TRANSPORT IMPACT STATEMENT

No 103 to 105 Summers Street

Perth

April 2016

Rev C

kctt
### HISTORY AND STATUS OF THE DOCUMENT

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1. Introduction

1.1 Executive Summary

1. This development application proposes redevelopment of an existing residential property which consists of two semi-detached houses into a day care centre.
2. The day care centre is intended to cater for a maximum of 68 children aged between 0 to 5 years. It is expected that the day care centre will have up to 18 staff spread across shifts.
3. Based on traffic surveys of a similar day care centre, the “Ruth Landua Harp Early Learning Centre”, in Menora, KCTT have derived a theoretical maximum trip attraction to the site and the requirement of parking spaces.
4. The model for the child care centre is based on an expectation that a significant percentage of patrons will be from the local area. This means the centre will attract a higher rate of walking patronage than other centres typically in the Perth Metropolitan region.
5. Further to the above point, the site would require significant reconfiguration to have the level of parking considered appropriate for a facility where a high volume of vehicle trips are expected. Developing a child care facility that is reliant on vehicular trip attraction will not be successful in a location such as Summers Street.
6. Where vehicular trips are attracted, these could be from parents who already work in the area, and therefore have already been attracted into the area. This would be a “trip-blended” attraction.
7. The proprietors of the Child Care facility should develop their business around promoting alternative transportation usage, such as walking and the use of public transport, and they should actively discourage the use of private motor vehicles as a singular purpose for parents to pick up / drop off their children.
8. For the purpose of modelling, KCTT expect this development will generate up to 200 vehicular trips per day, with 56 vehicular trips in AM peak and 56 vehicular trips in PM peak. This is a theoretical maximum based on the figures from the Child Care Centre quoted in Point 3 above. We believe this is an absolute maximum based on 100% occupancy rate.
9. More realistic figure would be 170 vehicular trips per day and 56 vehicular trips in peak hour. This corresponds with 85% occupancy rate.
10. Although the subject site is under jurisdiction of the City of Vincent, it belongs to the specialised area that was under jurisdiction former EPRA (current MRA). Parking requirements are defined through Perth Parking Policy as a maximum of 21 parking bay with no minimum specified.
11. We have compared the parking requirements of the City of Vincent for child care facilities with other inner-city councils and found that the requirements are quite consistent. Therefore we expect that the City of Vincent’s requirements can be utilised as a reliable guide on the minimum parking requirement for the proposed development.
12. According to the City of Vincent’s requirements the proposed development should provide a minimum of 6 parking bays. Analysis of the client’s independent survey (Point 3) has revealed that 5 parking bays can cater for the demand in peak hour. This proposal shows one standard parking bay and one dual use bay on site where parking will be time-limited to 10 minutes in peak hour. Further to this, there are significant public parking facilities (long term and short term) available in the vicinity of the subject site.
13. The analysis of the collected survey data indicated that a maximum number of vehicles that is to access the site in peak time is 28. Given that the expected dwell time is 10 minutes, 5 parking bays should be sufficient to cater for this demand. The table below sums the amount of parking bays that are fully available during peak time. When compared to the estimated demand it can be concluded that on average
15.3 on-street bays are available surplus to the requirements in AM peak while 18.3 on-street bays are available surplus to the requirements in PM peak.

<table>
<thead>
<tr>
<th>Peak Time</th>
<th>Bays Required (for 10min average dwell time)</th>
<th>Average Bays Available on-street (during peak hour within 100m of the site) – derived from on-site survey</th>
<th>On-site bays</th>
<th>Average total bays available (both on-street/on-site) (at any given time within 100m of the site)</th>
<th>Average surplus bays available (both on-street/on-site)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM (8-9am)</td>
<td>5 (28 vehicles)</td>
<td>18.3</td>
<td>2</td>
<td>20.3</td>
<td>15.3</td>
</tr>
<tr>
<td>PM (5-6pm)</td>
<td>5 (28 vehicles)</td>
<td>21.3</td>
<td>2</td>
<td>23.3</td>
<td>18.3</td>
</tr>
</tbody>
</table>

14. KCTT conducted an on-street parking survey on Summers Street on Wednesday 6th April, Thursday 7th April and Tuesday 12th April during the expected AM and PM peak hour. We found that approximately 50% of the full on-street capacity is unoccupied during this period which is more than sufficient to cater for the requirements of the proposed development.

15. Further to this, motorcycle and bicycle parking bays are provided in excess of the City of Vincent’s requirements. The facility will also have appropriate end-of-trip facilities.

16. Based on our overall assessment, we believe that the proposed development is complementary to the surroundings and will not make an adverse impact on the surrounding traffic network. The intended land-use will provide an opportunity for increased trip-blending for employees with children seeking a childcare option close to their work, and it will provide excellent “walk-up” patronage given there is only 1 other child care centre in this precinct of Perth.

1.2 Transport Impact Statement Layout

KCTT have been requested to provide a Transport Impact Statement for the proposed development of No 103 to 105 Summers Street, Perth. This Transport Impact Statement has been completed in accordance with the guidelines as shown in the WAPC Transport Impact Assessment Guidelines – Part 4 (Developments).

The purpose of this document is to provide commentary and analysis on the parking requirements and potential traffic and transport impacts that the proposed development of this site may have on the surrounding road and transportation networks.

The following is the scope of work in this report:

- Collate all available traffic volumes from Main Roads WA and the City of Vincent in the vicinity of the subject site.
- Collate all crash data for relevant roadways and intersections in the vicinity of the subject site.
- Collate the road hierarchy information, roadway and carriageway widths for all roads directly fronting the subject site.
- Estimate the subject sites’ trip generation / attraction on the basis of the proposed land-use quantities and areas.
- Comment on appropriate access configurations.
• Analyse the parking requirements (for standard and ACROD parking) in accordance with the City of Vincent's requirements and BCA’s requirements.
• Address proposed parking management strategies and provide a parking management plan.
• Analyse the existing pedestrian and cyclist paths as well as the existing bus routes.
• Prepare report detailing all findings to be submitted to the City of Vincent.
• Prepare traffic and transport plans showing the background information and traffic distribution to be included in the submission.

This Transport Impact Statement is presented in the following sequence:

• Section 1 – Introduction

This section provides a brief description on the role of this report in the Development Application process, the general layout of the report and a list of the guideline and reference documents used in its composition.

• Section 2 – Transport Impact Statement

This section provides research and analysis of the key items required for submission of a Transport Impact Statement for Developments in accordance with the Transport Assessment Guidelines nominated above. In this section, KCTT have examined the following subject areas:

• Section 2.1 – Outline of the Development Proposal

This section provides a brief description of the proposed land uses, as will be submitted to the City of Vincent for this Development Application.

• Section 2.2 – Vehicle Access and Parking

This section provides a detailed description of the parking requirements using the local authority planning scheme provisions and providing a detailed statement of whether reciprocity of parking requirements are appropriate in this proposal.

• Section 2.3 – Provision for Delivery and Service Vehicles

This section provides a detailed statement of the requirements for delivery and service vehicles, both within the subject site and at intersections with the surrounding road networks.

• Section 2.4 – Hours of Operation

This section describes the general operating times for the land usage as proposed under this Development Application. This information will assist in determining the likely timing of the AM and PM peaks, and therefore the peak impact on the existing and surrounding transportation network. The peak vehicle generation is the key for determining intersection capacities within a road network.

