Transport Impact Statement Referred to in Item 1 of Amended Development Approval

Transport Impact Statement

Lot 901 (No. 150) Flynn Drive, Neerabup

CW1144200

Prepared for

Carramar Resource Industries

9 October 2020

Cardno

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1 Introduction

Cardno has been commissioned by Carramar Resource Industries to prepare a Transport Impact Statement (TIS) for a quarry at Lot 901 (No. 150) Flynn Drive Neerabup, City of Wanneroo (the Site). This Site is already operating and the Development Application (DA) that this TIS supports does not propose any changes to the land use or access arrangements. However, the DA proposes to amend the existing approval to have increased truck movements entering and exiting the Site. It is important to note that the Site is already operating with these increased truck movements, and no additional intensification is proposed.

As the land use remains the same, no additional traffic will be generated from the Site. The purpose of this TIS is mainly to document the traffic movements of the Site.

This TIS has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)*.

1.1 Site Location

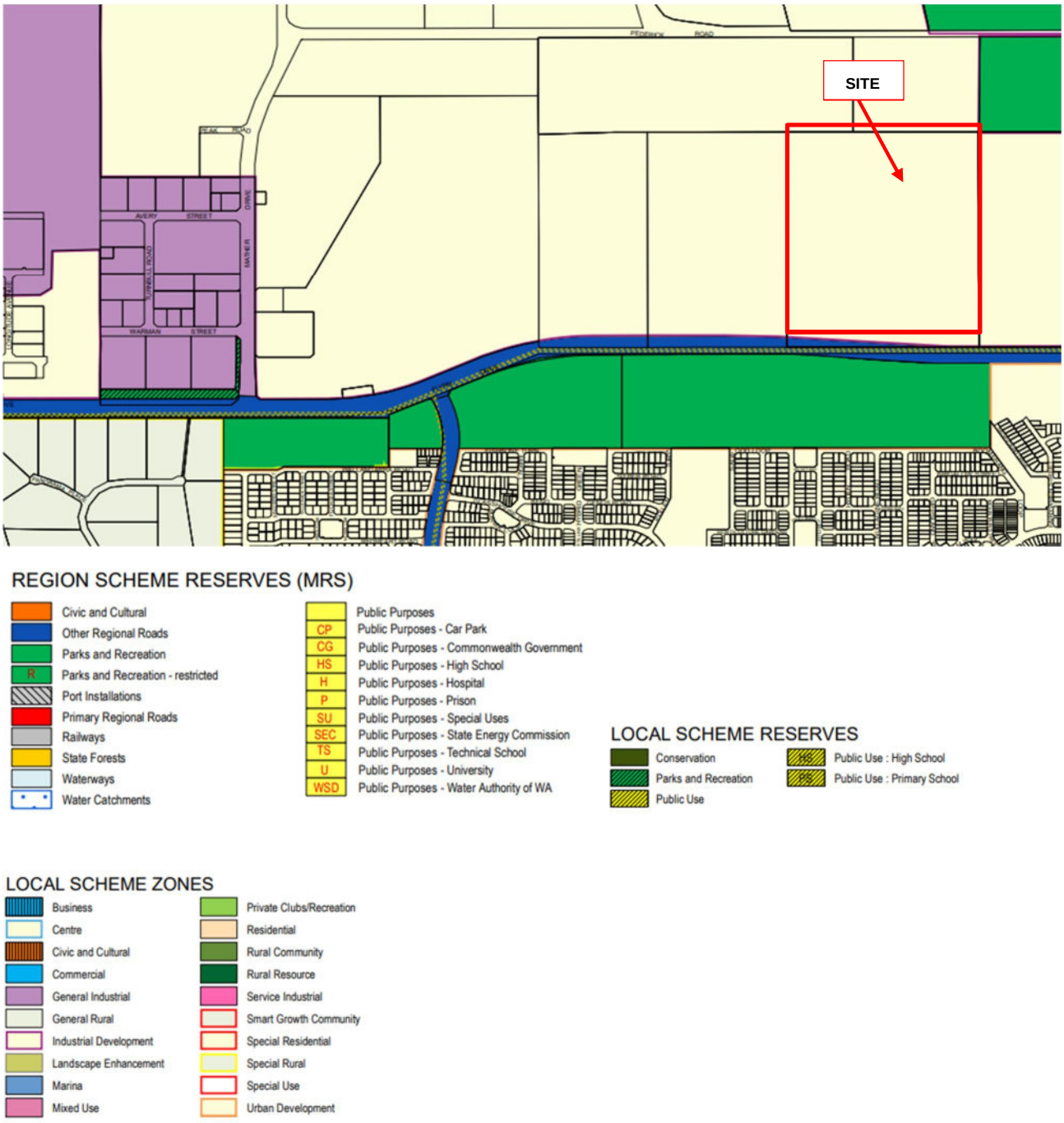
The Site is in the suburb of Neerabup, City of Wanneroo as shown in **Figure 1-1**. The Site is currently operating as a sand quarry. A small portion of the land to the south-east is currently being sub-leased to a construction waste recycling facility, which has its own separate access.

