

Child Care Centre

Plane Tree Rd
Springvale

TRAFFIC IMPACT ASSESSMENT

*A report on the TRAFFIC IMPACTS of , parent
pick-up and bus services and other safety
aspects of a proposal to open a day care centre*

Prepared by Garry Gaffney
FIEAust(ret)., CPEng,
July 2021





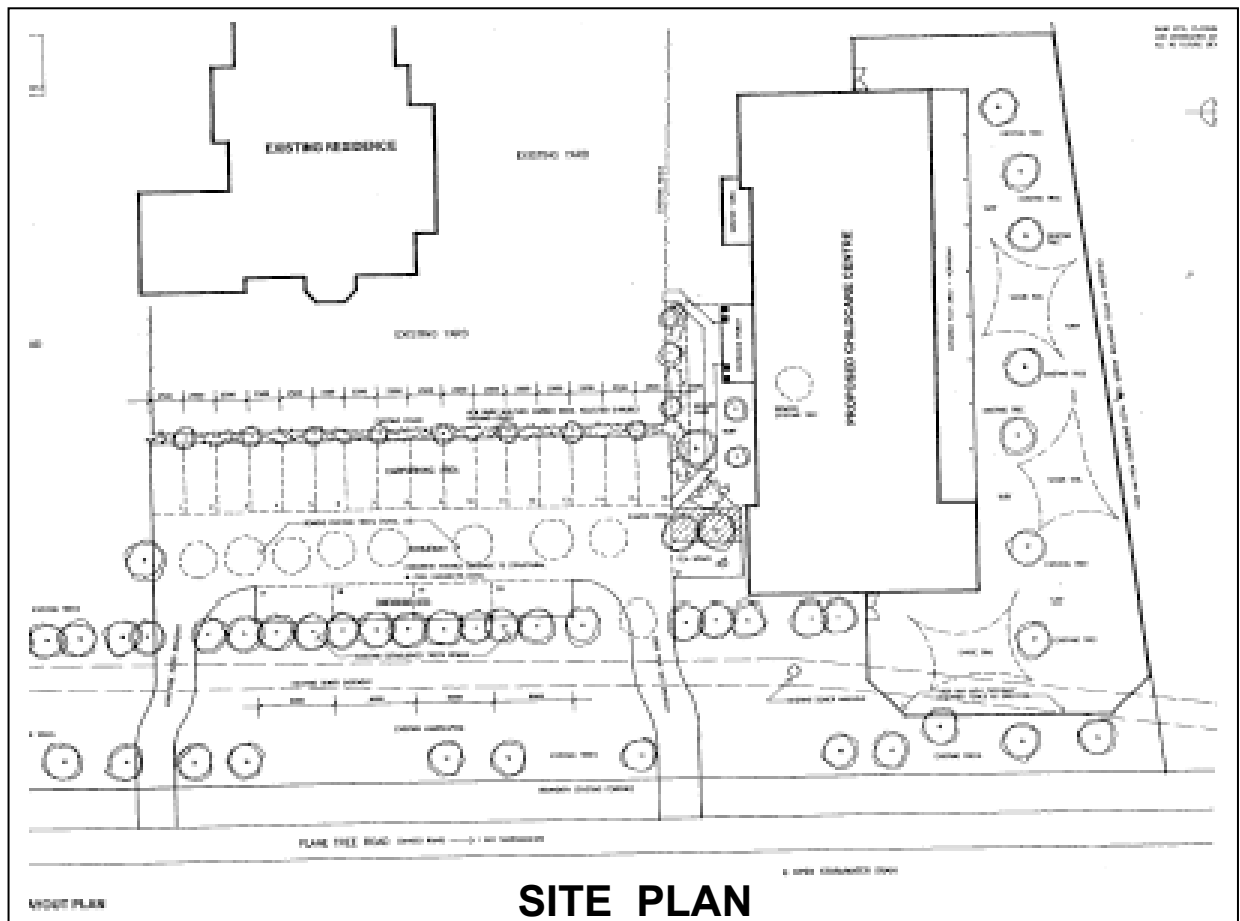
Showing the location of the proposed centre and the existing centre in Lloyd



