asongroup

Prepared for
Combined Projects (Kirrawee) Pty Ltd

Traffic Impact Assessment Report

S75W MOD5 – Mixed Use Development, South Village
566-594 Princes Highway, Kirrawee

Ref: 0326r01v1
06/03/17

Info@asongroup.com.au | +61 2 9083 6601 | Suite 1202, Level 12, 220 George Street, Sydney, NSW 2000

Table of Contents

Document Control

Project: S75W MOD5 – Mixed Use Development, South Village

Reference: 0326r01v1

Revision History

Version	Date	Details	Author	Approved by
-	01.03.2017	Draft	P. Trethewey	P. Trethewey
V1	06.03.2017	Issue I	P. Trethewey	P. Trethewey

1 Introduction

1.1 Background

Ason Group has been commissioned by Combined Projects (Kirrawee) Pty Ltd to prepare a Traffic Impact Assessment (TIA) report to support proposed modifications to the approved Concept Plan for mixed-use development located at 566-594 Princes Highway, Kirrawee (the Site – refer to **Figure 1**). The Site is located within the local government area of Sutherland Shire Council.

The Site has Concept Approval under State Significant Development Application (SSDA) No. MP 10_0076 MOD 4. In summary, the approved Concept Plan consists of:

- 69,310 m^2 of residential GFA providing 749 dwellings,
- 14,190 m^2 of commercial / retail GFA, and
- 1,500 m^2 of GFA for a community facility.

The currently proposed modifications – sought under Section 75W of Part 3A of the Environmental Planning and Assessment Act 1979 – generally seek to increase the dwelling cap from 749 dwellings to 808 dwellings (the Proposal).

This TIA report addresses the relevant traffic and parking implications of the latest Proposal. In preparing this TIA report, Ason Group has referenced the following key planning documents that are relevant to development at the former Kirrawee Brick Pit site:

- *Updated Traffic Management & Accessibility Plan, Kirrawee Brick Pit* prepared by Halcrow and dated 27 October 2011 (the 2011 Halcrow TMAP). The Traffic, Transport and Parking report that supported the original Concept Plan approved by the PAC on 23 August 2012.
- *Updated Traffic Impact Assessment, Section 75W Application, Proposed Mixed-Use Development – Kirrawee Brick Pit* prepared by Traffix and dated 11 July 2014 (the 2014 Traffix TIA). The Traffic, Transport and Parking report that supported the modified Concept Plan approved by the PAC on 30 January 2014.
- *MP 10_0076 MOD 3 – Concept Approval, Consolidated Instrument* (the MOD3 Conditions) approved by the Planning Assessment Committee (PAC) on 30 January 2015. It is noted that the Site also has a MOD4 approval. However, whilst it was submitted after the MOD3 application, it was approved prior to the MOD3 application (20 November 2014); therefore, the MOD3 Conditions are the most recent.

