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Sustainable Transport. Safe Solutions

252-254 Camberwarra Dr, Craigie

Proposed Change of Use

TRANSPORT IMPACT STATEMENT



Prepared for:
AGEM Property Group

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252-254 Camberwarra Dr, Craigie

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1 Introduction

This Transport Impact Statement has been prepared by Urbii on behalf of AGEM Property Group with regards to the proposed change of use, located at 252-254 Camberwarra Dr, Craigie

The subject site is situated on the western side of Camberwarra Drive, as shown in Figure 1. The site presently accommodates three buildings, which previously operated as an aged care hostel, with chapel and caretaker residence. The site is located next to the Whitford Catholic Primary School, a church and child care centre.

A change of use is proposed for the site, which will repurpose the site to a general “Residential Building” land use.

The key issues that will be addressed in this report include the traffic generation and distribution of the proposed development, access and egress movement patterns, car parking and access to the site for alternative modes of transport.



Figure 1: Subject site



2 Scope of work

The WAPC *Transport Assessment Guidelines 2016* identifies the proposed development as being “Moderate Impact” (Figure 2). Accordingly, a Transport Impact Statement (TIS) has been prepared to support a robust Development Application and to assist the LGA with demonstration of traffic impact.

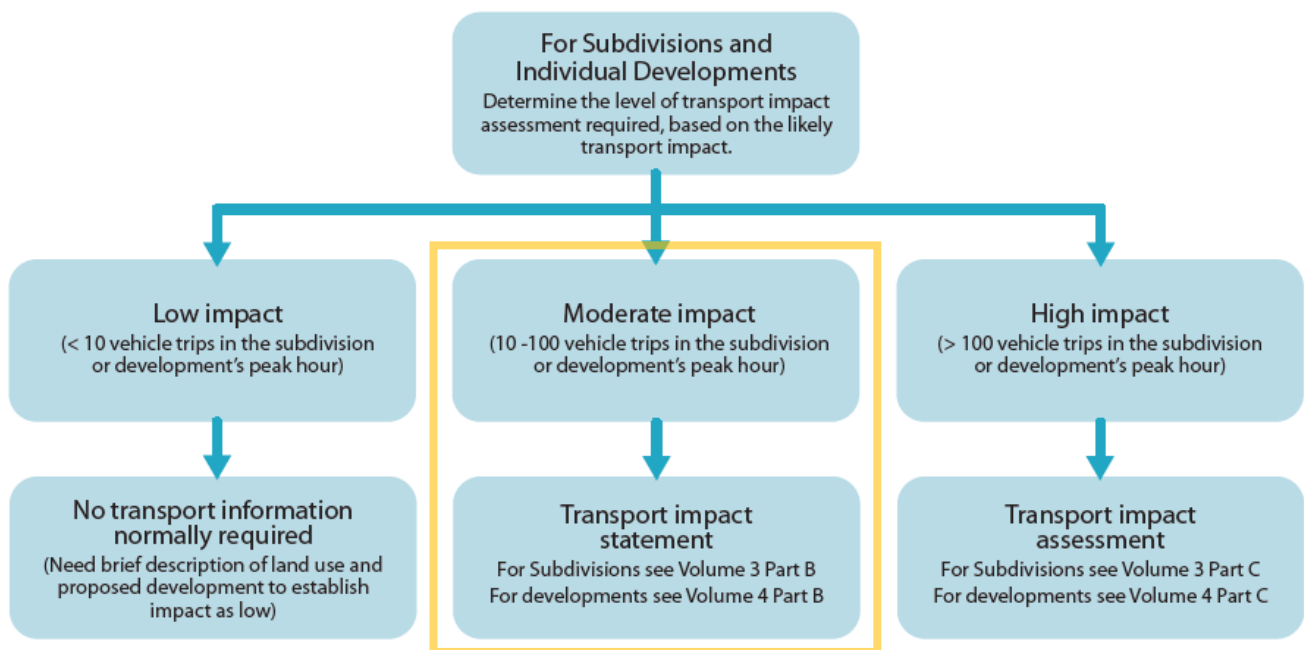


Figure 2: WAPC Transport Assessment Guidelines – reporting requirements

3 Proposed change of use

A change of use is proposed for the site to a “Residential Building” land use, which is defined as:

A building or portion of a building, together with rooms and outbuildings separate from such building but incidental thereto; such building being used or intended, adapted or designed to be used for the purpose of human habitation:

- *Temporarily by two or more persons; or*
- *Permanently by 7 or more persons, who do not comprise a single family, but does not include a hospital or sanatorium, a prison, a hotel, a motel or a residential school.*

Based on advice provided to Urbii, there is no specific tenant confirmed for the site yet. The project Town Planner has provided a list of potential tenant types which all fit in the Residential Building land use definition (Table 1).

The repurposed building may accommodate up to 80 residents. However, the building occupancy will likely be well below that level, based on preliminary advice.

Vehicle access to the site is proposed via two existing crossovers on Camberwarra Drive. Waste collection arrangements will be determined once a tenant is secured for the site.

People walking and cycling will access the development from the external path network near the site.

A concept plan has been prepared to demonstrate how additional car parking may be added to the site. The concept plan is included for reference in Appendix A.



