

COTTON DEVELOPMENT MANAGEMENT
PTY LTD

TRAFFIC REPORT FOR
PROPOSED REDEVELOPMENT
OF COOGEE BAY HOTEL SITE,
COOGEE

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I. INTRODUCTION

- I.1 Colston Budd Rogers and Kafes Pty Ltd has been commissioned by Cotton Property Group to prepare a report examining the traffic implications of the proposed redevelopment of the Coogee Bay Hotel site and adjacent sites at Coogee. The site includes the existing pub and accommodation at 212 Arden Street and 9 Vicar Street, commercial properties at 227-233 Coogee Bay Road and mixed use and residential properties at 5-7 Vicar Street and 15a Vicar Street. The site location is shown in Figure 1.
- I.2 Existing development on the site includes the pub and associated facilities (some 5,088m²), 51 hotel rooms, 586m² retail and commercial uses and 32 residential apartments.
- I.3 With the exception of the heritage component of the existing pub, it is proposed to demolish the buildings on the site and construct a new development including a smaller pub of 1,589m², supermarket of 1,789m², retail of 93m², restaurants of 1,222m², a 29 room hotel and 60 residential apartments. Vehicular access is proposed from Arden Street and Vicar Street.
- I.4 This report assesses the traffic and parking implications of the proposed development through the following chapters:
- Chapter 2: describing existing conditions; and
 - Chapter 3: assessing the implications of the proposed development.
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2. EXISTING CONDITIONS

Site Location and Road Network

- 2.1 The site includes the existing pub and accommodation at 212 Arden Street and 9 Vicar Street, commercial properties at 227-233 Coogee Bay Road and mixed use and residential properties at 5-7 Vicar Street and 15a Vicar Street. The site has frontage to Coogee Bay Road, Arden Street and Vicar Street. Its location is shown in Figure 1.
- 2.2 Existing development on the site includes the pub and associated facilities (some 5,088m², including drive-through bottle shop), 51 hotel rooms, 586m² retail and commercial uses and 32 residential apartments.
- 2.3 Access to the site is currently provided from Arden Street (to on-site parking and loading) and Vicar Street (entry and exit from the accommodation, and exit from the drive-through bottle shop). A small number of on-site parking spaces are provided.
- 2.4 Coogee Bay Road connects Arden Street at Coogee Beach to Randwick in the west. In the vicinity of the site it provides for one traffic lane and one parking lane in each direction, clear of intersections. On-street parking is time-restricted. A loading zone is also provided on Coogee Bay Road for beer deliveries to the pub. There is a taxi zone adjacent to the pub, and a pedestrian crossing at Vicar Street.
- 2.5 Arden Street connects Bronte in the north with South Coogee in the south. In the vicinity of the site it provides for one traffic lane and one parking lane in each
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direction, clear of intersections. There are bus stops on both sides of the road. There is a taxi zone on the eastern side of the road, opposite the pub, which operates at night. The intersection of Arden Street with Coogee Bay Road is controlled by traffic signals. All turns are permitted at the intersection.

- 2.6 Vicar Street runs south from Coogee Bay Road on the western side of the site. Vicar Street provides for two-way traffic, with parking permitted on both sides clear of intersections. It is a dead end south of the site. It provides access to residential and mixed use commercial properties. The intersection of Vicar Street with Coogee Bay Road is an unsignalised t-intersection. There is a pedestrian crossing at Coogee Bay Road.

Traffic Flows

- 2.7 Traffic generated by the proposed development will have its greatest effects during weekday afternoons and Saturdays when it combines with other traffic on the surrounding road network. In order to gauge traffic conditions, counts were undertaken at these times at the following intersections:

- Coogee Bay Road/Arden Street; and
- Coogee Bay Road/Vicar Street.

