

Report

21 July 2025

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From	Mark Leigh-Lucas	Project No.	12665164
Project Name	Redmond Place Development		
Subject	Redmond Place Development Application Traffic Assessment		

1. Introduction

1.1 Background

Landcom and Orange City Council have signed a Project Delivery Agreement to deliver the Redmond Place Project (the project). The planning proposal to rezone the land for residential purposes was completed in April 2025. The project site is owned by Orange City Council, and Landcom is the applicant and developer for the project.

The project site is:

- Located on the southeast fringe of the Orange Township.
- Has a significant frontage along Mitchell Highway (A32), which runs from east to west from the M4 Motorway in Greater Sydney, connecting through Penrith, Katoomba, Bathurst to Orange (refer to Figure 1)
- Has additional frontage to Lone Pine Avenue (to the west) and Dairy Creek Road (to the south).

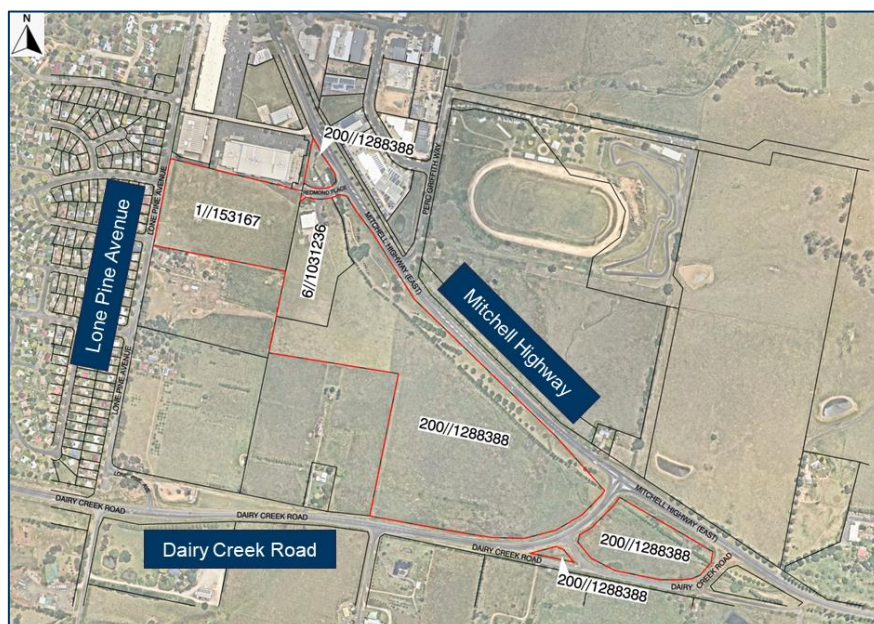


Figure 1 The Redmond Place project site

Source: Oculus - Redmond Place, Orange Urban Design Report (April 2025)

The road network featured three access and egress points to and from the project site that connects to the surrounding road network. The locations of these are shown in Figure 2 and are as follows:

- The existing intersection of Redmond Place and the Mitchell Highway.
- A new access road onto Lone Pine Avenue between Adina Crescent and Leumeah Road (assumed 70m south of the intersection with Adina Crescent).
- A new access road onto Dairy Creek Road between Calton Road and the Mitchell Highway (assumed 340m from the intersection with the Mitchell Highway).



Figure 2 Redmond Place proposed access/egress points

Source: Oculus - Redmond Place, Orange Concept Options Report (modified by GHD)

In addition:

- In June 2024, GHD completed the Redmond Place Master Plan Traffic and Transport Assessment (Traffic and Transport Assessment).
- A summary of the Traffic and Transport Assessment is provided below in Section 2.
- The results of the Traffic and Transport Assessment were used to inform the recommendations for the development of the project Master Plan in relation to access and egress points, as well as the suitability of the surrounding road network to accommodate the projected increase in traffic generation from the project site.
- The project Master Plan has been on public exhibition and is now in the Development Application (DA) phase of planning.
- It is noted that subsequent to the public exhibition, for the planning proposal, the Department of Planning, Housing and Infrastructure approved the project, and construction is expected to commence in 2026.
- As part of the progression to the DA phase, some minor changes have been made to the project Master Plan.

