

# ParkTransit

**Traffic and Parking Impact Assessment** 

80-82 Showground Road, Gosford

**For DTA Architects** 

21<sup>st</sup> January 2025

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Traffic Impact Assessment Report for Residential Development 80-82 Showground Road, Gosford For: DTA Architects

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#### ABBREVIATIONS

DA:	Development Application
Council:	Central Coast Council, NSW
Proposal:	Affordablel Housing RFB Development along with underground basement parking
DCP:	Central Coast Council, NSW Development Control Plan 2022
GFA:	Gross Floor Area
TfNSW Guide:	TfNSW Guide to Traffic Generating Development 2002
AS2890.1:	Australian Standard for Off-Street Parking Facilities AS2890.1-2004
AS2890.6:	Australian Standard for Off-Street Parking for People with Disabilities AS2890.6



### 1. Introduction

ParkTransit Australia (PT) was engaged by DTA Architects to assist with the Development Application process for the construction of an Affordable Housing Development located at 80-82 Showground Road, Gosford, within Central Coast Council LGA.

The proposal involves the construction of a residential development accommodating 26 units. The proposed residential development is being constructed by a social housing provider (Homes NSW) and will be used as affordable housing.

As part of the proposal, 12 on-site parking spaces, including four (4) accessible parking spaces, will be provided within the basement-level car park. Vehicular access will be provided via a new combined entry and exit driveway located on Showground Road frontage. The figure below shows the site's location.



Figure 1: Site Location (source- Whereis Maps)

The purpose of this report is to present the traffic and parking assessment associated with the proposal and to determine the implication of the projected change in traffic activity on the surrounding road network. The report is structured as follows:

- Section 2: Site Description
- Section 3: Overview of Existing Traffic Conditions
- Section 4: Description of the Proposed Development



- Section 5: Traffic Impact Assessment
- Section 6: Parking Provision
- Section 7: Access Arrangements
- Section 8: Conclusions and Recommendations
- Section 9: Attachments

The following documents were referenced for the preparation of this report:

- Central Coast Council, NSW Development Control Plan (DCP 2022);
- State Environmental Planning Policy (Housing) 2021
- Transport for New South Wales Guide to Traffic Generating Development;
- Australian Standard for Parking Facilities Part 1: Off-Street Car Parking (AS2890.1-2004);
- Australian Standard Parking Facilities Part 2: Off-street commercial vehicle AS2890.2-2018 and
- Australian Standard for Parking Facilities Part 6: Off-Street Parking for People with Disabilities (AS2890.6-2022).



### 2. Site Description

The subject site is located at 80-82 Showground Road, Gosford and is part of the Central Coast Council LGA. The site is legally referred to as Lot No. 10 and Lot 11 of DP503890 and occupies an area of 1214.6 sqm. The site has a sole frontage along Showground Road and is regular in shape.

The subject site is located on the western side of Showground Road and is surrounded by residential dwellings on the north and western sides, Gosford Hospital on the southern side, and Showground Road on the eastern side.



Figure 2: The Site (source- NSW Imagery Website Six Maps)

The site is currently occupied by single-storey residential dwelling houses (8 studio Units), which rely on the available on-street parking spaces.



The following map shows the hierarchy of the surrounding road network as classified by Transport for New South Wales (TfNSW).



Figure 3: Surrounding Road Network (Source TfNSW Website)



### 3. Overview of the Existing Traffic Conditions

### 3.1. Description of Road Environment

#### Showground Road

Showground Road is classified as a Local Road that runs north-south. It connects Manns Road on the northern side with Donnison Street on the southern side.

Generally, the carriageway on Showground Road is divided and comprises one traffic lane in each direction. It has a posted speed limit of 50 kmph, and a paved footpath is present on either side of the carriageway.

Showground Road and Racecourse Road intersection is a single-lane roundabout controlled intersection. Below is the street view image of Showground Road.



Figure 4: Street view Showground Road (Source Google Maps Street View)



#### Racecourse Road

Racecourse Road is classified as a Regional Road that runs northeast to southwest. It connects the Pacific Highway on the north-eastern side with the Central Coast Highway on the south-western side.

