

RENEW CONSTRUCTIONS PTY LTD

SUPPLEMENTARY TRAFFIC REPORT,
PROPOSED SUPERMARKET, 17-19
SMITH STREET, CHATSWOOD

FEBRUARY 2011

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1. INTRODUCTION

- 1.1. Colston Budd Hunt & Kafes Pty Ltd has been retained by Renew Constructions Pty Ltd to prepare to prepare a supplementary traffic report to address traffic matters raised by Council with regard to the proposed rezoning for a supermarket at 17-19 Smith Street, Chastwood. The site location is shown on Figure 1.
- 1.2. The traffic effects of a supermarket on the subject site have been addressed in our traffic report that accompanied the rezoning application (Report on Traffic Aspects of Proposed Rezoning for a Supermarket, 17-19 Smith Street, Chatswood – May 2010).
- 1.3. In summary the issues raised by Council and in submissions can be summarised as below:
- ❑ the proposed development would result in unacceptable traffic and parking impacts, in particular the impact on the operation of the intersection of Eastern Valley Way and Smith Street;
 - ❑ the site has poor accessibility to public transport; and
 - ❑ increased traffic in Alleyene Street as a result of the proposed development
- 1.4. In preparing this report we have reviewed the SIDRA analysis undertaken by Willoughby Councils traffic section in order to ascertain why it reached different conclusions to those found in our traffic report (which were similar to those reached in the report prepared for the Bunnings DA).
- 1.5. Our response to the traffic matters raised by Council is set out in Chapter 2.

2. SUPPLEMENTARY TRAFFIC INFORMATION

2.1. The supplementary traffic information is set out through the following sections:

- traffic effects;
- public transport;
- increased traffic in Alleyene Street; and
- summary

Traffic Effects

2.2. Our traffic report that accompanied the rezoning application was based on traffic generated by the proposed supermarket being 'new' traffic. This approach was conservative as it did not take into account traffic generated by the existing car service centre or the redistribution of existing trips to supermarkets in the area (such as Chatswood, Northbridge or Forestville) that would change to use the proposed supermarket.

2.3. Using this conservative approach our traffic assessment found that the surrounding road network will be able to cater for the additional traffic generated by the proposed supermarket with intersections continuing to operate at satisfactory or better levels of service in the peak periods.

2.4. With regard to the intersection of Smith Street/Eastern Valley Way our assessment found that it would operate at level of service (LOS) B with supermarket plus Bunnings traffic in place, with the intersection with Smith Street upgraded (as required for the Bunnings development). Intersection operations are ranked from A (good) to F (at capacity). LOS B represents a reasonable level of service. A summary of the pre and post SIDRA analysis of the operation of the intersection of Smith Street/Eastern Valley Way is set out below in Table 2.1.

Table 2.1 Intersection of Smith Street/Eastern Valley Way - Summary of Thursday Afternoon SIDRA Analysis		
Criteria	Base	Base + Supermarket
Average Delay	19 seconds per vehicle	24 seconds per vehicle
Level of Service (LOS)	B	B
95% Back of Queue		
Eastern Valley Way (N/B)	242 metres	300 metres
Eastern Valley Way (S/B)		
- through movement	88 metres	106 metres
- right turn movement	88 metres	90 metres
Smith Street	113 metres	120 metres

2.5. Examination of Table 2.1 reveals that:

- ❑ with supermarket traffic added to base traffic flows (existing + Bunnings traffic) the intersection would continue to operate at LOS B;
- ❑ average delays per vehicle through the intersection would increase by some five seconds; and
- ❑ the 95% back of queue (often referred to as the maximum queue) would extend by some 60 metres (eight cars) on Eastern Valley Way (northbound), one car (seven metres) on Smith Street and 22 metres (three cars) on Eastern Valley Way (southbound). The queue for the right turn into Smith Street would increase by two metres (less than one car).

2.6. Thus assuming the conservative approach that supermarket traffic is new traffic, the analysis found that with the proposed supermarket on the intersection of Smith Street and Eastern Valley Way would operate at a reasonable level of service.

2.7. We note that Council's SIDRA analysis found that the intersection would operate with higher average delays than suggested above. We have had the opportunity to

review the Council's SIDRA analysis and found the following different parameters to our analysis:

- ❑ the Council file had a higher proportion of heavy vehicles (3%) than is considered appropriate when a peak flow factor of 95% is used. The traffic surveys found that the peak flow factor was close to 100% and that percentage heavy vehicles was lower at 2%; and
- ❑ the cycle time used in the Council file (90 seconds) is lower than is currently measured at the intersection (120 seconds).

2.8. The analysis summarised in Table 2.1 includes appropriate values for proportion of heavy vehicles, peak flow factor and a minimum cycle time of 120 seconds. Table 2.1 also compares the before and after results with consistent parameters.

2.9. The proposed supermarket would result in people within the primary catchment being located closer to a supermarket and hence having to travel less distance in order to undertake their weekly shopping. This would result in a reduction in vehicle kilometres travelled, with complementary environmental benefits of less fuel consumption, less vehicle emissions, and savings in travel time.