1.2 Purpose of this report

The purpose of this report is to review the changes in the project from the DA planning phase that have occurred subsequent to the Traffic and Transport Assessment, including:

- Quantum of land use.
- Road network layout.

This memo should be read as an addendum to the Traffic and Transport Assessment.

2. Literature review

A summary of the Traffic and Transport Assessment is as follows:

- To obtain baseline data, traffic surveys were undertaken at key intersections around the project site, including queue length assessments, at the following intersections (refer to Figure 3):
 - Dairy Creek Road / Lone Pine Avenue
 - Lone Pine Avenue / Adina Crescent
 - Lone Pine Avenue / Mitchell Highway (northwest)
 - Lone Pine Avenue / Mitchell Highway (southeast)
 - Mitchell Highway / Retail Access Road
 - Mitchell Highway / Perc Griffith Way
 - Mitchell Highway / Dairy Creek Road
- The operation of the intersections of interest were assessed using SIDRA 9 modelling software.
- SIDRA calculates the amount of delay to vehicles using an intersection and, amongst other performance measures, and provides a Level of Service (LoS) rating, which indicates the relative performance of traffic movements at the intersection.
- Analysis of the 2024 SIDRA results indicates all intersections operated at or above an acceptable level of service (LoS D), with the majority operating at LOS A and LOS B in both peak periods.
- The trip generation characteristics of the project were determined in accordance with TfNSW Guidelines, which indicated that the project would generate 206 trips in the AM peak hour and 202 trips in the PM peak hour.
- The project trips were distributed onto the adjoining road network so that a majority of trips would either be travelling to or from Orange City Centre via the most direct route.
- The background traffic growth on the roads in proximity to the project site were determined in accordance with the outputs of TfNSW's VISSUM traffic model, which accounts for proposed changes in land use within Orange
- SIDRA analysis of the surrounding road network was undertaken for the 2040 horizon year for the three following scenarios:
 - **No Development** – with only background traffic growth
 - **With Development (no upgrades)** – with background traffic growth and generated trips but no changes to intersection layouts or function
 - **With Development (including upgrades)** – with background traffic growth, generated trips and proposed changes to intersection layouts or function
- The “with development” scenarios included the proposed project access intersections on the Mitchell Highway, Dairy Creek Road and Lone Pine Avenue (refer to Figure 2).
- Analysis of the results was undertaken from the SIDRA model, and the following key findings were identified:
 - The road network around the project site largely performed to an above level of service above an acceptable level (LoS C or better).

- In the With Development case, the performance of the priority-controlled intersection of Lone Pine Avenue and the Mitchell Highway lowers to the minimum acceptable level (LoS D).
- The intersection of Dairy Creek Road and Lone Pine Avenue was operating at a LoS F for both the No Development and With Development (no upgrade) scenarios. To address this, a mitigated layout was made in the With Development (including upgrades) scenario for this intersection to reduce queue lengths and delays on the Lone Pine Avenue approach.
- The mitigated Dairy Creek Road and Lone Pine Avenue intersection layout operated with an acceptable LoS A.

