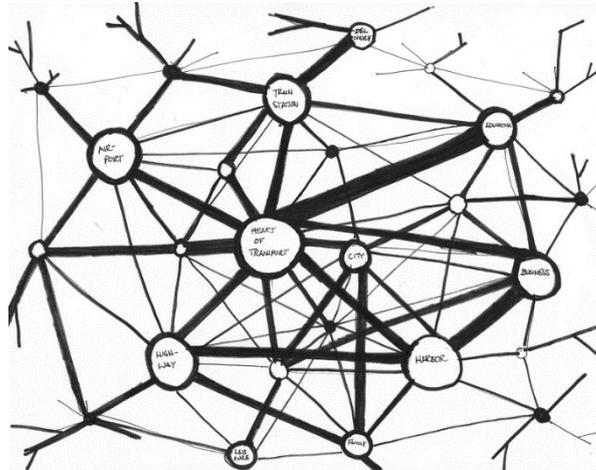


TRAFFIC AND PARKING IMPACT STATEMENT

**14 BRENNAN AVENUE,
KINCUMBER
(PROPOSED CHILD CARE
CENTRE)**



Date:
21 November 2019

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1. INTRODUCTION

This Practice has been engaged by Wales & Associates Pty. Ltd. on behalf of Kids Club to undertake a traffic and parking impact assessment as part of a Development Application ('DA') to be submitted to Central Coast Council ('Council'). The subject proposal involves the demolition of existing site structures and the construction of a 92 place child care centre at 14 Brennan Avenue, Kincumber.

The purpose of this report is to assess the likely traffic and parking implications associated with the child care proposal, and where necessary, recommend appropriate treatment measures to ameliorate any adverse impacts. In particular this study will assess the following:

- The appropriateness of the proposed access arrangements based on the existing traffic conditions in the immediate vicinity of the proposed access point and the likely traffic demand;
- Proposed on-site parking provision as it relates to Council's requirements and the child care centre operations;
- Proposed internal parking design to ensure that vehicular accessibility to the parking spaces is adequate, with consideration given to vehicle and pedestrian safety associated with the child set down area; and
- Existing traffic conditions within the local road hierarchy and identify the potential external traffic impact from the proposed development with regard to the additional traffic generated from the proposed child care centre.

Throughout this report, reference has been made to the following documents:

- The Roads & Maritime Services' *Guide to Traffic Generating Developments*;
- Central Coast Council's *Gosford Development Control Plan 2013* (GDCCP 2013); and
- The Australian Standard for *Parking Facilities Part 1: Off Street Car Parking* (AS2890.1) and *Part 6: Off-Street Parking for People with Disabilities* (AS2890.6).

This report has been prepared pursuant to State Environmental Planning Policy (Education Establishments and Child Care Facilities Clause 57) 2017.

This report should be read in conjunction with the architectural plans accompanying the subject DA prepared by KM Design Partners.

2. SITE DETAILS

2.1 Site Location

The site, which forms the subject of this DA, is situated at the northern terminating end of Brennan Avenue, approximately 90m north of its junction with Avoca Drive, Kincumber. This location is shown in the context of its surrounding road network and local land use in **Figures 1** and **2** overleaf.

2.2 Site Description

The subject site provides a legal property description of Lot 89 in Deposited Plan 577995 and a street address of 14 Brennan Avenue, Kincumber. The subject allotment forms a rectangular shaped parcel of land, which has a single frontage of approximately 6m to Brennan Avenue along the southern property boundary (which is approximately 125m in length). The site extends to the north away from Brennan Avenue by approximately 125m, thereby providing a site area in the order of 1.5ha.

