Wyee Market Place Holdings Pty Ltd

106 Wyee Road & 1496 Hue Hue Road, Wyee

TRAFFIC IMPACT ASSESSMENT

WGA232077

WGA232077-RP-TT-0001_C

1 March 2024

Revision History

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1 INTRODUCTION

1.1 General

WGA has been engaged by Wyee Market Place Holdings Pty Ltd to prepare a Traffic Impact Assessment (TIA) report for the sites of 106 Wyee Road and 1496 Hue Hue Road, Wyee, New South Wales to accompany a planning proposal for the proposed amendments to the Lake Macquarie Local Environment Plan 2014 (LMLEP 2014) to:

- Rezone the subject site from RU4 Primary Production Small Lots to E1 Local Centre to allow for redevelopment for commercial uses.
- Amend height of building from 8.5m to 15m to align with future commercial development.

1.2 Documents Referenced

Whilst preparing this TIA report, the following information and documentation has been referenced:

- Concept Design Package prepared by Nettletontribe.
- Nearmap aerial imagery and Google Streetview.
- Traffic volume data surveys conducted on Friday 20th of October, undertaken by Trans Traffic Survey.
- Australian Standard for Parking Facilities Part 1: Off-street Car Parking (AS2890.1 – 2004).
- Australian Standard for Parking Facilities Part 2: Off-street Commercial Vehicle Facilities (AS2890.2 – 2018).
- Lake Macquarie City Council Development Control Plan 2014 – Revision 31.
  - Part 4 – Development in Business Zones.
  - Part 12 – Precinct Area Plans – Wyee West.
- Traffic Impact Statement and Vehicle Access Guideline – Lake Macquarie City Council.
- Wyee Residential Subdivision Traffic Impact Assessment prepared by Cardno dated 7 September 2020.
- Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections.
- Austroads Guide to Traffic Management Part 12: Integrated Transport Assessments for Developments.
- RTA Guide to Generating Development Version 2.2.
- RMS Technical Direction: Guide to Traffic Generating Developments – Updated Surveys (TDT 2013 / 04a).
- Traffic Modelling Guidelines – Transport Roads & Maritime Services.
- State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP) – NSW Government.

1.3 Pre-Lodgement Authority Comments

In preparation of the concept design, pre-lodgement consultation occurred between SJB Planning and Lake Macquarie City Council who in turn consulted with Transport for New South Wales (TfNSW).

Within the pre-lodgement meeting, Lake Macquarie City Council outlined requirements to be considered in the TIA as summarised below.

- Inform any required upgrades and consider cumulative traffic impacts of surrounding developments including the West Wyee land release area and the RE1 Public Recreation land (comprising 110 and 114 Wyee Road) to the south.
- Demonstrate that the proposal does not negatively impact the use and access to the adjacent recreation land. Notably, the impacts of road / traffic work on the curtilage of the recreational land and pedestrian and vehicular access into the recreation land.
- Consider active transport routes identified in Council's strategic planning documents and opportunities to add value to the network as part of this proposal, including connection to the Wyee West residential subdivision along Hue Hue Road, crossing treatments across Hue Hue Road and connections to public transport.
- Consider the intersection of Wyee Road and Hue Hue Rd, and Hue Hue Road access to the site and Palara Road.
- Strategic designs should be provided to ensure that any upgraded treatment can fit within road reserves or if any further land is required. Consider traffic bypassing Hue Hue Road and Wyee Road and using Webber Road / Palara Road.
- Consider options for public transport and identify any opportunities for upgrades. We would recommend consultation with bus companies.
- Council is looking at upgrading Wyee Road through the local centre and designing a shared pathway as part of that. We would be looking at reducing speed limits along Wyee Road at the town centre and including High Pedestrian Activity Area (HPAA) along Wyee Road. Consideration should be given to if this site creates an extension of this area.
- Consider some roads in the area are within crown road reserve.
- Demonstrate that car parking can be suitably accommodated within the site to ensure that public recreation land is not used for this purpose.

2 THE PROPOSAL

2.1 General

The proposal seeks to rezone the sites of 106 Wyee Road and 1496 Hue Hue Road, Wyee from a Primary Production Small Lots (RU4) zone to a Local Centre (E1) zone and to amend height of building from 8.5m to 15m for the purposes of developing a shopping centre under a future development application.

As detailed within the Lake Macquarie City Council Development Control Plan (LMCC DCP), a Local Centre zone E1 zone is intended to:

- Provide a range of retail, business, office, entertainment, community and other suitable land uses that serve the needs of the local community.
- Preferred land uses are:
  - Retail premises.
  - Businesses premises.
  - Food and drink premises.
  - Office premises at street level with office premises, tourist accommodation or apartments above.

To demonstrate the suitability of the rezoning an indicative concept plan has been prepared detailing indicative land use mixes, car parking and vehicle access.

The final land use mix and yield for the site will be the subject of a future development application. This assessment relied on the following future land uses identified in the indicative concept design prepared by Nettletontribe:

- **Retail Uses:**
  - Supermarket.
  - Retail.
- **Non-Retail / Commercial:**
  - Childcare.
  - Medical / Allied Health.
  - Gym / Fitness.
  - Other Commercial.

An extract of the indicative scheme is illustrated in Figure 2.1, a breakdown of the potential land uses and yields included in the indicative concept is provided in Table 2.1.

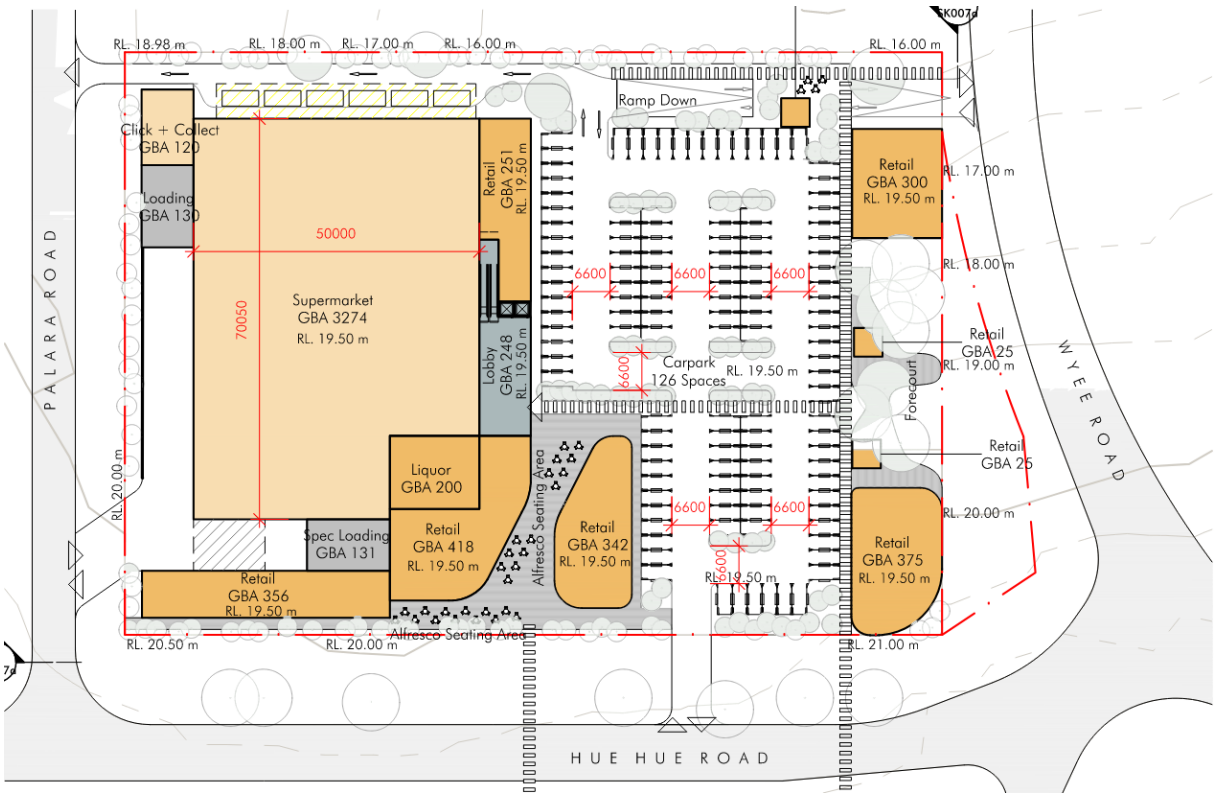

Figure 2.1: Extract – Indicative Site layout

Table 2.1: Summary of Indicative Land Uses

LAND USE	INDICATIVE YIELD
Supermarket	3,800 sqm
Retail	2,000 sqm
Gym	700 sqm
Childcare	1,200 sqm
Office	2,300 sqm
Medical	800 sqm
TOTAL	**10,800 sqm**

2.2 Access Arrangements

The indicative concept scheme suggest that access to the site will be provided via four (4) crossovers comprising the following arrangements:

- Access to Hue Hue Road accommodating full directional entry / exit movements.
- Access to Wyee Road combined left / right inbound movements and left-turn exit movements.
- Access to Palara Road accommodating full directional entry / exit movements for loading and waste collection vehicles.
- Exit only to Palara Road accommodating left / right outbound movements.

2.2.1 State Environmental Planning Policy (Transport and Infrastructure) 2021 Considerations – Access Considerations

Subdivision 22 of the SEPP outlines requirements for development in or adjacent to road corridors and road reservations. Noting the indicative access is shown on Wyee Road which is on a classified road.

It is expected that access providing access from both Hue Hue Road and Wyee Road will aide in providing convenient and safe access to the site and will not adversely affect the safety, efficiency and ongoing operation of Wyee Road. Traffic considerations are provided within Section 8.3.1, however, this is to be further considered during a development application stage.

2.3 Car Parking

The indicative concept scheme plans outline the potential to provide an on-site parking yield of 364 on-site car parking spaces across the at-grade and undercroft car parking levels. The indicative concept scheme demonstrates that up to 360 car parking spaces can be accommodated on site. Exact car parking numbers will be approved at the development application stage.

2.4 Pedestrian Access

The indicative concept scheme envisages pedestrian access to the site via Hue Hue Road and Wyee Road. Access arrangements will be resolved in the future development application.

2.5 Loading & Commercial Vehicle Access

The indicative concept scheme indicate that an additional crossover from Palara Road is to be provided within the south-western corner of the site to accommodate separated loading and commercial vehicle access to the proposed loading and back of house areas.

3 SITE CONTEXT

3.1 Subject Site

The subject site is located at the lots of 106 Wyee Road & 1496 Hue Hue Road, Wyee.

The site is bound by Wyee Road to the east, Hue Hue Road to the south, and Palara Road to the west. Land uses surrounding the site are generally residential, the location of the subject site in the context of the surrounding road network is illustrated in Figure 3.1.

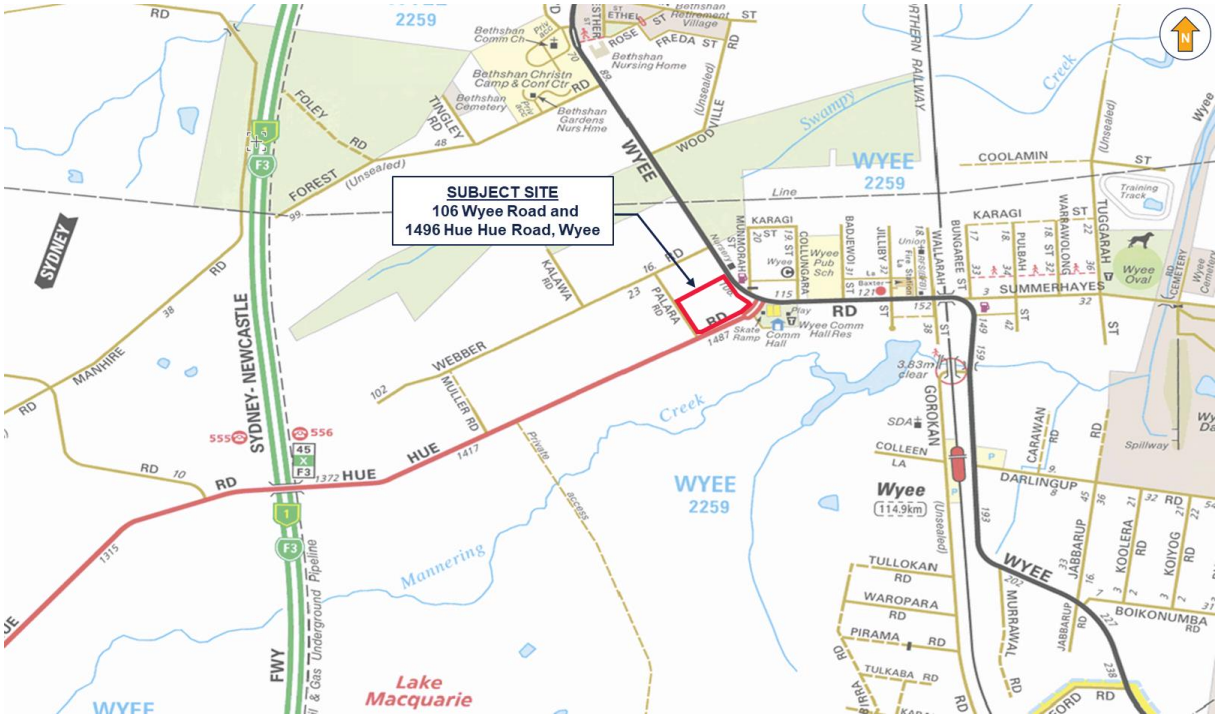

Figure 3.1: Surrounding Road Network and Environs

3.2 Existing Land Use

The subject site currently comprises two (2) lots (281/-/DP659927 and 282/-/DP755242), with both lots currently occupied by residential dwellings and accessed via their respective crossovers to Hue Hue Road and Wyee Road from the southern and eastern perimeters.

