Transport Impact Statement

Project:	Proposed Coffee Shop Development Part Lot 2076, 40 Butler Boulevard, Butler
Client:	Ennis Advisory
Author:	Liomar De Leon
Date:	9th April 2024
Shawmac Document #:	2311011-TIS-001

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1. Introduction

1.1. Proponent

Shawmac Pty Ltd has been commissioned by Ennis Advisory to prepare a Transport Impact Statement (TIS) for a proposed coffee shop development in Butler.

This TIS has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines Volume 4 – Individual Developments*. The assessment considers the following key matters:

- Details of the proposed development.
- Vehicle access and parking.
- Provision for service vehicles.
- Hours of operation.
- Daily traffic volumes and vehicle types.
- Traffic management on frontage streets.
- Public transport access.
- Pedestrian access.
- Cycle access and end of trip facilities.
- Site specific and safety issues.

1.2. Site Location

The site address is 40 (Lot 2076) Butler Boulevard in Butler. The development will occupy a central portion of the lot. The local authority is the City of Wanneroo.

The general site location is shown in **Figure 1**. An aerial view of the existing site is shown in **Figure 2**.

Figure 1: Site Location

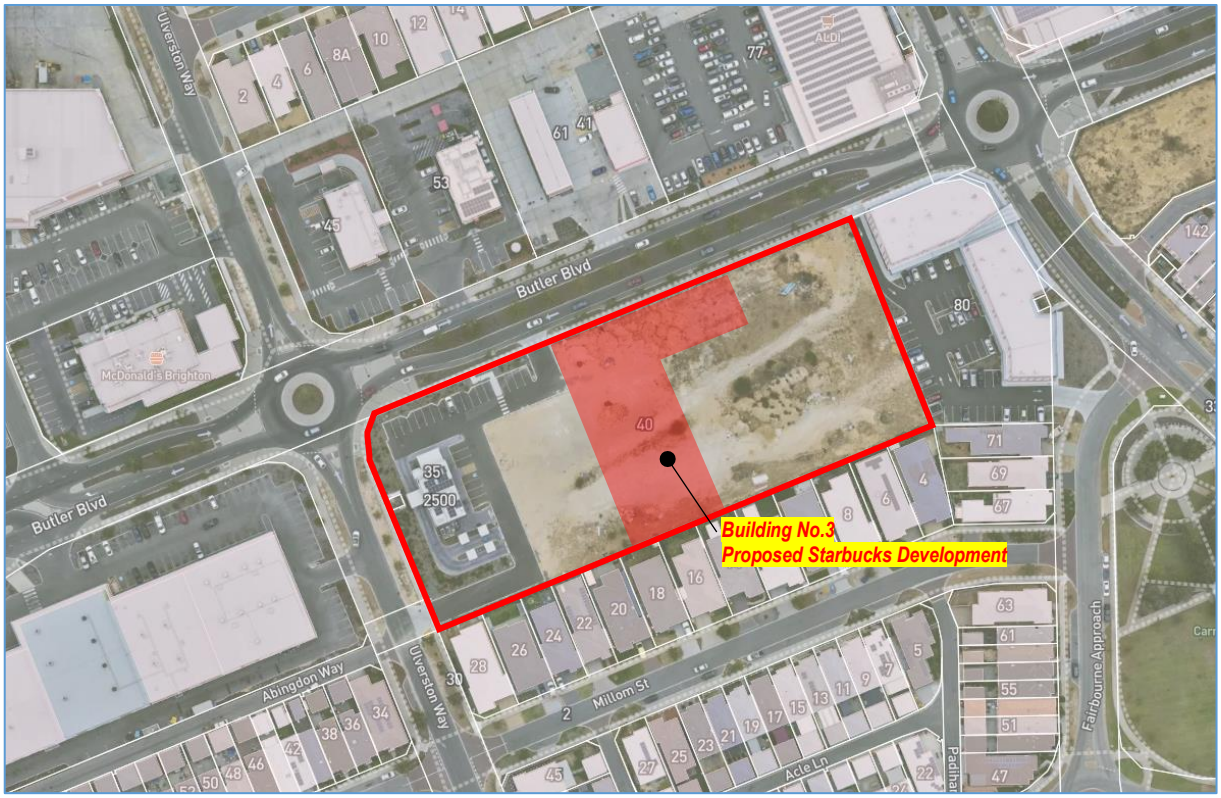


Figure 2: Aerial View (March 2024)

2. Proposed Development

2.1. Land Use

The proposed application is the development of Stage 4 of the overall site. Stage 4 includes the construction of a drive through coffee shop outlet in the centre of the site which will be occupied by Starbucks.

The site is located within Precinct C of the Butler District Centre Activity Centre Structure Plan Area which is described as "…a commercial gateway to the centre and allows for bulky goods, showrooms and other similar commercial uses at the edge of the centre, in close proximity to the high traffic environment of Marmion Avenue."

Drive Through Food Outlet is listed as a permitted use within Precinct C and so the proposed development is consistent with the intent of the area.

The proposed site layout is shown in **Figure 3** and the development plans are attached as **Appendix A**.

