



**Proposed Child Care Centre
Lot 179 (21) East Road, Hocking
Transport Impact Statement**

**PREPARED FOR:
Tryvo Pty Ltd**

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TABLE OF CONTENTS

1.0	INTRODUCTION	4
2.0	PROPOSED DEVELOPMENT	6
3.0	VEHICLE ACCESS AND PARKING	7
3.1	ACCESS.....	7
3.2	PARKING SUPPLY AND DEMAND.....	7
3.3	ESTIMATED ACTUAL PARKING DEMAND.....	8
4.0	PROVISION FOR SERVICE VEHICLES	10
5.0	HOURS OF OPERATION	11
6.0	TRAFFIC VOLUMES	12
6.1	EXISTING DEVELOPMENT TRIP GENERATION.....	12
6.2	PROPOSED DEVELOPMENT TRIP GENERATION.....	12
6.3	NET CHANGE IN TRIP GENERATION.....	14
6.4	IMPACT ON SURROUNDING ROADS.....	14
7.0	TRAFFIC MANAGEMENT ON THE FRONTAGE STREETS	15
8.0	PUBLIC TRANSPORT ACCESS	16
9.0	PEDESTRIAN ACCESS	17
10.0	CYCLE ACCESS	18
11.0	SITE SPECIFIC ISSUES	19
12.0	SAFETY ISSUES	20
13.0	CONCLUSIONS	21

APPENDIX A: PROPOSED DEVELOPMENT PLAN

APPENDIX B: EXISITING SITE PLAN

APPENDIX C: UTILISATION OF CAR PARK ON WEEKDAYS

REPORT FIGURES

Figure 1: Location of the subject site5
Figure 2: Proposed development existing crossovers.....7
Figure 3: Public transport services (Transperth Maps)16
Figure 4: Extract from Perth Bicycle Network (Department of Transport).....18

1.0 Introduction

This Transport Impact Statement has been prepared by Transcore on behalf Tryvo Pty Ltd with regards to the proposed child care centre to be located at Lot 179 (21) East Road, Hocking, in the City of Wanneroo.

The Transport Impact Assessment Guidelines (WAPC, Vol 4 – Individual Developments, August 2016) states: “A *Transport Impact Statement* is required for those developments that would be likely to generate moderate volumes of traffic¹ and therefore would have a moderate overall impact on the surrounding land uses and transport networks”. Section 6.0 of Transcore’s report provides details of the estimated trip generation for the proposed development. Accordingly, as the total peak hour vehicular trips are estimated to be less than 100 trips, a Transport Impact Statement is deemed appropriate for this development.

The subject site is located at the north west corner of East Road and Manchester Drive intersection. The subject site is bounded by Manchester Drive to the east, East Road to the south and residential properties to the north and the west as shown in **Figure 1**.

The subject site is presently occupied by a fish and chips shop, a vacant liquor store, a medical centre and an associated pharmacy. It is proposed to replace the vacant liquor store, the fish and chips shop and the pharmacy with a child care centre. The child care centre is anticipated to accommodate up to 72 children and 8 staff. The existing medical centre will remain at its current location on the site.

A copy of the existing site plan is included for reference in **Appendix B**.

The key issues that are addressed in this report include the net traffic generation and distribution of the proposed development, parking, access and egress movement patterns.

¹ Between 10 and 100 vehicular trips per hour



Figure 1: Location of the subject site

2.0 Proposed Development

The subject site is presently occupied by a fish and chips shop, a vacant liquor store, a medical centre and an associated pharmacy. It is proposed to replace the fish & chips shop, vacant liquor store and the pharmacy with a child care centre. The existing medical centre will remain as is.

The child care centre is anticipated to accommodate up to 72 children and 8 staff. The vehicular access/egress arrangement will remain as existing with no changes proposed to the existing two full movement crossovers on East Road and Manchester Drive.

The subject site currently provides 62 parking bays, including 7 tandem bays at the rear side of the existing medical centre. However, 11 car bays will be removed as part of the proposed development. Therefore, a total of 51 bays inclusive of one ACROD bay will be provided within the subject site.

A bin store is located at the north-east corner of the subject site near to the existing Manchester Road crossover. Rubbish bins will be wheeled out from bin store on specified collection days.

