WSU Milperra
Stages 2, 3 and 4 Subdivision
Traffic Impact Assessment

Prepared for:

Mirvac

1 November 2024

The Transport Planning Partnership

WSU Milperra
Stages 2, 3 and 4 Subdivision
Traffic Impact Assessment

Client: Mirvac

Version: V02

Date: 1 November 2024

TTPP Reference: 19334

Quality Record

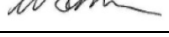
Version	Date	Prepared by	Reviewed by	Approved by	Signature
V01	29/10/2024	Hang Tran	Clinton Cheung	Wayne Johnson	-
V02	1/11/2024	Hang Tran	Clinton Cheung	Wayne Johnson	

Table of Contents

Tables

Figures

1 Introduction

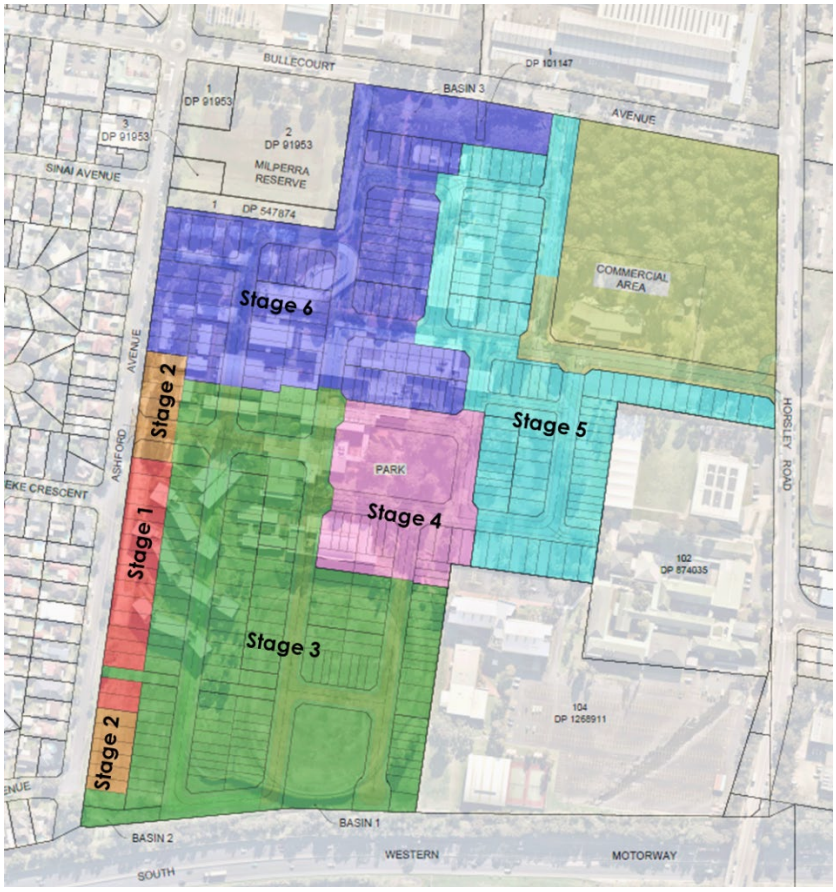
The Transport Planning Partnership Pty Ltd (TTPP) has prepared this Traffic Impact Assessment (TIA) report on behalf of Mirvac Residential (NSW) Developments Pty Ltd, to accompany the Development Application (DA) to be lodged with City of Canterbury Bankstown Council (Council) for the subdivision of Stages 2, 3 and 4 on the former WSU Milperra site located at 2 Bullecourt Avenue, Milperra.

1.1 Project Background

On 1 June 2022, a Gateway determination was issued by the Department of Planning, Housing and Infrastructure (DPHI) to endorse the planning proposal (PP) to rezone the site to provide residential dwellings, a new commercial centre and public open spaces (Ref: PP-2021-5837).

The subdivision of the residential component of the site is proposed to be undertaken in six stages, as shown in Figure 1.1.

Figure 1.1: Subdivision Staging Plan



This report relates to the Stages 2, 3 and 4 subdivision DA which involves 165 residential dwellings, a community park and the construction of internal access roads (as shown in orange, green and magenta/purple in Figure 1.1). All other stages and the commercial area would be subject to a separate approval.

In preparation of this report, reference to the adopted WSU Milperra Former Campus Site Specific Development Control Plan (DCP) and Planning Agreement which was accepted by Council at its Ordinary Meeting on 24 October 2023 has been included in this assessment. It is however noted that the adopted DCP and Planning Agreement will only come into effect should the Minister for Planning and Homes approve the Planning Proposal and the changes are made to Council's Bankstown LEP 2015.

The intended outcomes of the adopted Planning Agreement are as follows:

- Dedication of 14,400m^2 of land as RE1 Public Recreation Zoned land
- Construction and dedication of local roads incl. shared cycleway and 668m^2 SP2 Zoned stormwater detention drainage land
- Open space embellishment within the site (valued $1.5 million)
- Milperra Reserve embellishment (valued $1.04 million)
- Discussions with Mount St Josephs College for shared use of playgrounds
- Repair and renovate Milperra Community Centre (valued $393,000)
- Affordable housing contribution (monetary contribution of $5.3 million)
- Undergrounding powerlines along Ashford Avenue being added, subject to any relevant Ausgrid approval
- Construction of a footpath and landscaping along the eastern side of Ashford Avenue being added
- Contribution towards a cycleway connection to Panania Station to promote the use of active and public transport for future residents and the broader Milperra community.

This report relates to the subdivision DA of Stages 2-4 only, which would include delivery of internal local roads and open space embellishment.