2.10. Based on information provided in the retail study that accompanied the rezoning, it is estimated that:

- ❑ some 40% of the trade for the proposed supermarket will be relocated trips from Chatswood;
- ❑ some 30% of the trade for the proposed supermarket will be relocated trips from Northbridge/Castlecrag;
- ❑ some 10% of the trade for the proposed supermarket will be relocated trips from Willoughby; and

- the balance of trade (some 20%) will be from Lindfield/Lane Cove/Forestville or new trips

- 2.11. Using this information we have estimated the likely reduction in traffic generation to Northbridge/Castlecrag and Chatswood as these are the major areas that would be affected. As noted in our traffic report, based on RTA Guidelines the proposed supermarket would have a peak hour traffic generation of some 450 vehicles (two way) when passing trade is taken in account. This equates to some 4,500 vehicles per day (two way). Thus traffic to Chatswood would be reduced by some 1,800 vehicles per day (two way) and Northbridge/Castlecrag by some 1,350 vehicles per day (two way).
- 2.12. The proposed supermarket is located centrally within the primary trade area with Northbridge/Castlecrag located some three kilometres to the south and Chatswood some two kilometres to the west. Thus the majority of customers that would shop at the proposed supermarket would already be travelling in the vicinity of the site (along Smith Street or Eastern Valley Way). Thus customers who choose to shop at the new supermarket would have less distance to travel with associated reduction in fuel costs, vehicle emissions and reduced travel times. Based on the estimated reduction in traffic at Northbridge/Castlecrag and Chatswood we estimate that the savings in vehicle kilometres travelled (VKT) per year could be in the order of 2.8 million.
- 2.13. We note that capturing traffic within the local area would also reduce traffic around Northbridge Plaza and Chatswood CBD as people wishing to undertake shopping at a full range supermarket would not have to travel to these locations, with consequent reduced traffic and parking impacts at these locations. We note intersections that traffic would have to pass through to access these centres (such as Eastern Valley Way/Edinburgh Road and Eastern Valley Way/Victoria Avenue) are currently operating under pressure.

2.14. In summary our assessment of the traffic effects of the proposed supermarket has found that:

- ❑ the adjacent road network can satisfactorily accommodate traffic from the proposed supermarket;
- ❑ the intersection of Smith Street/Eastern Valley Way can satisfactorily accommodate traffic from the proposed supermarket;
- ❑ the different SIDRA results concluded by Council was due to the use of inappropriate input parameters;
- ❑ the proposed supermarket would result in a reduction in traffic travelling to Chatswood and Northbridge/Castlecrag and would result in a substantial reduction in vehicle kilometres travelled, with associated reduction in fuel costs, vehicle emissions and travel times; and
- ❑ that capturing traffic within the local area would reduce traffic around Northbridge Plaza and Chatswood CBD with consequent reduced traffic and parking impacts at these locations.

Public Transport

2.15. The site is serviced by public transport with Sydney Buses operating the 136, 137 and L60 services along Smith Street past the site, with bus stops located in the vicinity of the site. These services are summarised below:

- ❑ 136 service operates 7 days a week between Chatswood and Manly via East Chatswood, Frenchs Forest, Dee Why and Freshwater. It operates at 30 minute intervals from early in the morning to late in the evening;
- ❑ 137 service is a Monday to Friday limited stops service between Chatswood and Bantry Bay; and
- ❑ L60 service is a Monday to Friday limited stops service between Chatswood and Mona Vale via Dee Why and Frenchs Forest.

- 2.16. In addition to the above services, Sydney Buses operates the 206 to 209 services along Eastern Valley Way in the vicinity of the site. These services connect East Roseville with North Sydney/Wynyard via Northbridge and Cammeray. These services operate 7 days a week. Thus the proposed development is located close to existing bus services which provide links to surrounding areas.
- 2.17. It should be noted that the majority of trips associated with supermarket shopping are by car as there is limited ability to transport large quantities of goods by other means (such as walking, cycling or public transport). Thus locating a supermarket outside of town centre location such as Chatswood would not result in significant increase in car trips.

Increased Traffic in Alleyene Street

- 2.18. Base traffic flows on Alleyene Street (south of Smith Street) are some 85 to 220 vehicles per hour (two way) in the Saturday midday and Thursday afternoon peak hours respectively. The proposed supermarket would increase these flows by some 20 vehicles per hour (two-way) in the peak periods. This is a minor increase of only one vehicle every three minutes.
- 2.19. RTA Guidelines suggest that a local street has a maximum environmental capacity of some 300 vehicles per hour (two-way). With supermarket traffic in place, traffic flows in Alleyene Street will remain less than the maximum environmental capacity for a local street.

Summary

- 2.20. This supplementary traffic report has provided additional information to address the matters raised by Council. In summary we have found that:

- ❑ the adjacent road network can satisfactorily accommodate traffic from the proposed supermarket;
- ❑ the intersection of Smith Street/Eastern Valley Way can satisfactorily accommodate traffic from the proposed supermarket;
- ❑ the different SIDRA results concluded by Council was due to the use of inappropriate input parameters;
- ❑ the proposed supermarket would result in a reduction in traffic travelling to Chatswood and Northbridge/Castlecrag and would result in a substantial reduction in vehicle kilometres travelled, with associated reduction in fuel costs, vehicle emissions and travel times;
- ❑ that capturing traffic within the local area would reduce traffic around Northbridge Plaza and Chatswood CBD, with consequent reduced traffic and parking impacts at these locations;
- ❑ the proposed supermarket is located close to existing bus services which provide links to surrounding areas;
- ❑ locating a supermarket outside of town centre location such as Chatswood would not result in significant increase in car trips; and
- ❑ with supermarket traffic in place, traffic flows in Alleyene Street will remain less than the maximum environmental capacity for a local street.



Location Plan