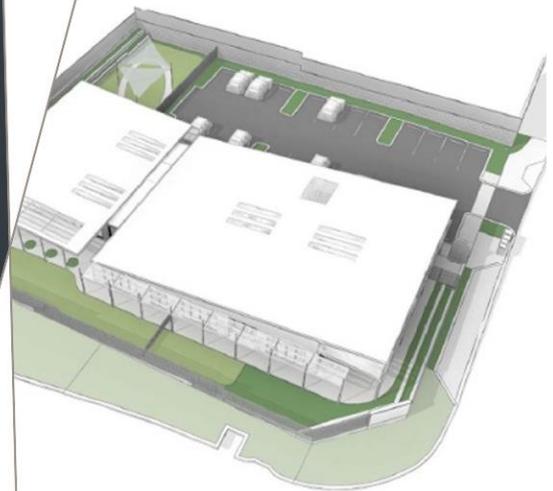


# Transport Impact Statement

Byford Childcare

CW1174100



Prepared for  
Keyline Nominees Pty Ltd

21 October 2021

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Prepared for Keyline Nominees Pty Ltd

Project Name Byford Childcare

File Reference CW1174100\_TR\_RP\_002\_D  
 \_Beenyup Road\_TIS

Job Reference CW1174100

Date 21 October 2021

Version Number D

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Effective Date 20/10/2021

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Date Approved 21/10/2021

## Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
A	24/05/2021	For Issue	GB/BS	SJL
B	09/07/2021	For Issue	GB/BS	SJL
C	20/7/2021	Minor updates	BS	SJL
D	21/10/2021	Parking provision update	BS	SJL

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Our report is based on information made available by the client. The validity and comprehensiveness of supplied information has not been independently verified and, for the purposes of this report, it is assumed that the information provided to Cardno is both complete and accurate. Whilst, to the best of our knowledge, the information contained in this report is accurate at the date of issue, changes may occur to the site conditions, the site context or the applicable planning framework. This report should not be used after any such changes without consulting the provider of the report or a suitably qualified person.

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# 1 Introduction

## 1.1 Background

Cardno have been commissioned by Keyline Nominees Pty Ltd ('the Client') to prepare a Transport Impact Statement (TIS) to support the proposed childcare centre, located at 13-15 Beenyup Road, Byford, Shire of Serpentine Jarrahdale ('the Site'). The development is proposed to accommodate up to 100 children and 20 staff members.

This TIS has been prepared in accordance with the *Western Australian Planning Commission (WAPC) Transport Assessment Guidelines for Developments: Volume 4 – Individual Developments (2006)* and the checklist is included in **Appendix A**.

## 1.2 Existing Site

The Site is located in Byford within the Shire of Serpentine Jarrahdale at the southeast corner of Beenyup Road and Dundatha Drive intersection. The aerial view of the Site is shown in **Figure 1-1**.