• Section 2.5 – Daily Vehicular Volumes and Vehicular Types

This section provides details of traffic generation rates used to determine daily traffic generation from the proposed development. It also discusses the estimated peak hour traffic as well as the expected predominant type of vehicle which will be accessing the proposed development.

• Section 2.6 – Management of Traffic Generated by the Subject Site
This section summarises the expected traffic generated by the land uses as proposed in the Development Application for the subject site and provides a statement of the cumulative impact of the existing traffic volumes and the proposed traffic volumes as generated by the development.

- **Section 2.7 – Public Transport Access**

This section provides a summary of the existing public transportation services available within an 800 metre radius of the subject site and whether any improvements to the network should be considered.

- **Section 2.8 – Pedestrian and Cyclist Access**

This section provides a summary of the existing pedestrian and cyclist infrastructure available within an 800 metre radius of the subject sites boundaries and whether any improvements to the networks should be considered.

- **Section 3 – Transport Impact Statement Checklist**

This section provides a concise, tabulated Executive Summary of the detailed information presented in Section 2 of this report. The intention of this checklist is to document the findings of this report, and / or any of the likely transportation / safety issues which should be considered as part of the Development Application submission. This checklist has been developed in accordance with the requirements of the Transport Assessment Guidelines for Developments.

### 1.3 Notes Pertaining To This Report

This report has been provided as one of the inputs into the overall Development Application submission to the City of Vincent for the proposed Child Day Care of No 103 to 105 Summers Street, Perth on behalf of the proponent.

### 1.4 Available Information and Technical Literature

This section provides a brief description of the inputs used in the compilation of this report:

- WAPC Transport Impact Assessment Guidelines – Volume 4 Developments
- WAPC Transport Impact Assessment Guidelines – Volume 5 (referenced for PM peak hour and traffic splits)
- NSW RTA Guide to Traffic Generating Developments Version 2.2 October 2002 (referenced to determine trip generation / attraction rates for various land uses)
- Town of Vincent, Town Planning Scheme No.1, June 2015;
- City of Vincent Planning and Building Policy Manual, Parking and Access Policy No: 7.7.1, Parking and Access;
- Licensed parking in Perth; A guide to licensing non-residential parking bays for 2015-16; Department of Transport
- Central Perth Redevelopment Scheme, MRA; August 2012;
- East Perth Local Planning Scheme No.26 (East Perth Redevelopment (Normalised) Area; Amendment No 1; City of Perth;
- Perth Parking Policy; November 2014.
2. Transport Impact Statement

2.1 Outline of the Development Proposal

This Development Application considers the proposed development of No 103 to 105 Summers Street, Perth (under the jurisdiction of the City of Vincent). The proposed development will include a total gross floor area of approximately 483m², within a total land area of 1,013m². It will accommodate 68 children from 6 weeks to 5 years old and with a total of 18 staff members (i.e. Directors, teachers, carers, administrators, relief staff and chef).

The existing land use is a residential property, consisting of two semi-detached houses, and it has two accesses / egresses.

The proposed development is a Child Day Care consisting of:

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Area (GFA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Day Care</td>
<td>483m²</td>
</tr>
<tr>
<td>Total Development</td>
<td>483 m²</td>
</tr>
</tbody>
</table>

Plans for the proposed development have been provided in Appendix 1 of this report.

2.2 Vehicular Access and Parking

2.2.1 Vehicular Access

The subject site fronts and offers direct vehicular access / egress from / to Summers Street.

Summers Street is a two-way, two-lane undivided road classified as an Urban Local Road, Access Road by Main Roads WA. Each lane is approximately 3.0 metres wide. The legal speed limit on Summer Street is 50kph, but in the vicinity of the subject site the sign posted speed limit is 30kph. Pedestrian paths are provided on both sides of the road reservation. On-street parking is allowed on both sides of the road reservation. There is no bus service which operates on this street. Currently there is one access / egress point to the site from Summers Street. The current layout and sight distances in Summers Street would allow for full unrestricted movement of vehicles to and from the development. Summers Street has significant on-street parking and traffic management measures that when combined provide significant side friction in the roadway and limit average vehicular speeds.

In the vicinity of the subject site Lord Street is classified as a Significant Urban Local Road, Distributor A by Main Roads WA. In the vicinity of the subject site, Lord Street is a two-way, four-lane undivided road with a speed limit of 50kph. Each lane is approximately 3.2 metres wide. In Lord Street, approximately 300 metres from the subject site, is a bus stop and there are four current bus services (Route No 41, 42, 48 and 55) which operate on this road. Pedestrian paths are provided on both sides of the road reservation. There is no on-street parking allowed.

The table below shows the most recent available traffic data for the surrounding network. The following information has been obtained from Main Roads WA.
Table 2 - Traffic Volumes for Roads Adjacent to the Subject Site

<table>
<thead>
<tr>
<th>Road Name</th>
<th>Functional Classification / Road Hierarchy</th>
<th>Location of Traffic Count</th>
<th>Vehicles Per Day (VPD)</th>
<th>Vehicles per Peak Hour (VPH)</th>
<th>Heavy Vehicle %</th>
<th>Year</th>
<th>Legal Speed Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lord Street</td>
<td>Urban Highway / Primary Distributor</td>
<td>To East Parade - Eastbound East of Lord Street</td>
<td>12,074</td>
<td>AM 07:30 – 728 PM 16:45 – 1,054</td>
<td>6.8</td>
<td>Mar 2014</td>
<td>70 kph</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To East Parade - Eastbound West of East Parade</td>
<td>31,154</td>
<td>AM 07:30 – 2,314 PM 16:45 – 2,586</td>
<td>5.3</td>
<td>Mar 2014</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Significant Urban Local Road / Distributor A</td>
<td>North of Bulwer Street</td>
<td>20,090</td>
<td>AM 07:30 – 2,091 PM 16:30 – 1,921</td>
<td>5.8</td>
<td>Oct 2015</td>
<td>50 kph</td>
</tr>
<tr>
<td></td>
<td></td>
<td>South of Newcastle</td>
<td>20,103</td>
<td>AM 07:45 – 1,979 PM 16:30 – 1,765</td>
<td>3.6</td>
<td>Nov 2010</td>
<td>40 kph</td>
</tr>
<tr>
<td></td>
<td></td>
<td>South of Intersection of Summers Street &amp; Bulwer Street *</td>
<td>19,359</td>
<td>AM 07:45 – 1,836 PM 16:30 – 1,300</td>
<td>n.a.</td>
<td>Mar 2016</td>
<td>50 kph</td>
</tr>
<tr>
<td></td>
<td></td>
<td>North of Intersection of Summers Street &amp; Bulwer Street *</td>
<td>19,956</td>
<td>AM 07:45 – 2,007 PM 16:30 – 1,769</td>
<td>n.a.</td>
<td>Mar 2016</td>
<td></td>
</tr>
<tr>
<td>East Parade</td>
<td>Urban Highway / Primary Distributor</td>
<td>To Lord Street - Westbound off to Lord Street - West of East Parade</td>
<td>27,574</td>
<td>AM 08:00 – 2,240 PM 15:15 – 2,026</td>
<td>6.0</td>
<td>Mar 2014</td>
<td>60 kph</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To Lord Street - Westbound East of Lord Street</td>
<td>8,325</td>
<td>AM 08:15 – 748 PM 16:45 – 560</td>
<td>7.3</td>
<td>Mar 2014</td>
<td></td>
</tr>
<tr>
<td>Railway Parade</td>
<td>Significant Urban Local Road / Local Distributor</td>
<td>North of Guildford Road</td>
<td>4,612</td>
<td>AM 07:45 – 339 PM 17:00 – 588</td>
<td>3.0</td>
<td>Feb 2014</td>
<td>50 kph</td>
</tr>
<tr>
<td>Guildford Road</td>
<td>Urban Highway / Primary Distributor</td>
<td>South of Graham Farmer Freeway</td>
<td>31,634</td>
<td>AM 08:00 – 2,633 PM 15:15 – 2,526</td>
<td>4.9</td>
<td>Oct 2015</td>
<td>60 kph</td>
</tr>
<tr>
<td></td>
<td></td>
<td>South of Summers Street</td>
<td>36,354</td>
<td>AM 08:15 – 2,606 PM 16:45 – 3,100</td>
<td>4.6</td>
<td>Oct 2015</td>
<td></td>
</tr>
<tr>
<td>Graham Farmer Freeway</td>
<td>Urban Highway / Primary Distributor</td>
<td>Westbound off to East Parade – WB East of East Parade</td>
<td>15,474</td>
<td>AM 07:45 – 1,414 PM 16:45 – 1,185</td>
<td>5.2</td>
<td>July 2013</td>
<td>80 kph</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eastbound off to East Parade – EB East of Northbridge Tunnel</td>
<td>16,946</td>
<td>AM 07:30 – 1,407 PM 16:45 – 1,239</td>
<td>3.9</td>
<td>Oct 2013</td>
<td></td>
</tr>
<tr>
<td>Smith Street</td>
<td>Significant Urban Local Road / Local Distributor</td>
<td>North of Bulwer Street</td>
<td>3,605</td>
<td>AM 07:45 – 672 PM 16:45 – 374</td>
<td>2.2</td>
<td>Oct 2015</td>
<td>50 kph</td>
</tr>
<tr>
<td>Stirling Street</td>
<td>Significant Urban Local Road / Local Distributor</td>
<td>North of Bulwer Street</td>
<td>1,395</td>
<td>AM 07:45 – 85 PM 16:45 – 114</td>
<td>4.2</td>
<td>Oct 2015</td>
<td>50 kph</td>
</tr>
</tbody>
</table>
### Formal peak hour data