Table 1: Potential site uses

Sector	Type of Tenant	Notes
Education	Student Accommodation	100% Student Accommodation.
Skilled Worker Accommodation	Skilled Workers	Accommodation for skilled works moving to Perth, from regional WA, interstate or overseas.
NDIS	Supported Independent Living	
	Individualised Living Options	
	Specialist Disability Accommodation	
Community Housing	General Community Housing	Able bodied persons and with a single corporate tenant who'd lease rooms for 6-12 months.
	Domestic Violence Accommodation	Assume occupants stay for 3-12 months
Aged Care	Short Term Restorative Care	Designed to support occupants for 2-3 months in order to help reduce or prevent difficulties that ageing people may be having to complete activities of daily living.
Health Related Accommodation	Transitional Care	Accommodation that aims to provide additional recovery time when a patient leaves hospital.
	Respite Care	Short-term care that may be on a planned or emergency basis and is designed to give carers or care recipients a break from their daily schedules.

4 Vehicle access and parking

4.1 Vehicle access

The proposed vehicular access arrangements have been reviewed for efficient and safe traffic circulation.

4.1.1 Existing vehicle access

Existing vehicle access to the site is provided via two crossovers on Camberwarra Drive (Figure 3). The southern crossover leads to the primary open air site car park and is shown in Figure 4. The northern crossover leads to a parking garage, as shown in Figure 5. There are 12 parking spaces provided in the open-air car park (including 1 x ACROD bay) and 3 spaces in the garage, which equates to a total of 15 parking spaces currently provided on site.



Figure 3: Existing vehicle access



Figure 4: Existing southern crossover on Camberwarra Dr



Figure 5: Existing northern crossover on Camberwarra Dr

4.1.2 Proposed vehicle access

No changes to the existing vehicle access arrangements are proposed as part of the change of use application. Some changes may be made internally so that the northern crossover can provide internal access to additional car parking at the northern end of the site.

4.2 Parking supply

The concept plan shows a total of 24 car parking spaces provided onsite. This includes one ACROD bay and three spaces in the parking garage.

The project team has advised that an operational management plan will be developed for the site, which limits the number of cars permitted on site to match the supply of car parking. It is recommended that allowance be made for visitor car parking within the operational management plan.



5 Provision for service vehicles

The proposed development will not generate significant service vehicle traffic. It is recommended that smaller vehicles such as vans or utes be utilised for deliveries to the site. These smaller vehicles can park within the car park for a brief time during 'off-peak' periods.

6 Hours of operation

Traffic data for Camberwarra Drive indicates that the weekday road network peak hours occur between 8:00am to 9:00am and 3:00pm to 4:00pm.

Based on information provided to Urbii, the tenants of this development will likely exhibit peak site traffic between 7:00am to 8:00am and 5:00pm to 6:00pm, which is outside the peak traffic period for the road network.



7 Daily traffic volumes and vehicle types

7.1 Traffic generation

The intent of the residential building is to encourage walking, micromobility (including cycling) and public transport.

To further support the aim of promoting sustainable transport, onsite car parking is capped at around 24 bays. The traffic generation of the development has been estimated from first-principles engineering assumptions as following:

- Assume 24 cars parked onsite.
- Assume 80% car park turnover during the peak hours.
- $24 \times 80\% = 19$ vehicles per hour (vph).
- Assume peak hour traffic is 10% of daily traffic.
- Daily traffic = $10 \times 19\text{vph} = 190\text{vpd}$.

The proposed development is estimated to generate a total of 190 vehicles per day (vpd), with 19 vehicles per hour (vph) generated during the AM and PM peak hours, respectively.

These trips include both inbound and outbound vehicle movements.

7.2 Impact on surrounding roads

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

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

The proposed development will not increase traffic flows on any roads adjacent to the site by the quoted WAPC threshold of +100vph to warrant further analysis. Therefore, the impact on the surrounding road network is acceptable.

8 Traffic management on the frontage roads

Information from online mapping services, Main Roads WA, Local Government, and/or site visits was collected to assess the existing traffic management on frontage roads.

8.1.1 Camberwarra Drive

Camberwarra Drive near the subject site is an approximately 10m wide, two-lane divided road. A flush, red asphalt median is provided, with tree planting at regular intervals (Figure 6). Paths for walking and cycling are provided on both sides of the road. “NO STANDING ON CARRIAGEWAY OR VERGE” signs are installed on both sides of the road.

Camberwarra Drive is classified as a *Local Distributor* road in the Main Roads WA road hierarchy (Figure 7) and operates under a speed limit of 50km/h (Figure 8). Local Distributor roads are the responsibility of Local Government and are typically for the movement of traffic within local areas and connect access roads to higher order Distributors (Figure 9).

Traffic data obtained from the City of Joondalup indicates that Camberwarra Drive carried around 2,500 vehicles per day in 2022.



