Traffic Impact Assessment

Schofields - Altrove Stage 8

Prepared for Stockland / 19 March 2019

181873 - TAAA
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1.0 Introduction

Taylor Thomson Whitting has been engaged by Stockland to provide a Traffic Impact Assessment for the proposed Altrove Stage 8 Project located within the Schofields Precinct of the North West Growth Area. This report provides an assessment of the traffic and transport impacts of the proposed development and supports the Development Application for the project.

1.1 Background

The Altrove Stage 8 project is located within the 50.5 hectare greenfield development ‘Altrove’. Altrove is a master-planned community located within the North West Growth Area, aimed to increase available housing within Sydney.

The main areas of attention of this study relate to:
- Transport and accessibility including active travel and public transport.
- Assessment of parking requirements of the development.
- Assessment of traffic generated by the development.
- Servicing requirements and suitability of the site for waste collection.

1.2 References

Key reference documents used to formulate this report are as follows:
- Roads and Maritime Services (RMS) Updated Guide to Traffic Generating Developments
- Blacktown City Council’s Development Control Plan, Growth Centre Precincts Development Control Plan and Local Environmental Plan
- Architectural drawings prepared by DC8 Studio
- Relevant Australian Standards
- Schofields Precinct Transport and Access Strategy prepared by AECOM
- Concept Design Stage 2 – Schofields Road Upgrade Tallawong Road to Veron Road Traffic Report prepared by Parsons Brinckerhoff
- Schofields Subdivision Traffic Addendum prepared by Cardno
2.0 Existing Conditions

2.1 The Site

The Altrove community is located adjacent to Schofields Train Station and is located within the North West Growth Area. It is located within the bounds of Blacktown City Council, approximately 45 kilometres west of the Sydney Central Business District and 8 kilometres north-west of Blacktown.

The site is currently greenfield, with the partially completed Altrove Development to the south. Refer to Figure 2.1 for the site within its existing condition and Figure 2.2 for the site’s context within Altrove.

![Figure 2.1: Location of Stage 8 within Existing Conditions](image)
2.2 External Road Network

The suburb of Schofields is accessed by the M7 Westlink Motorway from the south and the M2 Hills Motorway from the east.

The site will be bounded by Altrove Boulevard to the south, a stormwater detention basin to the west and future properties to be built as part of the Altrove development to the east and south.

The current access and egress point of Altrove is via the intersection of Schofields Road and Veron Road.

2.3 Parking Facilities

There is currently a commuter carpark located to the east and west of Schofields Train Station. This on grade parking totals 230 car spaces. There are kiss and ride facilities adjacent to either side of the station.

Future construction of Altrove Boulevard will provide indented parking bays on both kerbsides.

2.4 Pedestrian Facilities

As the site is currently greenfield, limited pedestrian facilities are provided and will be affected by the works. Following future construction of Altrove Boulevard, footpaths will be provided on both kerbsides.
2.5 Bicycle Facilities

A separated dedicated cycleway is located along parts of Railway Terrace and Burdekin Road. This cycleway connects Schofields to suburbs to the south and east of the site.

There are 40 bicycle racks located around Schofields Train Station.

There is a proposed on road cycle route that will follow the northern boundary of the site as detailed in Schedule 5 of the GCDCP. This cycle route will connect the site to Railway Terrace and Schofields Road.

Figure 2.3: Proposed Pedestrian and Cycle Network

Source: Blacktown City Council’s GCDCP 2016
2.6 Public Transport

Public transport services have been identified within Schedule 5 of Blacktown City Council’s GCDCP as shown in Figure 2.4.

![Figure 2.4: Public Transport Services](source: Blacktown City Council’s GCDCP 2016)
2.6.1 Bus Services

The nearest bus stop to the proposed site is located to the east of Schofields Train Station. This is approximately 350 metres from the site. This bus stop is currently serviced by the following routes:

- The **T74 route** which connects Schofields to Quakers Hill, Stanhope, Blacktown and Riverstone. This service operates half hourly during peak weekday times and every hour during off peak times and weekends.
- The **751 route** which connects to Rouse Hill, Marsden Park, Colebee, Quakers Hill, Marayong and Blacktown. This service operates hourly throughout the day during weekdays and weekends.

Future potential bus routes have been identified within Blacktown City Council’s GCDCP and may be subject to future change.

2.6.2 Train Services

The development is located approximately 200 metres to the west of Schofields Train Station. This station is serviced by the following:

- **T1 Western Line** – connecting to Richmond, Blacktown, Parramatta, Lidcombe, Central and the Northern Lines. Operates every 10 to 20 minutes during peak times.
- **T5 Cumberland Line** – connecting to Blacktown, Parramatta, Liverpool and Campbelltown. Operates every half hour during peak times.