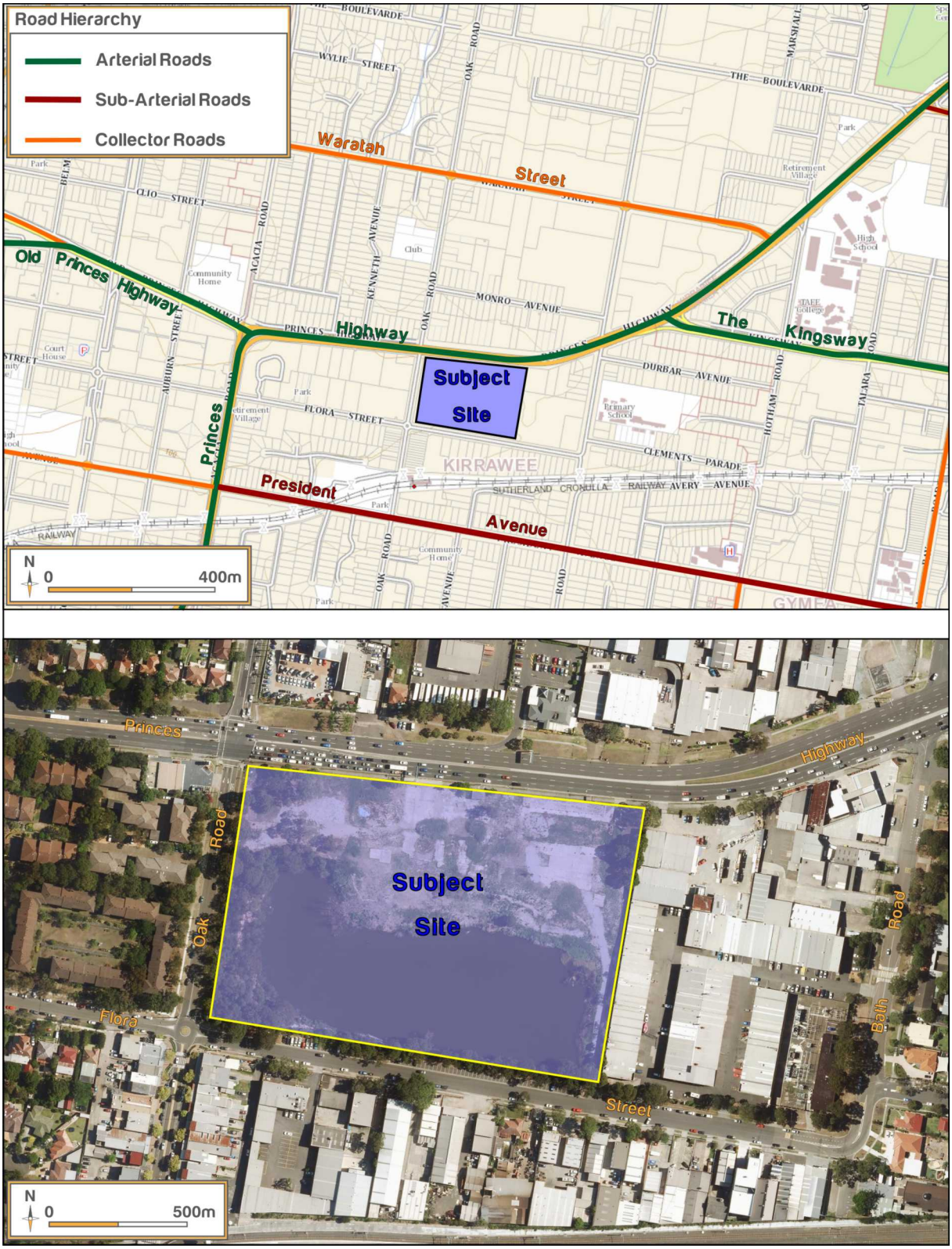

Figure 1: Location Plan & Site Plan

- *Revised Traffic Impact Assessment, South Village – Proposed Mixed-Use Development* prepared by Ason Group and dated 29 January 2016 (the 2016 TIA). The Traffic, Transport and Parking report that supported the Development Application (DA15/1134) to SSC approved by the Joint Regional Planning Panel (JRPP) on 2 May 2016.

1.2 Proposed Modification

As mentioned, the Proposal generally seeks to increase the total number of units on the Site from 749 units to 808 units, an increase of 59 units. This modification is to be achieved by converting 59 three-bed units into 118 one-bed units. In terms of the Concept Plan approval for the Site, this requires the modification of Condition 4A DWELLING CAP, which states:

> *Future Development Applications shall provide for a total number of dwellings up to a maximum of 749 across the Concept Plan site.*
>
> *Future Development Applications shall include a projected dwelling forecast for each remaining stage demonstrating that the total dwelling numbers will adhere to the dwelling cap.*

In terms of car parking, it is noted that the recent Proposal that was granted DA approval in 2016, included the following for residential parking:

- 1,023 residential parking spaces, consisting of:
  - 929 parking spaces for residents, including 225 adaptable parking spaces and 74 spaces in 37 tandem pairs (or stacked),
  - 94 parking spaces for visitors, including 2 disabled parking spaces.

In this regard, this MOD5 application does not seek to increase car parking, but retain the 1,023 parking spaces of the DA approved scheme. Furthermore, all non-residential components (uses and associated car parking) are not affected by this Proposal.

1.3 Study Objectives and Report Structure

The key objectives of this study are two-fold, consisting of:

- Parking Analysis – To determine the acceptability of providing 59 additional units without providing any additional car parking, and
- Traffic Analysis – To determine the acceptability of the traffic impacts on the local road network arising from the additional 59 units.

The remainder of this report is structured as follows:

- Section 2 presents the parking analysis.
- Section 3 presents the traffic analysis.
- Section 4 provides a summary of conclusions.