Figure 6: Camberwarra Drive looking north

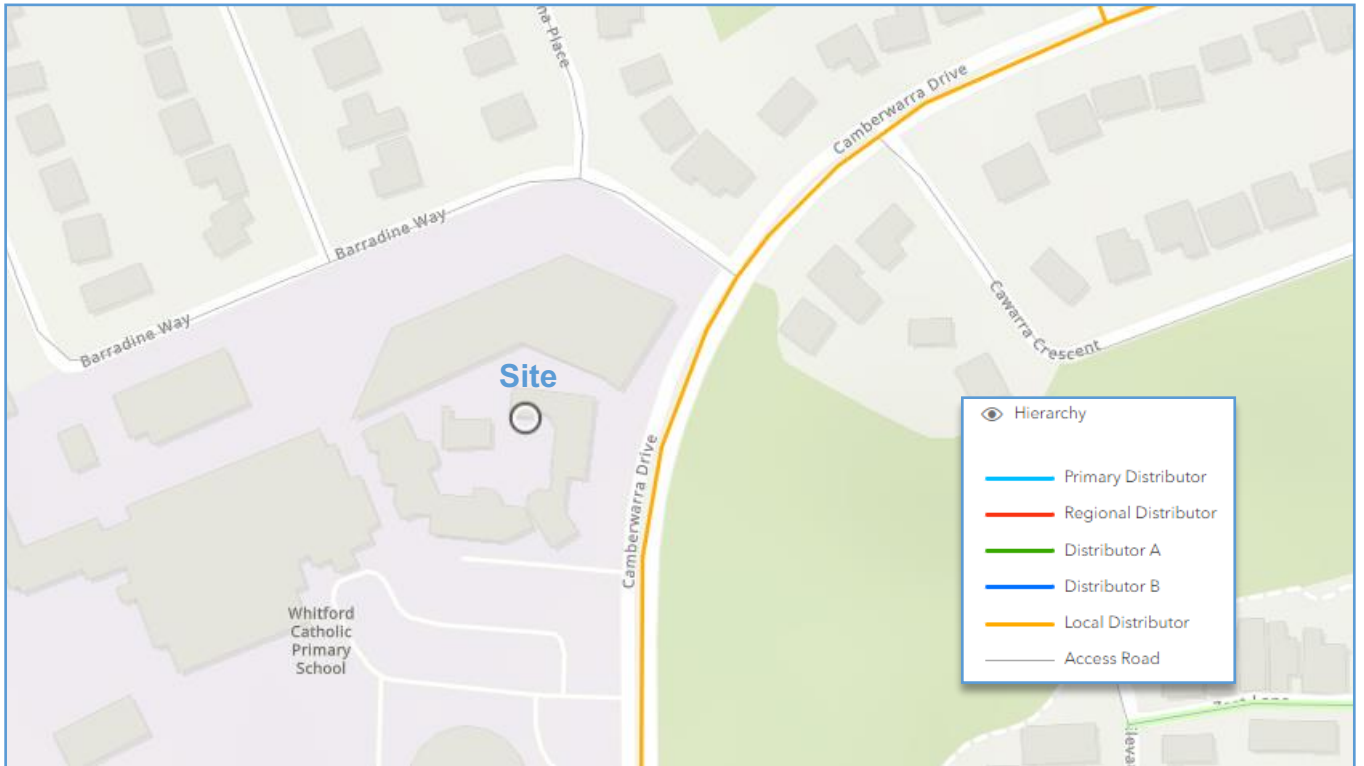


Figure 7: Main Roads WA road hierarchy plan

Source: Main Roads WA Road Information Mapping System (RIM)

