

# TRAFFIC AND PARKING IMPACT ASSESSMENT

Proposed Boarding House

16 Wyatt Avenue in Belrose

Prepared for: NORTHERN BEACHES ESSENTIAL ACCOMMODATION

N216473A (Version 1c)

December 2021

*Motion Traffic Engineers Pty Ltd*  
Telephone:  
940 33588

[sydney@motiontraffic.com.au](mailto:sydney@motiontraffic.com.au)

ACN 600201583



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## 1.INTRODUCTION

Motion Traffic Engineers was commissioned by NORTHERN BEACHES ESSENTIAL ACCOMMODATION to undertake a traffic and parking impact assessment of a proposed boarding house development at 16 Wyatt Avenue in Belrose.

The Boarding House site has frontage to Wyatt Avenue and currently is occupied by a single dwelling house. Access for pedestrians and vehicles are provided via Wyatt Avenue. Parking is proposed to be provided on two separate basement levels.

This traffic report focuses on the proposed boarding house and changes in car usage and car park utilisation and additional trips from the proposed boarding house.

In the course of preparing this assessment, the subject site and its environs have been inspected, plans of the development are examined, all relevant traffic and parking data have been collected and analysed.

## 2.BACKGROUND AND EXISTING CONDITIONS OF THE BOARDING HOUSE SITE

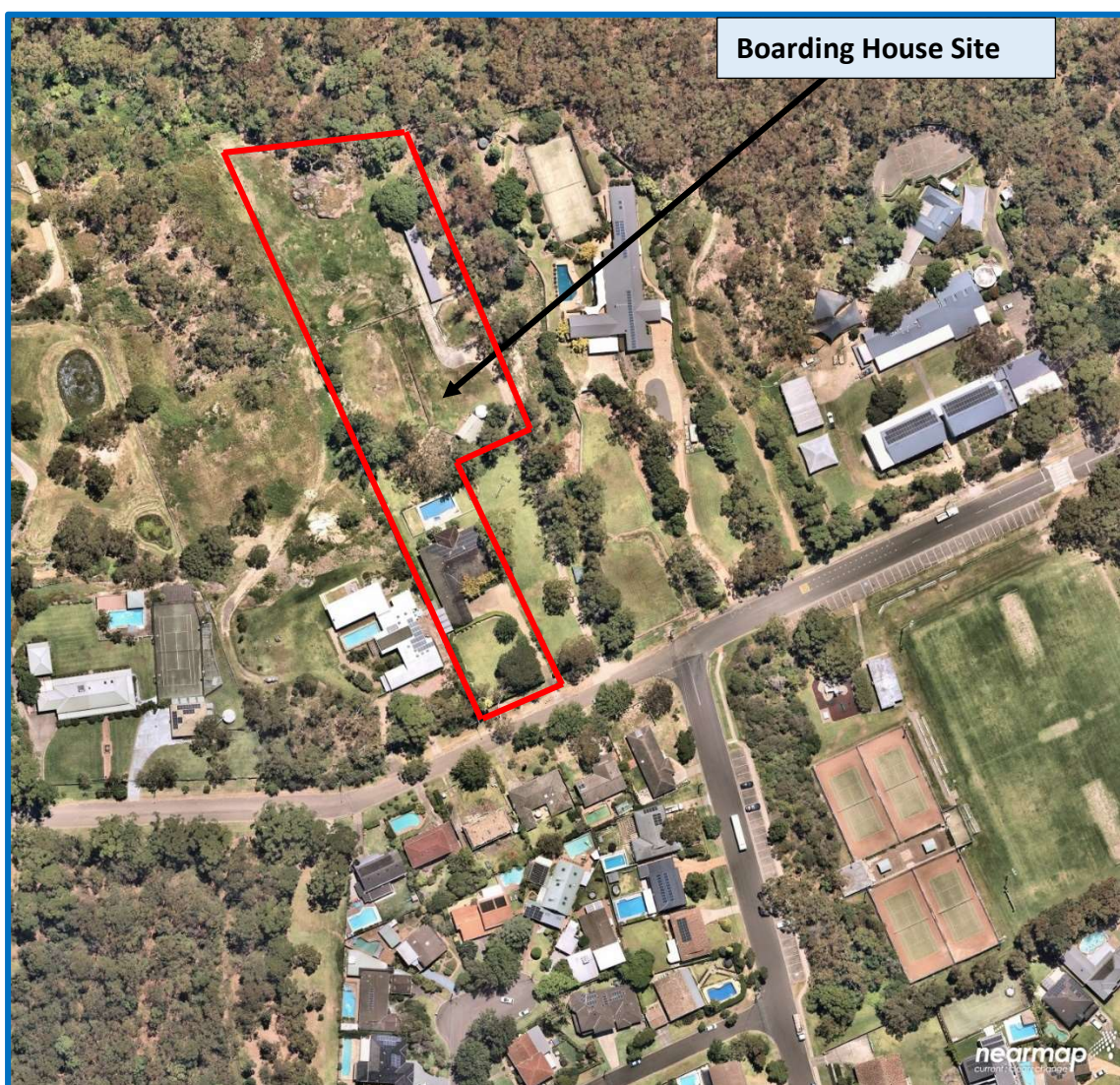
### 2.1.LOCATION AND LANDUSE

The subject site is located at 16 Wyatt Avenue in Belrose.

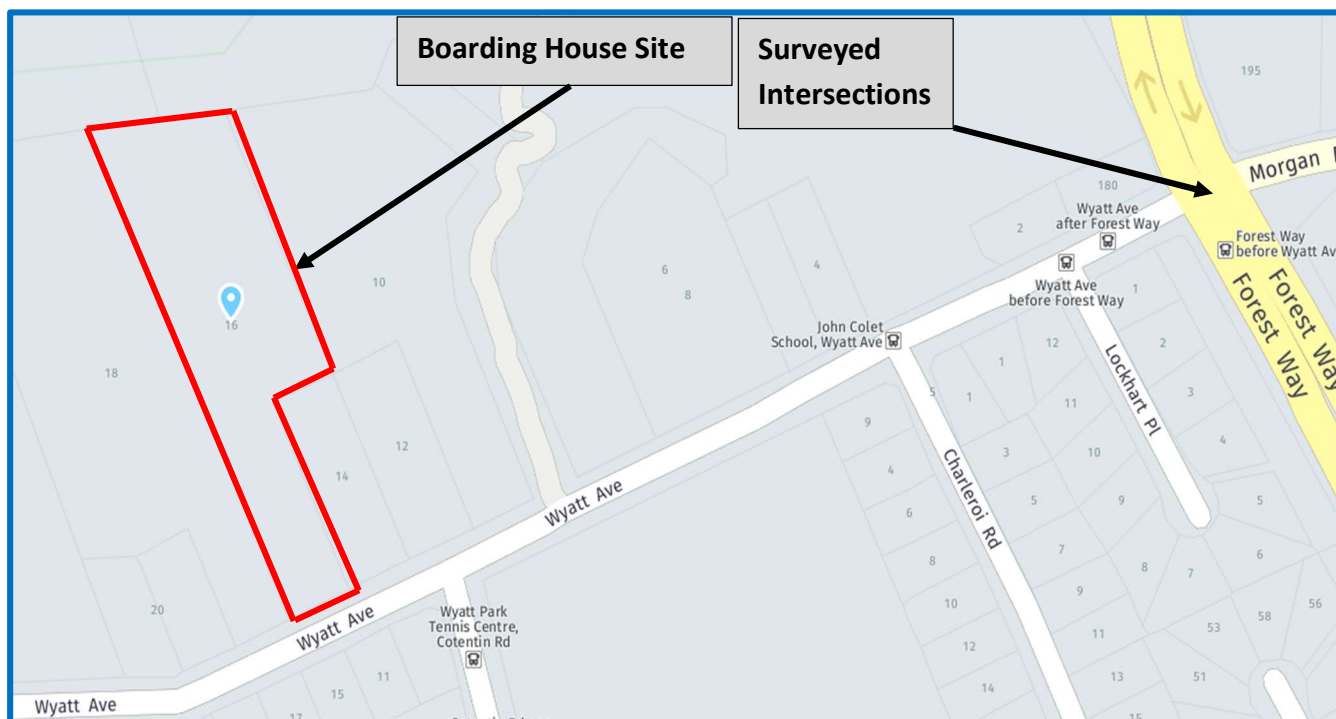
The proposed Boarding House Development is located on Wyatt Avenue in a predominantly residential area. Wyatt Reserve is located to the south of the subject site on the opposite side of Wyatt Avenue and John Colet School is located to the east.