The Pedestrian access to the child care centre is available directly from East Road via existing path network on the surrounding roads.

A copy of the proposed development plan is included for reference in **Appendix A**.

Accordingly, the car parking requirements under the Scheme is 11 bays for liquor store, 10 bays for pharmacy, 5 bays for fish and chip shop and 15 bays for medical centre which results in a parking requirement of 41 bays.

According to The City of Wanneroo Local Planning Policy No. 2.3, the parking requirement rate for child care centre is as follows:

- ✚ Child Care Centre: 9 bays plus 1 per 7 children accommodated in excess of 72, plus 1 bay per staff member.

The proposed development will include the child care centre which accommodates 72 children and 8 staff.

Accordingly, the car parking provision required under the Scheme is 15 bays for existing medical centre and 17 bays for child care centre which results in a parking requirement of 32 bays.

It is therefore evident that the proposed development for the subject site will reduce the theoretical parking requirement by 9 bays.

The utilisation of the car park of the subject site on weekdays has been reviewed and summarised in **Appendix C**. This assessment has been undertaken for weekdays as the proposed child care centre will not be open on a weekend.

3.3 *Estimated Actual Parking Demand*

In order to establish the actual parking demand for the existing development, Transcore has reviewed historical Nearmaps aerial photos. Several examples of weekdays with the highest number of vehicles parked on site are included at **Appendix C**. The highest number of vehicles parked on site in these photos is 25 vehicles. Therefore, it is reasonable to assume that the actual parking demand for the existing land uses were less than the theoretical requirement of 41 bays in accordance to the Scheme.

Transcore has also undertaken a parking analysis based on the anticipated peak hour traffic generation of the proposed child care centre, to estimate the actual peak parking demand of the child care centre.

Section **6.2** of this report details the anticipated peak hour traffic generation of the proposed child care centre. It was established that the calculated morning peak hour trip generation of the proposed child care centre is 28 vehicles in and 26 vehicles out of the car park (afternoon peak hour is expected to generate less trips). Please refer to section **6.2** of the report for more details on peak hour times and traffic generation of the proposed child care centre. This represents a potential 28 vehicles using the child care centre car park during the peak hour.

The RTA NSW *“Guide to Traffic Generating Developments”* section on childcare centres provides commentary on parking length of stay. It should be noted that the commentary provided in the RTA guide is based on surveys of actual parking activity

undertaken in New South Wales. The RTA guide indicates the average recorded length of stay for all surveyed child care centres was 6.8 minutes.

Conservatively assuming that the length of stay for pick-up/drop-off parking for the proposed child care centre is 10 minutes, it is therefore calculated that each parking bay can accommodate a turnover of up to 6 vehicles per hour.

It is therefore established that at least 5 bays ($28/6 = 4.6$) would be used for drop-off and pick-up activities during peak hour periods based on 72 children. It is recommended that at least 5 bays should be allocated for drop off and pick up activity and 8 bays should be allocated to staff. Therefore, the proposed child care centre requires about 13 bays in total.

Therefore, the actual parking demand of the proposed development is more likely to be as follows:

- ✚ Medical Centre: less than 15 bays (assume $15 \times 25 / 41 = 10$ bays based on observed parking utilisation from Nearmaps).
- ✚ Child Care Centre: 13 bays (as calculated above).

Therefore, the actual parking demand is anticipated to be in the order of 23 bays, whereas a total of 51 bays will be available on site for the proposed development.

4.0 Provision for Service Vehicles

The proposed development will provide a bin store near the existing Manchester Drive full movement crossover, as shown on the development plan in **Appendix A**. Rubbish will be collected as per existing arrangements.

5.0 Hours of Operation

The proposed child care centre is proposed to operate between the hours of 6:00am and 7:00pm from Monday to Friday.

6.0 Traffic Volumes

6.1 Existing Development Trip Generation

ITE Trip Generation Manual 10th Edition documents is best suited to estimate the trip generation for existing vacant liquor store, fish and chips shop, pharmacy and medical centre.