Generally, the carriageway on Racecourse Road is undivided and comprises one traffic lane in each direction. On-street parking is permitted on either side of the carriageway. The posted speed limit is 60kmph. Below is the street view image of Racecourse Road



Figure 5: Street view of Racecourse Road on approach site access (Source Google Maps Street View)



#### **Henry Parry Drive**

Henry Parry Drive is classified as a State Road and follows a north-south alignment. It connects the Pacific Highway on the northern side with the Central Coast Highway on the southern side.

Generally, the carriageway is undivided and comprises one traffic lane in each direction, with on-street parking permitted. It has a posted speed limit of 60 kmph, and paved footpaths are present on either side of the carriageway. Below is the street view image of Henry Parry Drive.



Figure 6: Street view of Henry Parry Drive (Source Google Maps Street View)



### 3.2. Public Transport

Public transport in the area includes buses and trains. The nearest Train Station is Gosford Station, 500 meters south of the subject site. The Central Coast & Newcastle Line (CCN) operates from this station.

Additionally, the following regional routes are accessible via Gosford Station:

- Route 31 operates from Sydney (Central) to Brisbane (Roma Street);
- Route 33 operates from Sydney (Central) to Casino;
- Route 35 operates from Sydney (Central) to Grafton and
- Route 223 operates from Sydney (Central) to Armidale.



Figure 7: Train Route Southern Highlands Line (Source: https://transportnsw.info)



Redbus CDC NSW operates bus services within the vicinity of the development site. They are accessible via the bus stop located on Racecourse Road, approximately 170 metres north of the site.

**Route Number** Service Type Destination Origin 20 Mon-Fri Gosford Matcham via Erina Fair (Loop Service) 32 Mon-Fri Gosford Spencer 32/4 Gosford via Kariong Mangrove Mountain Mon-Sat 33/4 Mon-Fri Gosford Somersby Industrial Estate and Kariong (Loop Service) 34 Daily Gosford Kariong (Loop Service) 34/2 Gosford Mangrove Mountain via Kariong Mon-Sat Gosford (Loop Service) 41 Daily West Gosford Gosford 43 Mon-Sat Springfield

The table below summarises the bus services operating within the vicinity of the subject site: Table 1 – Bus Route Summary



Figure 8: Bus Route Map (Source: https://wp.redbuscdc.com.au)



### 3.3. Crash Data

The NSW Centre for Road Safety periodically collects crash and casualty data, which is publicly available. A review of the latest crash data from 2018-2022 indicates predominantly non-casualty crashes, indicating that the local road is operating relatively safely. The Figure below provides the crash location and severity of these crashes recorded in the area.



Figure 9: Crash data (Source NSW Centre for Road Safety)



### **3.4.** Existing Traffic Conditions

The subject site is located within a predominantly residential area and is currently occupied by two singlestorey residential buildings. The traffic activity associated with the existing development was determined with reference to the RMS Guide to Traffic Generating Development (The Guide). In relation to the existing uses, the Guide classifies the existing residential use as a "medium density House" and recommends the following trip generation rates:

Weekday peak hour vehicle trips = 0.4-0.5 per dwelling.

Applying the above trip generation rate to the eight (8) existing dwelling houses results in 3.2-4.0 (say 3) vehicle trips per hour during the peak period.



### 4. Description of the Proposed Development

The development proposal involves the construction of a six-storey residential development that will accommodate a total of 26 residential units comprising the following:

- 17 x one-bedroom units; and
- 9 x two-bedroom units.

As part of the proposal, 12 on-site parking spaces, including four (4) disabled spaces, will be provided within the basement level car park. All vehicular access will be provided via the combined entry and exit driveway located on the Showground Road frontages. The proposed residential development is being constructed by a social housing provider (Homes NSW) and will be used as affordable housing.

Architectural plans associated with the proposal have been prepared by DTA Architects, and the plans indicating the car park are presented in **Attachment A**.



Figure 10: Proposed Site Plan (Source DTA Architects)



### 5. Traffic Impact Assessment

The traffic activity associated with the proposal has been calculated with reference to the 'RMS Guide to Traffic Generation Developments'. The proposed development will accommodate a total of 26 residential units. The RMS Guide classifies the proposed residential development as "high density housing".

