Memorandum

ARUP

To	Helen Mulchay	Date	21 May 2013
Copies	Ben Lusher	Reference number	230501
From	Joshua Milston	File reference	
Subject	MP08_0207 & MP10_0219 - Avon and Beechworth Roads, Pymble		

1 Introduction

1.1 Study Background

The NSW Department of Planning and Infrastructure (DP&I) is currently assessing a major project application for a residential development at Avon and Beechworth Roads, Pymble. Arup has prepared this document on behalf of the DP&I to provide an independent assessment of the key transport issues raised during the submissions period relating to the proposed application.

1.2 Proposed Development

The major project application under consideration consists of both a site Concept Plan (MP08_0207) and a Stage 1 project application (MP10_0219). The Concept Plan seeks approval for 4 residential buildings comprising up to 272 dwellings with 324 underground car parking spaces. The Stage 1 Project Application involves the construction of a 4-6 storey residential flat building comprising 44 dwellings, providing parking for 55 vehicles.

2 Assessment of Key Issues

The sections below identify the key issues raised in the submissions to the Preferred Project Report (PPR) for the project application. Relevant to traffic and transport issues, the following agencies and stakeholders provided submissions:

- Ku-Ring-Gai Council - March 2013
- Roads and Maritime Services (RMS) - 8 March 2013
- Pymble Ladies College (PLC) – 4 March 2013

It should be noted that the RMS has provided subsequent advice to the DP&I, advising that the impact of traffic from the proposal will have minimal impact on the operation of the Pacific Highway..

2.1 Car Parking Provision

The Concept Plan development proposes to provide a total of 324 on-site parking spaces, of which 297 would be allocated for residents and 27 for visitors. The proposed parking provision has been compared with that required in the Ku-Ring-Gai Local Centres DCP and those contained in the RMS Guide to Traffic Generating Developments, summarised in the table below.

Document	Residential Parking Requirement	Visitor Parking Requirement	Total Parking Requirement
Ku-Ring-Gai Council Local Centres DCP	234-326	69	303-395
RMS Guide to Traffic Generating Developments	234	55	289
Concept Plan (MP08_0207)	297	27	324

Ku-Ring-Gai Council has raised concern that the proposed number of visitor parking spaces (27) falls short of the 69 required in the Local Centres DCP. It is considered however that since the proposed residential provision of 297 spaces lies at the upper end of the range specified by Council, the allocation of visitor and resident spaces is considered adequate. Often, if visitor parking is overprovided in a development, these spaces will be abused and utilised by residents. It is generally better to allocate these excess spaces to residents of the building, with management of visitor parking to be a responsibility for building management.

The 324 spaces proposed is in line with the range specified by Ku-Ring-Gai Council and is considered appropriate for the development.

2.2 Bicycle Parking

The proposed development should ensure appropriate levels of secure bicycle parking are provided to promote future growth in cycling levels and reduce the reliance on private vehicles. The documentation provided by the proponent has indicated 8 bicycle rails are to be provided within building 1 of the development, however no additional details are provided for the remaining buildings.

Both the Ku-Ring-Gai Council Local Centres DCP and The NSW Planning Guidelines for Walking and Cycling provides guidance as to appropriate bicycle parking provisions for residential buildings. These are outlined in the table below.

Document	Bicycle Parking Requirement	Required Provision	
		Building 1	Concept Plan
Ku-Ring-Gai Council Local Centres DCP	20% of total dwellings (residents) 10% of total dwellings (visitors)	14	82
NSW Planning Guidelines for Walking and Cycling	20% - 30% of total dwellings (residents) 5% - 10% of total dwellings (visitors)	11 - 18	68 - 109

On this basis, to comply with the above guidelines, a minimum of 14 bicycle parking spaces are recommended to provided within building 1. Additionally, the entire Concept Plan site should provide a minimum of 68 spaces to service the remaining buildings.

2.3 Pedestrian Access and Connectivity

Pedestrian access along Avon Road adjacent to the Concept Plan site is currently limited to the southern footpath. A zebra crossing is provided opposite the pedestrian entry to Pymble Ladies College, with an additional subway connection providing access to Pymble Railway Station. This is summarised in Photographs 1 and 2, as well as Figure 1.