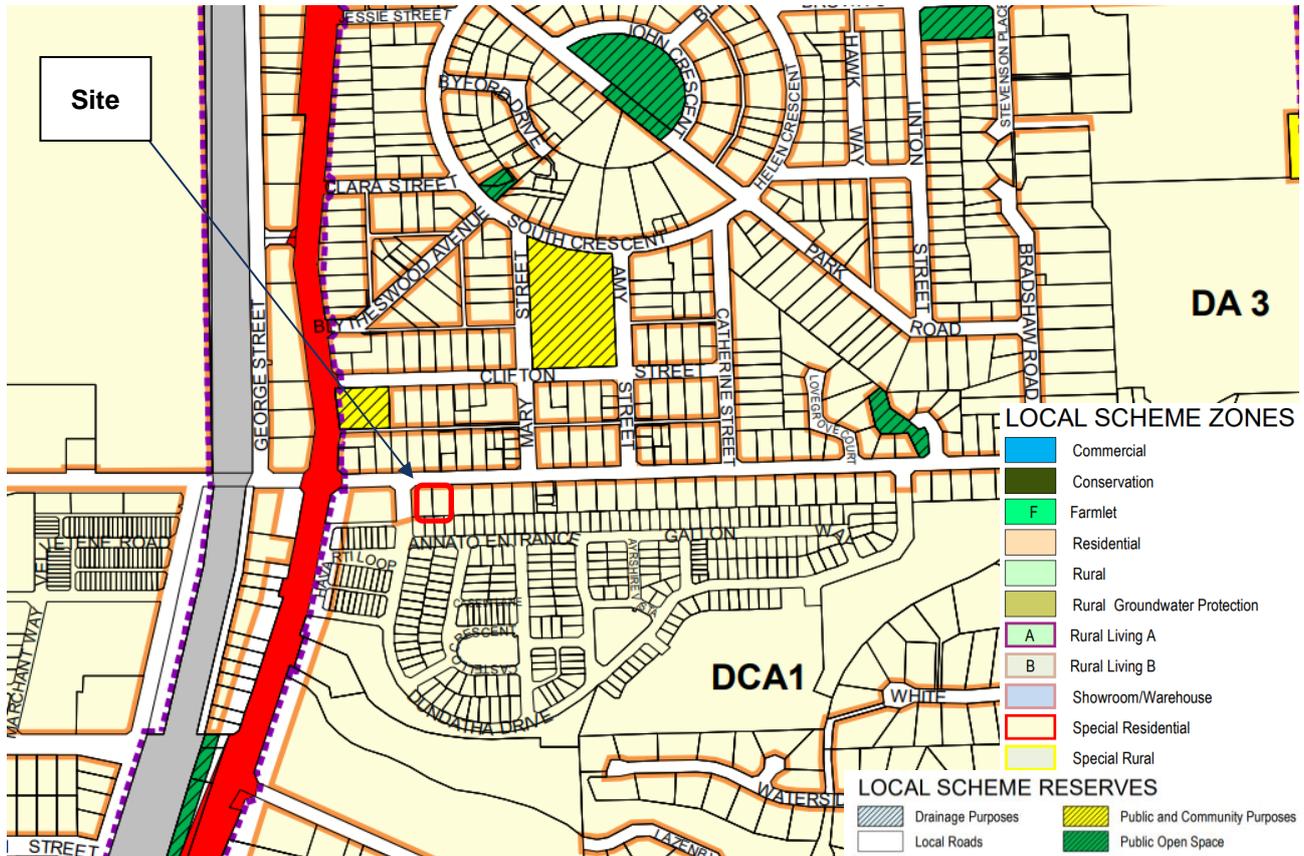
Figure 1-1 Site Location



Source: Nearmap

As per the *Shire of Serpentine-Jarrahdale Town Planning Scheme No. 2*, the Site is currently zoned as residential uses (urban development) and is surrounded by residential & commercial developments.

Figure 1-2 Shire of Serpentine Jarrahdale Local Planning Scheme Map



Source: Department of Planning, Lands and Heritage MAP No.1 (Darling Downs Locality)

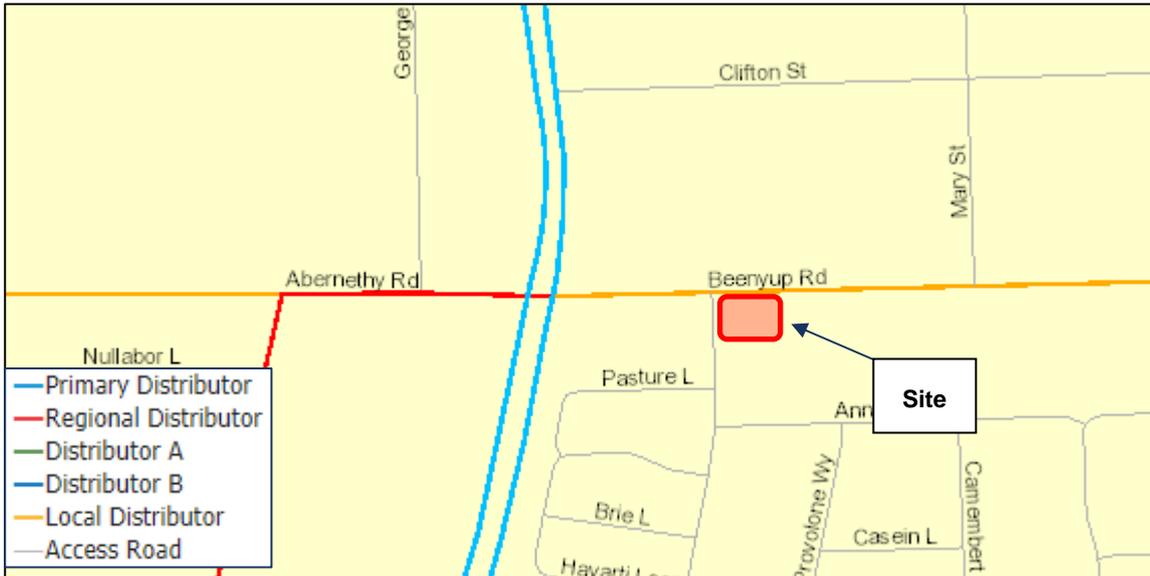
### 1.3 Existing Road Network

The Site is bounded by Beenyup Road to the north and Dundatha Drive to the west. The characteristics of the road networks in close proximity of the Site are described in **Table 1-1** and illustrated in **Figure 1-3**.

Table 1-1 Surrounding Road Network

Road Name	Road Hierarchy	Jurisdiction	No of Lanes	No of Footpaths	Approximate Width (m)	Posted Speed Limit (km/h)
Dundatha Drive	Access Road	Local Government	2	1	~7.0	50 km/h
Beenyup Road	Local Distributor	Local Government	4	2	~7.0	50 km/h
South Western Highway	Primary Distributor	Main Roads	5	1	~7.0 (x2)	60 km/h
Abernethy Road	Regional / Local Distributor	Local Government	4	2	~9.0 (x2)	60 km/h

Figure 1-3 Road Hierarchy Map



Source: Main Roads: Road Information Mapping System

### 1.3.2 Existing Traffic Volumes

Existing traffic volumes were sourced from the Main Roads WA Traffic Map. The data is summarised in **Table 1-2** below.