1.2 References

In preparing this report, reference has been made to the following:

- Canterbury-Bankstown Development Control Plan 2023
- Roads and Maritime Services Guide to Traffic Generating Development, updated technical direction TDT 2013/04a
- Adopted WSU Milperra Former Campus Site Specific Development Control Plan and Planning Agreement

- Other documents referenced in this report.

1.3 Report Structure

This report assesses the traffic and transport implications of the proposed development and is set out as follows:

- Chapter 2 discusses the existing conditions including a description of the subject site.
- Chapter 3 provides a brief description of the proposed development.
- Chapter 4 assesses the future parking requirement of the site.
- Chapter 5 examines the traffic generation and its impacts.
- Chapter 6 presents the conclusions of the assessment.

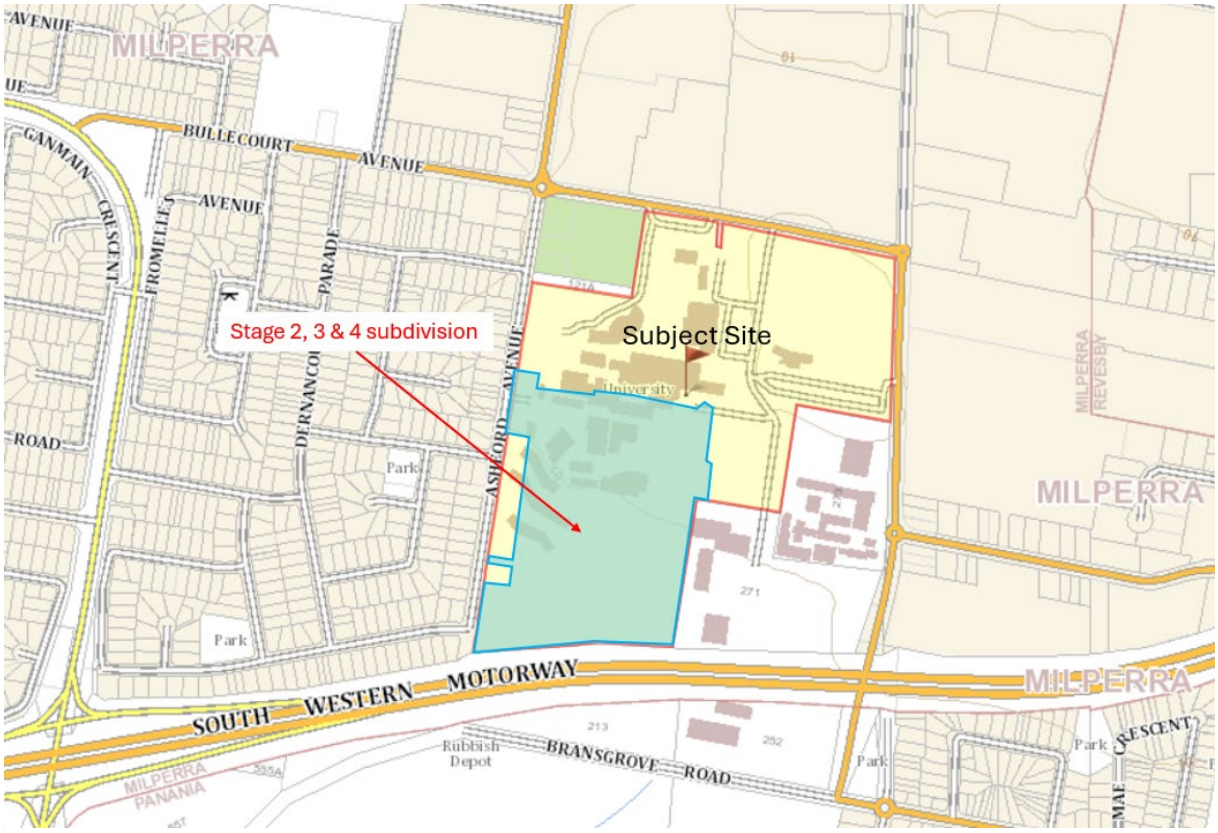
2 Existing Conditions

2.1 Site Description

The site is located in Milperra and falls within the Canterbury-Bankstown local government area (LGA). The site is known as the former Western Sydney University (WSU) Milperra Campus which would be redeveloped for residential, business, recreation and conservation uses. Stages 2-4 of the subdivision DA (this report) relates to a site area of approximately 81,500m^2 with frontages to Ashford Avenue and South Western Motorway.

The location and site area of Stages 2-4 of the subdivision are shown in blue in Figure 2.1, with the overall site outlined in red.

Figure 2.1: Locality Map



Source: SIX Maps

Surrounding land uses in the area are predominantly light industrial to the north and east, including the Milperra Industrial Precinct, and low density residential to the west of the site. Of note, Mount St Joseph Catholic College Milperra is located directly adjacent to the site and has recently purchased Building 17 to 19 within the campus.

2.2 Abutting Road Network

The site is surrounded by a network of local roads, including Bullecourt Avenue to the north, Horsley Road to the east and Ashford Avenue to the west of the site. A brief description of these roads is provided below.

2.2.1 Bullecourt Avenue

Bullecourt Avenue functions as a two-way, two-lane primary collector road, generally aligned in an east-west direction between Horsley Road and Ashford Avenue. The road carriageway is approximately 12.5m wide (kerb to kerb), with unrestricted kerbside parking generally provided on both sides of the road. Bullecourt Avenue has a posted speed limit of 60 km/hr. This road provides good connectivity between Henry Lawson Drive and Horsley Drive to the west and east ends respectively.

2.2.2 Horsley Road

Horsley Road functions as a two-way, two-lane primary collector road and is generally aligned in a north-south direction between Ladbroke Street and Bransgrove Road. The road carriageway is approximately 12.0m wide (kerb to kerb), with unrestricted kerbside parking generally provided on both sides of the road. This road provides good connectivity to/from the wider arterial road network via Bullecourt Avenue, Beaconsfield Street and Bransgrove Road.