3.3 Planning Zones

The subject site is currently situated within a Primary Production Small Lots (RU4) zone as shown in Figure 3.2.

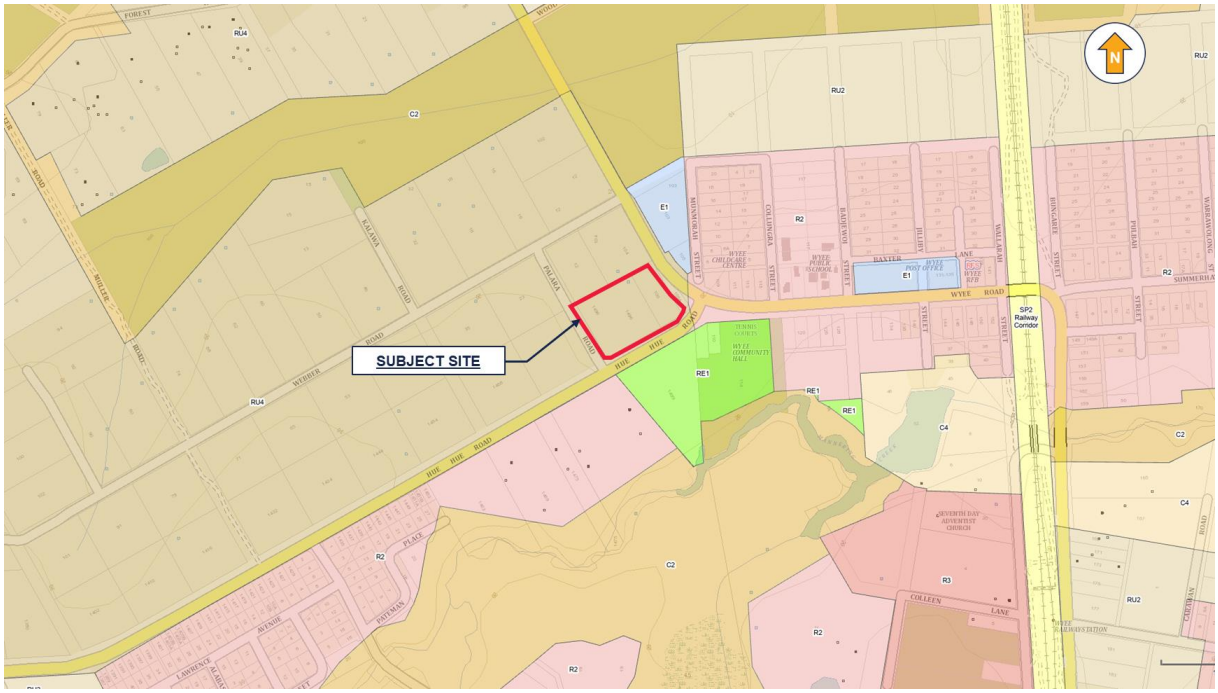

Figure 3.2: Land Use Planning Zones

As detailed within Clause 3.3 of Part 8 of the LMCC DCP, the objectives of Primary Production Small Lots (RU4) zones are to:

- Promote the efficient use of land.
- Ensure that subdivision provides a variety lot sizes that meet community and economic needs, while ensuring that ecological, social and cultural values are safeguarded.
- Facilitate subdivision which results in predominately rectangular shaped lots.
- Ensure that subdivision does not preclude the orderly development of land.
- Require adequate street frontages and dimensions for standard, battle-axe and irregular shaped lots.

3.3.1 Crown Roads Considerations[1]

It is noted that Hue Hue Road and Palara Road on the southern and western frontage of the site is within crown road reserve. Crown roads are defined by the NSW Government as “land corridors set aside for access”, given the growth of Wyee and increasing traffic volumes observed (see Section 8.2) it is envisioned the ownership and management of the Crown Roads will be transferred to Council.

A summary of the process of transferring the road ownership at request of another roads authority is illustrated in Figure 3.3, as an extract of Administration of Crown Roads Guideline prepared by the NSW Department of Industry – Lands and Water.

This is to be further considered and confirmed in future stages.

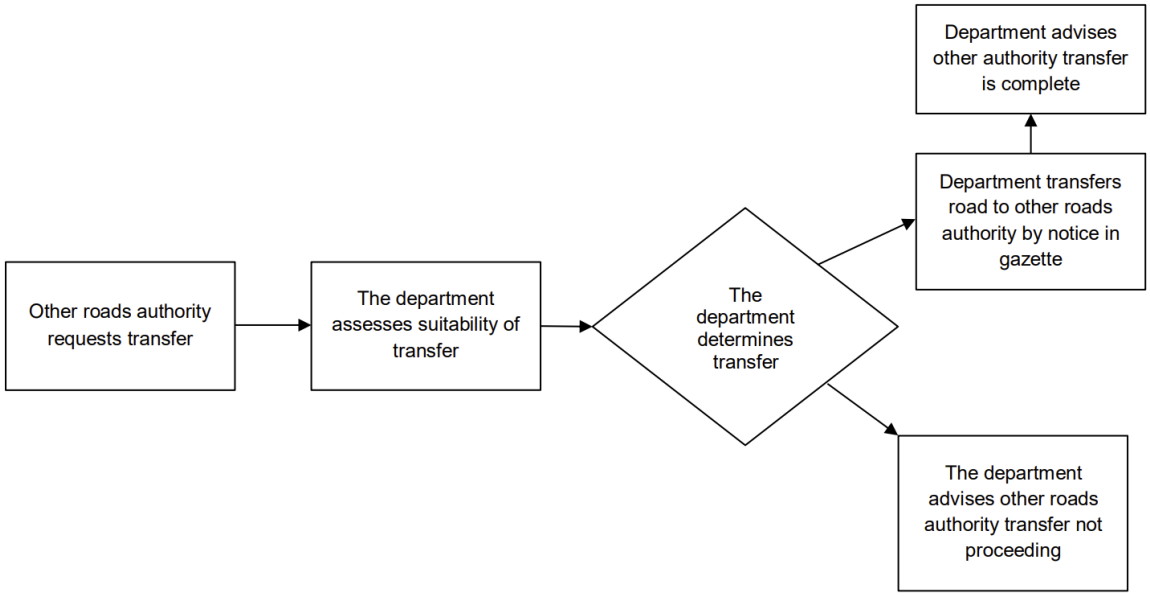

Figure 3.3 Process of Transferring a Crown Road at Request by Another Roads Authority

[1] It is noted that the Lake Macquarie Road Authority Map specifies Hue Hue Road and Wyee Road are both owned and maintained by LMCC. This is in contrast to the NSW Planning Portal Spatial Viewer which outlined the roads as crown land. The current status of road ownership is to be confirmed during a future development application stage.

3.4 Road Network

3.4.1 Hue Hue Road

Hue Hue Road is a local road managed by Lake Macquarie City Council, which runs from Yarramalong Road in the South in Alison to Wyee Road in the north east. In the vicinity of the site Hue Hue Road is declared crown road.

In the vicinity of the site, Hue Hue Road operates with one (1) trafficable lane in each direction. Kerbside parking is generally not available on either side of Hue Hue Road. A signed speed limit of 60km/h applies to Hue Hue Road at the site frontage. It is noted that currently there are limited pedestrian walkways provided along parts of Hue Hue Road.

Views of Hue Hue Road facing northeast and southwest proximate to the site are provided within Figure 3.4 and Figure 3.5, respectively.

Figure 3.4: Hue Hue Road Facing Northeast Proximate to the Subject Site

Figure 3.5: Hue Hue Road Facing Southwest Proximate to the Subject Site

3.4.2 Wyee Road

Wyee Road is a Regional Road managed by Lake Macquarie City Council, and generally runs from Mandalong Road in the north to Doyalson Link Road in the southeast. In the vicinity of the site Wyee Road operates with one (1) trafficable lane in each direction. Formal kerbside parking is generally not provided on Wyee Road.

A signed speed limit of 60km/h applies to Wyee Road in the site vicinity, noting a school zone is present south of the Hue Hue Road intersection. Paved walkways are provided along both sides of Wyee Road in parts to assist with pedestrian connectivity throughout the locality.

Views of Wyee Road facing northwest and southeast proximate to the site are provided within Figure 3.6 and Figure 3.7 respectively.

Figure 3.6: Wyee Road Facing Northwest Proximate to the Site

Figure 3.7: Wyee Road Facing Southeast Proximate to the Site

3.4.3 Palara Road

Palara Road is a local road managed by Lake Macquarie City Council, which runs from Webber Road in the north to Hue Hue Road in the south.

In the vicinity of the site Palara Road operates with one (1) trafficable lane in each direction. No kerbside parking provided on Palara Road. A default speed limit of 50km/h applies to Palara Road.

Views of Palara Road facing northwest and southeast proximate to the site are provided within Figure 3.8 and Figure 3.9 respectively.

Figure 3.8: Palara Road Facing Southeast Proximate to the Subject Site

Figure 3.9: Palara Road Facing Northwest Proximate to the Subject Site

3.5 Sustainable Transport

3.5.1 Walking

To contextualise the existing pedestrian activity of a site, a walkability map has been sourced from Targomo and reproduced in Figure 3.10 showing existing walking connections within a 15-minute walk from the subject site.

The following areas of note are within a 15 minute walk of the site:

- Residential catchments.
- Wyee Public School.
- Wyee Station.
- Wyee Village Shops.
- Wyee Community Hall.

It is noted that improvements to the walkability of the site are understood to be proposed though Wyee West Precinct Action Plan (see Section 4.1.2) and the proposed Wyee Road Upgrade (see Section 6.1).

