JORDAN SPRINGS RETIREMENT VILLAGE
SENIOR LIVING VILLAS
TRAFFIC IMPACT ASSESSMENT

FOR

LEND LEASE

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1. INTRODUCTION

1.1 BACKGROUND

Bitzios Consulting was engaged by Lend Lease to undertake a Traffic Impact Assessment (TIA) for a proposed retirement village to be accessed via Jordan Springs Boulevard. The existing lot is currently undeveloped, with minimal access to the adjacent roads. This TIA considered the traffic and transport issues of the proposed development, which comprises of 51 senior villas (independent senior living units) connected by an internal roadway. A view of the site is shown in Figure 1.1 below, with a representation of the planned villas overlaid and study area demarcated.

Source: Google Maps

Figure 1.1: Site Location

1.2 DEVELOPMENT PROPOSAL

The development proposal assessed in this report seeks to develop a retirement village in the study area indicated, consisting of 51 senior villas connected via a circulating interior roadway. The proposed primary access to the senior living villas is via a new site access road intersecting Jordan Springs Boulevard east of Mcgarritys Parade.

A copy of the latest development plans is attached in Appendix A.

1.3 SCOPE

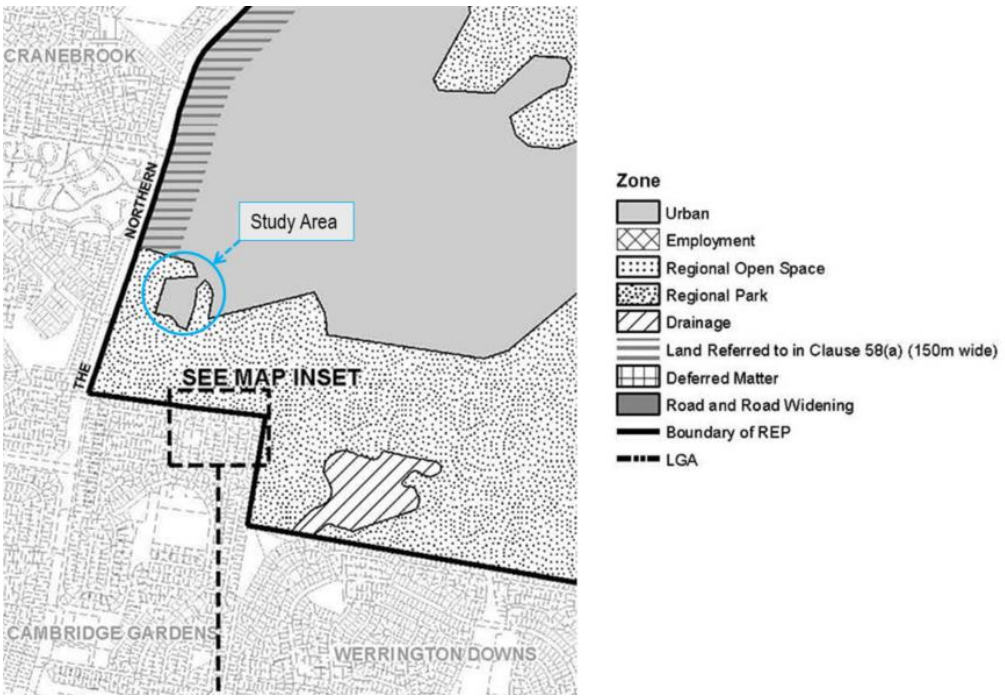
The scope of work for this TIA includes an assessment of the:

- existing public transport, pedestrian/cycling networks and connectivity within the vicinity of the site;
- impacts of development-generated traffic on the surrounding road network;
- new site access point on Jordan Springs Boulevard, to be designed for a 12.5m design vehicle;
- proposed site access locations and configurations; and
- an evaluation of on-site pedestrian connectivity and parking provisions.

2. EXISTING CONDITIONS

2.1 SITE LOCATION AND FORM

The project site is located in the Penrith LGA suburb of Jordan Springs, NSW 2747, bordered by The Northern Road, Jordan Springs Boulevard, and Lakeside Parade. The site is currently undeveloped, and is comprised primarily of bushland. The area is categorised as an 'Urban' zone under the NSW Government's *Sydney Regional Environmental Plan No. 30–St Marys.* The land immediately south of the site is zoned as 'Regional Park' until it reaches Cambridge Gardens. An extract from the zoning map is shown below in Figure 2.1.



Adopted from NSW Government Regional Environmental Plan

Figure 2.1: Zoning Map

Key features which are located in the vicinity of the site include:

- low-density residential dwellings in the surrounding area;
- Jordan Springs Town Centre, including a Woolworths supermarket, retail, café and restaurants;
- a gym on the opposite side of Jordan Springs Boulevard with attached carpark;
- the Village Oval and a childcare centre on Cullen Avenue;
- Water Gum Community Park on Water Gum Drive;
- Anglican church on Lakeside Parade; and
- the Village Centre Lake located north-east of the project site.

2.2 ROAD NETWORK

2.2.1 Jordan Springs Boulevard

Jordan Springs Boulevard is a two-way local road running east-west between The Northern Road and Lakeside Parade. The road has a signposted 50km/h speed limit, and has two lanes in both directions, separated by a wide median. Jordan Springs Boulevard has signalised intersections where it meets The Northern Road and Lakeside Parade, and priority intersections at:

- McGarritys Parade;
- Tyler Street; and
- the Jordan Springs Shopping Centre carpark access driveway.

A typical cross-section of Jordan Springs Boulevard is shown in Figure 2.2, and a layout of the intersections is detailed in Figure 2.3.

Source: Google Street View

Figure 2.2: Typical Cross-section of Jordan Springs Boulevard (Eastbound view)

Adopted from Google Maps

Figure 2.3: Intersection Layout

2.2.2 The Northern Road

The Northern Road is a 51km long state road which runs north-south, connecting Londonderry and Narellan via Luddenham and Bringelly. It runs along the western fringe of Jordan Springs, with two lanes in both directions, short southbound bicycle lanes, bus stops and a signposted 70km/h speed limit. The Northern Road is used as a major thoroughfare for commuters in Jordan Springs and is currently the only carriageway that provides access to and from the wider road network, including the Great Western Highway and M4 Motorway, as well as key suburbs such as Windsor, Penrith and Campbelltown. A typical cross-section of The Northern Road is shown in Figure 2.4.

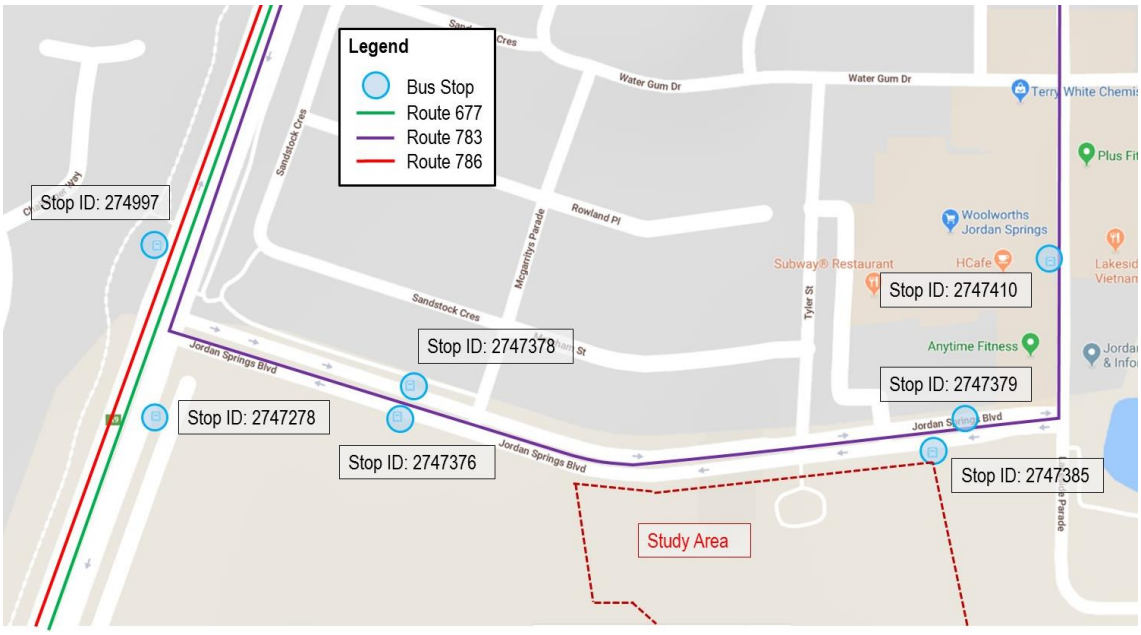
Source: Google Street View

Figure 2.4: Typical Cross-section of The Northern Road (Northbound view)

2.3 PUBLIC TRANSPORT

There are a number of bus routes operating in the nearby vicinity. Bus route 783 – Penrith to Jordan Springs is currently the primary bus route servicing Jordan Springs Boulevard. Furthermore, two bus services operate on The Northern Road, with bus stops located approximately 300m west of the site. Bus route 677 runs from Richmond to Penrith, and route 786 runs from Penrith to Cranebrook.