2 Car Parking

2.1 Approved Concept Plan Parking Rates

Residential car parking for the development is to be provided in accordance with the maximum car parking rates as stipulated at Condition 14a) of the MOD3 Conditions, as presented below:

14.a) CAR PARKING

Future Applications shall address the following:

Total number of car parking spaces for the proposed development shall not exceed the following car parking rates:

i. residential component of the development:

- *1 space per 1 bedroom unit;*
- *1.25 spaces per 2 bedroom unit;*
- *1.5 spaces per 3 bedroom unit; and*
- *0.125 visitor space per unit (1 space per 8 units).*

2.2 SEPP 65 / Apartment Design Guide Rates

The residential component of the development is covered by State Environmental Planning Policy No. 65 (SEPP 65) Design Quality of Residential Flat Development. In this regard, the relatively recent Amendment No. 3 to the SEPP includes the following Clause 30:

30 Standards that cannot be used as grounds to refuse development consent or modification of development consent

(1) If an application for the modification of a development consent or a development application for carrying out of development to which this Policy applies satisfies the following design criteria, the consent authority must not refuse the application because of those matters:

(a) if the car parking for the building will be equal to, or greater than, the recommended minimum amount of car parking specified in Part 3J of the Apartment Design Guide, …

Objective 3J-1 of the Apartment Design Guide (ADG) states that car parking is to be "*provided based on proximity to public transport in metropolitan Sydney and centres in regional areas*". The following presents the design criteria regarding car parking at Part 3J of the ADG:

1. *For development in the following locations:*

   - *on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or*
   - *on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre*

   the minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less"

It is recognised that the Site lies between 150 to 380 metres for the Kirrawee train station and therefore the SEPP 65 guidance takes precedence and the applicable minimum car parking rates are the high-density parking rates in the RMS Guide.

Recognising that Kirrawee is not a metropolitan regional (CBD) centre, or defined as a strategic centre, the following RMS metropolitan sub-regional centre RMS rates are the applicable high-density residential parking rates:

- 0.6 spaces per 1-bedroom unit,
- 0.9 spaces per 2-bedroom unit,
- 1.2 spaces per 3-bedroom unit, and
- 1 space per 5 units (visitor parking).

2.3 Parking Analysis

Recognising that the Concept Plan rates are maximum rates, application of these rates to the Proposal provides an indication of the additional car parking that could be provided with the uplift of 59 units of residential development. This is presented in **Table 1**.

Table 1: Car Parking Analysis of Modification

Land Use	No / Area (m^2)	Concept Plan Maximum Parking Rates	Maximum Permissible Parking
3 Bedroom units	(-) 59	1.5 spaces / unit	(-) 88.5
1 Bedroom units	118	1.0 space / unit	118.0
Visitor	59	1.0 space / 8 units	7.4
TOTAL			~37.0

Table 1 demonstrates the development is permitted to provide up to a further 37 parking spaces, consisting of up to 30 spaces for residents and up to 7 spaces for visitors. In response, the Proposal provides no additional car parking as it is permitted under the maximum car parking rates of the Concept Plan approval, with residential car parking to remain at the currently proposed level of 1,023 parking spaces (refer to Section 1.2).

Furthermore, the following **Table 2** presents the minimum residential car parking provision for the overall development based on the applicable RMS rates:

Table 2: Overall Residential Car Parking Analysis

Land Use	No / Area (m^2)	RMS Parking Rate	Parking Requirement
1 Bedroom units	307	0.6 spaces / unit	184.2
2 Bedroom units	403	0.9 spaces / unit	362.7
3 Bedroom units	98	1.4 space / unit	137.2
Visitor	808	1.0 space / 5 units	161.6
TOTAL			~846.0

Table 2 demonstrates that the SEPP 65 guidance provides a minimum residential car parking requirement of 846 parking spaces. This minimum requirement is clearly achieved by the Proposal's residential parking provision of 1,023 parking spaces.

Notwithstanding that the Proposal complies with the relevant SEPP 65 guidance and that the approved Concept Plan controls for the Site permit the ability to provide development without providing any additional car parking, the following considers the operational and functional implications of providing no additional resident or visitor car parking.

Regarding resident car parking, it is noted that the Proposal would provide a total of 929 parking spaces for the new total of 808 units. This equates to 1.15 parking spaces per unit, which (importantly) exceeds a rate of 1 space per dwelling, indicating that each unit would have access to a parking space. This is considered an adequate parking supply that would accommodate all expected parking demands of residents, recognising that the Site is highly accessible to public transport services, particularly trains servicing the Kirrawee railway station.

