FABCOT PTY LIMITED

TRANSPORT REPORT FOR PROPOSED REDEVELOPMENT OF WOOLWORTHS SITE AND PUBLIC CAR PARK, CROWS NEST

JULY 2008

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1. INTRODUCTION

1.1. Colston Budd Hunt and Kafes Pty Ltd has been commissioned by Fabcot Pty Limited to assess the transport implications of the proposed redevelopment of the existing Woolworths supermarket and adjacent public car park at Crows Nest. The site occupies most of the block bounded by Falcon Street, Alexander Street, Burlington Street and Willoughby Lane, and is shown in Figure 1.

1.2. The site includes the existing Woolworths supermarket, some ground floor retail, and the adjacent public car park with access from Alexander Street. The Woolworths site provides some 1,385m^2 supermarket area with additional ground floor retail space (309m^2). The car park provides some 132 parking spaces. There are two points of entry and exit for the car park on Alexander Street. The northern driveway provides access to the ground level. The southern driveway provides access to the upper parking levels. There is no interconnection between the ground and upper parking levels.

1.3. The proposed redevelopment provides for a new supermarket over two levels (basement and ground floor (with some 4,010m^2), and ground floor specialty retail (some 452m^2). The existing car park would be extended to provide some 272 spaces with ingress provided from Burlington Street and egress via Alexander Street.

1.4. This report assesses the implications of the proposed development through the following chapters:-

- Chapter 2 - Describing the existing situation; and

- Chapter 3 - Assessing the implications of the proposed development.

2. EXISTING CONDITIONS

Site Location

2.1. The site is on the north-western corner of the intersection of Falcon Street and Alexander Street in the Crows Nest commercial and retail area. It occupies most of a block which bounded by Falcon Street, Alexander Street, Burlington Street and Willoughby Lane, and is shown in Figure 1. Surrounding land use includes commercial and retail uses. To the east there are residential uses.

2.2. The existing supermarket provides some 1,385m^2 retail area with additional ground floor retail space. There is a public car park adjacent to the supermarket with some 132 parking spaces. There are two points of entry and exit for the car park on Alexander Street. The northern driveway provides access to the ground level. The southern driveway provides access to the upper parking levels. There is no interconnection between the ground and upper parking levels. Access to the car park is controlled by boom gates, which provides two hours free parking.

Road Network

2.3. The road network in the vicinity of the site includes Pacific Highway, Falcon Street, Alexander Street, Willoughby Road, Burlington Street and Willoughby Lane. The Pacific Highway is west of the site and provides a major link in Sydney's arterial road network, connecting the harbour crossings with the north shore. It provides a four to six lane divided carriageway with two to three traffic lanes in each direction. Major intersections are signalised with additional lanes for turning traffic. Clearways operate in peak periods in the direction of peak traffic flow.

2.4. Falcon Street forms part of an east-west arterial road linking Crows Nest with Neutral Bay, Mosman, The Spit and areas to the north. In the vicinity of the site it provides a four lane undivided carriageway with two traffic lanes in each direction. There are bus stops on both sides of the road.

2.5. Alexander Street and Willoughby Road provide north-south routes through the Crows Nest retail and commercial area. The intersection of Willoughby Road with Falcon Street provides for left turns only onto Falcon Street. The intersection of Alexander Street with Falcon Street is controlled by traffic signals. Right turns from Alexander Street (southbound) and Falcon Street are banned. Alexander Street provides a four lane undivided carriageway with one traffic lane and one parking lane in each direction, clear of intersections. On-street parking is generally time restricted, meter parking. There are parking restrictions during peak periods and bus stops on the western side of the road. Alexander Street provides vehicular access to the public car park on the site.

2.6. Burlington Street provides an east-west link between Willoughby Road and West Street. At its western end it provides access into the Crows Nest commercial and retail area and provides bus stops and a taxi rank. East of Alexander Street it provides access to residential properties. The intersection of Burlington Street with Alexander Street is controlled by a roundabout.

2.7. Willoughby Road is located west of the site. North of Burlington Street it provides for two way traffic with kerb side parking. South of Burlington Street it is one way southbound with one traffic lane and angled parking. The intersection of Willoughby Road and Burlington Street is a priority controlled T-intersection with Willoughby Road the main road. Pedestrian crossings are provided on the eastern and southern.

2.8. Willoughby Lane provides rear access to properties fronting Alexander Street and Willoughby Road. North and south of Burlington Street it is one-way northbound and southbound respectively. South of Burlington Street it provides one traffic lane, and is used by Woolworths delivery trucks to unload. The intersections of Willoughby Lane with Burlington Street and Falcon Street are priority intersections with left turns only permitted onto Falcon Street.

Existing Traffic Flows

2.9. In order to establish existing traffic conditions, counts were undertaken during weekday afternoon and Saturday midday peak periods at the following intersections:

- Falcon Street/Alexander Street;
- Alexander Street/Burlington Street;
- Burlington Street/Willoughby Road;
- Burlington Street/Willoughby Lane; and
- Alexander Street/Car Park accesses.