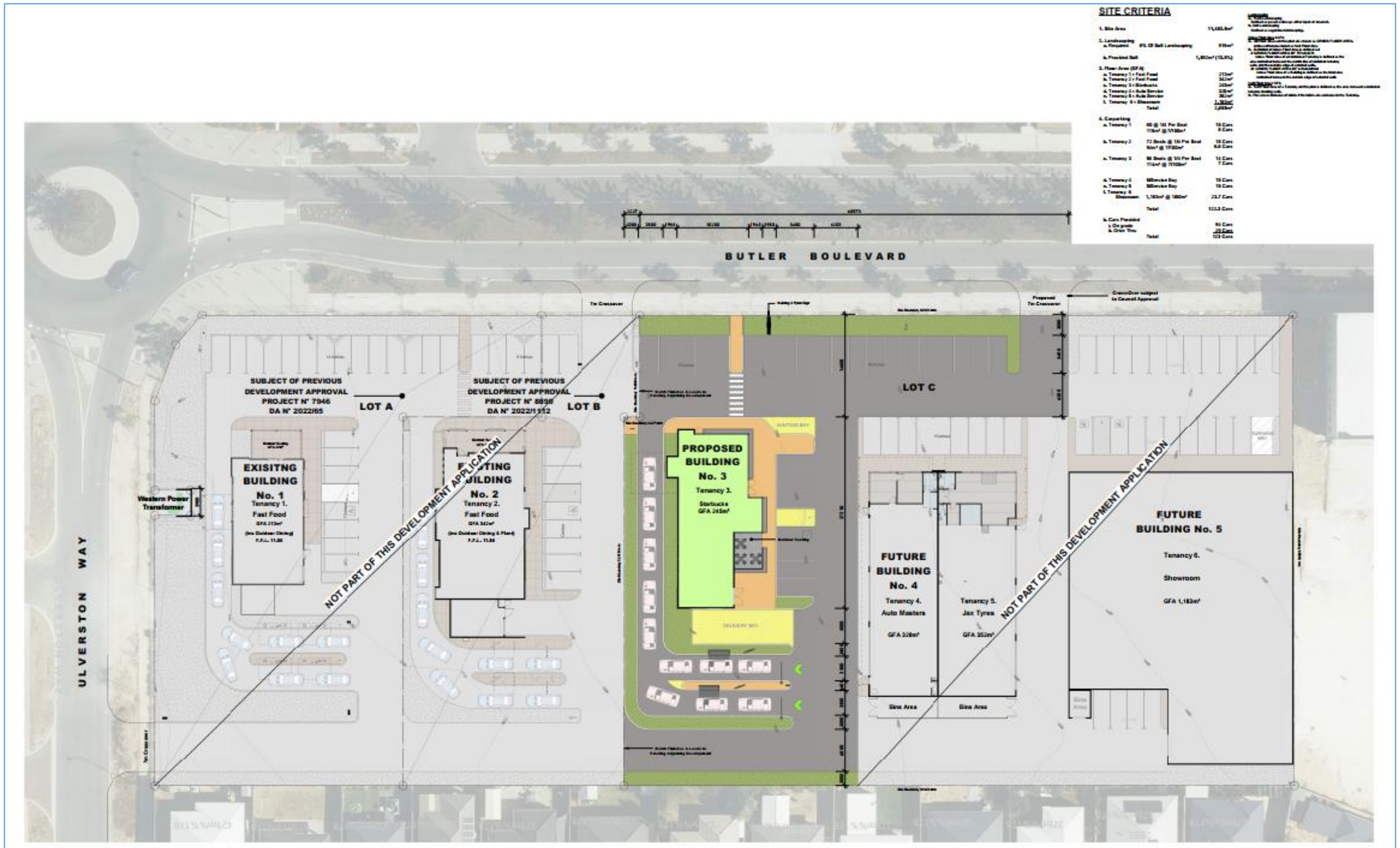


Figure 3: Site Layout

3. Traffic Management on Frontage Streets

3.1. Road Network Layout and Hierarchy

The layout and hierarchy of the existing local road network according to the Main Roads WA *Road Information Mapping System* is shown in **Figure 4**.

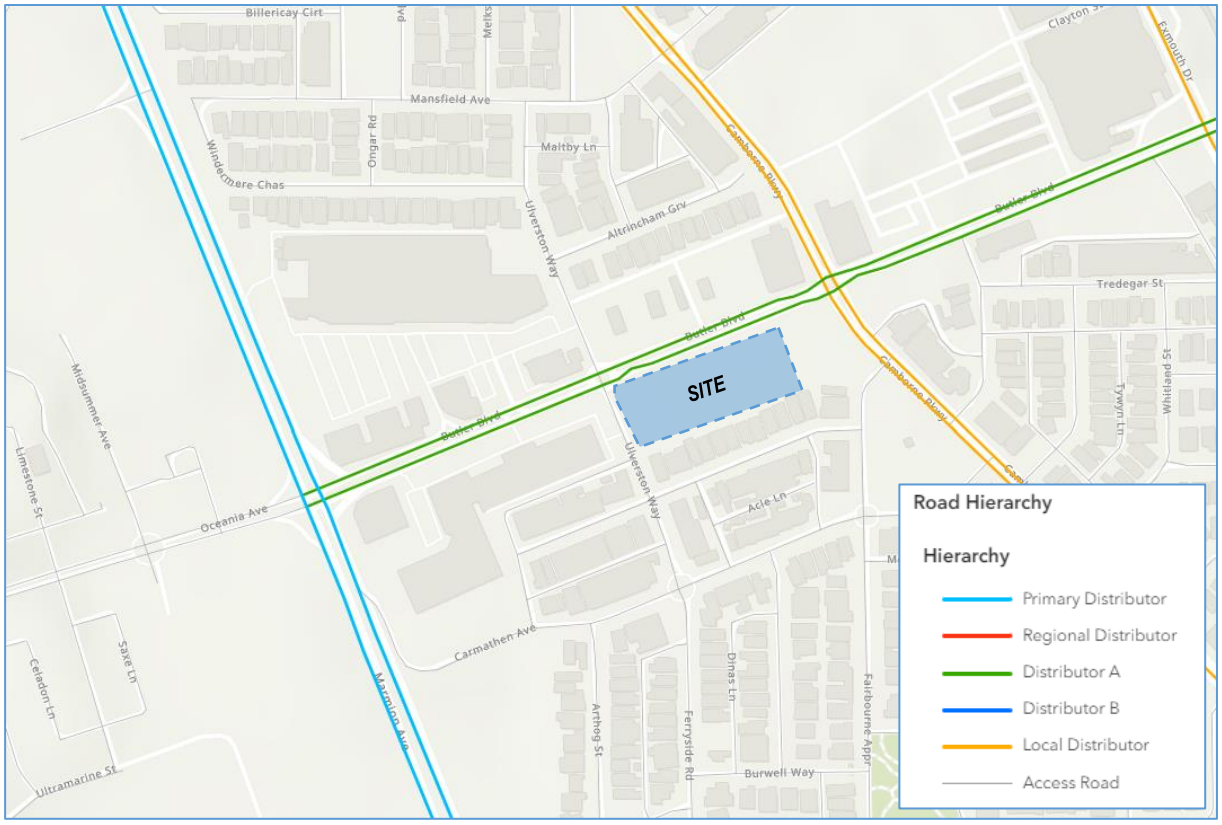


Figure 4: Existing Road Network Hierarchy

As shown, Butler Boulevard is classified as a Distributor A.

3.2. Speed Limit

The speed limit of the existing local road network is shown in **Figure 5**.

Figure 5: Existing Speed Limits

As shown, Butler Boulevard and other roads surrounding the site are operating under a 50km/h speed limit as it is located within built-up area.

4. Vehicle Access and Parking

4.1. Access

Vehicle access for the proposed Stage 4 development is on Butler Boulevard via a new 7m crossover consistent with the access arrangement for Stage 3. The access will be restricted to left-in/left-out (LILO) due to the existing central median.

The proposed access arrangement is shown in **Figure 6**.

