

Memorandum

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2020/1145

Date: 6 July 2021



To:	Andrew Erzetich	At:	Lendlease Communities (Yarrabilba) Pty Limited
From:	Benjamin Park / Brett McClurg	At:	SLR Consulting Australia Pty Ltd
Date:	30 September 2020	Ref:	620.11743-M06-v1.1 Precinct 3D North Traffic Report 2020 09 30.docx
Subject:	Yarrabilba, Precinct 3D North Traffic and Transport Assessment		

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1 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been commissioned by Lendlease Communities (Lendlease) to provide traffic engineering and transport planning advice for the Yarrabilba master planned development area. The Yarrabilba master planned development is located within the extents of the Yarrabilba Priority Development Area (PDA), which is situated approximately 20km south of Logan Central and Springwood. When fully developed, it is anticipated that the ultimate Yarrabilba development will yield approximately 17,000 residential dwellings, and approximately 45,000 residents.

The traffic and transport impact of the overall Yarrabilba master plan has been extensively documented within several reports which are referenced in Section 1.1. This memorandum specifically addresses the traffic and transport aspects of Precinct 3D North. The subject plan of the development and reconfiguration of lot plan for the Precinct 3D North application is included at Appendix A.

1.1 Previous Reporting

The traffic and transport aspects of the entire Yarrabilba master plan development have been previously addressed within a number of documents including the following:

- *Yarrabilba Master Plan Micro-simulation Modelling- Revised Land Use and Road Network* (Cardno, May 2015).
- *Yarrabilba Movement Infrastructure Master Plan* (Cardno, October 2015) – endorsed by EDQ on 11 November 2015, and on 3 July 2019.
- *Yarrabilba Precinct 3 Traffic Assessment* (Cardno, September 2016).
- *Yarrabilba Precincts 3B and 3C - Traffic Impact Assessment* (Cardno, December 2016).
- *Yarrabilba Master Plan Development – Movement Infrastructure Master Plan* (SLR, April 2017).
- *Traffic Impact Assessment – Yarrabilba Master Plan Development Precinct 5* (SLR, September 2017).
- *Traffic Assessment – Precinct 3D* (SLR, February 2018).
- *Yarrabilba Precinct 3D MIBA 1 – DSDMIP Traffic Matters* (SLR, May 2018).

Where relevant, some elements of these reports have been used to inform the traffic assessment herein. In particular, it is intended that the traffic and transport aspects of Precinct 3D North are generally consistent with the Movement Infrastructure Master Plan (endorsed in 2019).

It is also relevant to note that traffic modelling for the entire Yarrabilba development was updated in 2018. Whilst that traffic model has not been documented, the traffic volume results from such modelling have been considered and incorporated herein. Such results include updated forecasts of traffic volumes and updated intersection capacity analysis. The latter includes key intersections adjacent to Precinct 3D.

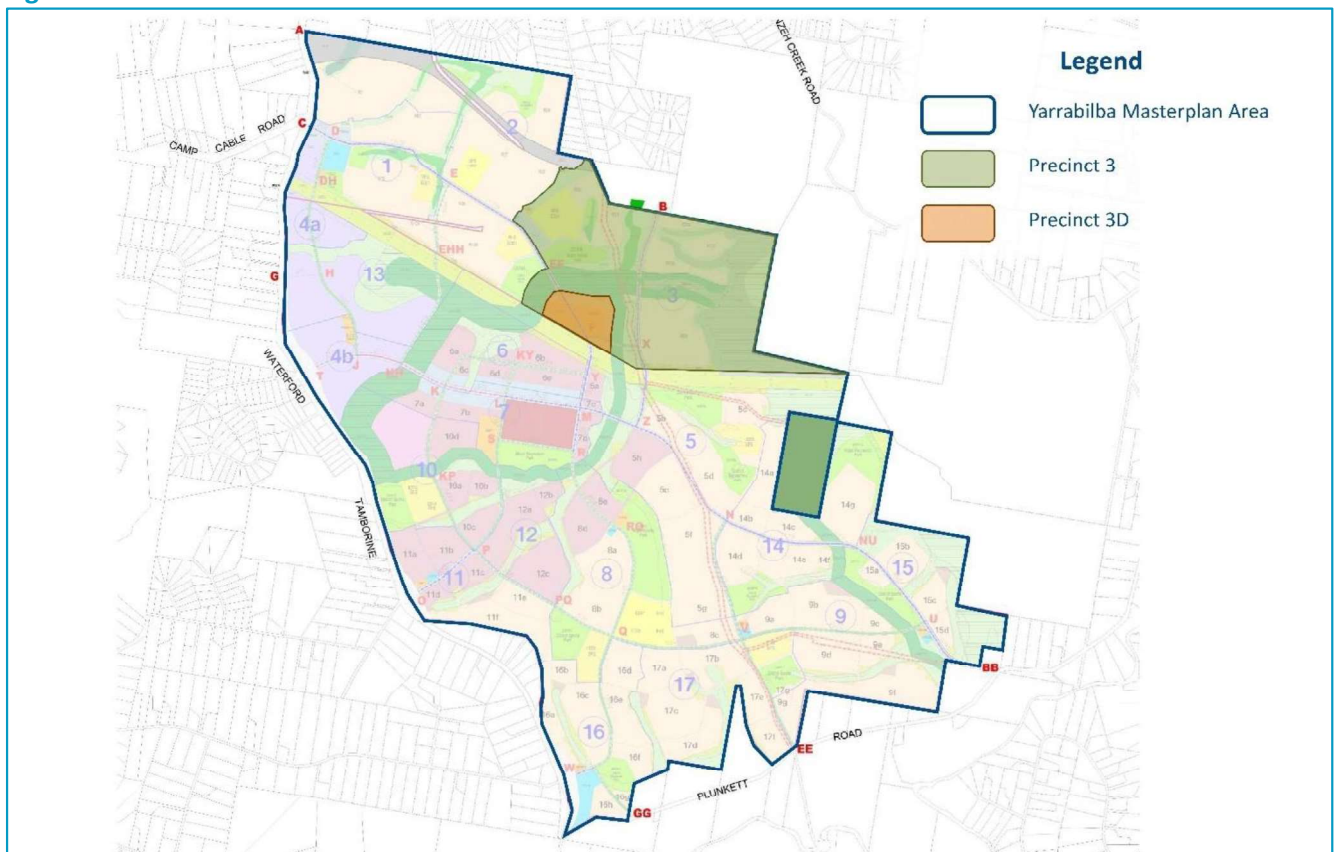
1.2 Traffic Model Update

The overall Yarrabilba road network and demographics have been revised (2018) since that which was included in the initial traffic model (2015) and in the endorsed Movement IMP (2015). As such the Precinct 3D North assessment has been based upon the most recent traffic model volumes and demographics (2018). This is discussed in Section 6 herein.

2 Proposed Development

The proposed Precinct 3D development is located directly north of the main powerline easement that bisects the northern third of the Yarrabilba masterplan area. The location of the Precinct 3D development with respect to Precinct 3 and the overall Yarrabilba Development Area is illustrated on Figure 1. It is noted that the balance of Precinct 3 consists of sub-precincts that have been approved by EDQ and are consulted and/or currently under construction.

Figure 1 Precinct 3D Site Context



The design and traffic analysis of the wider Precinct 3D development has been assessed previously in *Traffic Assessment – Precinct 3D* (SLR, February 2018) and *Yarrabilba Precinct 3D MIBA 1 – DSDMIP Traffic Matters* (SLR, May 2018). The northern half of Precinct 3D had not yet undergone detailed planning or design at the time these reports were submitted.

The Plan of Development (POD) and Reconfiguration of a Lot (ROL) drawings for Precinct 3D North have been prepared by Lendlease and incorporate input from the wider design team (including advice on traffic and transport design matters provided by SLR). These plans have been submitted as part of the planning documents for the application and have been used as the basis of the traffic assessment herein.

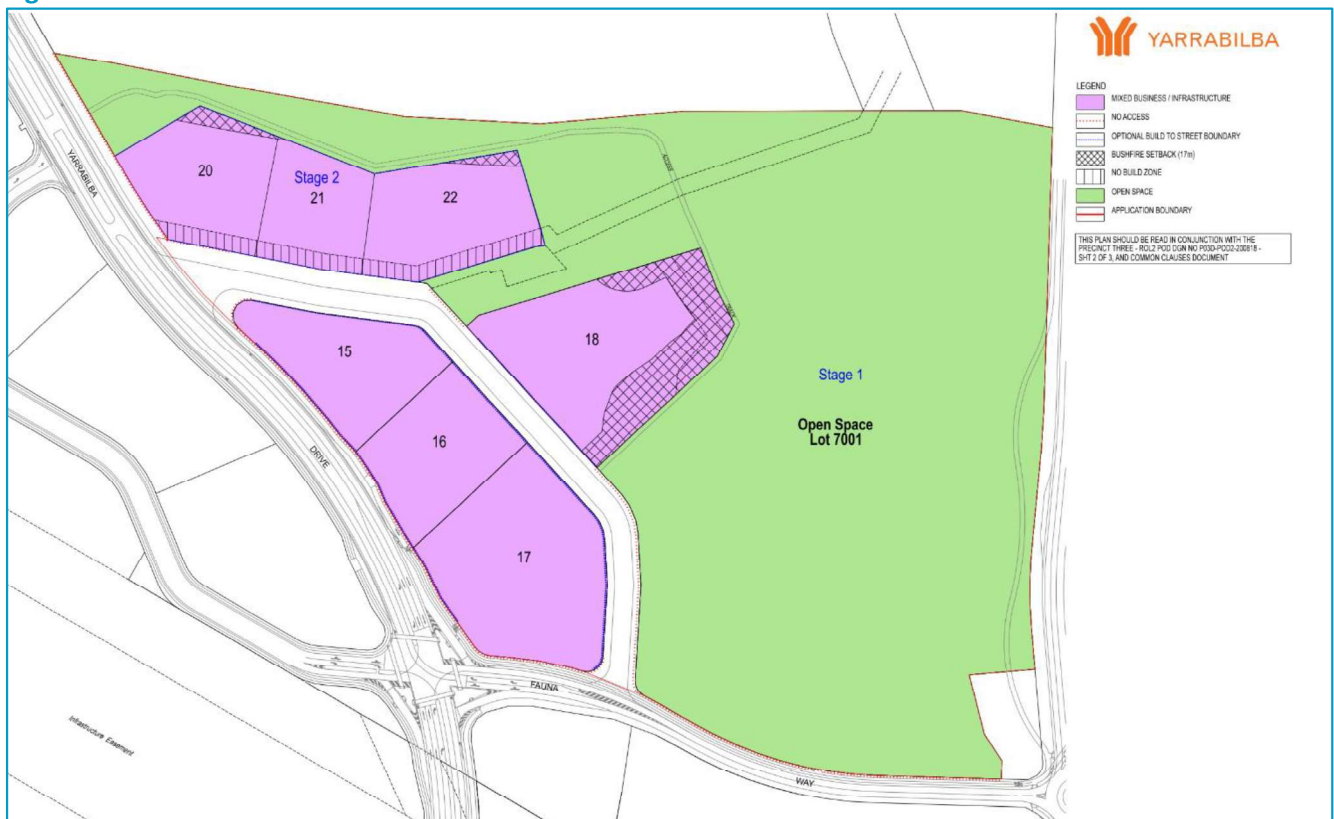
These plans include a schedule of permitted uses allowable under the existing, overarching Yarrabilba approval framework. Whilst that schedule represents an extensive variety of uses, to enable derivation of traffic volumes for analysis, a potential land use mix has been assumed herein.

Based on advice from Lendlease and as detailed within the POD, Precinct 3D North is proposed to include the following key land use types:

- Mixed Business (i.e. business park).
- Infrastructure uses (notably, underground water pump station between lots 18 and 22).
- Open Space.

The lot layout and road network are illustrated on Figure 2, with full-scale plans provided at Appendix A.

Figure 2 Precinct 3D North POD



Whilst specific gross floor areas (GFA) have not been allocated to each land parcel, SLR has assumed that the developable area of each land parcel will equal 45% of the lot size for that particular use. This is consistent with the plot ratio adopted in SLR's previous reporting for the wider Precinct 3D site.

The type and yield of development uses may vary (in compliance with the POD) based on market needs at the time of development, but for the purpose of the assessment the land uses/yields in Table 1 have been assumed, excluding any easements that pass through various lots. This information is based on the best information available from Lendlease at the time of assessment.