LOCALITY MAP

Table of Contents

Locality Map	2
Site Plan	2
The Proposal	3
Purpose of this Statement	4
Consultation	4
Size of the Day Care Centre and Traffic Justification	4
Existing Traffic	5
Traffic Impact of the Development	6
On-site Parking	7
Bus Parking	7
Summary	7



The Proposal

The proposal is to develop a new Child Care Centre near the corner of Lloyd Rd and Plane Tree Rd in Springvale. The Centre will have 79 children. The centre will be constructed on the northern side of the existing residence as shown on the site plan. Staff will be parked on-site. Parents and carers will have adequate parking on-site to set down and pick up children. A 12 seater mini bus will also provide transport for some children. The operating hours will be between 6.00am and 5.00pm.

Purpose of this Statement

This report addresses the standard requirements of a Traffic Impact Assessment Report as they apply to this development. It also sets out the investigations undertaken and the recommendations for management of traffic to and from the new school layout.

Consultation

In preparing this TIAR, consultation has occurred with the following parties to ascertain the traffic issues which might need to be addressed in this report:

- Darryl Forbes Taber – Designer PP&D
- Ian Graham - Principle of Iris Planning.
- Amanda Grey – Planner WWCC
- Mark and Dianne Ladjers – Managers of the Centre

Size of the Day Care Centre and Traffic Justification

Pupils. The centre will have a capacity of 79 children.

Parents. While the situation will be variable, many families will have more than one child enrolled at the centre.

Staff. There will be, on average, 11 staff working at the site. The staff vehicle movements will be 11 trips in both the AM and PM periods.

Bus travellers. The management proposes to use a small bus to transport some children to and from the centre. The developers also operate an existing Early Learning Centre in Lingiari Dr Lloyd. Because this location may be more convenient to some parents, the management proposes to offer a bus transfer from the Lingiari Dr. location to the new Centre. It is estimated that this will increase parent vehicle trips of about 18 in the AM and PM at the Lingari Dr Centre. It is estimated that there will be 3 – 4 bus trips each AM and PM between the two centres.

Justification of traffic movements.

About 70% of children will be transported by private vehicles. Because there will be siblings enrolled, this is estimated to cause 55 private car movements in the morning and afternoon. There is a financial advantage to encourage enrolments between 8 am and 4 pm. Staff movements will be 11 each way. Bus movements will be 3 -4 each way.

It is estimated that the total movements in both the AM and PM periods will total 70 trips. The AM trips will be mostly within the period 8 – 10 am. Allow 45 private vehicle arrivals, 5 staff and 2 bus arrivals. A total of 52 trips between 8am and 10 am

It is estimated that the other arrival period of 6 am to 8 am will have 10 private vehicle trips, 6 staff and 1 bus trip. The peak departure period is between 3 pm and 4 pm. Allow 50 private vehicle and 6 staff as well as 2 bus trips. A total of 58 trips.

In order to understand the impact of the added traffic at Lloyd /Plane Tree, it is calculated that number of additional trips in the AM peak hour will be 35 trips. With the majority coming from the west. A diagrammatic representation of the estimated increase in traffic at the intersection at Lloyd Rd is shown later in this report.

Existing Traffic

The location of the proposed development is in the rural residential suburb of Springvale located 9 km south of the CBD. The site is on a small holding located on the NW corner of the intersection of Lloyd Rd and Plane Tree Rd as shown on the locality map. The main collector road is Lloyd Rd between Plumpton Rd and Holbrook Rd. This road aligns with Dunns Rd to the west forming a connection to the Olympic Hwy. Dunns Rd is partly unsealed. The AADT for Lloyd Rd is approximately 700 vpd.



Lloyd Rd is a two lane rural road with sealed shoulders. Plane Tree Rd is a divided carriageway with a grassed depressed median and a row of Plane trees . The terrain is flat.