The posted speed limit is 60km/hr, with 40 km/hr school zone restrictions in operation during school hours to the south of the Horsley Road-Bullecourt Avenue intersection.

2.2.3 Ashford Avenue

Ashford Avenue functions as a two-way, two-lane local collector road, generally aligned in a north-south direction between Milperra Road and Flanders Avenue to the north and south ends respectively. The road carriageway is approximately 12.0m wide (kerb to kerb), with unrestricted kerbside parking provided on the east side and restricted kerbside parking on the west side of the road.

The posted speed limit is 50 km/hr within the vicinity of the site.

2.3 Pedestrian and Cyclist Infrastructure

Paved pedestrian footpaths are generally provided on both sides of Bullecourt Avenue and Horsley Road, which provides good access to the surrounding areas and public transport facilities. In addition to this, formal pedestrian footpaths are provided on some sections of

Ashford Avenue, near the retail shop frontages at the corner of Ashford Avenue and Bullecourt Avenue. No formal pedestrian footpaths are provided along the site frontage on Ashford Avenue or along the frontage of the residential dwelling houses on the west side of Ashford Avenue between Sinai Avenue and Flanders Avenue.

There is a good provision of cycle infrastructure in the local area. To the west of the site, a shared path is provided along Henry Lawson Drive, providing connectivity in a generally north-south direction between Lansdowne and East Hills. In addition to this, there is a cycleway provided to the south of the site traversing the sports fields which provides good connectivity to/from Panania.

A map showing existing cycling facilities within the site vicinity is shown in Figure 2.2.

Figure 2.2: Cycleway Map

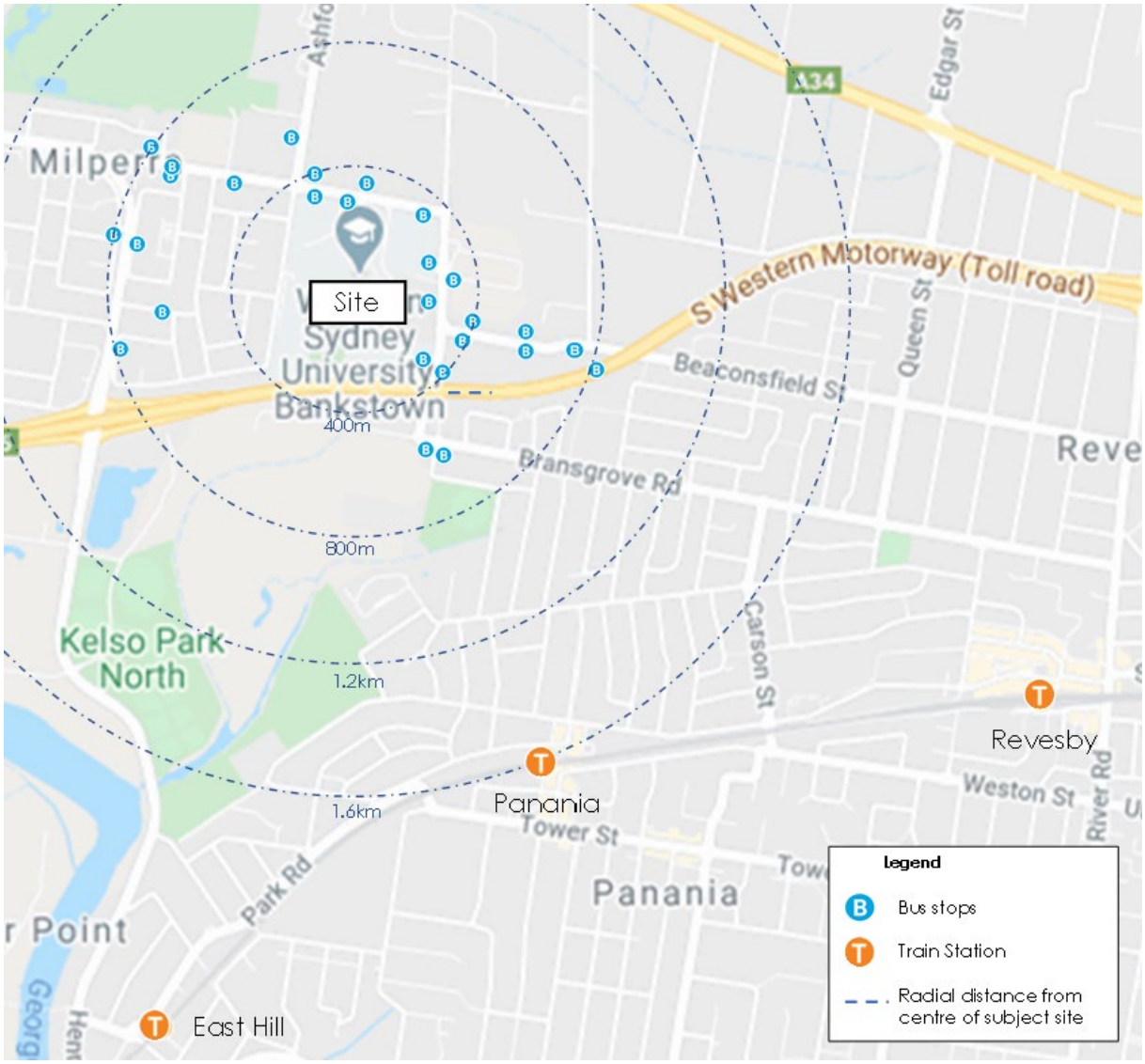
Source: Roads and Maritime Services Cycleway Finder

2.4 Public Transport Facilities

The site is accessible by public transport, with a number of bus services operating within a 400m catchment radius of the centre of the site. It is however noted that there are no nearby railway stations within the immediate local area. The nearest railway station is Panania Station, which is approximately 1.5km from the site.