Figures 1 and 2 show the location of the subject site from aerial and street map perspective respectively. Figure 2 also shows the location of the surveyed intersections in relation of the site.

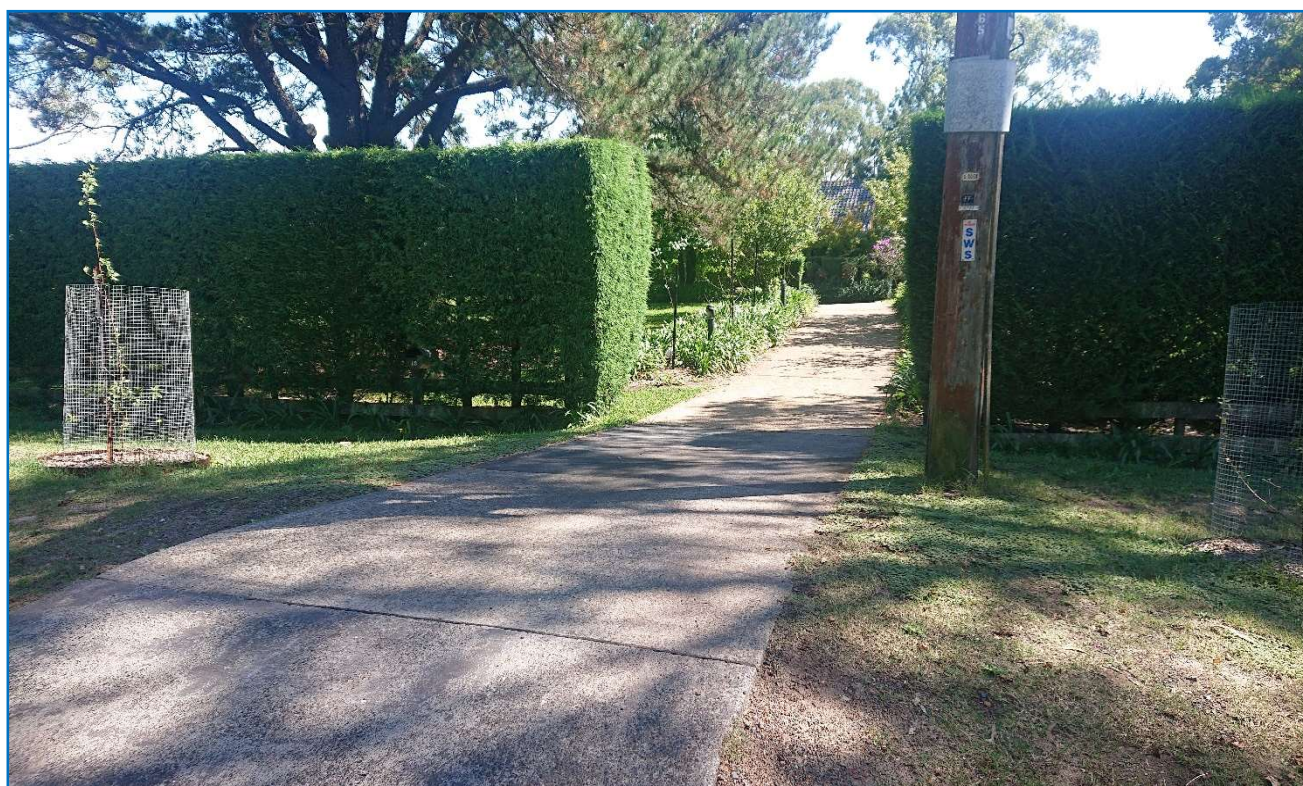
Figure 3 shows photography of the site frontage from Wyatt Avenue.



**Figure 1: Location of the Subject Site on Aerial**



**Figure 2: Location of the Subject Site on Aerial**



**Figure 3: Photograph of the Site from Wyatt Avenue**

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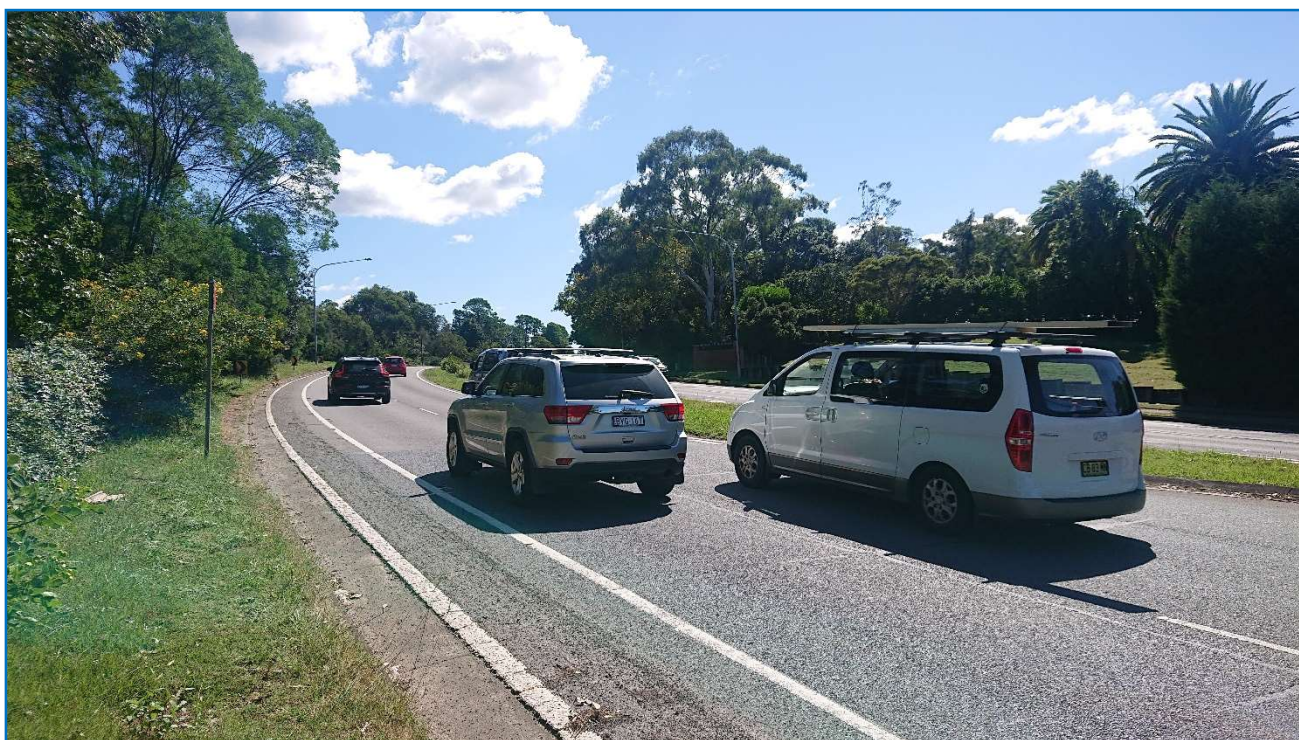
## 2.2.ROAD NETWORK

This section discusses the road network adjacent to the site.

