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Woolworths Group
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Attention: Mr. C. Schulte

21 August 2025
Project #: WGA241707
Doc. WGA241707-LT-1771-0002_B
E: cschulte@woolworths.com.au

Dear Casey,

WOOLWORTHS MONA VALE, NSW – PROPOSED DIRECT TO BOOT | TRAFFIC ENGINEERING ASSESSMENT

1. INTRODUCTION

WGA has been engaged by Woolworths Group to prepare a traffic engineering assessment for the proposed Direct to boot (DTB) arrangement at Woolworths Mona Vale (Store ID: 1771), addressed at 25-29 Park Street, Mona Vale NSW.

This assessment considers the suitability and appropriateness of the proposed DTB service at Woolworths Mona Vale with regard to applicable design requirements.

2. PROPOSAL

It is proposed to provide a DTB service for Woolworths Mona Vale within the existing basement car park. Woolworths DTB is a convenient service that allows customers to order groceries online and have them delivered directly to the boot of their car at a designated pickup location in the store's car park. Currently, Woolworths operates over 700 DTB locations across Australia.

Architectural plans of the proposed DTB service have been developed by MCHP Architects and are provided in Figure 2.1. The proposed DTB service at Mona Vale will provide eight (8) DTB car parking spaces and a DTB Hub within the car park in lieu of 46 car parking spaces.

Of the 46 car parking spaces being absorbed, it is noted that:

- 8 spaces will be reinstated as 'DTB' spaces
- 4 spaces will be reinstated as Disability Discrimination Act (DDA)-compliant car parking spaces, including two (2) shared spaces with bollards
- 10 unrestricted car parking spaces will be relocated adjacent to the DTB service

As such, the proposal will result in a net loss of 24 public car parking spaces.

The DTB Hub is a small room that will provide access to the ground floor Woolworths tenancy via a hoist, allowing Woolworths team members to transport orders between the basement DTB Hub and ground floor back of house. The DTB Hub provides direct access to DTB spaces for protected rear and side loading activities.