The site's proximity to nearby public transport facilities is shown in Figure 2.3.

Figure 2.3: Site Proximity to Nearby Public Transport Facilities



Base Map Source: Google Maps Australia

A summary of the existing bus services within a 400m radius catchment of the centre of the site, as well as their associated frequencies, is provided in Table 2.1.

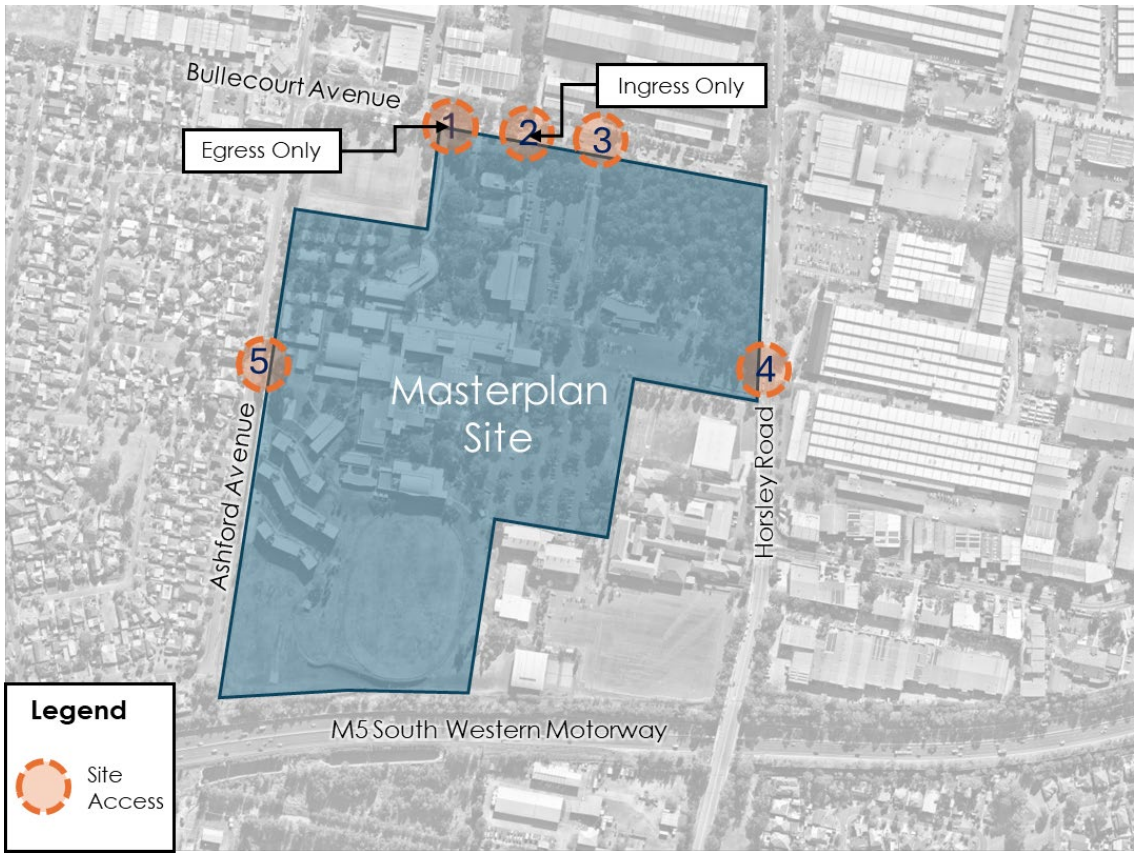
Table 2.1: Bus Service Summary

Service No.	Route Description	Approximate Frequency (Each Direction)	
		Peak	Off-Peak
922	Between East Hills and Bankstown	Every 30 mins	
962	Between East Hills and Miranda	Every 15-20 mins	Every 30 mins
M90	Between Burwood and Liverpool	Every 10 mins	Every 15 mins
S5	Between Milperra and Padstow	Five services per day	

2.5 Existing Vehicle Access

The subject site was formerly occupied by the WSU Milperra campus, which has been relocated to a new location in Bankstown. Whilst the site is not currently operational, there are several vehicle access points provided along Ashford Avenue, Bullecourt Avenue and Horsley Road frontages as shown in Figure 2.4. The existing access point on Ashford Avenue (Access #5) will be modified to a road intersection providing access to the internal road network of the masterplan site including access to the dwellings in Stages 2, 3 and 4.

Figure 2.4: Existing Vehicle Access Locations



3 Proposed Development

3.1 Project Background

On 1 June 2022, a Gateway determination was issued by the Department of Planning, Housing and Infrastructure to endorse the planning proposal to rezone the site to provide residential dwellings, a new commercial centre and public open spaces (Ref: PP-2021-5837).

As part of the previous traffic assessment[1], the indicative masterplan assessed was as follows:

- 441 residential dwellings (197 free standing and 244 attached and semi-detached dwellings)
- 136m^2 GFA of shared community/meeting office space
- 250m^2 GFA of restaurant/café use
- 250m^2 GFA of convenience retail use
- A child care centre with capacity for 40 children

The planning proposal was approved for a total number of 430 residential dwellings (which is slightly lower than the above 441 residential dwellings assessed as part of the planning proposal traffic report).

It is however noted that now during the DA stages of the subdivision, the total residential dwelling provision has been revised to 382 dwellings which is based on dwelling design and market conditions and also balances density and amenity.

The proposed development is proposed to be provided in accordance with the Concept Masterplan in the adopted Site Specific DCP, as shown in Figure 3.1.