Table 1 Indicative Land Uses and Yield

Lot Number	Land Use	Lot Size	GFA
15	Mixed Business	6,353 m ²	2,859 m ²
16		6,000 m ²	2,700 m ²
17		11,000 m ²	4,950 m ²
18		10,700 m ²	4,815 m ²
20		5,484 m ²	2,468 m ²
21		3,802 m ²	1,711 m ²
22		5,524 m ²	2,486 m ²
Total	-	48,863m²	21,988 m²
<i>Unnamed</i>	<i>Pump Station</i>	-	-

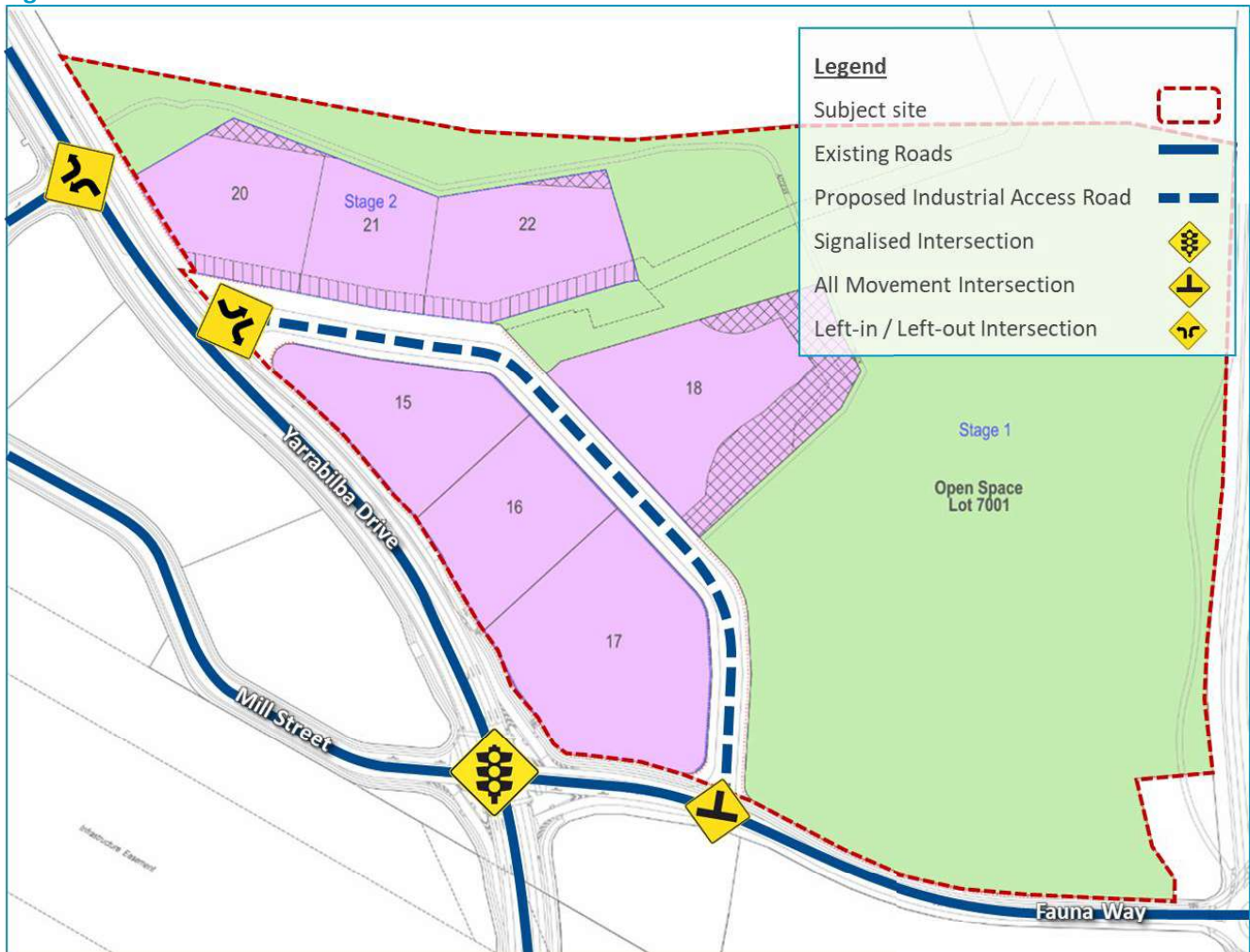
The land use/yield in Table 1 represents an indicative development mix to inform traffic analysis and design aspects relevant to this submission. Given the variety of potential land use types of allowable under the POD, it is important to recognise that some lots may be developed for other uses such as service station or food outlet. Whilst such uses would have higher traffic generation rates, they would also exhibit much lower GFA plot ratios than what has been assumed above due to the smaller site coverage of associated buildings (i.e. service station control building or fast food restaurant).

3 Design Review

The road hierarchy of Precinct 3D remains consistent with what has been outlined in the Movement Infrastructure Master Plan (SLR, April 2017). It should be noted that Precinct 3D (south) has already been approved as part of the previous Precinct 3D application and construction of the road network and some sites has been completed. Similarly, the sections of Yarrabilba Drive and Fauna Way which front the sub-precinct have been approved as a part of the Precinct 3B/3C application and are fully constructed.

As such, the design review undertaken as a part of this traffic assessment focuses on the geometric suitability of the new proposed road within Precinct 3D North, and the intersections with the existing major roads (Yarrabilba Drive and Fauna Way). The proposed road alignments, intersection locations and control types are illustrated on Figure 3.

Figure 3 Precinct 3D North New Roads



The new internal road proposed as part of the Precinct 3D North development includes the provision for a 20m wide road reserve with 4.2m wide verges (11.6m road pavement kerb to kerb). Whilst this road type has not explicitly been labelled with a cross section from the Movement Infrastructure Master Plan, the pavement width will accommodate the 19.1m cross-section identified in the Movement IMP as a MIBA Access Street. The 20m cross section is similar to that already approved and constructed as part of Precinct 1 (i.e. Adler Circuit). This cross-section type allows provision for:

- Two (2) x 3.5m traffic lanes.
- Two (2) x 2.3m parking lanes on either side.
- Two (2) x 1.5m pedestrian pathways within the verge on either side.

This road cross section is considered appropriate for the anticipated use of the Precinct 3D North internal road, considering that the internal land uses are similar to those in the existing and future MIBA precincts, for which the above cross section has been designed.

3.1 Key Intersections

Access to Precinct 3D North will be facilitated via two (2) unsignalised intersections. The first proposed access is a left in / left out intersection on Yarrabilba Drive approximately 280m (centre to centre) to the north of the Yarrabilba Drive/Fauna Way signalised intersection. The second proposed access is an all movements intersection on Fauna way located approximately 100m (centre to centre) to the east of the latter signalised intersection.

The Yarrabilba Drive/Fauna Way intersection located in the south-west corner of Precinct 3D North is a 4-lway signalised intersection which serves direct access to the approved Precinct 3D development on the western side of Yarrabilba Drive. The form of this intersection was approved as a part of the Precinct 3B/3C application and has been constructed generally in accordance with previous traffic analysis. The all movements site access intersection with Fauna Way is considered to be acceptable as the eastern leg of the Yarrabilba Drive/Fauna Way intersection has a chevron median which can safely facilitate all movements, subject to queueing considerations discussed further in Section 6.2.1.

3.2 Access Driveways

As detailed on the POD, there are no direct access driveways proposed on Yarrabilba Drive or Fauna Way. Access to all individual lots will be serviced directly by the new internal Industrial Access Road.

4 Active Transport Review

The key elements of the walk and cycle network proposed in Precinct 3D are consistent with the connections and design elements discussed within the Movement Infrastructure Master Plan and detailed in previous Precinct 3D reporting.

Whilst this latest application does not propose any changes to active transport connections already provided within proximity of the Precinct 3D North boundary, key elements of the active transport network within Precinct 3D have been reproduced below for ease of reference, ensuring the consistency with the Movement Infrastructure Master Plan (SLR, April 2017):

- Principal Cycle Road – On-road cycle lanes are constructed along both sides of Yarrabilba Drive, as consistent with the Movement IMP.
- Commuter Cycle Route – A dedicated off-road shared pedestrian / cycle path is constructed on the eastern verge of Yarrabilba Drive and the northern verge of Fauna Way.
- Local Active Transport Routes – Shared pedestrian/cycle paths (2.5m wide) will be provided along the power line easement located on the south-western boundary of Precinct 3D to provide connections between residential precincts throughout the Yarrabilba Master Plan Area. These will also provide pathway connections to / from the future Town Centre (to the south of the electricity easement).

The street layout and road design have been formulated to accommodate pedestrian crossings (predominantly at signalised intersections or refuge crossings) where these active transport routes meet high volume roadways. The constructed active transport arrangements reflect good transport planning, which is consistent with the Movement IMP and is appropriate for the proposed development.

6 Traffic Analysis

Following the updated Movement Infrastructure Master Plan (SLR, April 2017), revised traffic modelling was undertaken (2018) for the whole of the Yarrabilba Master Plan Area. As part of this modelling and analysis rework, Precinct 3D was assigned mixed industry / infrastructure land uses in comparison to the assumptions in older model versions where the trip generation for this precinct uses was significantly lower.

During the 2018 traffic model update, Lendlease advised that Precinct 3D North would yield approximately 9,906m² GFA of Mixed Business / Infrastructure uses. As detailed within Table 1 of this report, the indicative yield mix and size for the Precinct 3D north development area is approximately 21,988m² GFA.

SLR has therefore assessed the incremental traffic impact that the additional 12,082m² GFA would have on the performance of the immediate road network.

6.1 Traffic Generation

In the absence of specific expected land uses to determine suitable trip generation rates across the site (outlined in Section 2 of this report), SLR referred to NSW RMS *Guide to Traffic Generating Developments* 2013. To reflect the broad range of uses anticipated as a part of the POD, the trip generation rate for business parks and industrial estates for regional areas was applied to the incremental GFA additions as presented in Table 2. This is consistent with previous analysis performed on the southern approved section of Precinct 3D.

Table 2 Traffic Generation

Land Use	Yield Difference	Peak Period	Trip Generation Rate	Peak Hour Trips
Business Parks and Industrial Estates	12,082m ² GFA	AM	0.70 per 100m ² GFA	≈ 85vph
		PM	0.78 per 100m ² GFA	≈ 94 vph

6.2 Directional Split

The traffic generation difference was separated into inbound and outbound trips using a typically adopted directional distribution for the given land use. The directional split adopted for each proposed land use is presented in Table 3.

Table 3 Directional Split

Land Use	AM		PM	
	IN	OUT	IN	OUT
Business Parks and Industrial Estates	50%	50%	50%	50%

6.3 Traffic Distribution

With regard to the external distribution of additional trips assumed for Precinct 3D North, all trips have been assigned as per previous assumptions for the wider Precinct 3D development (see Table 4). Note that this distribution represents the expected distribution at full development with the vast majority of Yarrabilba developed.

Table 4 Trip Distribution

Land Use	North	East	South
Business Parks and Industrial Estates	40%	20%	40%

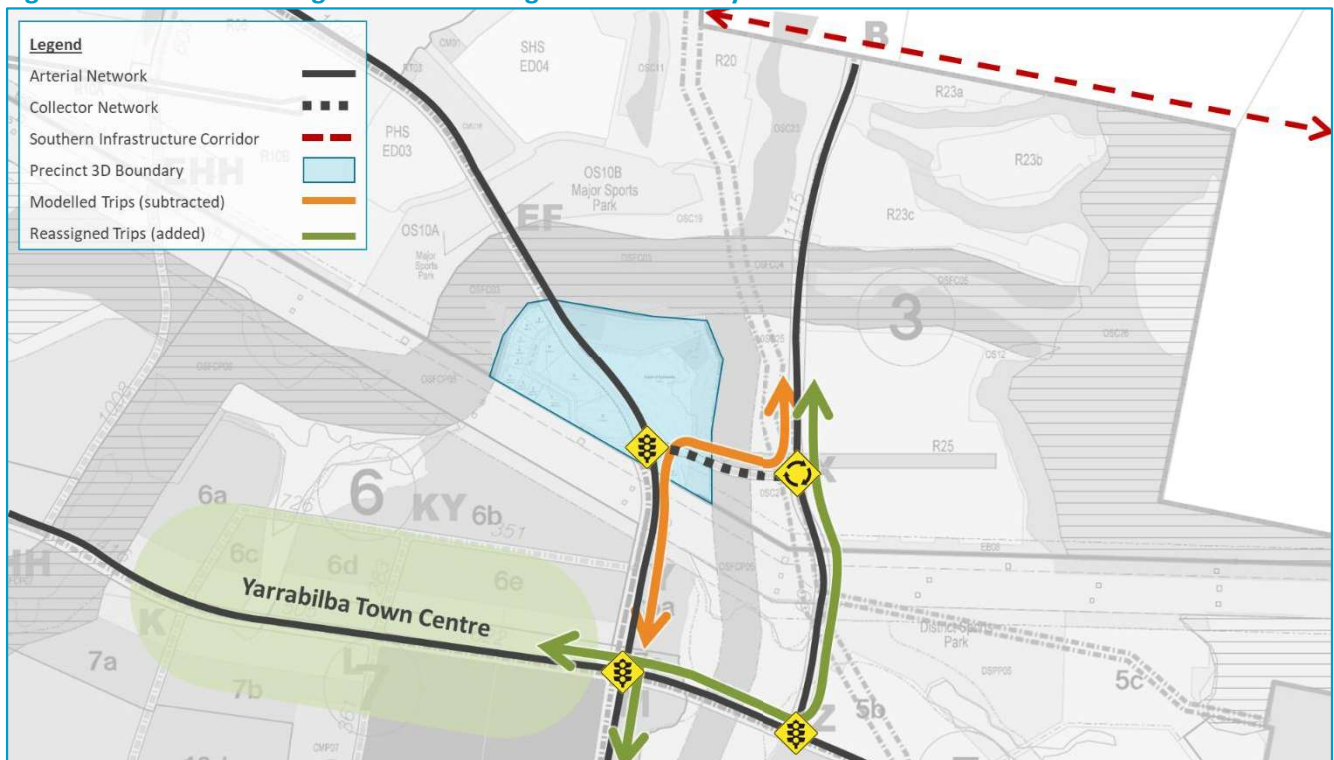
6.4 Intersection Assessment

The performance of the surrounding road network has been assessed in SIDRA to establish the operational performance of the existing and proposed intersections. Prior to this assessment, it was identified that there was a significant turning demand from south-to-east and east-to-south in the 2018 modelling with approximately 1,100vph travelling along the Fauna Way link during each peak period. Such volumes resulted from the ultimate model horizon/scenario with a road connection (McKenny Boulevard) between the Southern Infrastructure Corridor (SIC) and Yarrabilba. This high traffic volume does not align with the intention of the approved road hierarchy classification of Fauna Way, which provides a lower order road connection between Yarrabilba Drive and the existing residential catchment of Precinct 3B/C.