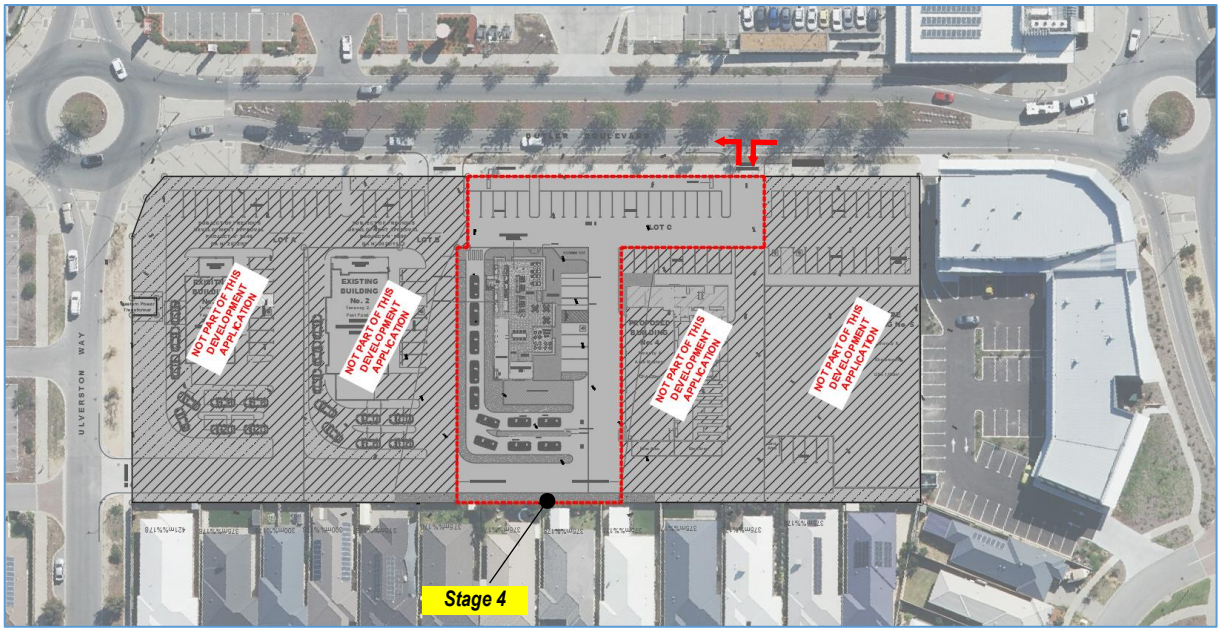
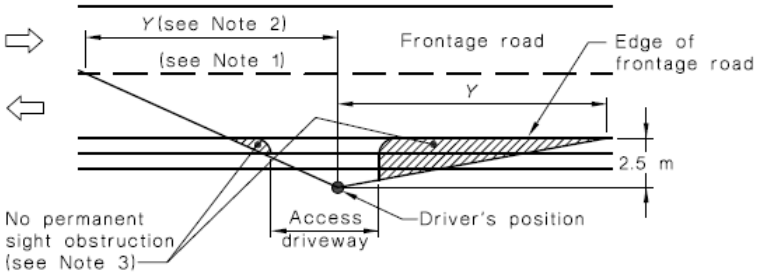


Figure 6: Proposed Access Arrangement

4.1.1. Sight Distance

Sight distance requirements from exit crossovers is defined in Figure 3.2 of Australian Standard AS2890.1-2004 *Parking facilities Part 1: Off street car parking* (AS2890.1) as shown in **Figure 7**.



Frontage road speed (Note 4) km/h	Distance (*Y*) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40
60	83	65	55
70	97	85	70
80	111	105	95
90	125	130	Use values from 2nd and 3rd columns
100	139	160	
110	153	190	

Figure 7: Sight Distance Requirements

Based on the 50km/h speed limit along Butler Boulevard, the minimum required sight distance is 45 metres.

The sight distance check is shown in **Figure 8**. As the Butler Boulevard crossover is restricted to LILO movements only, sight distance is only required towards the east.

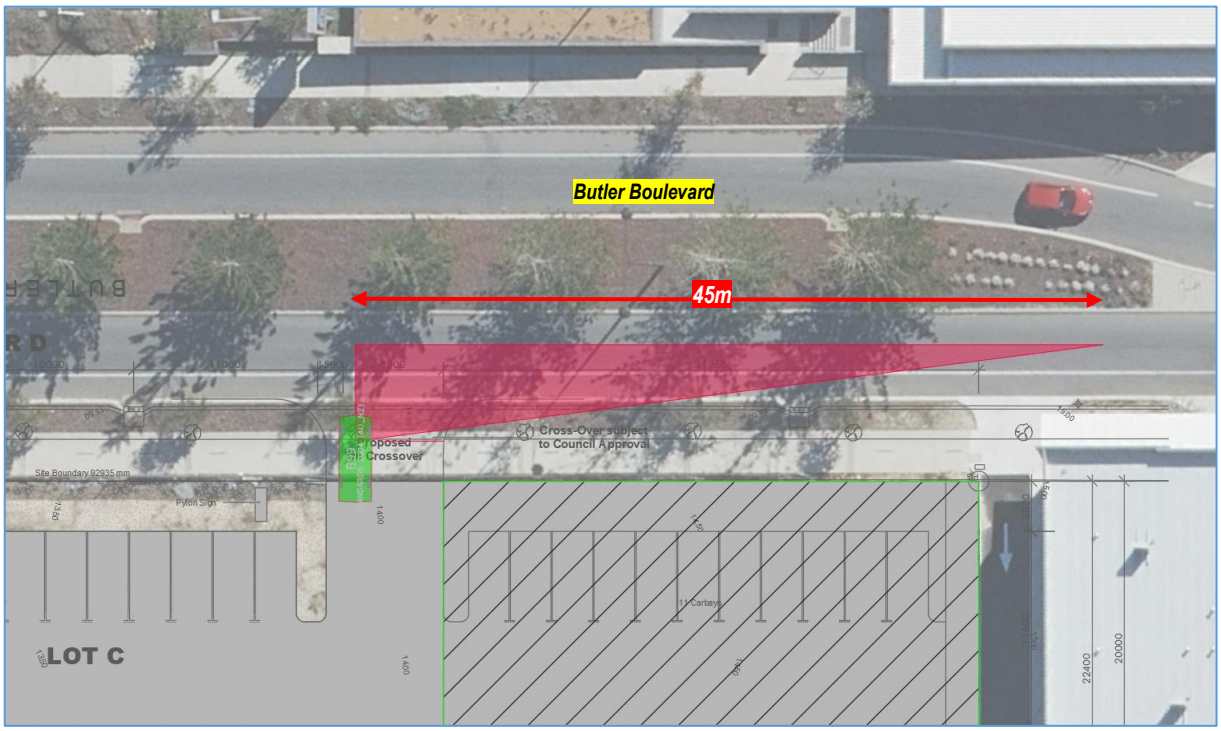


Figure 8: Sight Distance Check – Butler Boulevard

As shown, the minimum required sight distance is achieved towards the east. Vertically, the geometry of Butler Boulevard is relatively flat with no major crests that impede sight distance.

4.2. Parking

4.2.1. Parking Provision

The car parking requirements for development in Precinct C of the Butler District Centre Activity Centre Structure Plan (ACSP) is 2 bays per 100m^2. However in this instance, the City has requested that the parking requirements are calculated in accordance with the City's District Planning Scheme No. 2 (DPS2).

As the site is part of a larger overall development site and parking will be shared between the neighbouring uses, the parking calculation has included both existing and approved fast food outlets. The car parking requirements are summarised and calculated in **Table 1**.