Figure 1-1 Site Location

1.2 Site Context

The Site is situated is currently zoned as 'General Industrial' as shown in **Figure 1-2** below.

Figure 1-2 Existing Zoning



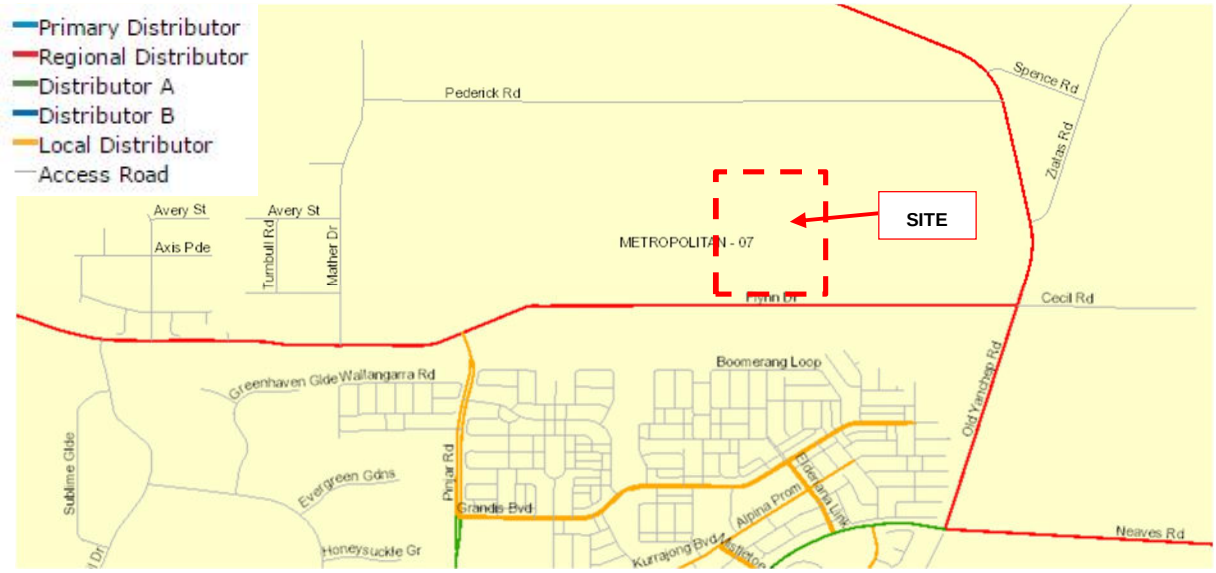
Source: City of Swan Local Planning Scheme No.17

2 Existing Road Network

2.1 Existing Road Hierarchy

The layout and classification of the roads under the *Main Roads WA Road Hierarchy* surrounding the Site are presented below in **Figure 2-1**. The road classifications are defined in the Main Roads Functional Hierarchy as shown below in **Table 2-1**.