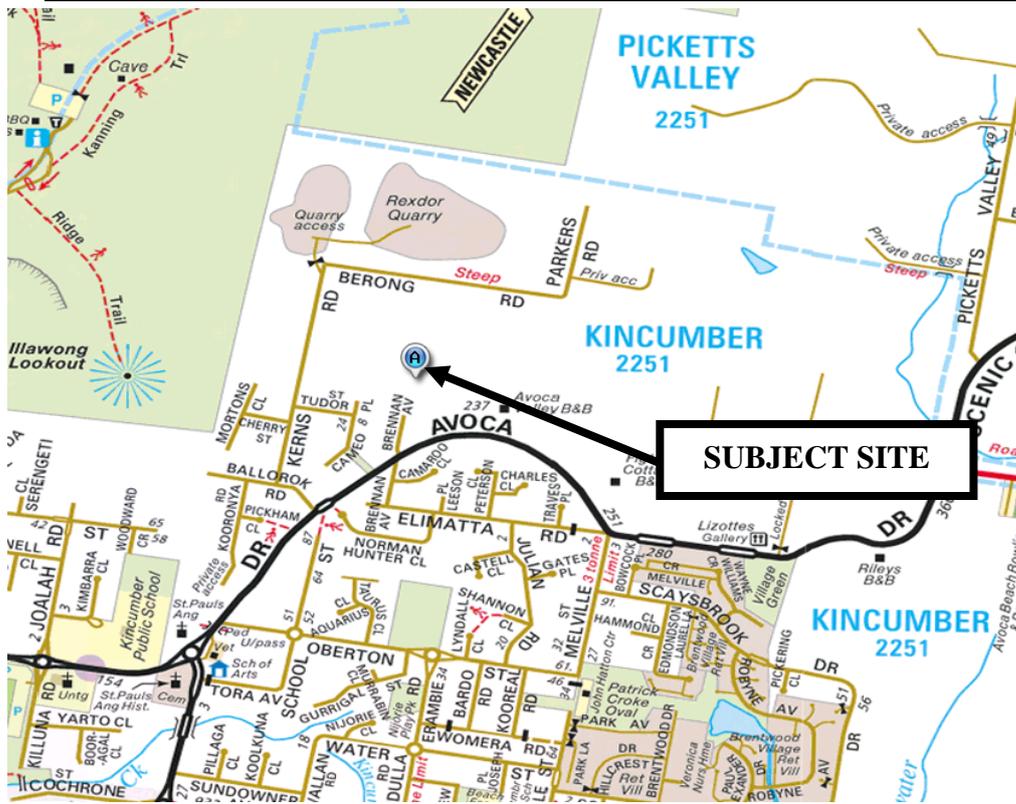
2.3 Existing Uses

The subject site currently accommodates a detached residential dwelling and associated outbuildings within the southern part of the site. The northern part of the site is vacant and undeveloped.

2.4 Surrounding Uses

The site is primarily surrounded by the low density rural residential development in its immediate vicinity.

FIGURE 1
SITE LOCATION – SURROUNDING ROAD NETWORK CONTEXT



Source: <http://www.street-directory.com.au> (Accessed: 20/11/2019)

FIGURE 2
SITE LOCATION – LOCAL LAND USE CONTEXT



Source: Six Maps (Accessed: 20/11/2019)

3. **PROPOSED DEVELOPMENT**

3.1 **Built Form**

The proposal seeks consent for the establishment of a single storey child care centre comprising separate playrooms for children of different age brackets, an outdoor play area, a kitchen, an administration area, a staff room and other ancillary facilities, designed to accommodate up to 92 children.

The proposed child care centre is to be serviced by separate staff and visitor off-street parking areas. Access to the off-street parking provision is accommodated by the existing combined entry/exit driveway, which provides connectivity to an internal circulating roundabout via Brennan Avenue at the southern property boundary.

The abovementioned development is proposed to occupy the southern portion of the site.

3.2 **Proposed Operations**

The child care centre is to be designed to cater up to 92 children, consisting of the following age groups:

- 0-2 years - 32 children
- 2-3 years - 20 children
- 3-5 years - 40 children

Under The Australian Children's Education & Care Quality Authority (ACECQA) framework, the proposed child care centre will require the following minimum staffing requirements as outlined in **Table 1**.

TABLE 1 - ACECQA GUIDELINES		
CHILDREN AGE (YEARS)	REQUIREMENTS	REQUIRED NO. OF EMPLOYEES
0-2	1 employee per 4 children	8 (32/4)
2-3	1 employee per 5 children	4 (20/5)
3-5	1 employee per 10 children	4 (40/10)
	Total	16

The proposed child care centre therefore requires a minimum of 16 staff to meet the supervision requirements of ACECQA.

The child care centre is expected to operate between the hours of 7am and 7pm Monday to Friday reflective of long day care hours.

3.3 Off-street Parking

The subject proposal involves the provision of 34 new off-street car parking spaces comprising 18 staff and 16 visitor spaces.

Central Coast Council provides locally sensitive parking requirements for new developments, located on land under the jurisdiction of the local government within Gosford Development Control Plan 2013 (GDCP 2015). Part 7.1 of DCP 2013 establishes the following parking requirements, specifically relating to child care centres:

1 space per person employed in connection with the use, plus a temporary stand area at the rate of 1 car for each 6 children (a minimum of 5 temporary stand spaces).

Based on a maximum enrolment capacity of 92 children and a staff requirement of 16 employees, the proposed development is required to provide 32 spaces in accordance with GDCP 2013.

The proposed parking provision of 34 off-street parking spaces comprising 18 spaces for staff and 16 spaces for visitors is therefore compliant with minimum Council DCP parking requirements.

3.4 Access Arrangements

Vehicular access to the child care centre is proposed to be predominantly accommodated by the existing access road handle, providing a combined entry/exit width of 15m at the southern property boundary.

In order to undertake an assessment of the suitability of the vehicular access arrangements, reference is made to AS2890.1. This Australian Standard provides driveway design specifications based on a number of site and access roadway characteristics such as the operational land-use, the number of parking spaces serviced by the driveway and the functional order of the frontage road.

The site and adjoining public roadways have the following characteristics, which are pertinent in the determination of the appropriate driveway design specified within AS2890.1:

- The driveway services 34 passenger vehicle parking spaces;
- The proposed parking provision is expected to accommodate a combination of employee (User Class 1A) and short-term visitor (User Class 3) parking; and
- Brennan Avenue is defined as a local road under Council's road hierarchy.

Based on the abovementioned characteristics, AS2890.1 specifies, at minimum, a Category 2 type driveway to service the site, which requires the driveway to provide a combined ingress/egress width of between 6-9m or separate 3m wide ingress/egress driveways.

The width of the vehicular access arrangements specified above, exceed minimum AS2890.1 requirements and accordingly is considered to be fit to service passenger vehicles.

3.5 Internal Manoeuvrability and Circulation

Upon entry to the subject site, vehicles can proceed in a forward direction to either access the staff car park at the south-western corner of the site or the visitor car park at the south-eastern corner of the site using the internal circulating roundabout.

The new at-grade parking areas are proposed to provide 90 degree angled parking spaces, serviced by an adjoining parking aisle. The new car parking spaces have been generally designed to accord with the relevant requirements of AS2890.1 and AS2890.6, providing the following base dimensions (minimum):

- Standard 90-degree employee (User Class 1A) parking space width = 2.4m;
- Standard 90-degree employee visitor (User Class 3) parking space width = 2.6m;
- 90 degree disabled parking space width = 2.4m (plus an adjoining 2.4m wide shared area);
- Standard parking space length = 5.4m;
- Parking aisle width adjoining 90 degree parking spaces = 5.8m;
- Two-way straight roadway width = 5.5m; and
- Parking aisle extension past the end space of a dead end aisle = 1.0m.