2.10. The surveyed peak flows are set out on Figures 2 and 3 and summarised in Table 2.1.

Table 2.1 : Existing Two Way (Sum of Both Directions) Peak Hour Traffic Flows		
	Vehicles Per Hour (Two-Way)	
Location	Thursday Afternoon	Saturday Midday
Alexander Street		
– north of Burlington Street	610	705
– south of Burlington Street	780	980
– north of Falcon Street	745	915
– south of Falcon Street	655	695
Falcon Street		
– east of Alexander Street	1930	1730
– west of Alexander Street	1950	1880
Burlington Street		
– east of Alexander Street	295	330
– west of Alexander Street	470	525
– east of Willoughby Road	455	485
Willoughby Road		
– north of Burlington Street	445	500
– south of Burlington Street (one way)	110	100
Willoughby Lane		
– north of Burlington Street (one way)	20	35
– south of Burlington Street (one way)	25	20
Car Park Accesses	155	235

2.11. Table 2.1 reveals that:-

- Alexander Street carried some 700 to 1,000 vehicles per hour (two-way) during the weekday afternoon and Saturday midday peak periods. Traffic flows were higher in the Saturday midday peak period;

- Falcon Street carried some 1,750 to 1,950 vehicles per hour (two-way) during the weekday afternoon and Saturday midday peak periods. Traffic flows were higher in the weekday afternoon peak period;

- Burlington Street carried some 300 to 525 vehicles per hour (two-way) during the weekday afternoon and Saturday midday peak periods. Traffic flows were higher in the Saturday midday peak period and west of Alexander Street;

- Willoughby Road (north of Burlington Street) carried some 450 to 500 vehicles per hour (two-way) during the weekday afternoon and Saturday midday peak periods. South of Burlington Street traffic flows were lower at some 100 vehicles per hour (one-way) during the weekday afternoon and Saturday midday peak periods;

- Willoughby Lane carried some 20 to 35 vehicles per hour (one-way) during the weekday afternoon and Saturday midday peak periods; and

- The existing car park generated some 155 to 235 vehicles per hour (two way) during the weekday afternoon and Saturday midday peak periods. Traffic generation was higher in the Saturday midday peak period.

Intersection Operations

2.12. The capacity of the road network is generally determined by the capacity of its intersections to cater for peak period traffic flows. The operation of the intersection has been analysed using the SIDRA program. 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 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"	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

2.13. 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.

2.14. The SIDRA analysis found that:

- the traffic signals at the intersection of Falcon Street and Alexander Street operate with average delays per vehicle of less than 15 seconds during the peak periods. This represents level of service A/B, a good level of intersection operation. It should be noted that sometimes during peak periods, queuing back from the Pacific Highway (along Falcon Street and Alexander Street) can affect the operation of this intersection; and

- the roundabout at the intersection of Burlington Street and Alexander Street operates with average delays per vehicle of less than 15 seconds for both peak periods. This represents level of service A/B, a good level of intersection operation;

- the intersections of Burlington Street with Willoughby Road and Willoughby Lane operate with average delays per vehicle of less than 15 seconds for both peak periods. This represents level of service A/B, a good level of intersection operation. It should be noted that the high pedestrian flows across the pedestrian crossing at the intersections can lead to longer delays.

Public Transport Services

2.15. Pedestrian facilities are provided at the signalised intersection of Falcon Street/ Alexander Street. There are marked pedestrian crossings on Alexander Street north of Burlington Street and at the intersection of Burlington Street at Willoughby Road (southern and eastern approaches). Counts indicated some 100

to 150 people per hour use the marked crossing on Alexander Street north of Burlington Street during peak periods. Some 300 to 400 people per hour use the marked crossings at the intersection of Burlington Street and Willoughby Road.

2.16. The site is 10 to 15 minutes walk from St Leonards Railway Station. St Leonards is on the North Shore Line (Berowra to Parramatta via the City). Services on the North Shore Line through St Leonards operate on a 5 to 10 minute frequency in each direction.

2.17. Local bus services are provided by Sydney Buses. There are bus stops adjacent to the site on Falcon Street and Burlington Street and a taxi rank adjacent to the site on Burlington Street. There are also bus stops on Alexander Street, Willoughby Road and Pacific Highway. These services link Crows Nest with surrounding areas. Bus routes serving Crows Nest are shown in Table 2.2.

Table 2.2: Bus services in Crows Nest

Route	Between
140	Manly Wharf – Macquarie University
143/144	Manly Wharf – RNS Hospital – Chatswood Interchange
200	Chatswood Interchange – Bondi Junction Interchange
250	Taronga Zoo – St Leonards
252	Gladesville – Lane Cove West
253	Lane Cove West – QVB
254	Drummoyne/Lane Cove West – QVB
257	Chatswood – Balmoral
261	Chatswood/Lane Cove – Longueville – QVB
263	Wynyard – Crows Nest
265	Lane Cove – Greenwich – McMahons Point
267	Chatswood – Crows Nest
273	Wynyard – Chatswood

286	Town Hall – Denistone East
287	Ryde Shops – Milsons Point
289/294	Epping Station – Town Hall, City
290/291	Epping – QVB (via North Ryde)

2.18. Overall, the site has good access to regular public transport services.

Parking

2.19. The existing car park provides 132 spaces over three levels. There are two points of entry and exit for the car park on Alexander Street. The northern driveway provides access to the ground level. The southern driveway provides access to the upper parking levels. There is no interconnection between the ground and upper parking levels. Access to the car park is controlled by boom gates, which provides two hours free parking.