Formal peak hour data has been recorded and shown in Table 2 for a location on Summers Street, east of Lord Street. The local peaks are recorded as follows:

- **Summers Street – east of Lord Street:**
  - AM peak occurs in the period between 07:45 and 08:45. Traffic volumes in the AM peak are approximately 7.6% of total daily volumes;
  - PM peak occurs in the period between 16:30 and 17:30. Traffic volumes in the PM peak are approximately 8.6% of total daily volumes.

### Crash Data

The following table shows the crash data from the Main Roads WA database for crashes and incidents for roads adjacent to the subject site between the 1st January 2010 and 31st December 2014.

#### Table 3 - Crash Data

<table>
<thead>
<tr>
<th>Road Name</th>
<th>Road Hierarchy</th>
<th>Functional Classification</th>
<th>Speed Limit</th>
<th>Crash Statistics</th>
</tr>
</thead>
</table>
| Summers Street & Lord Street & Bulwer Street* | Urban Local Road / Significant Urban Local Road | Access Road / Distributor A / Distributor A | 50 kph/ 50kph/ 60kph | Total of 51 incidents:  
  - 1 Hospital  
  - 11 Medical  
  - 24 PDO Major  
  - 15 PDO Minor  
  - 5 Involving Overtaking  
  - 1 Involving Pedestrian  
  - 45 Other/Unknown |
| Summers Street                | Urban Local Road          | Access Road                 | 50kph       | Total of 5 incidents:  
  - 1 Medical  
  - 4 PDO Minor  
  - 1 Involving Parking  
  - 1 Involving Pedestrian  
  - 3 Involving Entering / Leaving Driveway |
| Claisebrook Road              | Urban Local Road          | Access Road                 | 50kph       | Total of 3 incidents:  
  - 1 PDO Major  
  - 2 PDO Minor  
  - 3 Involving Parking |
Note* - The number of crashes and incidents for this intersection is included in the number of crashes and incidents along the analysed sections of roads.

The above table represents a comprehensive list of the local road environment. In Summers Street there has been a total of 51 crashes in the 5 years between 2010 and 2014, with 1 crash in 5 years requiring medical assistance.

KCTT have reviewed extensively the crash data above. To provide commentary to the volume of accidents in these locations, it is important to compare against a metropolitan benchmark. KCTT have reviewed the likelihood of incidents on Intersection of Summers Street, Lord Street and Bulwer Street, as this location has the highest volume of crashes for the period:

**Intersection of Summers Street and Lord Street and Bulwer Street**

- Killed and Serious Injury (KSI) Crashes (Fatality + Hospital) = 1 per every 5 years;
- All Crashes = 51 per every 5 years.

To compare the rate of incidents at this location with the metropolitan network average, Main Roads WA uses a criterion called Crash Rate / MVKT (million vehicle kilometres travelled). The calculations for MVKT are shown below:

- 26,440 VPD
- VKT (5 year period) = 26,440 * 365 * 5 yrs * 0.4km = 19.301 MVKT
- KSI Crash Rate = 1 per 19.301 MVKT = 0.052 crashes / MVKT
- All other crash Rate = 51 per 19.301 MVKT = 2.642 crashes / MVKT

Therefore the crash rate on Intersection of Summers Street and Lord Street and Bulwer Street is 51 incidents per 19.301 million kilometres travelled or equivalent to an incident rate of 2.642 crashes / MVKT. This rate of crashes is therefore lower than the network average of 7.69 crashes / MVKT over the 5 year period.

The crash rate for KSI crashes on Intersection of Summers Street and Lord Street and Bulwer Street is 1 incident recorded in the 5 year period per 19.301 million kilometres travelled or equivalent to an incident rate of 0.052 crashes / MVKT. This crash rate is lower than the network average of 0.37 over the 5 years.

The following table shows the Crash Density and Crash Rates on Metropolitan Local Roads as obtained from Main Roads WA on the 16th October 2014 by email request:

<table>
<thead>
<tr>
<th>CRASH DENSITY AND CRASH RATE ON METROPOLITAN LOCAL ROADS NETWORK ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALL CRASHES</strong></td>
</tr>
<tr>
<td>DENSITY ALL CRASHES/ KM over 5 years</td>
</tr>
<tr>
<td>LOCAL - MIDBLOCK</td>
</tr>
<tr>
<td>LOCAL - ALL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>KSI CRASHES (FAT+HOS)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>DENSITY KSI CRASHES/ KM over 5 years</td>
</tr>
<tr>
<td>LOCAL - MIDBLOCK</td>
</tr>
<tr>
<td>LOCAL - ALL</td>
</tr>
</tbody>
</table>

*Note: Based on 5-years data for the period 2009 to 2013.*

Based on the comparative analysis, KCTT believe that this location does not raise outstanding traffic safety concerns.
2.2.3 Vehicle Parking Requirements

It should be acknowledged that as the subject site is located within the former East Perth Redevelopment area the parking requirements contained in the City’s Town Planning Scheme No. 1 and Parking and Access Local Planning Policy do not apply. The Perth Parking Policy provides guidance on the maximum parking allowance at the site. Summers Street is identified as a ‘Category 4’ road and the proposal includes ‘At Grade’ access therefore imposing a maximum parking allowance of 200 bays per 10,000m² of lot area. As the subject site has a land area of 1,013m², the site has a maximum parking allowance of 21 bays.