Table 1: Parking Requirement - City of Wanneroo District Planning Scheme

Land Use	Requirement	Quantum	Bays Required
Building 1 (Taco Bell)	1 space per 4 seats	60 seats	15
	7 spaces per 100m^2 non-seated area	115m^2	8
Building 2 (Carl's Jr)	1 space per 4 seats	72 seats	18
	7 spaces per 100m^2 non-seated area	94m^2	7
Building 3 (Starbucks)	1 space per 4 seats	56 seats	14
	7 spaces per 100m^2 non-seated area	114m^2	8
Building 4 (Auto Masters)	5 bays per service bay	5 service bays	25
Building 4 (Jax Tyres)	5 bays per service bay	5 service bays	25
Sub-Total			**120 spaces**
Total – Provided			**108 spaces**

As shown, the overall development is required to provide 120 car parking spaces at the completion of Stage 4. A total of 108 car parking spaces (69 regular bays, 29 drive-through spaces and 10 service bays) will be available which is 12 bays short of the calculated requirement.

According to information provided by the Auto Masters WA State Manager, each WA Auto Masters store services an average of 175 vehicles per month which equates to approximately 8 vehicles per day (refer **Appendix A**). Each store will typically have a store manager and 2 to 4 technicians/mechanics. Assuming as a worst case-scenario that all staff drive individually and that there are up to 10 customers who leave their car for the entire day, the realistic maximum parking demand for the Auto Masters Tenancy would be 15 bays.

On the other hand, tyre repairs and replacements are completed within a short period of time and so customers will often wait on-site and then leave after the work is completed. On this basis, the requirement of 5 bays per service bay for Jax Tyres is considered excessive and the realistic parking demand would be similar to the Auto Masters at around 15 bays based on 5 staff spaces and 10 customers spaces.

It is also noted that the DPS2 requirements are applicable to standalone developments where there is no allowance for reciprocal parking and so it would be reasonable to apply a reduction from these values to account for shared parking between neighbouring businesses and also for the location of the site within an activity centre.

Further reasons for justifying a reduction are outlined in **Table 2**.

Table 2: Justification for Parking Reduction

Reason	Comment
Motor Vehicle Repair Parking Ratio Comparison	The requirement of 5 bays per service bay is much higher than what is applied in many other local government areas. Some examples are listed below, including what would be required by the proposed auto tenancies if the alternate rate were applied. Some of the rates below also do not account for reduced parking ratios or concessions based on activity centre locations or alternative transport use etc. • City of Joondalup — 1 bay per 50m^2 NLA — 13 bays • City of Stirling — 1 bay per 50m^2 GFA — 13 bays • City of Gosnells — 4 bays per service bay — 40 bays • City of Vincent (Activity Corridor) — 2.2 bays per service bay — 22 bays • Town of Cottesloe — 3 bays per service bay — 30 bays The average of the above requirements is 28 bays which would reduce the overall development requirements to 76 bays. The Department of Planning, Lands and Heritage (DPLH) released a draft interim guide for non-residential car parking in 2023 for comment. The guide aims to encourage a more consistent approach to the provision of car parking in the Perth and Peel area and to move towards applying maximum parking rates. For motor vehicle repair uses in a service commercial zone, the guide recommends a minimum provision of 1 space per 100m^2 floor area and a maximum provision of 1 space per 30m^2 floor area. For the proposed development this would result in a minimum requirement of 7 bays and a maximum requirement of 22 bays.
Multipurpose / internal trips	The site is located within a district-level activity centre, adjacent to many other complementary land uses and the high potential for multi-purpose or internal trips which do not generate additional or separate parking demand. For example, an auto service customer may buy lunch or dinner at the Taco Bell after picking up their car. Similarly, staff at any of the adjacent businesses who are parked on the adjacent sites may walk to the Taco Bell or Carl's Jr for lunch. As a guide, the City of Stirling allows a 10% reduction in the parking requirements where the proposed development is within a Regional Centre, District Centre or Neighbourhood Centre. A reduction of 10% would reduce the parking requirement to 108 bays which is provided.
Peak parking periods	The peak periods of activity and parking demand do not wholly overlap. Based on the Google "Popular Times" feature, the peak period of demand for the existing Taco Bell on the site is around dinner. At this time, the motor vehicle repair and tyre repair tenancy will be closed. Similarly, the Taco Bell will require less bays in the morning and around lunch when the motor vehicle and tyre repair businesses are operating. On Saturday afternoons and Sundays, the motor vehicle and tyre repair businesses will be closed and so all bays on the site will be available for the fast food tenancies. An extract of the Google "Popular Times" for the existing Taco Bell and an existing Auto Masters in Mindarie is attached as **Appendix B**.
Competition	There are four existing fast-food outlets and there will eventually be six outlets along this section of Butler Boulevard. Due to the high level of competition, the patronage and parking demand of each outlet will be reduced compared to a standalone fast food outlet with limited competition in the vicinity.

Reason	Comment
Alternative transport use	The site has excellent access to public transport including Butler Train Station and numerous bus services stopping along Butler Boulevard and Camborne Parkway. Although most customers are likely to use car transport, a moderate proportion of staff can be expected to utilise public transport to travel to and from work particularly for the fast food outlets which often employ young workers such as students who do not drive or do not own a car. As a guide, the City of Stirling allows a 10% reduction in the parking requirements where the proposed development is within 800 metres of a railway station. A reduction of 10% for alternative transport plus 10% for the centre location noted above would reduce the parking requirement to 96 bays which is exceeded.
Realistic Taco Bell and Carl's Jnr Parking Demand	Fast food outlets generate high turnover, low dwell time parking demand. These outlets are also expected to generate a much higher demand in the drive-through lanes rather than in the standard parking spaces. It is also noted that different franchises will have differing levels of popularity. E.g. a Taco Bell and Carl's Jnr will generate much less demand than a McDonalds. As suggested by the City, a review of historical aerial imagery at existing Taco Bell and Carl's Jnr outlets has been undertaken to indicate the typical parking utilisation. The review used MetroMap aerial imagery and the chosen sites were similarly located in mixed-use areas and activity centres but had separate car parking areas in order to easily identify parking associated with the outlets. The review also excluded images that appeared to be captured outside of peak period periods where there were little or no vehicles. Taco Bell + Carl's Jnr (Dandenong South, Victoria): Average 11 bays occupied • 22/07/2022 17 bays • 18/12/2022 10 bays • 06/01/2024 7 bays • 11/01/2024 11 bays Taco Bell (Roxburgh Park, Victoria): Average 5 bays occupied • 16/01/2022 3 bays • 22/09/2022 4 bays • 15/05/2023 7 bays • 13/09/2023 7 bays • 11/01/2024 5 bays Carl's Jnr (Elizabeth, South Australia): Average 6 bays occupied • 16/04/2022 6 bays • 24/04/2023 5 bays • 26/08/2023 9 bays • 11/01/2024 4 bays As above, each Taco Bell or Carl's Jnr outlet typically generated a parking demand of 5 to 6 bays outside of the drive through zone which is much lower than the requirements calculated according to the City's DPS.