A map of the bus stops and their associated bus routes is shown below in Figure 2.5. A summary of bus route destinations and service frequency is detailed in Table 2.1.



Adopted from Google Maps

Figure 2.5: Bus Stops and Routes

Table 2.1: Bus Routes and Frequency

Route No.	Destination	Direction	Frequency
677	Richmond to Penrith via Londonderry	Both Directions	5-8 services per day (Monday to Friday) 2 services (Saturday)
783	Jordan Springs to Penrith	Both Directions	Every 30 mins (peak periods) Every 60 mins (off-peak periods)
786	Penrith to Cranebrook via North Penrith (Loop Service)	Penrith to Cranebrook	3 services per day (Monday to Friday)

2.4 ACTIVE TRANSPORT

2.4.1 Walking

The roadway adjacent to the proposed new site access location is part of a comprehensive local footpath network. Footpaths are present on both sides of Jordan Springs Boulevard, The Northern Road, and Lakeside Parade, as well as the other local streets. The south side of Jordan Springs Boulevard, where the site access is located, features an existing footpath approximately 1.6m wide along the length of the road. Signalised pedestrian crossings are located nearby on all sides of the Northern Road / Jordan Springs Boulevard and Jordan Springs Boulevard / Lakeside Parade intersections, approximately 220 and 250 metres away respectively.

Figure 2.6 details the extent of footpath provisions in the area.

Adapted from Google Maps

Figure 2.6: Footpath Network

2.4.2 Cycling

Existing formal cycling infrastructure which is currently available in Jordan Springs includes:

- a short on-road bicycle lane on the southbound carriageway of The Northern Road at the intersection with Jordan Springs Boulevard, extending 100 metres north of the intersection and 50 metres south;
- an off-road shared path adjacent to the northbound carriageway of The Northern Road;
- an off-road shared path along the northern footpath of Jordan Springs Boulevard; and
- an off-road shared path along the western and southern footpaths of Lakeside Parade south of the intersection with Jordan Springs Boulevard.

3. TRAFFIC ASSESSMENT

3.1 DEVELOPMENT TRAFFIC GENERATION AND DISTRIBUTION

This section considers the traffic volumes generated by all developments which are to be serviced by the new site access on Jordan Springs Boulevard. It is to our knowledge that further development is planned adjacent to the study area of the retirement village, comprising of 31 residential subdivision units to the west, three (3) senior living apartment buildings with a total yield of 150 units to the south, and a 144 bed future aged care facility to the east, as shown in Figure 3.1.

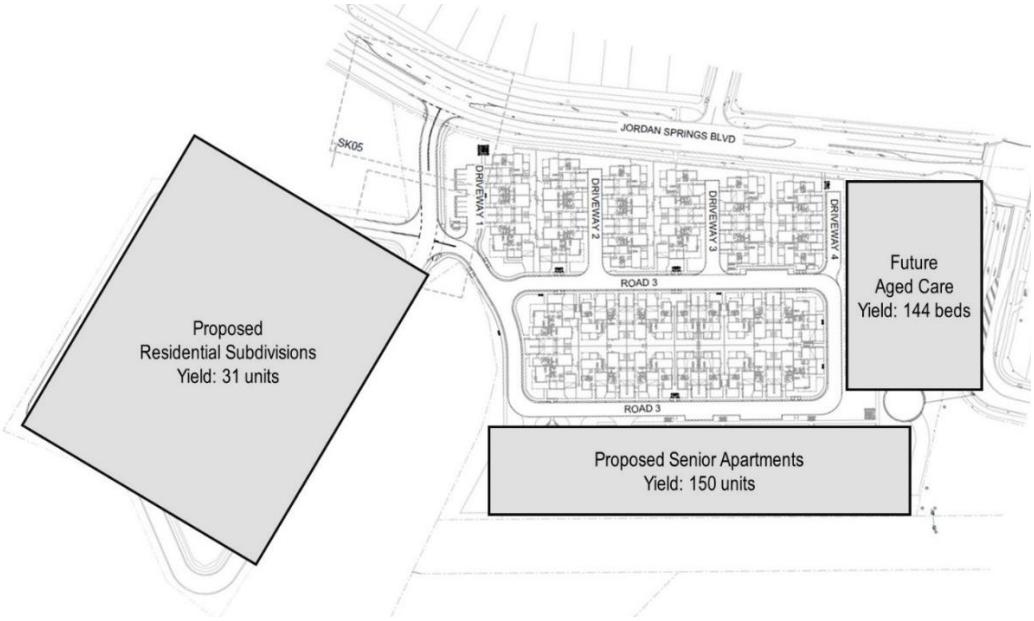


Figure 3.1: Traffic Generating Developments

For a conservative assessment, the traffic for the senior apartment units is assumed to utilise the same access as the senior villa traffic (i.e. the new site access on Jordan Springs Boulevard). However, the proposed aged care facility is expected to utilise a different site access via Lakeside Parade; therefore, its traffic is not included in the assessment of the site's cumulative traffic generation.

The Road and Maritime Services' (RMS) *Technical Direction 2013/04a* (*Guide to Traffic Generating Developments – Updated Traffic Surveys)* was used to determine the traffic generation rates for each of the proposed developments.

The network peak hour periods are as follows: AM: 07:15 – 08:15 and PM: 17:30 – 18:30.

Based upon the Technical Direction, the AM peaks for the senior villas and apartments are generally found to not coincide with that of surrounding road networks (i.e. the commuter peak period). As the traffic generated is expected to be very low at this time, a rate of 0.1 trips per unit has been assumed.

Table 3.1 details the estimated traffic volumes generated by the developments.

Table 3.1: Traffic Generation

Development Type	Quantity	AM Peak Rate	PM Peak Rate	AM Trips	PM Trips
Low Density Residential Lots	31 units	0.95 trips per unit	0.99 trips per unit	30	31
Senior Living Villas	51 units	0.1 trips per unit	0.4 trips per unit	6	21
Senior Apartments	150 units	0.1 trips per unit	0.4 trips per unit	15	60
Total				**51**	**112**

Therefore, the proposed development is estimated to generate 51 trips in the AM peak period and 112 trips in the PM peak period.

The IN:OUT split of the generated traffic for the residential lots is generally assumed to be 30:70 in the AM peak and vice versa in the PM peak. For the proposed retirement village and senior apartments, an IN:OUT split of 60:40 is adopted in both the AM and PM peaks. Although it is unlikely that staff changeover times would coincide with the network peaks, the traffic during these periods would be mainly comprised of employees (who do not live on site) arriving at and leaving the retirement village.

The expected distribution of traffic in and out of the proposed development in each peak period is outlined in Table 3.2 below.

Table 3.2: Traffic Distribution

Development Type	AM Peak		PM Peak		AM Peak Volumes		PM Peak Volumes	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT
Low Density Residential Lots	30%	70%	70%	30%	9	21	22	9
Senior Villas	60%	40%	60%	40%	4	2	13	8
Senior Apartments	60%	40%	60%	40%	9	6	36	24
Total					**22**	**29**	**71**	**41**

The trips heading out of the site are assumed to be all distributed west at the site access road towards The Northern Road, as the primary connection to the wider road network. Correspondingly, the trips travelling into the site are assumed to have come from the same direction. The estimated traffic generated by the development is low volume and is, therefore, not expected to produce any significant impacts on the existing road network.