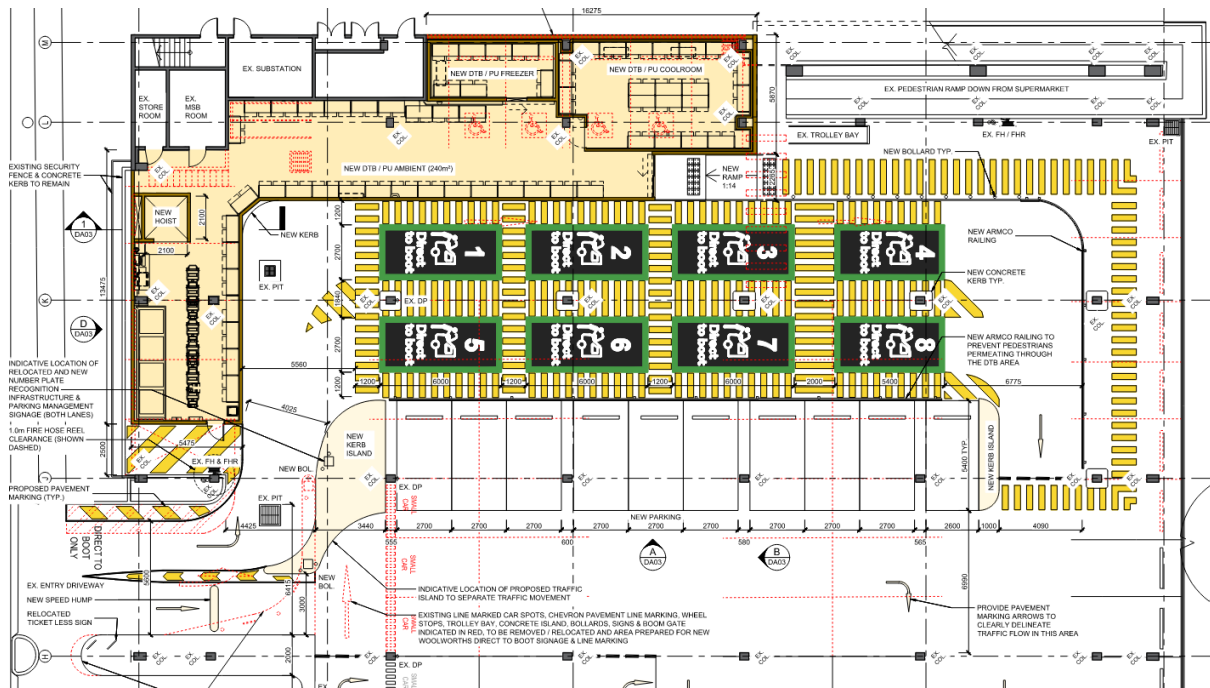


Figure 2.1: Extract: Mona Vale DTB – Proposed Basement Plan (MCHP Architects)

3. DIRECT TO BOOT DESIGN

The design of the DTB area is designed in line with the relevant Australian Standards and Woolworths eCom Guidelines, and has followed a typical design currently utilised at Woolworths sites across Australia, summarised as follows:

- DTB drive-through spaces 2.7m wide and 5.4m long at the front of the two-lane 'grid' and 6.0m long for every other space
- Team member walkways provided on all sides of each DTB space
- DTB Hub to transport and prepare orders for delivery to each DTB space, with direct access afforded to the team member pathways around each DTB space

Swept path assessments undertaken by WGA have informed the proposed DTB layout and associated modifications to the existing car park, as shown in Figure 2.1, illustrating:

- Suitable and appropriate use and access of the modified entrance design (with no structural changes), the DTB area and new exit to the existing car park
- Adequate clearances from all existing obstructions and critical infrastructure.

Swept path assessments are provided in Appendix A.

4. SUMMARY OF CHANGES TO CAR PARK

In order for the DTB area to be implemented, a number of changes are proposed to the existing basement car park:

- Amended car parking entrance management and licence plate recognition infrastructure to provide two (2) separate ingress lanes from Keenan Street:
 1. Dedicated DTB service lane
 2. Dedicated public car park lane
- Amended internal car park flow including a one-way car parking aisle from the Keenan Street entrance to provide direct access to the main car park.
- Dedicated pedestrian crossing and public access walkways around the proposed DTB service exit, protected by Armco railing, to maintain safe access to the Woolworths pedestrian ramp
- Armco railing adjacent the relocated car parking to detract from pedestrians cutting through the DTB service to the existing pedestrian ramp.

- Pavement chevron and arrow markings to guide and direct traffic flow
- Speed hump in the car park entry lane to assist with licence plate recognition and manage speeds on approach to the first car park intersection

Importantly, there are no changes to the existing structural design of the car park, with proposed works limited to internal traffic flow arrangements and car park layout modifications.

5. DESIGN COMPLIANCE

Swept path assessments attached in Appendix A show suitable and appropriate access in accordance with *Australian Standard (AS) 2890.1 for Off-Street Car Parking*.

5.1 Proposed DTB Area

WGA confirms the proposed DTB area is in line with AS 2890.1 for User Class 3A (shopping centres), as well as Woolworths' eCom Guidelines for DTB arrangements.

The proposed dimensions of DTB parking spaces are in excess of AS 2890.1 guidelines.

The DTB service will operate as a drive-through system, whereby DTB patrons will drive to and park in the furthest available car parking space, with each following car picking a lane and then parking within the next DTB space, should any spaces ahead be occupied.

Woolworths will actively manage the operations of the DTB on-site to ensure that vehicle movements and loading activities function efficiently and safely, in combination with the online management system. This will reduce the need for any reverse or parallel parking manoeuvres.

5.2 Adjacent Car Parking

WGA confirms the relocated public car parking spaces are designed in line with AS 2890.1 for User Class 3A (shopping centres). The proposed 6.99m wide car parking aisle is provided in excess of the minimum requirement.

The existing access width has been reallocated to allow for separate DTB access and public car parking access. A one-way aisle is provided from the entrance, allowing ease of traffic flow to the public car parking area.