In addition to Schofields Train Station, the site is connected to the Sydney Metro Northwest via Tallawong Station located approximately 10 minutes’ drive from the site. The train station is scheduled to open within the second quarter of 2019 and will contain 1,000 commuter carpark spaces as well as 45 bicycle spaces. This line will initially connect to Epping, with an eventual connection to Wynyard via Macquarie, Chatswood and North Sydney.

The NSW Government has secured a transport corridor further west through Schofields for potential expansion of the proposed line in the future if necessary.
3.0 Proposed Development

3.1 Scope of the Development

The development includes a total of 72 proposed residences, comprising of the following:

- 28 2-bedroom developments; and
- 44 3-bedroom developments.

The development also includes associated landscaping, footpaths and roadworks to support the proposed residences.

3.2 Internal Road Network

The internal local road network provides a 9m carriageway with a 3.5m verge on both kerbsides which is in accordance with Blacktown City Council’s GCDCP typical local street detail. This is consistent with the R2 Low Density Residential Zone that applies to the site.

The internal local road network will connect to:

- Altrove Boulevard which has a 20m road reserve and is a collector road approved under...
a separate application (reference number DA-16-04636).

- Calder Street which is located perpendicular to Altrove Boulevard, has an 18m road reserve due to it bordering R3 zoned land and is approved under a separate application (reference number DA-16-04636).

This road network is consistent with zoning around the site.

Rear accessed properties utilise private shared driveways with access provided to garages on one side only. The arrangement of these laneways is consistent with the approved outcomes for Stage 7A (DA-16-03948).

In line with Council’s Development Services Engineer’s unpublished requirements, each shared driveway serves no more than 5 dwellings and a through link has been prevented by use of significant landscaped area.

### 3.3 Traffic Impact

#### 3.3.1 Trip Generation

The RMS Updated Guide to Traffic Generating Developments details the rates within Table 3.1. The townhouses have been assumed to have the same trip generation characteristics of an urban, low density development detailed within the RMS Guide. As there are 72 residences proposed, the subsequent trip generation of the development is therefore 770 daily vehicle trips, 68 weekday AM peak hour trips and 71 weekday PM trips.
### Table 3.1: Low Density Housing Trip Generation Rates

*Source: RMS Updated Guide to Traffic Generating Developments*

<table>
<thead>
<tr>
<th>Type of Rate</th>
<th>Vehicle Trips per Dwelling</th>
<th>Trips Generated</th>
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<tbody>
<tr>
<td>Daily Vehicle Trips</td>
<td>10.7</td>
<td>770</td>
</tr>
<tr>
<td>Weekday Average AM Peak Hour</td>
<td>0.95</td>
<td>68</td>
</tr>
<tr>
<td>Weekday Average PM Peak Hour</td>
<td>0.99</td>
<td>71</td>
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#### 3.3.2 Trip Distribution

It is assumed that the majority of vehicles will travel outside of the Altrove area via Altrove Boulevard, Veron Road and the intersection of Veron Road and Schofields Road. In future, Burdekin Road may be extended to provide another access and egress point to Altrove.

#### 3.3.3 Intersection Analysis

Previous intersection analyses have been undertaken to determine the impact of the North West Growth Area on existing and proposed roads. An initial traffic study was conducted by AECOM (commissioned by the Department of Planning) following an approved Indicative Layout Plan (ILP) for the Schofields precinct. As the proposed development is consistent with the ILP, traffic volumes modelled in the AECOM report are consistent with what is proposed.

As part of the RMS works undertaken to Schofields Road, further modelling was undertaken by Parsons Brinckerhoff to project future traffic demands on the intersection of Veron Road and Schofields Road. This modelling tested a fully developed scenario and determined the required intersection layout for the initial build and ultimate build for Schofields Road and Veron Road. The modelling utilised RMS traffic volume projections that were also used for the AECOM study.

The intersection of Veron Road and Schofields Road has currently been constructed in line with the recommended initial build, which has been modelled within the Cardno report to reflect projected traffic conditions to the year 2026. This arrangement is expected to operate at a Level of Service C during the AM peak and D during the PM peak.

As the proposed development is consistent with the ILP and therefore the traffic volumes projected for these traffic studies, the intersections can be assumed to operate at an acceptable Level of Service post development as reported in the Cardno traffic study.