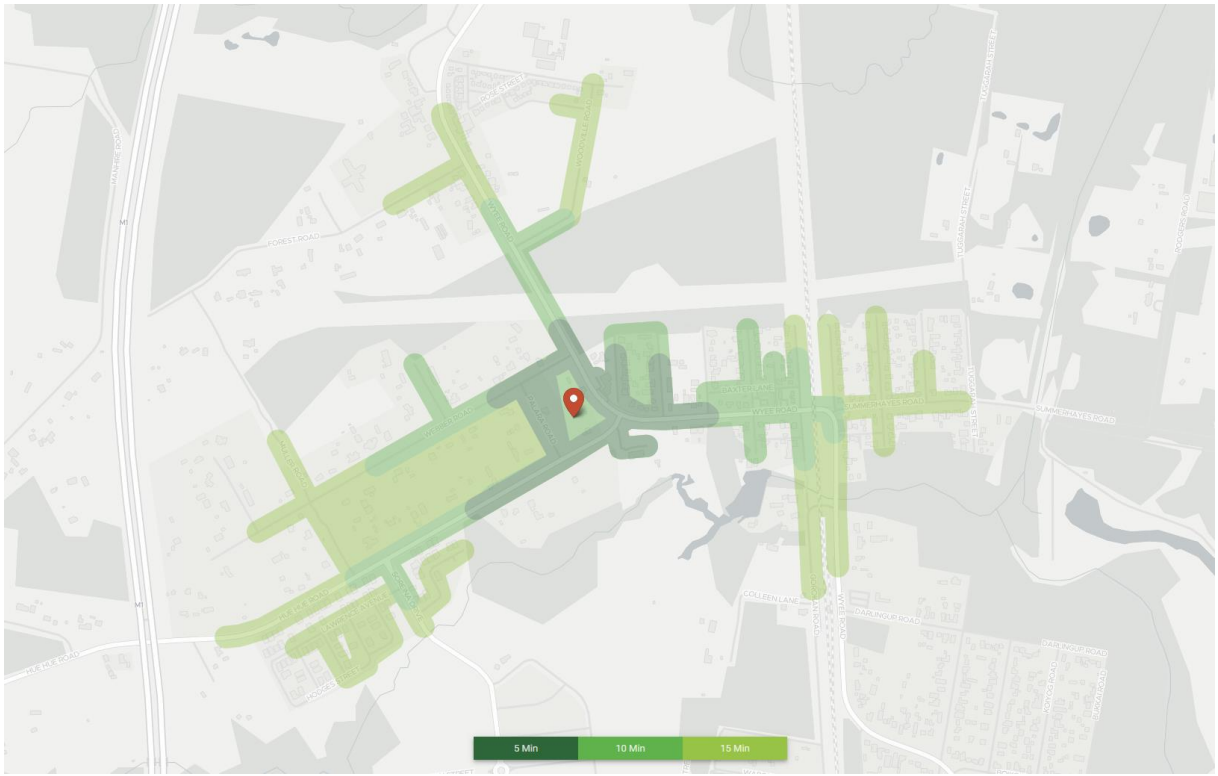

Figure 3.10: Walkability Map

3.5.2 Cycling

Bicycles are an excellent form of transport. They have almost no impact on the environment, produce no greenhouse gases, make no noise, and consume no fossil fuels. Cycling is also good for people's health and fitness and is an enjoyable pastime.

A review of council / TfNSW strategic documents show that there are a number of proposed cyclist infrastructure upgrades proposed in the vicinity of the site. Of particular note is the proposed Wyee Road upgrade (further detailed within Section 6) which includes a shared path to the town centre. Additionally, as proposed within the Wyee West Precinct Area Plan, off-road cycle paths are proposed in the south providing connection to the Wyee railway station.

A cyclability map sourced from Targomo and provided in Figure 3.11 illustrates areas within a 15-minute ride of the subject site.

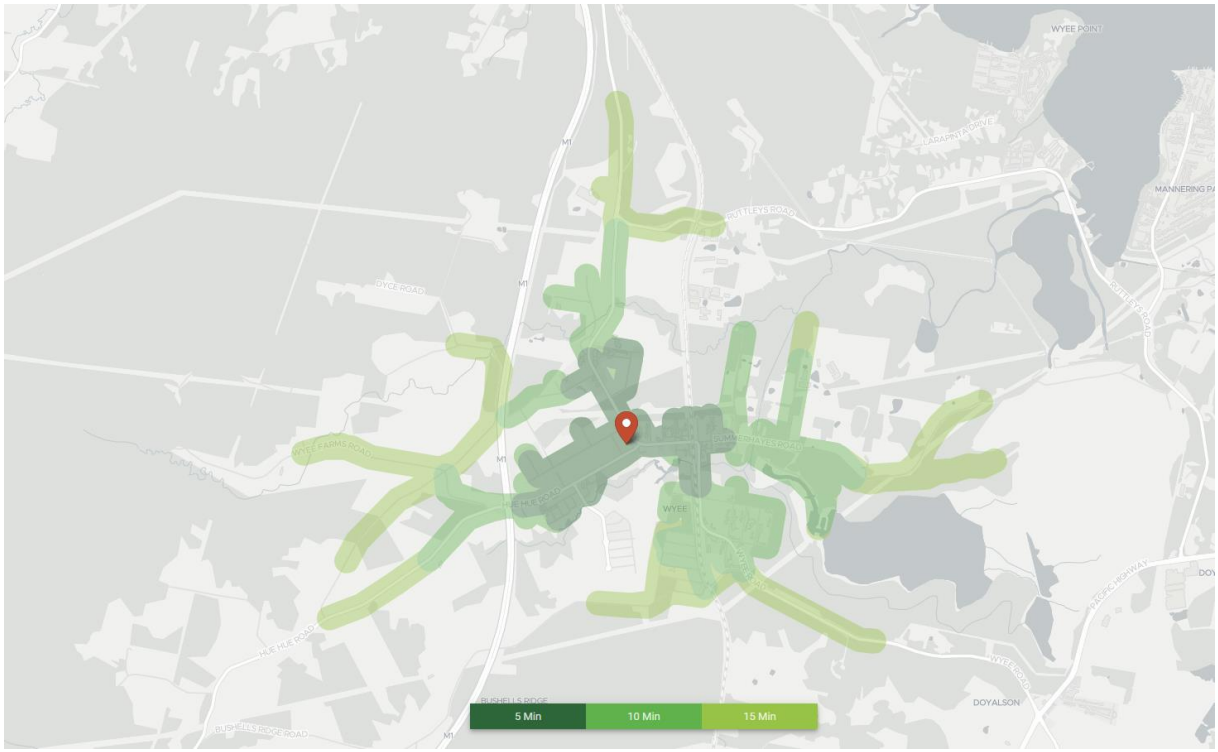

Figure 3.11: Cycling Map

3.5.3 Public Transport

The site has good public transport connectivity with a bus stop located on Wyee Road within close proximity to the site. Additionally, Wyee train station is located within approximately a 1km walk.

An overview of the public transport services operating within the vicinity of the site is illustrated in Figure 3.12.

It is noted that Figure 3.12 includes services on the Busways Central Coast Buses Network and does not include the Hunter Valley Buses school buses or temporary buses.

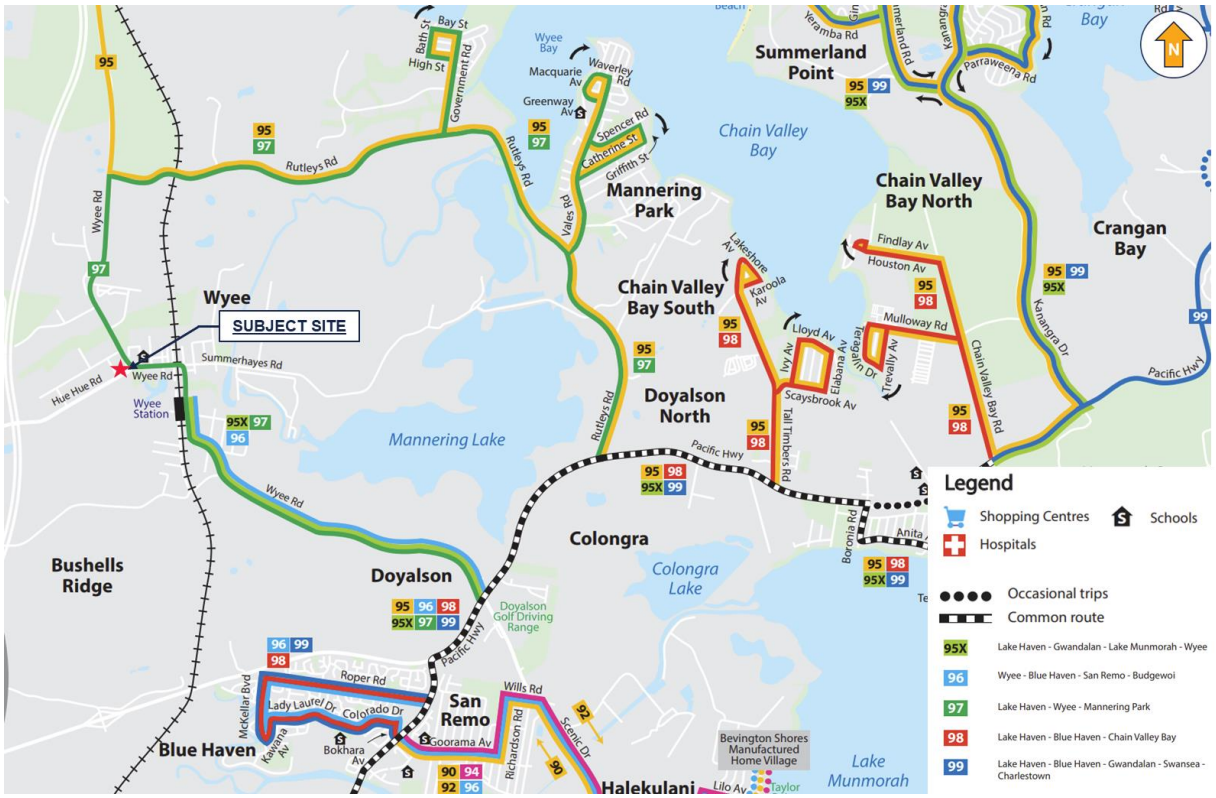

Figure 3.12: Overview of Surrounding Public Transport Services

The surrounding public transport provisions are summarised in Table 3.1.

Table 3.1: Summary of Surrounding Public Transport Services

SERVICE	ROUTE NO.	NEAREST STOP	ROUTE
Bus	96	Wyee Rd before Webber Rd	Wyee – Blue Haven – San Remo - Budgewoi
	97	Wyee Rd before Webber Rd	Lake Haven - Wyee – Mannering Park
	10	1469 Hue Hue Rd	Tuggerah to Warnervale via Wyee
Train	N/A	Wyee Station	Central Coast & Newcastle Line

4 PRECINCT AREA PLAN CONSIDERATIONS

4.1 Wyee West Precinct Area Plan

Lake Macquarie City Council has detailed the precinct area plan for Wyee West. The purpose of the Wyee West Area Plan is to provide a strategic and coordinated approach to the development of land located to the west of the existing Wyee township. It is understood the project is currently under construction.

The Wyee West Area Plan extends to Hue Hue Road in the north, Bushells Ridge Road in the south and Gorokan Road in the east. The location of the subject site in the context of the Wyee West Area Plan boundary is shown within Figure 4.1.

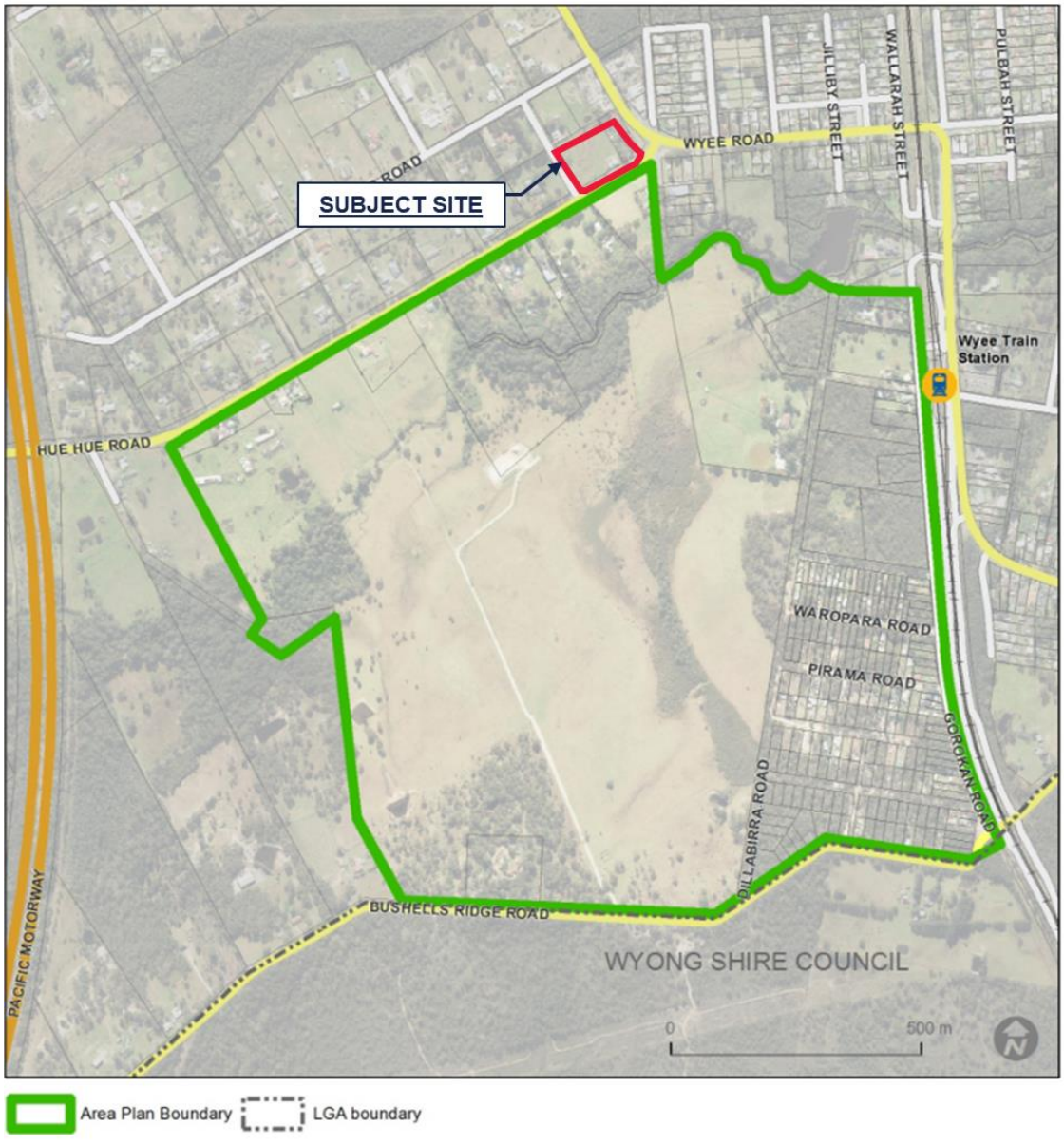

Figure 4.1: Subject Site Location in the Context of Wyee West Precinct Area Plan

4.1.1 Land Use

The Wyee West Precinct Area Plan outlines the proposed land uses within the precinct, with the proposed uses to include:

- Low Density Residential.
- Medium Density Residential.
- Open space.
- Environmental Corridors.