Accordingly, the trip rates which were used to estimate these land uses are as follows for the scenario where the liquor store was operating:

Liquor Store (899) - 1000 Sq. Ft. GFA

✚ Daily vehicle trips = 101.49 per 1000 Sq. Ft. GFA

Fast-Food Restaurant without Drive -Through Window (933) - 1000 Sq. Ft. GFA (used for fish and chips shop)

✚ Daily vehicle trips = 346.23 per 1000 Sq. Ft. GFA

Pharmacy/Drugstore without Drive – Through Window (880) – 1000 Sq. Ft. GFA

✚ Daily vehicle trips = 90.08 per 1000 Sq. Ft. GFA

Medical/Dental Office Building (720) – 1000 Sq. Ft. GFA

✚ Daily vehicle trips = 34.80 per 1000 Sq. Ft. GFA

The total estimate of the traffic generation of the existing scenario is 692 daily trips.

6.2 Proposed Development Trip Generation

The proposed development comprises of new child care centre and the existing medical centre. The traffic generation of each component of the proposed scenario is addressed below.

Child Care Centre

In order to establish an accurate traffic generation rate for child care centre, traffic count surveys undertaken by Transcore at similar centres in the Perth metropolitan area were sourced.

Discussions with the respective centre managers revealed that the peak drop-offs and pick-ups for each of these centres occur between the hours of 7:00AM– 10:00AM and 3:00PM–6:00PM.

From the total number of children at each of the centres on the surveyed days, the following average generation rates were established for the morning and afternoon surveyed periods:

- ✚ 7:00AM–10:00AM: 1.58 trips per child (52% in / 48% out); and
- ✚ 3:00PM–6:00PM: 1.67 trips per child (47% in / 53% out).

From this information, the traffic generation rate for the combined period of 7:00AM–10:00AM and 3:00PM–6:00PM was calculated as 3.25 trips per child. To convert this figure to a daily generation rate, this figure was increased to 3.5 trips per child to account for any trips outside of the surveyed times. It was assumed that the daily in and out split for vehicle trips was 50/50.

Furthermore, the following average peak hour generation rates were established from the surveys for the child care centres:

- ✚ AM peak hour: 8:00AM–9:00AM: 0.75 trips per child (52% in / 48% out); and,
- ✚ PM peak hour: 3:00PM–4:00PM: 0.6 trips per child (55% in/ 45% out);

Comparison of the six-hour generation rates and the peak hour generation rates confirms that the distribution of traffic from these centres is spread over the peak periods and that full concentration of traffic does not occur in the peak hour. The AM peak hour represents 47% of the 3-hour AM peak period traffic generation and the typical school PM and road network PM peak hours represent 36% and 29% of the 3-hour PM peak period traffic generation, respectively. As such, childcare centres operate quite differently to schools as their peak period is spread out.

Accordingly, the following number of trips was estimated for the proposed child care centre, assuming a maximum scenario of 72 children being present (i.e. Centre at full capacity):

- ✚ AM peak hour: 54 trips generated (28 in / 26 out);
- ✚ PM peak hour: 44 trips generated (24 in/ 20 out); and,
- ✚ Daily traffic generation: 252 trips generated (126 in / 126 out).

Therefore, the proposed child care centre is estimated to generate 252 daily trips.

The traffic volumes likely to be generated by the existing medical centre has been estimated in accordance with the ITE Trip Generation Manual 10th Edition documents which provides daily trips rates are as follows:

Medical Centre

As discussed in Section 6.1 above, the existing medical centre traffic generation is estimated as follows:

- ✚ Daily vehicle trips = 34.80 per 1000 Sq. Ft. GFA

Therefore, the medical centre is estimated to generate 131 daily trips.

Proposed Development Total Traffic Generation

The total estimated traffic generation of the proposed development (including the existing medical centre) is 383 daily trips.

6.3 Net Change in Trip Generation

Therefore, as a result of the proposed development there would be a decrease of about 309 daily trips. This level of traffic change is likely to have a minor positive impact on the traffic operations of the surrounding road network.

6.4 Impact on Surrounding Roads

The WAPC Transport Impact Assessment Guidelines (2016) provides guidance on the assessment of traffic impacts:

“As a general guide, an increase in traffic of less than 10 per cent of capacity would not normally be likely to have a material impact on any particular section of road but increases over 10 per cent may. All sections of road with an increase greater than 10 per cent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 per cent of capacity. Therefore, any section of road where development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis.”