In totality, the existing car park design has generally been maintained, with non-DTB patrons allowed easier and more direct access to the wider car park with the relocation of the one-way car parking aisle. As such, it is expected that the existing car park will continue to operate in a satisfactory and safe manner.

6. CAR PARKING CONSIDERATIONS

6.1 Empirical Assessment – Car Parking Surveys

6.1.1 Overview

WGA commissioned car parking inventory and occupancy surveys of the on-site public car park, to determine typical existing car parking demand. This car park, whilst available to the general public and the Mona Vale activity centre, is primarily utilised by Woolworths customers as it provides direct access to the supermarket entrances.

Car parking surveys were conducted at the following times to capture peak parking demand periods at the car park:

- Friday 25 July 2025 2:00pm – 7:00pm at 30-minute intervals
- Saturday 26 July 2025 10:00am – 3:00pm at 30-minute intervals

30-minute intervals were adopted to identify the short-term peaks that commonly occur in shopping centre car parks.

6.1.2 Results

The results of the surveys have been reproduced in the form of car parking demand profiles in Figure 6.1 for the Friday and Figure 6.2 for the Saturday. The existing parking supply recorded is shown in **red** and the proposed parking supply as a result of the proposed DTB is shown in **orange**.

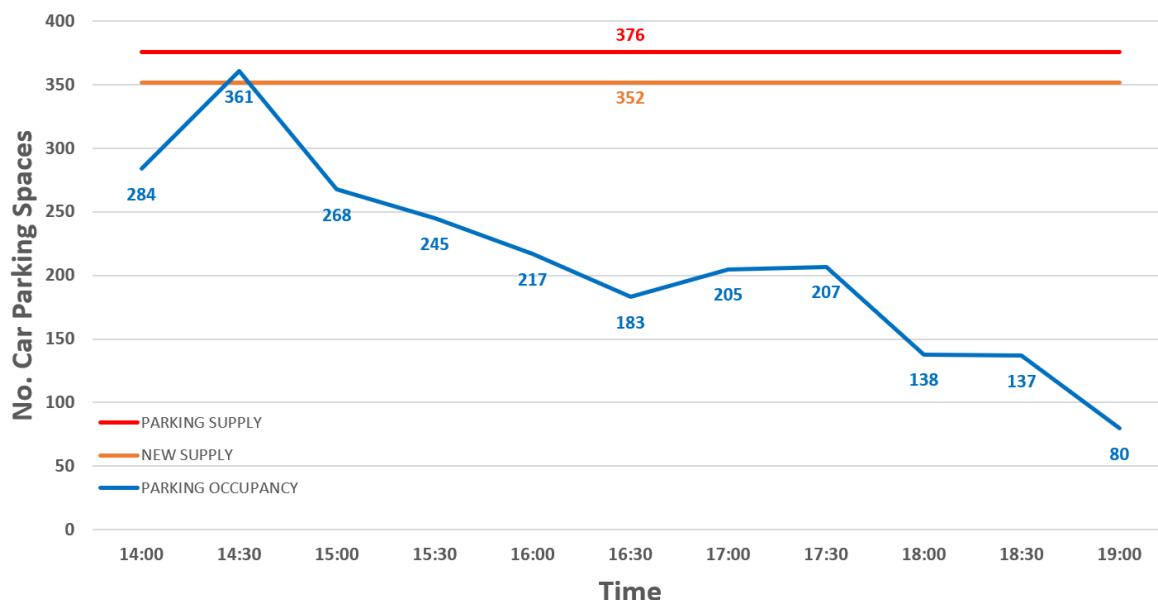


Figure 6.1: Existing Car Parking Demand Profile – Friday 25 July 2025

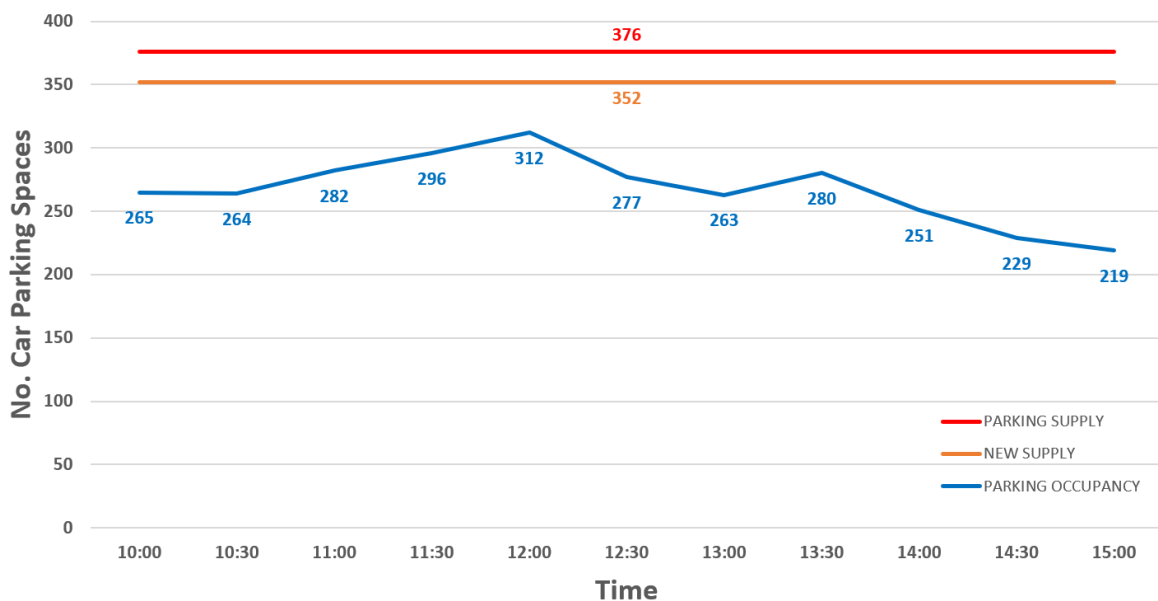


Figure 6.2: Existing Car Parking Demand Profile – Saturday 26 July 2025

The results of the car parking surveys can be summarised as follows:

- 376 car parking spaces are provided across the basement level and the open-air level
- **Friday 25 July 2025:**
 - Peak demand: 361 spaces (96% occupancy)