2.20. Surveys of parking demand were undertaken over two days (Friday 28 March 2008 and Saturday 29 March 2008) between 9.00am and 10.00pm. The results of the survey are attached in Appendix A. The surveys found that the car park was over 90% occupied from 11.00am to 2.00pm and 7.30pm to 8.45pm on Friday. Peak occupancy was 99% at 12.45pm. On Saturday the car park was over 90% occupied from 11.45am to 12.30pm and 1.45 to 2.15pm. Peak occupancy was 96% at 12.15pm. These surveys show that the car park has a high utilisation for most of the day.

2.21. North Sydney Council has recently completed a study comparing parking provision accessible to the public within Crows Nest Town Centre with surrounding town centres. The results of the study are summarised below in Table 2.3.

Table 2.3: Comparison of Parking in Crows Nest with other Similar Town Centres[1]	
Lane Cove[2]	1 space per 39m^2
Mosman	1 space per 57m^2
Neutral Bay	1 space per 98m^2
Crows Nest[3]	1 space per 106m^2

1. Publicly accessible parking including Council car parks, on street parking and publicly accessible private parking.
2. Includes parking as part of Woolworths development currently under construction.
3. Includes Holterman Street car park extension.

2.22. Examination of Table 2.3 reveals that parking provision in Crows Nest is lower than other centres. In the block bounded by Willoughby Road, Falcon Street, Alexander Lane and Ernest Place (Zone 2) current parking provision is 1 space per 146m^2.

3. IMPLICATIONS OF PROPOSED DEVELOPMENT

The Proposed Development

3.1. The proposed redevelopment provides for a new supermarket over two levels (basement and ground floor with some 4,010m^2), and ground floor specialty retail (some 452m^2). The existing car park would be extended to provide some 272 spaces with ingress provided from Burlington Street and egress via Alexander Street. Pedestrian access would be provided from Burlington Street.

3.2. This chapter examines the implications of the proposed development through the following sections:-

- Public transport;
- Parking provision;
- Access and internal layout;
- Servicing;
- Traffic effects; and
- Summary.

Public Transport

3.3. As noted in Chapter 2, local bus services are provided by Sydney Buses and St Leonards station is some 10 to 15 minutes walk away. The existing bus stops on Alexander Street and Falcon Street will be retained. The existing taxi rank on Burlington Street would be retained in its present location or relocated to Alexander Street. The site is therefore located to provide staff and customers with a choice of modes for travel to the site.

3.4. The provision of increased population (staff and customers) in the area will strengthen demand for existing public transport services. This is consistent with government policy 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

3.5. It is proposed to extend the existing car park to provide some 272 parking spaces. DCP 2002 sets out parking requirements for new development within Crows Nest. For the proposed development DCP 2002 sets out the following rates for the additional retail area:

- Supermarkets: 4 spaces per 100m^2; and
- Specialty shops: 1 space per 200m^2.

3.6. Applying these rates the additional retail area (+2,625m^2 supermarket and +143m^2 specialty retail area) would require an additional 106 parking spaces. The proposed development provides an additional 140 parking spaces. The additional parking (34 spaces) is to improve parking within Crows Nest Town Centre. Table 3.1 compares parking provision in Crows Nest with the extended car park with other centres.

Table 3.1: Comparison of Parking in Crows Nest with other Similar Town Centres[1]	
Lane Cove[2]	1 space per 39m^2
Mosman	1 space per 57m^2
Neutral Bay	1 space per 98m^2
Crows Nest[3]	1 space per 106m^2
Crows Nest with proposed development[4]	1 space per 100m^2

4. Publicly accessible parking including Council car parks, on street parking and publicly accessible private parking.
5. Includes parking as part of Woolworths development currently under construction.
6. Includes Holterman Street car park extension.
7. Assumes provision of 272 spaces as part of proposed development.

3.7. Examination of Table 3.1 reveals that parking provision on Crows Nest would be improved with the proposed development. In the block bounded by Willoughby Road, Falcon Street, Alexander Lane and Ernest Place (Zone 2) current parking provision is 1 space per 146m^2. With the proposed development, parking provision would increase in this block to 1 space per 101m^2. Overall parking in Crows Nest would be increased by some 7% with the expanded car park.

3.8. Appropriate bicycle, motor cycle and disabled parking will be provided in accordance with the requirements of DCP 2002.

3.9. Thus the proposed development provides appropriate parking for the expanded retail area and additional parking to improve parking within Crows Nest Town Centre.