The proposed development will not increase traffic flows anywhere near the quoted WAPC threshold to warrant further detailed analysis. The proposed development will not increase traffic on any lanes on the surrounding road network by more than 100vph, therefore the impact on the surrounding road network is insignificant.

7.0 Traffic Management on the Frontage Streets

East Road, south of the subject site, is a single divided carriageway with not continuous path network on both sides of the road.

East Road is classified as a *Local Distributor Road* in the *Main Roads WA Metropolitan Functional Road Hierarchy* and operates under a speed limit of 50km/h.

Traffic count data obtained from Main Roads WA indicates that East Road east of Wanneroo Road carried average weekday traffic flows of 4,793 vehicles per day (vpd) in 2017/2018.

Manchester Drive, east of the subject site, is a two-lane divided carriageway (one lane in each direction) with a concrete/painted median in the immediate vicinity of the subject site. A pedestrian path is provided on the eastern side of Manchester Drive.

Manchester Drive is classified as an *Access Road* in the *Main Roads WA Metropolitan Functional Road Hierarchy* and operates under the default built up area speed limit of 50km/h. There are no traffic counts available for this road.

8.0 Public Transport Access

According to current Transperth bus network maps, the closest bus routes are Transperth routes 389 and 468 on Wanneroo Road. The nearest bus stop is located approximately 160m west of the subject site on Wanneroo Road. These bus routes provide an opportunity to transfer to other connecting bus services.

Nearby public transport services are shown in **Figure 3**.

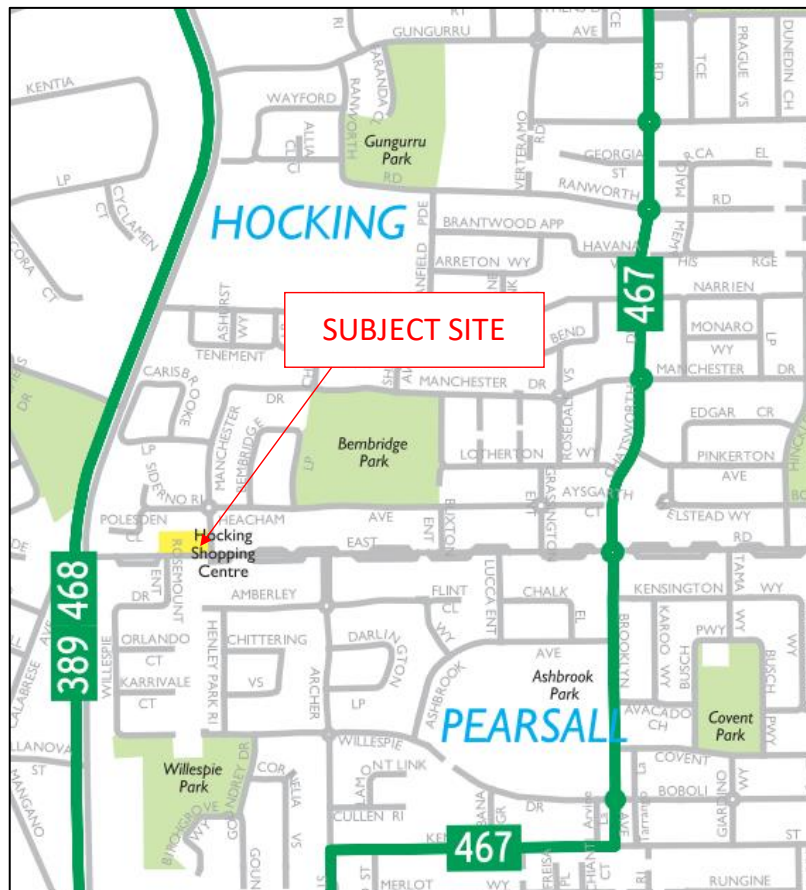


Figure 3: Public transport services (Transperth Maps)

9.0 Pedestrian Access

Pedestrian access to the subject site is available directly from East Road via the existing path network on the surrounding roads. Pedestrian crossing opportunities are available approximately 25m north of the subject site and at the intersection of Manchester Drive and East Road adjacent to the subject site.