The Perth Parking Policy does not provide guidance on the minimum number of parking bays. Therefore it is deemed reasonable to rely on the City’s Parking and Access Local Planning Policy for guidance since it will provide consistency in development across the area. We deem this appropriate given the Parking and Access Local Planning Policy is a Council adopted Policy under the City’s Town Planning Scheme No. 1.

The City of Vincent Planning and Building Policy Manual, Parking and Access Policy No: 3.7.1, Parking and Access provides guidance on the requirements for parking provisions for developments. According to Table 1: Gross Car Parking Requirements, the following parking requirement should be considered applicable:

- Family Day Care, Centre-Based Child Care - 1 space per 5 children

The table below shows the minimum car parking requirements for the proposed development.

Table 4 - Car Parking Requirements (Parking and Access Policy CoV)

<table>
<thead>
<tr>
<th>Criteria / Units</th>
<th>Requirement</th>
<th>Yield</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Care</td>
<td>1 space per 5 children</td>
<td>68 children</td>
<td>13.6</td>
</tr>
<tr>
<td>Total - The proposed development</td>
<td></td>
<td>13.6*0.4352</td>
<td></td>
</tr>
<tr>
<td>Total - with Parking Reduction Conditions (Refer Table 5 below)</td>
<td></td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Table 5 - Parking Reduction Conditions (City of Vincent Planning and Building Policy Manual, Parking and Access Policy No: 3.7.1, Parking and Access)

<table>
<thead>
<tr>
<th>Nº</th>
<th>Percentage Reduction</th>
<th>Adjustment Factor</th>
<th>Factors to be Justified</th>
<th>Justification of the Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>20%</td>
<td>0.80</td>
<td>The development is located within 400 metres of a rail station</td>
<td>East Perth Station; Midland Line is approximately 200m east from development.</td>
</tr>
<tr>
<td>2</td>
<td>20%</td>
<td>0.80</td>
<td>The development is located within 400 metres of a bus route.</td>
<td>The proposed development is located within 300m from bus stops for Route No 41, 42, 48 and 55.</td>
</tr>
<tr>
<td>3B</td>
<td>20%</td>
<td>0.80</td>
<td>The development is located within 400 metres of an existing off-street public car park with in excess of 75 car bays</td>
<td>Parking - 100m east from the proposed development, capacity more than 50 parking bays; 4h for free for customer;</td>
</tr>
<tr>
<td>6B</td>
<td>15%</td>
<td>0.85</td>
<td>The development will provide <strong>on-street bicycle</strong> facilities.</td>
<td>The layout of the proposed development shows separate bicycle parking spaces to the west side of the proposed development.</td>
</tr>
</tbody>
</table>

Total Adjustment Factor 0.4352
Table 5 shows this development can utilise an adjustment factor of 0.4352, therefore according to the City of Vincent’s Town Planning Scheme this development has a requirement for 6 parking bays. This number appears suitable and consistent with requirements of most inner city councils.

The deemed requirement of 6 parking bays does not mean that all of those parking bays need to be supplied on-site. Predominant requirement for parking comes from pick-up and drop-off of the children. Average dwell time of parent is expected to be 5-10 minutes. Further to this it is expected that although the legal capacity of the centre is 68 children, the operative maximum of most childcare centres is approximately 85% of the legal capacity.

The layout of the proposed development of No 103 to 105 Summers Street shows 1 standard parking bay and 1 ACROD bay on site, total of the 2 parking bays. Both of the on-site parking bays will be limited to 10min occupancy in peak hours.

All patrons will accede the proposed day care from Summers Street. On-street parking is allowed on both sides of the road reservation on Summers Street, which can be used during drop off and pick-up hours (7-9am, 4-6pm). KCTT believe that the dwell times for these vehicles are relatively low, with typical dwell times being a maximum of 5 to 10 minutes, which suits the intent of on-street parking in this type of location.

Survey of “Ruth Landua Harp Early Learning Centre” in Menora

The client endeavoured to prepare an independent survey of a similar day care centre at the “Ruth Landua Harp Early Learning Centre” in Menora which has 72 children and 18 staff members. From that survey we can forecast vehicle trip attractions (as shown in Sector 2.5. Daily Vehicular Volumes and Vehicular Types) as well as parking demand in every hour (as shown in Table below).

<table>
<thead>
<tr>
<th>Time</th>
<th>Ruth Landua Harp Early Learning Centre, Menora Coming / going children / cars</th>
<th>Forecast (68 Children) Coming / going children / cars</th>
<th>Cars accessing / egressing the subject site having requirement for parking in 60 minutes</th>
<th>The required number of parking spaces for 10 minutes average dwell time</th>
</tr>
</thead>
<tbody>
<tr>
<td>06:30 – 07:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>07:00 – 07:30</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>07:30 – 08:00</td>
<td>8</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>08:00 – 08:30</td>
<td>20</td>
<td>19</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>08:30 – 09:00</td>
<td>10</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>09:00 – 09:30</td>
<td>8</td>
<td>8</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>09:30 – 10:00</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00 – 10:30</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>10:30 – 11:00</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00 – 11:30</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30 – 12:00</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 – 12:30</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30 – 13:00</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:00 – 13:30</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:30 – 14:00</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>14:00 – 14:30</td>
<td>4</td>
<td>4</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>14:30 – 15:00</td>
<td>7</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:00 – 15:30</td>
<td>12</td>
<td>11</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>15:30 – 16:00</td>
<td>18</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00 – 16:30</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>
The maximum number of vehicles expected to access the site during the peak hour is 28. Given that the expected average dwell time is 10 minutes it is expected that 5 parking bays is sufficient to cater for peak hour demand.

**Survey of on-street parking availability**

KCTT have conducted an on-street parking survey on Wednesday 6th April 2016, Thursday 7th April 2016 and Tuesday 12th April 2016 since Tuesday, Wednesday and Thursday are traditionally days when child care centres have the highest percentage of attendance. Surveys were conducted in expected AM and PM peak centre operation times and the goal of these surveys was to determine the availability of on-street parking.

The extent of survey was 100 metres to the east and 100 metres to the west from the proposed child care centre. In this radius there are 39 bays available for public parking. There is a significant amount of parking provided for Department of Transport clients / railway users in the immediate vicinity of the proposed development.

The result of the survey is shown in Table below and represents the number of occupied and free parking spaces.

**Table 7 – Survey of on-street parking**

<table>
<thead>
<tr>
<th>Percent of occupied bays of the Peak time</th>
<th>Surveys on Wednesday 6th April 2016</th>
<th>Surveys on Thursday 7th April 2016</th>
<th>Surveys on Tuesday 12th April 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM Peak [8:00 - 9:00]</td>
<td>PM Peak [17:00 - 18:00]</td>
<td>AM Peak [8:00 - 9:00]</td>
</tr>
<tr>
<td>0% occupied [free parking spaces]</td>
<td>14</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>33% occupied</td>
<td>7</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>67% occupied</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>100% occupied [Not available in the Peak time]</td>
<td>14</td>
<td>13</td>
<td>16</td>
</tr>
</tbody>
</table>

The survey showed there is sufficient spare capacity within on-street parking (please refer Table above and Appendix 4) and that the requirement of the proposed facility can be accommodated for. The expected availability of parking in AM and PM peak is shown in the table below.