An extract of the proposed land uses is illustrated in Figure 4.2.

Figure 4.2: Wyee West Precinct Area Proposed Land Uses

4.1.2 Pedestrian Connectivity and Shared Paths

As identified within Figure 4.2, there is a proposed off-road cycleway with associated crossings over Mannering Creek providing connections to Wyee Train Station.

The Wyee West Precinct Area Plan proposes new roads and sustainable transport connections through off-road cycle ways and paved pedestrian paths. Considerations to the Wyee West Precinct Area Plan is provided within Section 4.1.

Of particular note is the proposed off-road cycleway providing connections to the Wyee Train Station and to the open spaces and residential areas. An extract of the structure plan is shown within Figure 4.3.

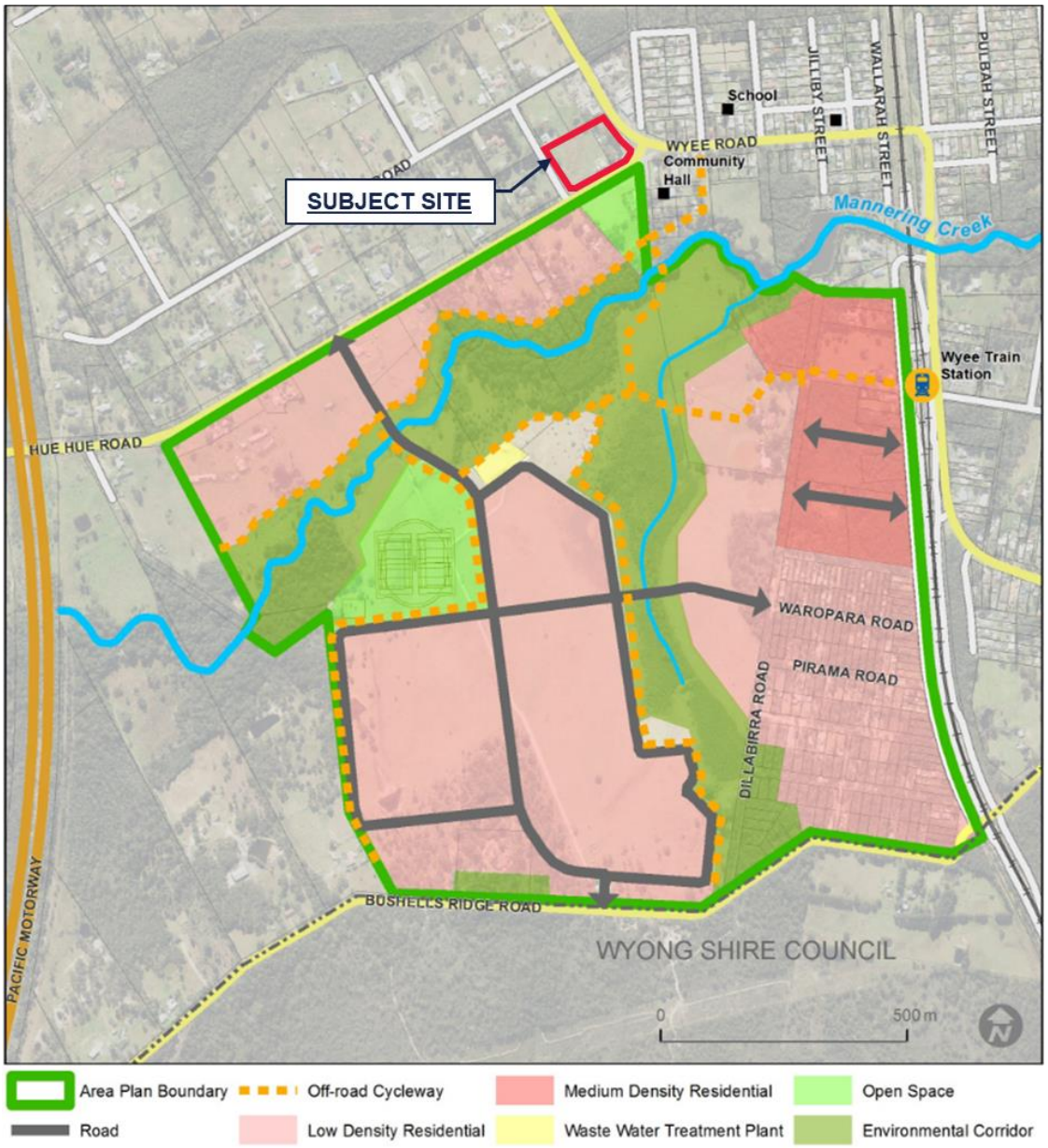

Figure 4.3: Wyee West Structure Plan

5 NEARBY DEVELOPMENTS

5.1 Wyee Residential Subdivision

A residential subdivision is currently being constructed within the vicinity of the subject site and located within the Wyee West Precinct Area Plan. It is understood the development comprises approximately 767 low density residential lots.

The location of the Wyee Residential Subdivision in relation to the subject site is illustrated in Figure 5.1.

Figure 5.1: Location of Wyee Residential Subdivision in Relation to Subject Site

Nearmap aerial imagery was reviewed to determine the current status and rate of construction, with a summary of the observations detailed within Table 5.1.

Table 5.1: Summary of Wyee Residential Subdivision Progress

DATE	NO. OF DWELLINGS	CHANGE	% COMPLETE
Thursday 11 August 2022	184 dwellings	-	24%
Sunday 29 October 2023	286 dwellings	+ 102 dwellings	37%

A Traffic Impact Assessment report (dated 7 September 2020) was prepared by Cardno to accompany the development application which outlined the expected traffic generation of the residential subdivision.

The approved report uses traffic generation rates as sourced from the RMS Guide and Technical Direction (TDT 2013/04a); the rates specified gives the following traffic expected traffic generation as outlined within Table 5.2.

Table 5.2: Wyee West Expected Traffic Generation (Extract of Cardno Report)

LAND USE	NO. OF DWELLINGS	TRAFFIC GENERATION - PM PEAK
Low Density Residential	767 dwellings	598 veh/h

The report prepared by Cardno references 2016 Journey to Work (JTW) data to determine the likely distribution of traffic movements generated by the Wyee residential subdivision and has been reproduced below:

Direction of Travel:	2016 JTW Data:
• North	59%
• South	38%
• East	3%

Application of the above JTW directional splits to the site generated traffic outlined within Table 5.2 results in the following PM peak traffic movements associated with the Wyee residential subdivision outlined within Figure 5.2.

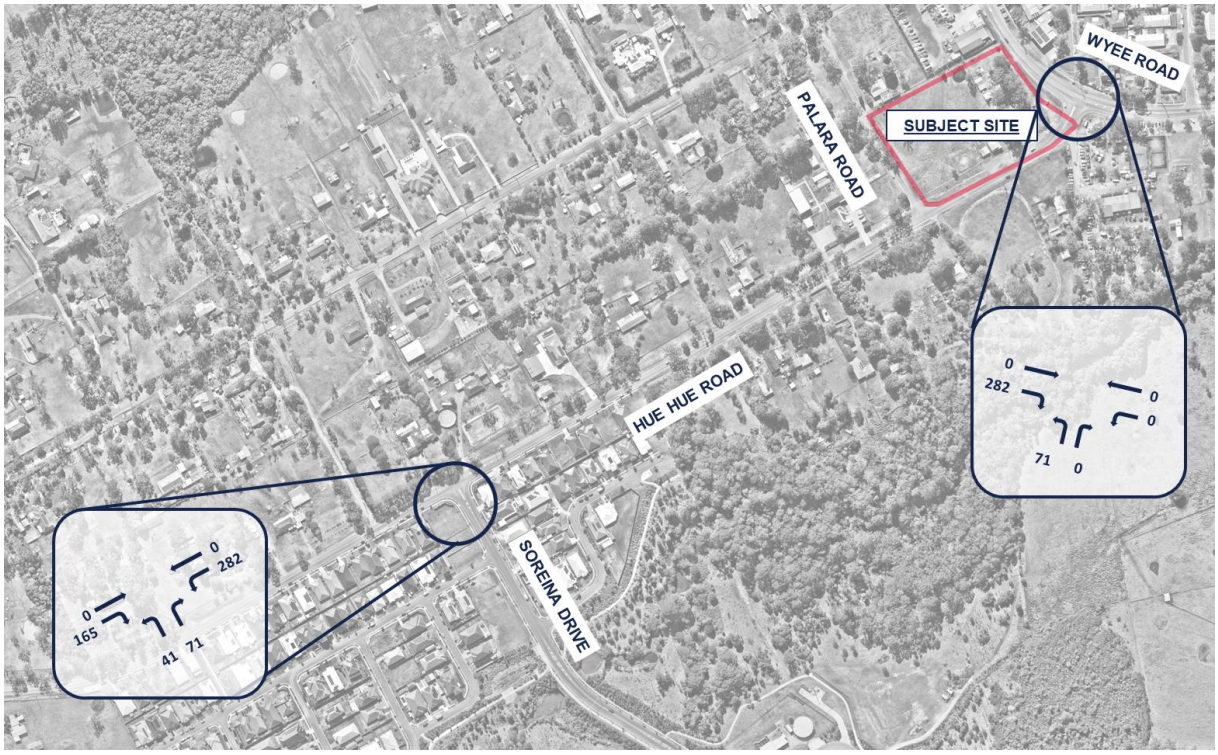

Figure 5.2: Wyee Residential Subdivision PM Peak Traffic Generation (Cardno calculations)

6 KNOWN INFRASTRUCTURE WORKS

6.1 Wyee Road Upgrade

A proposal to upgrade Wyee Road is understood to currently be in the planning stages with upgrades proposed to the east of the subject site as shown within Figure 6.1.

Figure 6.1: Wyee Road Upgrade Location

The planned upgrades include the following:

- The provision of a parking lane on the southern road shoulder.
- Formalisation of a bus stop on Wyee Road.
- Providing a High Pedestrian Activity Area (HPAA) including:
  - Installation of road cushions or pavement treatment.
  - Raising the existing pedestrian crossing.
  - Investigation of the provision of a 3m (min. width) shared pathway on the southern side of Wyee Road with connection to road.
  - Establishment of 40km/hr zone.

It is noted that the project is currently in planning and subject to change.

7 CAR PARKING CONSIDERATIONS

The following section provides an assessment and associated commentary of the likely car parking requirements anticipated to be generated by the proposed rezoning of the subject site based on the indictive yields outlined within Section 2. The indicative concept scheme demonstrates that up to 360 car parking spaces can be accommodated on the site. Exact car parking numbers will be approved in the development application stage.

7.1 Car Parking Requirements – Lake Macquarie DCP

Table 7 to Part 4 of the Lake Macquarie City Council Development Control Plan 2014 (LMCC DCP) specifies the car parking requirements relating to the provision of car parking spaces across a number of land uses within Business Zones.