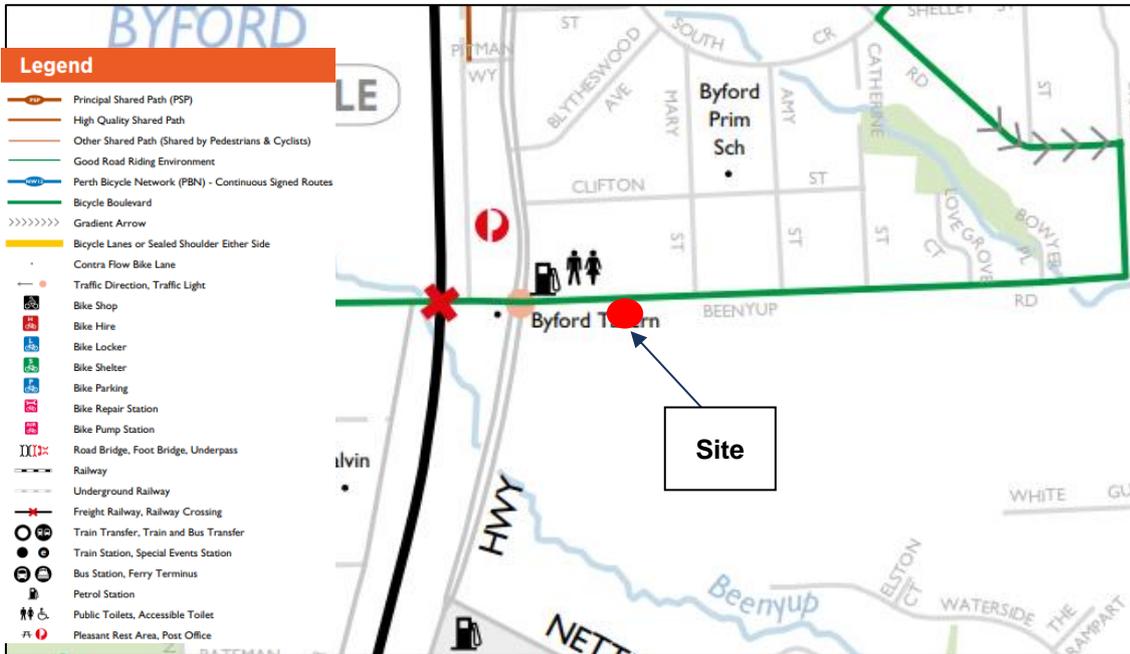
Table 1-2 Existing Traffic Volumes (two-way)

Road Name	Date	Average Weekday Two-way Traffic Volume	Vehicles - AM Peak Hour	Vehicles - PM Peak Hour
South Western Hwy & Abernethy Rd & Beenyup Rd (Beenyup Rd leg)	Oct 2018	4,342	420	350
South Western Highway (South of Abernethy Rd)	2017/18	11,714	860	985
Abernethy Road (East of Soldiers Road)	2017/18	12,519	907	1,149

### 1.4 Existing Pedestrian/Cycling Network

According to the Department of Transport Cycling map, Beenyup Road and Abernethy Road are marked as Bicycle Boulevards. The Site, located adjacent to Beenyup Road benefits from excellent cycling connection to a wider area. The local regional cycle and pedestrian routes are shown in **Figure 1-4**.

Figure 1-4 Existing Pedestrian and Cycling Facilities in the vicinity of the Site

