



Traffic & Parking Assessment

Childcare Centre at 1 Lyonpark Road, Macquarie Park

Client: Optus

Date: 27th of July 2022



Client: Optus

1 LYONPARK ROAD, MACQUARIE PRAK, NSW

Traffic & Parking Assessment

Childcare Centre

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1. INTRODUCTION

This report has been prepared for Ryde Council/DPIE in support of a modification of development consent in order to enable the general public to use the facility for an existing 90 place childcare centre at 1 Lyonpark Road, Macquarie Park, NSW. The purpose of this study is to assess the parking and access requirements of the site and determine the impacts of the proposed modification on the surrounding road network. This report will focus on the traffic generation and the potential impacts of the additional traffic associated with the proposed development on the existing road network, and the suitability of the proposed parking on site, both in terms of the number of spaces and the layout of the parking areas, and access requirements to the parking area.

2. SCOPE OF WORK

The scope of this report is outlined below:

- Assessment of the existing traffic and parking environment.
- Assessment of the traffic generation of the childcare centre and its impact on surrounding street network.
- Assessment of the parking requirements of the development in accordance with Council's Development Control Plan.
- Assessment of the parking layout and access requirements of the site in accordance with Australian Standards AS2890.1. & AS2890.6
- Sustainable transport Initiatives.

This report should be read in conjunction with the architectural plans, reduced copies of which are contained within **Appendix A**.



3. LOCALITY PLAN

The following plan in Figure-1 shows the location of the proposed development in the context of the surrounding road network.



Figure 1 – 1 Lyonpark Road, Macquarie Park, NSW



4. BACKGROUND

The current 90 place childcare centre at 1 Lyonpark Road was approved as part of State Significant Development DA-157-6-2004 with the following specific condition:

Use of the Buildings

G16 Shared communal facilities

The child care centre, gymnasium and food amenity services are only to be used by the tenant of the building.

The condition G16 above only allow the childcare centre to be used by the tenants of the building only.

5. PROPOSAL

Management would like the child care centre to be available for general public. In order to enable this, the consent condition G16 need to be modified. The current condition G16 of the consent states as follows:

"G16 Shared communal facilities

The child care centre, gymnasium and food amenity services are only to be used by the tenant of the building.

It is requested that Condition G16 be modified as follows:

"G16 Shared communal facilities

The child care centre, gymnasium and food amenity services are only to be used by the tenant of the building.

The approved childcare centre is permitted to be used by members of the general public as well as staff associated with the tenant of the building."

The proposed amendment to condition G16 of DA-157-6-2004 would run as 90 seats long day care centre with 15 staffs. A total of 7 off-street parking spaces will be provided within the existing basement level car park of Optus building. There are 12 off-street parking space designated for visitors with a time limit of 15 minutes adjacent to the childcare centre. The development is accessed off Lyonpark Road as shown in the locality plan.



6. REVIEW OF EXISTING TRAFFIC CONTROLS

The site is accessed off Lyonpark Road via a private road (Optus Drive). Lyonpark Road is a two-lane tow-way street providing access to the business park in which Optus Corporate Headquarter is located. It has a carriageway width of approximately 13.0m. Parking is allowed on both sides of the road in the vicinity of the development site. Lyonpark Road runs in north-south direction intersecting with Bayfield Street in the north at a roundabout and Bayfield Road ultimately connects with Waterloo Road. In the south Lyonpark Road intersects with Epping Road at a Left-in-left-out T-intersection. The speed limit in the area is the default 50km/hr.

Optus Drive is a private access road with an approximate carriageway width of 7.0m, it forms a loop road and connects with Lyonpark Road with a one-way section in the middle right near the short-term visitor car park. A varying level of short and medium term free and pay parking controls are present in both Lyonpark Road and Optus Drive.

7. TRAFFIC IMPACT ASSESSMENT

7.1. Development Trip Generation

The existing development is a long-day care centre for a maximum of 90 children.

Trip generation for the proposed development has been calculated using the trip generation rate in Table -3.6 extracted from former RTA's "Guide to Traffic Generating Developments -2002" a recognised reference documents for this purpose.