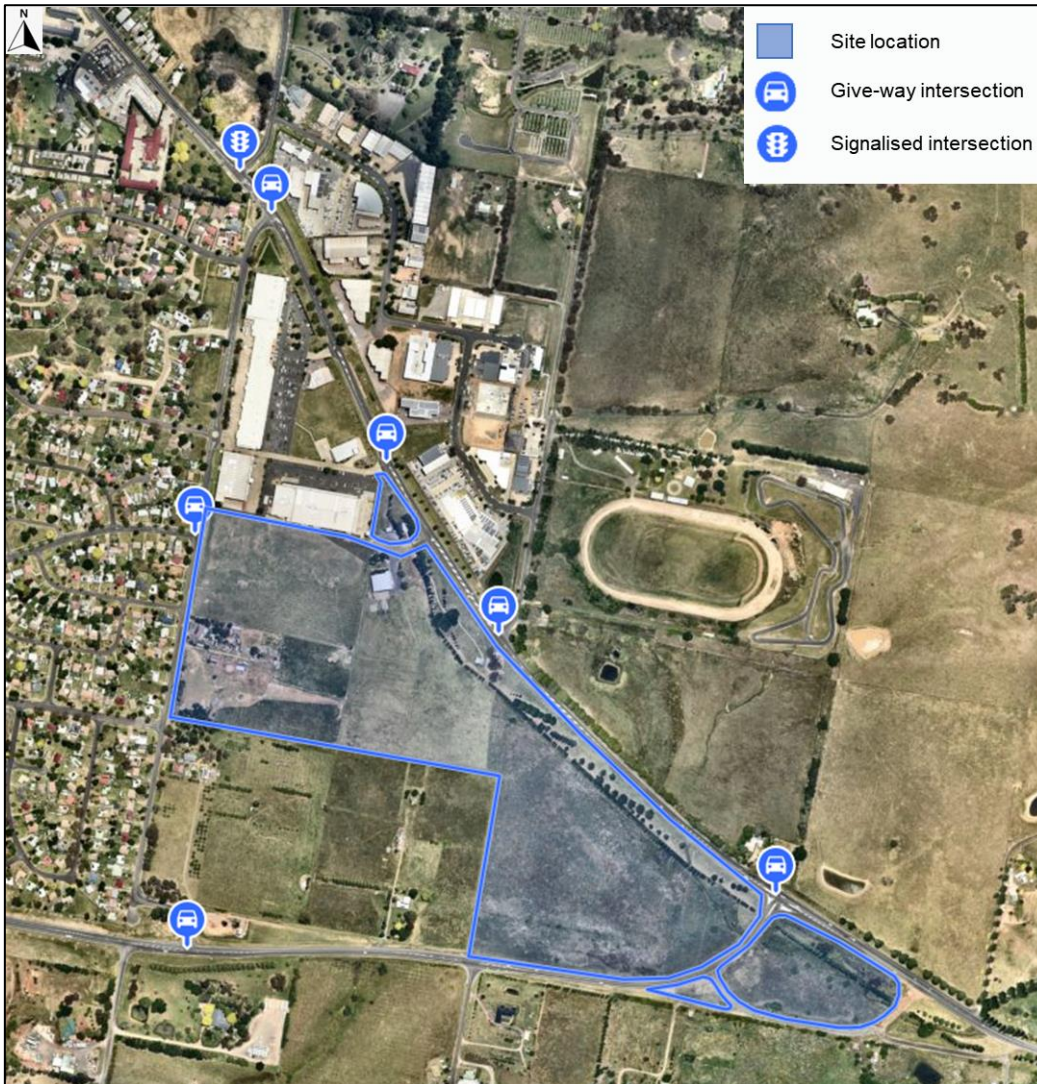


Figure 3 Traffic count locations

Source: Nearmap (modified by GHD)

3. Development Application assessment

3.1.1 Dwelling yields

The project layout from the Traffic and Transport Assessment is shown in Figure 4, and the updated DA layout is shown in Figure 5.