- 2.8 The results of the surveys are shown in Figures 2 and 3, and summarized in Table 2.1. Arden Street carried some 985 to 1,255 vehicles per hour two-way during the surveyed weekday afternoon and Saturday peak hours. Coogee Bay Road, during the same peak periods, carried lower flows of some 420 to 525 vehicles per hour two-way. Vicar Street carried some 115 to 170 vehicles per hour two-way.
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| Road | Location | Friday PM peak hour | Saturday peak hour |
|-----------------|--------------------------|----------------------------|---------------------------|
| Arden Street | North of Coogee Bay Road | 1,230 | 1,025 |
| | South of Coogee Bay Road | 1,255 | 985 |
| Coogee Bay Road | West of Arden Street | 435 | 420 |
| | West of Vicar Street | 525 | 465 |
| Vicar Street | South of Coogee Bay Road | 170 | 115 |

- 2.9 Observations during the surveyed peak periods indicated that the site generated some 35 to 55 vehicles per hour two-way.

Intersection Operations

- 2.10 The capacity of the road network is largely determined by the capacity of its intersections to cater for peak period traffic flows. The surveyed intersections have been analysed using the SIDRA program for the traffic flows shown in Figures 2 and 3.
- 2.11 SIDRA simulates the operations of intersections to provide 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 $\text{delay}/(\text{all vehicles})$, 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 |

- 2.12 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.

- 2.13 The analysis found that the signalised intersection of Arden Street with Coogee Bay Road operates with average delays of less than 35 seconds per vehicle during Friday and Saturday peak periods. This represents level of service C, a satisfactory level of service.
- 2.14 The unsignalised intersection of Coogee Bay Road with Vicar Street operates with average delays for all movements of less than 15 seconds per vehicle during peak periods. This represents level of service A/B, a good level of service.

Public Transport

- 2.15 Local bus services are provided by Sydney Buses. As previously discussed, there are bus stops on both sides of Arden Street, adjacent to the site. Buses also operate along Coogee Bay Road.
- 2.16 Services include:
- route 313: Bondi Junction to Coogee via Carrington Road;
 - route 314: Bondi Junction to Coogee via Randwick Junction;
 - route 353: Eastgardens to Bondi Junction;
 - route 370: Leichhardt Marketplace to Coogee;
 - route 372: Central Railway Station to Coogee;
 - route 373: Circular Quay to Coogee via Belmore Road;
 - route 374: Coogee to Circular Quay via Bream Street;
 - route M50: Drummoyne to Coogee; and
 - route X73 City Spring Street to Coogee.
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- 2.17 There are taxi ranks on Coogee Bay Road and Arden Street, adjacent to the site. There are pedestrian crossings on all legs of the signalized intersection of Arden Street with Coogee Bay Road. There are also pedestrian crossings on Coogee Bay Road and Vicar Street, adjacent to the site.
- 2.18 The site therefore has good access to public transport services, and good pedestrian links.

3. IMPLICATIONS OF PROPOSED DEVELOPMENT

3.1 With the exception of the heritage component of the existing pub, it is proposed to demolish the buildings on the site and construct a new development including a smaller pub of 1,589m², supermarket of 1,789m², retail of 93m², restaurants of 1,222m², a 29 room hotel and 60 residential apartments. Vehicular access is proposed from Arden Street and Vicar Street.

3.2 This chapter assesses the traffic implications of the proposed development through the following sections:

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

Public Transport

3.3 As previously discussed, bus services operate along Arden Street and Coogee Bay Road, adjacent to the site. They provide links to surrounding areas and the city.

3.4 There are taxi ranks adjacent to the site, as well as good pedestrian links to surrounding services and facilities. To support accessibility by bicycles, appropriate bicycle parking will be provided in the development.

- 3.5 A pedestrian link will be provided to connect Arden Street with a new 'eat street' running south from Coogee Bay Road. This will improve pedestrian permeability through the site.
- 3.6 The proposed development will provide increased retail, employment and residential densities close to existing public transport services. The proposal would therefore strengthen the existing demand for these services. This is consistent with government objectives and the planning principles of:
- (a) improving accessibility to employment and services by walking, cycling, and public transport;
 - (b) improving the choice of transport and reducing dependence solely on cars for travel purposes;
 - (c) moderating growth in the demand for travel and the distances travelled, especially by car; and
 - (d) supporting the efficient and viable operation of public transport services.