Access and Internal Circulation

3.10. Access to the car park will be modified to provide ingress from Burlington Street and egress to Alexander Street. The ingress driveway will be located east of Willoughby Lane and ramp up to level 1 of the car park. An entry boom gate will be provided at the top of the ramp with appropriate queuing space (six spaces as required by AS2890.1- 2004) between the control point and Burlington Street. The ingress driveway will be separated from Willoughby Lane by a concrete island some 1.2 metres wide. This will allow pedestrians a staged crossing of the driveway and the lane.

3.11. The egress driveway will be located on Alexander Street at approximately the same location as the egress driveway from the existing ground floor car park. Egress from the car park will be left turns only. Traffic wishing to travel south on Alexander Street will be able to undertake a u-turn at the roundabout at Burlington Street.

3.12. Circulation within the car park will be one way counter clockwise with ramps on the western and eastern sides of the car park linking each parking level. This represents an improvement on the existing car park where the ground floor is separate to the two upper parking levels. Ramp grades, aisle widths and parking bays will be designed to comply with the requirements of AS2890.1-2004.

3.13. As part of the proposed development Council is proposing to provide additional signage on roads in Crows Nest to inform drivers the location of parking areas and the level of occupancy with each car park.

3.14. Pedestrian access within the car park will be provided by lifts and stairs to each level. These will connect to the retail space below and to Burlington Street.

3.15. Overall the proposed access arrangements and internals circulation, subject to detailed design, are considered satisfactory.

Servicing

3.16. Servicing of the expanded centre will be from Willoughby Lane. A dedicated loading dock will be provided so that trucks servicing Woolworths unload clear of the lane. This represents an improvement over the existing situation. The largest trucks servicing the site will be the same as currently service the site. Swept paths of a truck accessing the loading dock are shown on the architectural plans prepared by BN Architects. The number of deliveries will be slightly increased compared to the existing store.

Traffic Effects

3.17. Traffic generated by the proposed development will have its greatest effects during the weekday afternoon peak period and Saturday middle of the day. Additional traffic generated by the proposed development has been based on the amount of additional parking and traffic generation rates of existing on site parking.

3.18. The existing on site parking generates 1.2 vehicles per hour (two way) per space in the weekday afternoon peak hour and 1.8 vehicles per hour (two way) per space in the Saturday midday peak hour. Directional split was similar in both peak periods with 55% in and 45% out.

3.19. Using the above rates, the additional 140 spaces provided in the expanded development would generate an additional 170 vehicles per hour (two way) in the

weekday afternoon peak hour and an additional 250 vehicles per hour (two way) in the Saturday midday peak hour. These additional trips plus redistributed existing trips associated with the change in access are summarised in Table 3.2 and displayed in Figures 2 and 3.

Table 3.2 : Existing plus Development Two Way Peak Hour Traffic Flows

Location	Vehicles Per Hour (Two-Way)			
	Thursday Afternoon		Saturday Midday	
	Existing	With Dev	Existing	With Dev
Alexander Street				
– north of Burlington Street	610	+40	705	+55
– south of Burlington Street	780	+120	980	+190
– north of Falcon Street	745	+65	915	+120
– south of Falcon Street	655	+45	695	+80
Falcon Street				
– east of Alexander Street	1930	+5	1730	+5
– west of Alexander Street	1950	+15	1880	+35
Burlington Street				
– east of Alexander Street	295	+20	330	+35
– west of Alexander Street	470	+140	525	+225
– east of Willoughby Road	455	+30	485	+25
Willoughby Road				
– north of Burlington Street	445	+30	500	+25
– south of Burlington Street (one way)	110	+0	100	+0
Willoughby Lane				
– north of Burlington Street (one way)	20	+0	35	+0
– south of Burlington Street (one way)	25	+5	20	+5

3.20. Examination of Table 3.2 reveals that:

- Traffic flows on the section of Alexander Street, between Burlington Street and Falcon Street, would increase by some 65 to 190 vehicles per hour (two-way) during the weekday afternoon and Saturday midday peak periods. This reflects the change in access arrangements to the car park. North and south of this section the increases in Alexander Street would be lower at between 40 to 80 vehicles per hour (two-way) during peak periods;

- Traffic flows on Falcon Street would increase by some 5 to 35 vehicles per hour (two-way) during the weekday afternoon and Saturday midday peak periods;

- Traffic flows on the section of Burlington Street between the entry driveway and Alexander Street would increase by some 140 to 225 vehicles per hour (two-way) during the weekday afternoon and Saturday midday peak periods. This reflects the change in access arrangements to the car park. East and west of this section the increases in Burlington Street would be lower at between 20 to 35 vehicles per hour (two-way) during peak periods;

- Traffic flows on Willoughby Road would increase by up to 30 vehicles per hour (two-way) during the weekday afternoon and Saturday midday peak periods; and

- Traffic flows on Willoughby Lane would increase by up to 5 service vehicles per hour (two-way) during the weekday afternoon and Saturday midday peak periods.