Whilst this observed increase in traffic volumes does not cause the intersection to operate beyond capacity limits, the additional demand on the southern right-turn during peak periods causes queues on this approach to extend beyond the already constructed 80m short lane length. It is understood that the high demand associated with the southern right turn and eastern left turn movements was modelled as an outcome of earlier planning which assumed that Fauna Way was higher order road and key link to the future SIC road.

In order to maintain the intended road function of Fauna Way (i.e. lower order, collector road), SLR has performed a minor reassignment of background traffic in the ultimate scenario to ensure that traffic travelling to and from the south (e.g. from the town centre) is not being over-represented on this lower order road (Fauna Way). Instead, traffic travelling in this same direction should utilise the higher order arterial road network which provides a more direct connection to and from the SIC. Figure 5 illustrates this reassignment of traffic volumes from the 2018 modelling which is considered to more accurately reflect travel conditions in the ultimate road network and development scenarios following the completion of Yarrabilba.

Figure 5 2019 Modelling - Volume Reassignment Summary



It was assumed that approximately 65% of southern traffic using Fauna Way to access the future SIC road would be reassigned it via future intersections and higher order connections located to the southeast of the Yarrabilba Drive/Fauna Way intersection.

6.4.1 Yarrabilba Drive / Fauna Way Intersection

The assessed intersection layout, as currently constructed, is presented in Figure 6. Detailed SIDRA outputs are provided at Appendix B, with a summary of the results provided in Table 5.

Figure 6 Yarrabilba Drive / Fauna Way Intersection – SIDRA Layout

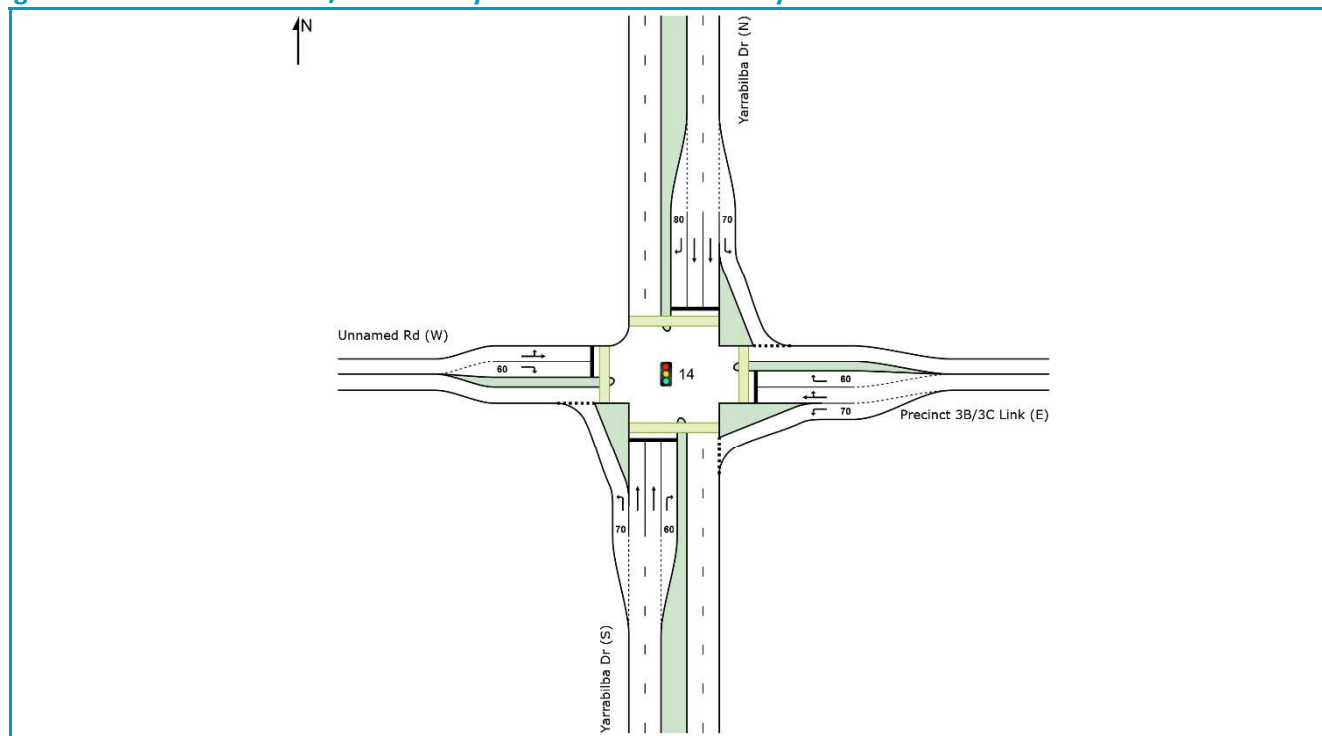


Table 5 Yarrabilba Drive / Fauna Way Intersection – SIDRA Results Summary

Scenario	AM Peak			PM Peak		
	DOS	Average Delay	95 th %ile Queue	DOS	Average Delay	95 th %ile Queue
Background (i.e. as Modelled in 2018)						
2031 Background	0.34	27.6 sec	66m (N)	0.61	27.2 sec	158m (N)
Ultimate Background	0.35	28.7 sec	67m (S)	0.41	29.8 sec	82m (N)
With Additional GFA						
2031 Background + Development	0.36	28.8 sec	69m (N)	0.63	28.5 sec	164m (N)
Ultimate Background + Development	0.39	30.9 sec	72m (S)	0.43	30.6 sec	84m (N)

*NOTE – all analysis assumes manual reassignment indicated in Figure 5.

It is clear from the results presented in Table 5 that the Yarrabilba Drive/Fauna Way intersection operates within the accepted DOS threshold of 0.9 for signalised intersections even with the increased development traffic demand associated with the incremental GFA increase. Cognisant of the traffic volume reassignment to and from the SIC, the southern right turn 95th percentile queue is fully contained within the 80m right turn lane.

The queue on the northern intersection approach does not exceed 165m in any of the assessment periods, as such, the proposed northern site access will not be blocked by Yarrabilba Drive/Fauna Way intersection queueing. Similarly, the eastern queue length does not exceed 45m in any of the assessment periods and therefore queues will not restrict turning movements in and out of the new all-movement intersection on Fauna Way.

6.4.2 Site Access (North) / Yarrabilba Drive Intersection

The left in/left out access intersection, located to the north of the subject site, is accessed via Yarrabilba Drive and has been assessed in SIDRA to establish the operational performance of the proposed intersection. The intersection layout assessed is presented in Figure 7. Detailed SIDRA outputs are provided at Appendix B, with a summary of the results provided in Table 6.

Figure 7 Site Access (North)– SIDRA Layout

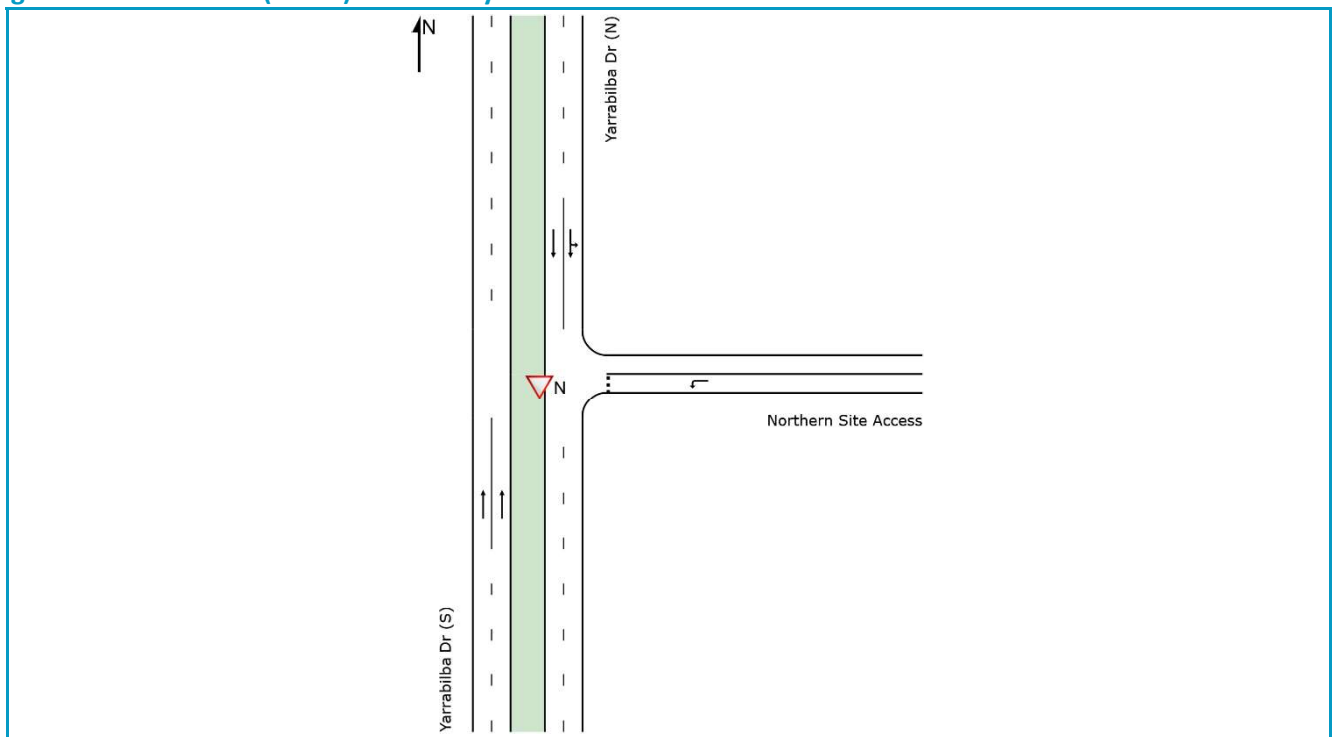


Table 6 Site Access (North) – SIDRA Results Summary

Scenario	AM Peak			PM Peak		
	DOS	Critical Delay	95 th %ile Queue	DOS	Critical Delay	95 th %ile Queue
With Additional GFA						
2031 Background + Development	0.19	7.0 sec	1m (E)	0.33	8.9 sec	1m (E)
Ultimate Background + Development	0.16	6.7 sec	1m (E)	0.22	7.2 sec	1m (E)

It is clear from the results presented in Table 6 that the Site Access (North)/Yarrabilba Drive Intersection operates within the accepted DOS threshold of 0.8 for unsignalised intersections. No significant queues are noted in the assessment of this intersection.

6.4.3 Site Access (South) / Fauna Way Intersection

The all movements access intersection, located to the south of the subject site, is accessed via Fauna Way and has been assessed in SIDRA to establish the operational performance of the proposed intersection. The intersection layout assessed is presented in Figure 8. Detailed SIDRA outputs are provided at Appendix B, with a summary of the results provided in Table 7.