4. ACCESS ASSESSMENT

4.1 VEHICULAR ACCESS

The site access was assessed to determine suitability of service vehicle access with a 12.5m Heavy Rigid Vehicle. Swept path analysis demonstrating the adequacy of the service vehicle manoeuvrability is included in Appendix B.

The internal roadway of the proposed retirement village will be accessed via a new site entry intersection with Jordan Springs Boulevard, located approximately 50 metres east of the existing Jordan Springs Boulevard/Mcgarritys Parade intersection and 120 metres west of the Jordan Springs Boulevard/Tyler Street intersection.

The proposed site access allows all movement manoeuvres onto and from Jordan Springs Boulevard. The existing road median on Jordan Springs Boulevard is to include a gap to allow for the right-in and right-out manoeuvres.

Without this adjustment, vehicles travelling from The Northern Road would otherwise be required to make a significant detour down Jordan Springs Boulevard to ensure that they approach the site access traveling in the westbound direction, so that they can make the left-in manoeuvre.

However, right-turning vehicles may increase the likelihood of vehicular conflicts in the upstream traffic on Jordan Springs Boulevard, as following through traffic must weave left to bypass any queueing.

To provide safer access, a channelised right turn treatment is recommended by analysis of the turn warrant conditions. This constitutes the provision of an auxiliary right turn lane by narrowing the median width leading up to the intersection. The distance to the closest intersection upstream (Mcgarritys Parade) is only approximately 55 metres, which is not long enough for a standard auxiliary right turn lane. There is, however, enough length to provide a 16.5 metre taper to the turn lane and 12.5 metre storage capacity. It is appropriate in a suburban area like Jordan Springs for turning vehicles to start decelerating before they reach the turning lane, particularly as there are two through lanes, so through traffic can pass right turning vehicles.

Figure 4.1 below depicts the proposed new site access arrangement.

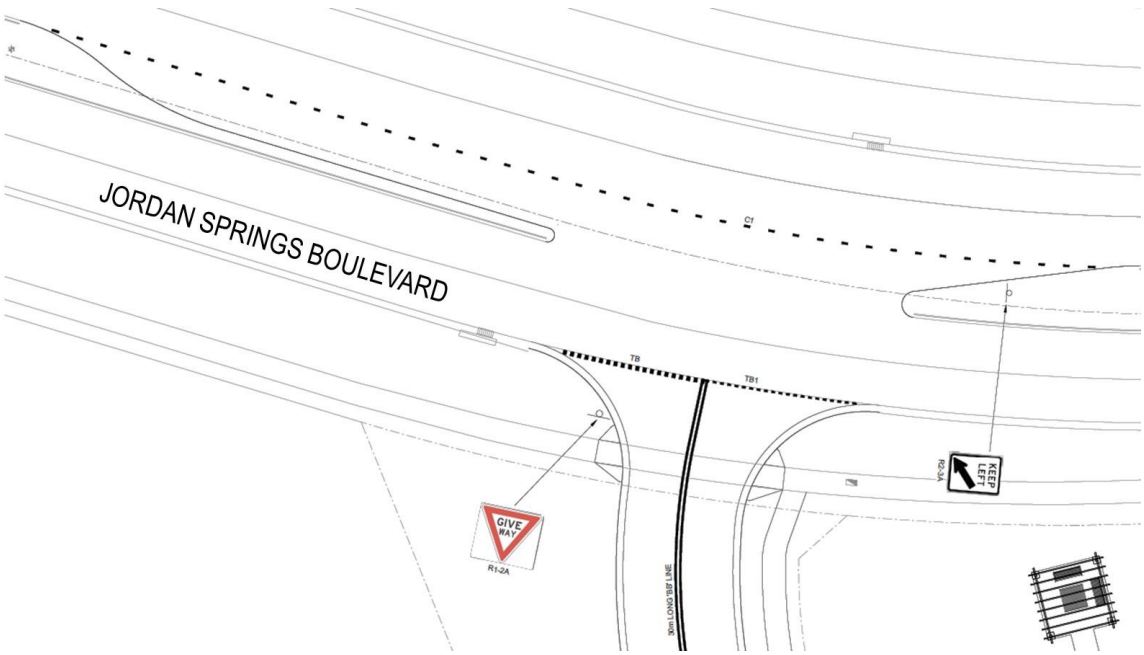


Figure 4.1: Proposed Site Access

4.1.1 Traffic Volumes

The traffic volumes for the road network AM and PM peak periods of the proposed new site access intersection are represented in Figure 4.2 and Figure 4.3 below.

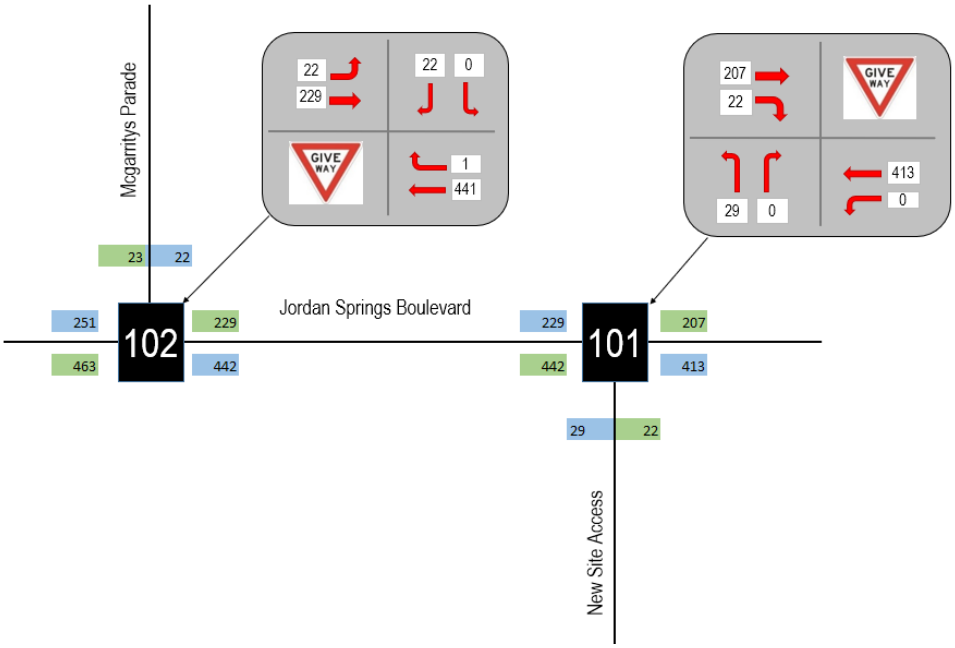


Figure 4.2: AM Peak Traffic Volumes

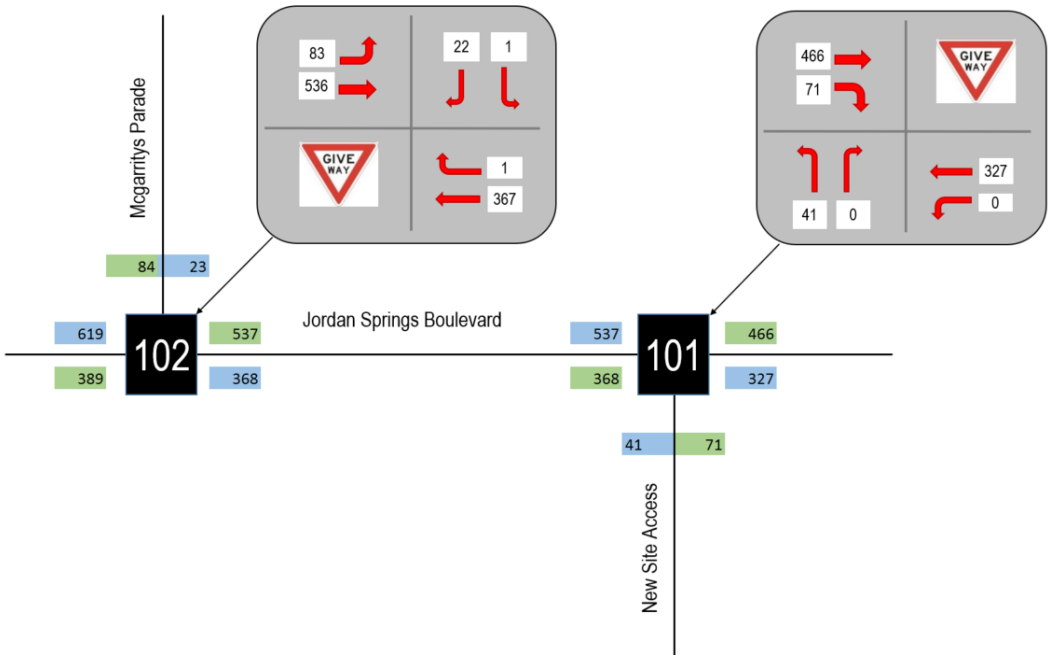


Figure 4.3: PM Peak Traffic Volumes

4.1.2 SIDRA Analysis

SIDRA analysis of the proposed site access intersection was undertaken to determine the required vehicle storage length. The SIDRA result summaries are attached in Appendix C. The proposed intersection layout is shown in Figure 4.4.