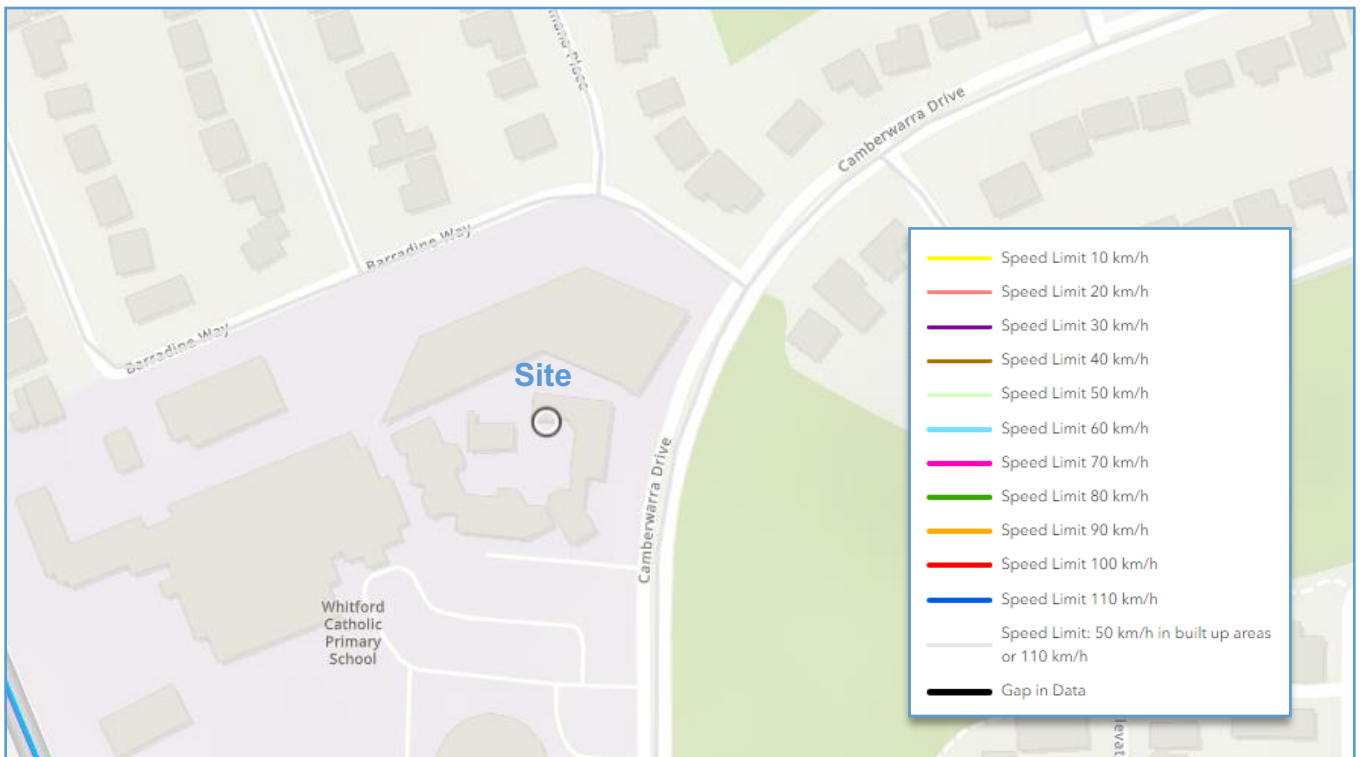


Figure 8: Main Roads WA road speed zoning plan

Source: Main Roads WA Road Information Mapping System (RIM)

**ROAD HIERARCHY FOR WESTERN AUSTRALIA
ROAD TYPES AND CRITERIA (see Note 1)**

CRITERIA	PRIMARY DISTRIBUTOR (PD) (see Note 2)	DISTRICT DISTRIBUTOR A (DA)	DISTRICT DISTRIBUTOR B (DB)	REGIONAL DISTRIBUTOR (RD)	LOCAL DISTRIBUTOR (LD)	ACCESS ROAD (A)
<i>Primary Criteria</i>						
1. Location (see Note 3)	All of WA incl. BUA	Only Built Up Area.	Only Built Up Area.	Only Non Built Up Area. (see Note 4)	All of WA incl. BUA	All of WA incl. BUA
2. Responsibility	Main Roads Western Australia.	Local Government.	Local Government.	Local Government.	Local Government.	Local Government.
3. Degree of Connectivity	High. Connects to other Primary and Distributor roads.	High. Connects to Primary and/or other Distributor roads.	High. Connects to Primary and/or other Distributor roads.	High. Connects to Primary and/or other Distributor roads.	Medium. Minor Network Role Connects to Distributors and Access Roads.	Low. Provides mainly for property access.
4. Predominant Purpose	Movement of inter regional and/or cross town/city traffic, e.g. freeways, highways and main roads.	High capacity traffic movements between industrial, commercial and residential areas.	Reduced capacity but high traffic volumes travelling between industrial, commercial and residential areas.	Roads linking significant destinations and designed for efficient movement of people and goods between and within regions.	Movement of traffic within local areas and connect access roads to higher order Distributors.	Provision of vehicle access to abutting properties
<i>Secondary Criteria</i>						
5. Indicative Traffic Volume (AADT)	In accordance with Classification Assessment Guidelines.	Above 8 000 vpd	Above 6 000 vpd.	Greater than 100 vpd	Built Up Area - Maximum desirable volume 6 000 vpd. Non Built Up Area – up to 100 vpd.	Built Up Area - Maximum desirable volume 3 000 vpd. Non Built Up Area – up to 75 vpd.
6. Recommended Operating Speed	60 – 110 km/h (depending on design characteristics).	60 – 80 km/h.	60 – 70 km/h.	50 – 110 km/h (depending on design characteristics).	Built Up Area 50 - 60 km/h (desired speed) Non Built Up Area 60 – 110 km/h (depending on design characteristics).	Built Up Area 50 km/h (desired speed). Non Built Up Area 50 – 110 km/h (depending on design characteristics).
7. Heavy Vehicles permitted	Yes.	Yes.	Yes.	Yes.	Yes, but preferably only to service properties.	Only to service properties.
8. Intersection treatments	Controlled with appropriate measures e.g. high speed traffic management, signing, line marking, grade separation.	Controlled with appropriate measures e.g. traffic signals.	Controlled with appropriate Local Area Traffic Management.	Controlled with measures such as signing and line marking of intersections.	Controlled with minor Local Area Traffic Management or measures such as signing.	Self controlling with minor measures.
9. Frontage Access	None on Controlled Access Roads. On other routes, preferably none, but limited access is acceptable to service individual properties.	Prefer not to have residential access. Limited commercial access, generally via service roads.	Residential and commercial access due to its historic status. Prefer to limit when and where possible.	Prefer not to have property access. Limited commercial access, generally via lesser roads.	Yes, for property and commercial access due to its historic status. Prefer to limit whenever possible. Side entry is preferred.	Yes.
10. Pedestrians	Preferably none. Crossing should be controlled where possible.	With positive measures for control and safety e.g. pedestrian signals.	With appropriate measures for control and safety e.g. median/islands refuges.	Measures for control and safety such as careful siting of school bus stops and rest areas.	Yes, with minor safety measures where necessary.	Yes.
11. Buses	Yes.	Yes.	Yes.	Yes.	Yes.	If necessary (see Note 5)
12. On-Road Parking	No (emergency parking on shoulders only).	Generally no. Clearways where necessary.	Not preferred. Clearways where necessary.	No – emergency parking on shoulders – encourage parking in off road rest areas where possible.	Built Up Area – yes, where sufficient width and sight distance allow safe passing. Non Built Up Area – no. Emergency parking on shoulders.	Yes, where sufficient width and sight distance allow safe passing.
13. Signs & Linemarking	Centrelines, speed signs, guide and service signs to highway standard.	Centrelines, speed signs, guide and service signs.	Centrelines, speed signs, guide and service signs.	Centrelines, speed signs and guide signs.	Speed and guide signs.	Urban areas – generally not applicable. Rural areas - Guide signs.
14. Rest Areas/Parking Bays	In accordance with Main Roads' Roadside Stopping Places Policy.	Not Applicable.	Not Applicable.	Parking Bays/Rest Areas. Desired at 60km spacing.	Not Applicable.	Not Applicable.