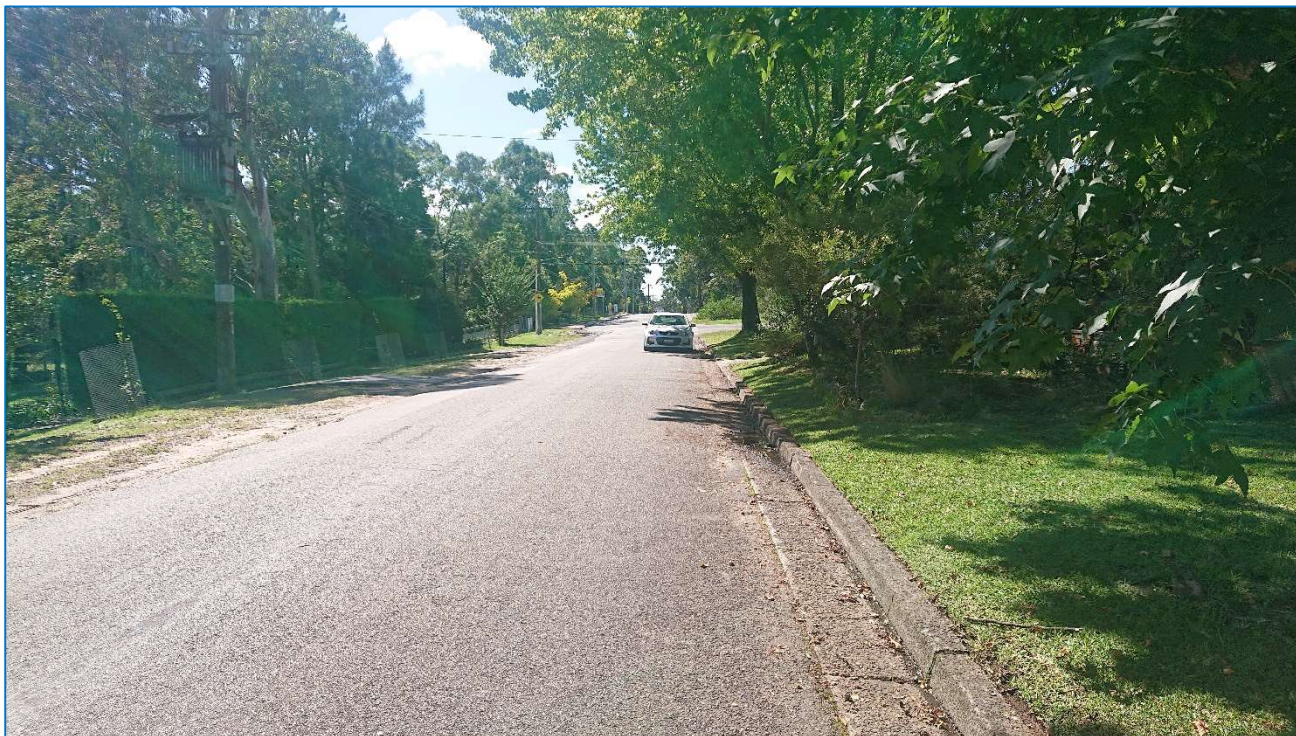
Forest Way is an arterial road with two lanes each way separated by a median strip. Parking is not permitted on both sides of the road. The sign posted speed limit is 80km/hr. A bicycle lane is provided near Wyatt Avenue. Figure 4a shows a photograph of Forest Way.

Morgan Road is a collector road with one lane of travel in each direction. Lane marking are not provided on some section of the road. Parking not permitted on both sides of Morgan Road. The sign posted speed limit is 50 km/hr.

Wyatt Avenue is a local road with one lane of travel in each direction. Parking is permitted on both sides of Wyatt Avenue. Wyatt Avenue is subject to school zone and speed limits are enforced on school days. A speed restriction of 40km/hr applies between 8am to 9.30am and 2.30pm to 4pm during school days. Figures 4b, 4c & 4d shows photographs of Wyatt Avenue.



**Figure 4a: Forest Way looking North from Wyatt Avenue**



**Figure 4b: Wyatt Avenue looking East from Opposite the proposed Boarding House**



**Figure 4c: Wyatt Avenue looking West from adjacent to the Boarding House Site**



**Figure 4d: Wyatt Avenue looking East to Forest Way Intersection**

### **2.3.PUBLIC TRANSPORT**

The Boarding House site is within a one-minute walking distance to a local bus stop. The site is within 40 metres of a bus stop on Cotentin Road, that has at least 1 bus per hour servicing the bus stop between—

- (i) 6am and 9pm each day from Monday to Friday, both days inclusive, and
- (ii) 8am and 6pm on each Saturday and Sunday.

The site meets the definition of an “accessible area” in the *State Environmental Planning Policy (Housing) 2021*.

The Boarding House site also has access to public transport because of the proximity to the bus stops along Forest Way, Cotentin Road and Wyatt Avenue.