 - Peak time: 2:30pm
 - Occupancy range: 21 – 96%
- **Saturday 26 July 2025:**
 - Peak demand: 312 spaces (83% occupancy)
 - Peak time: 12:00pm
 - Occupancy range: 58 – 83%

- Friday recorded an atypical peak occupancy rate of 96% at 2:30pm, which is noted to coincide with school pick-up time for parents and guardians:
 - Woolworths Mona Vale is located directly across from Mona Vale Public School and Goodstart Early Learning
- Outside this Friday 30-minute peak period, the maximum recorded occupancy was 284 spaces (76% occupancy). Based on the occupancies recorded for the entire survey period, this maximum occupancy is considered more typical
- Saturday had more steady occupancy recorded across the entire survey period, with only 25% occupancy difference from the minimum to maximum occupancies

Analysis

The car parking demand profiles allow accommodation for a loss of 24 car parking spaces as a result of the DTB service being implemented across all surveyed times, with the exception of the Friday peak recorded at 2:30pm.

However, it is noted that this maximum occupancy recorded is considered atypical due to the short-term nature of demand, expected to be attributable to school pick-up demand. It is understood that this car park is frequently utilised by parents and guardians of Mona Vale Public School. School peak periods are a common occurrence in all activity centres and are expected to occur and increase demand on a short-term basis.

The projected shortfall in car parking supply of nine (9) spaces (352 available spaces for 361-space car parking demand) is only expected to occur for a short period of time (up to 30 minutes) where some vehicles may require circulating the car park in order to find a car park. However, given the short-term nature of most visits (detailed further in Section 6.2), it is expected that vehicles would not need to circulate for long.