Figure 9: Road types and criteria for Western Australia

Source: Main Roads Western Australia D10#10992



9 Public transport access

Information was collected from Transperth and the Public Transport Authority to assess the existing public transport access to and from the site.

The subject site has access to the following bus service within walking distance:

- Bus Route 463: Joondalup Stn - Whitfords Stn via Gradient Way.

The closest bus stops are located on Camberwarra Drive, less than 200m walk from the site. The walking routes to the nearest bus stops are detailed in Figure 10. Bus services provide excellent coverage and connectivity to the rail network.

The existing public transport network plan is shown in Figure 11. Public transport services provide a viable alternative mode of transport for residents and/or staff of the proposed development.

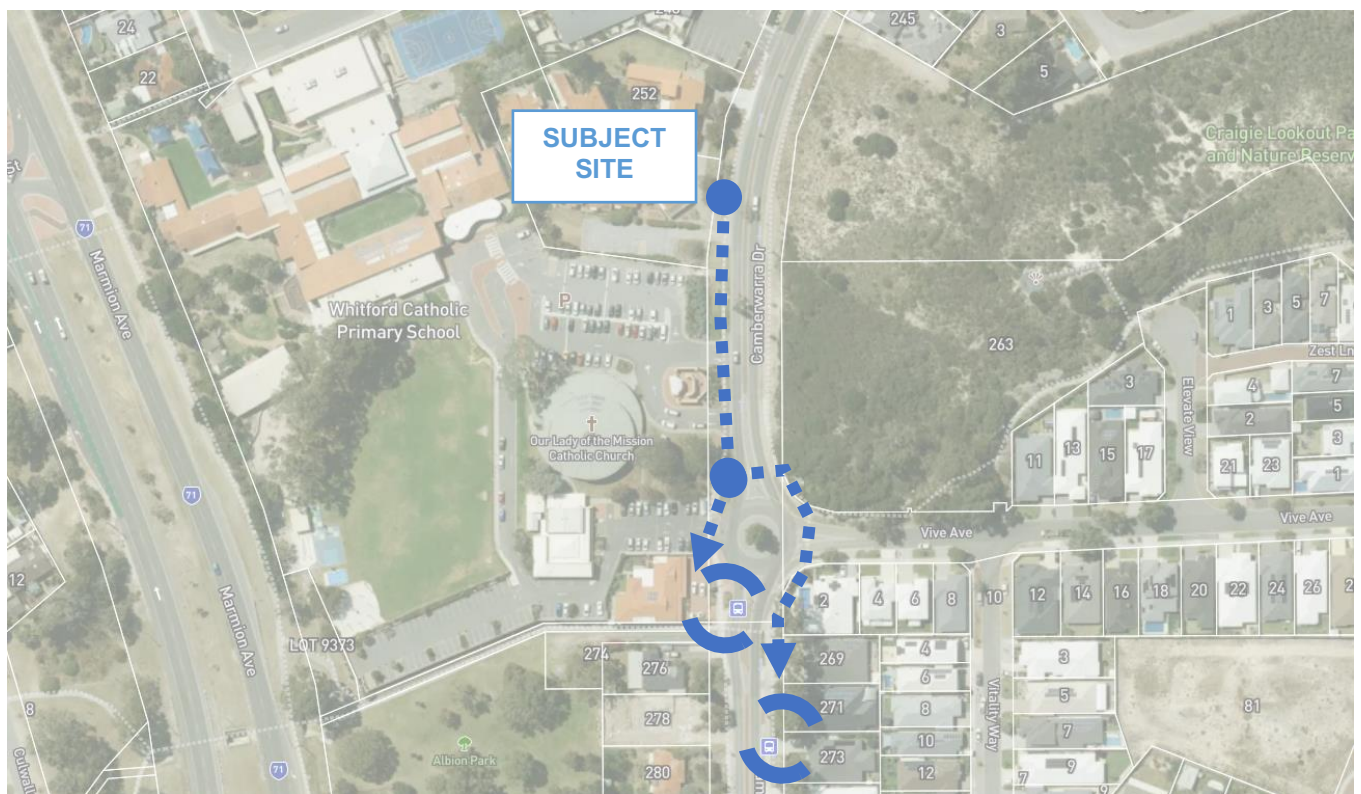


Figure 10: Closest bus stops serving the proposed development

Route 463, 464, 465, 466 Map

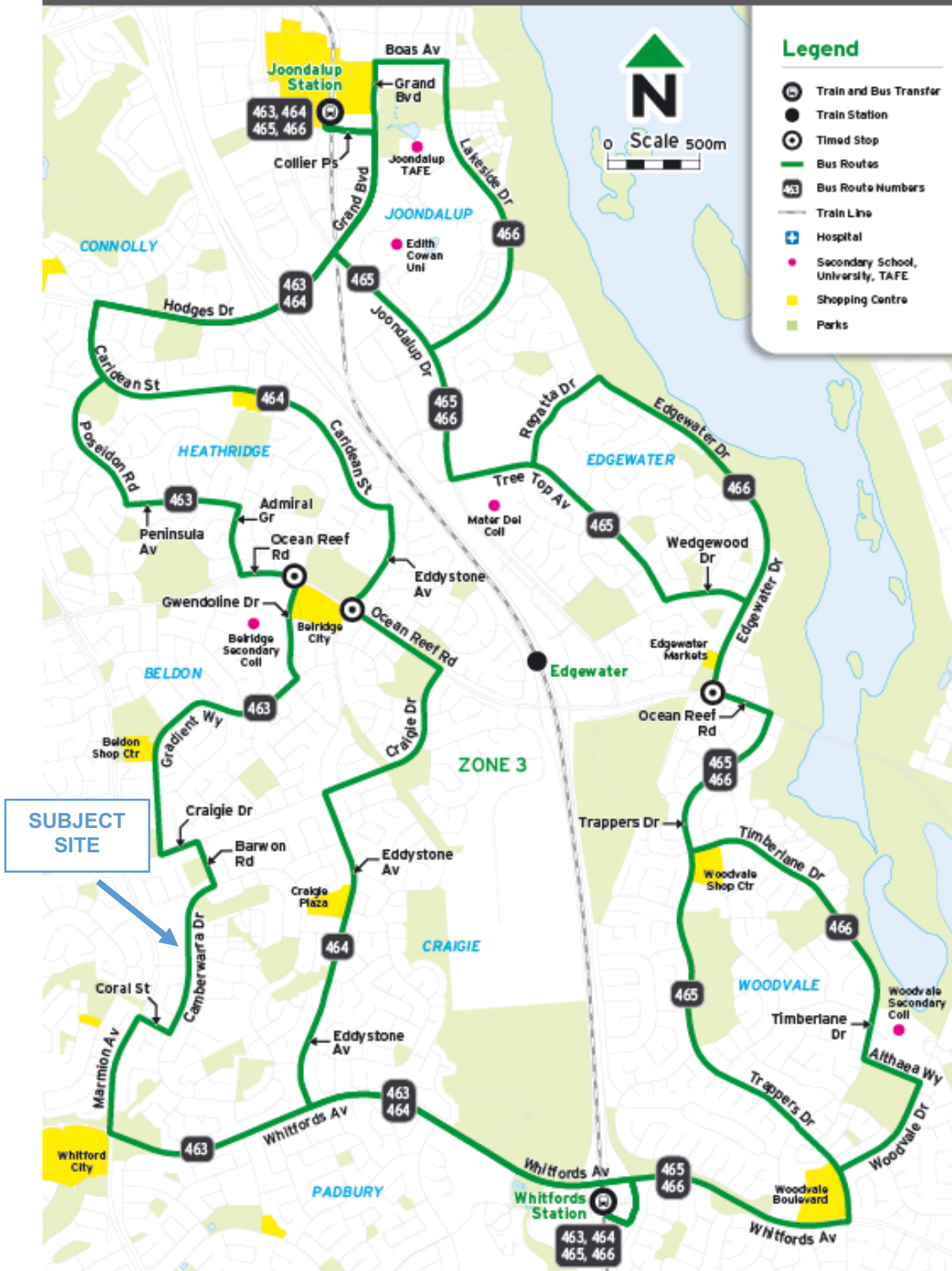


Figure 11: Transperth public transport plan

Source: Transperth



10 Pedestrian access

Information from online mapping services, Main Roads WA, Local Government, and site visits was collected to assess the pedestrian access for the proposed development.

10.1 Pedestrian facilities and level of service

Footpaths are provided along both sides of Camberwarra Drive. Pedestrian crossing facilities including kerb ramps and median island refuges are provided at nearby intersections. This promotes improved access for bicycles, wheelchairs and prams.