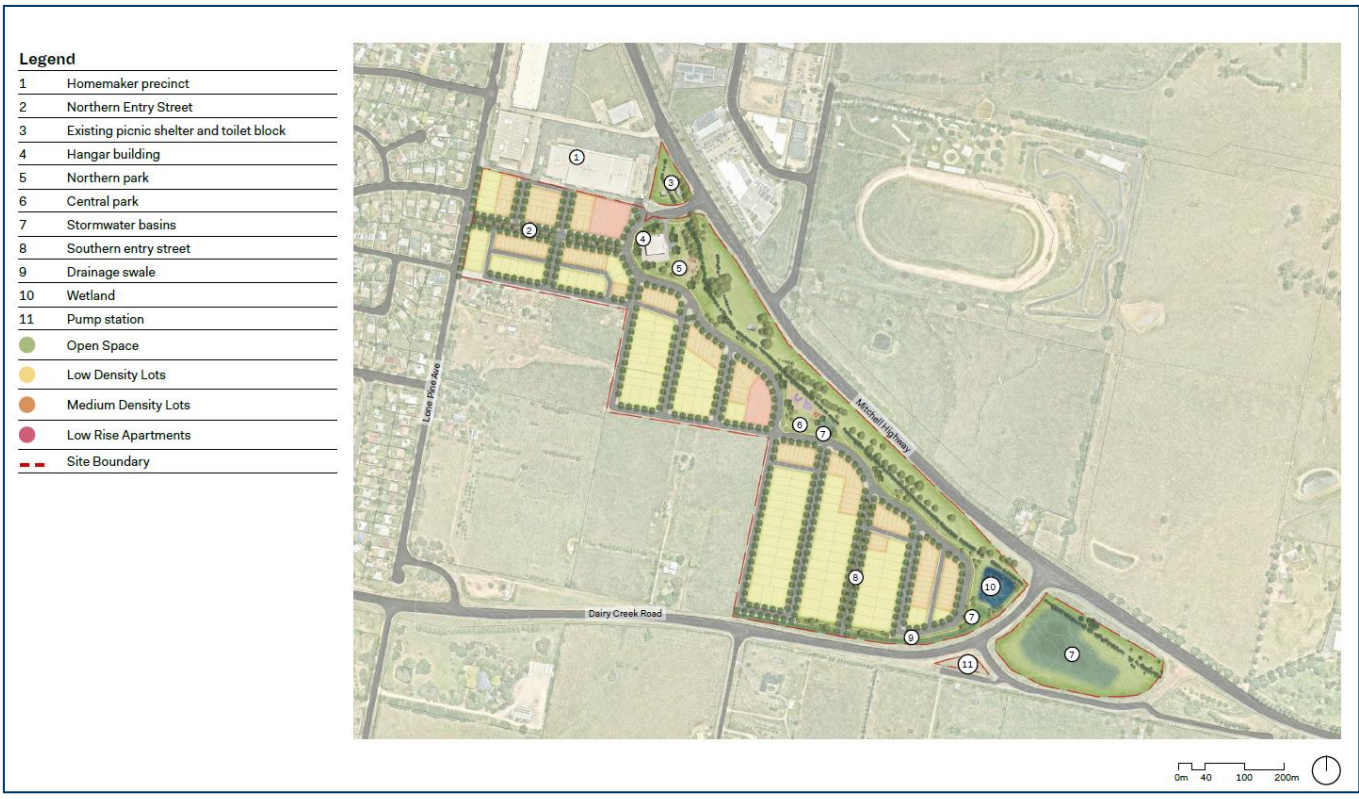


Figure 4 Redmond Place – Traffic and Transport Assessment layout

Source: Oculus - Redmond Place, Orange Urban Design Report (May 2024)



Figure 5 Redmond Place – Development Application layout

Source: Oculus - Redmond Place, Orange Urban Design Report (July 2025)

A summary of the dwelling yields associated with the Traffic and Transport Assessment and the updated DA are provided in Table 1.

Table 1 Dwelling yields

Type	Traffic and Transport Assessment	Development Application
Apartments/high density dwellings	66	66
Medium density dwellings	130	130
Low density dwellings	134	135
Total	330	331

In summary:

- The data in Table 1 indicates that as part of the DA, one additional low density dwelling has been included in Redmond Place.
- The NSW Guide to Transport Impact Assessment indicates that regional low density dwellings have average trip rates of 0.84 trips per dwelling.
- Therefore, the traffic impacts associated with the one additional dwelling are expected to be negligible.

3.1.2 Road network

The project's internal road network from the Traffic and Transport Assessment is shown in Figure 6, and the updated DA road network is displayed in Figure 7.

It is noted that the proposed project access/egress points, as shown in Figure 2, have not been subject to change.



Figure 6 Redmond Place road network – Traffic and Transport layout

Source: Oculus - Redmond Place, Orange Urban Design Report (May 2024)



Figure 7 Redmond Place road network – Development Application layout

Source: Oculus - Redmond Place, Orange Urban Design Report (July 2025)

The data in Figure 6 and Figure 7 indicate that the changes to the road network associated with the DA are minor and are associated with the removal of laneways at the south-eastern and north-western end of the project site. No changes to the higher-order roads that will accommodate the project's vehicle activity are proposed.