Regarding visitor car parking, it is noted that the 2016 DA scheme provided visitor parking at an effective rate of 12.6 spaces per 100 units. The modified Proposal would provide visitor car parking at a rate of 11.6 spaces per 100 units. This equates to an effective reduction in visitor car parking of just 7%. Again, the 94 visitor parking spaces are considered an adequate parking supply that would accommodate all expected parking demands of visitors, recognising that the Site is highly accessible to public transport services and that the non-residential component of the Proposal includes over 500 'public' parking spaces.

In summary, the analysis above demonstrates that the modified scheme, which proposes 59 additional units with no additional resident or visitor car parking, is acceptable on parking grounds as it is consistent with the maximum parking rates of the Concept Plan approval and the RMS parking rates applicable to the Site under SEPP 65. Furthermore, the Proposal would have no detrimental operational or functional impacts, benefits from the Site's high level of public transport accessibility and would further encourage the use of public transport and other alternative/active transport modes to access the Site.

3 Traffic Impacts

3.1 Traffic Methodology

This section assesses the traffic implications of the Proposal having regard for the traffic analysis in the earlier Halcrow, Traffix and Ason Group reports that have supported the Concept Plan approvals and the recent DA approval. To do this, the following sections document:

- The 'permissible' traffic generation of the Site based on the 2014 Halcrow TMAP analysis that supported the original approved Concept Plan, and
- The traffic generating potential of the current Proposal based on the 'approved' trip rate assumptions in the 2014 Traffix TIA that assessed the approved modified Concept Plan and the 2016 TIA that assessed the recently approved DA.

Based on a comparison of these traffic generation volumes, it is possible to determine the implications of the traffic generation associated with the latest Proposal and in particular the additional 59 units.

3.2 Permissible Traffic Generation Threshold

Based on the available trip rate data at the time – and through coordination with RMS – the 2011 Halcrow TMAP calculated the peak hour traffic generation for the Site during the critical periods to be:

- 1,117 trips during the Thursday evening peak hour, and
- 1,213 trips during the Saturday peak hour.

With the application of intersection performance testing to these traffic generation demand flows, the 2011 Halcrow TMAP study developed a package of road infrastructure and intersection improvements that were assessed as suitable for accommodating the traffic generation forecast for the original Concept Plan. Based on this analysis, the original Concept Plan was considered supportable on traffic planning grounds and was subsequently approved.

3.3 Forecast Traffic Generation

3.3.1 DA 'Approved' Traffic Generation Threshold

Regarding residential traffic generation, the 2016 TIA adopted what are defined as the RMS Guide Update rates, relatively recently revised trip rates published by RMS in its Technical Direction TDT 2013/ 04a dated August 2013, *Guide to Traffic Generating Developments – Updated traffic surveys*. These rates were consistent with the rates adopted by the earlier 2014 Traffix TIA study.

Regarding the non-residential traffic generation, the 2016 TIA adopted trip rates that were developed from RMS Guide trip rates, adapted using existing traffic data for the East Village development, Victoria Park. East Village is an existing shopping centre that shares many of the characteristics of the proposed South Village shopping centre and therefore provides a good candidate site upon which to base trip generation assumptions for the South Village Proposal.

Table 3 presents the trip rates adopted for assessing the traffic generating potential of the non-residential uses of the South Village development.

Table 3: Adopted Non-Residential Trip Rates

Use	Thursday PM Peak Hour (trips per 100 m^2 of GLFA)	Saturday Midday Peak Hour (trips per 100 m^2 of GLFA)
RMS Guide Update rates		
Showroom*	1.46	2.88
Office*	1.2	0
Revised RMS Shopping Centre rates		
Supermarket	8.53	8.09
Discount Supermarket	7.25	6.63
Mini-Major	2.81	0.72
Specialty	2.53	5.89
SC Office / Medical	1.21	1.21
Restaurant*	1.38	1.38

* Note – Showroom, Office and Restaurant trip rates based on GFA (gross floor area)

Based on the above rates – and the RMS Guide Update residential rates – **Table 4** presents the forecast traffic generation for the approved South Village DA proposal, as presented in the 2016 TIA.