Table 3.6
Traffic generation rates

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

Table-3: Trip generation of the proposed development.



Use	Number of child	Peak Vehicle Trips/2hr		
		7:00-9:00am	2:30-4:00pm	4:00-6:00pm
Long-day care	90	72	27	63
Trips per hour		36	14	32

7.2. Net Trip Generation

A marginal net increase in trips is anticipated due to the proposed modification to the development consent. The majority of the trips generated from the childcare centre are already present or accounted for within the existing street network. It is anticipated a small number of parents who already works within the business park but live outside the business park are likely to be able to use the childcare centre.

7.3. Development Traffic Impact

The midblock capacity of an urban road and its relation with the level of service has been identified in Table 4.4 of former RTA's "Guide to Traffic Generating Developments -2002" and stipulated below:

Table-4: Urban road peak hour flows per direction

Level of Service	One Lane (veh/hr)	Two Lane (veh/hr)
А	200	900
В	380	1400
С	600	1800
D	900	2200
E	1400	2800

Source: Table 4.4: RTA's "Guide to Traffic Generating Developments -2002"

The development has been projected to generate in the order of 36 peak hour vehicle trips to and from the site. Such level of traffic represents one vehicle movement every 2 or so minutes during peak hours within Optus Drive and through the surrounding street network. This level of traffic is not expected to have any significant impacts on the overall operation of the surrounding road network.



Further, due to the location of the proposed childcare centre it is likely that, the vehicular trips are all passing traffic that is already in the area. Parents who works within the business park but live outside the business park are likely to be able to use the childcare centre. Therefore, the increase in trips due to the proposed modification of the development consent is more theoretical rather than a reality.

Nonetheless, the abovementioned extent of traffic is unlikely to have an adverse impact on the capacity of Optus Drive and surrounding street network.

Therefore, the estimated additional trips due to the proposed modification to development consent can readily be accommodated within the surrounding street network, without any adverse impact on the capacity and level of service of Optus Drive and surrounding street network.

8. PARKING ASSESSMENT

8.1. Development Control Plan Requirement

Parking requirements relevant to the proposed and the existing development can be found in City of Ryde Development Control Plan 2014, Part: 9.3 Parking Controls. Following parking rates have been extracted from Holroyd DCP that is relevant to the existing uses of the site:

Following parking rates have been extracted from City of Ryde Development Control Plan that is relevant to the use of the site:

2.3 Non-residential Land Uses

Note: Gross floor area (GFA) is separately defined within Ryde Local Environment Plan 2014.

Controls

a. Car parking spaces are to be provided on-site in accordance with the following requirements:

Child Care Centres

- 1 space / 8 children AND
- 1 space / 2 employees (see Part 3.2 Child Care Centres in this DCP).



The following staff number in Figure-2 has been calculated form ACECQA National Quality Framework based on the number of children proposed in each aged group and the staff: child ratio applicable in NSW:

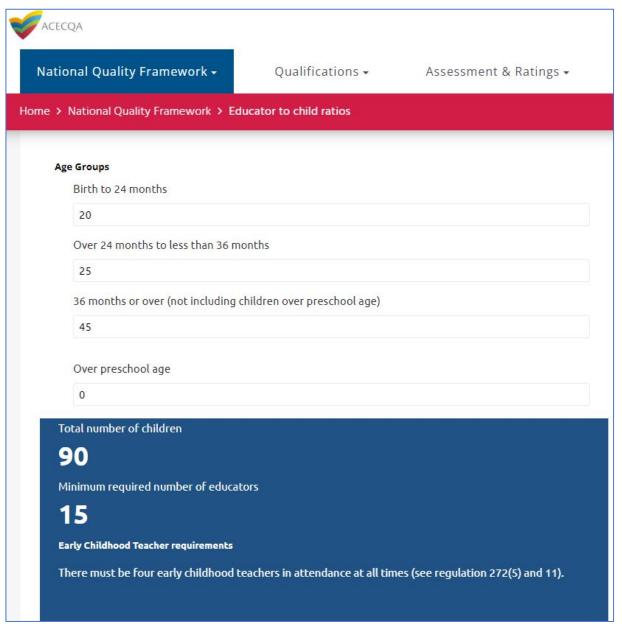


Figure-2 – ACECQA – required staff number



The parking requirements of the childcare center, in accordance with Council's Development Control Plan are shown in Table 5 below.