Parking Provision

- 3.7 Part B7 of the Randwick Comprehensive Development Control Plan 2013 includes the following parking requirements:
- one space per one bedroom apartment;
 - 1.2 spaces per two bedroom apartment;
 - 1.5 spaces per apartment with three or more bedrooms;
 - one space per four apartments for visitors;
 - one space per 40m² GFA for retail uses;
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- one space per 40m² GFA for restaurants for the first 80m² GFA then one space per 20m² GFA thereafter;
- one space per 10 people for the pub (where the number of people is specified on the liquor licence) or one space per 6m² bar, lounge, dining, gaming, auditorium, etc., plus one space per three employees, plus one space per manager, plus a taxi/bus pick up point; and
- one space per four rooms for accommodation, plus one space per two staff.

3.8 As previously noted, the existing pub provides limited on-site parking. It is proposed to reduce in size by more than 50 per cent in the proposed development. Its parking demands would therefore reduce, compared to today. 18 spaces are proposed in the development for this component, which is considered appropriate.

3.9 Based on the DCP parking rates, the residential component would require 78 resident spaces and 15 visitor spaces. It is proposed to provide 94 spaces in accordance with this requirement.

3.10 The supermarket, retail, restaurants, accommodation and residential visitors would require 115 spaces, including 47 spaces for the supermarket and retail, 59 spaces for the restaurants and nine spaces for the accommodation (based on four employees), if all components are added together. The proposed non-residential parking provision is 133 spaces, including 18 spaces for the pub. Parking provision therefore satisfies the DCP.

3.11 However, it should be noted that the times of peak use for the different components of the development will not coincide. Residential visitor parking will be higher on the weekends and in the evenings. Retail parking demands will be higher during the day. Restaurant parking demands will be higher in the evenings.

- 3.12 Combining the non-residential parking in a common car park will therefore effectively provide additional parking, due to the overlapping demands of the various components of the development.
- 3.13 The DCP includes a motor cycle parking requirement of five per cent of the car parking requirement for the residential and retail components. The proposed development will include three retail spaces and four residential spaces for motor cycles, in accordance with this requirement.
- 3.14 The DCP includes bicycle parking requirements of one space per two apartments for the residential component, plus one space per 10 apartments for visitors. 30 resident spaces and six visitor spaces will be provided in accordance with this requirement.
- 3.15 The retail/restaurant bicycle parking rate is one space per 10 parking spaces. The hotel bicycle parking rate is one space per four employees plus one space per 20 rooms. 13 bicycle parking spaces will be provided for the non-residential component, in accordance with this requirement.

Access, Servicing and Internal Layout

- 3.16 Vehicular access is proposed via driveways from Arden Street and Vicar Street. The Vicar Street driveway will provide access to and from the residential apartments. The low traffic generation of the residential units will result in little or no change to traffic generation from the site in Vicar Street, compared to today. The driveway will provide for cars to enter and exit in a forward direction, in accordance with the Australian Standard for Parking Facilities (Part 1: Off-street car parking), AS 2890.1:2004.
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- 3.17 Access to the non-residential parking areas will be provided from Arden Street. This car park will be controlled, to ensure its availability by users of the development.
- 3.18 Service vehicles will also use the Arden Street driveway. Service vehicles will include deliveries to the supermarket, pub, restaurants and retail, as well as garbage collection. Service vehicles will be a range of sizes up to 12.5 metre long large rigid trucks. They will be able to enter and exit in a forward direction.
- 3.19 A loading dock will be provided in the development, to cater for service vehicles. A turntable will be provided in the dock. 4.5 metres height clearance will be provided in all areas used by service vehicles. The dock will provide for vehicles ranging in size up to large rigid trucks. Appropriate connections will be made between the loading dock and the various components of the development, by lifts and service corridors.
- 3.20 Ramp grades and transitions on the Arden Street access will be provided in accordance with AS 2890.2:2018, to appropriately cater for service vehicles. Service vehicle swept paths are shown in Figures 4 to 7.
- 3.21 Parking will be provided in three levels. Parking spaces will be a minimum of 2.6 metres wide by 5.4 metres long. Disabled parking spaces will be 2.4 metres wide, with a 2.4 metre wide adjacent area for wheelchairs. The two-way circulation aisles will be a minimum of 6.6 metres wide. Height clearance will be a minimum of 2.2 metres generally, and 2.5 metres above disabled spaces. Ramps between parking levels will provide grades and transitions to prevent vehicles scraping. These dimensions are appropriate, being in accordance with AS 2890.1:2004 and AS 2890.6:2009.
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Traffic Generation and Effects