Figure 2-1 MRWA Road Network Classification



Source: Main Roads WA Roads Information Mapping System

Table 2-1 Main Roads WA Road Hierarchy

Road Hierarchy	Description
Primary Distributor	Form the regional and inter-regional grid of MRWA traffic routes and carry large volumes of fast-moving traffic. Some are strategic freight routes, and all are National or State roads. They are managed by Main Roads.
Regional Distributors	Roads that are not Primary Distributors, but which link significant destinations and are designed for efficient movement of people and goods within and beyond regional areas. They are managed by Local Government.
District Distributor A	These carry traffic between industrial, commercial, and residential areas and connect to Primary Distributors. These are likely to be truck routes and provide only limited access to adjoining property. They are managed by Local Government.
District Distributor B	Perform a similar function to “District Distributor A” but with reduced capacity due to flow restrictions from access to and roadside parking alongside adjoining property. These are often older roads with traffic demand in excess of that originally intended. District Distributor A and B roads run between land-use cells and not through them, forming a grid that would ideally be around 1.5 kilometres apart. They are managed by Local Government.
Local Distributor	Carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor discourages through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to or serving the area. These roads should accommodate buses but discourage trucks. They are managed by Local government.
Access Road	Provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly. They are managed by Local government.

Table 2-2 below summarises the characteristics of roads in the vicinity of the Site.

Table 2-2 Existing Road Network Characteristics

Road Name	Road Hierarchy	Jurisdiction	No. of Lanes	No. of Footpaths	Width (m)	Posted Speed Limit (km/h)
Flynn Drive	Regional Distributor	Department of Planning Land and Heritage (maintenance by Local Govt.)	2 lanes	-	7.3 and 1.2m on both sides	80
Old Yanchep Road	Regional Distributor	Local Govt.	2 lanes	-	7.3	90
Pinjar Road	Local Distributor	Department of Planning Land and Heritage (maintenance by Local Govt.)	2 lanes	2	10 to 23m	70

2.2 Traffic Volumes

Existing traffic volumes near the Site is shown in **Table 2-3.** The data were sourced from Main Roads Traffic Map and on-site traffic count.