3.21. The intersections analysed in Chapter 2 plus the site accesses were re-analysed, with development traffic in place, using SIDRA. The analysis found that:

- the traffic signals at the intersection of Falcon Street and Alexander Street would operate with average delays per vehicle of less than 20 seconds during the peak periods. This represents level of service B, a good level of intersection operation;

- the roundabout at the intersection Burlington Street and Alexander Street would operate with average delays per vehicle of less than 20 seconds for both

peak periods. This represents level of service B, a satisfactory level of intersection operation;

- the intersections of Burlington Street with Willoughby Road and Willoughby Lane would continue to operate with average delays per vehicle of less than 15 seconds for both peak periods. This represents level of service A/B, a good level of intersection operation; and

- the intersections of the site accesses with Burlington Street and Alexander Street would operate with average delays per vehicle of less than 15 seconds for both peak periods. This represents level of service A/B, a good level of intersection operation.

3.22. Thus the surrounding road network will be able to cater for the additional traffic from the proposed development.

Summary

3.23. In summary, the main points relating to the proposed development are:-

(i) The site has good access to public transport services;

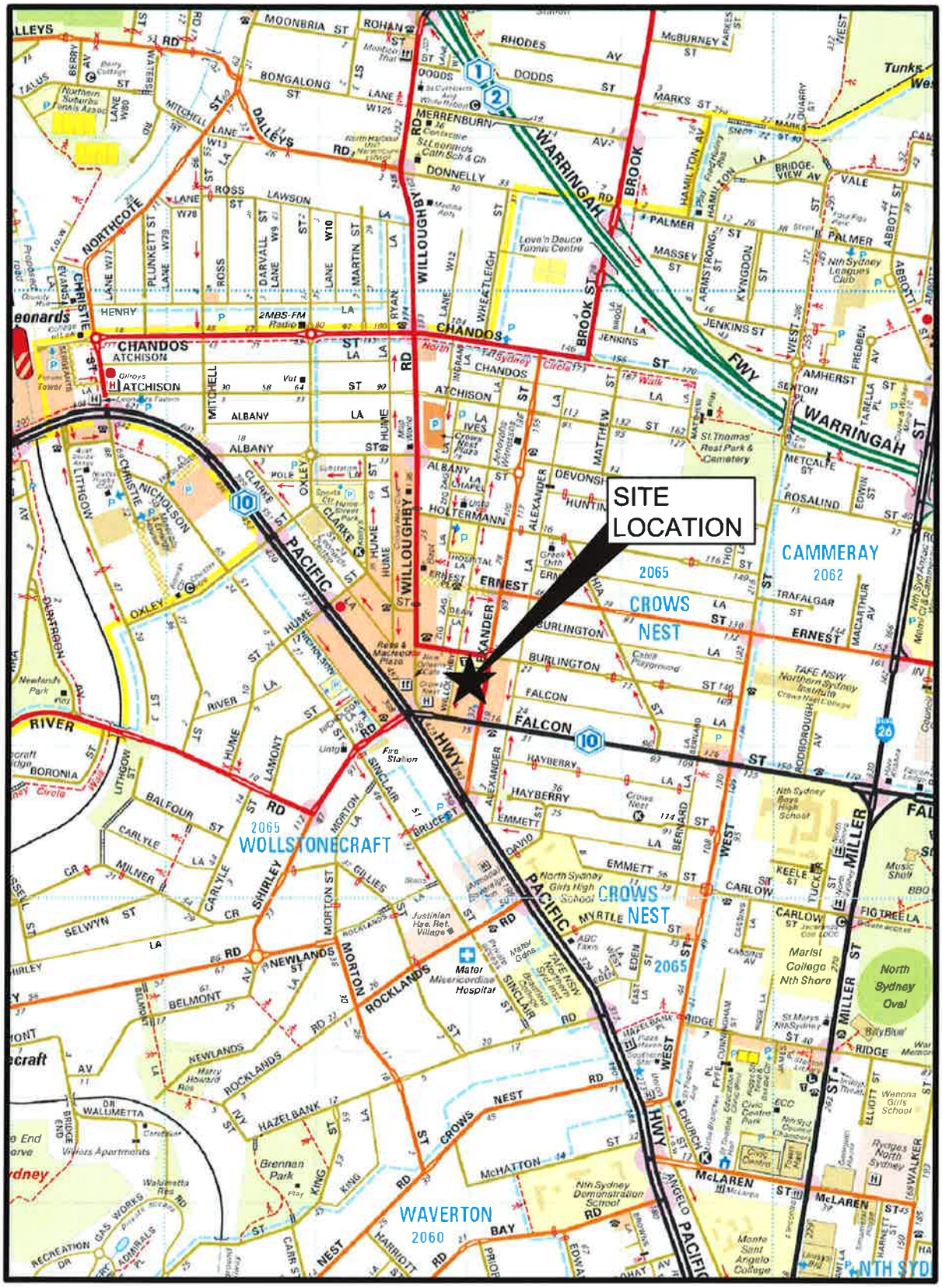
(ii) the proposed development will strengthen demand for existing public transport services;

