HEYMANN COHEN

REPORT ON THE TRAFFIC ASPECTS OF PLANNING PROPOSAL FOR 119 BARTON STREET, MONTEREY

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1. INTRODUCTION

1.1 Colston Budd Rogers and Kafes Pty Ltd has been commissioned by Heymann Cohen to prepare a report examining the traffic implications of a planning proposal to allow residential development on the bowling club site (currently used by the Coptic Church) at 119 Barton Street, Monterey. The site location is shown in Figure 1.

1.2 The proposed rezoning would allow for 28 townhouses (15 x two bedroom units and 13 x three bedroom units) with internal road, on-site parking and access from Barton Street. 47 parking spaces (41 residential and 6 visitor) are proposed.

1.3 This report assesses the traffic implications of the planning proposal through the following chapters:

- Chapter 2 - describing the existing conditions; and
- Chapter 3 - assessing the traffic implications of the planning proposal.

2. EXISTING CONDITIONS

Site Location and Road Network

2.1 The subject bowling club site is currently occupied by a Coptic Church. The site is located within the block bounded by The Grand Parade, Barton Street, Scarborough Street and Jones Avenue. It has frontage and access to/from Barton Street and is surrounded by residential dwellings.

2.2 The road network in the vicinity of the site includes The Grand Parade, Barton Street, Scarborough Street and Jones Avenue. The Grand Parade travels in a north-south direction located east of the site. It is a divided road providing two lanes in each direction with right turn bays provided. In the vicinity of the site The Grand Parade is subject to a 60km/h speed limit with no stopping restrictions applying on both sides. The Grand Parade and Barton Street form a signalised intersection east of the site.

2.3 Barton Street is located north of the site (forming the northern site frontage). Barton Street travels in an east-west direction between The Grand Parade to the east and Rocky Pont Road to the west. Barton Street provides one traffic lane and one parking lane in both directions and is subject to a 50km/h speed limit. Barton Street provided access to the subject bowling club site.

2.4 Scarborough Street is located south of the site and travels in an east-west direction between The Grand Parade to the east and its termination at a cul-de-sac near Scarborough Park to the west. Scarborough Street provides one traffic lane and one parking lane in both directions and is subject to a 50km/h speed limit.

2.5 Jones Avenue is located west of the site, travelling in a north-south direction between Barton Street and Scarborough Street. It provides for two way traffic flow with kerb side parking on both sides. Jones Avenue is subject to a 50/km/h speed zoning and forms 'T'-junctions with Barton Street to the north and Scarborough Street to the south.

Traffic Flows

2.1 Traffic generated by the proposed development will have its greatest effects during the weekday morning and afternoon peak period. In order to gauge traffic conditions, counts were undertaken at the following intersections:

- The Grand Parade/Barton Street; and
- Barton Street/Jones Avenue.

2.2 The results are summarised in Table 2.1 and Figures 2 and 3.

Table 2.1: Existing Two-Way (Sum of Both Directions) Peak Hour Traffic Flows

Road	**Weekday Morning**	**Weekday Afternoon**
The Grand Parade		
– north of Barton Street	2,910	4,300
– south of Barton Street	2,780	3,995
Barton Street		
– west of The Grand Parade	210	340
– west of Jones Avenue	230	345
Jones Avenue		
– south of Barton Street	30	15

2.3 Examination of Table 2.1 reveals that:

- The Grand Parade carried some 2,780 to 4,300 vehicles per hour (two way) during the weekday morning and afternoon peak periods;

- Barton Street carried some 210 to 345 vehicles per hour (two way) during the weekday morning and afternoon peak periods; and

- Jones Avenue carried some 15 to 30 vehicles per hour (two way) during the weekday afternoon and weekend midday peak periods.

Intersection Operations

2.4 The capacity of the road network is largely determined by the capacity of its intersections to cater for peak period traffic flows. The intersections of Barton Street with The Grand Parade and Jones Avenue have been analysed using the SIDRA computer program. SIDRA analyses intersections controlled by traffic signals, roundabouts and signs.

2.5 SIDRA provides a number of performance measures. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle. Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):

- For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Good with minimal delays and spare capacity

29 to 42	=	"C"	Satisfactory with spare capacity
43 to 56	=	"D"	Satisfactory but operating near capacity
57 to 70	=	"E"	At capacity and incidents will cause excessive delays. Roundabouts require other control mode.
>70	=	"F"	Unsatisfactory and requires additional capacity

- For give way and stop signs, the average delay per vehicle in seconds is selected from the movement with the highest average delay per vehicle, equivalent to following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Acceptable delays and spare capacity
29 to 42	=	"C"	Satisfactory but accident study required
43 to 56	=	"D"	Near capacity and accident study required
57 to 70	=	"E"	At capacity and requires other control mode
>70	=	"F"	Unsatisfactory and requires other control mode

2.6 It should be noted that for roundabouts, give way and stop signs, in some circumstances, simply examining the highest individual average delay can be misleading. The size of the movement with the highest average delay per vehicle should also be taken into account. Thus, for example, an intersection where all movements are operating at a level of service A, except one which is at level of service E, may not necessarily define the intersection level of service as E if that movement is very small. That is, longer delays to a small number of vehicles may not justify upgrading an intersection unless a safety issue was also involved.

2.7 The SIDRA analysis found that the signal controlled intersection of The Grand Parade/Barton Street operates with average delays for the highest delayed

movement of some 27 seconds per vehicle during the weekday afternoon peak hour. This represents a level of service B, a good level of service.