With the actual parking demand for the fast food outlets and the Auto Masters considered, the realistic parking requirement is reduced as outlined in **Table 3**.

There are limited existing Starbucks franchises in Australia but is expected that the parking demand will be similar to the Taco Bell and Carls Jr. As a worst-case scenario, no reduction has been applied to the Starbucks.

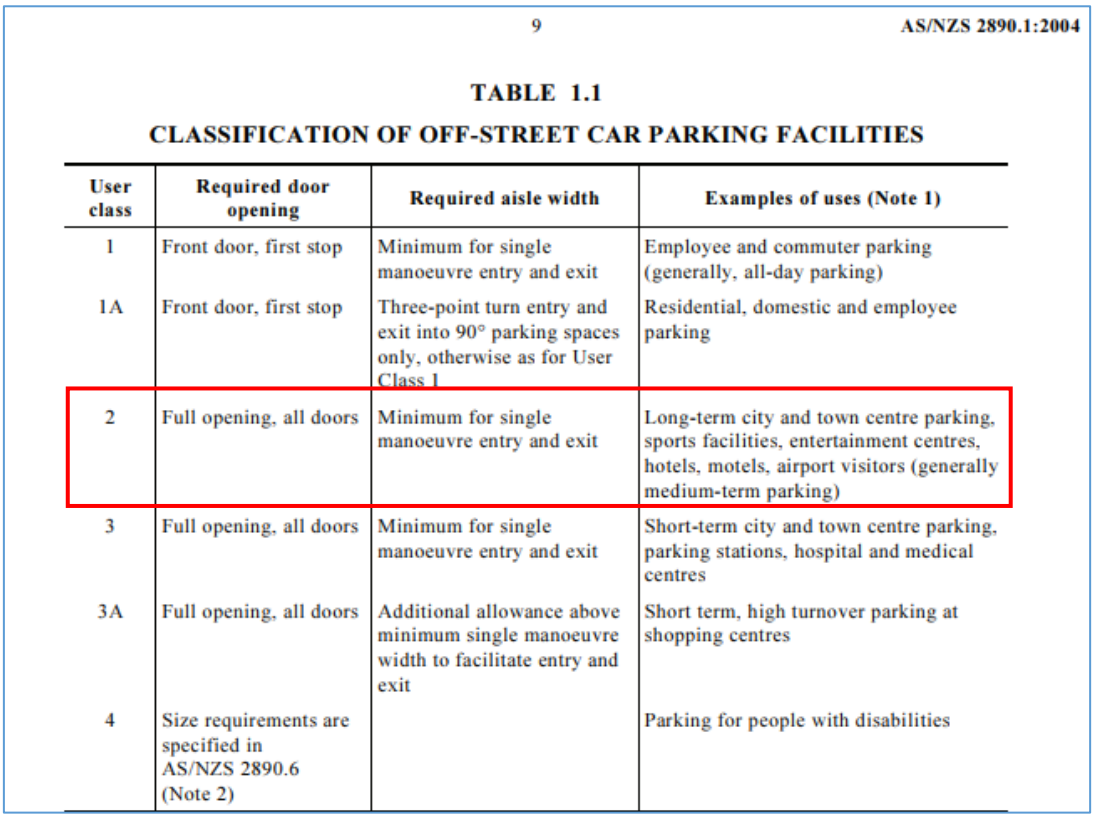
Table 3: Realistic Parking Requirement

Land Use	DPS Bays Required	Actual Parking Demand
Building 1 (Taco Bell)	15 (seated area)	6
	8 (non-seated)	8
Building 2 (Carl's Jr)	18 (seated area)	6
	7 (non-seated)	7
Building 3 (Starbucks)	14 (seated area)	14
	8 (non-seated)	8
Building 4 (Auto Masters)	25	15
Building 4 (Jax Tyres)	25	15
	Sub-Total	**79**
	Total – Provided	**108**

As shown, the realistic maximum parking demand is calculated to be 79 bays. The proposed 108 bays exceeds the parking provision and is therefore considered to be adequate.

4.2.2. Parking Design

The parking layout will need to comply with the requirements of Australian Standard AS2890.1. The user class will depend on the purpose of the bay as detailed in **Figure 9**.



9 AS/NZS 2890.1:2004

TABLE 1.1

CLASSIFICATION OF OFF-STREET CAR PARKING FACILITIES

User class	Required door opening	Required aisle width	Examples of uses (Note 1)
1	Front door, first stop	Minimum for single manoeuvre entry and exit	Employee and commuter parking (generally, all-day parking)
1A	Front door, first stop	Three-point turn entry and exit into 90° parking spaces only, otherwise as for User Class 1	Residential, domestic and employee parking
2	Full opening, all doors	Minimum for single manoeuvre entry and exit	Long-term city and town centre parking, sports facilities, entertainment centres, hotels, motels, airport visitors (generally medium-term parking)
3	Full opening, all doors	Minimum for single manoeuvre entry and exit	Short-term city and town centre parking, parking stations, hospital and medical centres
3A	Full opening, all doors	Additional allowance above minimum single manoeuvre width to facilitate entry and exit	Short term, high turnover parking at shopping centres
4	Size requirements are specified in AS/NZS 2890.6 (Note 2)		Parking for people with disabilities

Figure 9: Classification of Parking Facilities

Most parking is expected to be medium term use and so the most appropriate class is User Class 2. The minimum required dimensions of the parking areas are outlined in **Table 4**.

Table 4: Minimum Parking Dimensions

Bay Type	Dimension	AS2890.1 Requirement	Provided
90 Degree Bays (User Class 2)	Bay Width	2.5m	2.5m
	Bay Length	5.4m	5.4m
	Aisle Width	5.8m	6.2m

As shown, the parking layout complies with AS2890.1 requirements.

A vehicle swept path analysis undertaken in AutoTURN 11 using the Australian Standard B89 vehicle template demonstrates that the drive-thru arrangement is acceptable. The swept paths are attached as **Appendix C –** Swept Path Analysis

4.3. Provision for Service Vehicles

The development is expected to be serviced by waste collection vehicles and delivery vehicles. A swept path assessment has been undertaken to check the manoeuvrability of service vehicles to and from the plant area on the south side of the building. The assessment has been undertaken in AutoTURN 11 using a typical 10m waste truck and the Australian Standard 8.8m Medium Rigid Vehicle (MRV). The results are attached in **Appendix C –** Swept Path Analysis and these demonstrate that the is sufficient manoeuvring room for the expected service vehicles.

It is recommended that any service vehicle movements are scheduled outside of peak periods of traffic where possible to minimise the impact on other vehicles and to allow the service vehicles to use the full width of the circulating roads.

5. Traffic Volumes

5.1. Traffic Generation

The volume of traffic generated by the proposed development has been estimated using trip generation the Institute of Transportation Engineers (ITE) *Trip Generation*. The closest use is Coffee/Donut Shop with Drive-Thru Window (937).

The trip generation is calculated in **Table 5**.