Table-5: DCP off-street parking requirements for the childcare centre

	Number	DCP Rate	Required Parking
Employee	15	1space per 2 employees	1.0x(15/2) = 7.5 spaces
Children	90	1 space per 8 Children	(90/8) x 1 = 11.25
	Total		18.75 ≈ 19 spaces

8.2. Proposed parking provision

A total of 12 off-street angle parking spaces with 15minutes time limit are present for the visitors (parents) for the childcare centre including one disability space as shown in the plans in **Figure-3**. The additional 7 parking spaces that would be required for the childcare centre staff have been provided within the 1974 spaces car park under Optus building. All childcare centre staff will have access to 1974 bay car park via full time license or casual use provided by car park management system. The parking provision meets the parking requirements of Council's Development Control Plan.





Figure-3: Visitor Parking (12 angle spaces)



9. PUBLIC TRANSPORT ACCESSIBILITY

New South Wales Government released a fact sheet in May 2011, where it states the requirements for a development site to be considered as public transport accessible. For the purpose of this study the fact sheet has been used to assess the public transport accessibility of the site at 1 Lyonpark Road, Macquarie Park, NSW.

Following are the requirements for a site to be within accessible area as stipulated in; Fact Sheet; May 2011:

Accessibility requirements:

(a) Sydney Region

- Within 800m walking distance of a railway station or a Sydney Ferries wharf;
- Within 400m walking distance of a light rail station;

Or

• Within 400m walking distance of a bus stop used regularly between 6am and 9pm Monday to Friday, and 8am to 6pm weekends.

The site at 1 Lyonpark Road is a 10 minute walk from the T1 North Shore and Northern Line at the Macquarie Park Station Platform 2 stop.

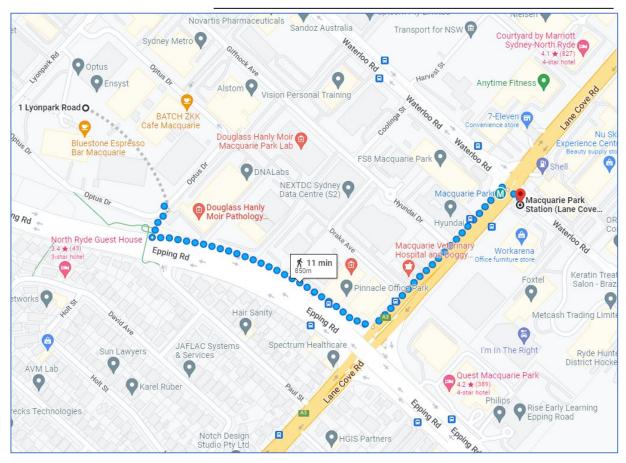
The following table summarises the availability of train services at these stations:

TABLE: Train Service Availability

Train Station	Walking Distance	Availability
Macquarie Park	800m	5:00am-Midnight

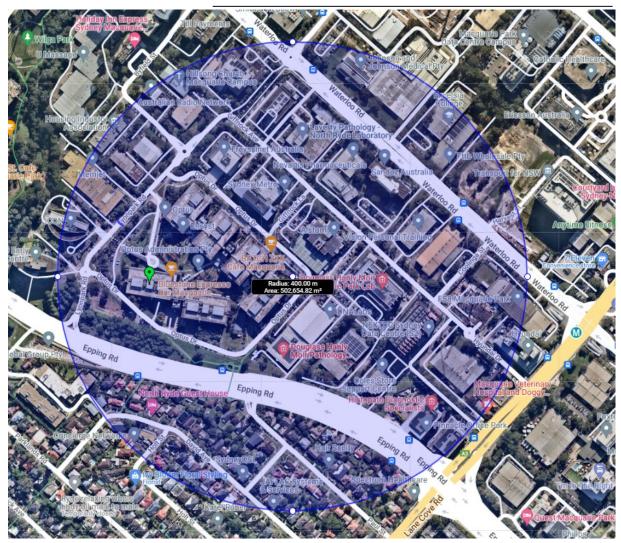
The following plan indicated the location of Strathfield Railway Station in relation to the development site.