**Table 8 - Overview of general availability of parking in the vicinity of the subject site.**

<table>
<thead>
<tr>
<th>Peak Time</th>
<th>Bays Required (for 10min average dwell time)</th>
<th>Average Bays Available on-street (during peak hour within 100m of the site) – derived from on-site survey</th>
<th>On-site bays</th>
<th>Average total bays available (both on-street/on-site) (at any given time within 100m of the site)</th>
<th>Average surplus bays available (both on-street/on-site)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM (8-9am)</td>
<td>5 (28 vehicles)</td>
<td>18.3</td>
<td>2</td>
<td>20.3</td>
<td>15.3</td>
</tr>
<tr>
<td>PM (5-6pm)</td>
<td>5 (28 vehicles)</td>
<td>21.3</td>
<td>2</td>
<td>23.3</td>
<td>18.3</td>
</tr>
</tbody>
</table>

Therefore it can be expected that there is an average of 15.3 bays available in AM peak surplus to the requirements and that there is 18.3 bays available in PM peak surplus to the requirements.
The parking requirement in the Table 6 was derived on 100% occupancy of the childcare, however it is more likely that realistic operative maximum will be closer to 85% of occupancy which further reduces realistic parking requirement.

Given the proximity of NIB stadium it is acknowledged that some overflow parking might be expected during major sporting events. However the timing of those events is highly unlikely to coincide with the timing of the operation of the proposed development.

KCTT however believe the future usage of this site should be considered differently to the normal methodology for provision of parking, and that the centre should be openly friendly to people using alternative forms of transportation. We use the following points from the City’s website as justification: -

a. “The use of public transport as a method of travelling to work is almost double for people living in Vincent (9.1%), compared with the metropolitan area (4.8%). A much higher proportion of people in Vincent also walk or cycle to work (8.8%) compared to 2.3% for the metropolitan area. Almost 10% less people in Vincent (54.9%) drive a car to work, compared to the metropolitan area (63.2%).”

b. The City of Vincent is committed to continuing these trends and to creating a community where walking, cycling and using public transport are attractive and convenient alternatives to travelling by car. The City is keen to promote alternative transportation.” Official Internet Website of City of Vincent

Given this is an inner city area with good pedestrian, cyclist and public transport connections it would be prudent to implement incentives for employees which would encourage the usage of alternative transport modes and to support the intention of the City to promote alternative transport. We believe that the centre will either be used by local residents, or parents already attracted into the area for work purposes. Therefore, we believe the centre can operate with a significantly reduced vehicle parking requirement and trip attraction based on a combination of the following factors: -

- The centre is located close to existing higher-density living.
- The centre is located close to existing employment opportunities.
- The area is not well-serviced by child care centres. There is not a proliferation of child care centres operating in the area. Using the metadata “Child Care Centres in East Perth” on Google, the search yielded 1 result, Goodstart Early Learning in Nelson Crescent, East Perth.
- The centre is located close to excellent on-street and public parking.
- The centre is located adjacent to strong public transportation opportunities inclusive of bus and train.
- It is not possible to provide significant parking on the subject site, without extensive demolition and reconstruction of the existing buildings.
- The centre therefore offers opportunities for reduction in vehicle movements through trip blending for local employees requiring childcare for their children and for increased walking for children locally in the area.

The combination of each of these points leads us to believe that the centre will only be successful if it embraces alternative transportation and provides positive reinforcement of the benefits of its usage for both the parents and the staff. We therefore believe the availability of parking at this site is suitable, and it in fact assists the City of Vincent to continue lowering its dependence on personal commuting.
2.2.4 Bicycle Parking

The City of Vincent Planning and Building Policy Manual Parking and Access Policy No: 7.7.1, Parking and Access does not offer bicycle parking rates for the land use proposed within the development. KCTT strongly believe that the demand for bicycle parking will be primarily from employees. The layout of the proposed development of No 103 to 105 Summers Street shows separate bicycle parking spaces to the west side of the proposed development. KCTT believe that 3 bike racks with 12 bicycle parking bays are sufficient to cater for the employees’ demand for bicycle parking bays. All developments that are required to provide 5 or more bicycle parking bays in accordance with clause 5.1 of City Policy 3.7.1. are required to provide End-of-Trip Facilities, which are to be designed in accordance with the City Policy. The proposed development would provide end of trip Facilities, and therefore offers an excellent opportunity to promote increased trip attraction by bicycle.

2.2.5 ACROD Parking

The Child Day Care is classified as Class 9b (an assembly building, including a trade workshop, laboratory or the like, in a primary or secondary school, but excluding any other parts of the building that are of another class) according to the Building Code of Australia and requires provision of a minimum of 1 ACROD bay for every 50 car parking spaces or part thereof (up to 1,000 car parking spaces).

The development proposes 1 ACROD bay and therefore meets the requirements.

Given there is a very low probability of ACROD bay being required the proposed bay should be used as a dual use bay. On regular occasions and during the peak times it can be utilised as a regular bay, however if the need arises it can be used as ACROD bay. Appropriate signage should inform users of the dual nature of the bay.

2.3 Provision for Delivery and Service Vehicles

The subject site fronts and offers direct vehicular access / egress from / to Summers Street. The access for delivery vehicles will be via No 103 to 105 Summers Street. The proposed development will be included in the existing waste collection practise.

The minimum parking requirements for provision of delivery and service vehicles according to the NSW RTA Guide to Traffic Generating Developments are as follows: -

- **Commercial premises** (50% of spaces adequate for trucks):
  - < 20,000m² GFA - 1 space per 4,000m² GFA.

- **Other Uses** (50% of spaces adequate for trucks): 1 space per 2,000m² GFA.

The following table provides the calculation for the delivery and service vehicle parking requirements for No 103 to 105 Summers Street, Perth on the basis of the development yields.

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Parking Requirements</th>
<th>Yields</th>
<th>Parking Bays</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Care</td>
<td>1 space per 2,000m² GFA</td>
<td>483m² GFA</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Vehicle Parking for Proposed development**

<table>
<thead>
<tr>
<th>Parking Bays</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

It is KCTT’s belief that delivery and service vehicles can service the proposed development within the existing road reserve. Thus, a designated service vehicle bay is not necessary for the functionality of the development. KCTT believe that the proposed development does not require a designated parking spot.
Having in mind the specific land use of the development, the expected frequency of delivery and service vehicles requiring access to the subject site will be quite low. It is expected these are generally smaller delivery vehicles that will access on street outside of peak operation times. These include typically, vehicles delivering food for morning tea, lunch and afternoon tea once per day, or every second day, pending the size of the food order.

2.4 Hours of Operation

The proposed development is expected to be operational from 07:00 to 18:30 while staff will be arriving from 06:30. Although the drop off / pick up times are not strictly defined, surveys of the similar facilities showed there is a pattern revealing peak access to the facility. The expected peak usage of the facility is expected to be between 08:00 - 09:00 in the morning (AM Peak) and between 17:00 - 18:00 in the afternoon (PM Peak). It is expected that this land use will be operational on weekdays only.

An analysis of traffic volumes data obtained from MRWA on March 2016 for Summers Street west of the intersection with Lord Street shows that the morning peak is in the period between 07:45 - 08:45 and the afternoon peak is in the period between 16:30 and 17:30.