10.0 Cycle Access

The Perth Bicycle Network Map (see **Figure 4**) indicates cyclist connectivity to the subject site. Shared paths are provided on both sides of East Road but this path network is not continuous.

East Road and Manchester Drive are classified as good road riding environment.

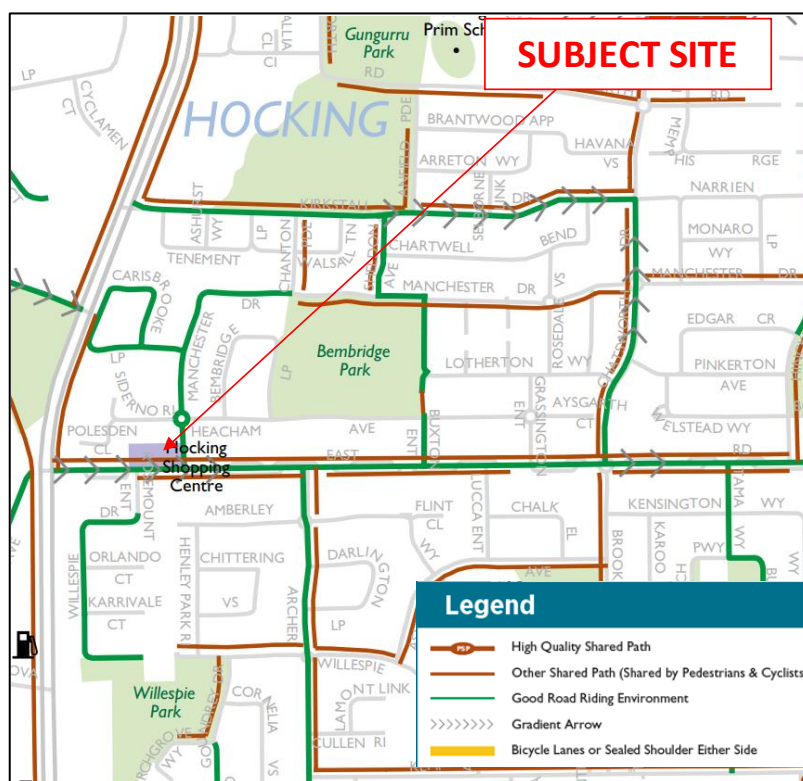


Figure 4: Extract from Perth Bicycle Network (Department of Transport)

11.0 Site Specific Issues

No site specific issues were identified within the scope of this assessment.

12.0 Safety Issues

No safety issues were identified within the scope of this assessment.

13.0 Conclusions

This Transport Impact Statement provides information on the proposed child care centre to be located at Lot 179 (21) East Road in Hocking, City of Wanneroo.

The site currently contains a medical centre, a pharmacy, a fish and chips shop and a vacant liquor store. As part of the proposed development, the child care centre replaces the liquor store, the pharmacy and the fish and chips shop. The existing medical centre will remain at its current location on the site.

The subject site features good connectivity with the existing road and pedestrian network.

Vehicles access/egress to and from the site will be via the existing full-movement crossovers on East Road and Manchester Drive which provides efficient and convenient access, egress and circulation system for the proposed development.

The site currently entails 62 parking bays. As a result of the proposed development 11 bays will be lost resulting in 51 bays remaining. However, the parking requirement of the proposed development in accordance to the Town Planning Scheme is 9 bays less than for the existing land uses. Further the actual parking demand for the proposed development is estimated to be 23 bays, so the available parking provision on site will be more than sufficient for the anticipated parking demand of the proposed development.

The traffic analysis undertaken in this report shows that the traffic generation of the proposed development would be 309 trips per day less than traffic generation for the existing land uses assuming an operating liquor store.

It is concluded that the findings of this Transport Impact Statement are supportive of the proposed child care centre.

Appendix A

PROPOSED DEVELOPMENT PLAN

Appendix B

EXISTING SITE PLAN

Appendix C

UTILISATION OF CAR PARK ON WEEKDAYS

(Source: Nearmap)

Utilisation of car park on Thursday 28th January 2010



Utilisation of car park on Tuesday 2nd March 2010



Utilisation of car park on Thursday 26th August 2010



Utilisation of car park on Tuesday 15th February 2011