Figure 8 Site Access (South)– SIDRA Layout

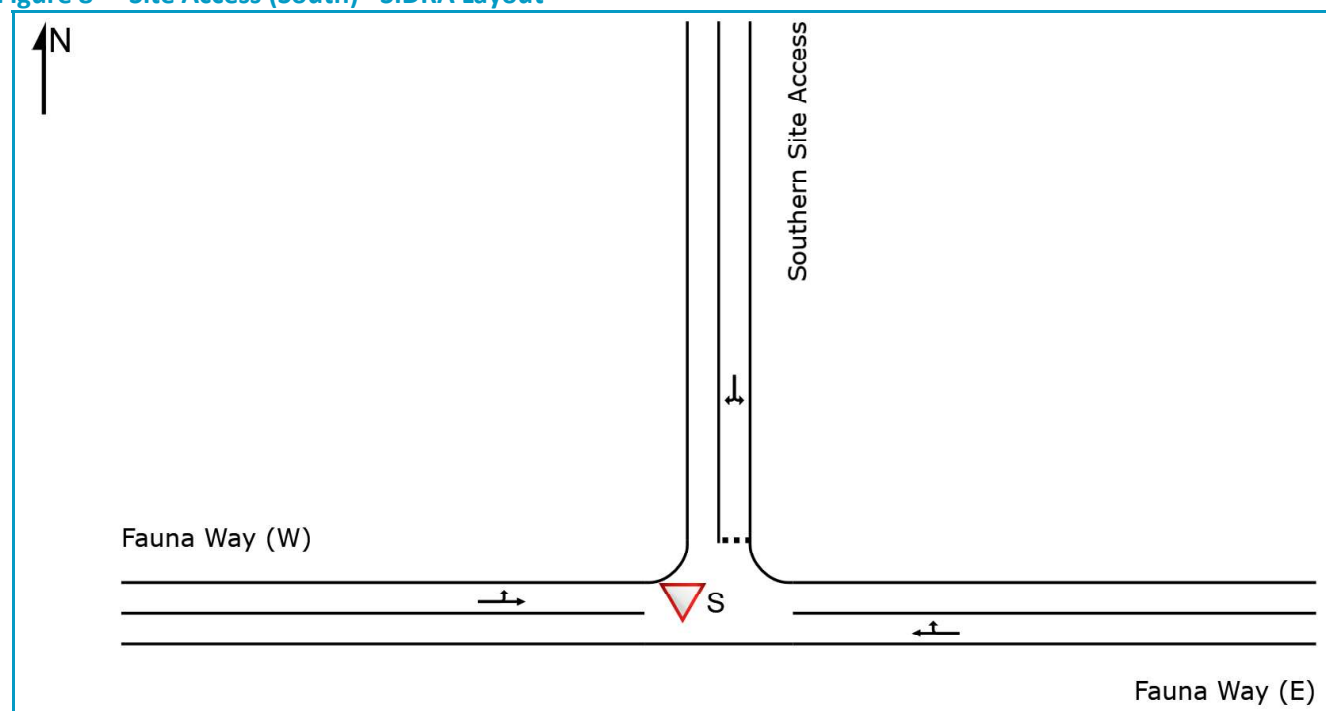


Table 7 Site Access (South) – SIDRA Results Summary

Scenario	AM Peak			PM Peak		
	DOS	Critical Delay	95 th %ile Queue	DOS	Critical Delay	95 th %ile Queue
With Additional GFA						
2031 Background + Development	0.24	10.0 sec	3m (N)	0.22	8.8 sec	3m (N)
Ultimate Background + Development	0.20	9.2 sec	3m (N)	0.25	10.0 sec	3m (N)

It is clear from the results presented in Table 7 that the Site Access (South)/Fauna Way Intersection operates within the accepted DOS threshold of 0.8 for unsignalised intersections. No significant queues are noted in the assessment of this new intersection.

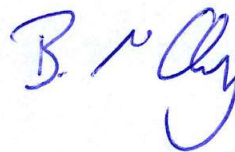
7 Summary

The following summarises the key conclusions in respect of the traffic and transport aspects of Precinct 3D North, in particular consideration of the approved Yarrabilba Movement Infrastructure Master Plan (IMP):

- Road Hierarchy – The roads proposed within Precinct 3D are generally consistent with the road hierarchy identified in the Movement IMP, and are appropriate for the intended function and anticipated traffic volumes.
- Existing Intersection Operation – The existing, as constructed configuration of the Yarrabilba Drive / Fauna Way intersection (located on the south-western corner of Precinct 3D North), is forecast to sufficiently accommodate the assumed traffic demands associated with the Precinct 3D North development in combination with the ultimate Yarrabilba development traffic demands.
- New Intersection Operation – The two new intersections proposed to accommodate access to Precinct 3D North are expected to operate well within capacity limits and without interacting with queues from the nearby Yarrabilba Drive / Fauna Way signalised intersection.
- Active Transport – The active transport provisions are consistent with the Movement IMP and are appropriate to satisfy the needs of Precinct 3D North in conjunction with the surrounding development of Yarrabilba.
- Public Transport – The layout and design of Yarrabilba Drive includes the appropriate provision for public transport (bus services) and potential bus stops along approved commuter routes. This is consistent with the Movement IMP.



BENJAMIN PARK
Senior Consultant – Transport Advisory



BRETT McCLURG
Technical Director – Transport Advisory
RPEQ #7628

Checked/
Authorised by: BM



APPENDIX A

Precinct 3D North POD and ROL Plans

Prepared by Lendlease

- LEGEND
- MIXED BUSINESS / INFRASTRUCTURE
 - NO ACCESS
 - OPTIONAL BUILD TO STREET BOUNDARY
 - BUSHFIRE SETBACK (17m)
 - NO BUILD ZONE
 - OPEN SPACE
 - APPLICATION BOUNDARY

THIS PLAN SHOULD BE READ IN CONJUNCTION WITH THE
PRECINCT THREE - ROL2 POD DGN NO P03D-POD2-200818 -
SHT 2 OF 3, AND COMMON CLAUSES DOCUMENT



PRECINCT 03D - RECONFIGURATION OF A LOT 2 PLAN OF DEVELOPMENT

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0 20 40 60 80 100m
Scale 1:2,000 at A3

North



- NOTES:
- i. Development is to be in accordance with the provisions of the Industry and Business Areas - PDA Guideline No. 10 (May 2015 version), except for the provisions relating to Building height, Building Setback, street frontages, Signage, End of Trip Facilities, Landscaping (General), Parking, and Staff Recreation Spaces, which are replaced by the following provisions:
 - a. Building height:
 - 15 metres maximum and a maximum of 2 storeys (unless taller structure required for specific industrial process)
 - b. Building setback, street frontages:
 - Buildings with office or customer service components may be set to the front alignment (0.0m) for a maximum of 50 per cent of the frontage, subject to daylight access, overshadowing, sightlines, articulation and other constraints affecting adjoining development sites.
 - Any building setback from Yarrabilba Drive and not activated through entry/exit or public use must be landscaped and setback a minimum of 2m from Yarrabilba Drive.
 - All street frontages, with the exception of Yarrabilba Drive, not developed as Built to Boundary buildings will require a 2.0m minimum width landscape strip, except at vehicular and pedestrian access points.
 - c. Signage:
 - Signs attached to buildings are integrated into the building design.
 - All advertising devices are to be in accordance with Logan City Council's Planning Scheme.
 - d. End of Trip Facilities:
 - End of trip facilities can be provided by operators if deemed necessary.
 - e. Landscaping (General):
 - Landscaping themes should be simple and demonstrate a level of consistency across the entire area and include use of semi-mature trees.
 - Existing trees that would contribute to the landscaping theme should be retained.
 - Large trees and spreading ground covers are incorporated in all landscape areas.
 - Large screening shrubs to complement the scale of building are provided in areas where screening is a priority.
 - Landscaping should apply water sensitive urban design (WSUD) principals and use endemic and drought tolerant species where possible.
 - Automated watering systems are required for landscaped areas adjacent to street frontages, and are encouraged in all other areas.
 - The use of wall and rooftop gardens is encouraged where practicable.
 - f. Parking:
 - Car parking will be provided in accordance with Table 1 and designed to comply with Australian Standards.
 - g. Staff recreation space:
 - Outdoor eating and recreation areas are provided on-site for employees and:
 - i. Include seating, tables, and rubbish disposal
 - ii. Adequate shade and weather protection
 - iii. Reasonable amenity (e.g. located away from noisy or unpleasant activities)
- ii. Shade trees in car parking areas will be provided at the rate of not less than 1 tree per 6 parking spaces. Canopy trees and landscape will be provided by Lendlease within the street and verge. These must be retained as part of the development and incorporated into any final verge surface treatments.
- iii. Bike parking will be provided at the rate of one space per five car parking spaces.
- iv. All driveways must be designed in accordance with Australian Standard AS2890.

TABLE 1	
Approved Uses	Car Parking Rate
Business	1 space per 30m ² of GFA
Emergency Services	Sufficient spaces to accommodate the number of vehicles likley to be parked at any one time
Food premises	1 space per 10m ² of GFA for the first 200m ² of GFA plus 1 space per 20m ² of GFA thereafter
Indoor Sport and Recreation	1 space per 15m ² of GFA
Indoor Entertainment	1 space per 10m ² of GFA
Low Impact Industry	2 spaces per tenant + 1 per 100m ² of GFA
Research and Technology Facility	2 spaces per tenant + 1 per 100m ² of GFA
Service Industry	1 space per 50m ² of GFA
Shop (Lots 15-17 only - subject to limits as per Inset 1)	1 space per 20m ² of GFA
Showroom	1 space per 35m ² of GFA
Utility Installation	1 space per employee with a minimum of 2 spaces
Veterinary Hospital	1 space per 30m ² of GFA
Warehouse	1 space per 2 employees or, 1 space per 100m ² GFA, whichever is greater
Bulk landscape supplies	1 space per 400m2 of site area with a minimum of 6 spaces
Fast food premises	1 space per 10m ² of GFA for the first 200m ² of GFA plus 1 space per 20m ² of GFA thereafter
Garden centre	1 space per 300m ² of display area with a minimum of 6 spaces; plus 1 space per 20m ² of indoor retail use area
Outdoor sales	1 space per 300m ² of display area; plus 1 space per 1.5 employees
Outdoor Sport and Recreation (Bowling green)	4 spaces for the first rink; plus 2 spaces for the subsequent rink
Outdoor Sport and Recreation (Clubhouse)	1 space per 30m ² of GFA
Outdoor Sport and Recreation (All other uses)	Subject to traffic assessment
Service Station (Only one permitted for POD area, Lots 15-17 only - subject to limits as per Inset 1)	5 spaces per vehicle service bay + 1 space per 20m ² of shop
Funeral parlour	1 space per employee; plus 1 space per 10m ² of GFA associated with a chapel
Place of assembly	1 space per 10m ² of GFA
Car Wash	1 space per employee if not part of a service station
Hardware Store (maximum GFA of 5000m ² for POD area)	1 space per 60m ² of GFA

Inset 1: Applies to Lots 15-17
For each lot, the following limits apply:
- Service Station
- Shop: Maximum GFA of 350m²
- Any other applicable uses allowed under T able 1.