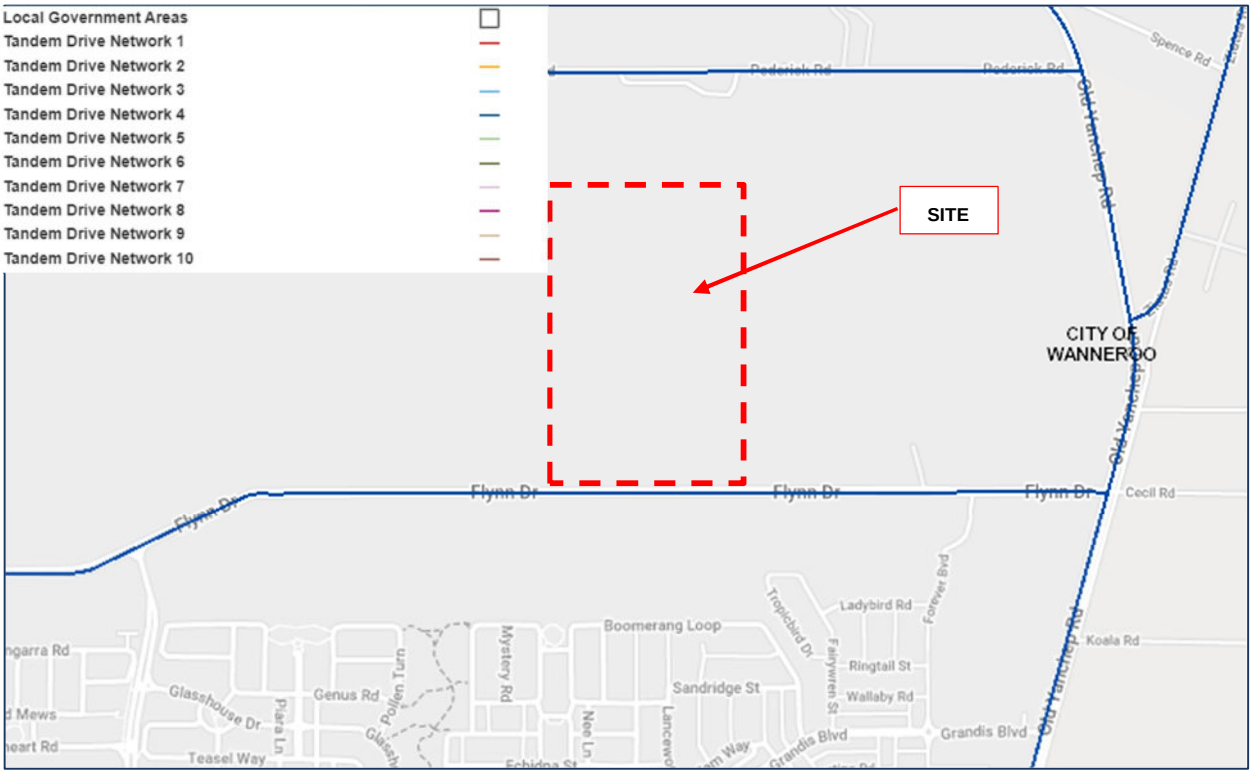
Table 2-3 Traffic Volumes

Location	Year	AM Peak (two-way)	PM Peak (two-way)	Average Daily Traffic (%HV)	Source
Flynn Drive (west of Old Yanchep Road)	2017	292	269	2,856 (26.4%)	MRWA Traffic Map
Old Yanchep Road (north of Flynn Drive)	2017	196	209	2,391 (15%)	MRWA Traffic Map
Old Yanchep Road (north of Neaves Road)	2017	411	413	4,402 (20.4%)	MRWA Traffic Map
Pinjar Road (north of Joondalup Drive)	2017	1,339	1,261	13,463 (4.4%)	MRWA Traffic Map

2.3 Existing Restricted Access Vehicle (RAV) Network

The existing RAV network in the vicinity of the Site is shown in **Figure 2-2**. Currently, the Site can be accessed by RAV 4 vehicles entering from Flynn Drive.

Figure 2-2 Existing RAV Network



2.4 Existing Access Arrangement

The site currently accessed via a crossover fronting Flynn Drive as shown in **Figure 2-3**. There is a separate crossover located approximately 200m to the east for the construction waste facility.

Figure 2-3 Existing Access Arrangement of Lot 901

Figure 2-4 Truck Movements at Quarry Access

Figure 2-5 Truck Movements at Recycling Facility Access

3 Development Description

3.1 Land Use

As previously described, no changes to the Site layout or operations are proposed; the site will continue to operate as an operational quarry. Below are the current operational characteristics of the Site:

- Approximate annual throughput of 200,000 to 250,000 tonnes;
- 50-100 trucks per day, typically 6-wheelers tipper trucks;
- 12 employees; and
- Operating hours of 6AM to 6PM, Monday-Friday.

In addition, a portion of land on the south east corner of the Site is currently sub-leased to a construction waste recycling facility, with 5 employees and approximately 40 trucks per day.

3.2 Access Arrangements

All vehicular access to the Site will be via Flynn Drive, as per the existing arrangement. No modification to access is proposed.

3.3 Traffic Generation

Traffic generation for the Site is based on the information provided below and summarised in **Table 3-1**:

- **Quarry**
  - **Employees**

    There are 12 staff working within the Site and all staff drive to work using private vehicles. Staff generally arrive between 5:30AM to 5:45 AM, and finish work at 4PM and the staff would therefore leave the premises after 4PM. As such, employees arrive and leave the Site outside of the Site's operational peak hours. This was confirmed during a site visit as there were no light vehicles observed entering and leaving during the Site at peak hours.

  - **Truck Movements**

    Approximately 50 to 100 trucks would enter the site each weekday. These trucks are then loaded with materials and leave the Site. Therefore, each truck will generate 2 movements per day, i.e. entering and exiting. Most trucks entering the site are single unit 6-wheeler tipper trucks with occasional 6-wheeler truck towing a trailer.

- **Recycling Facility**
  - **Employees**

    There are 5 employees working within the recycling facility. All employees are assumed to drive to work using private vehicles. All employees arrive and depart the site outside of the Site peak hour period. This was confirmed during the site visit as there were no light vehicles observed entering and leaving the Site during the AM and PM peak hours (6AM-7AM and 3PM-4PM).

  - **Truck Movements**

    It is estimated that the facility would have up to 40 trucks per day. Each truck will generate 2 movements per day, i.e. entering and exiting. From a site visit observation, most trucks are either a single unit 6-wheeler tipper trucks or a tipper truck towing a trailer.