Table 7.1 has been prepared to detail the relevant sources and methodology of determining the car parking rate.

Table 7.1: Applicable Car Parking Rates – Lake Macquarie DCP

COMPONENT	ASSESSED LAND USE
Supermarket	Shops or Group of Shops
Retail	
Medical Centre	Medical Centre[1]
Childcare	Child Care Centres
Gym / Fitness	Recreational Facilities[2]
Other Commercial	Business and Office Premises

[1] Assumed health centre or diagnostic technology centre.
[2] Assumed gymnasium.

The LMCC DCP defines rates for all land uses included in the indicative concept scheme. Table 7.2 has been prepared to detail the car parking requirements applicable to indicative concept scheme, based on the applicable rates prescribed within Table 7 to Section 3.11 of the LMCC DCP.

Table 7.2: Indicative Concept Scheme Car Parking Requirements – Lake Macquarie DCP

USE	SIZE / NO.	PARKING RATE	CAR PARKING REQUIREMENT
Supermarket Retail	5,800 sqm	1 space per 40 sqm of Gross Floor Area (GFA).[1]	145 spaces
Medical Centre[2]	4 on-duty practitioners. 2 full time employees. 3 consulting rooms.	1 space per on-duty practitioner, plus 1 space per 2 full time equivalent employees, plus 1.5 spaces per consulting room, plus 1 space for delivery and collection service.	9 spaces
Childcare[2]	107 children. 15 staff members.	1 space per 8 children, plus 0.75 spaces per staff member.	25 spaces
Gym / Fitness	700 sqm	1 space per 10 sqm of GFA.	70 spaces
Other Commercial	2,300 sqm	1 space per 40 sq m of GFA where more than 20 car spaces are required and the development is within 400m of a designated bus route, the development provides a 'bus shelter; (or approved equivalent) in lieu of 1 car space in every 40, or part thereof, of the onsite spaces required, One shelter to be provided for each car space deleted.	58 spaces
		TOTAL	**307 spaces**

[1] GFA taken to be greater than 5,000 sqm.
[2] Operational details assumed and to be confirmed prior to DA submission.

As shown in Table 7.2, application of the car parking rates outlined within the LMCC DCP to the indicative concept scheme yield results in a requirement for 307 car parking spaces based on the indicative concept scheme.

The indicative concept design provides in the order of 360 car parking spaces on site. This demonstrates that the site is capable of accommodating car parking demand for the shopping centre, consistent with parking rates in LMCC DCP. The car parking provision will ultimately be determined by the final land mix and yield which will be the subject of a future development application following rezoning of the site. The LMCC DCP contains provisions for the consideration of departures to the car parking requirements, this is to be explored within a development application.

Further considerations to the provisions of car parking are to be made during a development application stage.

8 TRAFFIC CONSIDERATIONS

8.1 General

The peak traffic generation and parking demand associated with shopping centre developments generally occurs on a Saturday afternoon. However, the impact of traffic generated by a shopping centre is usually greatest during the Friday evening peak period, when traffic generated by the centre combines with the peak weekday commuter volumes to produce the greatest total volume on the adjacent road network.

Accordingly, the Friday evening peak period has been considered throughout the subsequent assessment.

8.2 Existing Traffic Conditions

To gain an understanding of the prevailing traffic conditions throughout the surrounding area, WGA commissioned turning movement count surveys at key intersections across the critical Friday PM peak period (3:00pm to 7:00pm) at the following intersections:

- Wyee Road / Hue Hue Road.
- Hue Hue Road / Palara Road.

It is noted that given the Wyee community hall access road is understood to be modified as part of the works associated with the Wyee West Precinct Area Plan, traffic volumes at this location were not considered within the existing traffic considerations.

It is however noted that the peak traffic generation associated with the community hall would not be expected to coincide with the shopping centre peak operations, therefore it is expected that vehicle movements to / from the community hall during the assessed period would be negligible.

The surveyed intersections and their proximity to the subject site are illustrated in Figure 8.1.

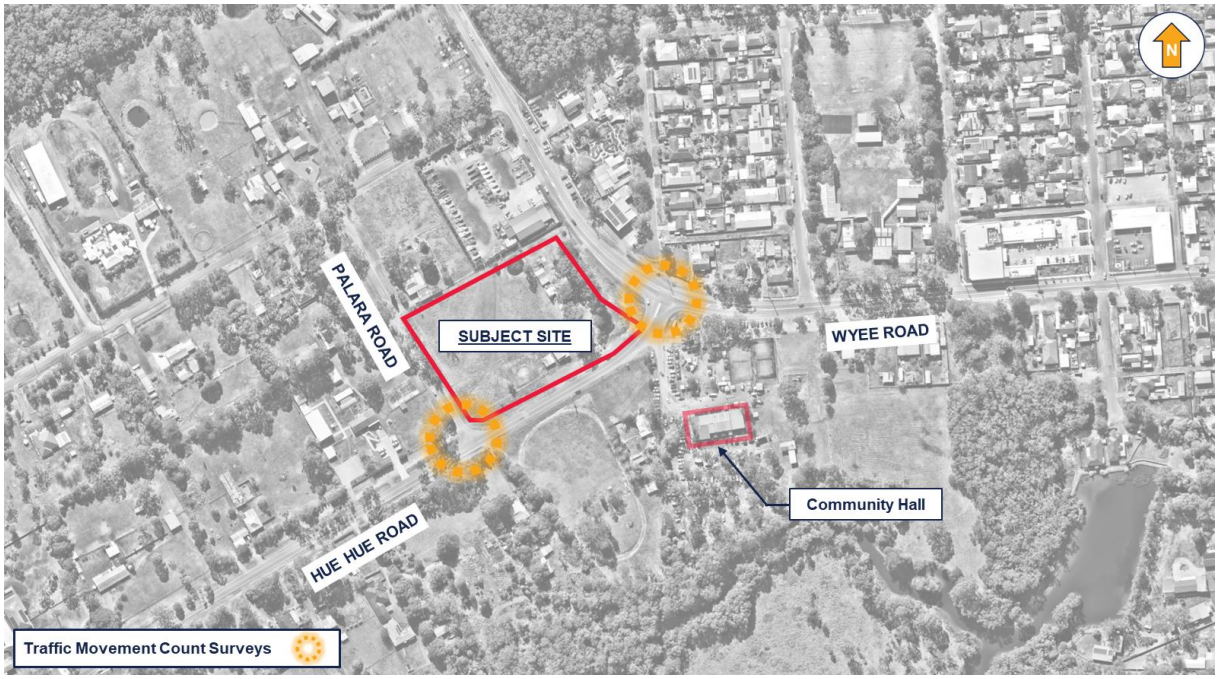

Figure 8.1: Traffic Volume Survey Locations

A review of the surveyed traffic volumes suggests that the surrounding road network peaks between 3:00pm and 4:00pm on a typical Friday afternoon, with the surveyed peak hour traffic volumes illustrated in Figure 8.2.

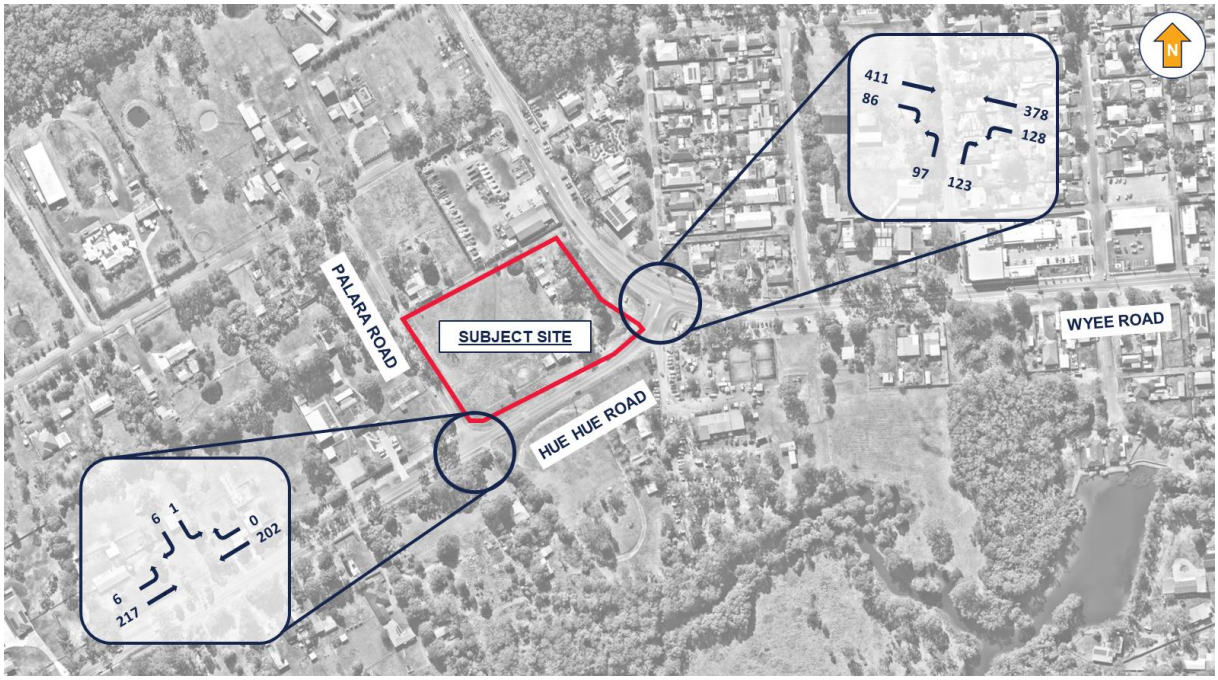

Figure 8.2: Surveyed Friday PM Peak Traffic Volumes (3:00pm – 4:00pm)

8.3 Site Traffic Generation

8.3.1 State Environmental Planning Policy (Transport and Infrastructure) Considerations

The SEPP specifies developments considered to be a traffic generating development, written notice must be provided to TfNSW. Definitions of a traffic generating development are provided within the SEPP, based on the relevant size or capacity of a proposal.

As shopping centre use is not defined, the undefined use applied which states, TfNSW is to be provided written notice for developments generating 50 or more motor vehicles per hour.

This requirement is expected to be triggered and will be considered further during a development application.

8.3.2 Anticipated Site Traffic Generation

Traffic volumes generated by shopping centres are generally a function of a number of factors, including but not limited to:

- Size of the centre.
- Level of car parking provided.
- Range and type of goods offered.
- Likelihood of multi-purpose trips.
- Catchment population density.
- Accessibility of the site (road network, public transport provision, etc).

To assess the expected traffic generation of the proposal, the *RTA Guide to Traffic Generating Developments Issue 2.2 (October 2002)* and the associated *RMS Technical Direction: Guide to Traffic Generating Developments – Updated Surveys (TDT 2013 / 04a)* have been referenced.

The RTA guide and associated updates are the widely accepted standard that is used to determine the traffic generation resulting from retail developments. It is acknowledged in Part 12 of Austroads Guide to Traffic Management as the most comprehensive Australian reference on traffic generation.

The RTA Guide considers a multi-purpose trip as a trip where 'more than one shop or facility is visited' and recognises that the incidence of linked and multi-purpose trips can reduce overall trip generation rates attributable to the site.

The RTA Guide goes on to state that as the size of the shopping centre increases, the reduction in overall trip generation rates decreases, with centres less than 10,000sqm in size typically experiencing a reduced trip generation in the order of 25%. This is to be considered further during a development application stage.

The updated surveys contained within the RMS Technical Direction TDT 2013 / 04a provides updated guidance for the anticipated traffic generation of shopping centre developments and states that for shopping centres over 10,000 GLFA, the following peak hour traffic generation applies:

- **Friday Peak Hour Generation Rate** – 6.7 vehicles per 100 sqm of GLFA.

Consequently, Table 8.1 has been prepared to detail the anticipated level of traffic development associated with the indicative concept scheme.

Table 8.1: Summary of Anticipated Traffic Generation Friday Peak Hour

LAND USE	AREA	TRAFFIC GENERATION RATE	ANTICIPATED NO OF MOVEMENTS
Shopping Centre	10,800 sq m	6.7 per 100 sq m of GFLA	724 veh/h

As detailed in Table 8.1 the indicative concept scheme yield would be expected to generate approximately 729 peak period vehicle movements. It is noted that during the peak hour the indicative car wash use has been assumed to be complementary to the uses outlined above and has not been considered to generate traffic in its own right during the shopping centre peak hour.