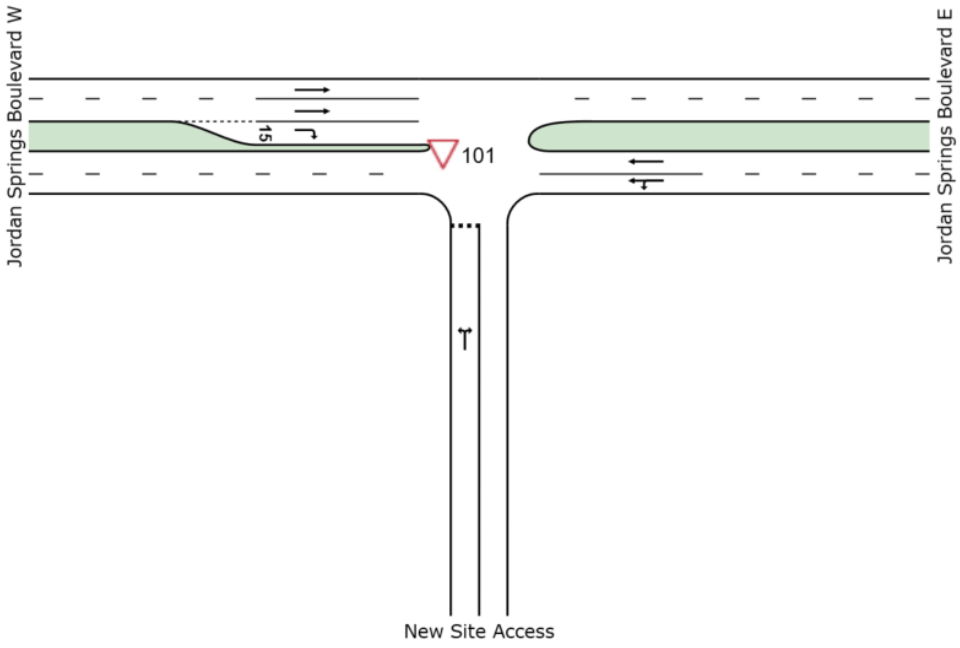


Figure 4.4: SIDRA Intersection Layout

All approaches for the intersection operate at an optimal Level of Service A during both the AM and PM peak periods. No queueing was observed for the right turn movement from Jordan Springs Boulevard into the new site access in either peak period; therefore, a minimum storage of one design vehicle length is acceptable. The design vehicle length, and subsequent required storage length is 12.5 metres.

The required taper length is 16.5 metres for a design speed of major approach of 60km/h and lane width of 3.0 metres.

Therefore, the length required for the proposed auxiliary lane (including taper) is 29m long in total.

Eastbound vehicles in the left lane have a sight distance of approximately 95 metres to the end of the merging lane. Given that the Jordan Springs Boulevard is a slow speed environment, the approaching vehicle would have adequate sight to the merging lane ahead.

4.2 LAKESIDE PARADE EMERGENCY ACCESS

An emergency access point is proposed to the east side of the senior living villas, located on Lakeside Parade south of the signalised intersection with Jordan Springs Boulevard. This site access does not provide direct access to the internal circulating roadway of the senior living areas for the public; it is strictly for emergency vehicles only via the path indicated in Figure 4.5.

The access road leads to a turning circle, which is currently proposed to provide provisional access into the future Aged Care facility lot. Furthermore, it also acts as an alternative access point to the basement carpark of the future senior apartments, allowing vehicles exiting the carpark to leave the site via Lakeside Parade.

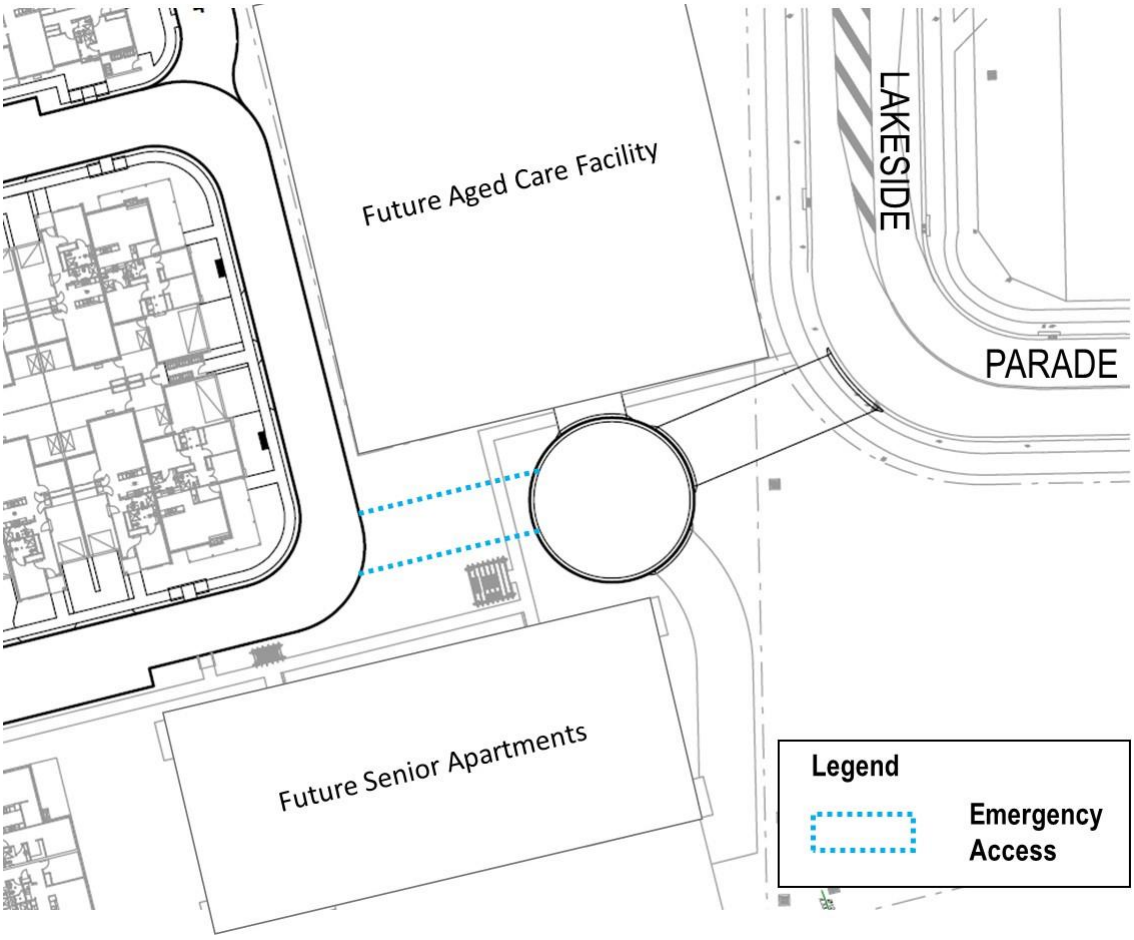


Figure 4.5: Lakeside Parade Site Access

5. INTERNAL CIRCULATING ROADWAY

5.1 RETIREMENT VILLAGE ROADWAY

The internal circulating roadway is two-lane, two-way, and approximately 6.5 metres wide kerb to kerb along the entire length. It is proposed to be structured in a loop arrangement around the central cluster of villas, with no-through laneways (labelled Driveway 1 to 4 below) providing access to the other villas. Figure 5.1 depicts the internal circulating roadway of the retirement village.