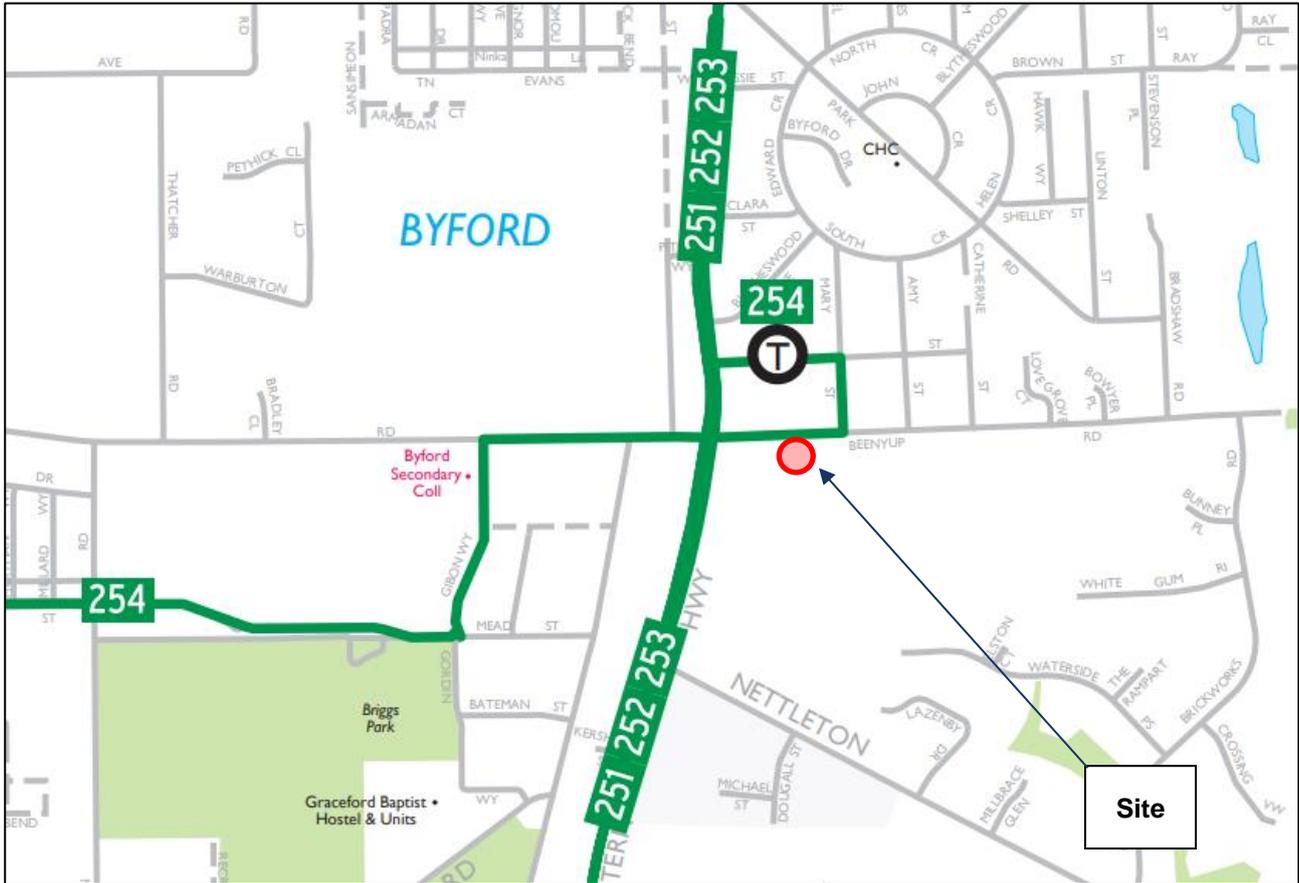


Source: Department of Transport

### 1.5 Existing Public Transport Facilities

The nearest bus stop is located approximately 400m northwest of the Site, along South Western Highway. The bus stop is currently serviced by Bus Route 251, 252 and 253. Additionally, Bus Route 254 also pass through the Site, servicing Byford town centre to the west of South Western Highway. The Byford Australind Train Station is also located within 800m walking distance, to the southwest of the Site. The current public transport network map is shown in **Figure 1-5**.

Figure 1-5 Public Transport Network Map



Source: Transperth

**Table 1-3** provides a summary of public transport services in the vicinity of the Site and their service frequencies.

Table 1-3 Bus Route and Frequency

Bus Routes	Route Description	Frequencies		
		Weekdays	Saturdays	Sundays and Public Holidays
251	Armadale Stn – Byford via South Western Hwy	Once at AM and once at PM	Twice at AM and once at PM	No service
252	Armadale Stn – Mundijong via Byford	Twice at PM and four times at PM	Once at AM and twice at PM	No service
253	Armadale Stn – Jarrahdale via Byford & Mundijong	Once a day during PM	Once a day during PM	No service
254	Armadale Stn – Byford via Kardan Bvd	Every hour	Every hour	Every two hours