The expected peak operating times for the proposed development will coincide with the AM peak and PM peak times for traffic on Summers Street. However, the impact from the facility will be marginal on the road network, given it is likely to be a maximum of around VPH in the AM or PM peak hour.

As shown in Section 2.5 of this report, the total development is expected to generate approximately 116 vehicular movements per day with a forecasted impact of around 33 vehicular movements per hour in the AM peak hour and 31 vehicular movements per hour in the PM peak hour.

2.5 Daily Vehicular Volumes and Vehicular Types

Different land uses impact the transportation network in different ways. The purpose of this section is to discuss the land usages as proposed within the development and to discuss their likely trip generations based on data from trusted guideline sources such as the WAPC Transport Assessment Guidelines, the NSW RTA Guide to Traffic Generating Developments and the ITE Trip Generation Tables (9th Edition).

The WAPC Transport Assessment Guidelines for Developments offers the following AM / PM peak vehicle trip generation rates: -

- **Schools** - The rates are based on data from the PARTS surveys that indicate that around 65% - 70% of children are driven to primary school, with an average occupancy of around 1.4 - 1.5 children per car. This equates to 0.5 trips per child to school and 0.5 trips per child from school in each of the AM and PM peak hours. 100% of children are driven to a Child Day Care, which equates to 0.8 trips per child to and 0.7 trips per child from a Child Day Care in both AM and PM peak if the average car occupancy remains the same (1.4 - 1.5 children per car).

Given that the WAPC Transport Assessment Guidelines does not offer daily vehicle trip generation rate for the land use proposed within the development, the following rate is provided in the NSW RTA Guide to Traffic Generating Developments:

- **Child Day Care** - 0.8 trips in AM Peak and 0.7 trips in PM Peak per child.

Given that the WAPC Transport Assessment Guidelines and NSW RTA Guide to Traffic Generating Developments do not offer daily vehicle trip generation rate for the land use within the proposed development, the client...
endeavoured to prepare an independent survey of a similar day care centre at the “Ruth Landua Harp Early Learning Centre” in Menora. Please note that it is not expected that staff (team members) will be arriving to the premises in their own vehicle therefore it is not expected that they will make any traffic impact. This information is shown in the table below:

<table>
<thead>
<tr>
<th>Time</th>
<th>Ruth Landua Harp Early Learning Centre, Menora Parents</th>
<th>Forecast (68 Children) Parents</th>
<th>Forecast for 68 Children – Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>06:30 – 07:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>07:00 – 07:30</td>
<td>2</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>07:30 – 08:00</td>
<td>16</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>08:00 – 08:30</td>
<td>40</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>08:30 – 09:00</td>
<td>20</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>09:00 – 09:30</td>
<td>16</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>09:30 – 10:00</td>
<td>8</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>10:00 – 10:30</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>10:30 – 11:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1:30 – 3:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3:30 – 4:00</td>
<td>8</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>4:00 – 4:30</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>4:30 – 5:00</td>
<td>14</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>5:00 – 5:30</td>
<td>24</td>
<td>22</td>
<td>56</td>
</tr>
<tr>
<td>5:30 – 6:00</td>
<td>36</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>6:00 – 6:30</td>
<td>14</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total VPD</strong></td>
<td><strong>208 VPD for 72 children + 36 VPD for staff</strong></td>
<td><strong>200 VPD for 68 children + 36 VPD for staff</strong></td>
<td><strong>200</strong></td>
</tr>
</tbody>
</table>

Day care centre at the “Ruth Landua Harp Early Learning Centre” in Menora has 72 children and 18 staff members. Based on the data acquired, a daily trip attraction rate of approximately 2.9 VPD / per child was derived. Based on the derived traffic generation data, the proposed development is expected to generate 56 VPH in AM peak and 56 VPH in PM peak.

It must be noted that most Childcare Centres do not operate with 100% utilisation of the licenced capacity on every operating day. This includes allowance for the following:

- The centre has not filled all of its allocated positions in each of the age groups;
- Children are away on sick leave, or on school holidays with older siblings;
- Some children are not booked for each day of the week;

It is generally estimated that centres operate with an 85% utilisation of the licenced capacity over the year due to a number of days that children attend (this ranges from 2 to 5 days a week) and seasonal adjustments (End of year and when people return to work from maternity leave). We believe a more reasonable maximum trip attraction for the facility is therefore **170 VPD (which is 200 x 85%)**.

<table>
<thead>
<tr>
<th>Development</th>
<th>Yield</th>
<th>Traffic generation rate</th>
<th>Daily Traffic Generation</th>
<th>Peak Hour Traffic Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Existing development

| Residential | 2 dwellings | 6.0 vehicle trips per day; 0.8 in the peak hour | 12 VPD | 2 – AM peak 2- PM peak |

Proposed development

| Child Day Care | 483m² GFA 68 children + 18 staff | 85% value from table above | 170 VPD | 48 – AM peak 48 – PM peak |

Total – Additional Vehicles Into The Network (The Proposed Development, LESS the number of vehicles from the existing land-use) | 158 VPD | 46 VPH |

The likely impact of the development is therefore a maximum of approximately 158 additional VPD into the road network, over and above the numbers from the existing land-use. The subject site will therefore have a low impact on the existing road network. This will be discussed in further detail below in Section 2.6.

2.6 Management of Traffic Generated by the Subject Site

The development proposes one vehicular point of access / egress for the patrons:

- Summers Street – full access / egress suitable for B99 (passenger vehicle 5.2m).

Pedestrian access is provided from Summers Street as well where on-street parking is available.

As shown in Section 2.5 of this report, the total development is expected to generate approximately 170 vehicular movements per day with a forecasted impact of around 48 vehicular movements per hour in the peak hour.
2.6.1 Traffic Flow

Based on the nature of the businesses and the proposed designated access/egress points to the proposed development, we believe the attracted traffic to/from the development would be distributed onto the adjacent road network as follows:

100% 170 VPD / 48 VPH:

- 80% (136 VPD / 38 VPH) vehicles will use direction via Summers Street west:
  - 90% (122 VPD / 34 VPH) to/from the west via Summers Street;
  - 30% (37 VPD / 10 VPH) to/from north via Lord Street;
  - 30% (37 VPD / 10 VPH) to/from south via Lord Street;
  - 40% (48 VPD / 14 VPH) to/from west via Bulwer Street;
  - 10% (14 VPD / 4 VPH) to/from the south via Claisebrook Road;
- 20% (34 VPD / 10 VPH) vehicles will use direction via Summers Street east.

Given the expected dwell times for these vehicles being relatively low and the two-hour peak periods, KCTT believe that the expected traffic impact on the existing adjacent road network is negligible.

The traffic flow diagram options are shown on the attached plans: KC00482.000_S06 and KC00482.000_S08 in Appendix 2 for clarity.

2.7 Public Transport Access

This section describes the accessibility to public and alternative modes of transportation. KCTT have reviewed Transperth and Walk Score for the information found below.

2.7.1 Transperth Bus Routes

The following public transport routes are within proximity of the subject site. The key information provided below includes:

- Bus route number;
- Description of the bus route; and
- Their indicative peak and off-peak frequencies.