[1] *TTPP Transport Assessment Version 05 dated 2 June 2020 (TTPP Ref: 19334-R01V05-200602-TIA)*

Figure 3.1: Concept Master Plan

Source: Figure 2 of adopted WSU Milperra Site Specific Development Control Plan

3.2 Proposed Residential Staging

The proposed indicative residential development shall be staged across six (6) stages, being:

- **Stage 1** – 16 residential dwellings
- **Stage 2** – 11 residential dwellings
- **Stage 3** – 135 residential dwellings, plus internal access roads and public open space
- **Stage 4** – 19 residential dwellings, plus internal access roads and public open space
- **Stage 5** – 96 residential dwellings, plus internal access roads
- **Stage 6** – 105 residential dwellings, plus internal access roads and public open space

Please note, the above Stages 5 and 6 may be subject to change based on upcoming planning process and market demand.

This assessment seeks approval for Stages 2, 3 and 4 of the subdivision DA only.

The development yields for future stages are indicative only and shall be subject to separate approvals, along with the proposed non-residential uses.

The proposed residential subdivision staging plan is shown in Figure 3.2, with the residential breakdown outlined in Table 3.1.

Figure 3.2: Proposed Subdivision Staging Plan

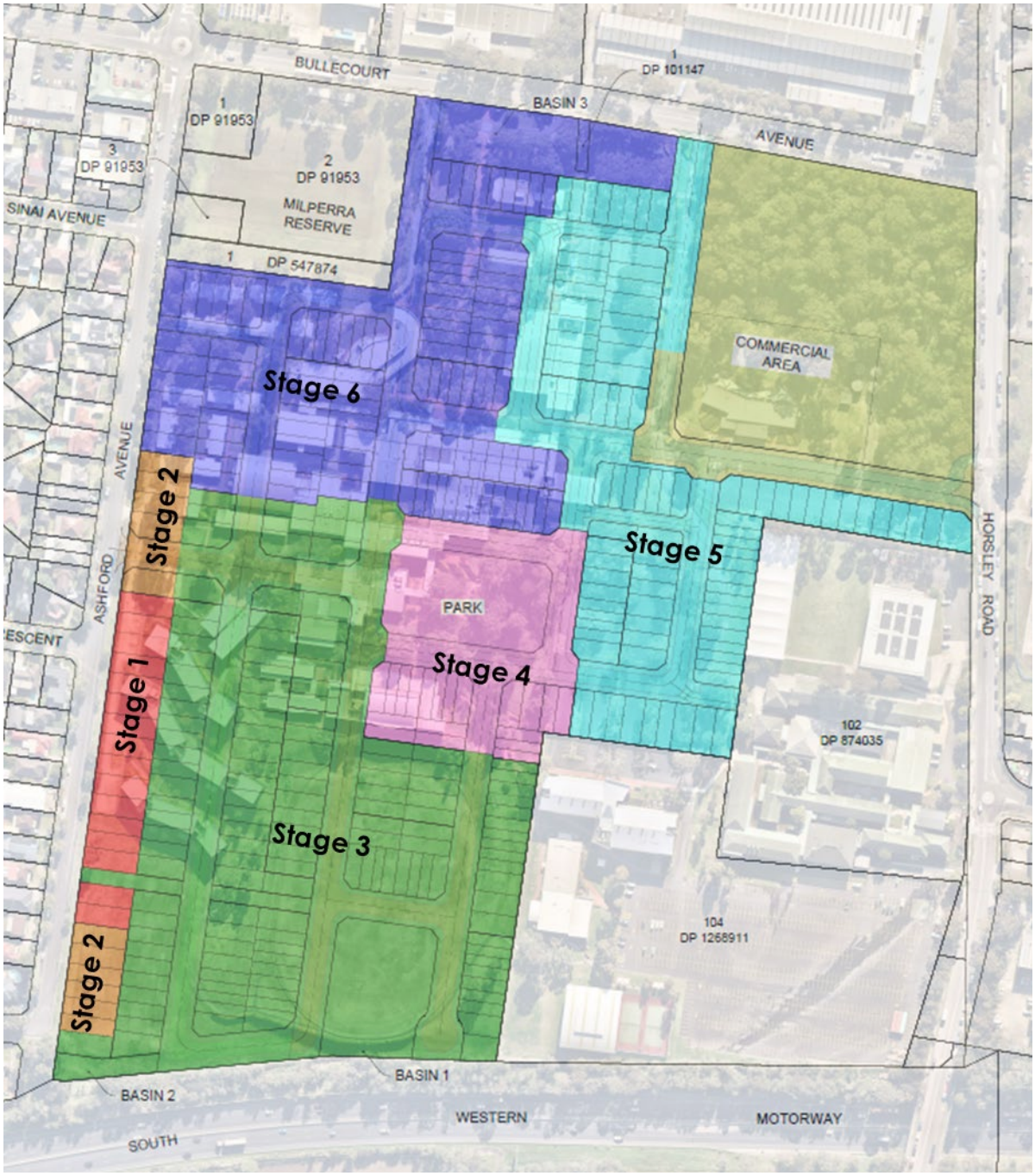


Table 3.1: Proposed Indicative Subdivision Development Yields

Stage	Number of Residential Dwellings	Stage Area (m²)
1	16	6,030
2	11	4,690
3	135	61,674
4	19	15,108
5	96	35,176
6	105	40,385
Total	**382**	**163,063 m²**

**This assessment relates to Stages 2, 3 and 4 only. The remaining stages would be subject to a separate DA.*

The Stages 2, 3 and 4 subdivision DA (of which this report relates to) involves the construction of 165 residential dwellings and has access to Ashford Avenue via internal roads.