Table 5: Trip Generation

Land Use	Units	Quantity	Generation Rate			Number of Trips		
			Daily	AM Peak	PM Peak	Daily	AM Peak	PM Peak
Coffee/Donut Shop with Drive-Thru Window (937)	100m^2 GFA	245m^2	574.33	92.44	41.97	1,408	227	103

As shown, the proposed development is predicted to generate approximately 1,408 vehicle trips per day including 227 trips during the AM peak hour and 103 during the PM peak hour.

It is also noted that a high portion of vehicle trips to coffee shops with drive-thru are pass-by trips which are trips already on the road network. ITE has estimated that on average coffee/donut shops outlets during the AM peak hour is 90% pass-by trips and 98% pass by trips during the PM peak hour. The number of new vehicles trips generated by the proposed development would be 23 vehicles trips during the AM peak hour and 3 vehicles trips during the PM peak hour.

According to the WAPC TIA guidelines, an increase of between 10 to 100 peak hour vehicles is considered to have a low to moderate impact and is generally deemed acceptable without requiring detailed capacity analysis.

The estimated 3 to 23 vehicles per hour is at the lower end of this range, so the development traffic is considered to have a low impact and can be accommodated within the existing capacity of the road network.

7. Pedestrian and Cyclist Access

7.1. Paths

The site currently has excellent access for pedestrians and cyclists with paths or wide verges along both sides of most roads in the vicinity. There are also on-road cycle lanes along both sides of Butler Boulevard and a dual-use path along the south side.

The existing path network is assessed as being adequate.

7.2. Bicycle Parking

There are no specific bicycle parking requirements outlined in the City's Planning Scheme or the Butler Activity Centre Structure Plan.

The demand for bicycle parking in auto service developments are likely to be relatively low. However, it is recommended to consider including several bicycle racks to encourage any staff and customers that may consider cycling.

8. Public Transport Access

The site has good access to public transport. Existing services include:

- Transperth Bus Route 480 which operates between Clarkson Station and Butler Station via Marmion Avenue.
- Transperth Bus Route 482 which operates between Clarkson Station and Quinns Rocks via Mindarie.
- Transperth Bus Route 483 which operates between Clarkson Station and Alkimos via Merriwa and Butler Station.
- Transperth Bus Route 490 which operates between Butler Station and Two Rocks via Marmion Avenue.
- Transperth Bus Route 491 which operates between Butler Station and Yanchep via Marmion Avenue

The closest stops are located on Butler Boulevard east of Camborne Parkway approximately 200 metres east of the site.

The site is also located approximately 700 metres walking distance of Butler Station which provides access to the Joondalup Train Line as well as other bus services.

The existing public transport services are considered to be adequate.

9. Site Specific Issues and Safety Issues

9.1. Crash History

The crash history of the adjacent road network was obtained from the MRWA Reporting Centre. The search included the length of Butler Boulevard between Ulverston Way and Camborne Parkway and the length of Ulverston Way between Butler Boulevard and Millom Street.

A summary of the recorded incidents over the five-year period ending December 2023 is shown in **Figure 10**.

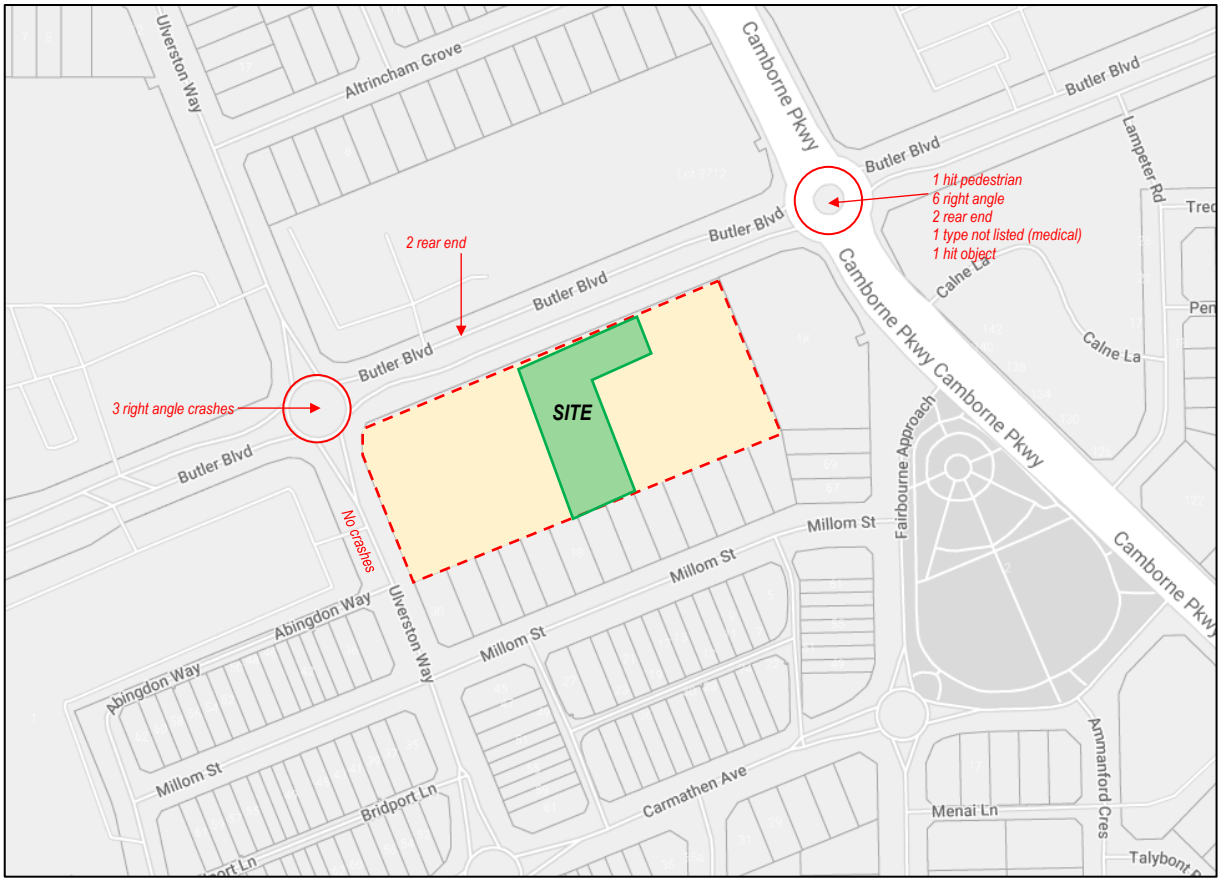


Figure 10: Crash History January 2019 to December 2023

The volume and types of crashes appear to be typical of the road environment and traffic volumes along Butler Boulevard and does not appear to indicate a major safety issue with the road network.

The proposed development itself will generate a low amount additional traffic and there is no indication that the proposed development would increase the risk of crashes.