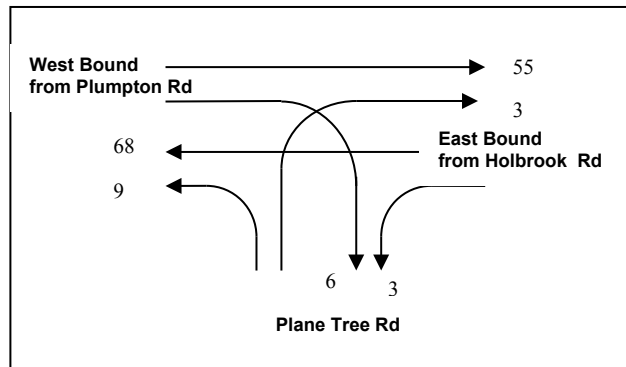
Sight Distance at the Intersection is very good. Looking to the west from Plane Tree Rd the sight distance has been assessed as 450 metres. In an easterly direction the sight distance is in excess of 600 metres. This is in excess of the requirements for an 80 kph road.

A turn count survey was carried out for the PM peak hour at the intersection of Lloyd/Plane Tree. The results of the survey are shown in the table below. The counts reveal very low traffic at the intersection, particularly with respect to Plane Tree Rd.

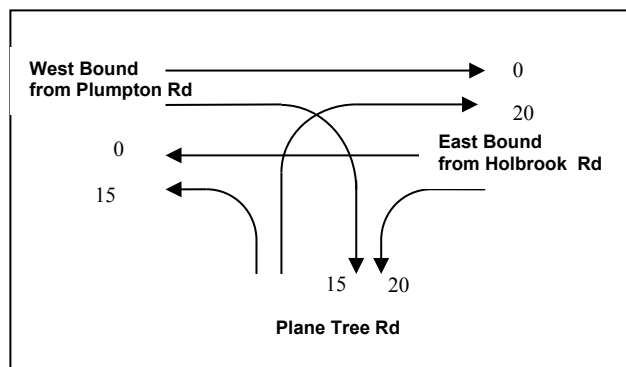
AM TURN COUNTS THURSDAY 7 JULY 2021						
	EAST BOUND ON LLOYD		WEST BOUND ON LLOYD		PLANE TREE ONTO LLOYD	
	←	↪	→	↩	↪	↩
7.50 - 8.00	8	0	7	0	0	0
8.00 - 8.10	10	0	6	1	3	0
8.10 - 8.20	14	2	15	2	2	1
8.20 - 8.30	13	1	5	0	1	0
8.30 - 8.40	12	0	9	0	1	0
8.40 - 8.50	10	0	9	1	2	0
8.50 - 9.00	9	0	11	2	0	2
Peak Hour	68	3	55	6	9	3

1. Traffic Impact of the Development.

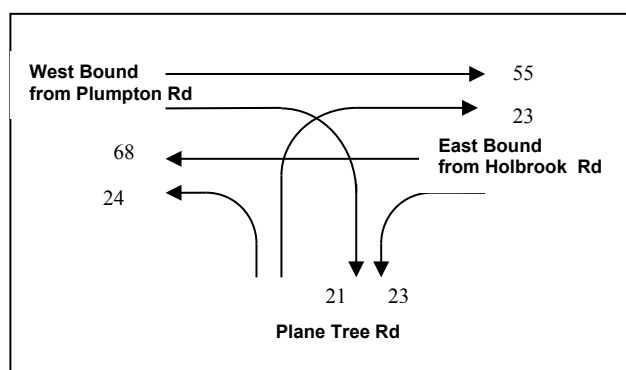
The traffic impact of the development is determined by adding the newly developed traffic from the development to the existing traffic. Because of the low traffic volumes, the more important AM traffic is analysed below. The PM situation is considered to be much less significant because the departures for the facility will mostly be outside the traditional PM peak hour the normally occurs between say 5 pm and 6 pm.