(iii) the parking provision for the proposed shopping centre is considered appropriate and will improve parking provision within the Crows Nest town centre;

(iv) access arrangements and parking layout are considered appropriate and represent an improvement over the existing car park;

(v) the proposed service arrangements are considered appropriate and represent an improvement over the existing situation; and

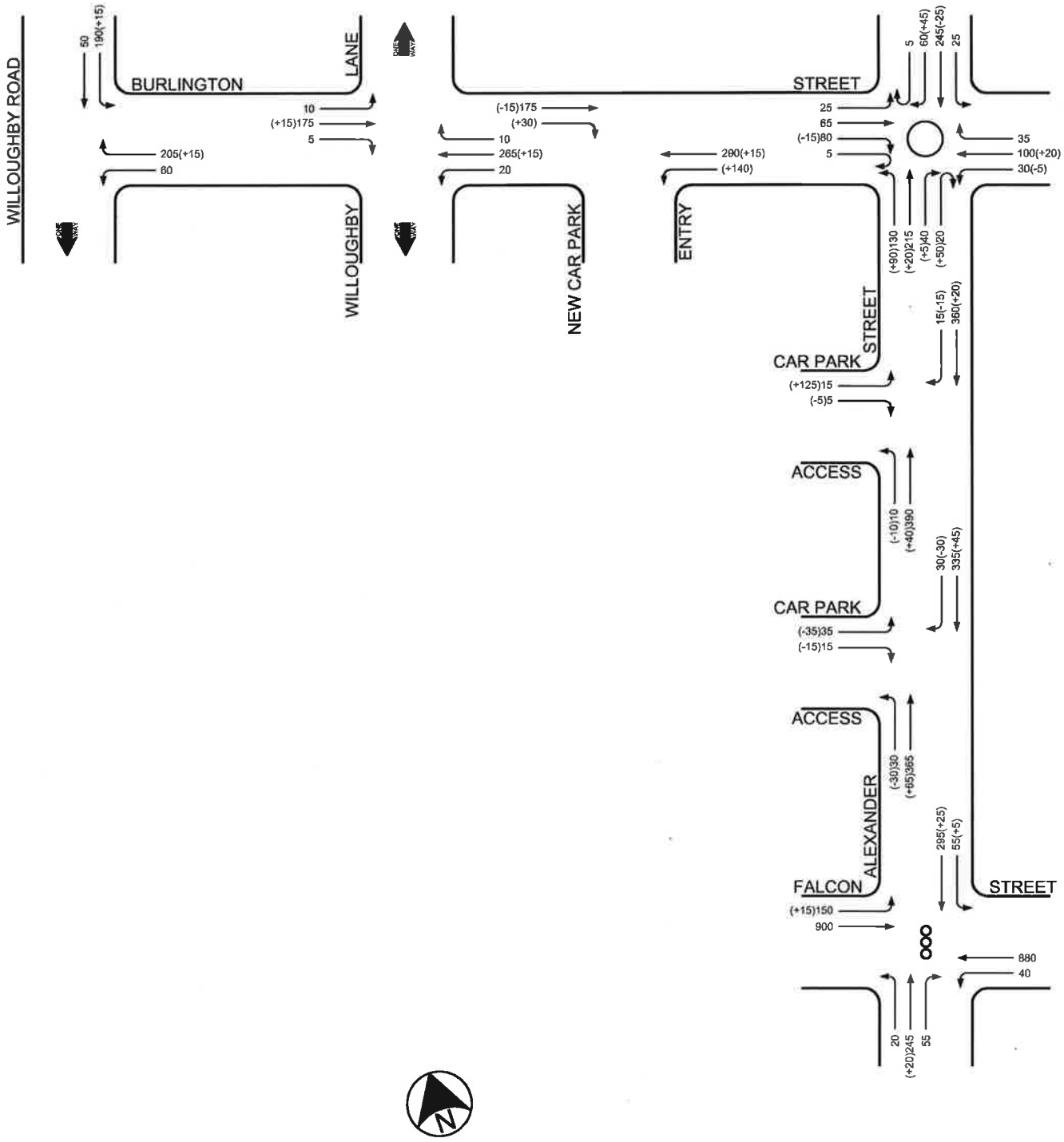
(vi) the surrounding road network can cater for the traffic generated by the proposed development.