Notwithstanding, the DTB service will result in short-term parking stays for grocery collection and is expected to primarily service existing customers and therefore existing car parking demand. This shift in car parking demand is detailed further in Section 6.3.

A typical shop by a customer would require a longer stay than opting to utilise the DTB service, and thus over the course of a typical shop, the DTB service is expected to accommodate more customers per car parking space. Further, parents and guardians may also utilise the DTB service as a more convenient method of shopping prior to school pick-up.

6.1.3 Conclusion

The proposed car parking supply of 352 spaces post-DTB development is expected to accommodate typical peak car parking demands with at least 40 spaces available at any time.

School pick-up peak periods are short in nature, with existing car parking demands to be appropriately offset by the provision of quicker and more efficient DTB services.

6.2 Empirical Assessment – Duration of Stay

To supplement the car parking occupancy survey data, duration of stay data has been sought through the car park manager, Nationwide Parking. Existing licence plate recognition technology allows data to be collected for the length of stays of each vehicle. Car parking data relating to the months of September 2024 (typical conditions) and December 2024 (seasonal conditions) has been provided for assessment.

A summary of length of stays across September and December 2024 have been reproduced in Table 6.1, the results of which show that 85 – 86% of car park users are considered short-term, staying less than one (1) hour.

Table 6.1: Extract: Woolworths Mona Vale Car Park Duration & Payment Summary – September & December 2024 (Nationwide Parking)

DURATION CATEGORY	PARKING TYPE	NO. TRANSACTIONS	% TOTAL (SEPTEMBER)	% TOTAL (DECEMBER)
0 – 1 hours	Free	94,396	86.04%	85.24%
1 – 2 hours		11,491	10.47%	11.37%
2 – 3 hours		3,129	2.85%	2.77%
3 – 4 hours	Paid	428	0.39%	0.40%
4 – 5 hours		76	0.07%	0.07%
5 – 24 hours		93	0.08%	0.10%
1 – 2 Days		93	0.08%	0.05%
Other / Misc / Misread	-	1	0.00%	0.00%
TOTAL		109,707	100.00	100.00

As such, it is expected that the car park will continue to operate with a high degree of car parking turnover across the proposed supply of 352 car parking spaces.

In line with car parking occupancy data, it is expected that every patron will be able to find a car parking space within a reasonable amount of time without requiring circulating through or queueing past the car park entries, including during the atypical school pick-up peak time.

6.3 Appropriateness of Intended Car Parking Arrangements

6.3.1 Turnover of DTB Spaces

Based on data obtained and supplied by Woolworths for comparable Woolworths sites, DTB peak order volumes typically range between 20 – 30 orders per hour during the week and 30 – 50 orders per hour on a weekend.

In this regard, Woolworths Mona Vale is conservatively expected to generate peak DTB activity in the order of up to:

- 30 orders an hour (30 inbound and 30 outbound movements) during weekday peak periods equating to one (1) inbound and one (1) outbound movement every two (2) minutes
- 50 orders an hour (50 inbound and 50 outbound movements) during weekend peak periods equating to one (1) inbound and one (1) outbound movement every 1 minute and 12 seconds

Peak hours across the entire week generally occur between 3:30pm – 6:00pm, where there is no consistent single peak time able to be correlated, which includes weekends. However, the majority of these peak hours recorded occur prior to 5:00pm.

Based on the above and noting that patrons of the DTB service are likely to predominately consist of existing Woolworths customers, car parking demand is therefore expected to be effectively shifted from the car park to the DTB service, with the proposed DTB service expected to increase overall vehicle turnover in the car park and reduce the average duration of stay.

With the introduction of the DTB service, a portion of existing visits are expected to be reallocated to stays of under 10 minutes. This reduction in parking duration is expected to improve parking availability, making it easier for patrons of other tenancies to find a car parking space.