## 2 Proposed Development

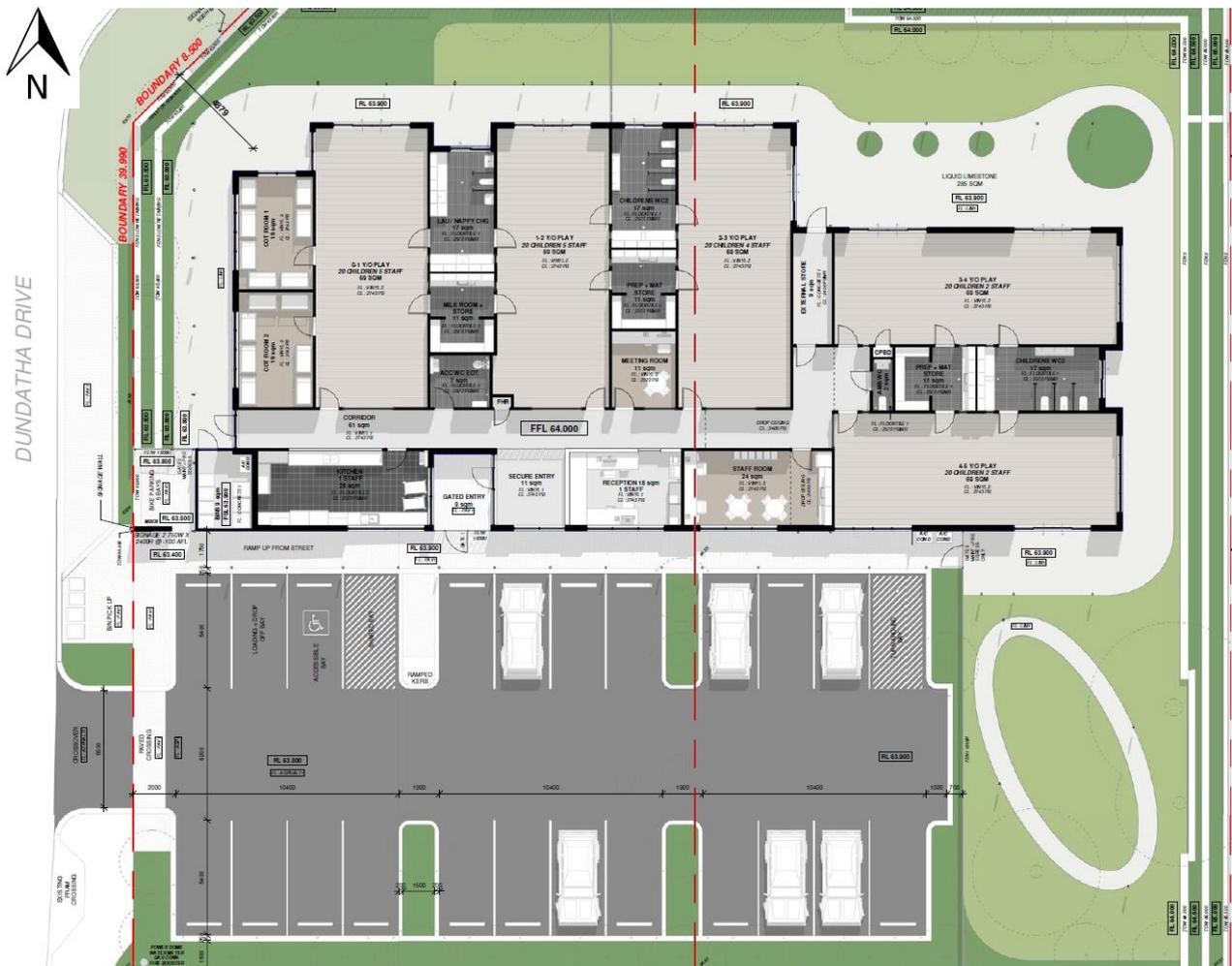
### 2.1 Land Use

The proposed development consists of the following:

- > A child care centre accommodating a maximum of 100 children and 20 staff members
- > 20 standard on-site bays, 1 ACROD bay, and 1 drop off / loading bay, 1 shared bay, and 1 turnaround bay

The site layout is shown in **Figure 2-1**.

Figure 2-1 Site Layout



Source: Roxby

### 2.2 Access Arrangements

The proposed vehicle access, along with the pedestrian access are located to the west of the Site, off Dundatha Drive as shown in **Figure 2-2**.

Figure 2-2 Access Arrangements



## 2.3 Development Traffic Generation

Trip generation for the proposed development has been calculated using the following sources:

- > Institute of Transportation Engineers (ITE) "Trip Generation" 10th Edition
- > Roads and Traffic Authority Guide to Traffic Generating Developments.

The calculated trip generation for the Site is presented in **Table 2-3**.

Table 2-1 Trip Generation Rate

	Source	AM Peak	PM Peak	AM Peak		PM Peak	
		0.8 trips per child	0.7 trips per child	In	Out	In	Out
Day Care	RTA V2.2 /ITE	0.8 trips per child	0.7 trips per child				
				53%	47%	47%	53%