- 3.22 Traffic generated by the proposed development will have its greatest effects during weekday afternoons and Saturdays when it combines with other traffic on the surrounding road network.
- 3.23 Surveys undertaken by RMS have found the following peak hour two-way traffic generation rates:
- supermarkets: 2.5 vehicles per hour per space;
 - restaurants: five vehicles per hour per 100m² during the evening;
 - retail: some five vehicles per hour per 100m²;
 - accommodation: 0.4 vehicles per room; and
 - residential: 0.15 vehicles per hour per apartment during weekday afternoons.
- 3.24 The RMS notes that, typically, about 25 per cent of retail customers are passing trade, i.e. they would have passed the site regardless of their decision to visit the site.
- 3.25 As noted previously, the pub is becoming smaller. Our assessment does not make any allowance for the reduction in traffic associated with a smaller pub.
- 3.26 The additional traffic generation would therefore be some 200 vehicles per hour two-way during weekday peak hours. Existing traffic flows plus the additional development traffic are shown in Figures 2 and 3, and summarised in Table 3.1.
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Table 3.1: Existing two-way peak hour traffic flows plus development traffic

| Road | Location | Friday PM peak hour | | Saturday peak hour | |
|-----------------|--------------------------|---------------------|------------------|--------------------|------------------|
| | | Existing | Plus development | Existing | Plus development |
| Arden Street | North of Coogee Bay Road | 1,230 | +60 | 1,025 | +60 |
| | South of Coogee Bay Road | 1,255 | +110 | 985 | +110 |
| Coogee Bay Road | West of Arden Street | 435 | +50 | 420 | +50 |
| | West of Vicar Street | 525 | +50 | 465 | +50 |
| Vicar Street | South of Coogee Bay Road | 170 | - | 115 | - |

- 3.27 Table 3.1 shows that traffic increases in Arden Street (in the short section between the site and Coogee Bay Road) would be some 110 vehicles per hour two-way at peak times. Increases in other parts of Arden Street, as well as on Coogee Bay Road, would be lower at some 50 to 60 vehicles per hour two-way.
- 3.28 With the removal of the existing egress from the drive-through bottle shop and hotel from Vicar Street, traffic flows in Vicar Street would likely be similar to today.
- 3.29 The intersections previously analysed in Chapter 2 have been reanalysed with SIDRA for the additional development traffic flows shown in Figures 2 and 3. The analysis found that the intersection of Arden Street with Coogee Bay Road would continue to operate with average delays of less than 35 seconds per vehicle during Friday and Saturday peak periods. This represents level of service C, a satisfactory level of service.
- 3.30 The intersection of Coogee Bay Road with Vicar Street would continue to operate with average delays for all movements of less than 15 seconds per vehicle during peak periods. This represents level of service A/B, a good level of service.

3.31 Therefore, the road network will be able to cater for the traffic from the proposed development.

Summary

3.32 In summary, the main points relating to the traffic implications of the proposed development are as follows:

- i) the proposed development includes a supermarket, retail, accommodation, restaurants and residential uses;
- ii) the proposed development will provide increased employment, retail and residential densities close to good public transport services;
- iii) access will be provided from Arden Street and Vicar Street;
- iv) parking provision is appropriate;
- v) access, servicing arrangements and internal layout will be provided in accordance with AS 2890.1:2004, AS 2890.2:2018 and AS 2890.6: 2009; and
- vi) the road network will cater for the traffic from the proposed development.