The following plan indicates the available public transport within 400m radius of the development site.





The nearest bus stop is located on Optus Drive is approximately 20m walking distance from the site. Bus routes 700 runs via Good Street from Blacktown to Parramatta.

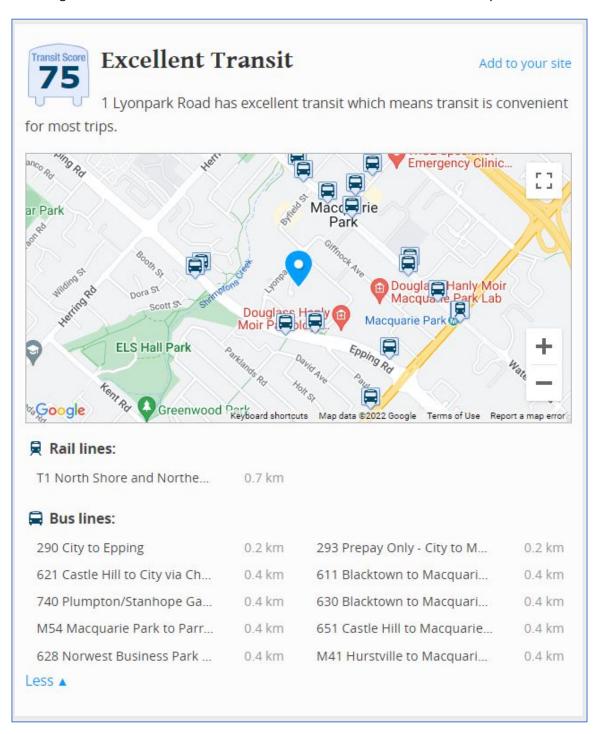
The following table shows the summary of availability of bus services at these bus stops are extracted from the time-tables for the routes:

TABLE: Bus Service Availability

Bus Route	Walking Distance	Availability
Route 290	200m	5:10am-11:00am



Following has been extracted from 'Walkscore' website associated with the development site:



From the above discussion it is clear that the proposed development site is well within the reach of the available public transport in the area.



10.SUSTAINABLE TRANSPORT

Local Governments in New South Wales have set a strategic goal of increasing sustainable transport in the local area and for the journey to work. Sustainable transport includes walking, cycling, **the use of public transport** and car sharing initiatives. Sustainable transport aims to reduce car trips and hence decrease congestion, save time and money and reduce the environmental impact of transport. The Ryde LGA is well connected by bus, road and cycle networks. New developments can provide opportunities to support and encourage the use of sustainable transport by providing car share parking, **developing travel plans**, **providing bicycle parking** and end of trip facilities and other initiatives

In adhering to the above strategy, the following sustainable transport initiatives could be considered implementing as part of the proposed change of use of the site

10.1. Education and Information

The provision of information is an effective way to allow people to make informed decisions about their transport choices and understand the impacts of their choices. Understanding transport services and travel choices is a key element for a well-designed public transport system. Information can be in a wide variety of formats including websites, posters, hotlines and flyers. Trip planner in Transport for NSW website, should be promoted as a good source of information about the most convenient way to undertake trips. In this regard childcare's website (if any) or the childcare centre's management could play an important role

10.2. Walking Cycling

A car parking demand assessment should also take into account the likely generation of active transport to the venue.

We have utilised the 'WalkScore' website tool to ascertain the likelihood of Active Travel to the development site from surrounding areas. The WalkScore website provides a 'walkability' assessment of a locality taking various factors which promote walking, specifically pedestrian generating developments and associated infrastructure, into account when providing that score.