Table 2-2 Directional Split

	AM Peak		PM Peak	
	In	Out	In	Out
Day Care	53%	47%	47%	53%

Table 2-3 Development Traffic Generation

	Yield	AM Peak		PM Peak	
		In	Out	In	Out
Day Care	100 children	42	38	33	37

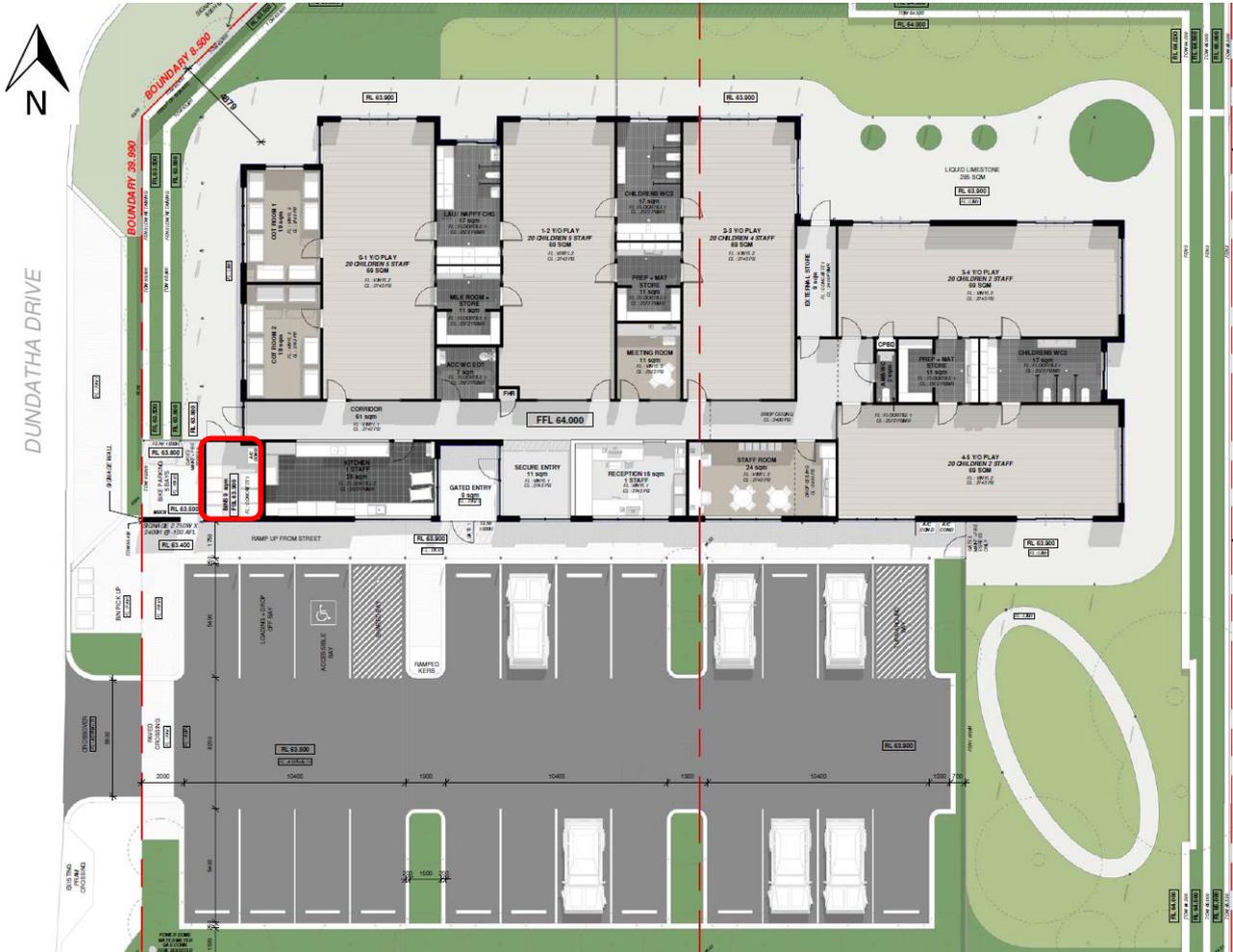
As summarised above, the proposed development, which caters for a maximum of 100 children is anticipated to generate maximum trips of **80 and 70 trips (two-way)** during the weekday AM and PM peak hours respectively.

## 2.4 Provision for Service Vehicles

The waste generated by the development is proposed to be collected on-street along Dundatha Drive, as per the existing waste collection schedule. The location of the bin store is shown in **Figure 2-3 (Red box)**.

During bin collection days, bins will be brought out and placed along Dundatha Drive for pick up, and returned to the bin store when emptied.

Figure 2-3 Bin Store Location



## 2.5 Parking

### 2.5.1 Car Parking Requirements and Provision

The statutory car parking requirement set out in the *Shire of Serpentine-Jarrahdale Town Planning Scheme No. 2* for the proposed development. The car parking provision proposed by the development satisfied the statutory car parking requirements set out in the *Shire of Serpentine-Jarrahdale Town Planning Scheme No. 2*. The proposed development will provide 23 parking bays on-site, including 1 ACROD bay, 1 shared bay, and 1 drop off / loading bay.

A reciprocal parking arrangement is proposed between the proposed development and adjacent commercial site. It is intended that the exiting 7 car parking bays located along the south eastern boundary of the adjacent lot would be shared by the proposed development – allocated to the visitors/parents visiting the childcare during peak periods. The location of the shared parking bays on adjacent lot is illustration in **Figure 2-4**.

A summary of the parking requirements and provision of the proposed development is shown in **Table 2-4**. A Parking Management Plan has been prepared, with further details on reciprocal parking arrangements.

Figure 2-4 Shared Parking Bays (Adjacent Lot)