#### 3.4 Parking Facilities

#### 3.4.1 Local Parking Requirements

Within the Blacktown City Council GCDCP, parking controls are as follows:

- Minimum garage width 2.4m (single) and 4.8m (double).
- 1-2 bedroom dwellings to provide at least 1 car space.
- 3 bedroom or more dwellings to provide at least 2 car spaces.

#### 3.4.2 Proposed Parking Provision

Parking for residents has been provided in accordance with the requirements of Blacktown City Council’s GCDCP as detailed in Table 3.2 and shown on the architectural plans prepared by DC8 Studio.
Visitor parking is provided as on street parking along the proposed internal roads to the development. With a total internal road length of greater than 850m it is estimated some 50 on street parking spaces will be available for use by visitors to the site.

**Table 3.2: Proposed Residential Parking Provision**

<table>
<thead>
<tr>
<th>Size of Dwelling</th>
<th>Yield</th>
<th>Parking Requirement</th>
<th>Parking Provision</th>
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<tbody>
<tr>
<td>2 bedroom</td>
<td>28</td>
<td>28</td>
<td>50</td>
</tr>
<tr>
<td>3 bedroom +</td>
<td>44</td>
<td>88</td>
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3.4.3 Parking Layout

The development contains largely front-accessed properties with some shared access driveway arrangements along the south-eastern edge of the site. No vehicular access is proposed from Altrove Boulevard.

Where townhouses are rear-accessed, the garages provided are single or double dependent on the size of dwelling. Where they are front-accessed, provision has been made for one garage space and one stacked space located on the driveway within the property’s boundary.

3.5 On Street Parking

On street parking is proposed along both kerbsides of the local access roads in line with the typical local street standard arrangement within Blacktown City Council’s GCDCP.

3.6 Vehicle Access

As discussed in Section 3.4, the majority of properties will have front access to their garages with some properties containing rear access. For rear access properties, vehicles will traverse a shared laneway to reach their garages. A swept path analysis has been undertaken with a B99 vehicle to ensure vehicles can manoeuvre into and out of their garages from the shared laneways.

3.7 Waste and Service Vehicles

It is proposed that waste collection will largely occur from the frontage roads of the proposed dwellings. It is not proposed to collect waste from Altrove Boulevard. Local road intersections between Altrove Boulevard and the internal local roads are designed in accordance with Blacktown City Council’s GCDCP and therefore will accommodate Council’s waste vehicles.

3.8 Pedestrian Facilities

Pedestrian footpaths are proposed on both kerbsides of the local access roads in line with Blacktown City Council’s requirements. These footpaths will connect to Altrove Boulevard which will provide pedestrian connection to the city centre and Schofields Train Station.
4.0 Conclusion

The proposed Stage 8 development is located within the Schofields Precinct of the North West Growth Area. The development is proposed to provide 28 2-bedroom developments and 44 3-bedroom developments, with associated landscaping, footpaths and roadworks. Internal local roads and laneways are proposed to provide access to the proposed properties.

The site is expected to generate 770 daily, 68 AM peak and 71 PM peak vehicle trips. As the development is consistent with the residential land zoning, traffic modelling conducted as part of the wider North West Growth Area planning process is applicable to the site. As a result, the development can be accommodated by the external road network.

The parking provision proposed within the site is in accordance with Blacktown City Council requirements. Parking for residents is proposed within garages, carports and as stacked parking behind garages. Ample visitor parking is provided for within on street parking that is provided along the internal local road network.

A swept path analysis with a B99 vehicle has been conducted of the shared driveways to ensure private vehicle access to garages. The proposed local roads are in accordance with Council’s standard and therefore sufficient manoeuvring space has been provided for access by Council’s waste vehicles.

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Appendix A

Vehicle Swept Path Analysis
B99

- **Width**: 1.94 meters
- **Track**: 1.84 meters
- **Lock to Lock Time**: 6.0 seconds
- **Steering Angle**: 33.9 degrees

**Swept Path Legend**

- **Left Boundary**: Indicates the left boundary of the swept path.
- **Right Boundary**: Indicates the right boundary of the swept path.

**Notes**

- This drawing is copyright and is the property of TAYLOR THOMSON WHITTING (NSW) Pty Ltd and must not be used without authorisation.
- This drawing to be read in conjunction with all relevant notes on drawing C01.
Steering Angle: 33.9°

Lock to Lock Time: 6.0 seconds

Width: 1.94 meters
Track: 1.84 meters

B99 TURNING PATHS - LOT 23 AND 59 ACCESS

1:400 GC

ALTROVE STAGE 8

B99

LOT 01
LOT 02
LOT 03
LOT 04
LOT 05
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