Photograph 1 Avon Road Southern Footpath

Photograph 2 Zebra Crossing on Avon Road

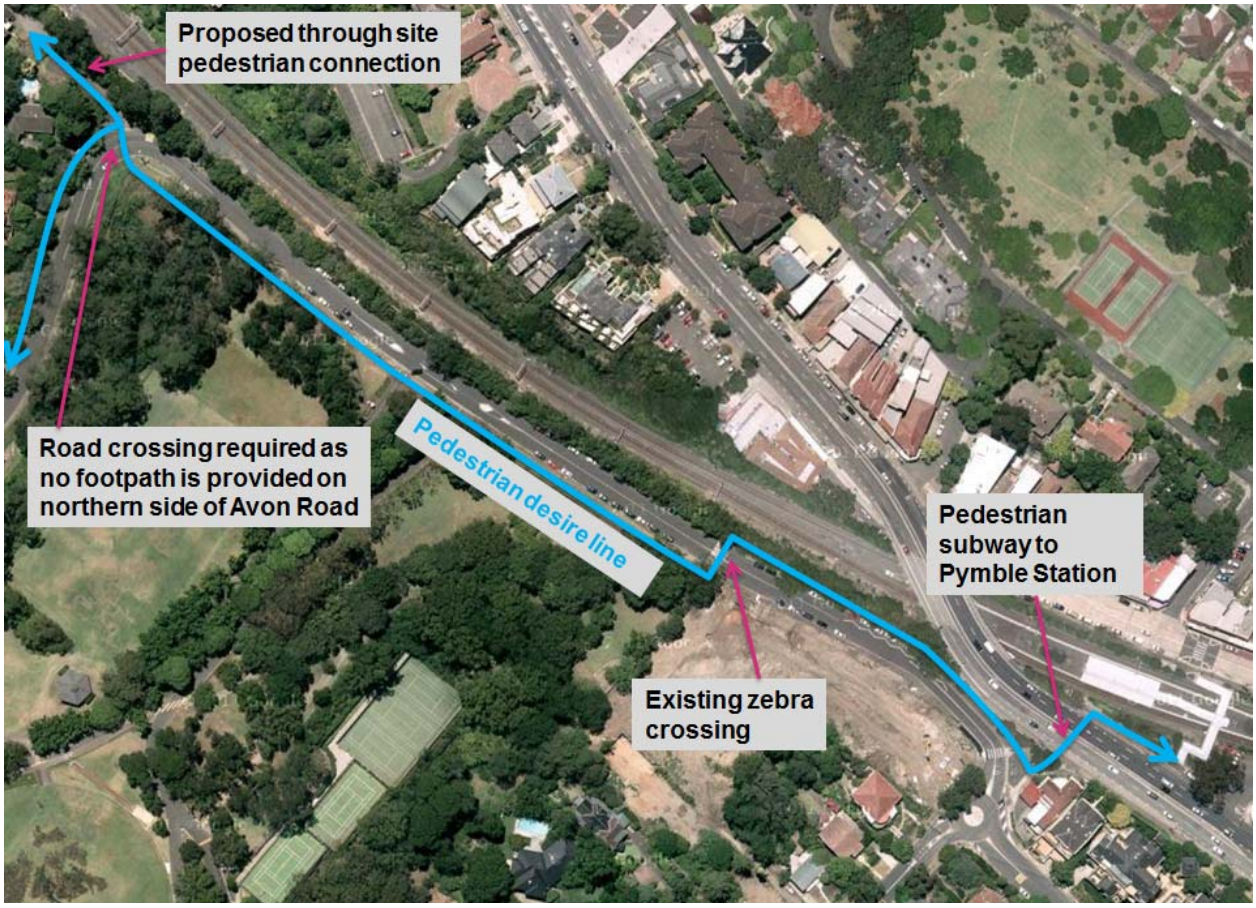


Figure 1 Existing Pedestrian Connections

Memorandum

Following the development of the Concept Plan site, there will be a high volume of pedestrians walking to and from Pymble town centre (including the railway station) during the morning and evening peak periods. The current network would require pedestrians to cross Avon Road at the bend in the road, opposite the access to buildings 3 & 4.

Arup has considered a series of options to facilitate pedestrian movements across Avon Road at this location. These are summarised below:

Option 1: Zebra Crossing

The RMS has specific requirements ("warrants") relating to vehicular and pedestrian volumes which Council's refer to when assessing an application for the installation of a zebra crossing. It is unlikely these warrants would be met at this particular location.