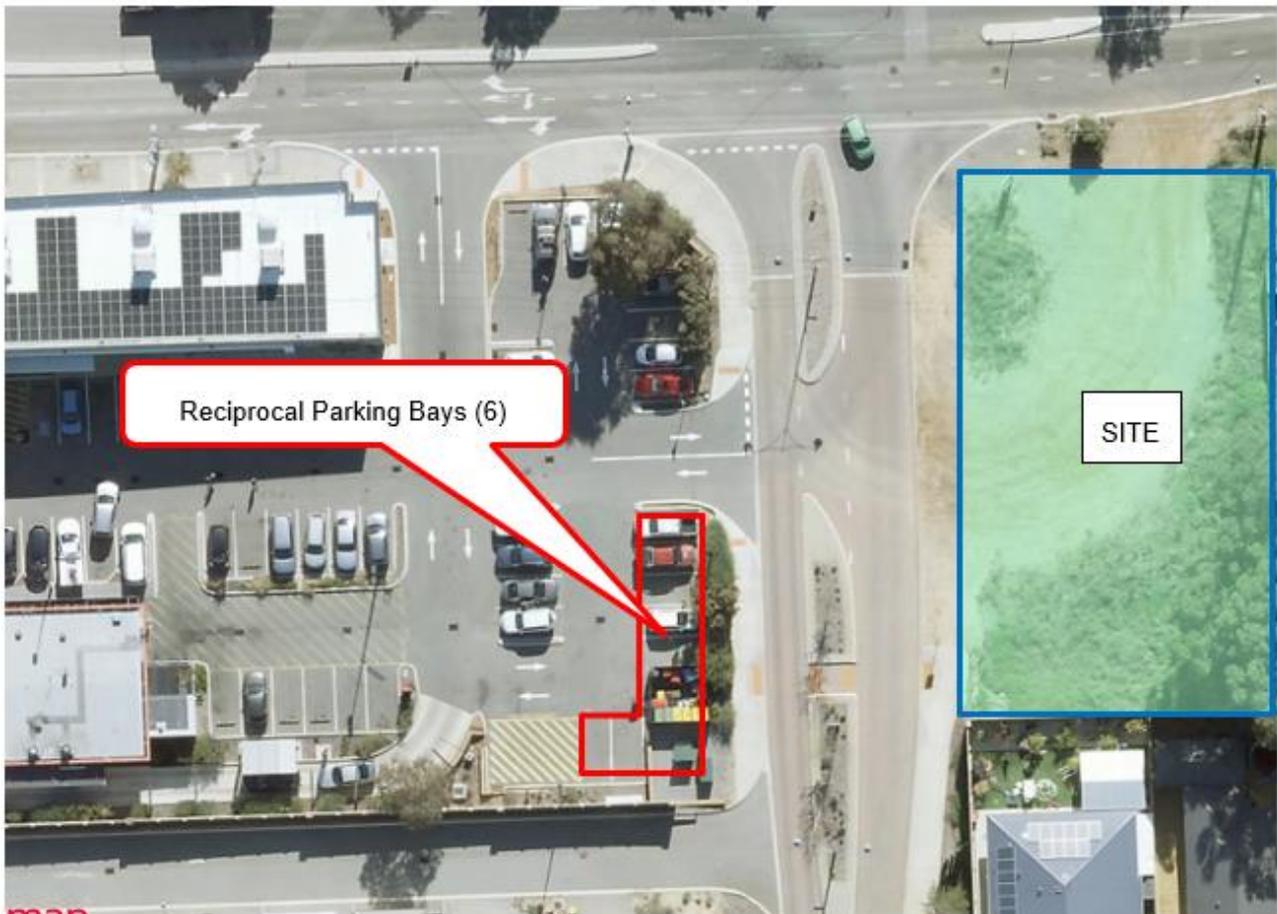


Table 2-4 Car Parking Requirements and Provision Summary

Land Use	Car Parking Requirements	Car Parking Provision	
Child Minding Centre	1:5 children accommodated (for 100 children)	20	(ON SITE) 20 standard on-site bays, 1 ACROD bay, 1 shared space, and 1 drop off / loading bay
			(OFF SITE) 6 bays on adjacent lot
<b>Total</b>		<b>20 bays</b>	<b>28 bays (22 + 6 bays)</b>

Source: *Shire of Serpentine-Jarrahdale Town Planning Scheme No. 2*



## 2.6 Pedestrian Safety and Amenity

To further improve the pedestrian amenity and provide a better connection between the two sites, it is proposed that the existing vegetation to the east of the reciprocal bays be cleared out and a pram ramp be installed to provide a suitable pedestrian link to the childcare. It is noted that such upgrade may require one existing parking bay be closed.

An illustration of the proposed pedestrian kerb ramp and parking removed (hatched) is shown in **Figure 2-6**.

Figure 2-6 Pedestrian Kerb Ramp



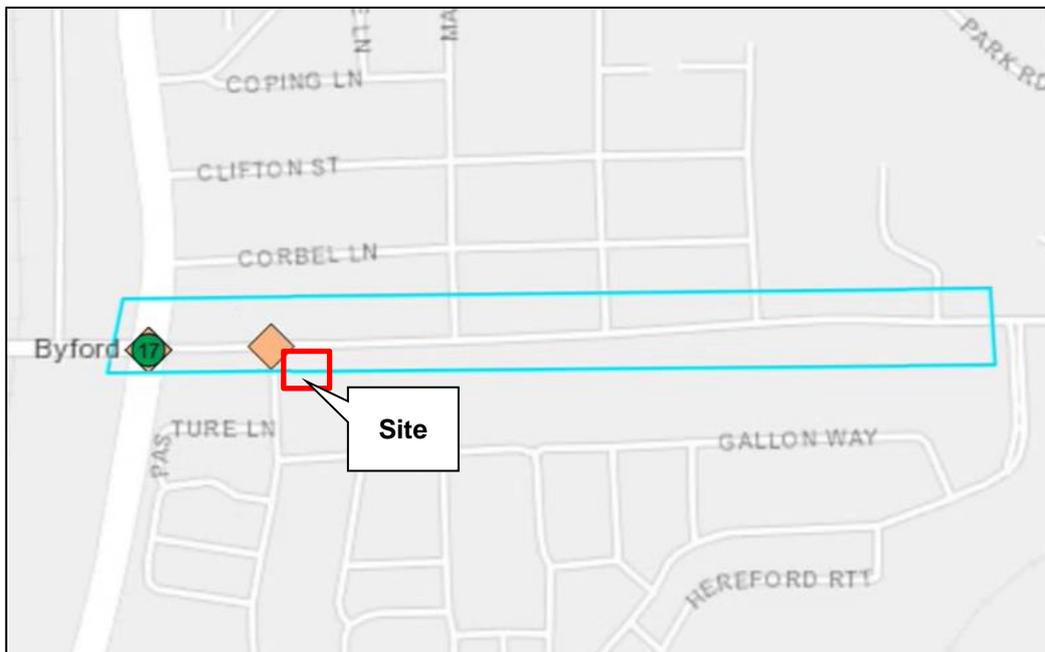
Source: Metromap (background)