The WAPC Transport Impact Assessment Guidelines for Developments (2016) provide warrants for installing pedestrian priority crossing facilities. This is based on the volume of traffic as the key factor determining if pedestrians can safely cross a road. The guidelines recommend pedestrian priority crossing facilities be considered once the peak hour traffic exceeds the volumes detailed in Table 2.

The traffic volumes in this table are based on a maximum delay of 45 seconds for pedestrians, equivalent to Level of Service E.

Traffic volumes on adjacent roads are within the acceptable crossing thresholds.

Table 2: Traffic volume thresholds for pedestrian crossings

Road cross-section	Maximum traffic volumes providing safe pedestrian gap
2-lane undivided	1,100 vehicles per hour
2-lane divided (with refuge)	2,800 vehicles per hour
4-lane undivided*	700 vehicles per hour
4-lane divided (with refuge)*	1,600 vehicles per hour

11 Bicycle access

Information from online mapping services, Department of Transport, Local Government, and/or site visits was collected to assess bicycle access for the proposed development.

11.1 Bicycle network

The Department of Transport Perth Bicycle Network Map (see Figure 12) shows the existing cycling connectivity to the subject site. A shared path is provided on Camberwarra Drive, which connects to the broader cycling network. A shared path and on-street cycling lanes are provided on Marmion Avenue within a short cycling distance of the site.