8.4 Composition of Site Generated Traffic

Austroads Guide to Traffic Management (AGTM) Part 12: Integrated Transport Assessments for Developments states that vehicular movements generated by the subject site will consist of a variety of trip types including:

- **New trips:** Trips attracted to the development and without the development would not have been made.
- **Diverted drop-in trips:** A linked trip from on origin to a destination that has made a significant network diversion to use the new development.
- **Undiverted drop-in trips:** A linked trip from an origin to a destination that has previously passed the development site. It is also referred to as a pass-by trip and the new development as an intermediate stop on a trip that is made from an origin to a destination.

Commentary 8 of AGTM Part 12 provides a commentary on linked trips that states at the local level, undiverted drop-in trips to developments on roads of regional significance can be regarded as already on the local network.

Table C8.2 of AGTM Part 12 goes on to provide guidance on the typical segmentation of traffic generation for shopping centres and has been reproduced in Table 8.2.

Table 8.2: Segmentation of Traffic Generation for Shopping Centres (AGTM Part 12)

DEVELOPMENT	TRIP SEGMENTATION		
	NEW	DIVERTED DROP-IN	UNDIVERTED DROP IN
Shopping Centres > 20,000 sqm	63%	18%	19%
Shopping Centres 3,000 sqm – 20,000sqm	50%	22%	28%
Shopping Centres < 3,000 sqm	50%	32%	18%

Accordingly, in the subsequent assessment of the anticipated post-development conditions outlined within Section 8.5.2, a reduction factor of 28% has been applied to the calculated post-development traffic volumes at the adjacent intersection of Wyee Road / Hue Hue Road, as this component is likely to represent an undiverted drop-in trip.

8.5 Traffic Distribution

A review of the traffic survey data reveals approximately even distribution of traffic in either direction of Hue Hue Road or Wyee Road on the site frontages.

8.5.1 Site Generated Traffic Distribution

During peak periods it is expected the site generated traffic will comprise approximately 50% inbound movements and 50% outbound movements.

A review of the surveyed traffic volumes along the site frontages to Wyee Road and Hue Hue Road suggest the following distribution of passing traffic past the subject site in the critical evening peak period:

- Wyee Road frontage: 70%
- Hue Hue Road frontage: 30%

Therefore, to inform the assessment the following assumptions have been made regarding the utilisation of the proposed site accesses:

- Wyee Road Site Access (left / right in – left out): 70 %
- Hue Hue Road Site Access (Full directional access): 30 %

With consideration of the indicative site layout and the proximity of key traffic generating uses to given site access intersections, it would be expected that the subject site would exhibit the following distribution illustrated in Figure 8.3.

Figure 8.3: Post-Development Site Generated Traffic Distribution (PM Peak)

8.5.2 Post-Development 2036 Conditions

To determine the likely future operation of the surrounding network during the anticipated 2036 post-development conditions, a further SIDRA analysis has been conducted accounting for the following factors:

1. Background growth across the road network (as discussed in Section 8.7.2.1).
2. Completion of the Wyee residential subdivision.
3. Site generated traffic volumes.

It is noted that in order to accurately represent the number of traffic movements expected to be generated by the Wyee residential subdivision, the total calculated traffic movements associated with the subdivision have been reduced by a factor of 37% to account for the dwellings already constructed and captured within the traffic surveys.

With consideration of the above, the projected 2036 post-development traffic volumes at the critical intersection of Wyee Road / Hue Hue Road are illustrated within Figure 8.4

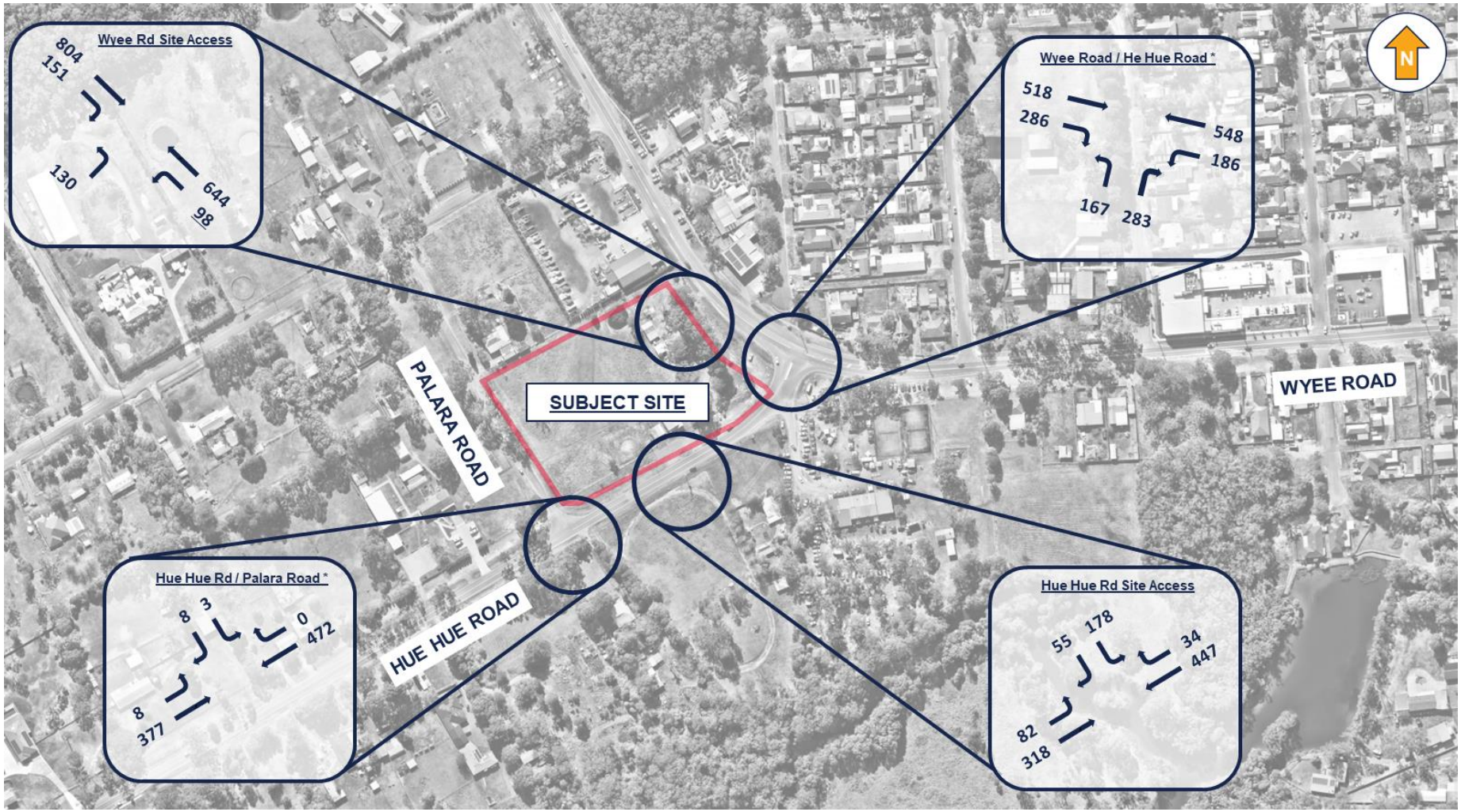

Figure 8.4: Anticipated Post-Development 2036 Traffic Volumes*

*Undiverted drop-in factor applied as per Section 8.4

8.6 SIDRA Intersection Modelling

The SIDRA software package provides information on the capacity of networked intersections in terms of a range of parameters, the most relevant of which are described below:

- **Degree of Saturation (DoS)** is the ratio of arrival (demand) flow rate to capacity during a given flow period.
- **Average Delay** is the average additional travel time experienced by a vehicle relative to a base travel time.
- **95th Percentile Queue** is the value, in metres, at which 95% of all observed queue lengths fall beneath (or 5% of all observed queue lengths exceed).

The classification of the operating conditions of each intersection type based the average delay as defined within the RTA Guide to Traffic Generating Developments, as outlined within Table 8.3.

Table 8.3: Level of Service Criteria for Intersections

LEVEL OF SERVICE	AVERAGE DELAY PER VEHICLE (SEC/VEH)	TRAFFIC SIGNALS, ROUNDABOUT	GIVEWAY & STOP SIGNS
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode
F	> 70	Unsatisfactory and requires additional capacity	Unsatisfactory and requires additional capacity

8.6.1 Degree of Saturation

The Transport Roads & Maritime Services Traffic Modelling Guidelines outlines maximum practical degree of saturation for different intersection types.

The guide specifies that when the DoS value for any lane is greater than the corresponding value specified within Table 8.4 the intersection requires appropriate treatment to maintain the acceptable level of DoS.

Table 8.4: Maximum Practical Degree of Saturation – RMS Traffic Modelling Guidelines

INTERSECTION TYPE	MAXIMUM PRACTICAL DEGREE OF SATURATION
Signals	0.90
Roundabout	0.85
Sign-controlled	0.80

8.7 Assessed Scenarios

The following scenarios have been assessed in accordance with the guidance outlined within *Austroads Guide to Traffic Management Part 12: Integrated Transport Assessments for Developments*.

- 2023 Existing Conditions.
- 2036 Base Conditions (Existing Conditions plus 10-year background growth).
- 2036 Post-Development Conditions (including site generated traffic).

8.7.1 Existing 2023 Conditions

A summary of the existing intersection performance based on the surveyed traffic volumes outlined within Figure 8.2 has been summarised in Table 8.5.

Table 8.5: Existing Conditions SIDRA Results – PM Peak

APPROACH	D.o.S	AVERAGE DELAY (s)	L.o.S	95 %ILE QUEUE (m)
Wyee Road / Hue Hue Road				
Hue Hue Road (South)	0.55	19	LOS B	18
Wyee Road (East)	0.21	2	NA	0
Wyee Road (West)	0.23	2	NA	4
Hue Hue Road / Palara Road				
Hue Hue Road (East)	0.11	0	NA	0
Palara Road (North)	0.01	6	LOS A	0
Hue Hue Road (West)	0.13	0	NA	0

A review of the results outlined within Table 8.3 suggests that the existing intersections adjacent the subject site currently operate well within their theoretical capacity with minimal queuing and delays.

8.7.2 Base 2036 Conditions

To determine the likely future operation of the potential site access intersections and key intersections nearby the site, SIDRA intersection modelling has been conducted for the following intersections:

- Wyee Road / Hue Hue Road.
- Hue Hue Road / Palara Road.

8.7.2.1 Historical Background Growth

To gain an understanding of the anticipated future traffic volumes the following factors have been considered:

- Background growth across the road network.
- Construction of the Wyee residential subdivision as outlined in Section 5.1.

To determine the likely future traffic volumes in the vicinity of the site whilst accounting for an increasing population and other nearby developments not known at this time, a growth rate has been applied to the surveyed 2023 traffic volumes, with the following factors used to determine the future base case traffic volumes (pre-development):

- **Applied linear growth rate:** 2.00%
- **Assumed year of development completion:** 2026.
- **Design period:** 10 years.
- **Assessed design year:** 2036.

It is noted that the applied 2.00% growth rate is consistent with the growth rate specified within the Traffic Impact Assessment report previously prepared by Cardno (dated 7 September 2020) for the nearby Wyee Residential Subdivision located to the immediate west of the subject site.

8.7.2.2 Construction of Wyee Residential Subdivision

Based on the available Nearmap aerial imagery, it can be determined that the adjacent Wyee residential subdivision has historically been constructed at a rate of approximately 100 dwellings per year. Therefore, it is considered that the full development yield of 767 lots would be realised by the design year 2036.

Therefore, with consideration of the factors outlined above, the anticipated operating conditions under the projected 2036 traffic volumes (surveyed traffic volumes plus background growth) have been outlined in Table 8.6.

Table 8.6: 2036 Base Conditions SIDRA Results – PM Peak

APPROACH	D.o.S	AVERAGE DELAY (s)	L.o.S	95 %ILE QUEUE (m)
Wyee Road / Hue Hue Road				
Hue Hue Road (South)	1.64	310	LOS F	331
Wyee Road (East)	0.26	2	NA	0
Wyee Road (West)	0.50	5	NA	22
Hue Hue Road / Palara Road				
Hue Hue Road (East)	0.24	0	NA	0
Palara Road (North)	0.02	8	LOS A	0
Hue Hue Road (West)	0.18	0	NA	0

A review of the results outlined within Table 8.6 suggest that when accounting for the projected increase in traffic volumes along Wyee Road and Hue Hue Road, the intersection of Wyee Road / Hue Hue Road would operate above its theoretical capacity, resulting in considerable queuing and delays during the PM peak, particularly on Hue Hue Road. It is noted that the intersection of Hue Hue Road / Palara Road would continue to operate satisfactorily under the anticipated 2036 Base scenario.