<table>
<thead>
<tr>
<th>Bus Route</th>
<th>Description</th>
<th>Peak and Off-Peak Frequencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>Bayswater - Esplanade Busport</td>
<td>60 minutes</td>
</tr>
<tr>
<td>42</td>
<td>Esplanade Busport - Maylands</td>
<td>60 minutes</td>
</tr>
<tr>
<td>48</td>
<td>Esplanade Busport - Morley Bus Station</td>
<td>20 minutes</td>
</tr>
<tr>
<td>55</td>
<td>Esplanade Busport - Bassendean</td>
<td>60 minutes</td>
</tr>
</tbody>
</table>

Bus stops are located as follows:

- Approximately 300 metres east from the subject site on the eastern side of Lord Street (for bus routes No 41, 42, 48 and 55);
- Approximately 300 metres east from the subject site on the western side of Lord Street (for bus routes No 41, 42, 48 and 55).
The Perth Underground, East Perth Station; Midland Line is approximately 200m east from development.

2.7.2 Accessibility to Public Transportation

The following table highlights the proximity of the various bus routes to the subject site and highlights the “walkability” to alternative transport modes. This information has been sourced from “Walk Score” at [http://www.walkscore.com](http://www.walkscore.com)

<table>
<thead>
<tr>
<th>Bus Route</th>
<th>Description</th>
<th>Distance from Subject Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>Bayswater - Esplanade Busport</td>
<td>300</td>
</tr>
<tr>
<td>42</td>
<td>Esplanade Busport - Maylands</td>
<td>300</td>
</tr>
<tr>
<td>48</td>
<td>Esplanade Busport - Morley Bus Station</td>
<td>300</td>
</tr>
<tr>
<td>55</td>
<td>Esplanade Busport - Bassendean</td>
<td>300</td>
</tr>
</tbody>
</table>

This is one of the better locations in East Perth / Perth with regards to public transport availability. The Perth Underground, East Perth Station; Midland Line is approximately 200m east from development. Within 5 minutes’ walk there are a four bus routes available which provide fast connection across the metropolitan region.

The local public transportation options are shown on the attached plan KC00482.000_S03 in Appendix 2 for clarity.

2.8 Pedestrian and Cyclist Access

The following is a list of the major cyclist infrastructure (Perth Bicycle Network) within an 800 metre radius of the subject site: -

- East Parade (between Kensington Street and Summer Street on the east) is classified as “Bicycle Lanes or Sealed Shoulder Either Side”;
- East Parade and Graham farmer Freeway are classified as PSP High Quality Shared Path;
- Lincoln Street, Summers Street, Joel Terrace, Windsor Street, Royal Street and Kensington Street are classified as PBN “Good Road Riding Environment” route;
- Portions of the following streets are classified as PBN “Other Shared Path (Shared by Pedestrians & Cyclists” route: - by the Swan River, through the Stadium Park, Forrest Park and Banks Reserve.

The existing network cyclist paths is shown on the drawing KC00482.000_S02 Pedestrian Paths.

KCTT have reviewed the Walk Score (information has been sourced from “Walk Score” at [http://www.walkscore.com](http://www.walkscore.com)) and found the following information for the roads surrounding the proposed development: -

<table>
<thead>
<tr>
<th>Location</th>
<th>Walk Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summers Street</td>
<td>66</td>
<td>Some errands can be accomplished on foot.</td>
</tr>
<tr>
<td>Lord Street</td>
<td>80</td>
<td>Very Walkable. Most errands can be accomplished on foot.</td>
</tr>
</tbody>
</table>

The existing network of pedestrian paths is shown on the drawing KC00482.000_S04 Pedestrian Paths.

Analysis of ped-sheds confirms that bus stops are within walking distance (5/10 minutes) from the proposed development.
Lord Street has a Walk Score of 80 out of 100. This location is Very Walkable so most errands can be accomplished on foot. Lord Street is a four minute walk from the Midland Line at the Claisebrook Station Platform 4 stop. Nearby parks include Wellington Square, Birdwood Square and Mardalup Park. Lord Street is a Rider’s Paradise which means world-class public transportation.
### 3. Transport Impact Statement Checklist for a Development Site

The following is the summary / checklist for a Transport Impact Assessment as shown in the Department for Planning and Infrastructure’s Transport Assessment Guidelines – Part 4.

<table>
<thead>
<tr>
<th>Item</th>
<th>Status</th>
<th>Comments/Proposals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proposed development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposed land uses</td>
<td>Y</td>
<td>This Development Application considers the proposed redevelopment of No 103 to 105 Summers Street, Perth into a day care centre. The proposed development will include a total gross floor area of approximately 483m², within a total land area of 1,013m². It will accommodate 68 children from 6 weeks to 5 years old and with total of 18 staff members (i.e. Directors, teachers, carers, administrators, relief staff and chef).</td>
</tr>
<tr>
<td>Existing land uses</td>
<td>Y</td>
<td>Existing land use is residential property, consists of the two semi-detached houses.</td>
</tr>
<tr>
<td>Context with surrounds</td>
<td>Y</td>
<td>Complementary.</td>
</tr>
<tr>
<td><strong>Vehicular access and parking</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access arrangements</td>
<td>Y</td>
<td>The subject site fronts and offers direct vehicular access / egress from / to Summers Street. Pedestrian access can also be provided from Summers Street.</td>
</tr>
<tr>
<td>Public, private, disabled parking set down / pick up</td>
<td>Y</td>
<td>The layout of the proposed development of No 103 to 105 Summers Street shows 1 standard parking bay and 1 dual use bay on site. There are additional on-street parking bays available.</td>
</tr>
<tr>
<td><strong>Service vehicles (non-residential)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access arrangements</td>
<td>Y</td>
<td>Delivery and service vehicles can service the proposed development within the existing road reserve. Thus, a designated service vehicle bay is not necessary for the functionality of the development.</td>
</tr>
<tr>
<td>On / off-site loading facilities</td>
<td>Y</td>
<td>On-street. KCTT believe that the proposed development does not require a designated parking spot.</td>
</tr>
<tr>
<td><strong>Service vehicles (residential)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubbish collection and emergency vehicle access</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Hours of operation (non-residential only)</td>
<td>Y</td>
<td>The proposed development is expected to be operational from 07:00 to 18:30. The expected peak usage of the facility will be between 08:00 - 09:00 in the AM Peak and between 17:00 - 18:00 in the PM Peak. It is expected that this land use will be operational on weekdays only.</td>
</tr>
<tr>
<td><strong>Traffic volumes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily or peak traffic volumes</td>
<td>Y</td>
<td>Refer to Section 2.5.</td>
</tr>
<tr>
<td>Type of vehicles (e.g. cars, trucks)</td>
<td>Y</td>
<td>Passenger Vehicles predominantly and occasional Service Vehicle.</td>
</tr>
<tr>
<td><strong>Traffic management on frontage streets</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Public transport access | Y | Bus stops are located as follows: -  
- Approximately 300 metres east from the subject site on the eastern side of Lord Street (for bus routes No 41, 42, 48 and 55);  
- Approximately 300 metres east from the subject site on the western side of Lord Street (for bus routes No 41, 42, 48 and 55).  
The Perth Underground, East Perth Station; Midland Line is approximately 200m east from development. |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearest bus/train routes</td>
<td>Y</td>
<td>Analysis of ped-sheds confirms that bus stops are within walking distance (5 to 10 minutes) from the proposed development.</td>
</tr>
<tr>
<td>Nearest bus stops/train stations</td>
<td>Y</td>
<td>Refer to Section 2.7.</td>
</tr>
<tr>
<td>Pedestrian / cycle links to bus stops/train station</td>
<td>Y</td>
<td>Refer to Section 2.7 and 2.8.</td>
</tr>
</tbody>
</table>