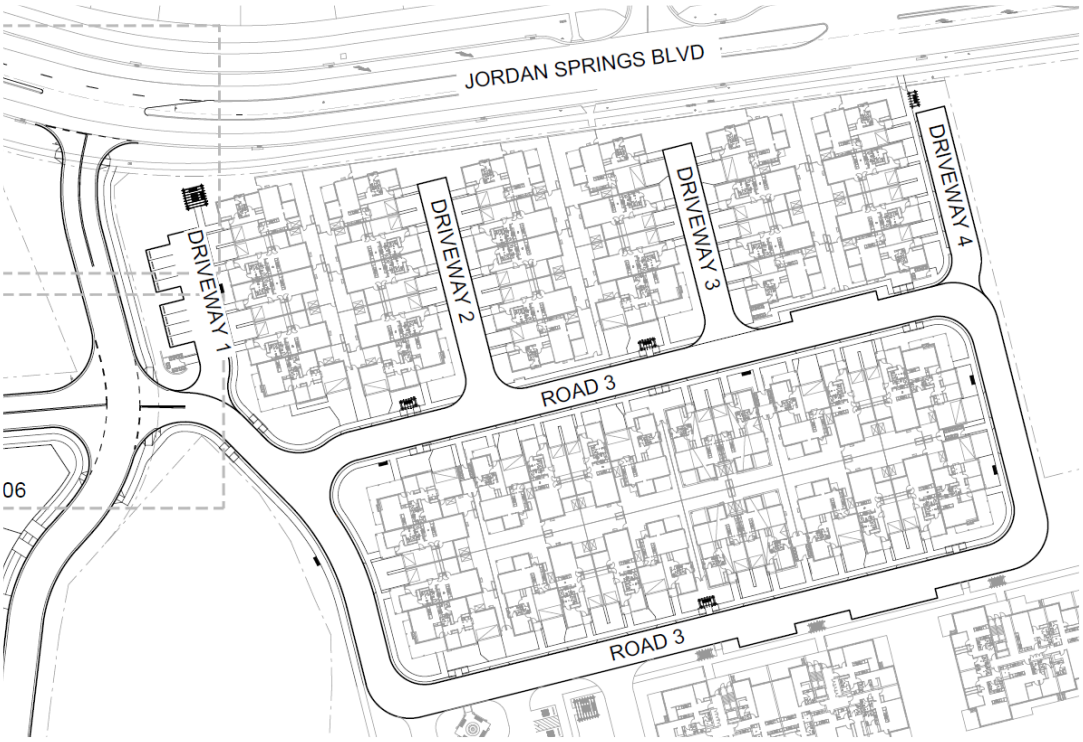


Figure 5.1: Internal Circulating Roadway

The travel lanes are provided at 3.25m wide in each direction, which complies with Council DCP requirements and is suitably wide for two-way traffic movement. On-street parking is provided in the form of kerbside parking bays in designated areas. The internal circulating roadway has a "Give Way" priority at the four-way intersection to the west of the senior living villas.

Swept path analysis was undertaken to demonstrate waste vehicle manoeuvrability to and from the senior living villas circulating roadway. The results are attached in Appendix B. The waste vehicle was required to cross the roadway's centre line slightly on some bends, but the swept path does not conflict with any waiting vehicles. In combination with the infrequency of services and expected low traffic volumes, the road design is suitable for waste vehicle manoeuvrability.

5.2 PEDESTRIAN CONNECTIVITY

Footpaths are proposed to be provided along both sides of the retirement village's internal circulating roadway, with kerbs provided at grade with the road. Internal footpaths are for the most part provided at 1.5m wide, with some paths slightly narrower at 1.2m wide. This is acceptable due to the expected low pedestrian traffic within the retirement village.

There are two connections provided between the on-site footpaths and the external local footpath network, as a means of ensuring uninterrupted pedestrian mobility. These include the footpath at the main site access and the footpath on 'Driveway 4', which connects to the Jordan Springs Boulevard sidewalk via a pedestrian access gate.

A footpath is also provided along 'Driveway 1' to ensure clear separation of pedestrians from vehicle movements to and from the adjacent car park to minimise pedestrian-vehicle conflicts.

Figure 5.2 depicts a map of the footpaths servicing the senior living villas.

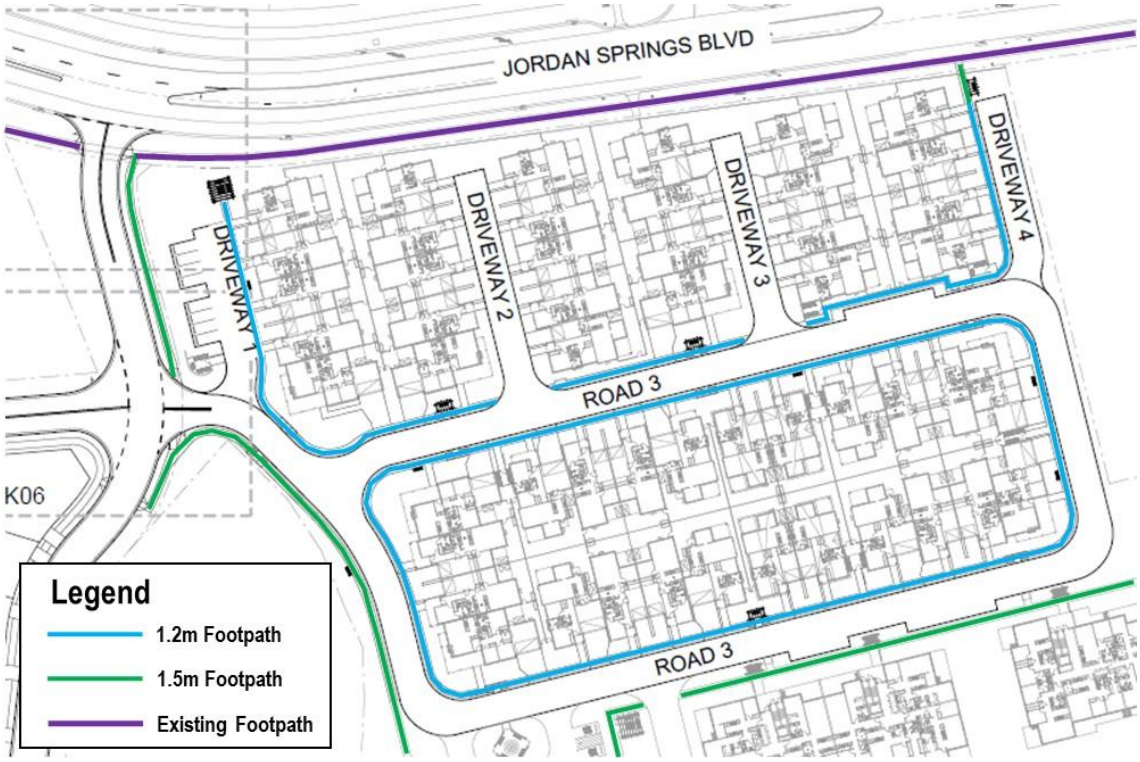


Figure 5.2: Pedestrian Footpath Network

Covered resting areas are located along the edge of the internal circulating roadway at several positions within the site, to further provide safe and appealing pedestrian amenities for senior residents.

Links for pedestrians are provided between the site and the local facilities in Jordan Springs, such as the nearby town centre and shopping village to the east, as well as the bus stops located on Jordan Springs Boulevard, Lakeside Parade, and The Northern Road.

5.3 DRIVEWAYS

An assessment of the positioning of each villa's driveway was undertaken. Council DCP states that driveways should be set back at a minimum of 6m from the perpendicular of any intersection. All villa driveways are proposed to be suitably recessed and are therefore compliant. Furthermore, the arrangement of villas and accompanying garages is structured to ensure that double garage driveways are not immediately adjacent to each other, ensuring that there are no extended vehicle crossover regions for pedestrians.