6.3.2 Car Parking Supply

Noting new demand associated with the DTB service would only be generated to the DTB service itself, the proposed car parking arrangements are considered satisfactory based on the following considerations and assessments:

- Expected overall availability of car parking identified in Section 6.1, with at least 40 car parking spaces available at any time during typical peak conditions
- Atypical peak recorded at school pick-up time expected to occur for only a short period of time (up to 30 minutes), where existing car parking demand is expected to be offset by the quicker and more DTB offering, particularly for school parents and guardians
- Short-term nature of the car park (85 – 86% of parking being an hour or less) lends itself to additional occupancy being realised as vehicles are circulating the car park looking for a space

7. TRAFFIC CONSIDERATIONS

7.1 Existing Car Park

The DTB service provides an alternative offering for existing Woolworths customers. In this regard, it is generally anticipated that no significant increase in traffic movements are expected.

Notwithstanding, the existing conditions of the car park entrance from Keenan Street, as detailed in Section 5.2, are maintained, with the entry lane to the car park realigned straight-on with the relocated car parking aisle. As such, this represents an improvement on existing conditions where vehicles are still afforded free-flow access into the car park, however, are able to continue straight and reduce overall travel distances within the car park.

The proposed change to the entrance represents an improvement on existing conditions, as DTB patrons are now afforded a separate lane that can be accessed independently of other car park users. As such, the redistribution of traffic demand due to the new service is expected to result in localised decreases to traffic volumes within the car park and improve on existing conditions.

In summary, the impacts of the DTB service on the existing car park are expected to be negligible with consideration to the following:

- The DTB service operates as an alternative offering for existing Woolworths customers
- Proposed entrance lanes separate normal patrons with DTB patrons locally within the car park
- Existing car park patrons have a shorter, straighter ingress path into the car park

7.2 DTB Service

The DTB service operates through an online management system that can spread demand for orders and therefore actively manage any potential queueing that may occur by limiting the number of orders able to be picked up per allotted timeslot. This maximum number of orders is flexible and can be changed in line with observed operating conditions of the DTB service.

The 'grid' layout of the DTB service is typical to other DTB services provided around Australia and will be similarly managed. To prevent queueing, Woolworths Team Members will actively instruct DTB patrons to move forward into the furthest DTB spaces, ensuring that any additional vehicles entering are able to filter through and avoid parking at the first two (2) spaces adjacent the entry.

This drive through system is typical of a number of commercial operators and is considered satisfactory.

8. PEDESTRIAN CONSIDERATIONS

The DTB area will provide dedicated Woolworths team member pathways on all sides of each DTB space. Woolworths team members are expected to wear high-visibility personal protective equipment (PPE) during service and only enter the DTB drive-through area once all vehicles are parked in the dedicated DTB spaces.

To facilitate existing movements to the pedestrian ramp adjacent the DTB service, dedicated pedestrian crossing facilities and protected areas are provided near the exit of the DTB service. This allows pedestrian priority and demarcates a safe path of travel to the base of the pedestrian ramp.

Additional Armco railing is proposed adjacent the DTB car parking spaces and operating area to ensure that no public pedestrians are able to cross directly into the driveable area and mix with loading activities and moving vehicles.

These priority and protected arrangements are considered suitable and appropriate for the existing car park and generally represent an improvement in safety on existing conditions.

9. CONCLUSION

Based on the preceding assessments, WGA advises that the proposed DTB service is not expected to negatively impact the safety, operation or amenity of the existing car park.

The demand associated with the loss of 24 public car parking spaces is expected to be accommodated and managed within both the DTB service for existing patrons and the existing availability of public car parking across all areas of the car park.

Should you have any queries relating to this matter please contact our office.