### Pedestrian access/facilities

<table>
<thead>
<tr>
<th>Existing pedestrian facilities within the development (if any)</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed pedestrian facilities within development</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
| Existing pedestrian facilities on surrounding roads | Y | • East Parade and Graham farmer Freeway are classified as PSP High Quality Shared Path;  
• Portions of the following streets are classified as PBN “Other Shared Path (Shared by Pedestrians & Cyclists)” route: - by the Swan River, through the Stadium Park, Forrest Park and Banks Reserve. |
| Proposals to improve pedestrian access | N | The development does not propose any further modifications to the existing pedestrian network. |

### Cycle access/facilities

<table>
<thead>
<tr>
<th>Existing cycle facilities within the development (if any)</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed cycle facilities within development</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
| Existing cycle facilities on surrounding roads | Y | • East Parade and Graham farmer Freeway are classified as PSP High Quality Shared Path;  
• Lincoln Street, Summers Street, Joel Terrace, Windsor Street, Royal Street and Kensington Street are classified as PBN “Good Road Riding Environment” route;  
• Portions of the following streets are classified as PBN “Other Shared Path (Shared by Pedestrians & Cyclists)” route: - by the Swan River, through the Stadium Park, Forrest Park and Banks Reserve. |
| Proposals to improve cycle access | N/A | N/A |

### Site specific issues

| | | |
| | | |

---

**ATTACHMENT 3**
## Identify issues

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Does the development propose sufficient parking for the proposed land uses?</td>
</tr>
<tr>
<td>2.</td>
<td>Describe the traffic impact of proposed development.</td>
</tr>
<tr>
<td>3.</td>
<td>Does the development offer suitable drop off and pick-up area?</td>
</tr>
</tbody>
</table>

## Remedial measures

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The layout of the proposed development illustrates a provision of 2 parking spaces. According to the City of Vincent Planning and Building Policy Manual, Parking and Access Policy No: 3.7.1, Parking and Access the proposed development will require 6 car parking bays. We do not believe however that this site requires this volume of parking for the following reasons: -</td>
</tr>
</tbody>
</table>

- The centre is located close to existing higher-density living.
- The centre is located close to existing employment opportunities.
- The area is not well-serviced by child care centres. There is not a proliferation of child care centres operating in the area. Using the metadata “Child Care Centres in East Perth” on Google, the search yielded 1 result, Goodstart Early Learning in Nelson Crescent, East Perth.
- The centre is located close to excellent on-street and public parking.
- The centre is located adjacent to strong public transportation opportunities inclusive of bus and train.
- It is not possible to provide significant parking on the subject site, without extensive demolition and re-construction of the existing buildings.
- The centre therefore offers opportunities for reduction in vehicle movements through trip blending for local employees requiring childcare for their children and for increased walking for children locally in the area. |

According to the client’s independent survey the forecast for parking demand in every hour for the proposed development is 5 parking bays in peak hour. |

The KCTT survey showed there is sufficient spare capacity within on-street parking (please refer Section 2.2.3.) and that the requirement of the proposed facility can be accommodated for. |

2. KCTT believe that the proposed development is likely to attract up to an additional 170 vehicular movements per day, (or a total of 200 VPD) with a forecasted impact of around 48 vehicles per peak hour (or 56 vehicles in peak hour in total). We believe that the subject site will have a low impact on the existing road network. |

3. It is expected that some patrons would use the drop-off zone on Summers Street. We would like to point out that on-street parking is allowed on both sides of the road reservation on Summers Street, which can be used during drop off and pick-up hours (7-9am, 4-6pm). KCTT believe that the dwell times for these vehicles are relatively low, with typical dwell times being between 5 to 10 minutes.
Appendix 1

The layout of the proposed development
Appendix 2

Transport Planning and Traffic Plan
Title: Traffic Flow Diagram

Project: No 103 to 105 Summers Street, Perth

Legend:
- **Location Boundary**
- **Road (Varied with road width)**
- **Railway**
- **Lewis Road**
- **Road Name**

Total Expected Traffic Generation from the proposed development
Total Expected Traffic Generation from Subject Site on the specific section of road - IN and OUT direction
Traffic Flow IN Direction
Traffic Flow OUT Direction

NOTE: The plan is courtesy of Habitat 1

Attachment 3
TRAFFIC FLOW DIAGRAM - AM PEAK

Total Expected Traffic Generation from the proposed development:

- Total Expected Traffic Generation from Subject Site:
  - IN direction: 503
  - OUT direction: 389

- Total Expected Traffic Generation from the proposed development:

NOTE: THE PLAN IS COURTESY OF HABITAT 1

Attachment 3
Appendix 3

Vehicle Turning Circle Plan
SUMMERS STREET

PROJECT:

TITLE:

DRAWING NUMBER:

DRAWN BY:

NO DATE AMENDMENT

13-04-2016

PROPOSED LAYOUT AMENDED

04-04-2016

ISSUED FOR REVIEW

KC00482.000 No 103 to 105 Summers Street Perth

Vehicle Turning Circle Plan - Passenger Car (5.2m)

KC00482.000_S20a

LEGEND

Passenger vehicle (5.2 m)
Overall Length 5.200m
Overall Width 1.940m
Overall Body Height 1.804m
Min Body Ground Clearance 0.295m
Track Width 1.840m
Lock to Lock Time 4.00s
Kerb to Kerb Turning Radius 6.300m

Wheel Path
Body Path

KCTT

Civil & Traffic Engineering Consultants
568 Beaufort Street, Inglewood WA 6052

TEL: 08 9327 7778
WEB: www.kcttconsultants.com.au
FTP: www.kcttconsultants.com.au

Passenger vehicle (5.2 m)
LEGEND

- Passenger vehicle (5.2 m)
  - Overall Length: 5.200m
  - Overall Width: 1.940m
  - Overall Body Height: 1.804m
  - Min Body Ground Clearance: 0.295m
  - Track Width: 1.840m
  - Lock to Lock Time: 4.00s
  - Kerb to Kerb Turning Radius: 6.300m

- Wheel Path
- Body Path

SUMMERS STREET

PROJECT: KC00482.000 No 103 to 105 Summers Street Perth
TITLE: Vehicle Turning Circle Plan - Passenger Car (5.2m)
DRAWN BY: N.M.
ISSUED FOR REVIEW: 04-04-2016
AMENDMENT: A
PROPOSED LAYOUT AMENDED: 13-04-2016
DRAWING NUMBER: KC00482.000_S20b
PROJECT:  
KC00482.000 No 103 to 105 Summers Street Perth  

TITLE:  
Vehicle Turning Circle Plan - Passenger Car (5.2m)  

DRAWN BY:  
Civil & Traffic Engineering Consultants  
608 Beaufort Street, Inglewood WA 6052  

NO DATE AMENDMENT  

A  
04-04-2016  
ISSUED FOR REVIEW  

Drawing Number:  
KC00482.000_S21a  

LEGEND  

Passenger vehicle (5.2 m)  
Overall Length 5.200m  
Overall Width 1.940m  
Overall Body Height 1.804m  
Min Body Ground Clearance 0.295m  
Track Width 1.840m  
Lock to Lock Time 4.00s  
Kerb to Kerb Turning Radius 6.300m  

Wheel Path  
Body Path  

13-04-2016  
PROPOSED LAYOUT AMENDED  

Issued for review.
Appendix 4

Parking Survey Diagrams