10. Conclusion

A Transport Impact Statement for the proposed development concluded the following:

- The proposed development is estimated to generate 227 vehicle trips during the AM peak hour and 103 vehicle trips during the PM peak hour.
- A high portion of vehicle trips to coffee shops with drive-thru are pass-by trips which are trips already on the road network. ITE has estimated that on average for coffee/donut shops during the AM peak hour is 90% pass-by trips and during the PM is 98% pass by trips. The number of new vehicles trips generated by the proposed development would be 23 vehicles trips during the AM peak hour and 3 vehicles trips during the PM peak hour.
- The existing road network will have sufficient capacity to accommodate the traffic generated by the development and no modifications are required.
- The minimum required sight distance is available from the proposed 7m wide crossover on Butler Boulevard.
- The overall development is required to provide 120 car parking spaces at the completion of Stage 4. A total of 108 car parking spaces (69 regular bays, 29 drive-through spaces and 10 service bays) will be available which is 12 bays short of the calculated requirement.
- It is noted that the DPS2 requirements are applicable to standalone developments where there is no allowance for reciprocal parking and so it would be reasonable to apply a reduction from these values to account for shared parking between neighbouring businesses and also for the location of the site within an activity centre.
- Various additional reasons have been outlined in the assessment which demonstrate that the realistic parking demand will be much lower than the DPS2 requirements at around 79 bays. The proposed 108 bays vastly exceeds the parking provision and is therefore considered to be adequate.
- The parking layout complies with AS2890.1.
- A swept path assessment that the site layout allows adequate manoeuvrability for the expected service vehicles.
- The existing external path network is considered to be adequate.
- There are no specific bicycle parking requirements outlined in the City's Planning Scheme or the Butler Activity Centre Structure Plan. The demand for bicycle parking to auto service developments is likely to be relatively low. However, it is recommended to consider including several bicycle racks to encourage any staff and customers that may consider cycling.
- The existing public transport services are considered to be adequate.
- The crash history of the adjacent road network does not indicate any major safety issue on the road network. The proposed development itself will only generate a low volume of additional traffic and there

is no indication that the development would increase the risk of crashes unacceptably.

Appendix A – Letter from Auto Masters WA State Manager

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To Whom It May Concern,

18th March, 2024

This letter confirms the daily average throughput of vehicles throughout the WA Auto Masters network. YTD the monthly figure is 175 vehicles per store, or daily throughputs of 8 vehicles per day. Whilst the majority of our customers do leave their vehicle with us for the duration of the day, some do choose to wait for their vehicles' in our reception areas.

Some of our staff also either-

- Use public transport to commute to and from work
- Carpool to share in travel costs

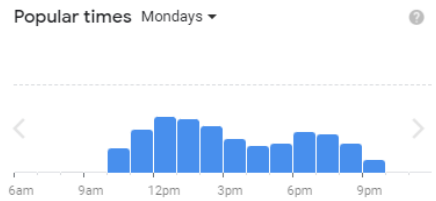
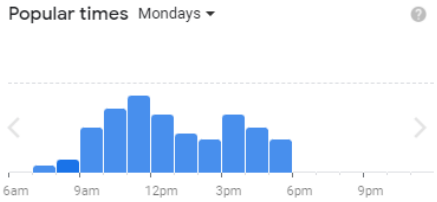
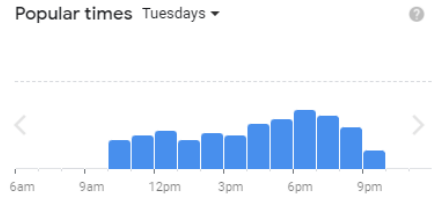
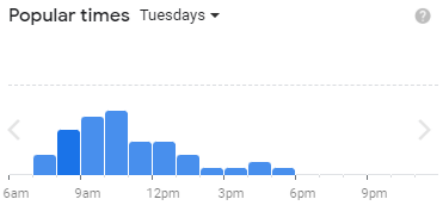
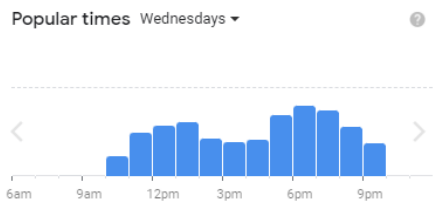
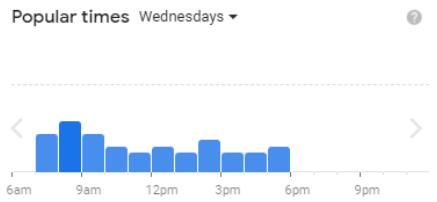
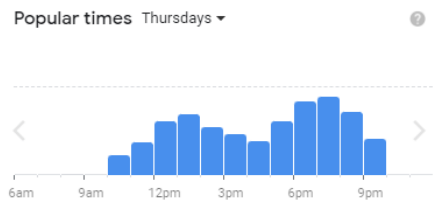
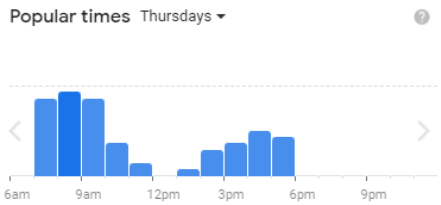
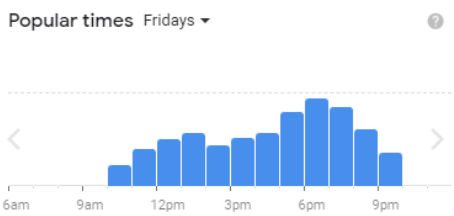
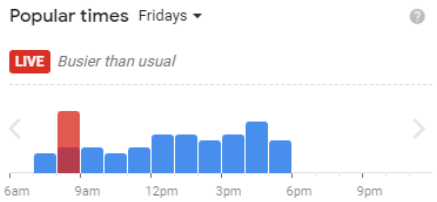
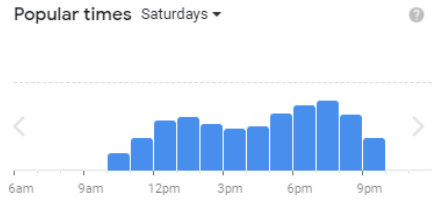
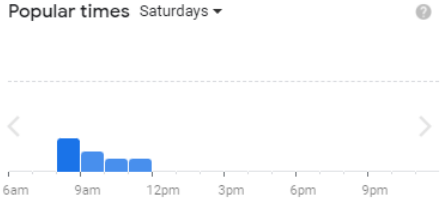
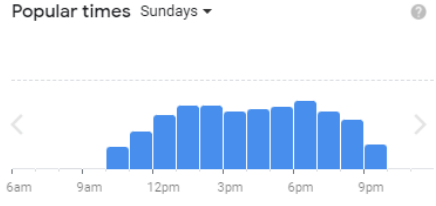
Whilst this is difficult to quantify the specific number, our centres have not historically encountered any gridlocking of their carpark facilities as each manager controls the booking lead times to ensure the desired productive and efficient outcomes.