8.7.2.3 Anticipated Timing of Intersection Upgrade Works

As discussed within Section 8.6.1, the RMS Traffic Modelling Guidelines outlines the maximum practical Degree of Saturation for various intersection types. For unsignalised intersections such as the intersection of Wyee Road / Hue Hue Road, the maximum practical D.o.S is defined as 0.80.

The RMS Traffic Modelling Guidelines go on to state the following:

> *When the D.o.S exceeds the defined maximum practical degree of saturation (0.80) for any lane of an unsignalised intersection, the intersection requires appropriate treatment to maintain the acceptable D.o.S.*

Therefore, to assess the likely timing in which the existing unsignalised intersection arrangement of Wyee Road / Hue Hue Road would be required to be upgraded, a sensitivity analysis comprising an iterative SIDRA intersection assessment has been conducted.

The results of the iterative assessment suggest that that the unsignalised intersection of Wyee Road / Hue Hue Road will be required to be upgraded in the year 2026 to accommodate the expected increase in traffic volumes as a result of the neighbouring residential development and background growth across the network. It is noted that these works will be required to be completed independent of the proposed rezoning of the subject site.

Therefore, based on the preceding assessment, the upgrade of the Wyee Road / Hue Hue Road intersection will be required in 2026, irrespective of the proposed rezoning.

It is further noted that the Cardno report (prepared in 2019) proposed upgrading the intersection. It is reiterated that these works are not required as a result of this proposal.

8.7.2.4 Indicative Intersection Arrangement

It is acknowledged that the existing unsignalised arrangement of Wyee Road / Hue Hue Road is expected to exceed its capacity in the near future due to the growth in traffic volumes expected stemming from development such as residential subdivisions. Therefore, to assist in determining a potential intersection arrangement to inform future discussions, a high-level optioneering of potential layouts has been undertaken.

In order to accommodate conflicting traffic flows and provide adequate opportunities for turning movements, it is expected that the existing intersection of Wyee Road / Hue Hue Road will be required to be signalised, with auxiliary turn lanes provided for critical movements as outlined in Figure 8.5.

Additionally, it is noted that the signalised intersection would generally provide improved pedestrian connectivity throughout the locality allowing for safe pedestrian movements across Wyee Road and Hue Hue Road in the vicinity of the site.

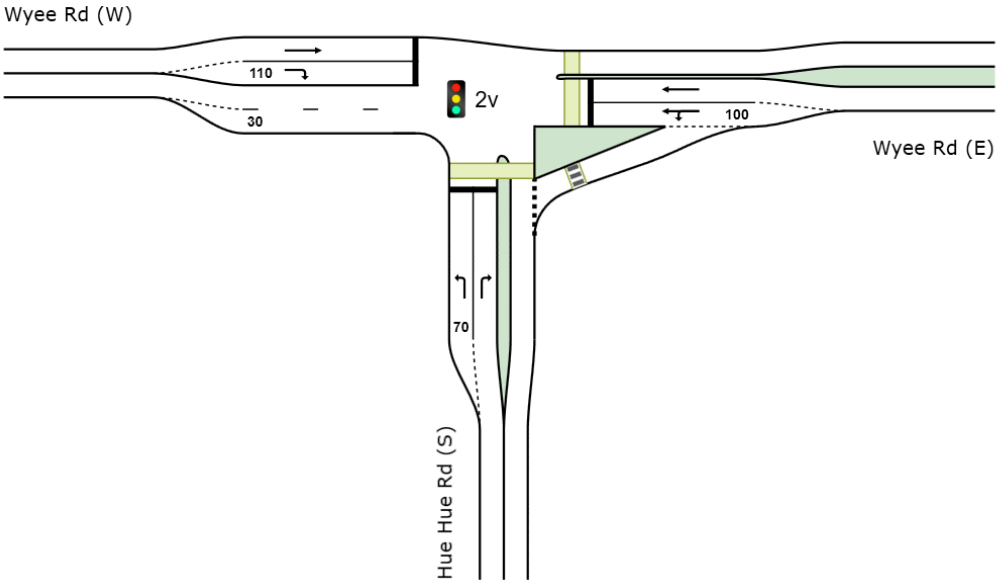

Figure 8.5: Wyee Road / Hue Hue Road – Indicative Intersection Upgrade Arrangement

A summary of the results is detailed within Table 8.7.

Table 8.7: 2036 Base Conditions Indicative Intersection Upgrade SIDRA Results – PM Peak

APPROACH	D.o.S	AVERAGE DELAY (s)	L.o.S	95 %ILE QUEUE (m)
Wyee Road / Hue Hue Road (Upgraded Arrangement)				
Hue Hue Road (South)	0.795	47	LOS D	128
Wyee Road (East)	0.769	26	LOS B	201
Wyee Road (West)	0.697	28	LOS B	191
Hue Hue Road / Palara Road				
Hue Hue Rd (East)	0.26	0	NA	0.1
Palara Rd (North)	0.02	9	LOS A	0.4
Hue Hue Rd (West)	0.22	0.2	NA	0

The results of the SIDRA analysis suggest that based on the projected post-development design year traffic volumes, the indicative signalised intersection arrangement would be expected to satisfactorily accommodate all demands and operate within the target capacity outlined within the RMS Traffic Modelling Guidelines.

8.7.2.5 Proposed Site Access Arrangements

SIDRA intersection modelling has also been undertaken for the proposed site access points to Hue Hue Road and Wyee Road as illustrated within Figure 2.1.

The traffic modelling has been informed by the traffic volumes illustrated within Figure 8.4:, with the results detailed within Table 8.8.

Table 8.8: Proposed Site Access – 2036 Conditions

Approach	2036 Post Development Site Access			
	D.o.S	Average Delay (s)	LoS	95 %ILE Queue (m)
Hue Hue Rd / Site Access				
Hue Hue Rd (East)	0.25	0.4	NA	1
Site Access (North)	0.41	8.7	LOS A	14.9
Hue Hue Road (West)	0.18	0.7	NA	0
Wyee Rd / Site Access				
Wyee Rd (South)	0.36	0.6	NA	0
Wyee Rd (North)	0.46	1.6	NA	8.6
Site Access Rd (West)	0.24	7.6	LOS A	6.1

The results outlined within Table 8.8 indicate that the proposed site access intersections are expected to operate satisfactorily and within capacity in the design year 2036, with minimal queuing and delays expected to be experienced by vehicles accessing the site.

8.8 Anticipated Traffic Impacts

A review of the results of the preceding SIDRA analysis suggests that the existing unsignalised intersection of Wyee Road / Hue Hue Road will be required to be upgraded approximately in the year 2026 independent of the proposed rezoning.

Should the intersection be upgraded to an arrangement consistent with that shown in Figure 8.5, the intersection would be expected to operate satisfactorily under the anticipated post-development conditions with manageable queuing and delays. Noting funding to the intersection upgrade is subject to further discussions with Council as part of the planning process.

Additionally, the proposed site access intersections would be expected to operate under excellent conditions with additional spare capacity to absorb future growth in traffic volumes beyond the design year of 2036.

8.9 General Transport Impacts

It is expected that the proposal will primarily service residents of Wyee for everyday needs. It is expected that currently, everyday needs that are not provided by the Wyee Village shops require trips to nearby local townships.

Therefore, it is expected the proposal could improve the transport implications of the wider region by providing the everyday needs for residents nearby, lessoning the requirements to travel to nearby townships.

Given the proposals intended integration with active transport infrastructure through pedestrian and cyclists connections and the potential public transport upgrades, it is expected the proposal will provide a net benefit for the community and provide overall improvement to the transport network.

9 OTHER CONSIDERATIONS

9.1 Site Access - Turning Warrants

Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings Management provides guidance on the minimum turn treatments for major roads with a focus on safety performance outcomes.

For the purposes of this assessment and with consideration of the existing posted speed limit of 60km/h on Wyee Road and Hue Hue Road, respectively, the graph for a design speed less than 70km/h has been applied.

A turn lane warrant assessment has been undertaken at the proposed site access intersections on Wyee Road and Hue Hue Road, as shown in Figure 9.2 and Figure 9.3 based upon the anticipated traffic volumes outlined in Section 8.5.2.

The subsequent assessment focuses on the PM peak hour period, where turning movements from into the subject site are expected to be at their greatest, with the following traffic volumes used to inform the assessment:

	Through Movements (Q_{T1}):	**Right Turn Movements (Q_R):**	**Through Movements (Q_{T2}):**	**Left Turn Movements (Q_L):**
Wyee Road Access:	804 veh/h	151 veh/h	644 veh/h	98 veh/h
Hue Hue Road Access:	447 veh/h	34 veh/h	318 veh/h	82 veh/h

For two-lane two way roads such as Hue Hue Road, the value of the major traffic volume parameter (QM) is calculated using the parameters as shown in Figure 9.1 and outlined in Table 9.1.

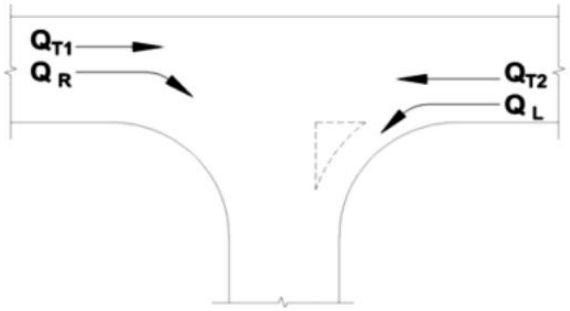

Figure 9.1: Calculation of Major Traffic Volumes

Table 9.1: Q_M Calculation

ROAD TYPE	TURN TYPE	SPLITTER ISLAND	Q_M (veh/h)
Two-lane Two-way	Right	No	= $QT_1 + QT_2 + QL$
		Yes	= $QT_1 + QT_2$
	Left	Yes or No	= QT_2

Application of these parameters to the warrants for turning treatments on major roads at Unsignalised intersections is outlined in Figure 9.2 and Figure 9.3.

