
ANNEXURE 1

Halcrow

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Walter Gordon
Meriton Apartments
Level 11, 528 Kent Street
SYDNEY NSW 2000

26 October 2011

Dear Walter,

Re: 14-18 Boondah Road, Warriewood Internal Public Road – Effect on Intersection of Macpherson Street and Boondah Road

Halcrow previously reviewed the implications of the proposal to remove the approved public road through the development site at 14-18 Boondah Road, Warriewood, and replace it with two driveways, one each on Macpherson Street and Boondah Road. In reviewing the proposed modifications, the RTA has requested that:

3. Department of Planning should ensure that removal of internal road link does not result in unsatisfactory performance of the intersection of Macpherson Street and Boondah Road.

Halcrow has therefore assessed the implications of the modification on the operation of the intersection of Macpherson Street and Boondah Road, with reference to our previous assessment of the Concept Plan. Our findings are set out below.

The Concept Plan traffic assessment¹ assumed that drivers would choose the access location which best suited their approach or departure route, with some drivers using the internal road to travel through the site to the car parking, rather than using the external roads. The assessment included the effects of other potential development within the Warriewood Valley, and upgrading of numerous intersections and roads in accordance with the Warriewood Valley Roads Master Plan.

Removal of the public road through the site would mean that drivers travelling to or from the site would be directed to one or other driveway, with a resultant change in the distribution and circulation of traffic on Macpherson Street and Boondah Road. This effect would be limited to the roads between the two driveways only.

¹ Proposed Residential Development Boondah Rd, Warriewood – Traffic Impact Assessment and Transport Management and Accessibility Plan, 16 August 2010, Halcrow for Meriton Apartments Pty Ltd

The assessment undertaken for the Concept Plan assumed that the site would contain 559 dwellings, however this has now been reduced to a maximum of 447 dwellings. This would result in a reduction in traffic generation from that assumed in the Concept Plan assessment, with a corresponding reduction in the impacts of the development on the road system. The revised calculation of traffic generation is presented in Table 1 for each of Stages 1 and 2. Stage 1 traffic would use the Macpherson Street driveway, and Stage 2 traffic would use the Boondah Road driveway.

Table 1 – Weekday Peak Hour Traffic Generation

Apartment	Rate (veh/hr/apartment)	Vehicle Trips per Hour
Stage 1 – 226 apartments		
1 studio apartments	0.4	0.4
25 one bedroom apartments	0.4	10.0
185 two bedroom apartments	0.5	92.5
15 three bedroom apartments	0.65	9.8
40 place Childcare Centre	0.8 (0.7)*	32 (28)
Total Stage 1		145 (141)
Stage 2 – 221 apartments		
2 studio apartments	0.4	0.8
33 one bedroom apartments	0.4	13.2
160 two bedroom apartments	0.5	80.0
26 three bedroom apartments	0.65	16.9
Total Stage 2		111

* Rate per child am (pm)

The effects of those changes on the operation of the intersection of Macpherson Street and Boondah Road have been analysed using SIDRA Intersection analysis programme. The following three situations have been analysed:

- Future conditions as assessed for the Concept Plan, assuming 559 dwellings, provision of the internal road, and roundabout control of the intersection in accordance with the Roads Master Plan (refer to August 2010 report);
- Future conditions as approved, with 447 dwellings, provision of the internal road, and roundabout control of the intersection; and
- Future conditions with the proposed modification, with 447 dwellings, no internal road, and roundabout control of the intersection.

Table 2 presents the results of the analyses. The X-value is a measure of the degree of saturation of the worst movement at the intersection; AD is the average delay per vehicle (in seconds per vehicle) of the worst movement. LOS is the Level of Service experienced at the intersection, where A represents the best operating conditions and F is the worst.

Table 2 – Intersection Operating Conditions Macpherson St and Boondah Rd

Scenario*	Morning Peak Hour			Evening Peak Hour		
	X-value	AD	LOS	X-value	AD	LOS
559 dwellings Concept Plan	0.32	10.3	A	0.29	11.5	A
447 dwellings Approved	0.30	10.2	A	0.29	11.4	A
447 dwellings No Internal Road	0.33	10.3	A	0.31	11.5	A

All include potential development in Warriewood Valley and intersection upgraded to roundabout

The results demonstrate that the removal of the internal road link would result in Level of Service A at the intersection of Macpherson Street and Boondah Road during both the morning and evening peak hours.

Conclusions

The proposal to remove the public road through the development at 14-18 Boondah Road and replace it with two private driveways would not result in unsatisfactory performance of the intersection of Macpherson Street and Boondah Road.

I trust that this information is satisfactory. Do not hesitate to contact the undersigned should you wish to discuss any aspect of this submission.

Yours sincerely,



Penny Dalton
Principal Consultant, Transport Planning