Option 2: Roundabout

PLC (via their traffic consultant Stan Kafes) has recommended that a roundabout be provided at the bend on Avon Road, adjacent to the access to buildings 3 & 4. A roundabout at this location is not supported as this would create a barrier to pedestrian movement from the site across Avon Road.

Option 3: Pedestrian Refuge at Site Access

The installation of a 2m wide pedestrian refuge (similar to that shown in Photograph 2) was considered as it would allow a two staged crossing of Avon Road to the southern footpath. This is shown in Figure 2.

Photograph 3 Example Pedestrian Refuge

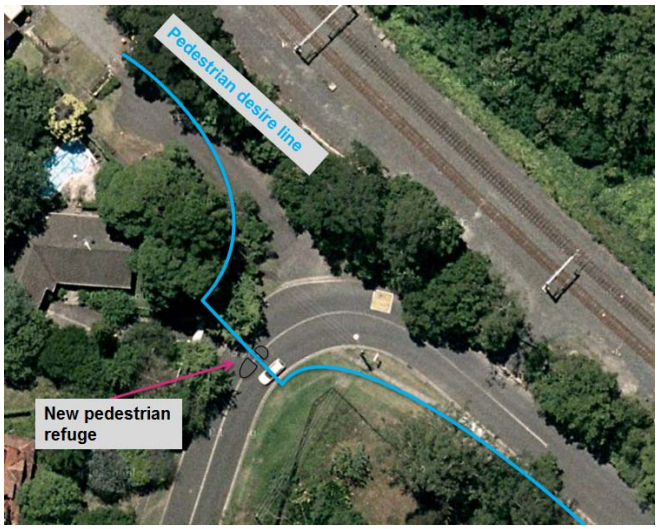


Figure 2 Pedestrian Refuge at Site Access

This option is limited however as it is unlikely the swept path of coaches used by PLC could safely manoeuvre around the raised median. Preliminary turning paths undertaken by Arup indicate the body of the vehicle would impact on pedestrians standing in the centre of the refuge. Arup could confirm this by obtaining a site survey of Avon Road, or having the proponent provide vehicle swept paths at this location - demonstrating a central refuge would impact on the path of travel for coaches.

Option 4: Pedestrian Refuge South of Site Access

Given that the installation of a pedestrian refuge is unlikely to be possible at the bend in Avon Road, an alternative solution is to provide the refuge further south along Avon Road. This would require overhanging vegetation to be cut back on the northern side of Avon Road to provide a footpath up to the refuge, as well as the introduction of a no stopping zone which would impact three existing on-street car parking space. This option is summarised in Figure 3.