The above compliance with the relevant AS2890.1 and AS2890.6 specifications is anticipated to result in safe and efficient internal manoeuvring and parking space accessibility.

In order to further assess the suitability of internal manoeuvring arrangements, a desktop analysis of the site plan with respect to B85 vehicle specifications provided within AS2890.1-2004 has also been undertaken throughout the site plans. Whilst section B4.4 of AS2890.1-2004 states that *'constant radius swept turning paths, based on the design vehicle's minimum turning circle are not suitable for determining the aisle width needed for manoeuvring into and out of parking spaces... drivers can manoeuvre vehicles within smaller spaces than swept turning paths would suggest'* this analysis has indicated that passenger vehicles can access and exit parking spaces and manoeuvre throughout the site with a reasonable level of efficiency.

4. EXTERNAL TRANSPORT CONDITIONS

4.1 Road Network

The following provides a description of the surrounding road network servicing the subject site:

Avoca Drive between Scenic Highway in the east and Empire Bay Drive in the west is defined as a regional road under Council's road hierarchy. It provides a collector road function between Avoca Beach in the east and Green Point in the west. For the majority of the route, Avoca Drive is a rural type road with one through lane generally provided in either direction with opposing traffic flow delineated by a double (BB) barrier centre line. Localised widening is provided at major junctions (e.g. Roundabout junction at Empire Bay Drive, signalised junction at Central Coast Highway) to accommodate turning movements within exclusive turning lanes.

In the vicinity of the subject site, Avoca Drive intersects with Brennan Avenue under major / minor priority control with Avoca Drive forming the priority route. Traffic flow within Avoca Drive is governed by a sign posted speed limit of 60km/h.

Brennan Avenue performs a lower order rural access function to abutting residential properties. It has a north/south alignment, which forms a staggered intersection with Avoca Drive (i.e. Two (2) T-junctions with Avoca Drive). At its northern extremity, the road terminates in a dead end in the immediate vicinity of the subject site. At its southern extremity, Avoca Drive intersects with Elimatta Road under major/minor priority control, with Elimatta Road forming the priority route.

The section of Brennan Avenue to the north of Avoca Drive (which facilitates direct access to the development site) provides a 6.5m wide pavement, which accommodates two-way traffic between unsealed shoulders. Although not sign posted, traffic flow within Brennan Avenue is governed by the standard local road speed limit of 50km/h.

4.2 Assessment of Existing and Future Traffic Conditions

The subsequent sub-sections of this report provides a traffic impact assessment based on the following three (3) scenarios in accordance with the Pre-Development advice comments dated 17 September 2019:

- Existing (Base);
- Projected (Base + development); and
- 10 year projections (Base + Development + 10 year background traffic growth)

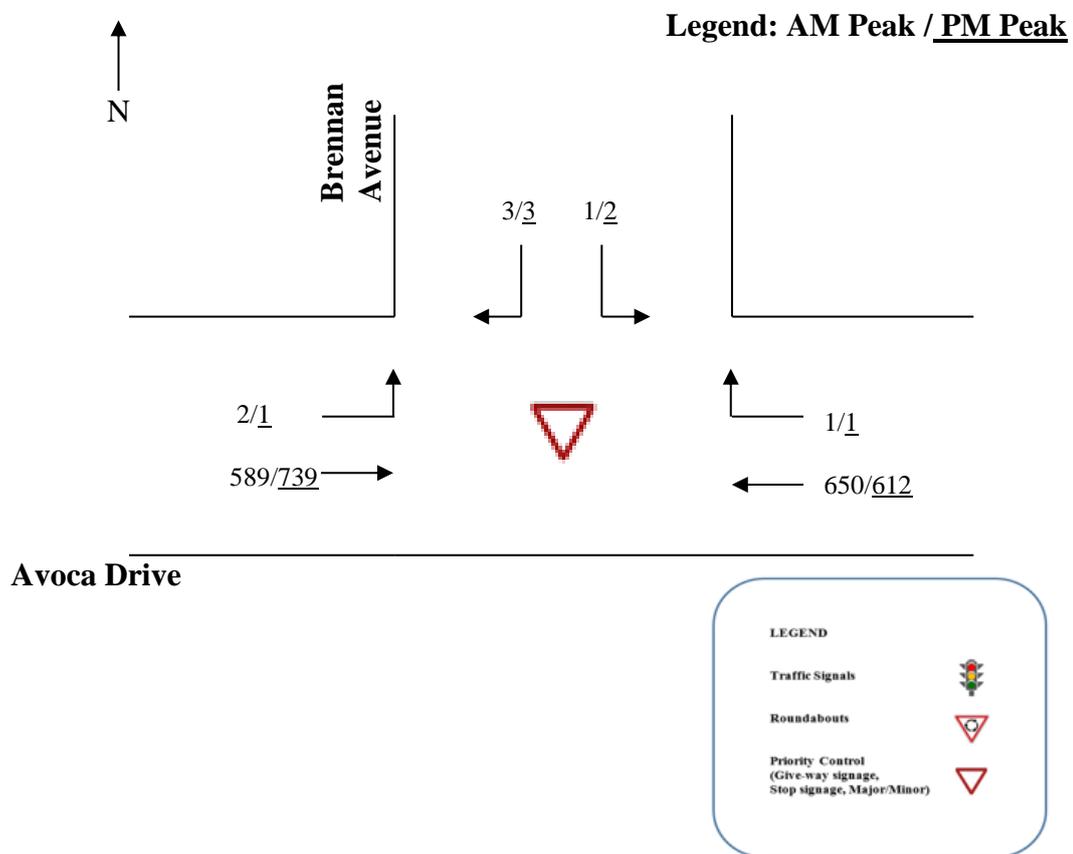
4.2.1 Existing Traffic Volumes

In order to obtain an indication of the existing operation of the adjoining road network most affected by additional traffic generated by the subject proposal, reference is made weekday morning and evening peak hour volumetric traffic surveys recently undertaken at the junction of Avoca Drive and Brennan Avenue (northern section).

These traffic surveys were undertaken between 7.00am – 9.00am and 4.00pm – 6.00pm on 25 October 2019 to coincide with the likely starting and finishing periods of the proposed child care centre, which is when the greatest traffic activity is expected to occur (associated with the pick-up/drop-off of children).

Figure 3 provides a graphical representation of the surveyed peak hour traffic volumes (identified to be between 7:30am – 8:30am and 4:00pm – 5:00pm).

FIGURE 3
EXISTING WEEKDAY PEAK HOUR TRAFFIC VOLUMES
(7:30AM – 8:30AM AND 4:00PM – 5:00PM)
JUNCTION OF AVOCA DRIVE AND BRENNAN AVENUE (NORTHERN SECTION)



4.2.2 Existing Road Network Operation

In order to estimate the existing peak efficiency of the surveyed junctions in the vicinity of the site, a SIDRA computer intersection analysis has been undertaken. SIDRA is a computerised traffic arrangement program which, when volume and geometrical configurations of an intersection are imputed, provides an objective assessment of the operation efficiency under varying types of control (i.e. signs, signal and roundabouts). Key indicators of SIDRA include level of service where results are placed on a continuum from A to F, with A providing the greatest intersection efficiency and therefore being the most desirable by the Roads and Maritime Services.

SIDRA uses detailed analytical traffic models coupled with an iterative approximation method to provide estimates of the abovementioned key indicators of capacity and performance statistics. Other key indicators provided by SIDRA are average vehicle delay, the number of stops per hour and the degree of saturation. Degree of saturation is the ratio of the arrival rate of vehicles to the capacity of the approach. Degree of saturation is a useful and professionally accepted measure of intersection performance.

SIDRA provides analysis of the operating conditions that can be compared to the performance criteria set out in **Table 1** (being the RMS NSW method of calculation of Level of Service).

TABLE 1 LEVELS OF SERVICE CRITERIA FOR INTERSECTION		
Level of Service	Average Delay per Vehicle (secs/veh)	Expected Delay
SIGNALISED INTERSECTIONS AND ROUNDABOUTS		
A	Less than 14	Little or no delay
B	15 to 28	Minimal delay and spare capacity
C	29 to 42	Satisfactory delays with spare capacity
D	43 to 56	Satisfactory by near capacity
E	57 to 70	At capacity, incidents will cause excessive delays
F	> 70	Extreme delay, unsatisfactory
GIVE WAY & STOP SIGNS		
A	Less than 14	Good
B	15 to 28	Acceptable delays and spare capacity
C	29 to 42	Satisfactory
D	43 to 56	Near capacity
E	57 to 70	At capacity and requires other control mode
F	> 70	Unsatisfactory and requires other control mode

The existing conditions have been modelled utilising the peak hour traffic volumes presented within **Figure 3**.

Table 2 overleaf provides a summary of the SIDRA output data whilst full details are available upon request.

TABLE 2 SIDRA OUTPUT – EXISTING WEEKDAY PEAK HOUR INTERSECTION PERFORMANCE COINCIDING WITH THE STARTING AND FINISHING TIMES OF THE CHILD CARE CENTRE (7:30AM – 8:30AM AND 4:00PM – 5:00PM)		
	AM	PM
Avoca Drive East		
Delay	9.4	11.2
Degree of Saturation	0.34	0.32
Level of Service	A	A
Brennan Avenue North		
Delay	11.5	13.3
Degree of Saturation	0.01	0.01
Level of Service	A	A
Avoca Drive West		
Delay	2.5	2.5
Degree of Saturation	0.31	0.39
Level of Service	A	A
Total Intersection		
Delay	11.5	13.3
Degree of Saturation	0.34	0.39
Level of Service	A	A

The intersection level of service (LoS) presented within **Table 2** above is based on the following specified within Clause 4.2.2 of Roads and Maritime Services' (RMS) *Guide to Traffic Generating Developments*:

“...The best indicator of the level of service at an intersection is the average delay experienced by vehicles at that intersection. For traffic signals, the average delay over all movements should be taken. For roundabouts and priority control intersections (with Stop and Give Way signs or operating under the T-junction rule) the critical movement for level of service assessment should be that with the highest average delay.”

Table 2 indicates that the junction of Avoca Drive and Brennan Avenue (northern section) currently operates with a Level of Service (LoS) 'A', representing good conditions with spare capacity.

4.2.3 Traffic Generation

The Roads and Maritime Services (RMS) has established vehicular generation rates based on surveys of existing uses throughout the Sydney metropolitan area. Traffic generation rates for child care centres, as presented in the *Guide to Traffic Generating Developments*, are detailed in **Table 3** overleaf. Whilst the below rates are somewhat dated in that they rely on surveys done many years ago, it is understood that these rates are still held to be acceptable and consistent with child care centre traffic generation rates and generally accords with our own observations of various child care facilities.

TABLE 3 TRAFFIC GENERATION RATES CHILD CARE CENTRES			
Centre Type	Peak Vehicle Trips/Child		
	7.00-9.00am	2.30-4.00pm	4.00-6.00pm
Pre-school	1.4	0.8	-
Long-day care	0.8	0.3	0.7
Before/after care	0.5	0.2	0.7

The proposed child care centre is best described as a long day care centre, accommodating 92 children. Utilising the abovementioned RMS average traffic generation rates, the site is likely to generate:

- 74 peak vehicle trips between 7.00am – 9.00am;
- 28 peak vehicle trips between 2.30pm – 4.00pm; and
- 65 peak vehicle trips between 4.00pm – 6.00pm.

In the morning peak hour period, therefore, the child care centre could be expected to generate approximately 74 peak hour vehicle trips, comprising 37 ingress movements and 37 egress movements associated with the drop off of children. Similarly during the evening period between 4.00 - 6.00pm, the proposed child care centre could be expected to generate 65 peak hour vehicle trips, comprising 32 ingress and 33 egress movements associated with the pick-up of children.

During the afternoon period between 2:30pm – 4:00pm, the proposed child care centre could generate traffic in the order of 28 peak hour vehicle trips. This could be expected to comprise 14 ingress movements and 14 egress movements to and from the site, associated with the collection of children.

4.2.4 Trip Assignment

In order to gauge the impact of the traffic projected to be generated by the proposed development on the adjoining public road network, it is necessary to determine the impact on surrounding intersection efficiency. The objective of this section is to distribute the traffic generated by the proposed development along the major approach routes before it dissipates throughout the general road network.

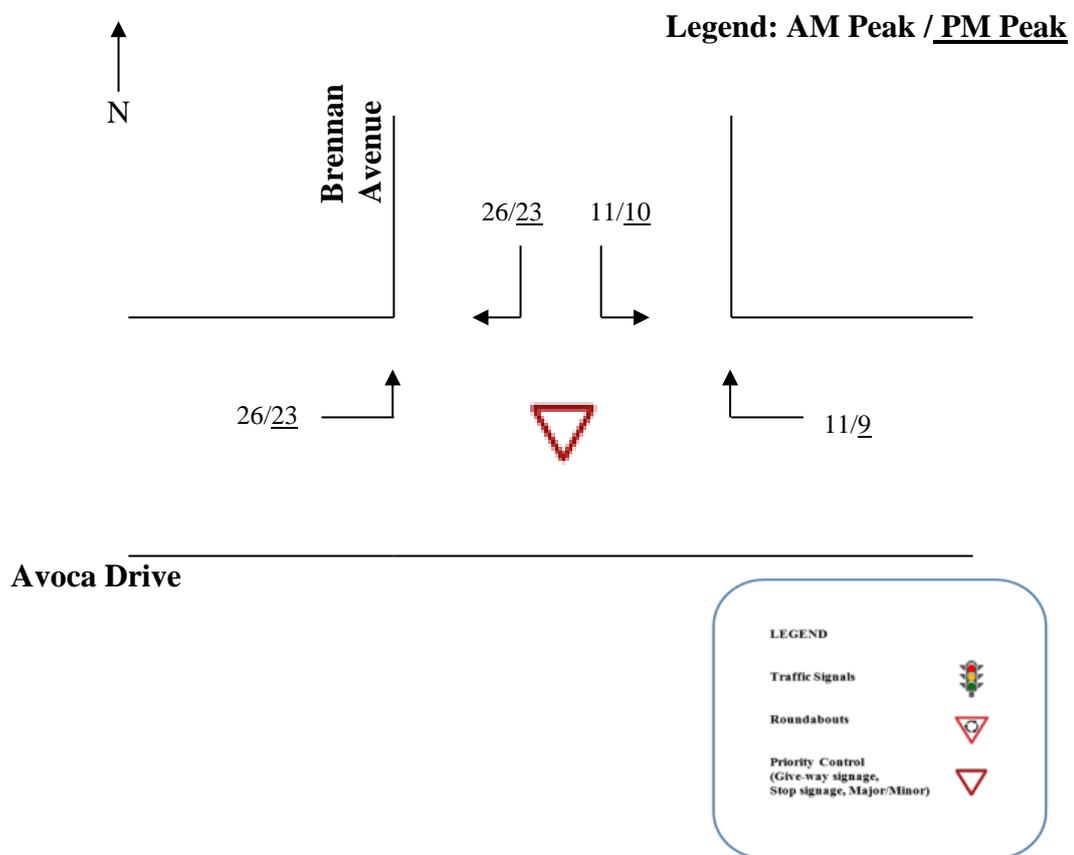
It is rarely possible to precisely forecast the route that motorists will elect to utilise. Perceived traffic safety, traffic efficiency and individual preferences are all variables that will influence the traffic route selected by motorists.

Notwithstanding the above, it is common to assume that trips to the subject site will be distributed in accordance with existing traffic patterns and alterations currently observed in the surrounding road network. In this regard, the following trip assignment has been formulated based on the existing surrounding traffic distributions illustrated within **Figure 3**:

- 70% of traffic is projected to approach and depart the site to the west along Avoca Drive; and
- 30% of traffic is projected to approach and depart the site to the east along Avoca Drive.

Figure 4 provides a graphical representation of the additional vehicular trips generated at the junction of Avoca Drive and Brennan Avenue (northern section).

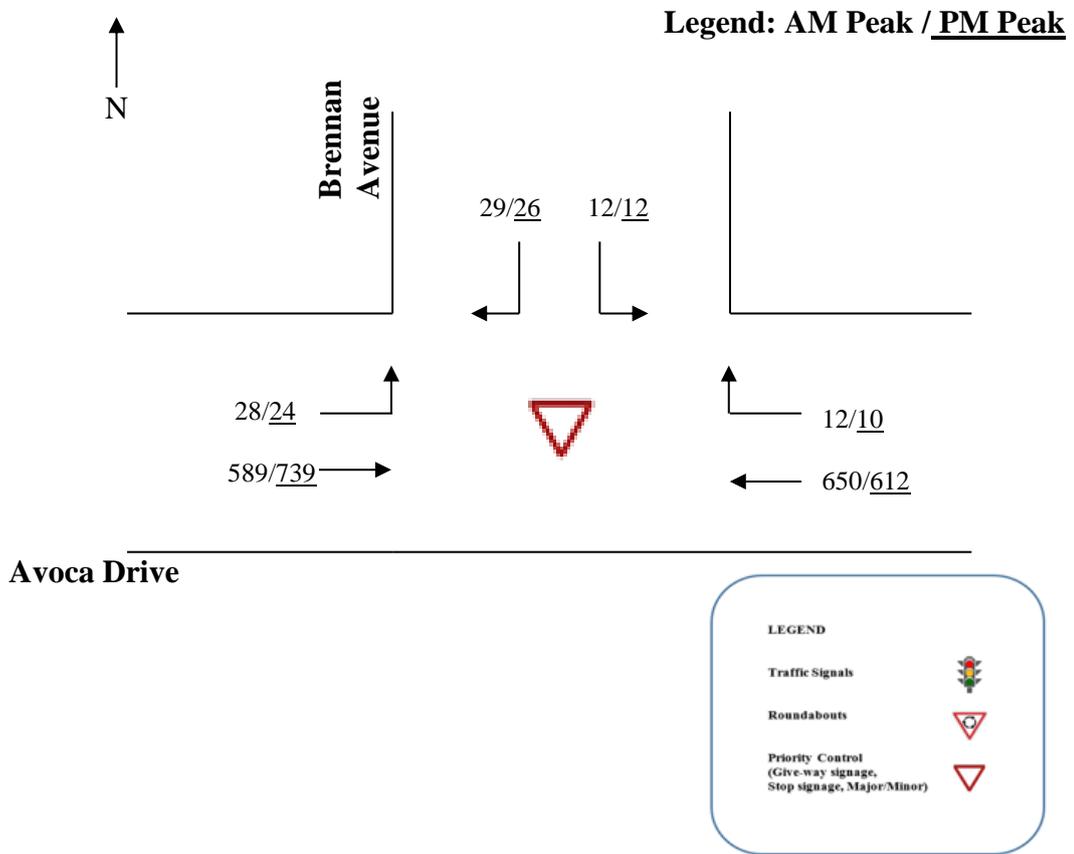
FIGURE 4
TRIP ASSIGNMENT
JUNCTION OF AVOCA DRIVE AND BRENNAN AVENUE (NORTHERN SECTION)



4.2.5 Projected Traffic Volumes

Based on the discussion provided previously on likely traffic generation and trip assignment, the projected peak hour traffic volumes have been formulated by adding the trip assignment presented within **Figure 4** to the existing surveyed volumes indicative of peak conditions provided within **Figure 3**. **Figure 5** overleaf provides an estimation of the future traffic volumes associated with the subject proposal.

FIGURE 5
POST-DEVELOPMENT PEAK HOUR TRAFFIC VOLUMES
(7:30AM – 8:30AM AND 4:00PM – 5:00PM)
JUNCTION OF AVOCA DRIVE AND BRENNAN AVENUE (NORTHERN SECTION)