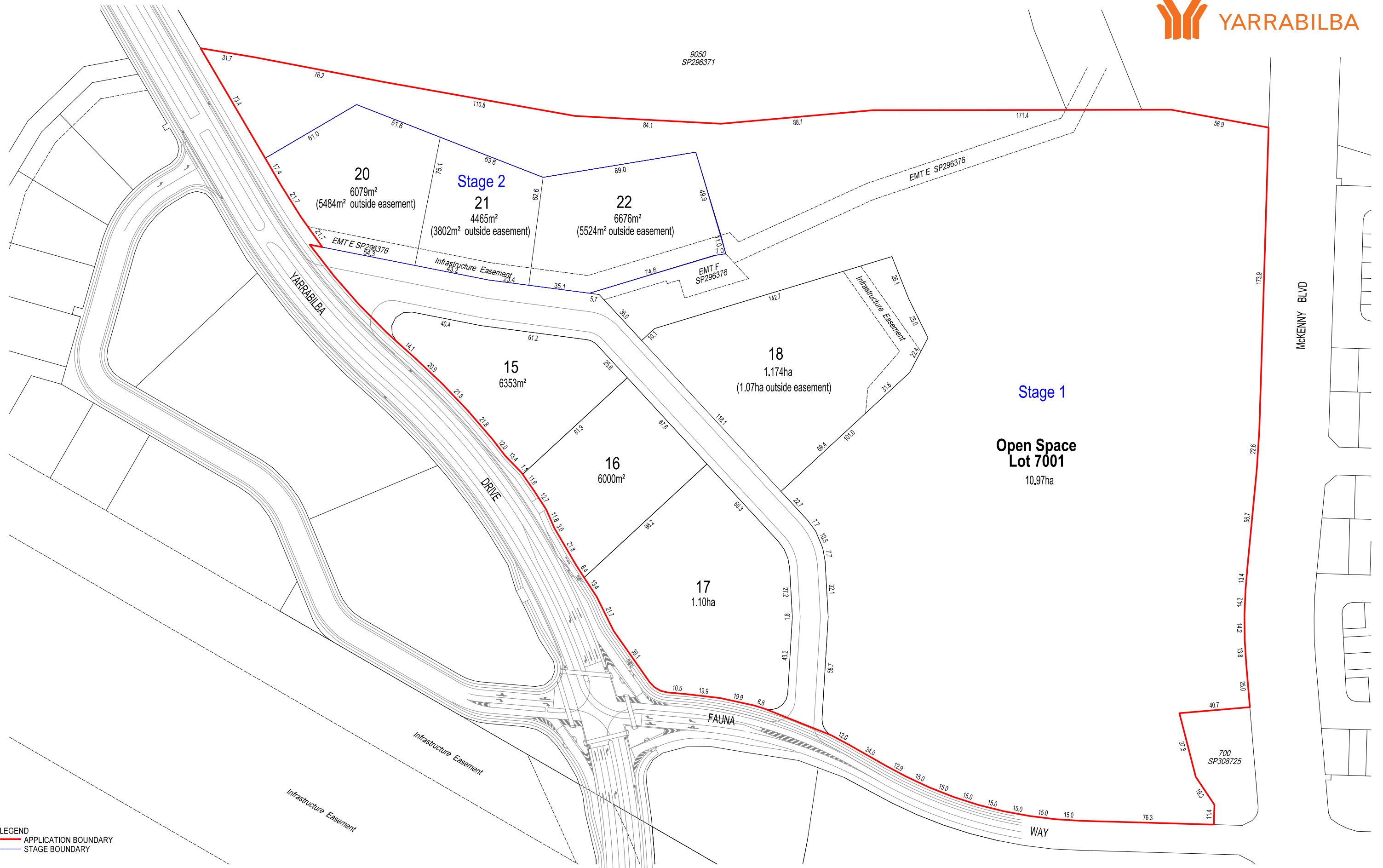
NOTE: Development for "Showroom" is subject to the gross leaseable area limites established under PDADevelopment Approval DEV2011/187



PRECINCT 03D - RECONFIGURATION OF A LOT 2
PLAN OF DEVELOPMENT

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LEGEND

— APPLICATION BOUNDARY

— STAGE BOUNDARY

PRECINCT 03D PROPOSED RECONFIGURATION 2

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0 20 40 60 80 100m

Scale 1:2,000 at A3



APPENDIX B

Detailed SIDRA Outputs

Prepared by SLR Consulting

SITE LAYOUT

▽ Site: N [2031 BG + DEV AM (Site Folder: Site Access (North))]

Northern Site Access/Yarrabilba Drive (Proposed).

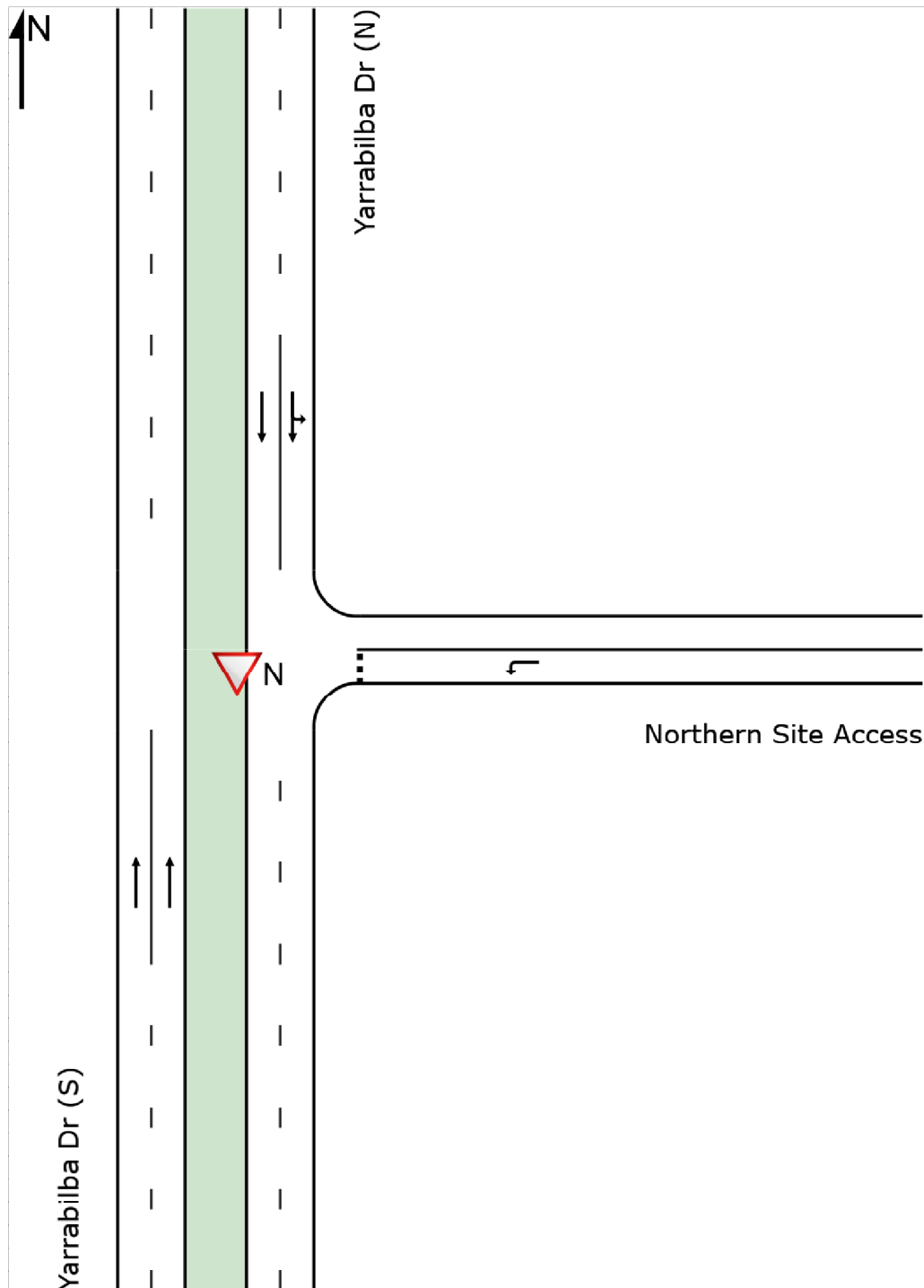
Prepared by: MP

Reviewed by: BP

Site Category: (None)

Give-Way (Two-Way)

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



MOVEMENT SUMMARY

▼ Site: N [2031 BG + DEV AM (Site Folder: Site Access (North))]

Northern Site Access/Yarrabilba Drive (Proposed).

Prepared by: MP

Reviewed by: BP

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Yarrabilba Dr (S)														
2	T1	643	3.0	677	3.0	0.177	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		643	3.0	677	3.0	0.177	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
East: Northern Site Access														
4	L2	6	3.0	6	3.0	0.007	7.0	LOS A	0.0	0.2	0.38	0.58	0.38	49.5
Approach		6	3.0	6	3.0	0.007	7.0	LOS A	0.0	0.2	0.38	0.58	0.38	49.5
North: Yarrabilba Dr (N)														
7	L2	31	3.0	33	3.0	0.190	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.7
8	T1	659	3.0	694	3.0	0.190	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.6
Approach		690	3.0	726	3.0	0.190	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.4
All Vehicles		1339	3.0	1409	3.0	0.190	0.2	NA	0.0	0.2	0.00	0.02	0.00	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

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

Queue Model: SIDRA Standard.

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

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

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MOVEMENT SUMMARY

Site: N [2031 BG + DEV PM (Site Folder: Site Access (North))]

Northern Site Access/Yarrabilba Drive (Proposed).

Prepared by: MP

Reviewed by: BP

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Yarrabilba Dr (S)														
2	T1	421	3.0	443	3.0	0.116	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		421	3.0	443	3.0	0.116	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
East: Northern Site Access														
4	L2	7	3.0	7	3.0	0.011	8.9	LOS A	0.0	0.3	0.52	0.67	0.52	47.8
Approach		7	3.0	7	3.0	0.011	8.9	LOS A	0.0	0.3	0.52	0.67	0.52	47.8
North: Yarrabilba Dr (N)														
7	L2	35	3.0	37	3.0	0.332	5.7	LOS A	0.0	0.0	0.00	0.03	0.00	57.7
8	T1	1170	3.0	1232	3.0	0.332	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.6
Approach		1205	3.0	1268	3.0	0.332	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
All Vehicles		1633	3.0	1719	3.0	0.332	0.2	NA	0.0	0.3	0.00	0.02	0.00	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

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

Queue Model: SIDRA Standard.

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

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

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MOVEMENT SUMMARY

Site: N [Ultimate BG + DEV AM (Site Folder: Site Access (North))]

Northern Site Access/Yarrabilba Drive (Proposed).

Prepared by: MP

Reviewed by: BP

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Yarrabilba Dr (S)														
2	T1	548	3.0	577	3.0	0.151	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		548	3.0	577	3.0	0.151	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
East: Northern Site Access														
4	L2	6	3.0	6	3.0	0.006	6.7	LOS A	0.0	0.2	0.34	0.56	0.34	49.6
Approach		6	3.0	6	3.0	0.006	6.7	LOS A	0.0	0.2	0.34	0.56	0.34	49.6
North: Yarrabilba Dr (N)														
7	L2	31	3.0	33	3.0	0.164	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	57.6
8	T1	562	3.0	592	3.0	0.164	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.5
Approach		593	3.0	624	3.0	0.164	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.4
All Vehicles		1147	3.0	1207	3.0	0.164	0.2	NA	0.0	0.2	0.00	0.02	0.00	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

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

Queue Model: SIDRA Standard.

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

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

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MOVEMENT SUMMARY

Site: N [Ultimate BG + DEV PM (Site Folder: Site Access (North))]

Northern Site Access/Yarrabilba Drive (Proposed).

Prepared by: MP

Reviewed by: BP

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Yarrabilba Dr (S)														
2	T1	381	3.0	401	3.0	0.105	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		381	3.0	401	3.0	0.105	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
East: Northern Site Access														
4	L2	7	3.0	7	3.0	0.008	7.2	LOS A	0.0	0.2	0.40	0.59	0.40	49.4
Approach		7	3.0	7	3.0	0.008	7.2	LOS A	0.0	0.2	0.40	0.59	0.40	49.4
North: Yarrabilba Dr (N)														
7	L2	35	3.0	37	3.0	0.215	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.7
8	T1	743	3.0	782	3.0	0.215	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	59.6
Approach		778	3.0	819	3.0	0.215	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.4
All Vehicles		1166	3.0	1227	3.0	0.215	0.3	NA	0.0	0.2	0.00	0.02	0.00	59.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

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

Queue Model: SIDRA Standard.

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

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

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SITE LAYOUT

▼ Site: S [2031 BG + DEV AM (Site Folder: Site Access (South))]

Southern Site Access/Yarrabilba Drive (Proposed).

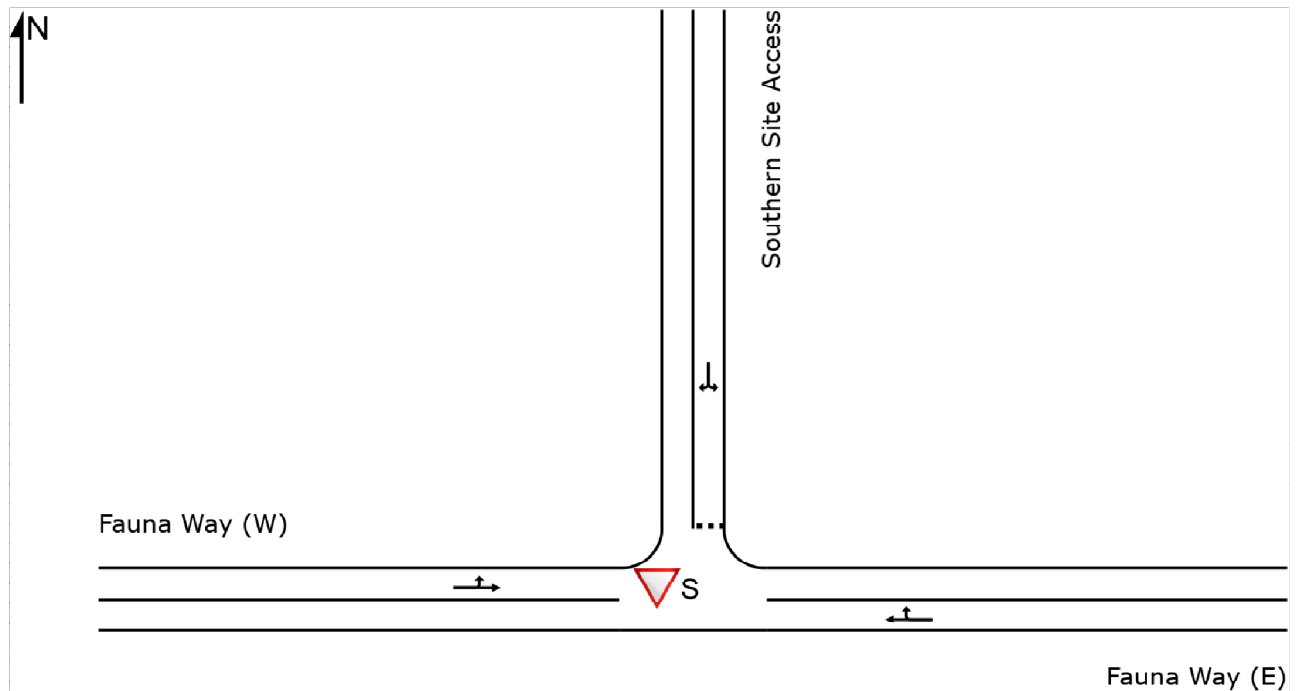
Prepared by: MP.