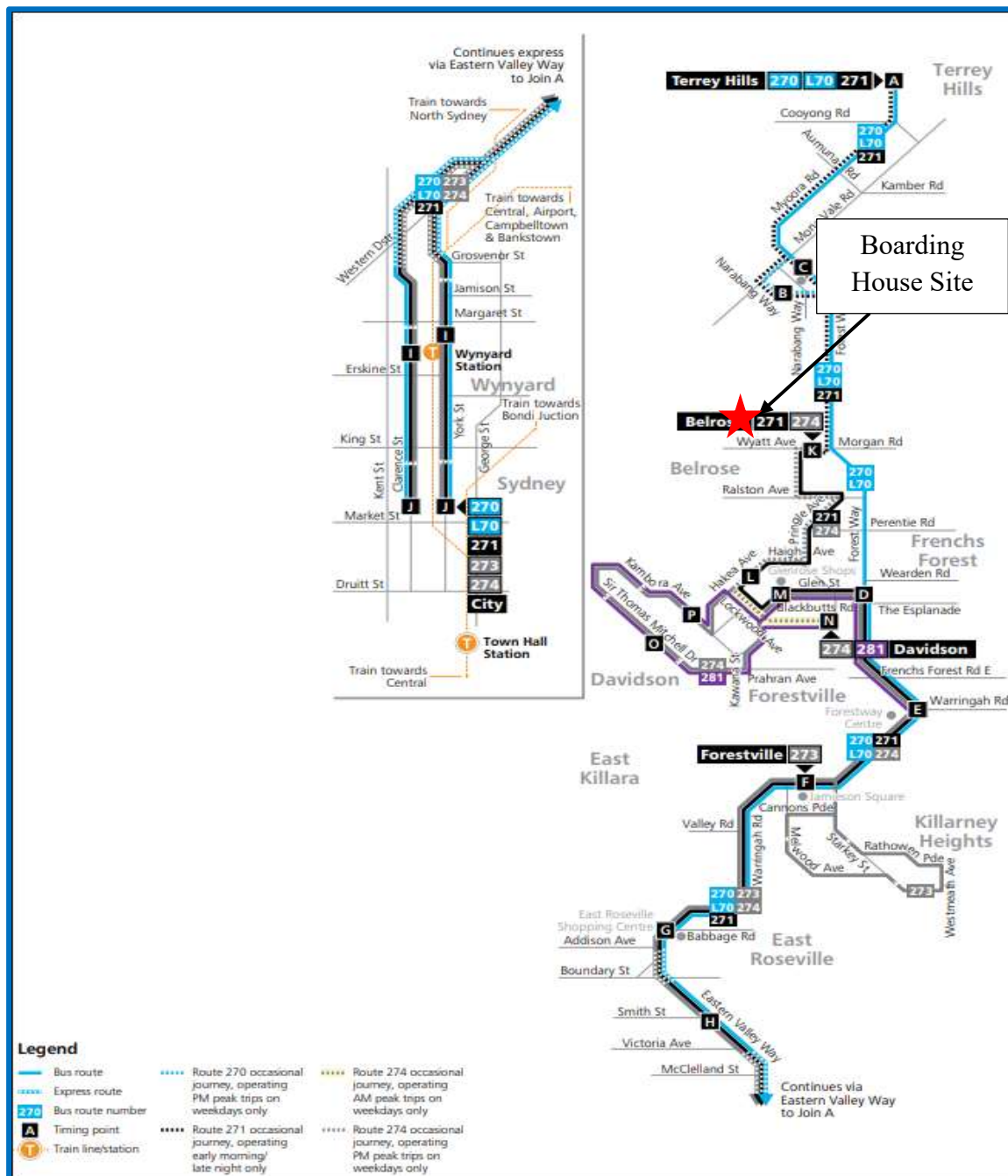


Figure 5: Local Public Transport Facilities

## 2.4.INTERSECTION DESCRIPTION

As part of this traffic impact assessment the following intersection is assessed for the traffic generation:

- Signalised intersection of Forest Way with Morgan Road and Wyatt Avenue

External traffic to and from the proposed boarding house will need to travel through the above intersections.

The signalised intersection of Georges River Road with Milton Street is a three-leg intersection with all turn movements permitted. Pedestrian crossings are provided on the northern and eastern approaches. Figure 6a shows the layout of the intersection using SIDRA 9– an industry standard intersection software. The number on the lane represents the length of a short lane in metres. Figure 6a shows the intersection on aerial map.

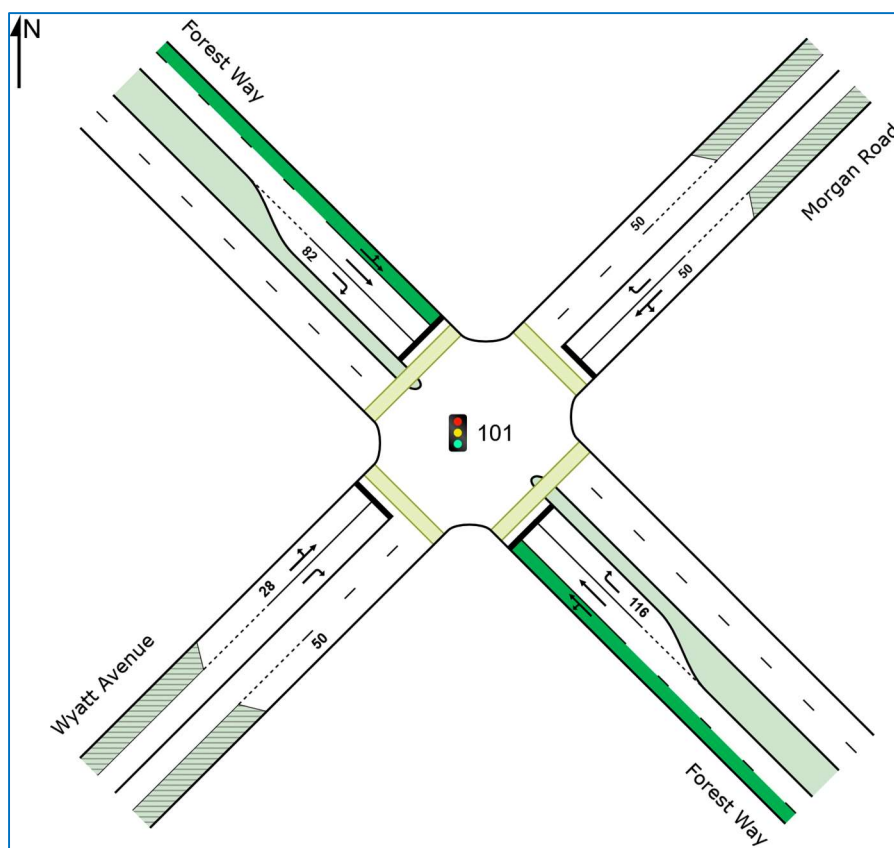


Figure 6a: Signalised intersection of Forest Way with Wyatt Avenue and Morgan Road (SIDRA)

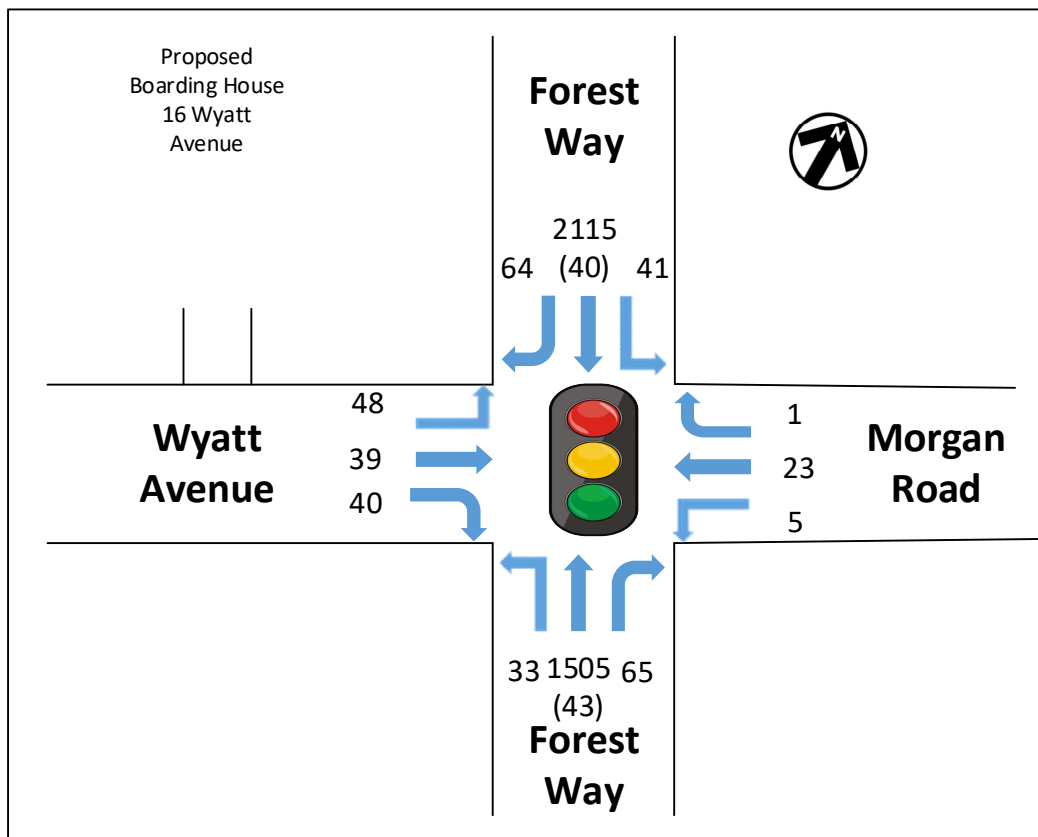


**Figure 6b: Aerial View of the Signalised intersection of Forest Way with Wyatt Avenue and Morgan Road**

## **2.5. EXISTING TRAFFIC VOLUMES**

As part of the traffic assessment, traffic counts have been undertaken at the two intersections for the weekday AM and PM peak period. The peak hours were 7:45am to 8:45am and 5pm to 6pm for the weekday AM and PM peak hours respectively.