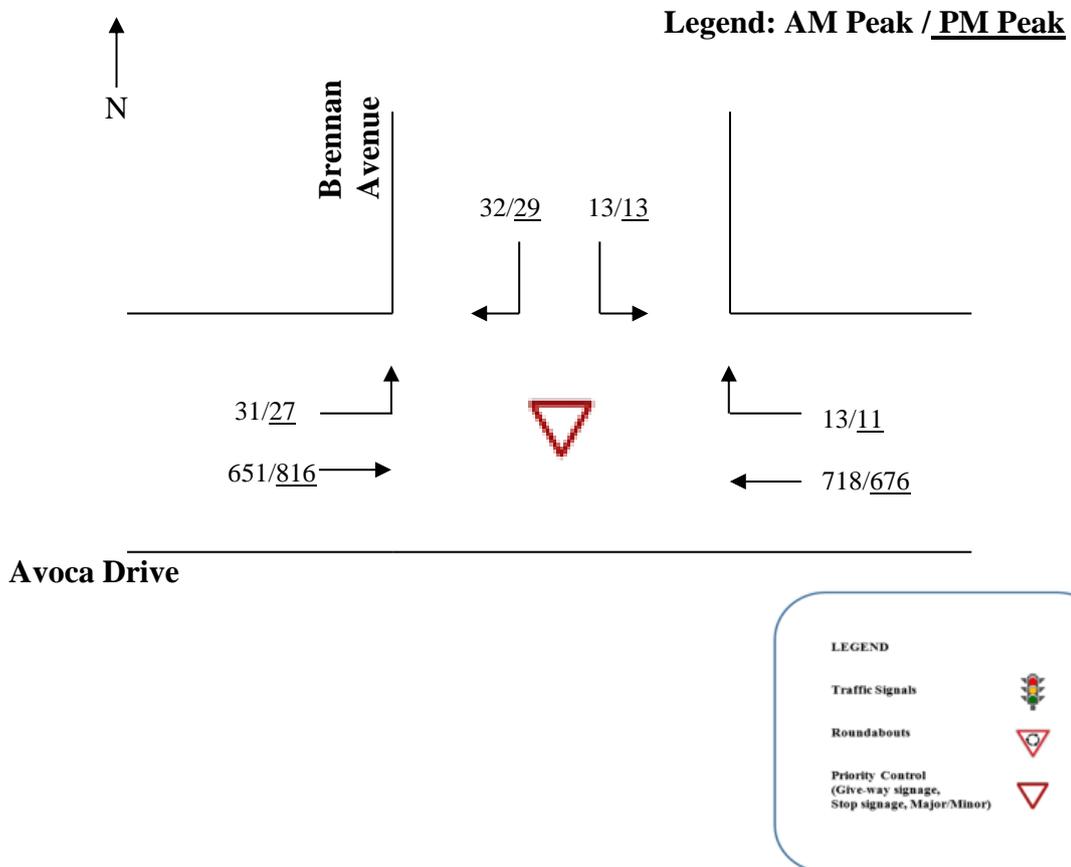


4.2.6 10 Year Projection

Based on demographic forecasts obtained from Id community website, the Central Coast Council area population is anticipated to increase from 346,459 in 2019 to 414,615 by 2036. This represents a population growth of 4,009 persons per year and is equivalent to a growth of about 1% per annum.

Assuming that traffic volumes increase proportionally to population, the 10 year projected traffic volumes can be estimated by applying the abovementioned growth rate of 1% per annum. The projected future 2029 traffic volumes at Avoca Drive junction with Brennan Avenue (northern section) are represented in **Figure 6** overleaf.

FIGURE 6
2029 PEAK HOUR TRAFFIC VOLUMES
(7:30AM – 8:30AM AND 4:00PM – 5:00PM)
JUNCTION OF AVOCA DRIVE AND BRENNAN AVENUE (NORTHERN SECTION)



4.2.7 Impact of the Subject Proposal

4.2.7.1 Intersection Modelling

In order to obtain an indication of the projected operation the junction of Avoca Drive and Brennan Avenue incorporating the additional traffic projected to be generated by the subject development and its 10 year projections, a further SIDRA analysis has been undertaken, utilising the traffic volumes presented in **Figures 5** and **6** respectively.

Table 4 overleaf provides a summary of the most pertinent SIDRA output results (for existing, post-development and 2029 scenarios), whilst full details are available upon request.

TABLE 4 SIDRA OUTPUT – PROJECTED PEAK HOUR TRAFFIC CONDITIONS COINCIDING WITH THE STARTING AND FINISHING TIMES OF THE CHILD CARE CENTRE (7:30AM – 8:30AM AND 4:00PM – 5:00PM)						
	Existing		Post-Development		2029 Scenario	
	AM	PM	AM	PM	AM	PM
Avoca Drive East						
Delay	9.4	11.2	9.8	11.6	10.9	13.4
Degree of Saturation	0.34	0.32	0.35	0.33	0.39	0.37
Level of Service	A	A	A	A	A	A
Brennan Avenue North						
Delay	11.5	13.3	12.4	14.2	14.6	17.5
Degree of Saturation	0.01	0.01	0.09	0.10	0.12	0.15
Level of Service	A	A	A	B	B	B
Avoca Drive West						
Delay	2.5	2.5	2.5	2.5	2.5	2.5
Degree of Saturation	0.31	0.39	0.32	0.40	0.36	0.43
Level of Service	A	A	A	A	A	A
Total Intersection						
Delay	11.5	13.3	12.4	14.2	14.6	17.5
Degree of Saturation	0.34	0.39	0.35	0.40	0.39	0.43
Level of Service	A	A	A	B	B	B

Table 4 indicates that the junction of Avoca Drive and Brennan Avenue (northern section) is capable of accommodating the additional traffic associated with the subject proposal and the projected 2029 traffic demands, as it is anticipated to operate with a level of service A/B, which signifies good operating conditions with spare capacity.

In addition to the above, it is noted that the SIDRA modelling output indicates that the eastern approach of the junction of Avoca Drive and Brennan Avenue is expected to have a maximum queue length of 2.9m under 2029 projected traffic demands. In this regard, the additional right turning traffic accessing Brennan Avenue (associated with the proposed child care centre) is anticipated to have minimal impedance on the through traffic flow within Avoca Drive.

4.2.7.2 Safety Considerations at the Junction of Avoca Drive & Brennan Avenue (Northern Section)

The safety associated with the existing access arrangements at the junction of Avoca Drive and Brennan Avenue (northern section) is generally a factor of the provision of or otherwise of suitable sight distance along the approaches of the priority road to and from the minor road.

In order to ascertain an accurate indication of the sight distance available between Avoca Drive and Brennan Avenue (northern section), an engineering survey of the public road intersection has been undertaken, including a longitudinal section. From this engineering survey, a sight distance diagram has been prepared by this Practice, a copy of which is contained within **Appendix 1** for reference.

The sight distance diagram in conjunction with recent observations indicates that the minimum safe stopping sight distance of 65m is achieved in both directions in accordance with Figure 3.2 of AS2890.1 for a signposted 60km/h road. In this regard, observations have indicated that drivers' are able to undertake turning movements to and from Brennan Avenue with a reasonable level of safety and efficiency.

4.2.7.3 Environmental Capacity

The proposed 92 children early learning care centre has been assessed to generate a maximum of 74 vehicle movements corresponding to the morning peak hour period.