Review by BP.

Site Category: (None)

Give-Way (Two-Way)

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



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MOVEMENT SUMMARY

Site: S [2031 BG + DEV AM (Site Folder: Site Access (South))]

Southern Site Access/Yarrabilba Drive (Proposed).

Prepared by: MP.

Review by BP.

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Fauna Way (E)														
5	T1	409	3.0	431	3.0	0.239	0.1	LOS A	0.2	1.2	0.05	0.02	0.05	58.9
6	R2	16	3.0	17	3.0	0.239	7.1	LOS A	0.2	1.2	0.05	0.02	0.05	56.4
Approach		425	3.0	447	3.0	0.239	0.4	NA	0.2	1.2	0.05	0.02	0.05	58.7
North: Southern Site Access														
7	L2	16	3.0	17	3.0	0.120	6.7	LOS A	0.4	2.8	0.51	0.77	0.51	48.3
9	R2	57	3.0	60	3.0	0.120	10.0	LOS A	0.4	2.8	0.51	0.77	0.51	37.1
Approach		73	3.0	77	3.0	0.120	9.3	LOS A	0.4	2.8	0.51	0.77	0.51	39.5
West: Fauna Way (W)														
10	L2	31	3.0	33	3.0	0.175	5.5	LOS A	0.0	0.0	0.00	0.06	0.00	56.2
11	T1	286	3.0	301	3.0	0.175	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	58.5
Approach		317	3.0	334	3.0	0.175	0.5	NA	0.0	0.0	0.00	0.06	0.00	58.1
All Vehicles		815	3.0	858	3.0	0.239	1.2	NA	0.4	2.8	0.07	0.10	0.07	54.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

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

Queue Model: SIDRA Standard.

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

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

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MOVEMENT SUMMARY

Site: S [2031 BG + DEV PM (Site Folder: Site Access (South))]

Southern Site Access/Yarrabilba Drive (Proposed).

Prepared by: MP.

Review by BP.

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
						v/c	sec							km/h
East: Fauna Way (E)														
5	T1	199	3.0	209	3.0	0.126	0.2	LOS A	0.2	1.3	0.10	0.05	0.10	57.6
6	R2	18	3.0	19	3.0	0.126	7.3	LOS A	0.2	1.3	0.10	0.05	0.10	55.9
Approach		217	3.0	228	3.0	0.126	0.8	NA	0.2	1.3	0.10	0.05	0.10	57.3
North: Southern Site Access														
7	L2	18	3.0	19	3.0	0.115	7.0	LOS A	0.4	2.8	0.49	0.75	0.49	49.0
9	R2	63	3.0	66	3.0	0.115	8.8	LOS A	0.4	2.8	0.49	0.75	0.49	37.7
Approach		81	3.0	85	3.0	0.115	8.4	LOS A	0.4	2.8	0.49	0.75	0.49	40.2
West: Fauna Way (W)														
10	L2	35	3.0	37	3.0	0.216	5.5	LOS A	0.0	0.0	0.00	0.05	0.00	56.2
11	T1	356	3.0	375	3.0	0.216	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	58.6
Approach		391	3.0	412	3.0	0.216	0.5	NA	0.0	0.0	0.00	0.05	0.00	58.2
All Vehicles		689	3.0	725	3.0	0.216	1.5	NA	0.4	2.8	0.09	0.14	0.09	53.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

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

Queue Model: SIDRA Standard.

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

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

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MOVEMENT SUMMARY

Site: S [Ultimate BG + DEV AM (Site Folder: Site Access (South))]

Southern Site Access/Yarrabilba Drive (Proposed).

Prepared by: MP.

Review by BP.

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
v/c sec														
East: Fauna Way (E)														
5	T1	293	3.0	308	3.0	0.175	0.1	LOS A	0.2	1.2	0.06	0.03	0.06	58.5
6	R2	16	3.0	17	3.0	0.175	7.2	LOS A	0.2	1.2	0.06	0.03	0.06	56.2
Approach		309	3.0	325	3.0	0.175	0.5	NA	0.2	1.2	0.06	0.03	0.06	58.3
North: Southern Site Access														
7	L2	16	3.0	17	3.0	0.109	6.8	LOS A	0.4	2.6	0.49	0.76	0.49	48.7
9	R2	57	3.0	60	3.0	0.109	9.2	LOS A	0.4	2.6	0.49	0.76	0.49	37.5
Approach		73	3.0	77	3.0	0.109	8.7	LOS A	0.4	2.6	0.49	0.76	0.49	39.9
West: Fauna Way (W)														
10	L2	31	3.0	33	3.0	0.197	5.5	LOS A	0.0	0.0	0.00	0.05	0.00	56.3
11	T1	326	3.0	343	3.0	0.197	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	58.6
Approach		357	3.0	376	3.0	0.197	0.5	NA	0.0	0.0	0.00	0.05	0.00	58.3
All Vehicles		739	3.0	778	3.0	0.197	1.3	NA	0.4	2.6	0.08	0.11	0.08	54.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

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

Queue Model: SIDRA Standard.

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

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

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MOVEMENT SUMMARY

Site: S [Ultimate BG + DEV PM (Site Folder: Site Access (South))]

Southern Site Access/Yarrabilba Drive (Proposed).

Prepared by: MP.

Review by BP.

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Fauna Way (E)														
5	T1	265	3.0	279	3.0	0.164	0.3	LOS A	0.2	1.5	0.09	0.04	0.09	58.0
6	R2	18	3.0	19	3.0	0.164	7.8	LOS A	0.2	1.5	0.09	0.04	0.09	56.0
Approach		283	3.0	298	3.0	0.164	0.7	NA	0.2	1.5	0.09	0.04	0.09	57.8
North: Southern Site Access														
7	L2	18	3.0	19	3.0	0.135	7.4	LOS A	0.4	3.2	0.54	0.79	0.54	48.1
9	R2	63	3.0	66	3.0	0.135	10.0	LOS A	0.4	3.2	0.54	0.79	0.54	37.0
Approach		81	3.0	85	3.0	0.135	9.4	LOS A	0.4	3.2	0.54	0.79	0.54	39.5
West: Fauna Way (W)														
10	L2	35	3.0	37	3.0	0.251	5.5	LOS A	0.0	0.0	0.00	0.05	0.00	56.3
11	T1	420	3.0	442	3.0	0.251	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	58.7
Approach		455	3.0	479	3.0	0.251	0.4	NA	0.0	0.0	0.00	0.05	0.00	58.4
All Vehicles		819	3.0	862	3.0	0.251	1.4	NA	0.4	3.2	0.09	0.12	0.09	54.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

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

Queue Model: SIDRA Standard.

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

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

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SITE LAYOUT

Site: 14 [2031 BG AM (Site Folder: 60m RT - Adjusted BG)]

Signalised intersection: Yarrabilba Drive/Precinct 3B-3C Link/Unnamed Road

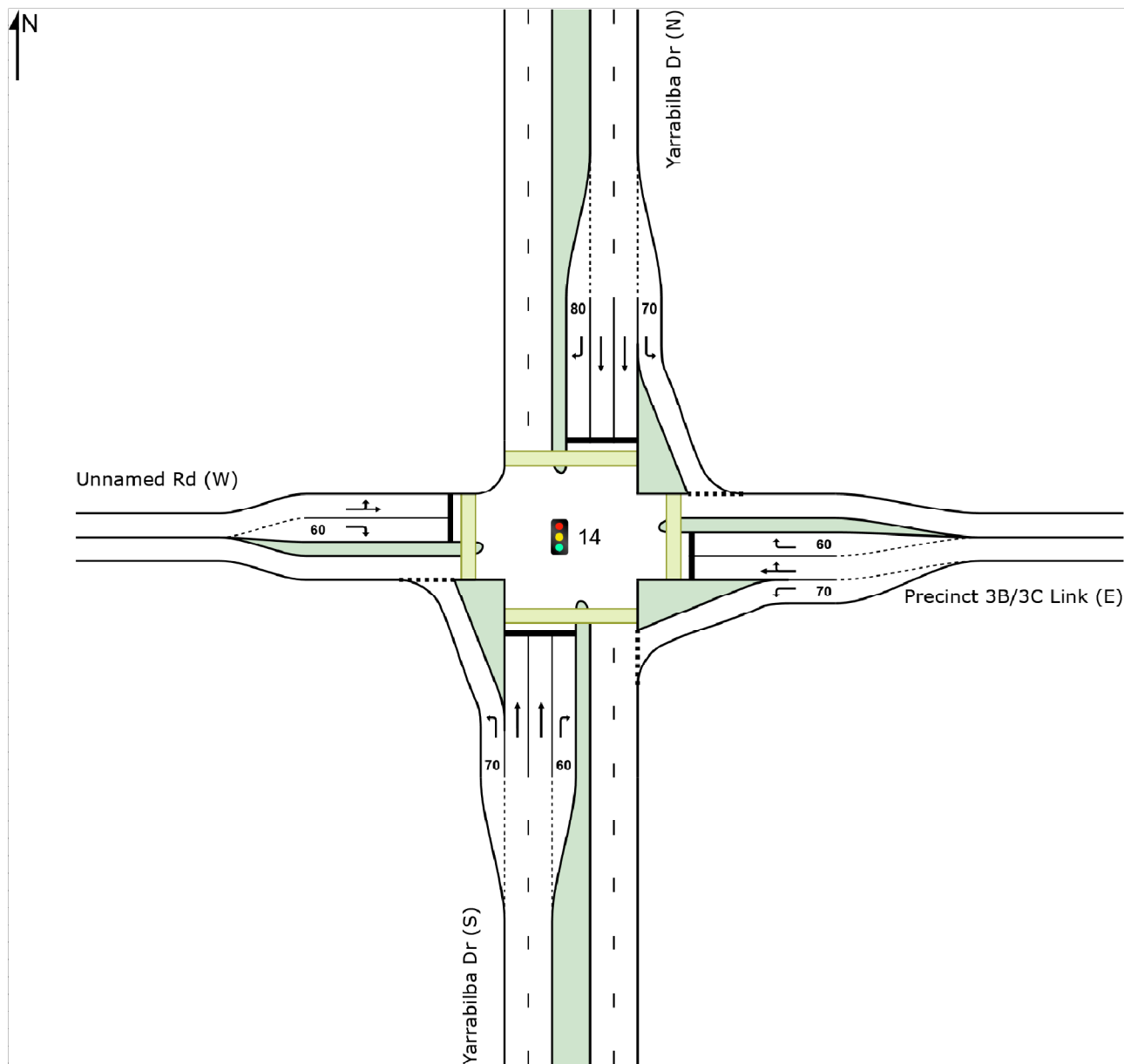
Prepared by: MC

Reviewed by:

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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MOVEMENT SUMMARY

 **Site: 14 [2031 BG AM (Site Folder: 60m RT - Adjusted BG)]**

Signalised intersection: Yarrabilba Drive/Precinct 3B-3C Link/Unnamed Road

Prepared by: MC

Reviewed by:

Site Category: (None)

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

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Yarrabilba Dr (S)														
1	L2	33	3.0	35	3.0	0.024	6.1	LOS A	0.1	1.0	0.12	0.57	0.12	53.7
2	T1	344	3.0	362	3.0	0.291	32.3	LOS C	7.9	56.4	0.79	0.66	0.79	39.2
3	R2	58	3.0	61	3.0	* 0.310	60.5	LOS E	3.4	24.4	0.96	0.75	0.96	29.8
Approach		435	3.0	458	3.0	0.310	34.1	LOS C	7.9	56.4	0.76	0.66	0.76	38.4
East: Precinct 3B/3C Link (E)														
4	L2	110	3.0	116	3.0	0.092	6.9	LOS A	0.9	6.7	0.20	0.60	0.20	53.1
5	T1	10	3.0	11	3.0	0.252	24.4	LOS C	5.9	42.6	0.73	0.74	0.73	40.4
6	R2	289	3.0	304	3.0	* 0.252	30.0	LOS C	5.9	42.6	0.74	0.75	0.74	39.7
Approach		409	3.0	431	3.0	0.252	23.7	LOS C	5.9	42.6	0.59	0.71	0.59	42.6
North: Yarrabilba Dr (N)														
7	L2	233	3.0	245	3.0	0.160	6.3	LOS A	1.4	9.8	0.16	0.60	0.16	53.6
8	T1	397	3.0	418	3.0	* 0.336	32.9	LOS C	9.2	66.2	0.80	0.67	0.80	39.0
9	R2	29	3.0	31	3.0	0.155	59.1	LOS E	1.7	11.9	0.94	0.72	0.94	30.0
Approach		659	3.0	694	3.0	0.336	24.6	LOS C	9.2	66.2	0.58	0.65	0.58	42.5
West: Unnamed Rd (W)														
10	L2	10	3.0	11	3.0	0.081	55.2	LOS E	1.0	7.4	0.91	0.68	0.91	31.8
11	T1	9	3.0	9	3.0	* 0.081	49.6	LOS D	1.0	7.4	0.91	0.68	0.91	32.3
12	R2	10	3.0	11	3.0	0.050	55.1	LOS E	0.5	3.9	0.90	0.68	0.90	31.2
Approach		29	3.0	31	3.0	0.081	53.4	LOS D	1.0	7.4	0.90	0.68	0.90	31.7
All Vehicles		1532	3.0	1613	3.0	0.336	27.6	LOS C	9.2	66.2	0.64	0.67	0.64	41.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

Queue Model: SIDRA Standard.

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Yarrabilba Dr (S)												
P1	Full	50	53	47.8	LOS E	0.2	0.2	0.89	0.89	79.0	40.5	0.51
East: Precinct 3B/3C Link (E)												
P2	Full	50	53	33.8	LOS D	0.1	0.1	0.75	0.75	59.9	33.9	0.57

North: Yarrabilba Dr (N)												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
West: Unnamed Rd (W)												
P4	Full	50	53	33.8	LOS D	0.1	0.1	0.75	0.75	59.9	33.9	0.57
All		200	211	42.4	LOS E	0.2	0.2	0.84	0.84	71.0	37.2	0.52
Pedestrians												

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

 **Site: 14 [2031 BG PM (Site Folder: 60m RT - Adjusted BG)]**

Signalised intersection: Yarrabilba Drive/Precinct 3B-3C Link/Unnamed Road

Prepared by: MC

Reviewed by:

Site Category: (None)

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

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Yarrabilba Dr (S)														
1	L2	14	3.0	15	3.0	0.010	6.0	LOS A	0.0	0.3	0.10	0.57	0.10	53.8
2	T1	257	3.0	271	3.0	0.163	21.9	LOS C	4.7	34.1	0.64	0.53	0.64	44.1
3	R2	104	3.0	109	3.0	* 0.602	63.8	LOS E	6.4	46.1	1.00	0.80	1.02	29.0
Approach		375	3.0	395	3.0	0.602	33.0	LOS C	6.4	46.1	0.72	0.60	0.73	38.8
East: Precinct 3B/3C Link (E)														
4	L2	62	3.0	65	3.0	0.070	10.0	LOS A	1.0	7.1	0.34	0.63	0.34	50.9
5	T1	5	3.0	5	3.0	0.171	32.4	LOS C	3.1	22.2	0.81	0.73	0.81	37.2
6	R2	132	3.0	139	3.0	* 0.171	38.0	LOS D	3.1	22.2	0.81	0.73	0.81	36.6
Approach		199	3.0	209	3.0	0.171	29.2	LOS C	3.1	22.2	0.67	0.70	0.67	40.1
North: Yarrabilba Dr (N)														
7	L2	256	3.0	269	3.0	0.180	6.7	LOS A	2.0	14.4	0.20	0.61	0.20	53.3
8	T1	904	3.0	952	3.0	* 0.606	27.4	LOS C	22.0	158.0	0.81	0.72	0.81	41.4
9	R2	10	3.0	11	3.0	0.058	59.2	LOS E	0.6	4.1	0.93	0.68	0.93	30.0
Approach		1170	3.0	1232	3.0	0.606	23.1	LOS C	22.0	158.0	0.68	0.69	0.68	43.4
West: Unnamed Rd (W)														
10	L2	32	3.0	34	3.0	0.184	56.2	LOS E	2.4	17.2	0.93	0.73	0.93	31.1
11	T1	11	3.0	12	3.0	* 0.184	50.7	LOS D	2.4	17.2	0.93	0.73	0.93	31.6
12	R2	37	3.0	39	3.0	0.181	56.5	LOS E	2.1	14.9	0.92	0.73	0.92	30.8
Approach		80	3.0	84	3.0	0.184	55.6	LOS E	2.4	17.2	0.92	0.73	0.92	31.1
All Vehicles		1824	3.0	1920	3.0	0.606	27.2	LOS C	22.0	158.0	0.70	0.68	0.70	41.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

Queue Model: SIDRA Standard.

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Yarrabilba Dr (S)												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
East: Precinct 3B/3C Link (E)												
P2	Full	50	53	24.8	LOS C	0.1	0.1	0.64	0.64	50.8	33.9	0.67

North: Yarrabilba Dr (N)												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
West: Unnamed Rd (W)												
P4	Full	50	53	24.8	LOS C	0.1	0.1	0.64	0.64	50.8	33.9	0.67
All		200	211	39.5	LOS D	0.2	0.2	0.80	0.80	68.1	37.2	0.55
Pedestrians												

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

 **Site: 14 [Ultimate BG AM (Site Folder: 60m RT - Adjusted BG)]**

Signalised intersection: Yarrabilba Drive/Precinct 3B-3C Link/Unnamed Road

Prepared by: MC

Reviewed by:

Site Category: (None)

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

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Yarrabilba Dr (S)														
1	L2	24	3.0	25	3.0	0.017	6.1	LOS A	0.1	0.7	0.12	0.57	0.12	53.7
2	T1	403	3.0	424	3.0	* 0.341	32.9	LOS C	9.4	67.3	0.81	0.68	0.81	39.0
3	R2	124	3.0	131	3.0	* 0.345	49.6	LOS D	6.6	47.2	0.90	0.78	0.90	32.7
Approach		551	3.0	580	3.0	0.345	35.5	LOS D	9.4	67.3	0.80	0.70	0.80	37.8
East: Precinct 3B/3C Link (E)														
4	L2	127	3.0	134	3.0	0.107	6.8	LOS A	1.0	7.2	0.19	0.60	0.19	53.2
5	T1	32	3.0	34	3.0	0.193	32.6	LOS C	3.9	27.8	0.80	0.69	0.80	37.7
6	R2	134	3.0	141	3.0	* 0.193	38.3	LOS D	3.9	27.8	0.81	0.72	0.81	36.7
Approach		293	3.0	308	3.0	0.193	24.0	LOS C	3.9	27.8	0.54	0.67	0.54	42.6
North: Yarrabilba Dr (N)														
7	L2	211	3.0	222	3.0	0.152	6.7	LOS A	1.6	11.5	0.19	0.61	0.19	53.3
8	T1	340	3.0	358	3.0	0.288	32.3	LOS C	7.8	55.7	0.79	0.65	0.79	39.2
9	R2	11	3.0	12	3.0	0.031	46.0	LOS D	0.5	3.8	0.82	0.68	0.82	33.6
Approach		562	3.0	592	3.0	0.288	22.9	LOS C	7.8	55.7	0.57	0.64	0.57	43.4
West: Unnamed Rd (W)														
10	L2	11	3.0	12	3.0	0.081	55.2	LOS E	1.0	7.4	0.91	0.68	0.91	31.7
11	T1	8	3.0	8	3.0	* 0.081	49.6	LOS D	1.0	7.4	0.91	0.68	0.91	32.2
12	R2	13	3.0	14	3.0	0.066	55.4	LOS E	0.7	5.1	0.90	0.69	0.90	31.1
Approach		32	3.0	34	3.0	0.081	53.9	LOS D	1.0	7.4	0.91	0.68	0.91	31.6
All Vehicles		1438	3.0	1514	3.0	0.345	28.7	LOS C	9.4	67.3	0.66	0.67	0.66	40.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

Queue Model: SIDRA Standard.

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Yarrabilba Dr (S)												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
East: Precinct 3B/3C Link (E)												
P2	Full	50	53	33.8	LOS D	0.1	0.1	0.75	0.75	59.9	33.9	0.57

North: Yarrabilba Dr (N)												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
West: Unnamed Rd (W)												
P4	Full	50	53	33.8	LOS D	0.1	0.1	0.75	0.75	59.9	33.9	0.57
All		200	211	44.0	LOS E	0.2	0.2	0.85	0.85	72.7	37.2	0.51
Pedestrians												

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

 **Site: 14 [Ultimate BG PM (Site Folder: 60m RT - Adjusted BG)]**

Signalised intersection: Yarrabilba Drive/Precinct 3B-3C Link/Unnamed Road

Prepared by: MC

Reviewed by:

Site Category: (None)

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

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Yarrabilba Dr (S)														
1	L2	21	3.0	22	3.0	0.015	6.0	LOS A	0.1	0.5	0.11	0.57	0.11	53.8
2	T1	200	3.0	211	3.0	0.174	31.6	LOS C	4.4	31.7	0.76	0.61	0.76	39.5
3	R2	149	3.0	157	3.0	* 0.398	49.4	LOS D	7.9	57.1	0.90	0.79	0.90	32.7
Approach		370	3.0	389	3.0	0.398	37.3	LOS D	7.9	57.1	0.78	0.68	0.78	37.0
East: Precinct 3B/3C Link (E)														
4	L2	93	3.0	98	3.0	0.083	7.4	LOS A	0.9	6.6	0.24	0.61	0.24	52.7
5	T1	8	3.0	8	3.0	0.212	32.8	LOS C	3.9	28.2	0.82	0.73	0.82	37.1
6	R2	164	3.0	173	3.0	* 0.212	38.4	LOS D	3.9	28.2	0.82	0.74	0.82	36.4
Approach		265	3.0	279	3.0	0.212	27.4	LOS C	3.9	28.2	0.62	0.69	0.62	40.9
North: Yarrabilba Dr (N)														
7	L2	265	3.0	279	3.0	0.196	7.2	LOS A	2.6	18.5	0.23	0.62	0.23	52.9
8	T1	472	3.0	497	3.0	* 0.410	34.5	LOS C	11.4	81.7	0.83	0.71	0.83	38.3
9	R2	6	3.0	6	3.0	0.016	44.8	LOS D	0.3	2.1	0.81	0.66	0.81	34.0
Approach		743	3.0	782	3.0	0.410	24.9	LOS C	11.4	81.7	0.62	0.68	0.62	42.5
West: Unnamed Rd (W)														
10	L2	17	3.0	18	3.0	0.160	56.0	LOS E	2.1	15.1	0.92	0.71	0.92	31.7
11	T1	21	3.0	22	3.0	* 0.160	50.4	LOS D	2.1	15.1	0.92	0.71	0.92	32.2
12	R2	25	3.0	26	3.0	0.123	56.0	LOS E	1.4	10.0	0.91	0.72	0.91	31.0
Approach		63	3.0	66	3.0	0.160	54.1	LOS D	2.1	15.1	0.92	0.71	0.92	31.6
All Vehicles		1441	3.0	1517	3.0	0.410	29.8	LOS C	11.4	81.7	0.67	0.68	0.67	40.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

Queue Model: SIDRA Standard.