The proposed residential dwellings in Stages 2, 3 and 4 would be predominately low rise residential up to two storey high, except the dwelling lots with direct frontage to Ashford Avenue (11 lots in Stage 2 and 7 lots in Stage 3) which would be provided as "premium housing" with a minimum 10m lot width in accordance with the Concept Masterplan in the adopted Site Specific DCP as shown in Figure 3.1. The dwelling lots fronting Ashford Avenue shall have individual access off Ashford Avenue, and access to the rest of the dwellings in Stages 2-4 will be provided via the new internal roads which will be constructed in accordance with the approved Concept Masterplan in the adopted Site Specific DCP. The internal road network within Stages 2-4 development is further discussed in Section 3.3 of this report.

The proposed Stages 2-4 subdivision DA is considered consistent with the Concept Masterplan for the site under the adopted Site Specific DCP.

3.3 Internal Road Network

The proposed access arrangement has been designed in accordance with the Concept Masterplan. Stages 2-4 of the development will feature some partial "Local Roads" that will comprise a temporary cul-de-sac at the end of the street. The partial "Local Roads" will be fully constructed as part of future development applications.

The new roads are to be designed as per the minimum requirements of the adopted Site Specific DCP. That is, a local road is to have a minimum 18m wide road reservation and incorporate the following:

- 11m wide road carriageway.
- 3.5m verge width on each side (including a 1.2m wide footpath on one side of the road and a 2m shared path on either side of the road).
- Provision is to be made for vehicular footway crossings where required.

- The remainder of the verge is to be landscaped and include streets. It is noted in the Site Specific DCP that landscaped 'blisters' may be supported by Council as areas to provide street tree planting, subject to Development Application approval.

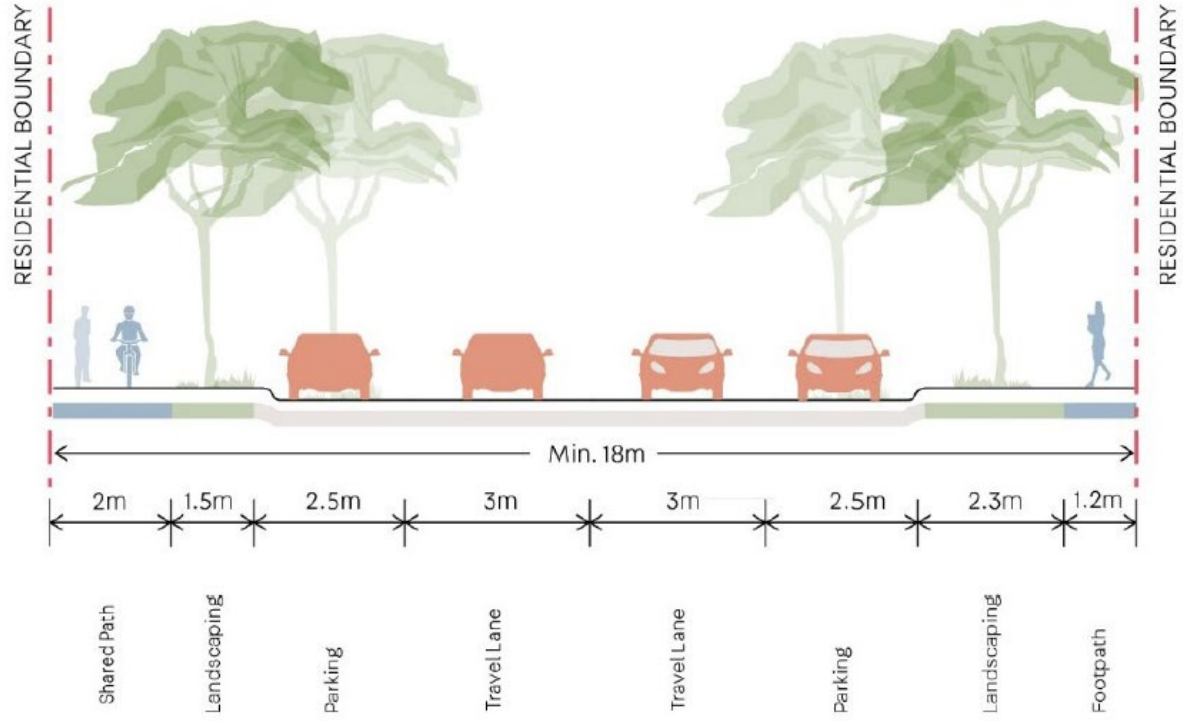
Minor local roads are required to have a minimum 17.2m wide road reservation and incorporate the following:

- 10.2m wide road carriageway.
- 3.5m verge width on each side (including 1.2m wide footpath on both sides of the road).
- Provision is to be made for vehicular footway crossings where required.
- The remainder of the verge is to be landscaped and include streets. It is noted in the Site Specific DCP that landscaped 'blisters' may be supported by Council as areas to provide street tree planting, subject to Development Application approval.

Cross-sections of the local and minor local roads are shown in Figure 3.3 and Figure 3.4 respectively.

