4	L2	37	0.0	0.020	4.7	LOS A	0.0	0.0	0.00	0.57	0.00	32.1
5	T1	1001	0.0	0.257	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	36.0
Approach		1038	0.0	0.257	3.4	NA	0.0	0.0	0.00	0.52	0.00	35.8
All Vehicles		1038	0.0	0.257	3.4	NA	0.0	0.0	0.00	0.52	0.00	35.8

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.

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

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

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

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

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

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MOVEMENT SUMMARY

▽ Site: [2036_Appian Way Access_Without Dev - PM]

Future Without Development
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Rickard Rd East												
4	L2	3	0.0	0.002	4.7	LOS A	0.0	0.0	0.00	0.57	0.00	32.1
5	T1	1001	0.0	0.257	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	36.0
Approach		1004	0.0	0.257	3.3	NA	0.0	0.0	0.00	0.52	0.00	35.9
All Vehicles		1004	0.0	0.257	3.3	NA	0.0	0.0	0.00	0.52	0.00	35.9

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.

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

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

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

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

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

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MOVEMENT SUMMARY

▽ Site: [2036_Appian Way Access_With Dev - PM]

Future With Development

Site Category: (None)

Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Rickard Rd East												
4	L2	37	0.0	0.020	4.7	LOS A	0.0	0.0	0.00	0.57	0.00	32.1
5	T1	1001	0.0	0.257	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	36.0
Approach		1038	0.0	0.257	3.4	NA	0.0	0.0	0.00	0.52	0.00	35.8
All Vehicles		1038	0.0	0.257	3.4	NA	0.0	0.0	0.00	0.52	0.00	35.8

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.

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

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

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

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

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

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