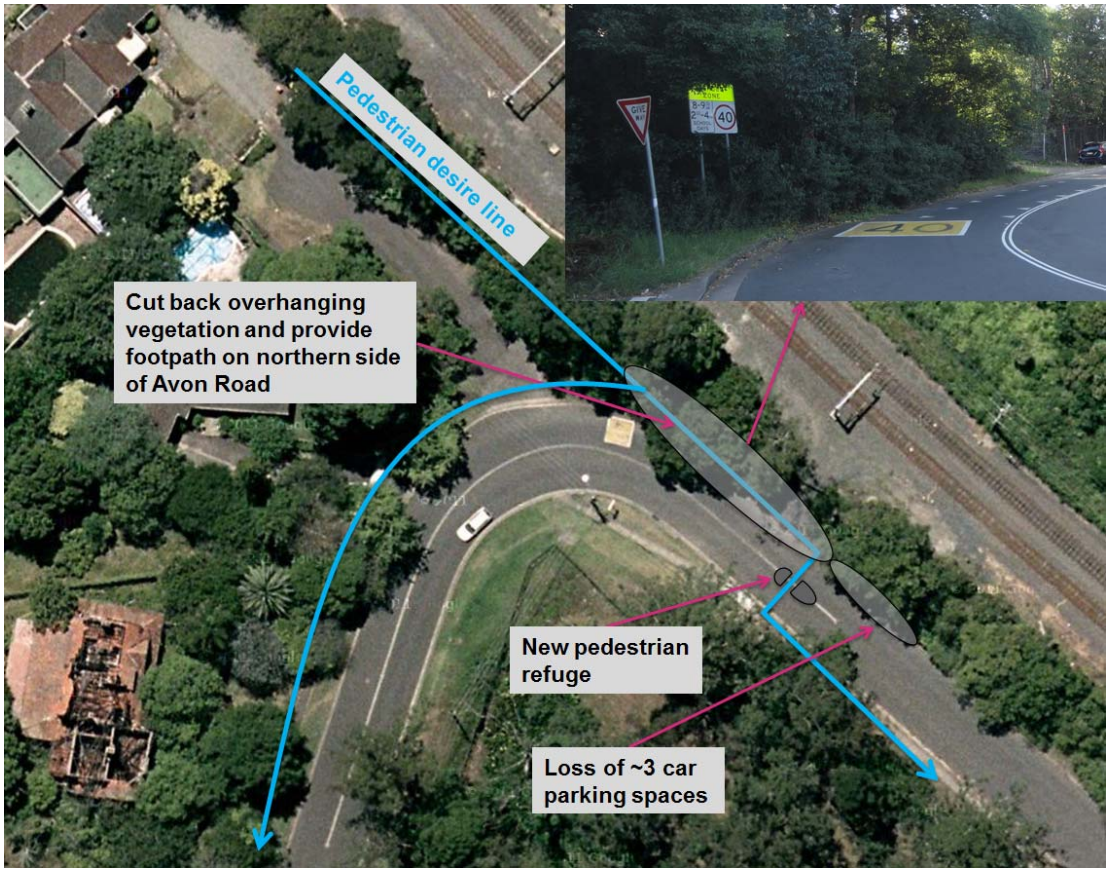


Figure 3 Pedestrian Refuge South of Site Access

Option 3 (pedestrian refuge at site access) is considered the most optimal in terms of pedestrian connectivity, however if this is not possible due to the movement of coaches, the proponent should further consider the arrangement outlined in option 4 above.

2.4 Road Network Impacts

2.4.1 Existing Conditions

Arup undertook a site visit to the precinct on Tuesday 21 May 2013 during the morning peak hour to understand how the road network operates during this time. It was observed that, while queuing does occur on Avon Road, this is confined to a relatively short period of time during the school drop off period. After approximately 8.15am, traffic conditions improved and queues of more than 2-3 vehicles were rare.

2.4.2 Site Traffic Generation

Recent studies undertaken by Arup for residential developments in close proximity to public transport have indicated peak hour traffic generation rates below the RMS recommended rate of 0.4 trips / dwelling. Therefore it is not envisaged that the site would generate any more vehicles in the peak hour than the 110 adopted in the traffic report.

2.4.3 Impacts at Key Intersections

The RMS, through their letter dated 8 May 2013, have advised that the impact of traffic from the proposal will have a minimum impact on the flow of traffic along the Pacific Highway.

It is important to recognise that, given the Concept Plan is for a solely residential development, vehicle trips will be predominantly out of the site in the AM peak hour and into the site in the PM peak hour. Therefore during the morning peak, any queuing would occur within the site and not on Council roads, as vehicles from the development give way to through traffic on Avon and Beechworth Roads. The PM peak hour for development traffic, forecast to occur between 5pm and 6pm, will not coincide with the peak activity generated by PLC which occurs between 3pm and 4pm.

Arup is therefore satisfied the traffic generated from the proposed development will have minimal impacts on the local road network.

2.5 Vehicular Access

Arup has reviewed the proposed access arrangements and car park design for building 1, based on drawing DA 02.01 in Appendix G of the PPR. The following is noted:

- The design, including parking bay dimensions and aisle widths, is in accordance with AS2890.1 (Australian Standards for Off-Street Car Parking)
- The entry width of just over 6m is sufficient to accommodate vehicles simultaneously entering and exiting the building
- It is unclear how the development proposes to allow access for movements of garbage trucks and removalist vehicles into the basement car park. In the absence of any turning path analysis, Arup has indicated the likely access arrangements for these vehicles in Figure 4 below. The proponent would need to confirm that the area to the west of the car park entry can be utilised as manoeuvring space.