In relation to the residential component, the RMS has recently published a Technical Direction for traffic, safety and transport practitioners. This document updates the existing Section 3 of the RMS Guide, originally published in October 2002. The TDT specifies the following traffic generation rates:

Morning peak hour vehicle trips = 0.19 per unit; and Evening Peak hour vehicle trips =0.15 per unit.

Applying the above trip generation rates to the proposed development results in approximately 4.94 and 3.9 vehicle trips during morning and evening peak hours, respectively.

### 5.1. Impact Assessment

The development is proposed on a site that currently has a peak hour traffic generation of 3.0 vehicle trips (please refer to Section 3.4 of this report for further details).

The projected traffic activity associated with the proposal indicates the site is likely to generate a peakhour traffic flow of 5 vehicle trips, representing a trip every 12 minutes or so. A comparison of the existing traffic activity with the projected traffic activity indicates that the new development will result in a negligible increase in traffic activity within the surrounding road network.

The minimal increase in traffic activity is likely to be less than the typical daily variation, which is usually 10% of the peak hourly flow. Additionally, the minimal increased traffic activity will not impact existing and intersection modelling. Therefore, no formal Sidra intersection analysis has been undertaken as part of this project.

In conclusion, the proposal is likely to generate a maximum of 5.0 vehicle trips an hour, representing an increase of 2.0 vehicle trips an hour. This increase is highly unlikely to have any detrimental impact on the operation of the surrounding road network.



### 6. Parking Provision

### 6.1. Planning Requirements

Typically, the on-site parking provision is calculated using the Council's planning controls (e.g., the Development Control Plan and the Local Environmental Plan). However, in this instance, the proposed development represents an affordable housing project, and therefore, the on-site parking requirements are determined using the NSW State Environmental Planning Policy (SEPP) (SEPP Housing 2021).

Description	Minimum Car Park Provision Rates
1 x bedroom unit	0.4 parking spaces
2 x bedroom unit	0.5 parking spaces

Table 2 –	<b>On-Site</b>	Parking	Rates	(SEPP	Housing	2021)
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The DCP further recommends that the dimensions of the on-site parking spaces should be provided in accordance with AS2890.1. This is detailed in Section 7 of the report.

Application of the above parking provision rates to the proposal would result in the following parking requirements:

Ta	ble	3	- 1	On-Site	Parking	Provision

Description	No. of units	Minimum Car Park	No. of Spaces
		Provision Rates	
1 x hadroom unit	10	0.4 parking spaces	7.6
T X Dedroom unit	19	0.4 parking spaces	7.0
2 x bedroom unit	7	0.5 parking spaces	3.5
Total			11.1(say 11)

### 6.2. Proposed Parking Provision

The proposal involves providing 12 on-site parking spaces, including four disabled spaces. Therefore, the proposed parking provision is considered suitable for servicing the residential development and is highly unlikely to increase any on-street parking demand.

In this regard, following the completion of the proposed development, the surrounding local street will continue to experience similar parking demand to the existing conditions, suggesting that the proposal has no detrimental impact on the parking availability in the area.



### 7. Access Arrangements

### 7.1. Car Parking Arrangement

The proposed car parking arrangement has been assessed according to the requirements listed in AS2890.1 (2004). Table 1.1 of AS2890.1 provides a classification of the off-street parking facilities based on various land uses, which is essential in determining the associated parking space dimensions.

The proposed development will be occupied by residential use. Therefore, the proposed parking provision has been assessed against the 'Type 1A' user class with 90 degree parking spaces (which is associated with Residential and Employee Parking). In relation to the Type 1A user class, Figure 2.2 of the AS2890.1 specifies the following parking dimensions:

- Space width 2.4 metres
- Space length 5.4 metres
- Aisle width 5.8 metres

The proposed car park accommodates a total of 12 parking spaces, including four (4) disabled parking spaces. The space dimensions were measured as a minimum of 2.4 metres wide and 5.4 metres long, with an associated aisle width exceeding 5.8 metres, thereby meeting the minimum requirements stipulated by AS2890.1. In this regard, the proposed car parking arrangement has been designed in accordance with the Australian Standard.