Yours sincerely,

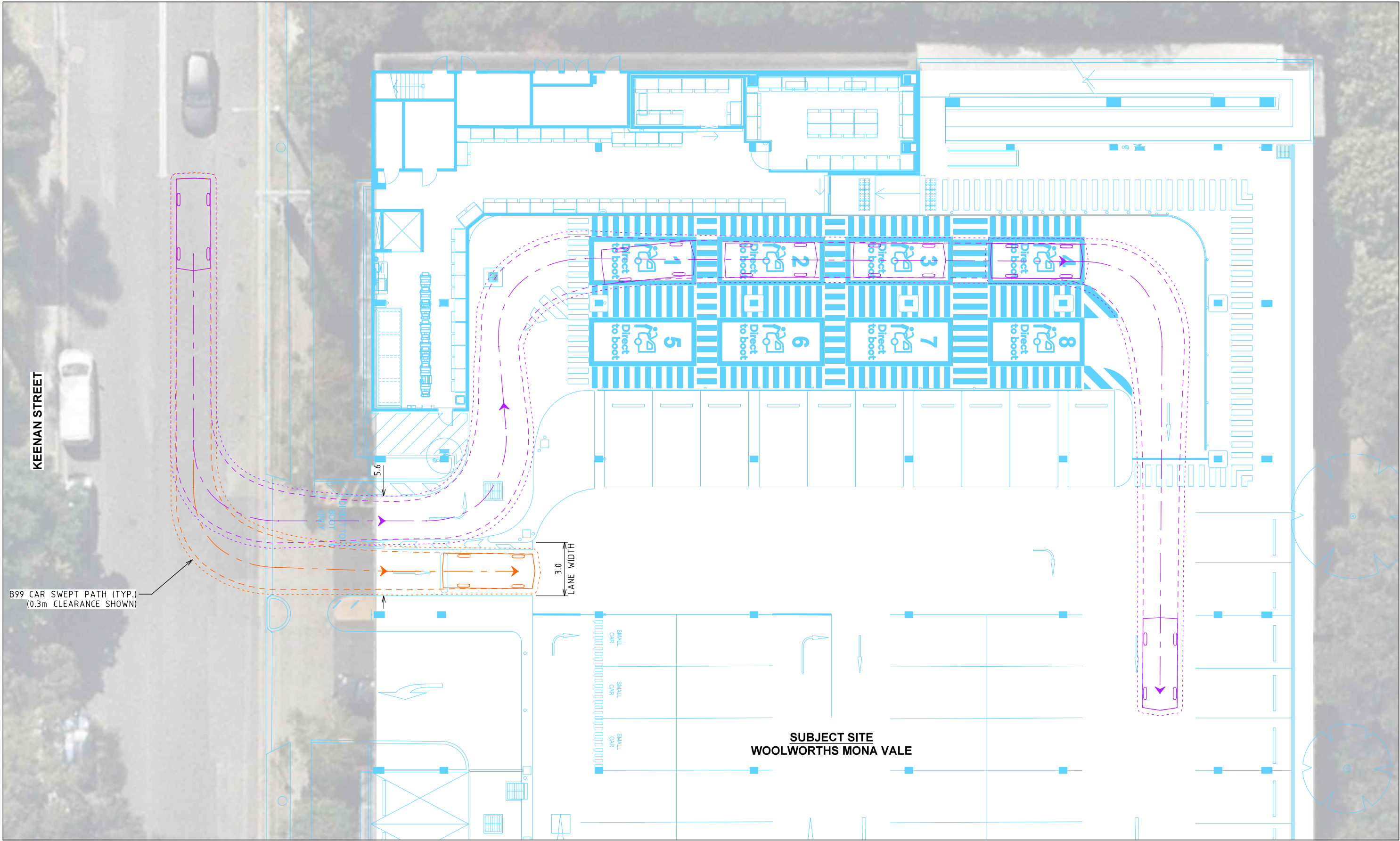


James Aloï
Senior Traffic Engineer
WALLBRIDGE GILBERT AZTEC

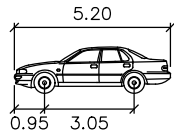
APPENDIX A

SWEPT PATH ASSESSMENTS

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DESIGN VEHICLE



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Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

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B	21.08.2025	UPDATED BASE	J.A	J.A	L.S