LOCATION PLAN

1

DRAWN BY CBHK Pty Ltd Ref: 7004 23 JULY 2008



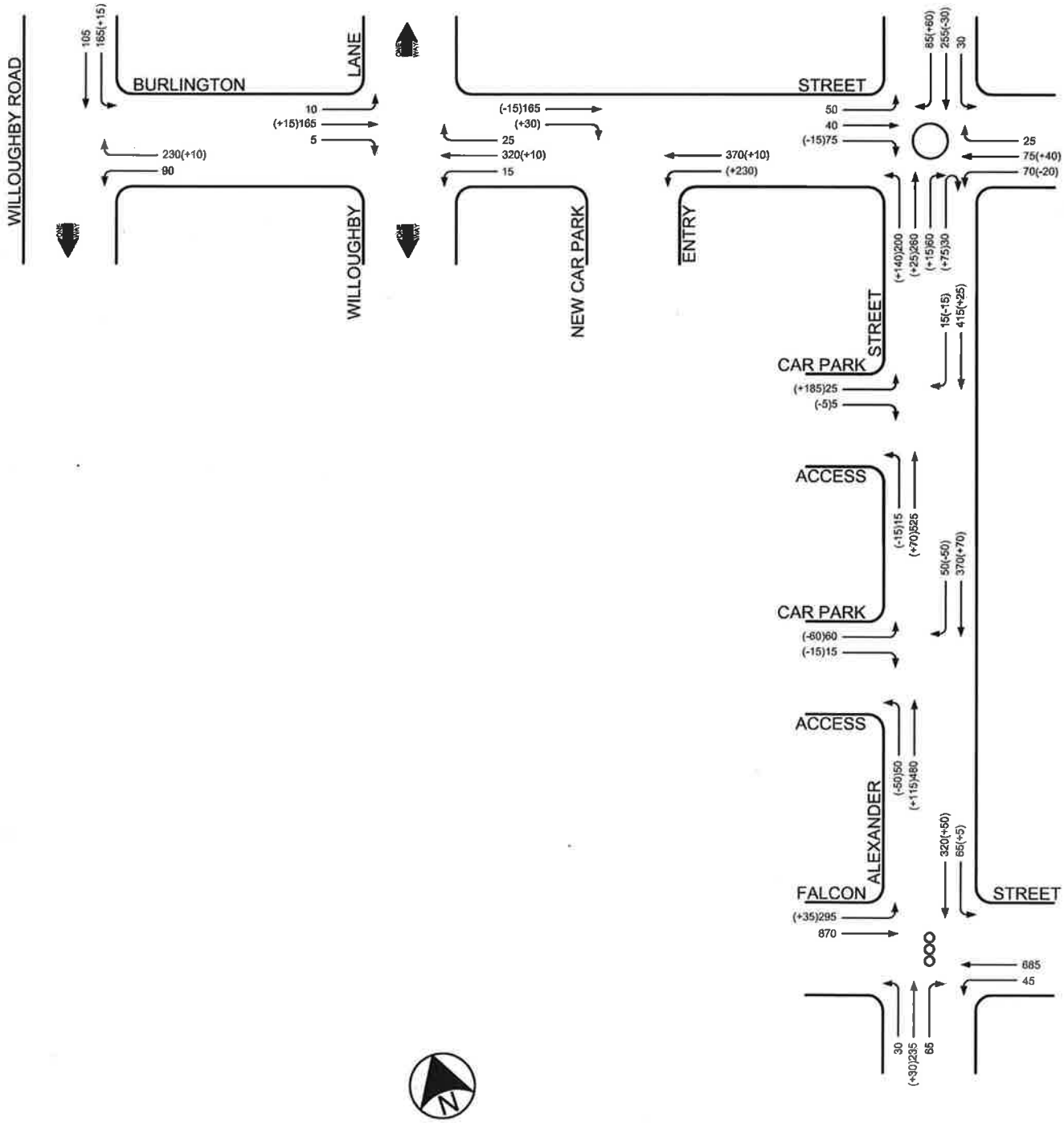
LEGEND

100 - Existing Peak Hour Flows
(+10) - Additional Development Traffic
- Traffic Signals
- Roundabout

EXISTING THURSDAY AFTERNOON PEAK HOUR TRAFFIC FLOWS PLUS DEVELOPMENT TRAFFIC

DRAWN BY CBHR Pty Ltd Ref: 7064 23 JULY 2008

2



LEGEND

100 - Existing Peak Hour Flows
(+10) - Additional Development Traffic
- Traffic Signals
- Roundabout

EXISTING SATURDAY MIDDAY PEAK HOUR TRAFFIC FLOWS PLUS DEVELOPMENT TRAFFIC

DRAWN BY CBHK Pty Ltd Ref: 7004 23 JULY 2008

3

Appendix A

Parking Surveys

COLSTON BUDD HUNT & KAFES Pty. Ltd.

TRAFFIC & TOWN PLANNERS ABN 27 623 918 759

COUNTERS NAME	MIN-FA SHUI
JOB NUMBER	**7004**
LOCATION	**CROWS NEST**
DAY / DATE	**FRIDAY 28 MARCH 2008**
WEATHER	**FINE**