2.8 The priority controlled 't'-intersection of Barton Street/Jones Avenue operates with average delays for the highest delayed movement of some 15 seconds per vehicle during the weekday afternoon peak hour. This represents a level of service A/B, a good level of service.

Public Transport

2.9 Public transport is provided by Sydney Buses and Transdev NSW. Sydney Busses operate routes 303 (City to Sans Souci), X03 (City to Sans Souci (express)) and 478 (Rockdale Station to Miranda) along The Grand Parade. Transdev NSW operates route 947 (Hurstville to Kogarah via Ramsgate and Bells Point) along Chuter Avenue.

2.10 Bus stops are located within the vicinity of the site on either side of The Grand Parade at the intersection with Barton Street (east of the site) and on Chuter Avenue near the intersection with Barton Street (west of the site). Footpaths are provided along Barton Street, The Grand Parade and Chuter Avenue.

2.11 Overall, the site has good access to regular public transport services with bus stops located within 300 metres walking distance of the subject site.

3. IMPLICATIONS OF PLANNING PROPOSAL

3.1 The proposed rezoning would allow for 28 townhouses (15 x two bedroom units and 13 x three bedroom units) with internal road, on-site parking and access from Barton Street. 47 parking spaces (41 residential and 6 visitor) are proposed. This chapter assesses the implications of the planning proposal through the following sections:

- public transport;
- parking provision;
- access and internal layout;
- traffic effects; and
- summary.

Public Transport

3.2 As previously discussed, the site is located close (within 300 metres walking distance) of regular bus services that operate along The Grand Parade and Chuter Avenue. These bus services provide links to City, Hurstville, Kogarah, Rockdale, Miranda and surrounding areas. The site is therefore accessible by public transport. The planning proposal will increase residential densities close to existing public transport services.

Parking Provision

3.3 Parking requirements for the planning proposal have been estimated using Rockdale City Council DCP 2011. The DCP requires 1 space per two bedroom

unit and 2 spaces per three bedroom unit and 1 space per 5 dwellings for visitor parking.

3.4 The development proposes to provide 28 townhouses comprising 15 x two bedroom units and 13 x three bedroom units. Adopting the rates provided by the Rockdale City Council DCP 2011, the planning proposal would require the provision of 47 parking spaces (41 residential and 6 visitor spaces). It is proposed to provide 47 parking spaces.

3.5 Thus the proposed parking provision satisfies the requirements Rockdale City Council DCP 2011.

Access and Internal Layout

3.6 Vehicular access is proposed from Barton Street via a 6.5 metre wide entry/exit driveway located on the eastern side of the site frontage to Barton Street. The proposed driveway will comply with the requirements of AS2890.1-2004 (with respect to width, grades and provision of pedestrian sight lines). An internal road is proposed, providing access to the residential townhouses.

3.7 Residential parking spaces will be provided within separate garages attached to each individual townhouse. Visitor parking spaces will be provided at ground and will be a minimum of 2.5 metres wide by 5.4 metres long. Accessible car parking spaces will be a minimum of 2.4 metres wide by 5.4 metres long to be accompanied with an adjacent shared area with the same dimensions. Spaces located next to walls will be a further 300mm wider. The minimum aisle width will be 5.8 metres and a further 300mm wider where a wall is located immediately adjacent the parking aisle. Dead end aisles will have a one metre extension for

appropriate accessibility to end spaces. Height clearance will be a minimum of 2.2 metres generally, with 2.5 metres over disabled spaces. These dimensions are considered appropriate, being in accordance with AS2890.1-2004 and AS2890.6-2009.

3.8 With regard to servicing, larger vehicles (such as garbage collection vehicles) are proposed to undertake servicing on site within a designated loading area via the proposed internal road, a turning area will be provided to enable the service vehicles to enter and exit the site in a forward direction. Servicing by other vehicles (such as tradesman vehicles or similar van sized vehicles) will be undertaken by either parking on site (if parking is available) or in Barton Street using the available on-street parking.

3.9 Overall the proposed access arrangements, parking layout, internal circulation and service arrangements are considered appropriate.

Traffic Effects

3.10 The RMS Guideline provides traffic generation rates for medium density residential developments of between 0.4 to 0.5 vehicle trips per hour for smaller units (up to two bedrooms) and 0.5 to 0.65 vehicle trips per hour for larger units (up to three bedrooms). With a mix of two and three bedroom townhouses being proposed, a rate of 0.5 has been adopted and is considered appropriate for this development. Using this rate the planning proposal would generate some 15 vehicles per hour two-way during the morning and afternoon peak hours.

3.11 This additional traffic has been assigned to the adjoining road network and would result in traffic flow increases on Barton Street of some 5 to 10 vehicles per hour

(two-way). This is a low increase, equivalent to an average of only one vehicle every six to twelve minutes at peak times. Such a low traffic generation would not have noticeable effects on the operation of the surrounding road network.

Summary

3.12 In summary, the main points relating to the transport implications of the proposed development are:

i) The subject site is accessible by regular bus services with bus stops located within 300 metres walking distance of the site;

ii) the proposed parking provision satisfies the requirements of Rockdale City Council DCP 2011;

iii) access and internal layout will be provided in accordance with AS 2890.1-2004 and AS2890.6-2009;

iv) the proposed development would result in a minor increase in traffic during the morning and afternoon peak periods on the surrounding road network; and

v) the surrounding road network can accommodate traffic from the proposed development with no noticeable effects on the surrounding road network.