- **On-Site Traffic Count**

A traffic count was undertaken at the Site on October 2020 to determine traffic movements at peak hours of the Site at the quarry and the recycling facility. Refer to **Table 3-1** for the peak hour and daily traffic movements to/from the Site. Note that these movements are already exist as the site is already in operation.

Table 3-1 Estimated Trip Generation

	Daily		AM Peak		PM Peak	
	IN	OUT	IN	OUT	IN	OUT
Quarry Employees	12	12	0	0	0	0
Quarry Trucks	100	100	9	19	14	17
Quarry Total	***112***	***112***	***9***	***19***	***14***	***17***
Recycling Facility Employees	5	5	0	0	0	0
Recycling Facility Trucks	40	40	6	4	5	4
Recycling Facility Total	***45***	***45***	***6***	***4***	***5***	***4***
Overall Total	**157**	**157**	**15**	**23**	**19**	**21**

Based on information provided and on-site traffic counts, the Site is estimated to generate a total of 314 trips per day, with 38 of these trips occurring during the AM peak hour and 40 of these trips occurring during the PM peak. This level of traffic generation is considered to have a negligible impact on the adjacent road network, with low levels of traffic and congestion confirmed during the site visit.

Note that the above trips are already existing within the road network as the Site is already operating. No additional trips will be added as there are no changes proposed to the Site and its operations.