5.4 PARKING

Parking provisions for the senior living villas are comprised of personal parking (garages) for each villa, kerbside parking bays at several locations along the internal circulating roadway, and 90-degree angle parking bays situated on 'Driveway 1'. The on-street parking bays are indented and, therefore, do not obstruct the travel lanes.

The indented kerbside parking is provided at dimensions of 6500 long and 2100 wide, while the angled parking is provided at dimensions of 5500 long and 2400 wide. These parking space dimensions are suitable for the proposed developments, as:

- it is not expected to see heavy utilisation of parking by wide vehicles;
- parking turnover rates are expected to be low; and
- traffic volumes are expected to be low.

The on-street provisions include eight (8) 90-degree angled parking bays and eight (8) indented kerbside parallel parking bays, for a total of 16 spaces.

The on-street parking regions are demarcated in Figure 5.3.

Figure 5.3: On-street parking provisions

The State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (SEPP) states that parking requirements for self-contained dwellings are 0.5 car spaces for each bedroom. As the proposed villas are all two-bedroom dwellings, a total of 51 parking spaces are required for residents – essentially one parking space per dwelling.

Council DCP also stipulates that visitor parking is to be provided for developments over 5 dwellings, at a rate of 1 space per 5 dwellings. Therefore, a minimum of 11 spaces are required for visitor parking.

As each villa dwelling is provided with at least one off-street parking space in the garage (some villas feature a double garage), requirements for resident car parking are satisfied in accordance with the SEPP. On-street car parking provisions are also sufficient to meet the required visitor parking spaces in accordance with Council DCP.

6. SUMMARY AND CONCLUSION

The key findings for the traffic impact assessment for the proposed senior living units to be located on Jordan Springs Boulevard, are as follows:

- The proposed development comprises the development of 51 independent senior living units;
- The ultimate developed site is expected to produce a total of 51 trips in the AM peak and 112 trips in the PM peak, which utilise the proposed site access on Jordan Springs Boulevard;
- The expected primary direction of travel is to and from The Northern Road, located to the west of the new site access;
- Access to the site is provided via a new intersection between Jordan Springs Boulevard and the site access roadway. The existing road median is to be modified to accommodate a gap, to allow for all manoeuvres. Due to an increase in potential conflicts in the traffic stream, the configuration of the intersection is to include an auxiliary right turning lane of 29 metres long (including taper) on the western approach on Jordan Springs Boulevard to improve the safety of the intersection;
- An emergency access point is proposed to the east side of the senior living villas, located on Lakeside Parade south of the signalised intersection with Jordan Springs Boulevard. This site access does not provide direct access to the internal circulating roadway of the senior living areas for the public; it is strictly for emergency vehicles;
- The internal circulating roadway is provided at 6.5m wide between kerbs, allowing for 3.25m travel lanes in each direction, which is suitably wide and satisfies Council requirements;
- A comprehensive network of footpaths is provided on-site for the senior villas around the circulating roadway, with covered resting areas for pedestrian convenience. Connectivity to the external footpath network of Jordan Springs is established through linking footpaths along the main site access road and one of the on-site roads;
- The swept paths of a 12.5m design vehicle were checked for service vehicle site access, and it was found that the intersection geometry is adequate;
- The driveways for the proposed senior villas are found to satisfy Council requirements in terms of positioning and arrangement; and
- Parking requirements are met through the provision of personal off-street car parking in garages, supplemented by 16 on-street parking bays located around the internal circulating roadway.

The design for the senior living villas was comprehensively evaluated and found compliant with the relevant sections of Australian Standards (AS2890), Penrith Council Development Control Plan, and State Environmental Planning Policy (Housing for Seniors or People with a Disability). Based on the above assessment, it is concluded that the development of the proposed senior villas will not generate any significant impacts on the traffic or transport conditions of the local road network.

APPENDIX A

LATEST DEVELOPMENT PLANS

DRAFT ISSUE ONLY
PRELIMINARY DESIGNS SUBJECT TO CHANGE

1	ISSUED FOR INFORMATION ONLY	MMC	NM			
	AMENDMENT	DES	DRN	CKD	APR	DATE

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AZIMUTH:
DATUM:
ORIGIN:

CLIENT: lendlease

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ADVANCE COPY ONLY
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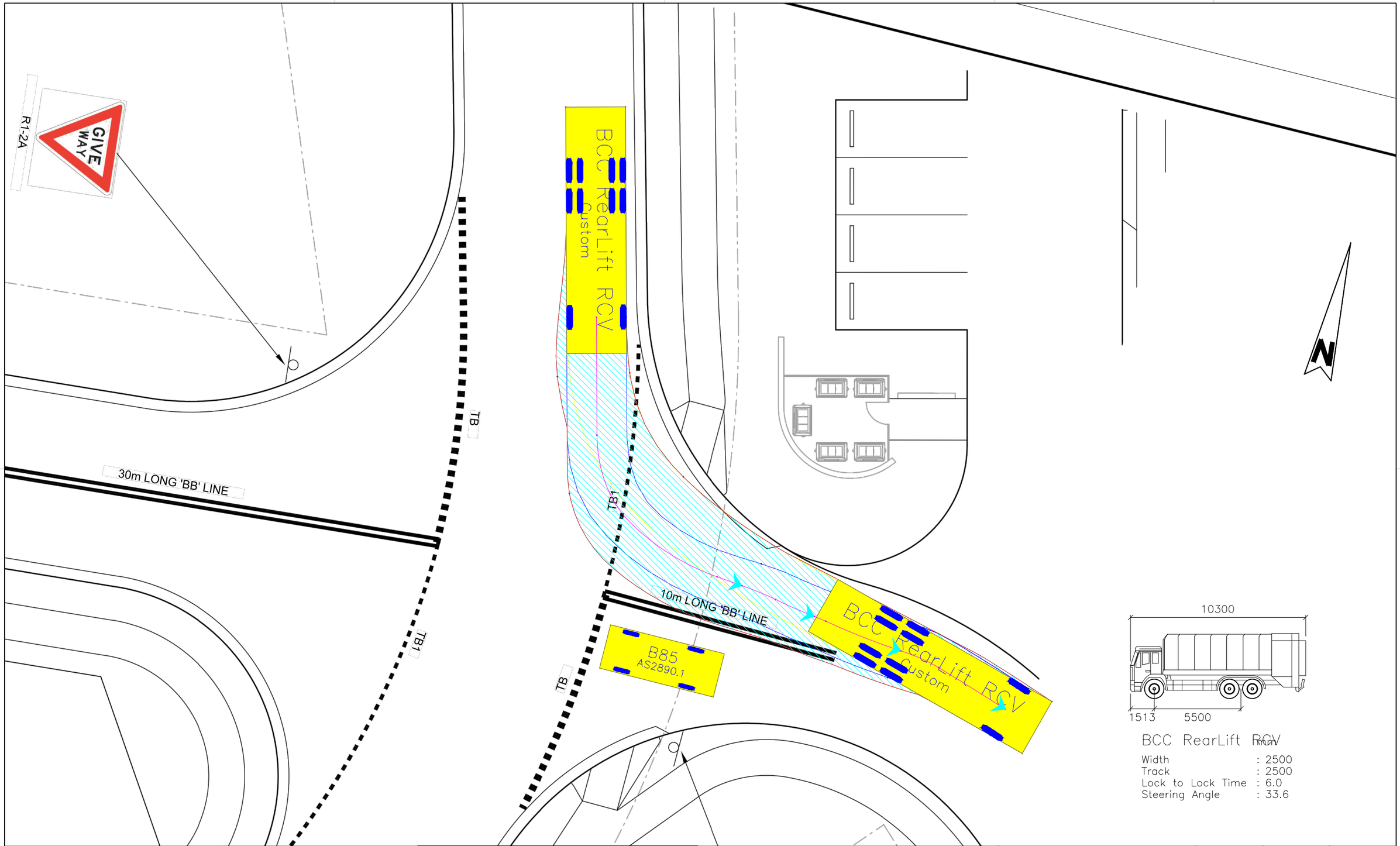
JORDAN SPRING
STAGE 01 & 02
SIGNS AND LINEMARKING LAYOUT PLAN

PLAN No: 110487SK/SK04 1
FILE No: 110487SK04
SHEET SIZE: A1 ORIGINAL

Plotted: 18 May 2018 1:11:02 PM File Name: J:\110487 - Jordan Springs Retirement Living\02 - Development Application Stage\CD\SK\110487SK04.dwg