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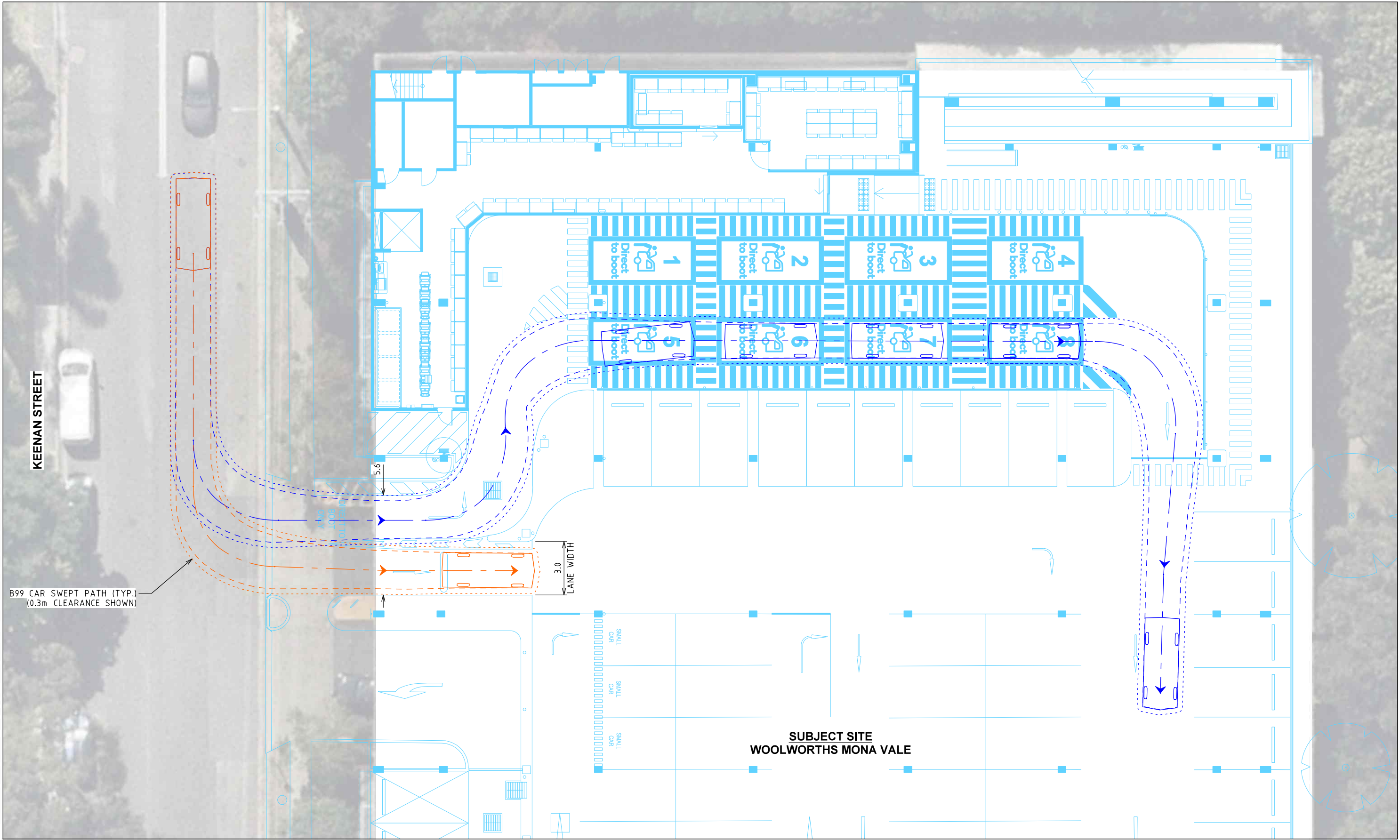
WOOLWORTHS MONA VALE
25-29 PARK STREET, MONA VALE NSW
SWEEP PATH ASSESSMENT - DTB LANE 1
B99 CAR

DOCUMENT NUMBER

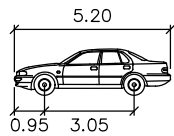
Job Number Sheet No. Rev.

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WOOLWORTHS MONA VALE
25-29 PARK STREET, MONA VALE NSW
SWEEP PATH ASSESSMENT - DTB LANE 2
B99 CAR

DOCUMENT NUMBER

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