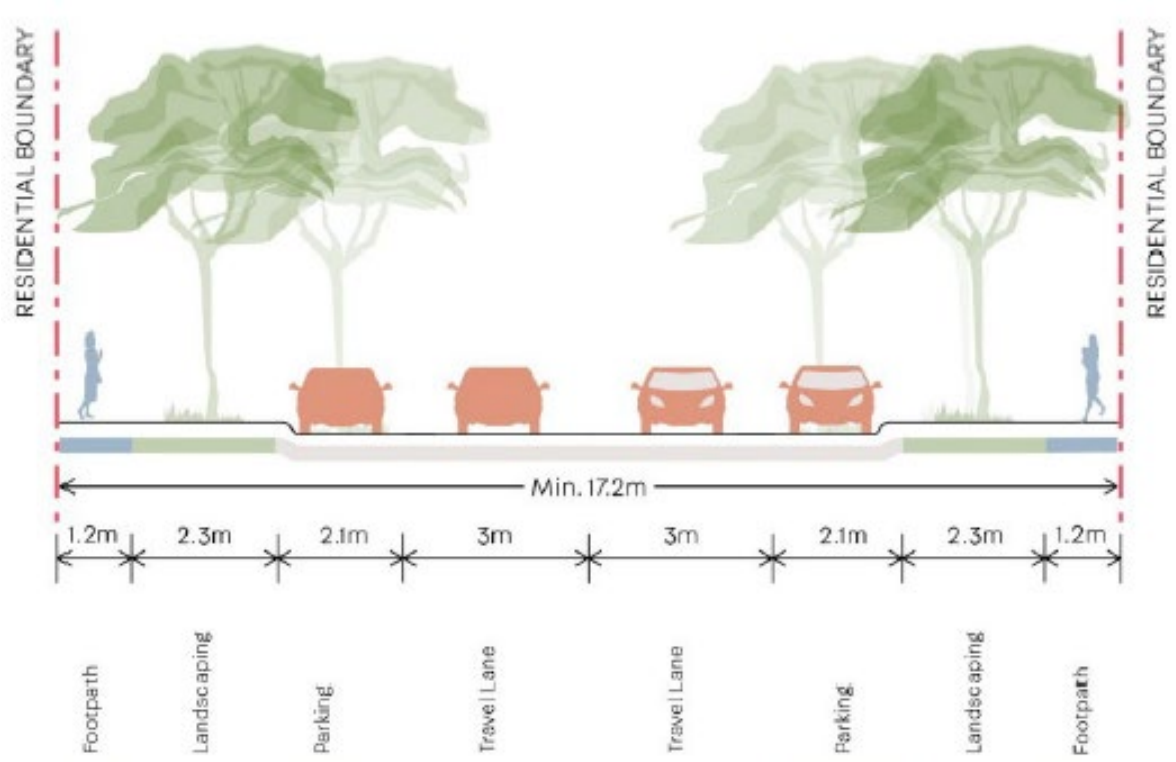
The proposed road reservation and road carriageway, as shown in Figure 3.5 and in the concept subdivision plan are consistent with the DCP requirements. The detailed design of the internal roads will be developed and submitted to Council for approval prior to the Construction Certification stage.

Figure 3.3: Local Road Cross Section



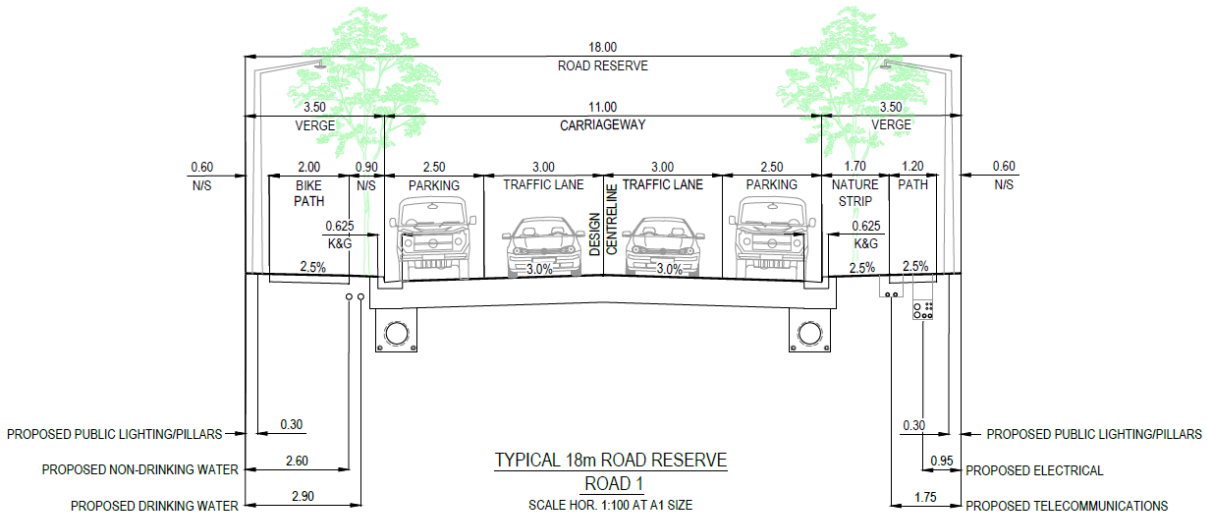
Source: Figure 3 of adopted WSU Milperra Site Specific Development Control Plan

Figure 3.4: Minor Local Road Cross Section



Source: Figure 4 of adopted WSU Milperra Site Specific Development Control Plan

Figure 3.5: Proposed Typical Road Cross-section



Source: Berveridge William "Details and Typical Cross-section"

4 Parking Assessment

4.1 Car Parking Assessment

The Canterbury-Bankstown DCP 2023 stipulates a car parking rate of 2 car spaces per dwelling house for residential dwellings. It is proposed to comply with this requirement and provide each dwelling with two car parking spaces.

Vehicle access to the dwellings fronting Ashford Avenue would be provided directly off Ashford Avenue, and vehicle access to other dwellings would be provided via the new local roads.

The car park and associated elements would also be proposed to be designed in accordance with relevant Australian Standard, namely AS2890.1:2004.

4.2 Waste Collection Arrangements

Waste is proposed to be collected kerbside on Ashford Avenue and the new internal local roads in front of the properties. This is consistent with the existing waste collection arrangement of residential dwellings located in the surrounding area. At the cul-de-sac of the internal roads, a turning bay will be provided to assist waste truck turning around.

5 Traffic Assessment

Stages 2-4 of the subdivision DA are consistent with the previous scheme which was assessed as part of TTPP's Transport Assessment (Version 05 dated 2 June 2020) of the approved Planning Proposal to rezone the site (TTPP Ref: 19334-R01V05-200602-TIA).