ALEXANDER STREET COUNCIL CARPARK				TOTAL	%
SECTION	A	B	C		
LEVEL	GROUND	UPPER	ROOF		
9:00	28	37	1	**66**	**51%**
9:15	28	38	1	**67**	**52%**
9:30	28	40	2	**70**	**54%**
9:45	27	51	9	**87**	**67%**
10:00	26	51	11	**88**	**68%**
10:15	28	50	15	**93**	**72%**
10:30	27	51	13	**91**	**70%**
10:45	27	51	17	**95**	**73%**
11:00	28	51	39	**118**	**91%**
11:15	28	51	44	**123**	**95%**
11:30	28	51	48	**127**	**98%**
11:45	28	49	41	**118**	**91%**
12:00	28	51	38	**117**	**90%**
12:15	28	51	44	**123**	**95%**
12:30	27	51	47	**125**	**96%**
12:45	28	51	50	**129**	**99%**
13:00	28	51	47	**126**	**97%**
13:15	28	51	45	**124**	**95%**
13:30	28	49	46	**123**	**95%**
13:45	28	51	48	**127**	**98%**
14:00	25	49	43	**117**	**90%**
14:15	27	48	39	**113**	**87%**
14:30	28	46	34	**108**	**83%**

14:45	28	48	39	**115**	**88%**
15:00	28	50	23	**101**	**78%**
15:15	26	49	24	**99**	**76%**
15:30	28	51	31	**110**	**85%**
15:45	28	50	33	**111**	**85%**
16:00	27	48	29	**104**	**80%**
16:15	25	43	24	**92**	**71%**
16:30	26	41	18	**85**	**65%**
16:45	29	45	17	**91**	**70%**
17:00	30	46	15	**91**	**70%**
17:15	29	39	10	**78**	**60%**
17:30	28	38	9	**75**	**58%**
17:45	27	41	7	**75**	**58%**
18:00	24	44	7	**75**	**58%**
18:15	27	41	6	**74**	**57%**
18:30	28	46	13	**87**	**67%**
18:45	28	49	14	**91**	**70%**
19:00	28	51	19	**98**	**75%**
19:15	28	51	33	**112**	**86%**
19:30	28	51	47	**126**	**97%**
19:45	28	50	45	**123**	**95%**
20:00	28	51	43	**122**	**94%**
20:15	28	51	44	**123**	**95%**
20:30	28	50	41	**119**	**92%**
20:45	25	49	39	**113**	**87%**
21:00	28	48	36	**112**	**86%**
21:15	25	46	34	**105**	**81%**
21:30	23	47	28	**98**	**75%**
21:45	27	45	24	**96**	**74%**
22:00	26	38	20	**84**	**65%**
SUPPLY	**30**	**50**	**50**	**130**	

COLSTON BUDD HUNT & KAFES Pty. Ltd.

TRAFFIC & TOWN PLANNERS ABN 27 623 918 759

COUNTERS NAME	MIN-FA SHUI
JOB NUMBER	7004
LOCATION	CROWS NEST
DAY / DATE	SATURDAY 29 MARCH 2008
WEATHER	FINE

ALEXANDER STREET COUNCIL CARPARK				TOTAL	%
SECTION	A	B	C		
LEVEL	GROUND	UPPER	ROOF		
9:00	28	32	1	61	47%
9:15	28	48	3	79	61%
9:30	28	50	9	87	67%
9:45	28	51	13	92	71%
10:00	26	51	16	93	72%
10:15	28	50	22	100	77%
10:30	27	51	24	102	78%
10:45	26	46	28	100	77%
11:00	28	49	20	97	75%
11:15	28	51	27	106	82%
11:30	28	50	29	107	82%
11:45	27	50	40	117	90%
12:00	26	50	42	118	91%
12:15	27	50	48	125	96%
12:30	27	47	48	122	94%
12:45	27	49	39	115	88%
13:00	25	51	35	111	85%
13:15	26	47	29	102	78%
13:30	29	51	30	110	85%
13:45	29	51	42	122	94%
14:00	29	51	38	118	91%
14:15	29	45	31	105	80%
14:30	29	39	23	91	70%

14:45	25	47	19	**91**	**70%**
15:00	26	49	16	**91**	**70%**
15:15	28	48	9	**85**	**65%**
15:30	28	41	6	**75**	**58%**
15:45	28	36	6	**70**	**54%**
16:00	26	30	4	**60**	**46%**
16:15	23	28	5	**56**	**43%**
16:30	28	36	6	**70**	**54%**
16:45	25	35	4	**64**	**49%**
17:00	26	37	3	**66**	**51%**
17:15	24	27	3	**54**	**42%**
17:30	26	24	3	**53**	**41%**
17:45	28	28	3	**59**	**45%**
18:00	26	31	3	**60**	**46%**
18:15	26	41	2	**69**	**53%**
18:30	26	48	1	**75**	**58%**
18:45	27	49	14	**90**	**69%**
19:00	28	51	32	**111**	**85%**
19:15	28	51	34	**112**	**86%**
19:30	27	51	35	**113**	**87%**
19:45	27	51	34	**112**	**86%**
20:00	27	45	34	**106**	**82%**
20:15	27	49	34	**110**	**85%**
20:30	27	51	34	**112**	**86%**
20:45	27	49	31	**107**	**82%**
21:00	26	50	26	**102**	**78%**
21:15	27	51	23	**101**	**78%**
21:30	24	45	22	**91**	**70%**
21:45	23	40	18	**81**	**62%**
22:00	21	39	15	**75**	**58%**
SUPPLY	**30**	**50**	**50**	**130**	