The following Figures present the traffic volumes in vehicles for the weekday peak hours. The bracketed numbers are trucks or buses and un-bracketed are cars.



**Figure 7a: Existing Weekday Traffic Volumes AM Peak Hour**

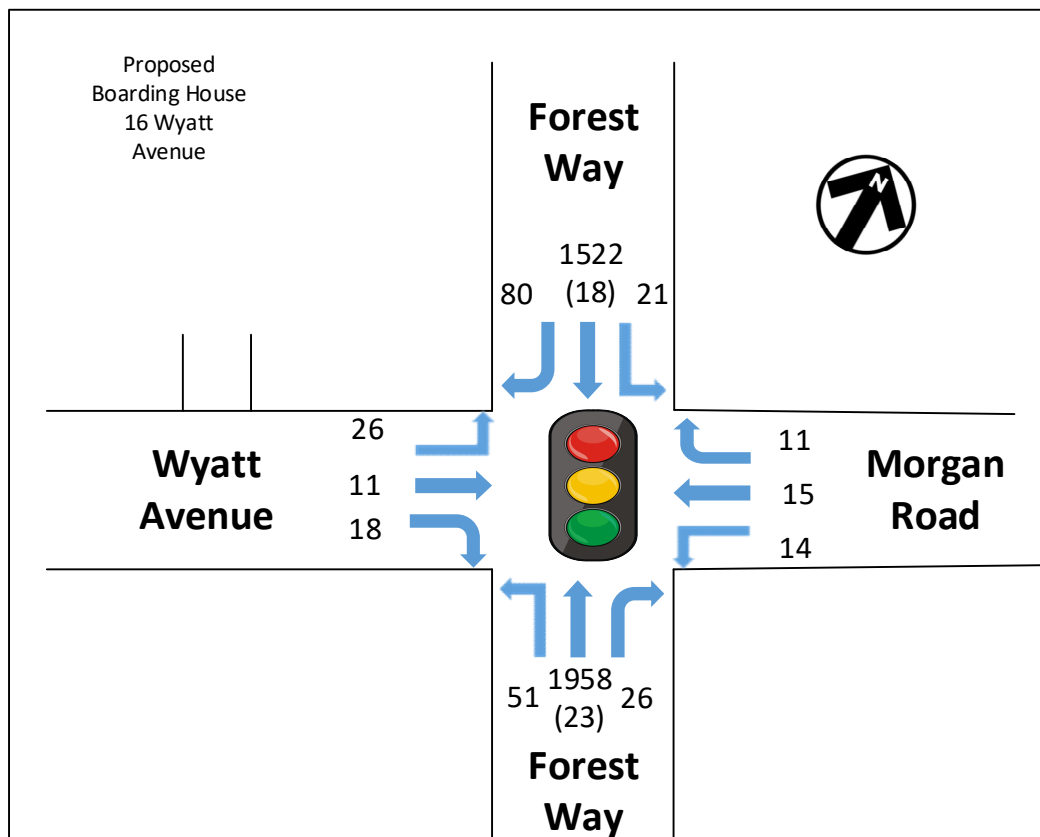


Figure 7b: Existing Weekday Traffic Volumes PM Peak Hour

## 2.6. INTERSECTION ASSESSMENT WITH EXISTING TRAFFIC

An intersection assessment has been undertaken for the nearby surveyed intersection.

The existing intersection operating performance was assessed using the SIDRA software package (version 9) to determine the Degree of Saturation (DS), Average Delay (AVD in seconds) and Level of Service (LoS) at each intersection. The SIDRA program provides Level of Service Criteria Tables for various intersection types. The key indicator of intersection performance is Level of Service, where results are placed on a continuum from 'A' to 'F', as shown in Table 1.

LoS	Traffic Signal / Roundabout	Give Way / Stop Sign / T-Junction control
A	Good operation	Good operation
B	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	Satisfactory	Satisfactory, but accident study required
D	Operating near capacity	Near capacity & accident study required
E	At capacity, at signals incidents will cause excessive delays.	At capacity, requires other control mode
F	Unsatisfactory and requires additional capacity, Roundabouts require other control mode	At capacity, requires other control mode

**Table 1: Intersection Level of Service**

The Average Vehicle Delay (AVD) provides a measure of the operational performance of an intersection as indicated below, which relates AVD to LOS. The AVD's should be taken as a guide only as longer delays could be tolerated in some locations (i.e. inner city conditions) and on some roads (i.e. minor side street intersecting with a major arterial route). For traffic signals, the average delay over all movements should be taken. For roundabouts and priority control intersections (sign control) the critical movement for level of service assessment should be that movement with the highest average delay.

LoS	Average Delay per Vehicles (seconds/vehicle)
A	Less than 14
B	15 to 28
C	29 to 42
D	43 to 56
E	57 to 70
F	>70

**Table 2: Intersection Average Delay (AVD)**

The degree of saturation (DS) is another measure of the operational performance of individual intersections. For intersections controlled by traffic signals both queue length and delay increase rapidly as DS approaches 1. It is usual to attempt to keep DS to less than 0.9. Degrees of Saturation in the order of 0.7 generally represent satisfactory intersection operation. When DS exceed 0.9 queues can be anticipated.

The results of the intersection analysis are as follows:

Forest Way with Morgan Road and Wyatt Avenue

- ➡ The overall intersection has a LoS C and B for the AM and Peak hours respectively
- ➡ There is spare capacity at this intersection

The full Sidra results are presented in Appendix A.

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## **2.7.ON-STREET PARKING OPPORTUNITIES**

On street parking is provided generally on Wyatt Avenue. The road section adjacent to the site has a road shoulder and is not suitable for on street parking (see Figure 5b) on the Northern side. On street parking near the nearby school is restricted to drop off and pick up events during the school drop off/pick up period. Ninety-degree parking is located adjacent to Wyatt Reserve.

There are vacant car spaces near and opposite the Boarding House site at all times during the day. Vacant on street car spaces are more limited adjacent to the nearby school during the drop and pick up period.

## **2.8.CONCLUSIONS ON THE EXISTING CONDITIONS**

The proposed boarding house is located in a residential area. The development is fronting local road Wyatt Avenue.

The nearby intersection overall performs well with sufficient spare capacity to accommodate additional traffic.

The site has good access to public transport and is within walking distance of local bus services.



### 3. PROPOSED BOARDING HOUSE DEVELOPMENT

The land use for the proposed boarding house is as follows:

- 54 rooms plus one care takers room, giving a total of 55 boarding house rooms.

The proposed boarding house development is in two buildings, each with car parking provided on basement level with vehicle access and egress via Wyatt Avenue. Vehicle access for the Upper building is via a dedicated driveway at 16 Wyatt Ave. Vehicle access for the Lower building is via a shared driveway through 14 Wyatt Ave.

A full scaled plan of the proposed boarding house is provided as part of the Development Application.

#### Fire Truck Access

It is noted that the access road to the development needs to cater for access by a fire truck. The Fire & Rescue NSW – Fire Safety Guideline outline the requirements for fire truck access. The minimum width, where there is no Constricted access, is 4.5m. Section 7.3 outlines the required dimensions for constricted access situations.

The upper building has a carriageway less than 120m so does not require a turnaround area as outlined in section 7.2.

The lower building has a carriageway greater than 120m so does require a turnaround area as outlined in section 7.2. A compliant turnaround area has been provided for this building.

We are satisfied that the proposed boarding house meets the requirements of Fire & Rescue NSW – Fire Safety Guideline.

#### Entry and Exit flow

The driveways are typically one lane with passing bays at regular intervals. As vehicles exiting the carpark will not be able to see vehicles entering the carpark, a traffic light control requiring exiting vehicles to wait for an entering to vehicle to pass could be provided for the carparks. Holman Engineering have been engaged separately to provide a solution for this due to their extensive experience in this area.

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## 4. BUSH FIRE PRONE LAND

The area in which the development is proposed, is considered to be a bush fire prone area under the Northern Beaches Bush Fire Prone Land Map (7<sup>th</sup> of August 2020). This means the proposed boarding house needs to comply with The NSW Bush Fire Brigades, “Planning for Bush fire Protection 2019” document. As the Northern end of the site is more than 200m from the nearest public through Road, the proposed driveway and internal road system needs to be designed to cater for a standard fire truck.

A T-shaped bay, as well as extra access driveways have been provided to enable site access and vehicle manoeuvring for fire trucks.

## 5. PARKING REQUIREMENTS

### 5.1. Warringah Council's Planning Scheme for Car Parking Assessment

Warringah Development Control Plan 2000 does not outline the car parking requirements for a Boarding House Development.

However, *State Environmental Planning Policy (Housing) 2021* outlines the parking rates for Boarding houses as follows as it applies to the Proposed Boarding House:

- 0.2 parking spaces for each boarding room for development on land within an accessible area
- 1 motorcycle parking space for every 5 boarding rooms
- 1 bicycle parking space will for each boarding room

The site meets the requirements of being an “accessible area”. Table 3a presents the application of above rates for car parking.

Land Use	Number of Rooms	Car Parking Rate	Car Spaces Required	Car Spaces Provided
Upper Boarding House	23	0.2 spaces per boarding room	5	11
Lower Boarding House	32	0.2 spaces per boarding room	6	20
<b>Total</b>	<b>55</b>		<b>11</b>	<b>31</b>

**Table 3a: Summary of Car Parking requirements and provision**

There are no visitor requirements for a boarding house. Four external visitor parking spaces have been provided in addition to the parking spaces outlined above. Therefore, the Proposed Boarding House Development meets the car parking requirements.

Table 3b presents the application of above rates for bicycle and motorcycle parking.

Vehicle	Number of Rooms	Parking Rate	Spaces Required	Spaces Provided
Bicycle	55	1 space for each boarding rooms	55	55
Motorcycle		1 space for 5 boarding rooms	11	13

**Table 3b: Summary of bicycle and motorcycle parking requirements and provision**

The proposed boarding house complies with the bicycle and motorcycle parking requirements of *State Environmental Planning Policy (Housing) 2021*.

## 6.VEHICLE TRAFFIC IMPACTS

### 6.1.Traffic Generation

The RTA “Guide to Traffic Generating Developments Updated Traffic Surveys August 2013” does not publish trip generation rates for a boarding house but it does for motel rooms as follows:

- ➔ 0.4 trips per unit for the weekday evening peak hour
  - The trip rate is comparable to the car parking rate

For the purposes of the traffic assessment only, the above trip rate is used for the boarding house traffic assessment.

Table 4 summarises the trips generated by the proposed both the boarding houses.

Table 5 summarises the new trip distribution for the proposed boarding house. The proposed boarding house is a low trip generator.

Peak Hour	Use	Number of Rooms	Trip Generation Rate	Trips Generated
AM	Upper Boarding room	23	0.4 trips per room	10
PM			0.4 trips per room	10
AM	Lower Boarding room	32	0.4 trips per room	13
PM			0.4 trips per room	13
AM	Total	55		23
PM				23

**Table 4: Trip generation for the Proposed Boarding House**

Net Trips			
Weekday Rates	Origin	Destination	Total
AM Peak Hour	17	6	23
PM Peak Hour	6	17	23

**Table 5: Tripp Distribution of the Proposed Boarding House**

The proposed boarding houses in 16 and 14 Wyatt avenue will generate a small number of additional trips in the peak hour periods.

The proposed boarding house is a moderate trip generator.

*Traffic Impact Assessment for a Proposed Boarding House Development in Belrose*

*N216473A Report 1c.docx*

## 6.2. Forecast Traffic Volumes

The following Figures present the existing with the development traffic.

The additional development traffic is in red for origin trips and blue for destination trips. The additional development traffic represents a small proportion of the existing traffic.

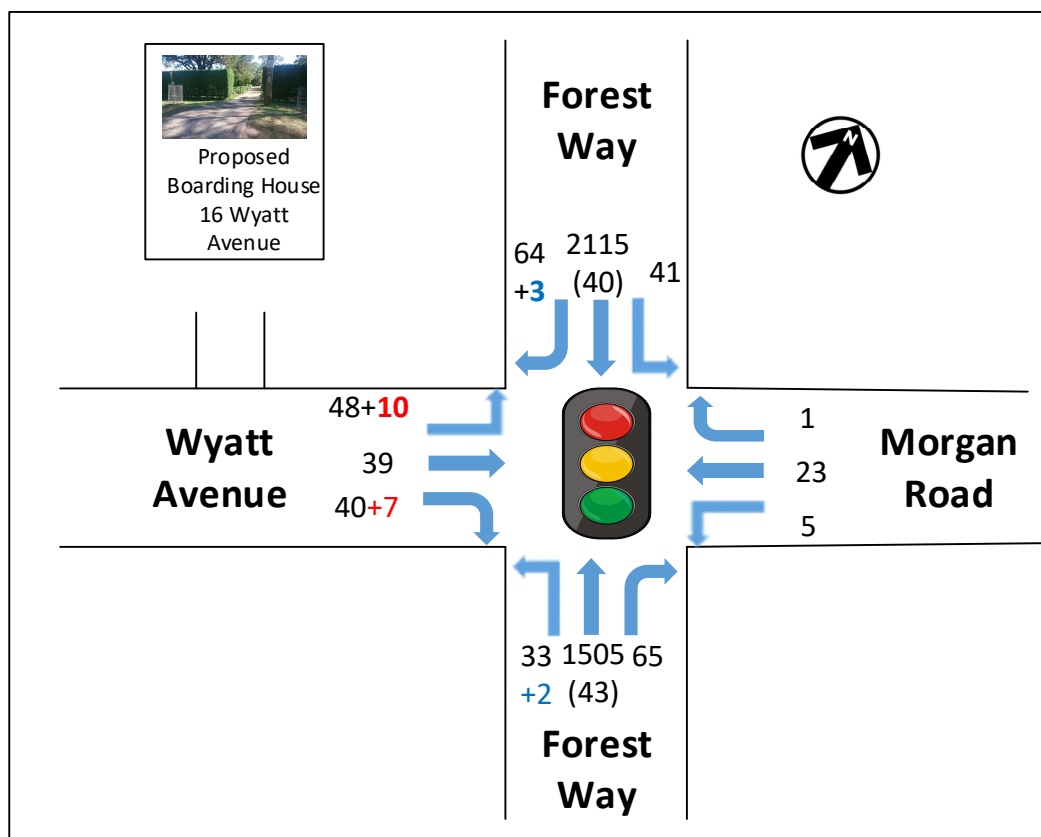


Figure 13: Existing Weekday AM Peak Hour Traffic Volumes with Development Traffic

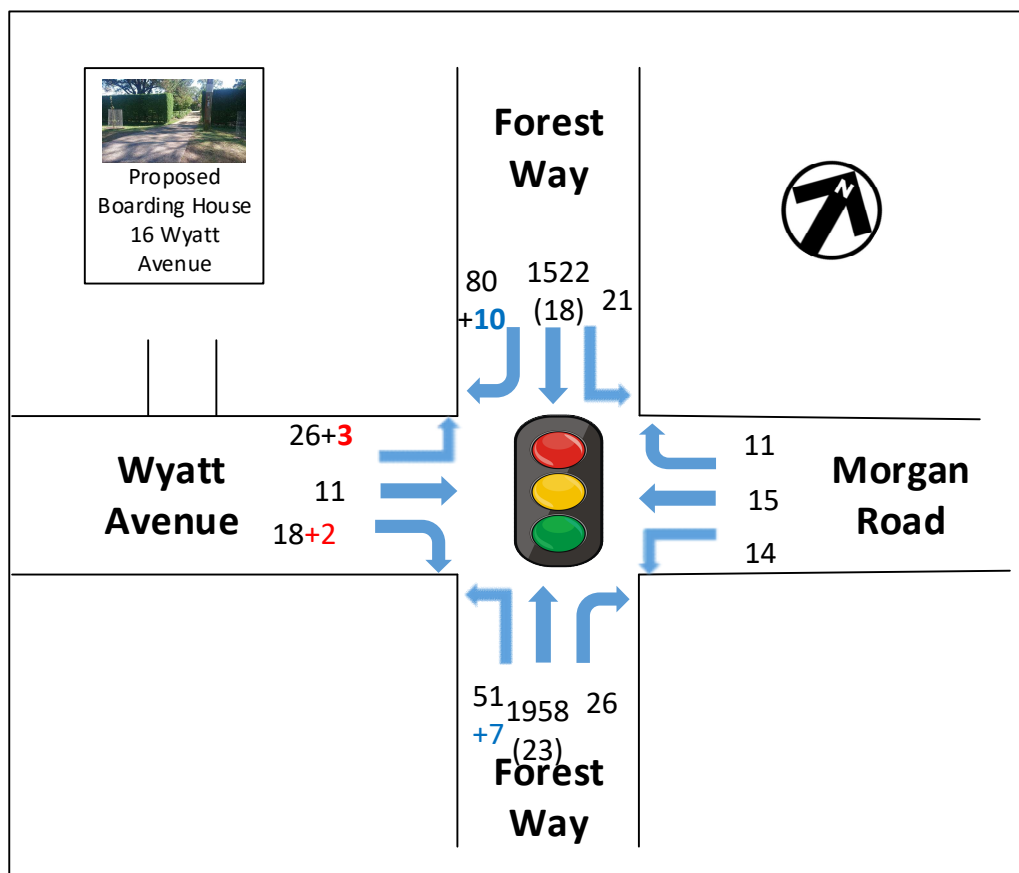


Figure 14: Existing Weekday PM Peak Hour Traffic Volumes with Development Traffic

### 6.3. Intersection Assessment

This section assesses the following intersections for the existing traffic with the school traffic. The results of the intersection assessment are as follows:

#### Forest Way with Morgan Road and Wyatt Avenue

- ➔ The overall intersection has a LoS C and B for the AM and Peak hours respectively
- ➔ There is spare capacity at this intersection

There is spare capacity at this intersection

The additional trips do not change the LoS for the overall intersection or for any turn movement

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The full SIDRA results are presented in Appendix B for the existing conditions with the school traffic. The full SIDRA results are presented in Appendix A for the existing conditions.

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## 7.CONCLUSIONS

This traffic impact assessment reports relates to a proposed boarding house development at 16 Wyatt Ave, Belrose. Based on the analysis and discussions presented in this report, the following conclusions are made:

- The subject site is located in a suitable zone with good access to public transport services
- The surrounding intersection currently operates at a good level of services
- The proposed boarding house complies with the car parking requirements with the Housing SEPP (2021). All tenant parking demands will be met on site.
- The proposed boarding house is expected to generate a modest number of additional trips in both AM and PM peak hours.
- The additional trips can be accommodated in the nearby intersections without significantly affecting the performance of any turn movement, approach arm or the overall intersection.

There are no traffic engineering reasons why a development consent for the proposed boarding house development at 16 Wyatt Avenue Belrose should not be granted.



## APPENDIX A

### INTERSECTION ASSESSMENT FOR EXISTING TRAFFIC

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 ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
SouthEast: Forest Way														
1	L2	34	0	36	0.0	0.690	18.3	LOS B	31.0	221.9	0.68	0.63	0.68	47.9
2	T1	1545	40	1626	2.6	0.690	13.8	LOS A	31.0	221.9	0.68	0.63	0.68	61.0
3	R2	65	0	68	0.0	* 0.745	71.8	LOS F	4.4	30.5	1.00	0.86	1.23	25.1
Approach		1644	40	1731	2.4	0.745	16.2	LOS B	31.0	221.9	0.69	0.64	0.70	57.4
NorthEast: Morgan Road														
4	L2	5	0	5	0.0	0.101	51.4	LOS D	1.5	10.4	0.89	0.66	0.89	30.2
5	T1	23	0	24	0.0	0.101	47.0	LOS D	1.5	10.4	0.89	0.66	0.89	30.3
6	R2	1	0	1	0.0	0.005	53.0	LOS D	0.1	0.4	0.88	0.59	0.88	28.9
Approach		29	0	31	0.0	0.101	48.0	LOS D	1.5	10.4	0.89	0.66	0.89	30.3
NorthWest: Forest Way														
7	L2	42	0	44	0.0	0.955	49.4	LOS D	83.8	596.0	0.98	1.07	1.19	33.9
8	T1	2158	43	2272	2.0	* 0.955	45.8	LOS D	83.8	596.0	0.97	1.07	1.18	39.8
9	R2	64	0	67	0.0	0.733	71.6	LOS F	4.3	30.0	1.00	0.85	1.22	25.2
Approach		2264	43	2383	1.9	0.955	46.6	LOS D	83.8	596.0	0.97	1.07	1.19	39.0
SouthWest: Wyatt Avenue														
10	L2	48	0	51	0.0	0.286	51.4	LOS D	4.7	33.0	0.91	0.74	0.91	29.7
11	T1	39	0	41	0.0	* 0.286	47.1	LOS D	4.7	33.0	0.91	0.74	0.91	29.9
12	R2	40	0	42	0.0	0.185	53.7	LOS D	2.2	15.4	0.91	0.73	0.91	28.8
Approach		127	0	134	0.0	0.286	50.8	LOS D	4.7	33.0	0.91	0.74	0.91	29.5
All Vehicles		4064	83	4278	2.0	0.955	34.4	LOS C	83.8	596.0	0.86	0.88	0.98	44.2

**Table A1: Existing signalised intersection of Forest Way with Wyatt Avenue and Morgan Road for the weekday AM peak hour**

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 ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
SouthEast: Forest Way														
1	L2	52	0	55	0.0	0.894	31.2	LOS C	55.9	394.0	0.91	0.91	1.00	41.1
2	T1	1976	18	2080	0.9	* 0.894	27.0	LOS B	55.9	394.0	0.92	0.92	1.01	50.0
3	R2	26	0	27	0.0	0.273	62.0	LOS E	1.5	10.5	0.99	0.71	0.99	26.9
Approach		2054	18	2162	0.9	0.894	27.6	LOS B	55.9	394.0	0.92	0.92	1.00	49.2
NorthEast: Morgan Road														
4	L2	11	0	12	0.0	0.087	46.0	LOS D	1.2	8.7	0.87	0.67	0.87	31.2
5	T1	15	0	16	0.0	0.087	41.7	LOS C	1.2	8.7	0.87	0.67	0.87	31.4
6	R2	14	0	15	0.0	0.061	47.9	LOS D	0.7	4.8	0.88	0.69	0.88	30.2
Approach		40	0	42	0.0	0.087	45.0	LOS D	1.2	8.7	0.88	0.67	0.88	30.9
NorthWest: Forest Way														
7	L2	22	0	23	0.0	0.712	18.7	LOS B	30.4	215.4	0.72	0.66	0.72	47.2
8	T1	1545	23	1626	1.5	0.712	14.3	LOS A	30.4	215.4	0.71	0.66	0.71	60.7
9	R2	80	0	84	0.0	* 0.840	69.1	LOS E	5.1	35.6	1.00	0.94	1.41	25.6
Approach		1647	23	1734	1.4	0.840	17.0	LOS B	30.4	215.4	0.73	0.67	0.75	56.7
SouthWest: Wyatt Avenue														
10	L2	26	0	27	0.0	0.108	43.5	LOS D	1.7	12.0	0.85	0.69	0.85	31.6
11	T1	11	0	12	0.0	* 0.108	39.0	LOS C	1.7	12.0	0.85	0.69	0.85	31.7
12	R2	18	0	19	0.0	0.078	48.1	LOS D	0.9	6.2	0.89	0.70	0.89	30.1
Approach		55	0	58	0.0	0.108	44.1	LOS D	1.7	12.0	0.86	0.69	0.86	31.1
All Vehicles		3796	41	3996	1.1	0.894	23.4	LOS B	55.9	394.0	0.83	0.81	0.89	51.4

**Table A2: Existing signalised intersection of Forest Way with Wyatt Avenue and Morgan Road for the weekday PM peak hour**

## APPENDIX B

# INTERSECTION ASSESSMENT FOR FUTURE CONDITION WITH BOARDING HOUSE TRAFFIC

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 ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
SouthEast: Forest Way														
1	L2	36	0	38	0.0	0.691	18.4	LOS B	31.1	222.4	0.68	0.63	0.68	47.9
2	T1	1545	40	1626	2.6	0.691	13.8	LOS A	31.1	222.4	0.68	0.63	0.68	61.0
3	R2	65	0	68	0.0	0.745	71.8	LOS F	4.4	30.5	1.00	0.86	1.23	25.1
Approach		1646	40	1733	2.4	0.745	16.2	LOS B	31.1	222.4	0.69	0.64	0.70	57.4
NorthEast: Morgan Road														
4	L2	5	0	5	0.0	0.101	51.4	LOS D	1.5	10.4	0.89	0.66	0.89	30.2
5	T1	23	0	24	0.0	0.101	47.0	LOS D	1.5	10.4	0.89	0.66	0.89	30.3
6	R2	1	0	1	0.0	0.005	53.1	LOS D	0.1	0.4	0.88	0.59	0.88	28.9
Approach		29	0	31	0.0	0.101	48.0	LOS D	1.5	10.4	0.89	0.66	0.89	30.3
NorthWest: Forest Way														
7	L2	42	0	44	0.0	0.956	49.8	LOS D	84.2	599.1	0.98	1.07	1.19	33.8
8	T1	2158	43	2272	2.0	* 0.956	46.2	LOS D	84.2	599.1	0.97	1.08	1.19	39.6
9	R2	67	0	71	0.0	* 0.767	72.3	LOS F	4.5	31.7	1.00	0.87	1.27	25.0
Approach		2267	43	2386	1.9	0.956	47.1	LOS D	84.2	599.1	0.97	1.07	1.19	38.8
SouthWest: Wyatt Avenue														
10	L2	58	0	61	0.0	0.312	51.7	LOS D	5.3	37.0	0.92	0.75	0.92	29.6
11	T1	39	0	41	0.0	* 0.312	47.3	LOS D	5.3	37.0	0.92	0.75	0.92	29.8
12	R2	47	0	49	0.0	0.218	54.0	LOS D	2.6	18.3	0.92	0.74	0.92	28.7
Approach		144	0	152	0.0	0.312	51.2	LOS D	5.3	37.0	0.92	0.75	0.92	29.4
All Vehicles		4086	83	4301	2.0	0.956	34.8	LOS C	84.2	599.1	0.86	0.88	0.98	44.0

**Table B1: Existing signalised intersection of Forest Way with Wyatt Avenue and Morgan Road for the weekday AM peak hour with Boarding House Traffic**

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
SouthEast: Forest Way														
1	L2	59	0	62	0.0	0.878	27.2	LOS B	55.0	387.9	0.89	0.86	0.93	43.1
2	T1	1976	18	2080	0.9	* 0.878	22.9	LOS B	55.0	387.9	0.89	0.86	0.93	52.9
3	R2	26	0	27	0.0	0.255	66.1	LOS E	1.6	11.3	0.99	0.72	0.99	26.1
Approach		2061	18	2169	0.9	0.878	23.6	LOS B	55.0	387.9	0.89	0.86	0.93	51.9
NorthEast: Morgan Road														
4	L2	11	0	12	0.0	0.090	50.4	LOS D	1.4	9.5	0.88	0.67	0.88	30.1
5	T1	15	0	16	0.0	0.090	46.0	LOS D	1.4	9.5	0.88	0.67	0.88	30.3
6	R2	14	0	15	0.0	0.063	52.3	LOS D	0.7	5.2	0.89	0.69	0.89	29.1
Approach		40	0	42	0.0	0.090	49.4	LOS D	1.4	9.5	0.88	0.68	0.88	29.8
NorthWest: Forest Way														
7	L2	22	0	23	0.0	0.700	18.8	LOS B	32.1	227.7	0.69	0.64	0.69	47.1
8	T1	1545	23	1626	1.5	0.700	14.4	LOS A	32.1	227.7	0.69	0.63	0.69	60.6
9	R2	90	0	95	0.0	* 0.884	76.8	LOS F	6.3	44.4	1.00	0.99	1.48	24.3
Approach		1657	23	1744	1.4	0.884	17.8	LOS B	32.1	227.7	0.70	0.65	0.73	55.8
SouthWest: Wyatt Avenue														
10	L2	29	0	31	0.0	0.120	47.9	LOS D	2.0	14.3	0.86	0.70	0.86	30.4
11	T1	11	0	12	0.0	* 0.120	43.4	LOS D	2.0	14.3	0.86	0.70	0.86	30.6
12	R2	20	0	21	0.0	0.090	52.6	LOS D	1.1	7.5	0.89	0.70	0.89	29.1
Approach		60	0	63	0.0	0.120	48.6	LOS D	2.0	14.3	0.87	0.70	0.87	30.0
All Vehicles		3818	41	4019	1.1	0.884	21.7	LOS B	55.0	387.9	0.81	0.77	0.84	52.5

**Table B2: Existing signalised intersection of Forest Way with Wyatt Avenue and Morgan Road for the weekday PM peak hour with Boarding House Traffic**