Regards

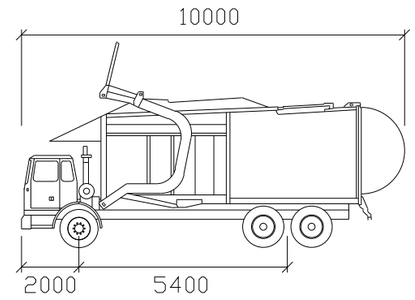
Sean Cranenburgh
WA State Manager

Auto Masters Australia P/L
ABN 17 633 212 310

Appendix B – Taco Bell and Auto Masters Peak Times

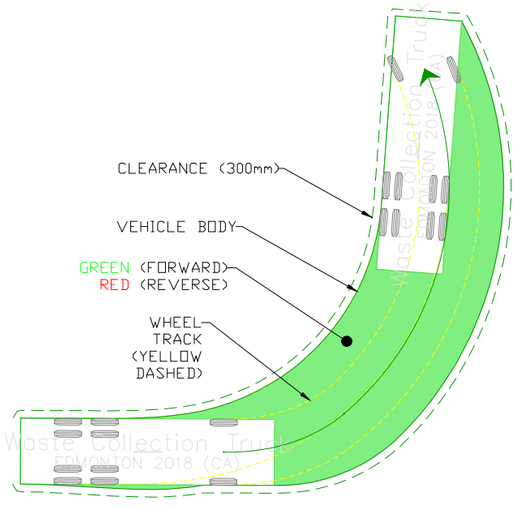
Taco Bell Butler	Auto Masters Mindarie
	
	
	
	
	
	
	Closed

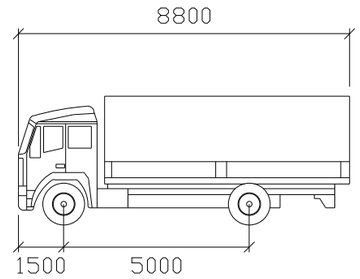
Appendix C – Swept Path Analysis



Waste Collection Truck

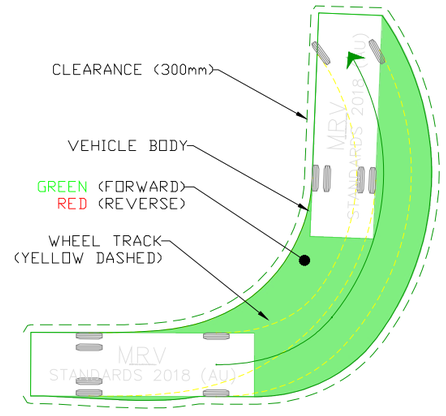
	mm
Width	: 2600
Track	: 2600
Lock to Lock Time	6.0
Steering Angle	: 27.7

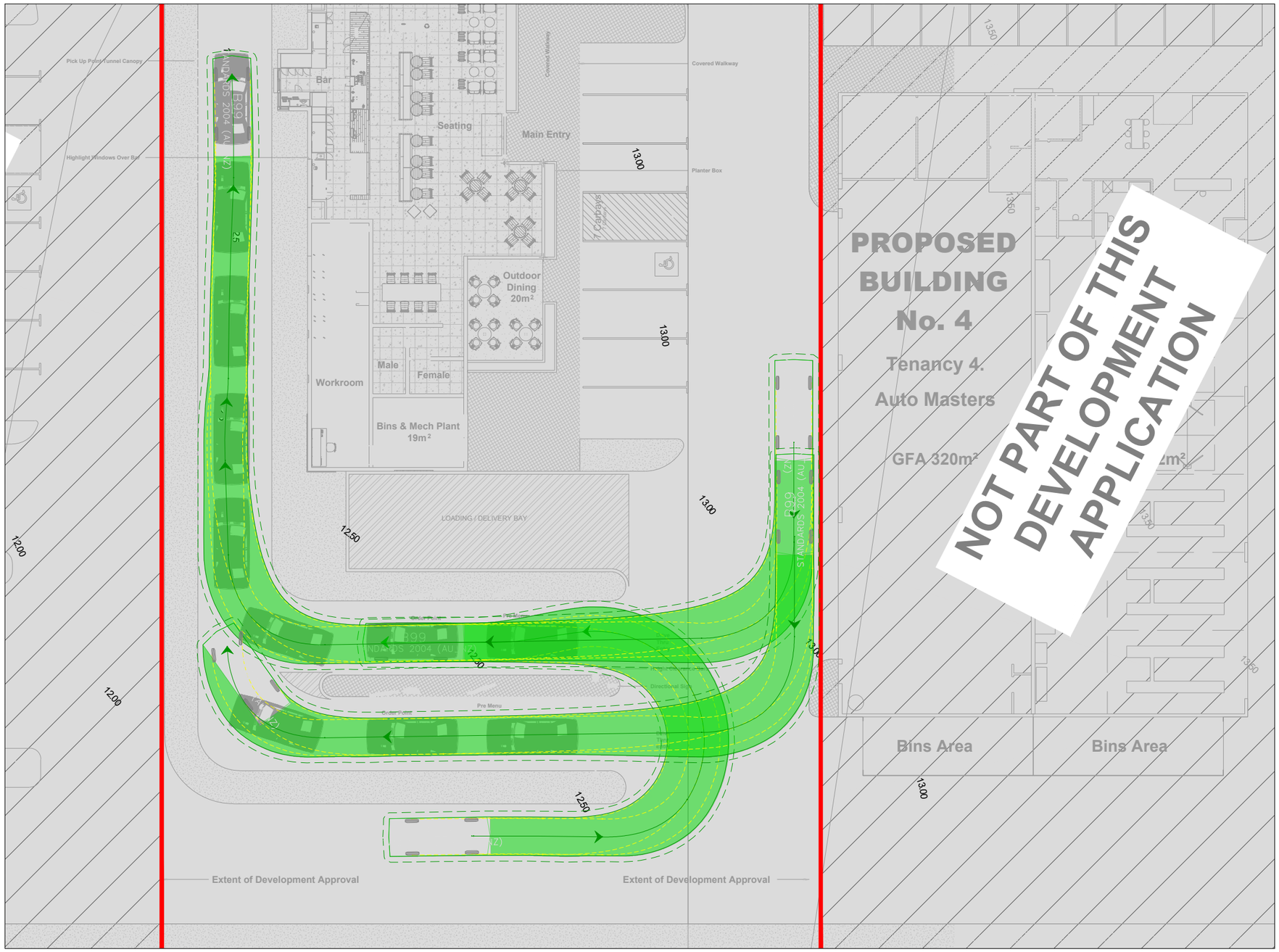


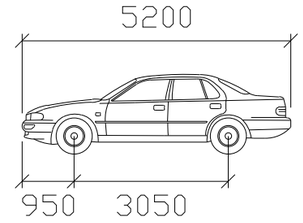


MRV

	mm
Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 34.0







B99

	mm
Width	: 1940
Track	: 1840
Lock to Lock Time	: 6.0
Steering Angle	: 33.9