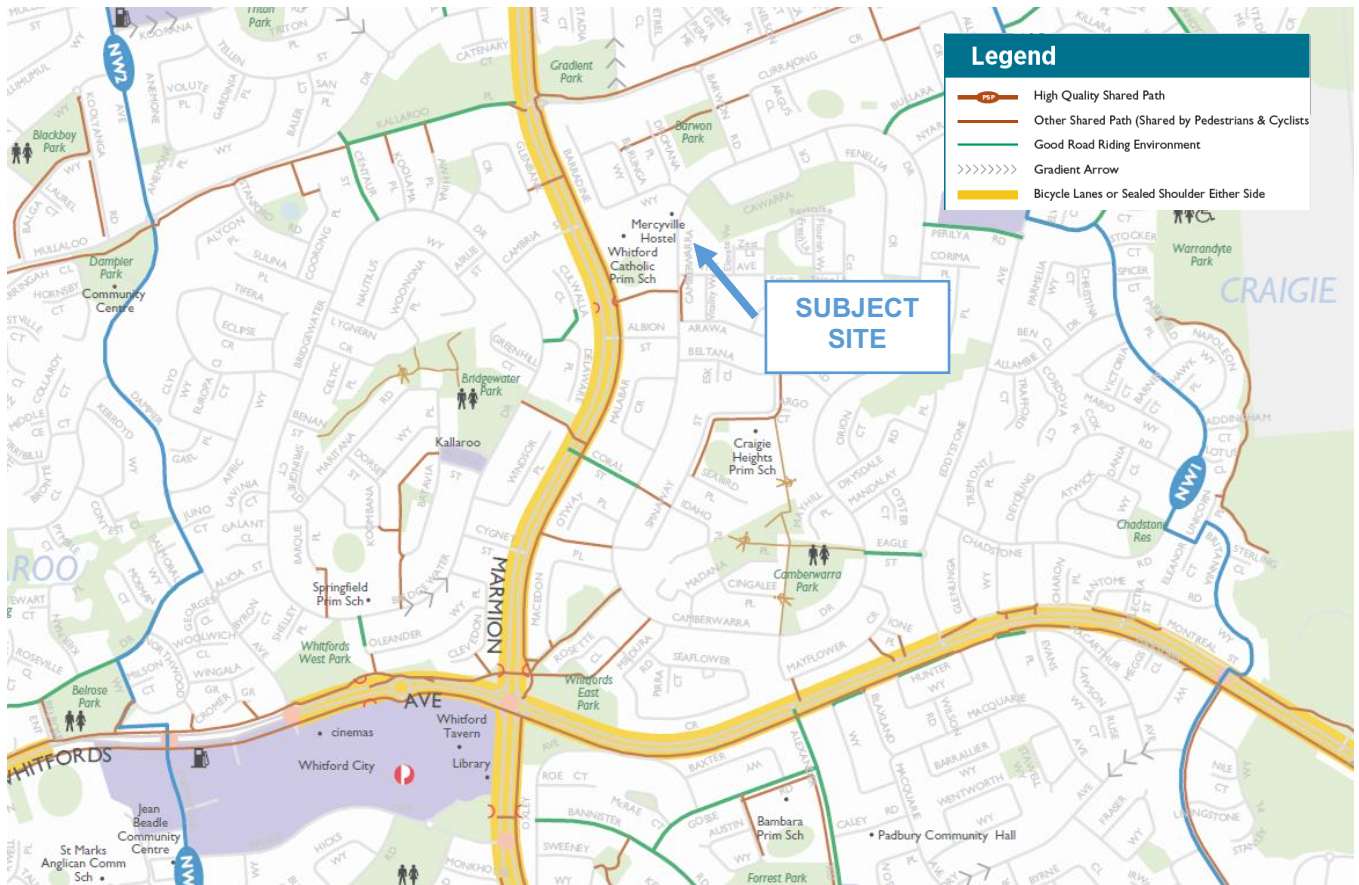


Figure 12: Perth bicycle network plan

The Strava cycling heatmap tool shows that Marmion Avenue is a relatively popular cycling route in the local area (Figure 13).



Figure 13: Strava cycling heatmap

11.2 Bicycle parking and end of trip facilities

It is recommended that bicycle parking be provided for the development at subsequent project stages.

There are existing showers within the building which can be repurposed for end of trip facilities. End of trip facilities should include a shower, lockers and a change room.

11.3 Sustainable transport catchment

As detailed in Figure 14, the subject site is well placed for residents, workers and visitors to travel by sustainable modes of transport. A comfortable 8km or 20-25min cycle will provide the development with a large catchment.

This range can be further increased through a combination of micro-mobility and train travel with close access to train stations.