The rationale for the removal of the laneways include:

- To account for the minor redistribution of residential densities within the project site.
- The allocation of additional area to green spaces.
- To support improved security outcomes for future residents.

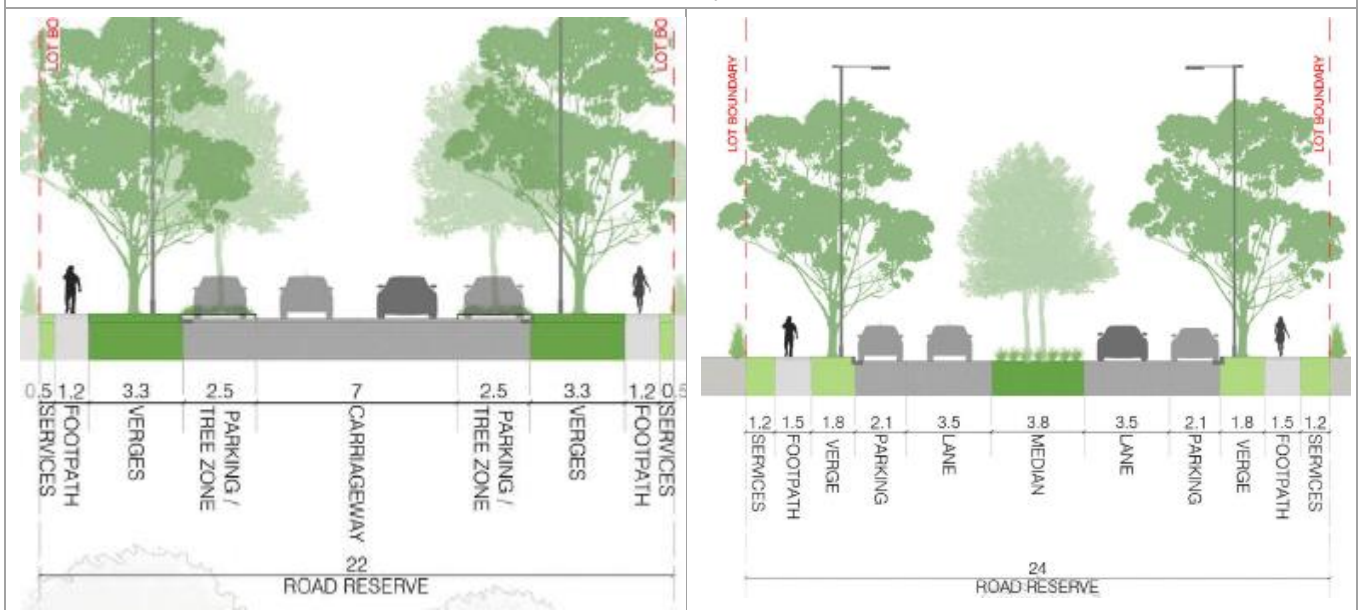
It is noted that the laneway at the south-eastern end of the project site is proposed to be one way in a westbound direction to discourage “rat running” activity.

The layout of each of the street typologies from the Traffic and Transport Assessment and DA are detailed in Table 2.

Table 2 Street typologies

Master Plan	Development Application
Local Street	
0.5 SERVICES 1.2 FOOTPATH 2.8 VERGES 2.5 PARKING / TREE ZONE 9 CARRIAGEWAY 2.5 PARKING / TREE ZONE 2.8 VERGES 1.2 FOOTPATH 0.5 SERVICES 20 ROAD RESERVE	1.2 SERVICES 1.2 FOOTPATH 2.1 VERGE 2 TREE ZONE 11 CARRIAGEWAY 7 TRAFFIC LANES 2 TREE ZONE 2.1 VERGE 1.2 FOOTPATH 1.2 SERVICES 20 ROAD RESERVE
Park Street	
2.5 SHARED PATH 0.9 VERGE 2.3 PARKING 7 CARRIAGEWAY 2.3 PARKING 2.8 VERGES 1.5 FOOTPATH 0.5 SERVICES 17 ROAD RESERVE	2.5 SHARED PATH 0.9 VERGE 11 CARRIAGEWAY 2.1 VERGE 1.2 FOOTPATH 1.2 SERVICES 16.4 ROAD RESERVE
Northern Entry Street	
0.5 SERVICES 2 SHARED PATH 2 VERGES 2.3 PARKING 3.5 LANE 3 MEDIAN / SWALE 3.5 LANE 2.3 PARKING 2 VERGES 1.5 FOOTPATH 0.5 SERVICES 25 ROAD RESERVE	1.2 SERVICES 2.5 SHARED PATH 1.8 VERGE 2.1 PARKING 3.5 LANE 3.8 MEDIAN 3.5 LANE 2.1 PARKING 1.8 VERGE 1.5 FOOTPATH 1.2 SERVICES 25 ROAD RESERVE