The Roads & Maritime Services within their *Guide to Traffic Generating Developments* provide environmental capacity performance standards to measure the level of amenity experienced by the general community, not just motorists. RMS *Guide* specify an environmental capacity for local roads of 300 vehicles in both directions in any one hourly period.

The existing observed peak hour traffic demands within Brennan Avenue in the immediate vicinity of the site affected by the additional traffic generated by the proposed development, are approximately less than 10 vehicle movements. This existing demand, coupled with the additional 74 peak hour vehicles likely to be generated by the proposed development, maintains the identified threshold for local roads of 300 vehicles per hour and the desirable threshold of 200 vehicles per hour. In this regard, it is reiterated that the proposed development is unlikely to generate any noticeable impacts for traffic flow within the surrounding residential roads that would compromise the existing residential amenity in the surrounding area.

In addition, it is recommended that the child care centre should consider implementing an Operational Traffic and Pedestrian Management Plan (OTPMP) in order to minimise traffic and parking impacts on the surrounding residential amenity. The Plan will include a series of measures to assist with the safe and efficient integration of the child care centre and minimise its traffic impact on the surrounding road network. The key elements to be included in the Plan are outlined in Section 5 of this report.

5. INTERNAL OPERATIONAL TRAFFIC & PEDESTRIAN MANAGEMENT PLAN

In order to ensure safe and efficient child care centre operations during peak start and finish periods, it is recommended that an Operational Traffic & Pedestrian Management Plan (OTPMP) be implemented. The following subsections of this report provide a summary of the key strategies which should be incorporated within the Plan, the requirement for which could be reasonably imposed by Council as a condition of Development Consent.

5.1 Operational Traffic & Pedestrian Management

5.1.1 General Items

- A Management & Safety Committee is to be established to implement the operational traffic and pedestrian management measures incorporated within this Plan and to develop further guidelines in order to ensure that on-site and off-site vehicular and pedestrian safety is maximised.

The Committee shall comprise the child care centre staff and principal, a parent's representative, a Council representative and a police representative to provide initial assistance in the implementation of the Plan and subsequent periodic guidance in ongoing review of the Plan.

- The Management & Safety Committee shall ensure that the procedures contained within the OTPMP are put in place with respect to: on and off-site traffic and pedestrian management and safety issues.
- The Committee shall put in place measures which should ensure parent / guardian compliance with the Plan. These should take the form of specific instructions via student newsletters and indications that such instructions are to be observed as may be applicable to any private property and could therefore form part of the initial enrolment procedures.
- The Plan should also be subject to periodic review by the child care centre operator (in consultation with Council for endorsement), to ensure that road safety issues as they relate to the public roads close the site, are appropriately documented and implemented in accordance with sound traffic engineering and road safety practices.

5.1.2 Internal Staff Parking

- Staff parking is to solely occur within the designated off-street parking areas that are separate to parents/visitor parking areas.
- Staff are to arrive prior to the start and leave after the finish of the child care centre to minimise the interaction of this vehicle movements with the peak student set-down / pick-up periods during start and finish periods of the facility.

5.1.3 Student Pickup/Set Down

- Student drop-off / pick-up is to be primarily undertaken within the formalised pick-up/set-down area within the nominated visitor parking spaces.
- Parents setting-down students during the morning peak are to do so primarily in the formalised nominated visitor parking spaces on-site.
- Students set-down within the area are to access the main building via the proposed pedestrian path adjacent to the nominated visitor parking spaces.
- No staff parking is to occur within the nominated visitor parking spaces during the morning start period.
- Parents/guardians are to be instructed not to park on-street for drop-off and pick-up of children.

5.1.4 Site Servicing

It is to be noted that there is an existing site servicing area between the proposed visitor parking spaces. Site servicing activities such as deliveries/refuse collection are to be conducted outside of peak operational hours of the proposed child care centre, thus minimising any potential conflict with student pick up/set down and staff parking.

5.1.5 Special Events

For special events (e.g. Grandparents Day, graduation ceremonies, etc.), which are held on an infrequent basis, the child care centre is to prepare and implement an Events Management Plan, which incorporates measures (e.g. staggered arrivals, timing of the event should be held outside of peak commuter traffic periods) to assist with minimising disturbance on traffic and parking amenity within the adjoining road network.

6. CONCLUSION

This Practice has undertaken an assessment of the potential traffic related consequences resulting from a proposed long day child care centre development on land located at 14 Brennan Avenue, Kincumber. Based on our assessment, the following conclusions are now made:

- The proposed parking spaces are designed in accordance with relevant AS2890.1 and AS2890.6 requirements;
- The proposed off-street parking provision of 34 spaces is compliant with Council's minimum DCP requirements;
- The surrounding road network is assessed to currently operate with a good level of service during the likely peak traffic generating periods of the child care centre (7:00am – 9:00am and 4:00pm and 6:00pm);
- The proposed development has been projected to generate some 74 and 65 morning and evening peak hour trips to and from the site respectively;
- The surrounding road network is assessed to be capable of accommodating the additional traffic projected to be generated by the proposed development as well as the 10 year projected traffic in a safe and efficient manner; and
- Implementation of the OTPMP is anticipated to ensure that the additional traffic generating potential associated with the development will not result in any unreasonable impacts on the surrounding road network and improve the overall efficiency & safety of the internal roads servicing the child care during peak start and finish periods as well as during special event days.

Based on the conclusions and recommendations contained within this report, we are of the opinion that there are no traffic-related issues that should preclude approval of the subject application. Accordingly, we are in support of the proposed development.