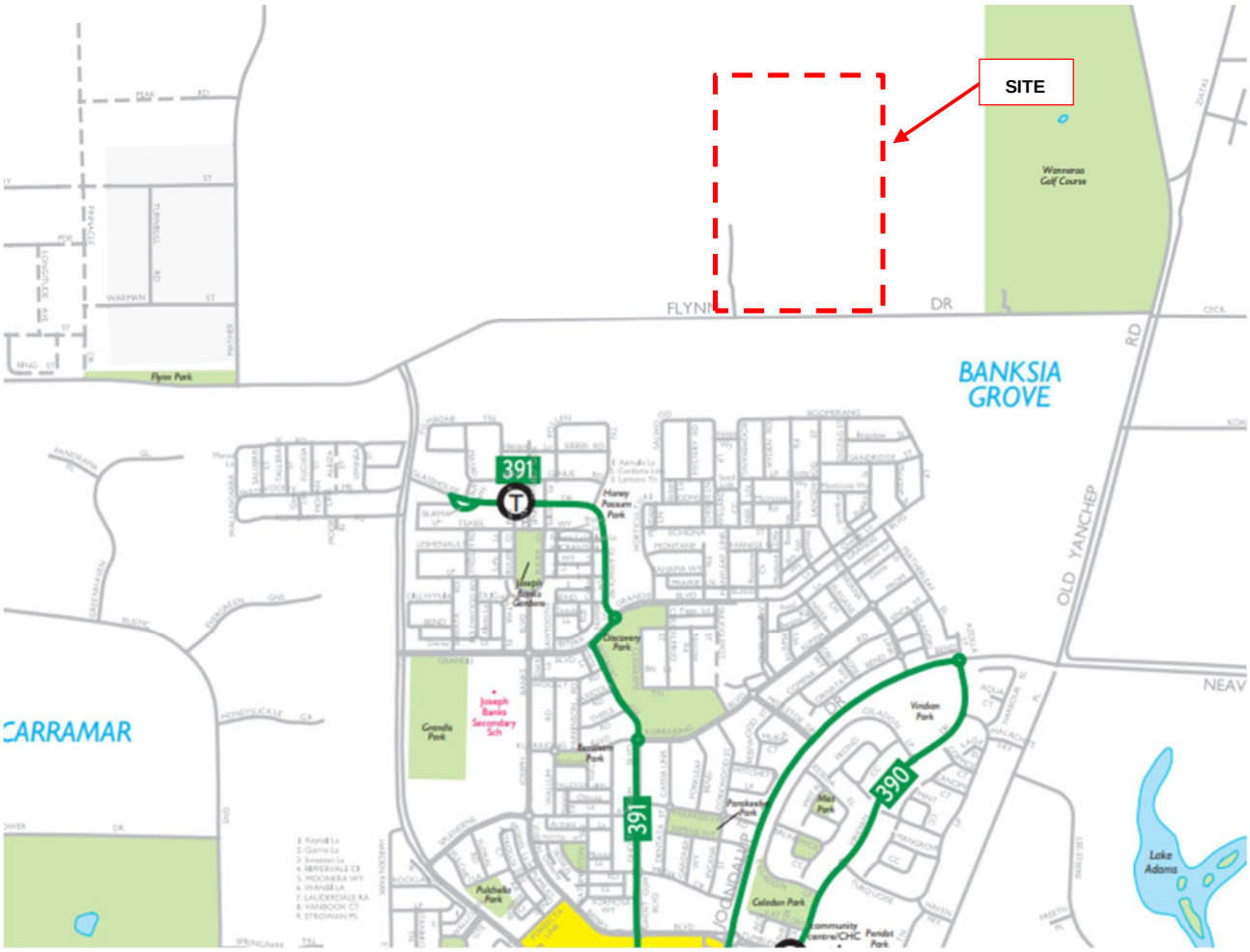
3.4 Parking Provision

A dedicated parking area for employees are provided within the Site and accessed via the existing crossover on Flynn Drive.

4 Public Transport Access

The Site is not currently served by public transport. The nearest bus routes are available in the residential area south of Flynn Drive as shown in **Figure 4-1.** Due to poor public transport access, it is unlikely that any employee or visitor into the Site would arrive via public transport.

Figure 4-1 Bus Routes in the Vicinity of the Site



Source: Transperth March 2020

5 Pedestrian and Cycling Access

There is currently no pedestrian and cycling infrastructure available along Flynn Drive, therefore pedestrian access into the Site is considered to be poor and, it is unlikely that employees and visitors to the Site would be arriving by foot or bicycle.

6 Summary

This Transport Impact Statement outlines the transport aspects of the proposed development focusing on traffic operations.

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

The following conclusions have been made in regards to the proposed development:

- This Site is already operating and the Development Application (DA) that this TIS supports does not propose any changes to the land use or access arrangements. However, the DA proposes to amend the existing approval to have increased truck movements entering and exiting the Site. It is important to note that the Site is already operating with these increased truck movements, and no additional intensification is proposed.
- The Site is expected to generate a total of 314 trips per day, with 38 of these trips occurring during the AM peak hour and 40 of these trips occurring during the PM peak. This level of traffic generation is considered to have a negligible impact on the adjacent road network, with low levels of traffic and congestion confirmed during the site visit.
- No public transport services are provided in the vicinity of the Site. Pedestrian and cycling access to the Site is also poor as there is no pedestrian and cycling infrastructure available along Flynn Drive.

Lot 901 (No. 150) Flynn Drive,
Neerabup

APPENDIX A

WAPC CHECKLIST

Item	Section	Comments/Proposals
Proposed Development		
proposed land use	Section 1, 3	
existing land uses	Section 1	
context with surrounds	Section 1.2	
Vehicular access and parking		
access arrangements	Section 2.4, 3.2	
public, private, disabled parking set down / pick up	N/A	
Service vehicles (non-residential)		
access arrangements	Section 2.4, 3.2	
on/off-site loading facilities	Section 3.2	
Service vehicles (residential)		
rubbish collection and emergency vehicle access	N/A	
Hours of operation (non-residential)	Section 3.1	
Traffic Volumes		
Daily or peak traffic volumes	Section 3.3	
Type of vehicles (e.g. cars, trucks)	Section 3.3	
Traffic management on frontage streets	Section 2	
Public transport access		
nearest bus/train routes	Section 4	
nearest bus stops/train stations	Section 4	
pedestrian/cycle links to bus stops/train station	Section 4	
Pedestrian access/facilities		
existing pedestrian facilities within the development (if any)	Section 5	
proposed pedestrian facilities within development	Section 5	
existing pedestrian facilities on surrounding roads	Section 5	
proposals to improve pedestrian access	N/A	
Cycle access/facilities		
existing cycle facilities within the development (if any)	Section 5	
proposed cycle facilities within the development	Section 5	
existing cycle facilities on surrounding roads	Section 5	
proposals to improve cycle access	N/A	
Site specific issues	N/A	
Safety issues		
identify issues	N/A	
remedial measures	N/A	

About Cardno

Cardno is a professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

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