APPENDIX B

SWEPT PATH ANALYSIS



BCC RearLift RCV

Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 33.6

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Issue	REVISIONS Revisions/Descriptions	Drawn	Date
001	Swept Path Analysis	J.Y	29.05.2018

Scale @ A3 — 0 1 2 3 4 5 6 7 — 1:150

Project: P3494 Jordan Springs Retirement Village Senior Living Villas

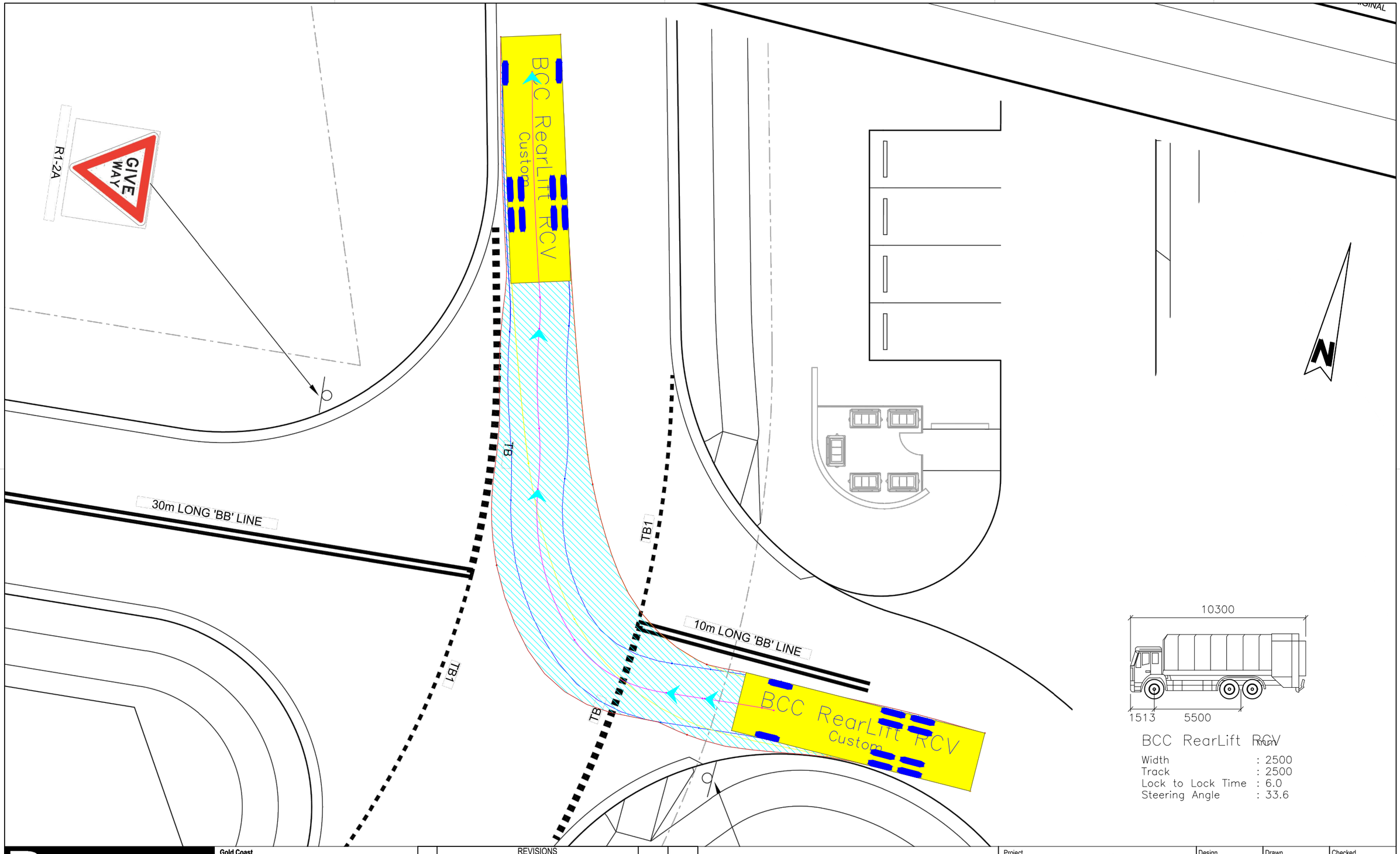
Title: Swept Path Analysis Waste Vehicle - Left In Senior Living Villa Road Entrance

Design	Drawn	Checked
J.Y	J.Y	F.L

DRAFT ISSUE

Date: 29.05.2018

Project Number	Sheet Number	Issue
P3494	1	001



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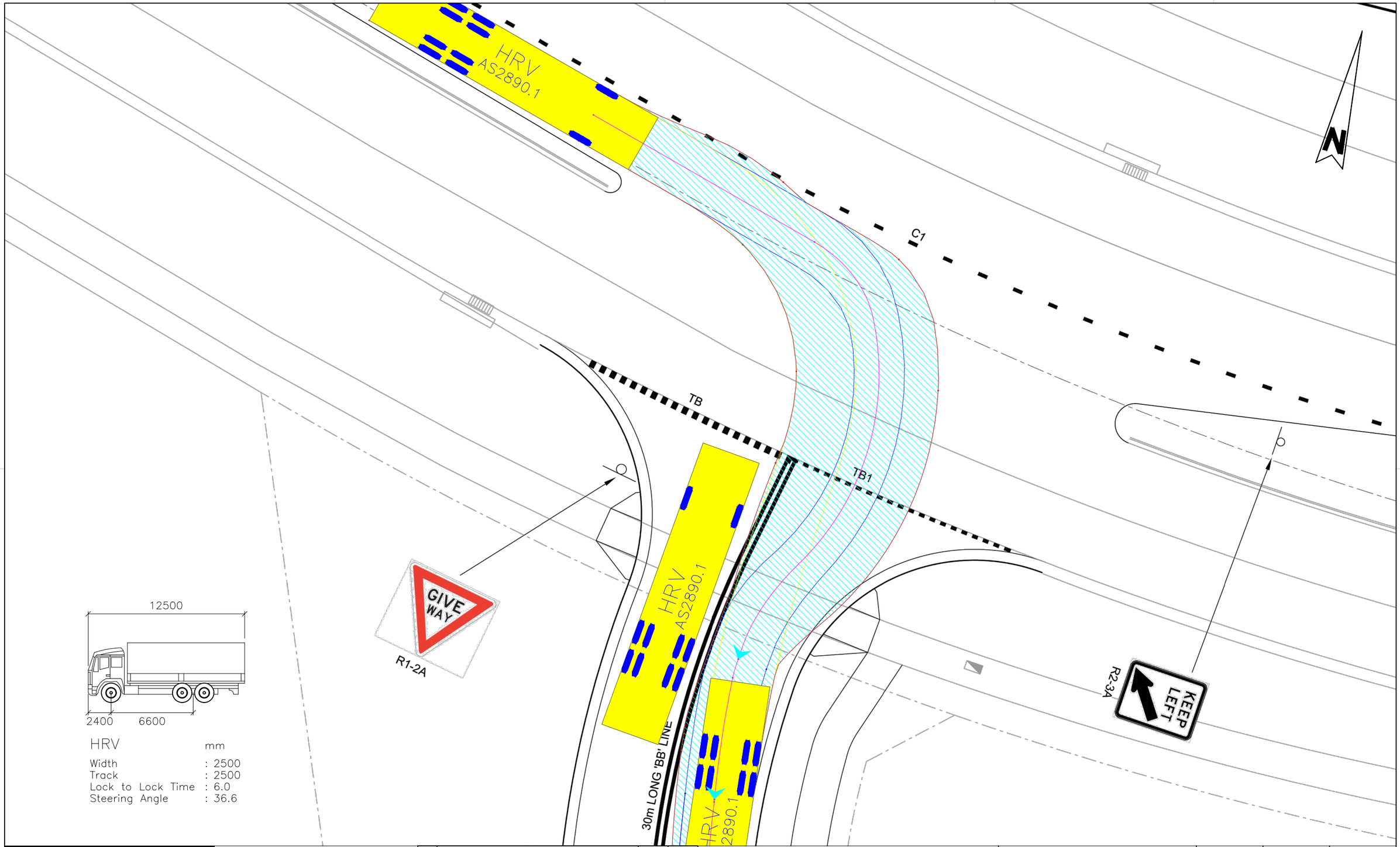
Scale @ A3 0 1 2 3 4 5 6 7 1:150