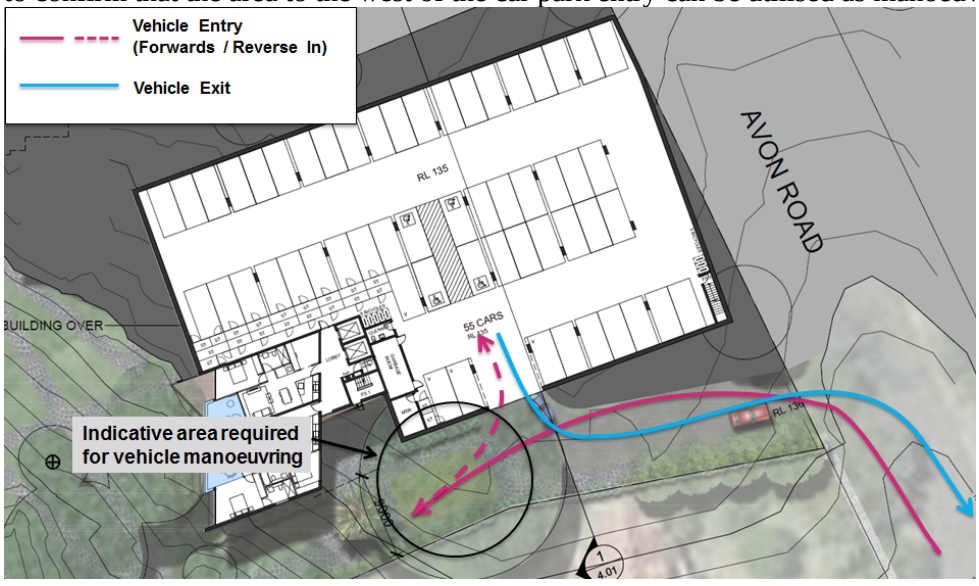


Figure 4 Building 1 Servicing Arrangements

3 Summary and Recommendations

Arup has provided an independent transport assessment on behalf of the Department of Planning & Infrastructure relating to the proposed Concept Plan and Stage 1 development application for a residential development in Avon and Beechworth Roads, Pymble. Key conclusions and recommendations drawn from the study are as follows:

- On-site car parking has been provided in line with that recommended in the Ku-Ring-Gai Local Centres DCP, and is appropriate for the development
- To comply with the Ku-Ring-Gai Council Local Centres DCP and The NSW Planning Guidelines for Walking and Cycling, a minimum of 14 bicycle parking spaces are recommended to provided within building 1. Additionally, the remainder of the Concept Plan site should provide an additional 68 spaces within buildings 3, 4 and 5.
- Installation of a pedestrian refuge across Avon Road is recommended to facilitate pedestrian movement to and from Pymble Railway Station. The location of this refuge will need to be confirmed following the completion of a swept path analysis for coaches at the bend of Avon Road.
- A review of traffic conditions and potential impacts has determined that the traffic generated from the proposed development will have minimal impacts on the local road network
- To accommodate service vehicle movements into the basement for building 1, confirmation is required that the area to the west of the car park entry can be utilised as vehicle manoeuvring space

Memorandum

ARUP

To	Helen Mulcahy	Date	29 May 2013
Copies	Ben Lusher	Reference number	JDM/230501
From	Joshua Milston	File reference	
Subject	MP08_0207 & MP10_0219 - Avon and Beechworth Roads, Pymble – Supplementary Transport Advice		

Avon Road Pedestrian Connections

The crossing arrangement proposed by the proponent essentially provides a 'business as usual' outcome in relation to pedestrian movement, certainly not an optimal one. The realignment of the Avon Road footpath results in only minor reduction in crossing length, negligible in benefit as pedestrians walking to and from the railway station will still conflict with through traffic on Avon Road – particularly during the AM Peak Hour.

Throughout the documentation, the proponent has failed to demonstrate that a pedestrian refuge either at the apex of the bend on Avon Road, or further south as proposed by Arup, would not be feasible. Either of these options would provide a much improved solution for pedestrian connectivity. Considering that the traffic report asserts that the site is well connected to local public transport – much of this benefit will be lost if appropriate pedestrian links are not provided.