Table 4: Proposed Traffic Generation Forecast

Land Use	Area (m^2) / Units	Thursday Evening Peak		Saturday Peak	
		Rate	Trips	Rate	Trips
Supermarket	4,500	8.53	384	8.09	364
Disc. Supermarket	1380	7.25	100	6.63	91
Mini-Major	1,250	2.81	35	0.72	9
Specialty	1,909	2.53	48	5.89	112
Showroom	3,902	1.46	57	2.88	112
Medical Centre	316	1.21	4	1.21	4
Residential	749	0.15	112	0.25	187
TOTAL			**740**		**879**

NOTE: All rates are in trips / 100m^2 of GLA, except for the Showroom which is GFA and residential which is in trips / unit.

Table 4 shows that for the critical peak periods, the approved DA proposal was forecast to generate:

- 740 trips during the Thursday evening peak hour; and
- 879 trips during the Saturday peak hour.

When compared with the permissible traffic generation levels defined by the 2011 Halcrow TMAP (refer to Section 3.2), the 2016 TIA analysis demonstrated that the approved South Village DA proposal was supportable as it would generate:

- 377 fewer trips (a reduction of 33.8%) during the Thursday evening peak hour, and
- 334 fewer trips (a reduction of 27.5%) during the Saturday peak hour.

3.3.2 Traffic Generation of Current Proposal

The net development implications of the current Proposal are an increase in residential development of 59 units; all components of the non-residential uses remain unchanged. Application of the RMS Guide Update residential rates (refer to Table 4) indicate that the additional 59 units would generate the following traffic during the critical peak hours:

- 9 trips during the Thursday evening peak hour; and
- 15 trips during the Saturday peak hour.

The combination of these additional trips to the DA approved scheme trips above results in the following peak hour traffic generation for the entire Site, subject to the current MOD5 Proposal:

- 749 trips during the Thursday evening peak hour; and
- 894 trips during the Saturday peak hour.

3.4 Traffic Analysis

It should be noted that the net traffic generation associated with the 59 additional units equates to just 1 additional trip on the surrounding road network every 4 – 7 minutes (across both peak hours). This increase in traffic generation is of such a low order that it would have no material impact on the anticipated performance of the road network.

Furthermore, when compared with the approved traffic generation levels defined by the 2011 Halcrow TMAP (refer to Section 3.2), the above analysis demonstrates that the MOD5 Proposal would generate:

- 368 fewer trips (a reduction of 32.9%) during the Thursday evening peak hour, and
- 319 fewer trips (a reduction of 26.3%) during the Saturday peak hour.

In summary, the analysis above demonstrates that the current MOD5 development, which proposes 59 additional units, is acceptable as the increase in peak hour traffic generation is negligible compared with the forecast traffic generation of the approved DA scheme and (more importantly) the forecast peak hour traffic generation of the entire Site with the additional 59 units is still significantly lower than the permissible traffic generation threshold defined by the 2011 Halcrow TMAP that supported the original Concept Plan approval.

4 Conclusions

The key findings of this Traffic Impact Assessment are:

- The currently proposed modifications – sought under Section 75W of Part 3A of the Environmental Planning and Assessment Act 1979 – generally seek to increase the dwelling cap from 749 units to 808 units, permitting the construction of an additional 59 units. This modification is to be achieved by converting 59 three-bed units into 118 one-bed units; no additional car parking is to be provided.
- The parking analysis demonstrates that the modified scheme, which proposes no additional resident or visitor car parking, is acceptable on parking grounds as it is consistent with the maximum parking rates of the Concept Plan approval and the RMS parking rates applicable to the Site under SEPP 65. Furthermore, the Proposal would have no detrimental operational or functional impacts, benefits from the Site's high level of public transport accessibility and would further encourage the use of public transport and other alternative/active transport modes to access the Site.
- The traffic analysis above demonstrates that the current MOD5 development, which proposes 59 additional units, is acceptable as the increase in peak hour traffic generation is negligible compared with the forecast traffic generation of the approved DA scheme and (more importantly) the forecast peak hour traffic generation of the entire Site with the additional 59 units is still significantly lower than the permissible traffic generation threshold defined by the 2011 Halcrow TMAP that supported the original Concept Plan approval.

Based on the above, it is concluded that the MOD5 Proposal for the South Village development at 566-594 Princes Highway, Kirrawee, is supportable on traffic planning grounds.