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Yarrabilba Dr (S)												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
East: Precinct 3B/3C Link (E)												
P2	Full	50	53	34.6	LOS D	0.1	0.1	0.76	0.76	60.7	33.9	0.56

North: Yarrabilba Dr (N)												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
West: Unnamed Rd (W)												
P4	Full	50	53	34.6	LOS D	0.1	0.1	0.76	0.76	60.7	33.9	0.56
All		200	211	44.4	LOS E	0.2	0.2	0.86	0.86	73.0	37.2	0.51
Pedestrians												

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

 Site: 14 [2031 BG + DEV AM (Site Folder: 60m RT - Adjusted BG)]

Signalised intersection: Yarrabilba Drive/Precinct 3B-3C Link/Unnamed Road

Prepared by: MC

Reviewed by:

Site Category: (None)

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

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Yarrabilba Dr (S)														
1	L2	33	3.0	35	3.0	0.024	6.1	LOS A	0.1	1.0	0.12	0.57	0.12	53.7
2	T1	344	3.0	362	3.0	0.316	34.8	LOS C	8.2	58.6	0.82	0.68	0.82	38.2
3	R2	76	3.0	80	3.0	* 0.352	58.8	LOS E	4.4	31.6	0.96	0.77	0.96	30.2
Approach		453	3.0	477	3.0	0.352	36.7	LOS D	8.2	58.6	0.79	0.69	0.79	37.3
East: Precinct 3B/3C Link (E)														
4	L2	128	3.0	135	3.0	0.106	7.1	LOS A	1.2	8.4	0.21	0.61	0.21	53.0
5	T1	10	3.0	11	3.0	0.261	23.8	LOS C	6.2	44.8	0.73	0.74	0.73	40.7
6	R2	307	3.0	323	3.0	* 0.261	29.5	LOS C	6.2	44.8	0.73	0.75	0.73	39.9
Approach		445	3.0	468	3.0	0.261	22.9	LOS C	6.2	44.8	0.58	0.71	0.58	43.0
North: Yarrabilba Dr (N)														
7	L2	233	3.0	245	3.0	0.162	6.4	LOS A	1.5	10.8	0.18	0.60	0.18	53.5
8	T1	397	3.0	418	3.0	* 0.364	35.4	LOS D	9.6	68.8	0.83	0.70	0.83	38.0
9	R2	29	3.0	31	3.0	0.134	56.8	LOS E	1.6	11.6	0.92	0.72	0.92	30.6
Approach		659	3.0	694	3.0	0.364	26.1	LOS C	9.6	68.8	0.60	0.66	0.60	41.8
West: Unnamed Rd (W)														
10	L2	10	3.0	11	3.0	0.081	55.2	LOS E	1.0	7.4	0.91	0.68	0.91	31.8
11	T1	9	3.0	9	3.0	* 0.081	49.6	LOS D	1.0	7.4	0.91	0.68	0.91	32.3
12	R2	10	3.0	11	3.0	0.050	55.1	LOS E	0.5	3.9	0.90	0.68	0.90	31.2
Approach		29	3.0	31	3.0	0.081	53.4	LOS D	1.0	7.4	0.90	0.68	0.90	31.7
All Vehicles		1586	3.0	1669	3.0	0.364	28.8	LOS C	9.6	68.8	0.66	0.68	0.66	40.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

Queue Model: SIDRA Standard.

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Yarrabilba Dr (S)												
P1	Full	50	53	46.9	LOS E	0.2	0.2	0.89	0.89	78.1	40.5	0.52
East: Precinct 3B/3C Link (E)												
P2	Full	50	53	36.1	LOS D	0.1	0.1	0.78	0.78	62.2	33.9	0.55

North: Yarrabilba Dr (N)												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
West: Unnamed Rd (W)												
P4	Full	50	53	36.1	LOS D	0.1	0.1	0.78	0.78	62.2	33.9	0.55
All		200	211	43.4	LOS E	0.2	0.2	0.85	0.85	72.0	37.2	0.52
Pedestrians												

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

 **Site: 14 [2031 BG + DEV PM (Site Folder: 60m RT - Adjusted BG)]**

Signalised intersection: Yarrabilba Drive/Precinct 3B-3C Link/Unnamed Road

Prepared by: MC

Reviewed by:

Site Category: (None)

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

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h %		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Yarrabilba Dr (S)														
1	L2	14	3.0	15	3.0	0.010	6.0	LOS A	0.0	0.3	0.10	0.57	0.10	53.8
2	T1	257	3.0	271	3.0	0.170	23.3	LOS C	4.9	35.1	0.66	0.54	0.66	43.4
3	R2	124	3.0	131	3.0	* 0.615	62.1	LOS E	7.6	54.3	1.00	0.81	1.02	29.4
Approach		395	3.0	416	3.0	0.615	34.8	LOS C	7.6	54.3	0.75	0.63	0.75	38.0
East: Precinct 3B/3C Link (E)														
4	L2	82	3.0	86	3.0	0.092	10.4	LOS B	1.4	9.9	0.36	0.64	0.36	50.6
5	T1	5	3.0	5	3.0	0.196	32.6	LOS C	3.6	25.6	0.81	0.73	0.81	37.1
6	R2	152	3.0	160	3.0	* 0.196	38.3	LOS D	3.6	25.6	0.82	0.74	0.82	36.5
Approach		239	3.0	252	3.0	0.196	28.6	LOS C	3.6	25.6	0.66	0.70	0.66	40.4
North: Yarrabilba Dr (N)														
7	L2	256	3.0	269	3.0	0.183	6.9	LOS A	2.2	15.5	0.21	0.61	0.21	53.1
8	T1	904	3.0	952	3.0	* 0.634	29.0	LOS C	22.9	164.1	0.83	0.74	0.83	40.6
9	R2	10	3.0	11	3.0	0.050	56.9	LOS E	0.6	4.0	0.92	0.68	0.92	30.5
Approach		1170	3.0	1232	3.0	0.634	24.4	LOS C	22.9	164.1	0.70	0.71	0.70	42.7
West: Unnamed Rd (W)														
10	L2	32	3.0	34	3.0	0.184	56.2	LOS E	2.4	17.2	0.93	0.73	0.93	31.1
11	T1	11	3.0	12	3.0	* 0.184	50.7	LOS D	2.4	17.2	0.93	0.73	0.93	31.6
12	R2	37	3.0	39	3.0	0.181	56.5	LOS E	2.1	14.9	0.92	0.73	0.92	30.8
Approach		80	3.0	84	3.0	0.184	55.6	LOS E	2.4	17.2	0.92	0.73	0.92	31.1
All Vehicles		1884	3.0	1983	3.0	0.634	28.5	LOS C	22.9	164.1	0.71	0.69	0.72	40.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

Queue Model: SIDRA Standard.

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Yarrabilba Dr (S)												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
East: Precinct 3B/3C Link (E)												
P2	Full	50	53	26.1	LOS C	0.1	0.1	0.66	0.66	52.1	33.9	0.65

North: Yarrabilba Dr (N)												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
West: Unnamed Rd (W)												
P4	Full	50	53	26.1	LOS C	0.1	0.1	0.66	0.66	52.1	33.9	0.65
All		200	211	40.2	LOS E	0.2	0.2	0.81	0.81	68.8	37.2	0.54
Pedestrians												

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

 **Site: 14 [Ultimate BG + DEV AM (Site Folder: 60m RT - Adjusted BG)]**

Signalised intersection: Yarrabilba Drive/Precinct 3B-3C Link/Unnamed Road

Prepared by: MC

Reviewed by:

Site Category: (None)

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

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h %		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Yarrabilba Dr (S)														
1	L2	24	3.0	25	3.0	0.017	6.1	LOS A	0.1	0.7	0.12	0.57	0.12	53.7
2	T1	403	3.0	424	3.0	* 0.391	37.3	LOS D	10.0	71.8	0.85	0.71	0.85	37.2
3	R2	169	3.0	178	3.0	* 0.391	46.1	LOS D	8.7	62.5	0.88	0.80	0.88	33.7
Approach		596	3.0	627	3.0	0.391	38.5	LOS D	10.0	71.8	0.83	0.73	0.83	36.6
East: Precinct 3B/3C Link (E)														
4	L2	144	3.0	152	3.0	0.120	6.8	LOS A	1.2	8.3	0.20	0.60	0.20	53.2
5	T1	32	3.0	34	3.0	0.215	32.9	LOS C	4.3	30.9	0.81	0.71	0.81	37.5
6	R2	152	3.0	160	3.0	* 0.215	38.5	LOS D	4.3	30.9	0.82	0.73	0.82	36.6
Approach		328	3.0	345	3.0	0.215	24.0	LOS C	4.3	30.9	0.54	0.67	0.54	42.5
North: Yarrabilba Dr (N)														
7	L2	211	3.0	222	3.0	0.157	7.1	LOS A	2.0	14.1	0.22	0.62	0.22	52.9
8	T1	340	3.0	358	3.0	0.330	36.5	LOS D	8.3	59.4	0.84	0.69	0.84	37.5
9	R2	11	3.0	12	3.0	0.025	41.6	LOS D	0.5	3.6	0.78	0.67	0.78	35.0
Approach		562	3.0	592	3.0	0.330	25.6	LOS C	8.3	59.4	0.61	0.66	0.61	42.1
West: Unnamed Rd (W)														
10	L2	11	3.0	12	3.0	0.081	55.2	LOS E	1.0	7.4	0.91	0.68	0.91	31.7
11	T1	8	3.0	8	3.0	* 0.081	49.6	LOS D	1.0	7.4	0.91	0.68	0.91	32.2
12	R2	13	3.0	14	3.0	0.066	55.4	LOS E	0.7	5.1	0.90	0.69	0.90	31.1
Approach		32	3.0	34	3.0	0.081	53.9	LOS D	1.0	7.4	0.91	0.68	0.91	31.6
All Vehicles		1518	3.0	1598	3.0	0.391	30.9	LOS C	10.0	71.8	0.69	0.69	0.69	39.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

Queue Model: SIDRA Standard.

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Yarrabilba Dr (S)												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
East: Precinct 3B/3C Link (E)												
P2	Full	50	53	37.7	LOS D	0.1	0.1	0.79	0.79	63.8	33.9	0.53

North: Yarrabilba Dr (N)												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
West: Unnamed Rd (W)												
P4	Full	50	53	37.7	LOS D	0.1	0.1	0.79	0.79	63.8	33.9	0.53
All		200	211	46.0	LOS E	0.2	0.2	0.87	0.87	74.6	37.2	0.50
Pedestrians												

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

 **Site: 14 [Ultimate BG + DEV PM (Site Folder: 60m RT - Adjusted BG)]**

Signalised intersection: Yarrabilba Drive/Precinct 3B-3C Link/Unnamed Road

Prepared by: MC

Reviewed by:

Site Category: (None)

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

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Yarrabilba Dr (S)														
1	L2	21	3.0	22	3.0	0.015	6.0	LOS A	0.1	0.5	0.11	0.57	0.11	53.8
2	T1	200	3.0	211	3.0	0.183	33.2	LOS C	4.5	32.5	0.78	0.63	0.78	38.8
3	R2	169	3.0	178	3.0	* 0.419	48.0	LOS D	8.9	64.0	0.90	0.80	0.90	33.1
Approach		390	3.0	411	3.0	0.419	38.2	LOS D	8.9	64.0	0.79	0.70	0.79	36.7
East: Precinct 3B/3C Link (E)														
4	L2	113	3.0	119	3.0	0.100	7.5	LOS A	1.1	8.2	0.24	0.61	0.24	52.7
5	T1	8	3.0	8	3.0	0.237	33.0	LOS C	4.4	31.7	0.82	0.74	0.82	36.9
6	R2	184	3.0	194	3.0	* 0.237	38.7	LOS D	4.4	31.7	0.83	0.75	0.83	36.3
Approach		305	3.0	321	3.0	0.237	27.0	LOS C	4.4	31.7	0.61	0.70	0.61	41.1
North: Yarrabilba Dr (N)														
7	L2	265	3.0	279	3.0	0.198	7.4	LOS A	2.7	19.6	0.24	0.62	0.24	52.8
8	T1	472	3.0	497	3.0	* 0.433	36.3	LOS D	11.7	83.9	0.85	0.72	0.85	37.6
9	R2	6	3.0	6	3.0	0.015	43.1	LOS D	0.3	2.0	0.79	0.65	0.79	34.5
Approach		743	3.0	782	3.0	0.433	26.0	LOS C	11.7	83.9	0.64	0.69	0.64	41.9
West: Unnamed Rd (W)														
10	L2	17	3.0	18	3.0	0.160	56.0	LOS E	2.1	15.1	0.92	0.71	0.92	31.7
11	T1	21	3.0	22	3.0	* 0.160	50.4	LOS D	2.1	15.1	0.92	0.71	0.92	32.2
12	R2	25	3.0	26	3.0	0.123	56.0	LOS E	1.4	10.0	0.91	0.72	0.91	31.0
Approach		63	3.0	66	3.0	0.160	54.1	LOS D	2.1	15.1	0.92	0.71	0.92	31.6
All Vehicles		1501	3.0	1580	3.0	0.433	30.6	LOS C	11.7	83.9	0.68	0.69	0.68	39.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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

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

Queue Model: SIDRA Standard.

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Yarrabilba Dr (S)												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
East: Precinct 3B/3C Link (E)												
P2	Full	50	53	36.1	LOS D	0.1	0.1	0.78	0.78	62.2	33.9	0.55

North: Yarrabilba Dr (N)												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	85.4	40.5	0.47
West: Unnamed Rd (W)												
P4	Full	50	53	36.1	LOS D	0.1	0.1	0.78	0.78	62.2	33.9	0.55
All		200	211	45.2	LOS E	0.2	0.2	0.86	0.86	73.8	37.2	0.50
Pedestrians												

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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