Project	P3494 Jordan Springs Retirement Village Senior Living Villas		
Title	Swept Path Analysis Waste Vehicle - Right Out Senior Living Villa Road Entrance		
Design	Drawn	Checked	
J.Y	J.Y	F.L	
DRAFT ISSUE		Date	29.05.2018
Project Number	Sheet Number	Issue	
P3494	2	001	



HRV	mm
Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

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Issue	REVISIONS Revisions/Descriptions	Drawn	Date
001	Swept Path Analysis	J.Y	29.05.2018

Scale @ A3 — 0 1 2 3 4 5 6 7 — 1:150

Project: P3494 Jordan Springs Retirement Village Senior Living Villas

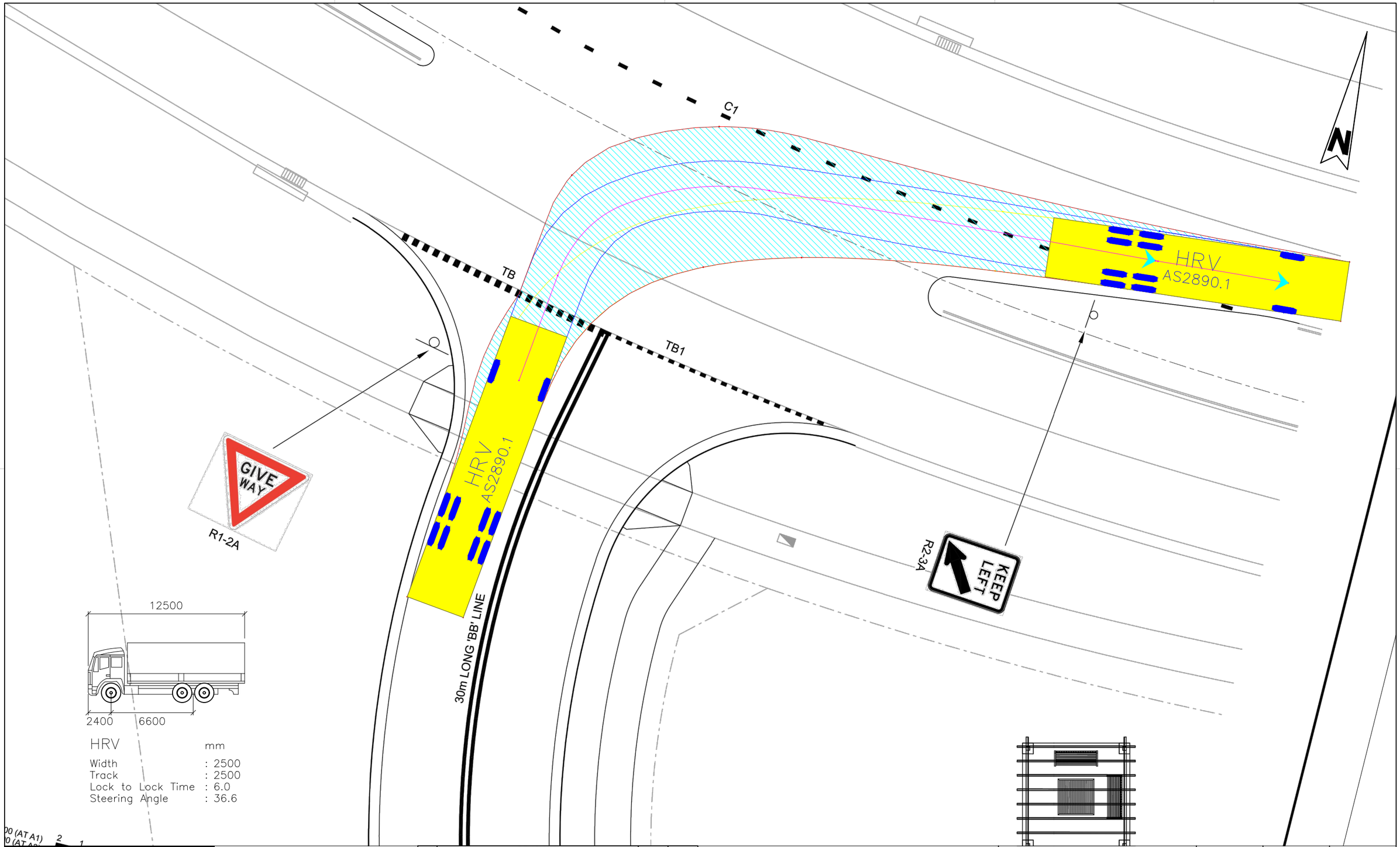
Title: Swept Path Analysis Site Access Service HRV Right In

Design	Drawn	Checked
J.Y	J.Y	F.L

DRAFT ISSUE

Date: 29.05.2018

Project Number	Sheet Number	Issue
P3494	3	001



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Issue	REVISIONS Revisions/Descriptions	Drawn	Date
001	Swept Path Analysis	J.Y	29.05.2018

Scale @ A3 0 1 2 3 4 5 6 7 1:150

Project: P3494 Jordan Springs Retirement Village Senior Living Villas

Title: Swept Path Analysis Site Access Service HRV Right Out

Design	Drawn	Checked
J.Y	J.Y	F.L

DRAFT ISSUE

Date: 29.05.2018

Project Number	Sheet Number	Issue
P3494	4	001

APPENDIX C

SIDRA RESULTS SUMMARY

MOVEMENT SUMMARY

Site: 101 [Jordan Springs Boulevard / Site Access - AM Peak]

Jordan Springs Boulevard / Site Access (2018)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: New Site Access											
1	L2	29	0.0	0.028	5.3	LOS A	0.1	0.8	0.29	0.53	26.9
3	R2	1	0.0	0.028	10.6	LOS A	0.1	0.8	0.29	0.53	35.7
Approach		30	0.0	0.028	5.5	LOS A	0.1	0.8	0.29	0.53	27.2
East: Jordan Springs Boulevard E											
4	L2	1	0.0	0.109	4.6	LOS A	0.0	0.0	0.00	0.00	47.9
5	T1	413	2.4	0.109	0.0	LOS A	0.0	0.0	0.00	0.00	49.9
Approach		414	2.4	0.109	0.0	NA	0.0	0.0	0.00	0.00	49.9
West: Jordan Springs Boulevard W											
11	T1	207	4.8	0.055	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
12	R2	22	0.0	0.022	5.9	LOS A	0.1	0.5	0.36	0.57	32.1
Approach		229	4.4	0.055	0.6	NA	0.1	0.5	0.03	0.05	47.7
All Vehicles		673	3.0	0.109	0.4	NA	0.1	0.8	0.02	0.04	47.5

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.

MOVEMENT SUMMARY

Site: 101 [Jordan Springs Boulevard / Site Access - PM Peak]

Jordan Springs Boulevard / Site Access (2018)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: New Site Access											
1	L2	41	0.0	0.039	5.2	LOS A	0.1	1.0	0.26	0.52	27.1
3	R2	1	0.0	0.039	14.2	LOS A	0.1	1.0	0.26	0.52	35.9
Approach		42	0.0	0.039	5.4	LOS A	0.1	1.0	0.26	0.52	27.3
East: Jordan Springs Boulevard E											
4	L2	1	0.0	0.086	4.6	LOS A	0.0	0.0	0.00	0.00	47.8
5	T1	327	1.5	0.086	0.0	LOS A	0.0	0.0	0.00	0.00	49.9
Approach		328	1.5	0.086	0.0	NA	0.0	0.0	0.00	0.00	49.9
West: Jordan Springs Boulevard W											
11	T1	466	0.6	0.121	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
12	R2	71	0.0	0.066	5.6	LOS A	0.2	1.7	0.32	0.57	32.8
Approach		537	0.6	0.121	0.7	NA	0.2	1.7	0.04	0.08	47.0
All Vehicles		907	0.9	0.121	0.7	NA	0.2	1.7	0.04	0.07	46.5

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.