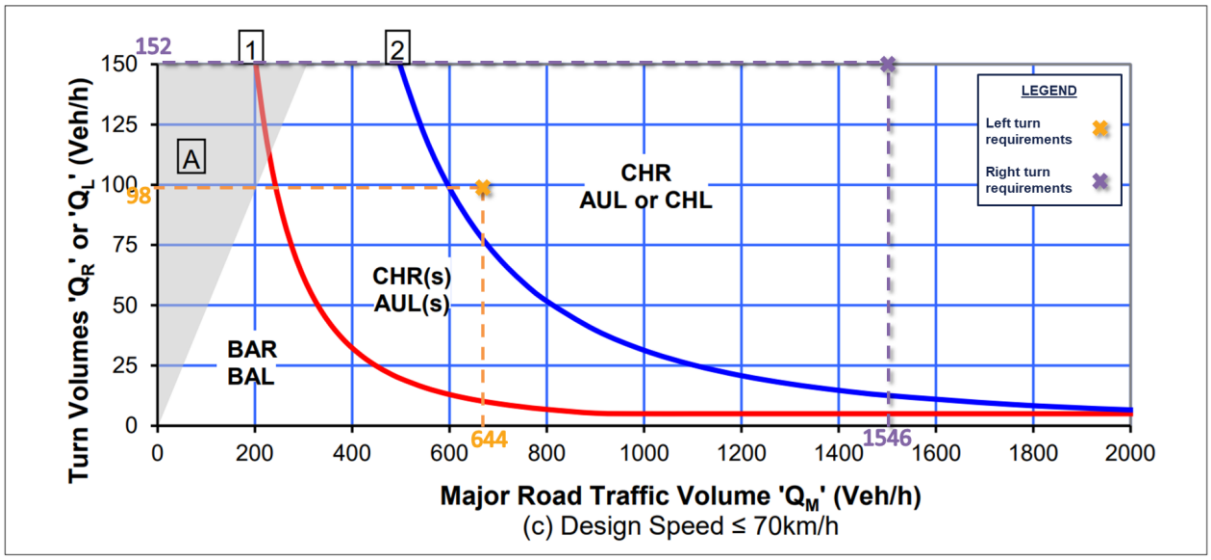

Figure 9.2: Wyee Road Site Access Turning Warrant Assessment

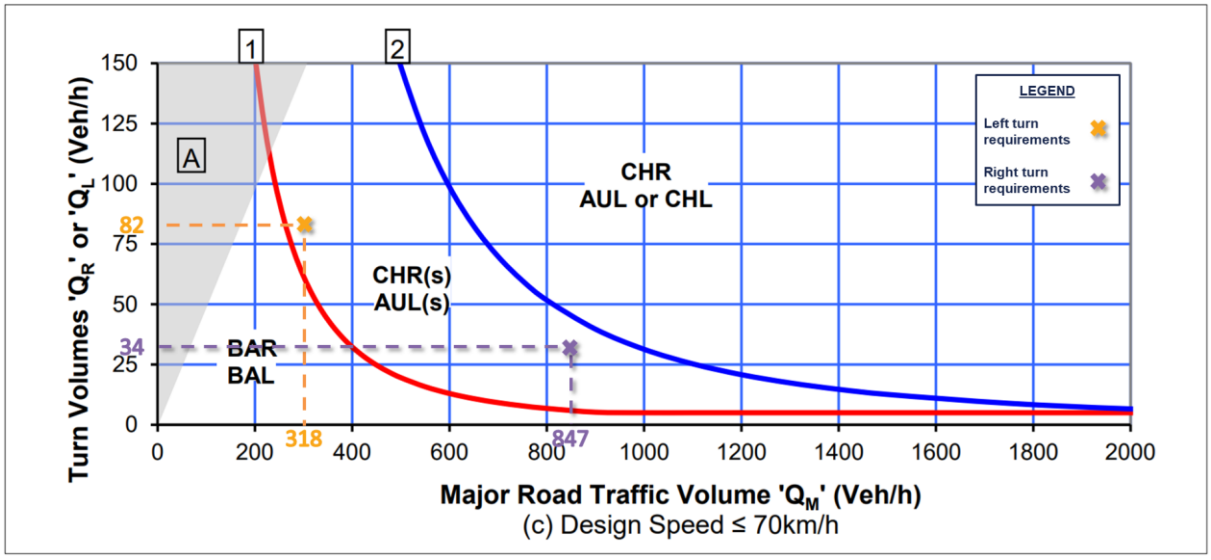

Figure 9.3: Hue Hue Road Site Access Turning Warrant Assessment

In applying the warrants outlined in Figure 8.1 it is noted that:

- Curve 1 (red) represents the boundary between a Basic Left Turn and an Auxiliary Short Left Turn Lane treatment.
- Curve 2 (blue) represents the boundary between an Auxiliary Short Left Turn Lane and a full-length Auxiliary Left Turn Lane or Channelized Left Turn Lane treatment.

The above assessment suggests that under the anticipated 2033 post-development conditions the following is required as a minimum for the associated proposed site accesses:

For Wyee Road:

- Channelised right turn treatment
- Auxiliary left turn treatment or channelised left turn treatment

For the Hue Hue Road:

- Channelised right turn treatment
- Auxiliary left turn treatment

A high level review of the property boundaries and aerial imagery suggests the intersection arrangements above can be provided within the existing road reserve. This will require further consideration in a development application stage.

9.2 Public Transport Upgrade Opportunities

At this stage of planning high level analysis of possible public transport upgrades have been undertaken in the form of bus stop relocation.

It is not considered feasible to re-route any existing bus routes through the site due to the large area required to accommodate buses on site and the associated effects on built form and streetscape. Therefore, the feasibility of relocating existing bus stops to the site frontage has been explored through liaison with bus companies currently servicing the area.

Preliminary discussions with bus service operator Busways, suggests that they would be supportive of a bus stop relocation to the frontage of Wyee Road. Noting this land forms does not form part of the subject site and is subject to further planning and Council approval.

The preliminary correspondence with Busways has been attached within Appendix A.

9.3 Bicycle Parking

Requirements for the provision of bicycle parking spaces and associated end of trip facilities are set out in Section 5.3 of Part 4 – Development in Business Zones of the LMCC DCP.

The LMCC DCP states the following relevant requirements:

> *For customers and short term use:*
> - *For developments requiring over 50 car parking spaces, a flat 10% ratio of bike parking spaces/car parking spaces applies.*
>
> *For employees:*
> - *One employee bike parking space for each 10 employees, or part thereof;*
> - *One personal locker per two employee bike parking spaces;*
> - *One unisex change room and one shower for developments greater than 1000m2 GFA and less than 2500m2 GFA;*
> - *One female change room with one shower and one male change room with one shower, for developments greater than 2500m2 GFA; and*
> - *One additional shower (in each change room) for each additional 5000m2 GFA up to a maximum of five showers in each change room*

Applying the above rate to the proposed 364 car parking spaces equates to a requirement of 36 bicycle parking spaces allocated to customers. The specific bicycle parking requirements are to be considered further during the DA stage of the project once further operational details are known.

9.4 Motor Bike Parking

Requirements for the provision of motor bike parking spaces are set out in Section 5.4 of Part 4 – Development in Business Zones of the LMCC DCP.

The relevant controls specify the following:

> *Development must provide one (1) motorbike parking space for each 20 car parking spaces (as required in Table 7: Parking Rates).*

Applying the above rate to the proposed 364 car parking spaces, gives a requirement of 18 motor bike parking spaces which are to be incorporated into the subsequent DA plans.

10 SUMMARY AND CONCLUSIONS

The proceeding Traffic Impact Assessment (TIA) report has been prepared to accompany a planning proposal for proposed amendments to the Lake Macquarie local Environment Plan 2014.

Based on discussions and analysis outlined within this report it is noted that:

- The proposed development will include the following land uses:
  - Supermarket.
  - Retail.
  - Childcare.
  - Medical / Allied Health.
  - Gym / Fitness.
- The proposed development generates a car parking requirement of **307** spaces.
- The site is able to accommodate the required car parking spaces, the indicative concept scheme shows 364 car parking spaces.
  - This is deemed acceptable at this stage of planning and would be further assessed during a development application stage.
- The proposed development is expected to generate:
  - 724 vehicle movements during the network PM peak hour.
- SIDRA Intersection analysis has been undertaken for the following scenarios to inform the TIA:
  - 2023 Existing Conditions.
  - 2036 Base Conditions (Design Year - plus 10 year background growth).
  - 2036 Post-development Conditions.
- The traffic modelling undertaken suggests that the Wyee Road / Hue Hue Road intersection will meet the requirements for an intersection upgrade as defined within the Transport Roads & Maritime Services Traffic Modelling Guidelines in 2026 regardless of the proposal.
  - The delivery, funding and ultimate intersection arrangement is subject to further discussions.
- Bicycle and motorbike parking provisions are to be considered in the development application stage.

APPENDIX A
CORRESPONDENCE WITH BUS OPERATORS

Julian Rickard

From: Dave Davies <ddavies@busways.com.au>
Sent: 25 January 2024 3:17 PM
To: Julian Rickard
Cc: Manuel Vezzaro; Darcy Littlefield; Infoline (shared)
Subject: RE: Bus Stop Relocation Inquiry

Thanks Julian.

Yes, we would support the relocation.

Thanks for taking the time to provide the additional information.

Cheers,
Dave

Dave Davies
Manager, Bus Network Infrastructure

Working Days|Tuesday, Wednesday, and Thursday

Busways Group
5 Bridge St, Pymble NSW 2073
M +61 438 537 977 | W busways.com.au

From: Julian Rickard <jrickard@wga.com.au>
Sent: Wednesday, January 24, 2024 1:41 PM
To: Dave Davies <ddavies@busways.com.au>
Cc: Manuel Vezzaro <mvezzaro@wga.com.au>; Darcy Littlefield <dlittlefield@busways.com.au>; Infoline (shared) <infoline@busways.com.au>
Subject: RE: Bus Stop Relocation Inquiry

Hi Dave,

Thanks for getting back to me.

Please see our responses below.

1. why is the relocation required?

At this stage, Council is requesting we consider the relocation for the purposes of improving access to the site via public transport (i.e. encouraging the use of sustainable travel modes). To provide some context, it is proposed to redevelop the site for the purposes of a shopping centre development containing a number of differing land uses.

As part of a pre-lodgement meeting with Lake Macquarie Council, the following requirement was outlined as needing to be investigated as part of a Traffic and Transport Impact Assessment:

"Consider options for public transport and identify any opportunities for upgrades. We would recommend consultation with bus companies."

Per our response to query 2 below, we were advised by the project planner that Council were keen for the proposal to consider utilising the Council-owned land parcel to the immediate northwest of our site (abutting Wyee Road) for

the purposes of accommodating a new bus stop arrangement. In the event that Busways Group is not supportive of this arrangement, we note that it's likely Council would require us to investigate alternative treatments to improve accessibility to the existing bus stop for patrons.

2. What distance do you propose to move the stop?

We are uncertain of the exact location of the existing bus stop as there is no bus stop infrastructure currently present from what we are able to make out from Nearmap / Google Streetvuew - could you please confirm this location for us?

However, based on the location shown on the NSW Transport Planner, the distance is approximately 110m. See markup below detailing a possible indicative relocation (noting this is indicative only).

3. Is it a temporary relocation?

Pending Council and Busways approval, the relocation would be permanent.

Please let me know if any of the above requires further information or clarification to assist you with assessing the proposal. As previously detailed, at this stage of the project we are only seeking to understand whether or not Busways would be willing to offer in principle approval for the relocation, noting further details (including a concept design for the new bus stop arrangement) would be provided for consideration at the project's DA submission stage.

Kind regards,

Julian Rickard
Traffic Engineer
BEng (EnvEng)(Hons)

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+61 3 9696 9522
0430 558 536
jrickard@wga.com.au

Australia | New Zealand

From: Dave Davies <ddavies@busways.com.au>
Sent: Friday, January 19, 2024 4:06 PM
To: Julian Rickard <jrickard@wga.com.au>
Cc: Manuel Vezzaro <mvezzaro@wga.com.au>; Darcy Littlefield <dlittlefield@busways.com.au>; Infoline (shared) <infoline@busways.com.au>
Subject: FW: Bus Stop Relocation Inquiry

Hi Julian,

Your enquiry has been passed along to me for evaluation.

Can I ask please,

1. why is the relocation required?
2. What distance do you propose to move the stop?
3. Is it a temporary relocation?

Thanks,
Dave

Dave Davies
Manager, Bus Network Infrastructure

Busways Group
5 Bridge St, Pymble NSW 2073
M +61 438 537 977 | W busways.com.au

From: Infoline (shared) <infoline@busways.com.au>
Sent: Tuesday, January 16, 2024 4:02 PM
To: Dave Davies <ddavies@busways.com.au>
Cc: Darcy Littlefield <dlittlefield@busways.com.au>
Subject: Fw: Bus Stop Relocation Inquiry

Hi Dave,

For your information.

Kind Regards,
Joanne
Customer Service Department
Busways Group Ltd
T 1300 69 29 29 | **W** busways.com.au

Busways
Est. 1942

From: Julian Rickard <jrickard@wga.com.au>
Sent: Tuesday, 16 January 2024 15:55
To: Infoline (shared) <infoline@busways.com.au>
Cc: Manuel Vezzaro <mvezzaro@wga.com.au>
Subject: Bus Stop Relocation Inquiry

Hi There,

Hope this email finds you well. As a quick introduction, I'm Julian a Traffic Engineer who has been engaged as part of a proposed planning amendment located in Wyee, New South Wales I was passed on this contact email via the general contact phone line.
As part of the planning amendment proposal Lake Macquarie Council have requested the investigation of public transport upgrades, possibly in the form of bus stop relocations / formalisation.

I'm writing to set in motion and outline the next steps required for the relocation of a bus stop.

For a bit of background / context, our site is located at 1496 Hue Hue Rd, preliminary as part of the planning amendment we would look to formalise / relocate the bus stop "Wyee Rd opp Webber Rd" (Wyee Stop ID 2259314) From what I can gather via desktop assessment, the bus stops are currently operational with bus routes 97, 291 and school buses stopping here, however based on street view I cannot see any bus stop delineation.

If possible, could you please outline any processes or requirements for the stop relocation?
Additionally, could you please confirm that the stop is currently operational given no bus stop delineation visible.

Please let me know if any further information or clarification is required.

See the diagram below for context.

Kind Regards,

Julian Rickard
Traffic Engineer
BEng (EnvEng)(Hons)

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