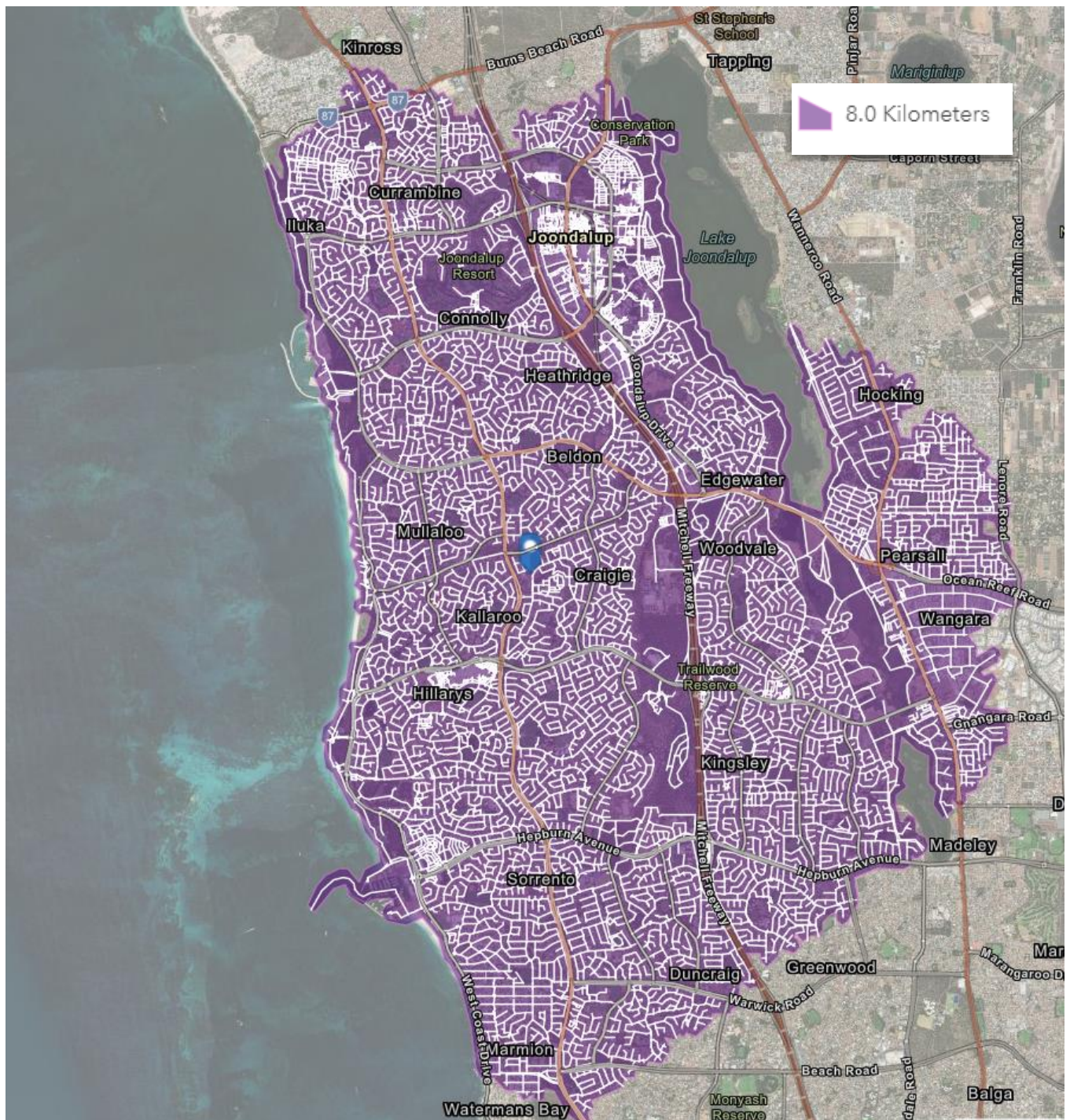


Figure 14: Cycling and micro-mobility catchment



12 Site specific issues

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

13 Safety issues

13.1 Crash history

The Main Roads WA crash mapping facility was used to check the past 5 years of crash records near the site. As depicted in Figure 15, there was one crash in the study area. The crash data is summarised in Table 3.



Figure 15: 5-year crash history map (2018 to 2022)

Source: Main Roads WA crash map

Table 3: 5-year crash history summary (2018-2022)

Severity	No.	%
Fatal	0	0
Hospital	0	0
Medical	0	0
PDO Major	0	0
PDO Minor	1	100.00

Year	No.	%
2022	1	100.00

Nature	No.	%
Head On	0	0
Hit Animal	0	0
Hit Object	0	0
Hit Pedestrian	0	0
Non Collision	0	0
Not Known	0	0
Rear End	0	0
Right Angle	1	100.00
Right Turn Thru	0	0
Sideswipe Opposite Dirn	0	0
Sideswipe Same Dirn	0	0

Light	No.	%
Dark - Street Lights Not Provided	0	0
Dark - Street Lights Off	0	0
Dark - Street Lights On	0	0
Dawn Or Dusk	0	0
Daylight	0	0
Not Known	0	0
Other / Unknown	1	100.00

Conditions	No.	%
Dry	1	100.00
Not Known	0	0
Wet	0	0

Alignment	No.	%
Curve	0	0
Not Known	0	0
Other / Unknown	1	100.00
Straight	0	0

Total	No.	%
Total	1	

14 Conclusion

This Transport Impact Statement has been prepared by Urbii on behalf of AGEM Property Group with regards to the proposed change of use, located at 252-254 Camberwarra Dr, Craigie

The subject site is situated on the western side of Camberwarra Drive. The site presently accommodates three buildings, which previously operated as an aged care hostel, with chapel and caretaker residence. The site is located next to the Whitford Catholic Primary School, a church and child care centre.

A change of use is proposed for the site, which will repurpose the site to a general “Residential Building” land use.

The site features good connectivity with the existing road, cycling and walking network. There is good public transport coverage through nearby bus services and access to the rail network.

The traffic analysis undertaken in this report shows that the potential traffic generation of the site is moderate (less than 100vph on any lane) and as such would have moderate impact on the surrounding road network.

An operational management plan will be developed for the site, which limits the number of cars permitted on site to match the supply of car parking. It is recommended that allowance be made for visitor car parking within the operational management plan.

It is concluded that the findings of this Transport Impact Statement are supportive of the proposed change of use.