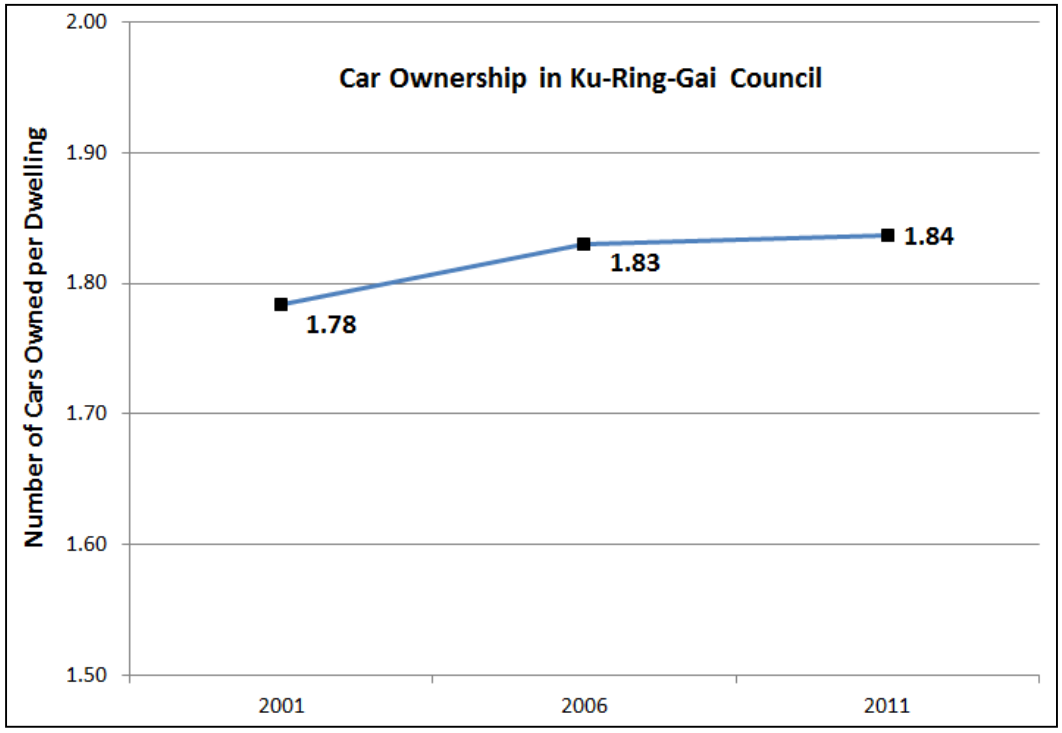
If a formal crossing on Avon Road is not possible, the arrangement proposed by the proponent will not lead to unacceptable safety implications for pedestrians crossing the road at this location. It should not act as a barrier for the development proceeding. However, in our opinion, this solution would only be considered reasonable after it could be demonstrated all other options have been proved impractical.

On-Site Parking Provision

Determining the appropriate number of on-site parking spaces to be provided within a residential development is frequently a point of conjecture. The requirement to accommodate demand generated by residents & visitors within the site must be considered in the context of reducing traffic generation resulting from higher car parking rates.

Significantly reducing the level of residential parking for the site is not recommended as this may force residents without parking spaces to leave their vehicles on-street. Evidence from the recent 2011 Census indicates car ownership in Ku-Ring-Gai has been steadily increasing over the past decade, with an average of 1.84 vehicles / dwelling. This compares with the proposed rate of 1.09 cars / dwelling for the Concept Plan site – although it is reasonable that this figure is lower than the average for Ku-Ring-Gai given the proposed dwelling mix.

Memorandum



Visitor parking rates for residential developments vary widely across different Council areas. A rate of 1 space per 4 dwellings for a development in close proximity to public transport, as outlined in the Ku-Ring-Gai DCP, is considered high - and application of a reduced rate is considered acceptable.

The Draft Hornsby DCP recommends, for residential dwellings, a visitor parking rate of 1 space / 7 dwellings for developments within 800m of railway stations.

The RMS Guide to Traffic Generating Developments notes "*The recommended minimum number of off-street visitor parking spaces is one space for every 5 to 7 dwellings. Councils may wish to reduce this requirement for buildings located in close proximity to public transport, or where short term unit leasing is expected*"

Therefore it is recommended that visitor parking for the site is provided at a rate of one space for every 5 to 7 dwellings. This would involve a modest increase in the total number of visitor parking spaces from the currently proposed 33 to anywhere between 39 and 54 spaces.