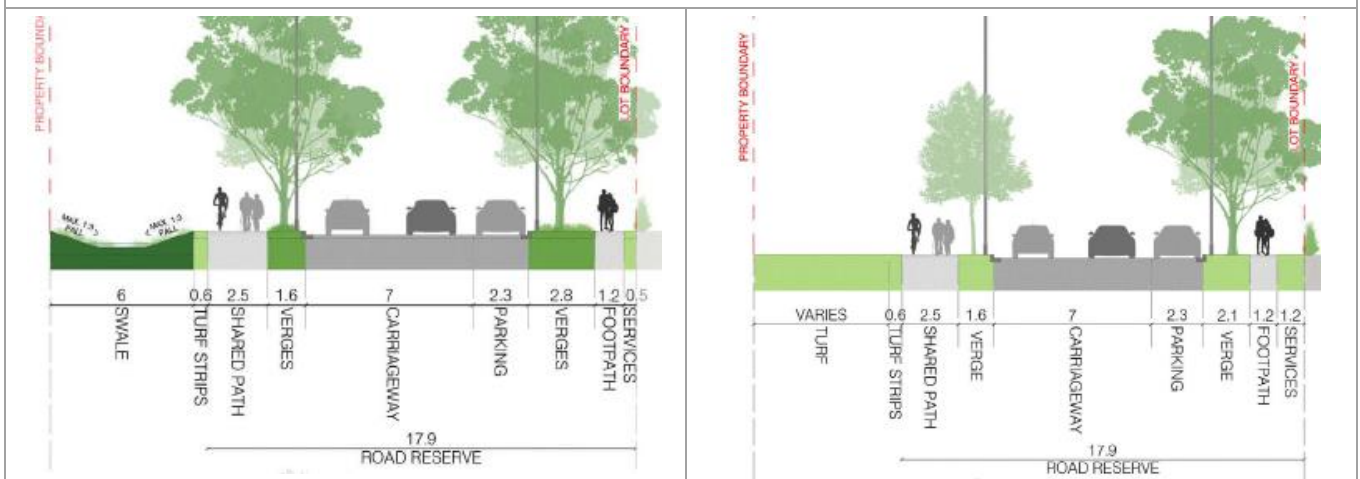
Southern Entry Street



Interface Street



Southern Interface Street



Master Plan	Development Application
Laneway	

The data in Table 2 indicates that there have been minor changes in the street typologies subsequent to the Master Plan, including:

- Local Street – widening of travel lanes from three metres to 3.5 metres.
- Northern Entry Street - narrowing of parking lanes from 2.3 metres to 2.1 metres.
- Southern Entry Street – inclusion of a central median.

However, the road capacities assumed for Traffic and Transport Assessment are consistent with the DA.

4. Summary and conclusion

In summary, a comparison of the project from the Traffic and Transport Assessment to the DA stage is as follows:

- The quantum of development is expected to increase by a single dwelling.
- No changes to the proposed access/egress points are proposed.
- Changes to the internal road network consist of the removal of a number of laneways.
- No changes to the project's higher-order road network are proposed.
- Some minor changes to the project's street typologies are proposed.
- The road capacities assumed for Traffic and Transport Assessment are consistent with the DA.

In conclusion:

- The changes to the project's dwelling yield and road network as part of the DA are minor.
- Therefore, the detailed analysis included in the Traffic and Transport Assessment is suitable as a basis for the assessment of the DA.

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