### 3 Site-Specific Issues

#### 3.1 Crash Assessment

The previous 5-year crash data (2016 to 2020) was obtained from MRWA website. Crash data obtained from Main Roads WA Crash Map is illustrated in **Figure 3-1**. As shown, a total of 17 crashes were recorded at the intersection of South Western Highway and Beenyup Road, and one crash at the intersection of Beenyup Road / Dundatha Drive intersection.

Figure 3-1 MRWA Crash Map



Source: Main Roads

A breakdown of crash type and severity of the recorded crashes are summarised in **Table 3-1**.

Table 3-1 Beenyup Road Crashes

Type of Crash (RUM Code)	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Right Turn Thru	-	-	1	6	1	8
Sideswipe Same Direction	-	-	-	1	-	1
Rear End	-	-	1	4	1	6
Hit Object	-	-	-	2	-	2
Right Angle	-	-	-	1	-	1
Unspecified	-	-	-	1	-	1
<b>Total</b>	-	-	2	14	2	18

Majority of the crashes resulted in property damage only, with two crashes required medical attention. There were no casualty crashes recorded in the previous 5-years period. Considering the high traffic volume at the intersection of South Western Highway and Beenyup Road, the number of recorded crashes is considered relatively low. The proposed development with minimal traffic generation is unlikely to result in any material impact to the overall traffic safety of adjacent road networks.

## 4 Summary

This Transport Impact Statement (TIS) outlined the transport aspects of the proposed development focusing on traffic operations, access, and car parking. Discussion regarding pedestrian, cycle, and public transport considerations is also provided.

This statement has been prepared in accordance with the *WAPC Transport Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)*.

The following summarise the outcome of the assessment:

- > A two-way vehicle access is proposed on the western boundary of the Site, off Dundatha Drive
- > The Site benefits from reasonable cycling and pedestrian facilities, with at least one footpath/shared path provided on the surrounding road network.
- > The Site benefits from good public transport facilities and services in the vicinity of the Site.
- > The traffic generation assessment indicates that the proposed development is expected to generate approximately **80 and 70 vehicles trips (two-way)** during the AM and PM peak respectively. The expected low traffic generation is unlikely to result in any significant impact to the road network in the vicinity of the Site.
- > The proposed car parking provision of 22 car bays on-site satisfy the statutory parking requirements set out in the *Shire of Serpentine-Jarrahdale Town Planning Scheme No. 2*. A reciprocal parking arrangement with the adjacent commercial site is also proposed to potentially increase the parking provision by 6 bays for visitors/ parents visiting the development.
- > Overall, the number of crashes recorded in the surrounding road network is relatively low. The proposed child care development with reasonably low traffic generation is unlikely to result in any material impact to the traffic safety for road networks in the vicinity of the Site.

APPENDIX

A

WAPC CHECKLIST

## Checklist for a Traffic Impact Statement

Item	Status	Comments/Proposals
<b>Proposed development</b>		
proposed land use	Section 1	
existing land uses	Section 1	
context with surrounds	Section 1	
<b>Vehicular access and parking</b>		
access arrangements	Section 2	
public, private, disabled parking set down / pick up	Section 2	
<b>Service vehicles (non-residential)</b>		
access arrangements	Section 2	
on/off-site loading facilities	N/A	
<b>Service vehicles (residential)</b>		
rubbish collection and emergency vehicle access	N/A	
<b>Hours of operation (non-residential only)</b>		
	Section 2	
<b>Traffic volumes</b>		
daily or peak traffic volumes	Section 2	
type of vehicles (e.g. cars, trucks)	Section 2	
<b>Traffic management on frontage streets</b>		
<b>Public transport access</b>		
nearest bus/train routes	Section 1	
nearest bus stops/train stations	Section 1	
pedestrian/cycle links to bus stops/train station	Section 1	
<b>Pedestrian access/facilities</b>		
existing pedestrian facilities within the development (if any)	Section 1	
proposed pedestrian facilities within development	N/A	
existing pedestrian facilities on surrounding roads	Section 1	
proposals to improve pedestrian access	N/A	
<b>Cycle access/facilities</b>		
existing cycle facilities within the development (if any)	Section 1	
proposed cycle facilities within the development	Section 2	
existing cycle facilities on surrounding roads	Section 1	
proposals to improve cycle access	N/A	
<b>Site specific issues</b>		
	N/A	
<b>Safety issues</b>		
identify issues	Section 3	
remedial measures	N/A	