Existing AM Peak Hour
counts
Thursday 7 July 2021

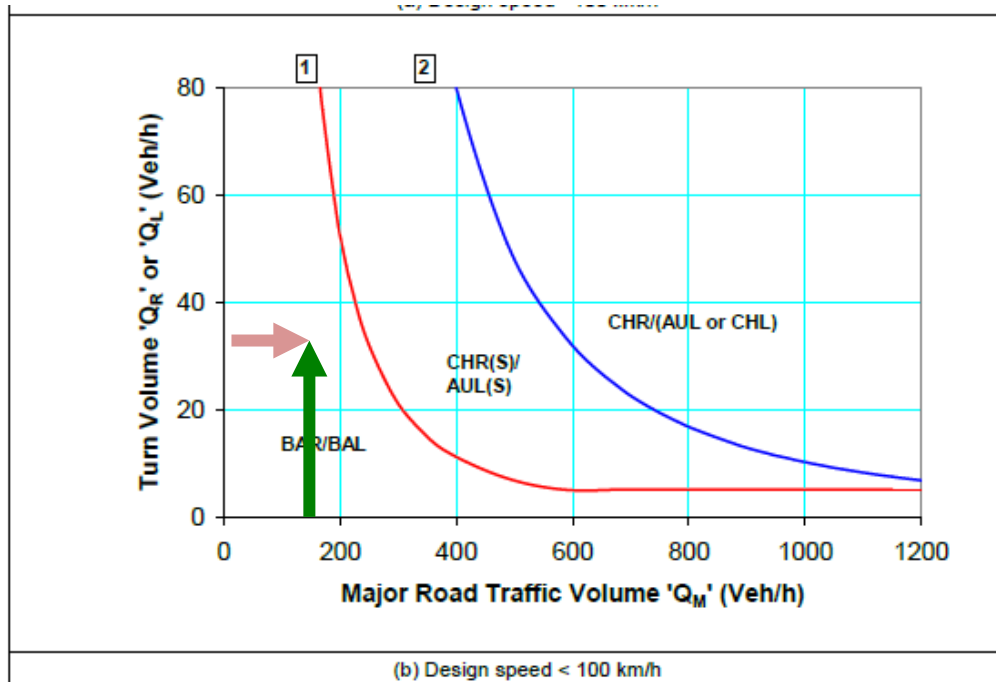


New Developed Traffic
AM Peak Hour
Estimated



Combined
AM Peak Hour counts
After Development
Note Q_m = 146

The above situation has been analysed using Austroads Road Design 4a. The situation after the development is shown on the diagram below. It is apparent that the traffic falls well below any warrants for intersection improvements at the intersection of Lloyd/ Plane Tree Rd.



Source: Arndt and Troutbeck (2006).

Figure 4.9: Warrants for turn treatments on the major road at unsignalised intersections

Austroads 2010

On-site Parking

Staff and Parent parking.

The provision for on-site parking is in accordance with the Council requirements for this type of facility. There will be a disabled space provided near the entrance.

Bus Parking

It is proposed that the bus parking will be provided close to the entrance to the building.

Entrance and Egress for the site

The site plan shows the layout of the proposed parking area and the entrance and exit driveways. Entrance to the site will be from the northbound lane of Plane Tree Rd. This is the first access on Plane tree Rd. Egress from the site will be by crossing the median onto the southbound carriageway. It is noted that there is an existing crossover culvert and sealed turning point just north of the proposed egress driveway and Council may favour the use of this turning point for this development. However, there is a new house being built next to the development and the existing crossover aligns with the driveway to that house. Council may choose to require the construction of a new crossover point to align with the proposed egress for the developer. It is understood that the developer is willing to construct such a facility. This would have the advantage of allowing the existing crossover to be used almost exclusively by the new residence.

Summary

It is the opinion of the author, that the proposed development will cause very little impact on the existing traffic situation in the area.

Prepared by

Garry Gaffney FIEAust.(ret) CPE,



The existing median crossover is just north of the proposed egress point.



The house under construction on the northern side of the development has a driveway opposite the existing median crossover



Looking east from the intersection. The Sight Distance is 600 metres.



Looking west from the intersection. The Sight Distance is 450 metres.