Walkability Rating

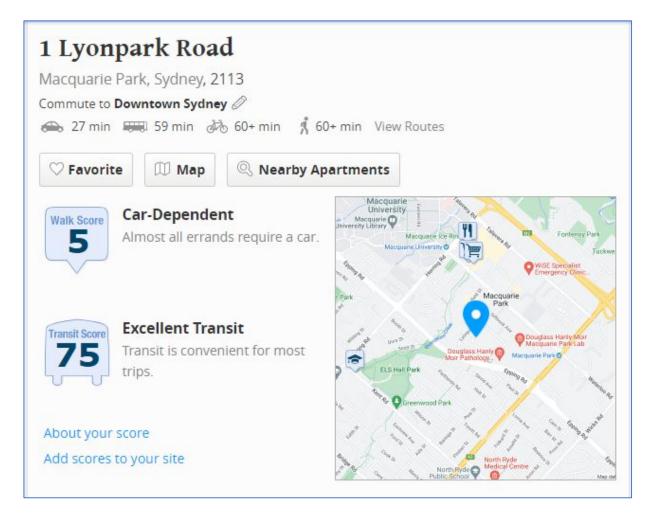


Figure: Walkability Rating

1 Lyonpark Road has a Walk Score of 5 out of 100. This location is a Car-Dependent neighborhood so almost all errands require a car.



The following images are taken directly from the WalkScore site:

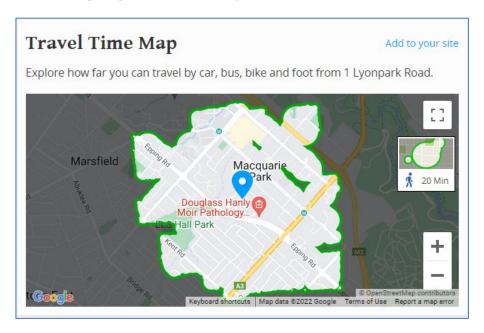


Figure: Walking Map (20 Minutes Radius)

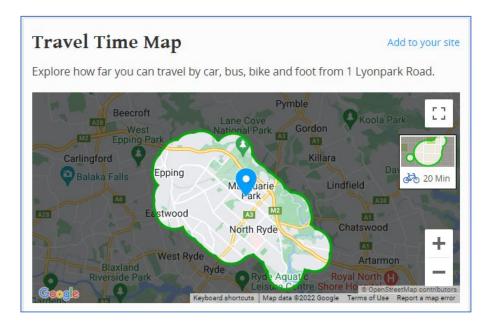


Figure: Bicycle Map (20 Minutes Radius)

From the above discussion it is clear that the proposed development site is well connected by available pedestrian and bicycle network in the area.



11.ASSESSMENT OF PARKING LAYOUT AND DESIGN

The visitor parking lot as well as the parking lots within the basement of the building are all existing parking spaces and have been designed and constructed in accordance with Australian standard AS2890.1:2004-off street parking facility and AS2890.6 -parking for people with disability. A site inspection revealed that traffic circulation within the site via Optus Drive occurring in a safe and efficient manner.

12.CONCLUSION

The 90 children long-day care centre at 1 Lyonpark Road, Macquarie Park, NSW has been assessed in terms of, trip generation and its impact on the public street network, off-street parking demand and supply, design of the proposed parking layout. The following conclusions are made:

- 1. The development will have minimal impact on the traffic capacity of Lyonpark Road and the surrounding street network in the area.
- 2. The proposed parking provision meets the requirement of Council's Development Control Plan, and there likely to be minimal impact on the existing on-street parking supply in the area due to the childcare centre operation.
- 3. The existing parking layout and access complies with the Australian Standard in terms of space dimensions, aisle width, blind aisle and manoeuvring requirements.
- 4. Minimal traffic impact on the amenity of the surrounding development has been anticipated.
- 5. Manoeuvring and circulation within the site can be accommodated with minimal safety concerns.
- 6. The development site is accessible by the available public transport in the area.

Based on the findings of this report, the proposed modification of the development consent that would allow the childcare centre development at 1 Lyonpark Road, Macquarie Park to be accessed by general public could be supported given that the development will have minimal impact on the existing traffic and parking environment in the area.



APPENDIX A

Development Plans