It is noted that TfNSW's new *Guide to Transport Impact Assessment 2024* will come into effect from 4 November 2024 and provides updated land use trip generation rates including revised low density and medium density residential trip rates which are both lower than the current (at time of writing) *Guide to Traffic Generating Development* (2002) and *Technical Direction TDT 2013/04a* (2-13).

Notwithstanding, this report has referenced the current *Guide to Traffic Generating Development* (2002) and *Technical Direction TDT 2013/04a* (2-13) which is consistent with the approved planning proposal TIA. Furthermore, as these trip rates are higher than the forthcoming 2024 Guide this approach offers a more conservative and robust assessment.

Transport for NSW's *Guide to Traffic Generating Development* (2002) and *Technical Direction TDT 2013/04a* (2-13) stipulates the following traffic generation rate for low and medium density residential dwellings:

- For free standing residential dwellings (low-density)
  - Weekday morning peak hour vehicle trips: 0.95 veh/hr per dwelling in Sydney
  - Weekday evening peak hour vehicle trips: 0.99 veh/hr per dwelling in Sydney
- For attached and semi-detached residential dwellings (medium-density):
  - Weekday morning peak hour vehicle trips: 0.85 veh/hr per dwelling in Sydney
  - Weekday evening peak hour vehicle trips: 0.85 veh/hr per dwelling in Sydney

Notably, the above rates are consistent with the traffic generation rates adopted for the residential component in the traffic assessment for the approved planning proposal of the site.

By applying the above traffic generation rates to the proposed development in Stages 2, 3 and 4, the expected traffic generation is shown in Table 5.1.

Table 5.1: Traffic Generation

Land Use	Yields (Stages 2, 3 & 4)	AM Peak Trip Rate	AM Peak Traffic Generation	PM Peak Trip Rate	PM Peak Traffic Generation
Free standing dwelling (low-density)	36	0.95 trips per dwelling	34	0.99 trips per dwelling	36
Attached and semi-detached dwellings (medium-density)	129	0.85 trips per dwelling	110	0.85 trips per dwelling	110
Total	**165**	**-**	**144**	**-**	**146**

As shown in Table 5.1, the proposed 165 dwelling houses as part of the Stages 2-4 works are expected to generate about 144 vehicle trips in the morning peak hour and 146 vehicle trips in the afternoon peak hour. This level of traffic generation equates to about 3 vehicles every minute which is considered low.

'Road No. 1' will be constructed off Ashford Avenue providing access to the staged subdivision i.e. Stage 2-4 (this report). Other primary access points will be constructed off Bullecourt Avenue and Horsley Road as part of separate future DAs for Stage 5 and Stage 6.

As part of Stage 2 there is a total 11 dwellings with direct vehicle access to Ashford Avenue and therefore would not utilise the new access road (priority T-intersection with Ashford Avenue) to the Stage 2-4 subdivision. Therefore, based on the remaining 154 dwellings (Stage 3 and 4), the traffic generation would be a total of 134-135vph or approximately 2-3 vehicles / minute utilising the new site access of Ashford Avenue. This level of traffic is considered low and is not anticipated to have adverse intersection performance.

Notwithstanding this, the proposed development is consistent with the overall masterplan for the site, which was assessed in the TTPP's Transport Assessment (Version 05, dated 2 June 2020) as part of the approved planning proposal to rezone the site.

The previous study which assessed the full masterplan of the site concluded that:

- *The surrounding key intersections are expected to continue to operate satisfactorily at LoS B or better during both AM and PM peak periods. On this basis, the proposed development is not expected to compromise the existing intersection performance on the surrounding road network, nor result in any safety or operational issues. Therefore, the proposal is considered acceptable from a traffic capacity perspective.*

Therefore, as the expected future traffic generation of the Stages 2-4 development was considered in the approved rezoning of the site, the traffic generation of the proposed development is not expected to compromise the intersection performance on the surrounding road network.

6 Conclusion

This report examines the traffic and parking implications of the Stages 2-4 subdivision development of the former Western Sydney University (WSU) campus, which forms part of the wider rezoning masterplan of the site.

The key findings of the assessment are presented as follows:

- The Stages 2, 3 and 4 subdivision development application seeks approval to provide 165 residential dwellings including internal local roads.
- This work forms part of the overall masterplan of the site which obtained approval from the South District Planning Panel in July 2023 to rezone the site to provide residential dwellings, a new commercial centre and public open spaces (Ref: PP-2021-5837).
- This assessment seeks approval for the Stages 2-4 subdivision DA only. All future stages would be subject to a separate DA for approval.
- Access to the dwellings fronting Ashford Avenue will be provided directly off Ashford Avenue. New local roads will be provided from Ashford Avenue to provide access to other residential dwellings that do not have frontage to Ashford Avenue.
- New local roads will be designed in accordance with the adopted site-specific DCP.
- The proposed Stages 2-4 developments will provide sufficient off-street parking spaces with 2 car spaces provided for each dwelling as per Council DCP requirements. These spaces are proposed to be designed in accordance with AS2890.1:2004 design requirements.
- The proposed development is consistent with the planning proposal of the masterplan site, and the expected future traffic generation of the Stages 2, 3 and 4 development would have been considered in the approved rezoning of the site. Therefore, the expected traffic generation of the proposed development is not expected to cause significant additional impacts on the local road network.

Overall, the traffic and parking aspects of the Stages 2, 3 and 4 development are considered to be satisfactory. The proposal is consistent with the previous scheme assessed as part of the planning proposal for the site, which would be delivered across six (6) stages (Ref: PP-2021-5837).

Future stages of the development would be subject to separate DA approvals.

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