In relation to disabled car spaces, the Australian Standard for Off-street Parking for People with Disabilities – AS2890.6 -2009. The standard recommends that disabled bays be accompanied by a shared zone (with the same dimensions as standard space). The dimensions of a standard space are the following:

- Space width 2.4 metres
- Space length 5.4 metres

The disabled space dimensions were measured at a minimum of 2.4 metres wide and 5.4 metres long, with an associated shared zone of 2.4 metres wide and 5.4 metres, thereby meeting the minimum requirements stipulated by AS2890.6-2009.

In this regard, the proposed car parking arrangement has been designed in accordance with the Australian Standard.

Additionally, we have undertaken Swept Path Analysis utilising the Auto Track simulation software to access the car parking spaces. The Swept Path Analysis was undertaken utilising the recommended vehicle type and is presented as **Attachment B**. The swept path assessment concluded that the motorists would enter and exit in the forward direction.



#### 7.2. Driveway Arrangement

As part of the proposal, a combined entry/exit driveway will be introduced on Showground Road to service the residential development. Tables 3.1 and 3.2 of AS2890.1 specify the width of the access driveway, which is directly proportional to the on-site parking provision and also to the type of frontage road.

Taking into account that the proposed driveway is located on Showground Road, which operates as a Local Road, and the car park has a capacity of 12 parking spaces, Table 3.1 classifies the proposed driveway as 'Category 1'. Table 3.2 recommends that the driveway width be within a range of 3.0-5.5 metres as a combined entry and exit. The width of the proposed driveway is in excess of 3.0 metres and is therefore considered compliant with the Standard.

Additionally, to access the driveway configuration, we have undertaken a Swept Path Analysis using the AutoTrack simulation software. The Analysis, which was undertaken using the recommended vehicle type, is presented as **Attachment B.** 

#### 7.3. Sight Distance

Section 3.2 of AS2890.1 specifies the recommended sight distance associated with the driveway. The sight distance requirement is prescribed in accordance with the posted speed limit along the frontage road. The proposed development will be accessible via the driveway located on the Showground Road frontage.

Section 3.2 of the Standard specifies a desirable visibility distance of 69 metres and a minimum distance of 45 metres for streets having a posted speed limit of 50kph. The proposed driveway is located on a straight section of Showground Road, where unobstructed visibility is available. In this regard, the driveway arrangement is considered safe and appropriate to service the proposed development.

### 7.4. Ramp Grade

The proposed ramp grades will be designed in accordance with the AS2890.2-2004 and include a Max 1 in 20 (5%) connecting the property boundary to the basement level car park.



#### 7.5. Driveway Location

Figure 3.1 of the Standard shown below specifies the prohibited location for the introduction of a Category 1 driveway.



Figure 11: Prohibited Locations of Access Driveway (Source AS2890.1-2004)

A review of the proposed driveway indicates the driveway is located well outside the prohibition zone, and therefore, the proposal is considered compliant with the Standard.

### 7.6. Servicing

Regarding the waste collection activity, the proposal involves utilising the council's waste collection to access the site. The council uses a 3.5m high refuse collection vehicle, which has properties similar to those of an HRV.

To access the driveway configuration, we have undertaken a Swept Path Analysis using the AutoTrack simulation software. The Analysis, which was undertaken using the recommended vehicle type, is presented as **Attachment B.** 

Lastly, given the site constraints, any occasional requirements for delivery vehicles will utilise the existing on-street parking provision available within the vicinity of the subject site, which is considered standard practice for a residential development of this size.



### 8. Conclusions and Recommendations

- The provision of 12 car parking spaces, including four disabled spaces, for the proposed development is considered sufficient to handle the project parking demand;
- Based on the information provided, the proposal does not generate any increase in safety risk to pedestrians or drivers as a result of the access and parking configuration;
- The proposed development will not negatively impact current traffic conditions, including local intersection capacity; and
- An assessment of the car park layout, including the parking spaces and associated aisle width, indicates the car park layout is designed in accordance with the relevant applicable Standards (AS2890.1&AS2890.6).

### 9. Attachments

#### Attachment A - Architectural Plan indicating Access and Car Park Arrangement

Attachment B - Turning Path Assessments:































