

TRAFFIC AND TRANSPORT CONSULTANTS

Leichhardt LGA Business Centres Parking Review Part B (Rozelle)

Final Report

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1 Introduction

1.1 Background

On the 26 April 2005 Council resolved to prepare a “Leichhardt Business Centres Car Parking Strategy” to determine the amount of off-street parking within the business centres including ‘share drive’ parking places that Council should provide.

On the 23 August 2005 Leichhardt Council commissioned GTA Consultants to undertake a parking review study within the three business centres of Leichhardt, Balmain and Rozelle. Details of the Rozelle interview surveys, parking space inventory, parking demand surveys and floor space / land use surveys are contained within this report with conclusions and recommendations relating specifically to this business centre.

1.2 Study Area

The study area is centred on the Rozelle Town Centre and is bounded by Wellington Street, Norman Street, Ewell Street, Evans Street, Red Lion Street, Waterloo Street and McCleer Street. Victoria Road dissects the study area.

The location of the study area is shown in Figure 1.1.

Figure 1.1 Location of Rozelle Study Area.



The present land use is predominantly retail and residential. There is a concentration of retail activity on Darling Street including a number of cafes and restaurants. A major land owner in the area is the West Tigers League Club.

1.3 Purpose of This Report

The purpose of this report is to provide Leichhardt Council with a summary of the survey results undertaken including the parking supply and demand, interview and land use surveys. These surveys form the basis of the final parking review recommendations which address the need for off street parking in Rozelle Business Centre and the amount of off street parking required.

2 Existing Parking Conditions

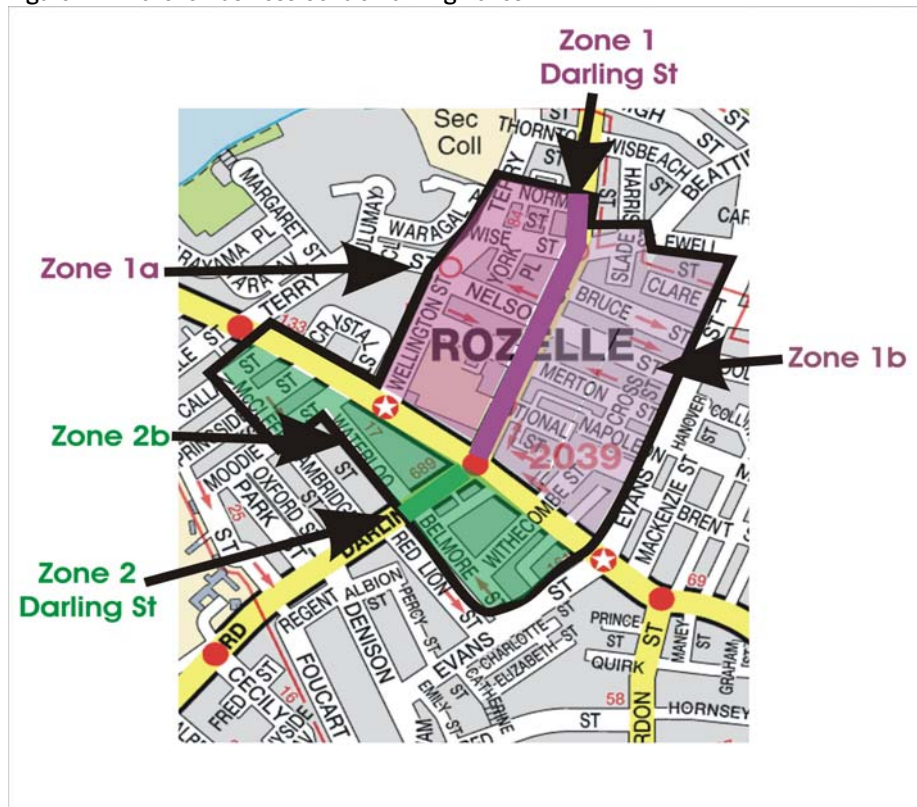
2.1 Business Centre Area and Study Zones

The study area has been divided into two (2) study zones which are illustrated in Figure 2.1. These zones were established to reflect the intensity of commercial / retail land use and the accompanying parking demand. The general function of the study zones are as follows:

Zones 1 – Includes the section of the study area north of Victoria Road. It contains predominantly time restricted on street parking and a few small off street parking facilities.

Zones 2 – Includes the section of the study area south of Victoria Road. It contains a mixture of time restricted parking, unrestricted parking and the off street parking facilities attached to the West Tigers League Club.

Figure 2.1 Rozelle Business Centre Parking Zones



2.2 Overall Parking Supply

GTA Consultants compiled an inventory of publicly available on street and off street car parking within the study area.

The inventory identified a total of some 1,018 on street spaces and some 254 off street car parking spaces, including 152 at the West Tigers Leagues Club. Table 2.1 summarises the on street and off street parking supply by zone. The detailed inventory results are provided in Appendix A.

Table 2.1 Total Number of Parking Spaces in Rozelle Business Centre (Refer Figure 2.1)

Zone	Location	Supply
ZONE 1	On Street	733
	Off Street	91
	Total	824
ZONE 2	On Street	285
	Off Street	163
	Total	448
TOTAL PARKING SPACES	On Street (20%)	254
	Off Street (80%)	1,018
	Total (100%)	1,272

The table above shows that the greatest number of car parking spaces is in Zone 1 which contains a small number of off street car parking. The majority of off street parking in the study area is contained in the West Tigers League Club. It should be noted that the West Tigers League Club is not a preferred site for customers of the Rozelle Business Centre, and is not a realistic representation of available parking supply. When the 152 spaces within this off street car park are not included, the total parking spaces is reduced to 1,120 spaces.

Of the total number of car parking spaces within the study area, 80% consists of on street parking and 20% consists of off street parking.

A summary of the parking management within the Rozelle Business Centre is contained in Table 2.2.

Table 2.2 Parking Spaces Management in Rozelle Business Centre

Zone	Management					
	2P	4P	2P/4P	1P	None	Other
ZONE 1	202	226	146	-	232	18
ZONE 2	78	32	33	67	231	7
TOTAL PARKING SPACES	280	258	179	67	462	25
(% Total Spaces)	(22%)	(20.3%)	(14.1%)	(5.3%)	(36.3%)	(2%)

The time restricted parking generally excludes residential parking.

The following summarises the parking management in the Rozelle Business Centre:

- 2P parking generally operates between 8:00am-10:00pm and accounts for 22% of all spaces in the Rozelle Business Centre with the greatest number in zone 1.

- 4P parking operates between 8:00am-10:00pm and accounts for 20% off all spaces in the Rozelle Business Centre with the greatest number in zone 1.
- 2P/4P parking has a 2P restriction between 8:00am-6:00pm and a 4P restriction between 6:00pm-10:00pm. This account for 14% of all spaces in the Rozelle Business Centre with the greatest number in zone 1.
- 1P parking generally operates between 8:00am-10:00pm and accounts for 5% off all parking in the Rozelle Business Centre with the greatest number in zone 2.
- Unrestricted parking spaces are concentrated in Clare Street, Evans Street, Napoleon Street, Callan Street, McCleer Street, Springside Street and the West Tigers Car Park, and account for 36% of all spaces in the Rozelle Business District and are distributed equally between zones 1 and 2.
- The West Tigers Car Park is unrestricted, and accounts for a third of unrestricted parking within both zones.
- Other parking spaces which include disabled spaces and 15 minute restrictions account for 2% of all spaces in the Rozelle Business Centre.

2.3 Overall Parking Demand

Parking demand surveys were undertaken by GTA Consultants within the study area during the following periods:

- Friday 9th September 2005 from 7:00am - 10:00pm
- Saturday 10th September 2005 from 7:00am - 10:00pm

Friday survey results are summarised in Table 2.3 and Saturday in Table 2.4 with the detailed inventory and parking demand provided in Appendix A. It was found that the peak demand varies between Zone 1 (north of Victoria Road) and Zone 2 (south of Victoria Road).

Table 2.3 Summary of Peak Public Parking Demand Surveys - Friday

ZONE	Parking Supply	Parking Demand							
		7:00am	9:00am	11:00am	1:00pm	3:00pm	5:00pm	7:00pm	9:00pm
1	On Street (733)	449 (61%)	467 (64%)	447 (61%)	494 (67%)	473 (65%)	464 (63%)	500 (68%)	519 (71%)
	Off Street (91)	70 (77%)	75 (82%)	81 (89%)	79 (87%)	77 (85%)	51 (56%)	37 (41%)	30 (33%)
	Total (824)	519 (63%)	542 (66%)	528 (64%)	573 (70%)	550 (67%)	515 (63%)	537 (65%)	549 (67%)
2	On Street (285)	165 (58%)	147 (52%)	160 (56%)	177 (62%)	169 (60%)	166 (58%)	202 (70%)	208 (73%)
	Off Street (163)	26 (16%)	52 (32%)	93 (57%)	107 (66%)	98 (60%)	90 (60%)	130 (80%)	123 (76%)
	Total (448)	191 (43%)	199 (44%)	253 (57%)	284 (63%)	267 (60%)	264 (59%)	332 (74%)	331 (74%)
Total	On Street (1,018)	614 (60%)	614 (60%)	607 (60%)	671 (66%)	642 (63%)	630 (62%)	702 (69%)	727 (71%)
	Off Street (254)	96 (38%)	127 (50%)	174 (69%)	186 (73%)	175 (69%)	149 (59%)	167 (66%)	183 (60%)
	Total (1,272)	710 (56%)	741 (58%)	781 (61%)	857 (67%)	817 (64%)	779 (61%)	869 (68%)	880 (69%)

*Note: Percentages in brackets are demand rates for separate on and off street parking.
Peak parking demand over 80% is highlighted.*

Table 2.3 indicates that:

- Overall parking demand in the area is moderately high with overall demand peaking at 69%, recorded between 9:00pm-10:00pm. This is comparable to the data obtained for Leichhardt (69%), but is lower than Balmain (77%).
- The 7:00am count was designed in order to provide a measure of on street parking demand associated with local residents. It was timed so as to record parking demand prior to employees leaving for work and the incoming parking activity associated with the local retail/commercial/hospitality facilities. The results indicate that approximately 60% of on street parking is used by local residents.
- The parking demand was generally consistent over the course of the survey period. The peak on street and off street demand occurred in the final survey period 9:00pm-10:00pm. This suggests that the hospitality facilities in the study area are high weekend evening trip attractors.
- The peak parking demand for zone 1 of 70% occurred between 1:00pm-3:00pm. The peak demand in zone 1 remained consistent through the study period fluctuating between 63%-70%. The on street parking demand in zone 1 peaked at 71% between 9:00pm – 10:00pm. The off-street parking demand in zone 1 experienced peak demand of 82%-89% between 11:00pm-5:00pm. Demand subsequently declines between 5:00pm-10:00pm from 56%-33%. These trends suggest that the off street parking in zone 1 predominantly serves a commuter function.
- The peak parking demand for zone 2 of 74% occurred in the final study period. On street parking demand was in the order of 52%-60% between 7:00am-7:00pm and 70%-73% between 7:00pm-10:00pm. Off street parking demand at the West Tigers Car Park peaked at 76%-80% between 7:00pm-10:00pm. These results suggest that peak parking demand in zone 2 is due to the hospitality facilities in the study area.

Table 2.4 Summary of Peak Public Parking Demand Surveys - Saturday

ZONE	Parking Supply	Parking Demand							
		7:00am	9:00am	11:00am	1:00pm	3:00pm	5:00pm	7:00pm	9:00pm
1	On Street (733)	452 (62%)	547 (75%)	565 (77%)	552 (75%)	545 (74%)	501 (68%)	489 (67%)	532 (73%)
	Off Street (91)	37 (41%)	73 (80%)	80 (88%)	82 (90%)	74 (81%)	25 (28%)	18 (20%)	28 (31%)
	Total (824)	489 (59%)	620 (75%)	645 (78%)	634 (77%)	619 (75%)	526 (64%)	507 (62%)	560 (68%)
2	On Street (285)	165 (58%)	164 (58%)	188 (66%)	186 (65%)	178 (63%)	184 (65%)	204 (72%)	213 (75%)
	Off Street (163)	26 (16%)	28 (17%)	87 (53%)	117 (72%)	103 (63%)	75 (46%)	88 (53%)	99 (61%)
	Total (448)	191 (43%)	192 (43%)	275 (61%)	303 (68%)	281 (63%)	259 (58%)	290 (65%)	312 (70%)
Total	On Street (1,018)	617 (61%)	711 (70%)	753 (74%)	738 (73%)	723 (71%)	685 (67%)	693 (68%)	745 (73%)
	Off Street (254)	63 (25%)	101 (40%)	167 (66%)	199 (78%)	177 (70%)	100 (39%)	104 (41%)	127 (50%)
	Total (1,272)	680 (54%)	812 (64%)	920 (72%)	937 (74%)	900 (71%)	785 (62%)	797 (63%)	872 (69%)

*Note: Percentages in brackets are demand rates for separate on and off street parking.
Peak parking demand over 80% is highlighted.*

Table 2.4 indicates that:

- The overall peak parking demand on the Saturday of 74% was recorded between 1:00pm-3:00pm, which is greater than the peak value for Rozelle on a Friday (69%).
- The 7:00am count indicates a demand of approximately 60% and is thus in keeping with the results recorded on Friday.
- Zone 1 experienced a peak on street parking demand of 77% between 11:00am-1:00pm and a peak off street parking demand of 90% between 1:00pm-3:00pm. This timing suggests that the peak Saturday demand is associated with the retail facilities in the Rozelle Town Centre.
- The demand on Saturday for on street parking in Zone 1 remained moderately high through the course of the study period 67% - 75% suggesting that demand for these spaces is associated with retail and hospitality facilities. Demand on Saturday for off street parking declines significantly after 5:00pm from approximately 80% to 30%, suggesting demand for these facilities is predominantly due to retail activity.
- The peak parking demand for zone 2 of 74% occurred in the final study period. On street parking demand was in the order of 58%-65% between 7:00am-7:00pm and 72%-75% between 7:00pm-10:00pm. The West Tigers Car Park experienced a peak demand of 71% between 1:00pm-3:00pm before subsequently fluctuating 46%-63% over the remainder of the study period.

The Friday and Saturday car parking demand, by time and region, is represented diagrammatically in Figures 2.1 – 2.4

Figure 2.1: Overall Parking Demand by Type Friday 09/09/05

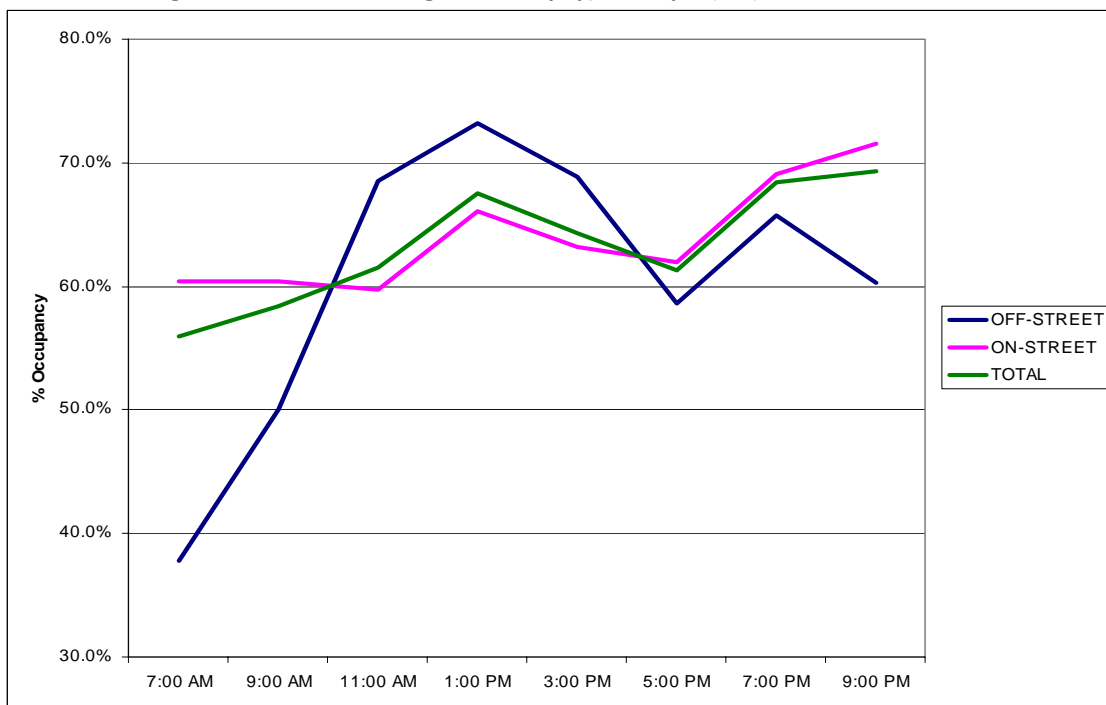




Figure 2.2: Overall Parking Demand by Zone Friday 09/09/05

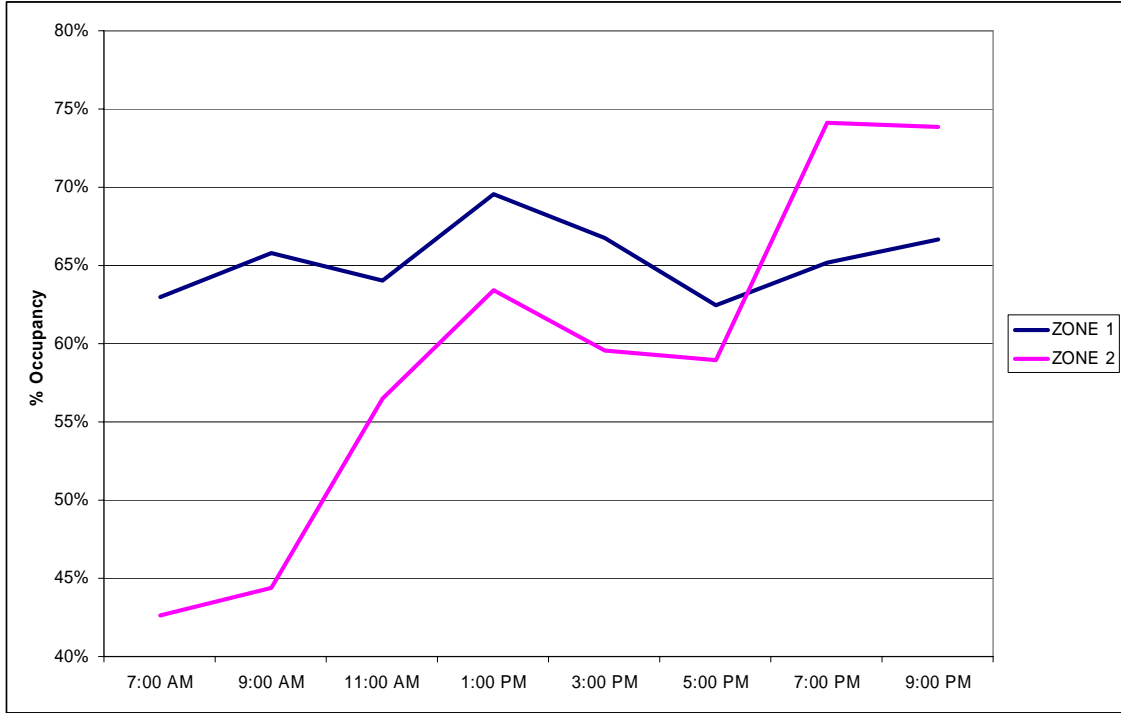


Figure 2.3: Overall Parking Demand by Type Saturday 10/09/05

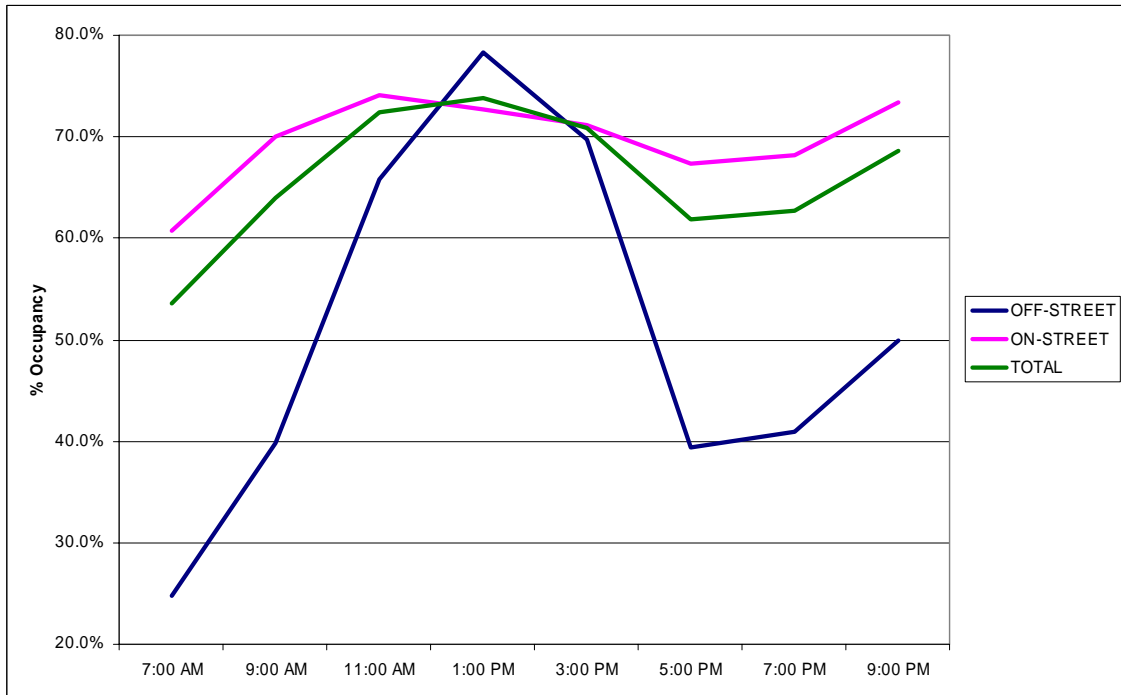
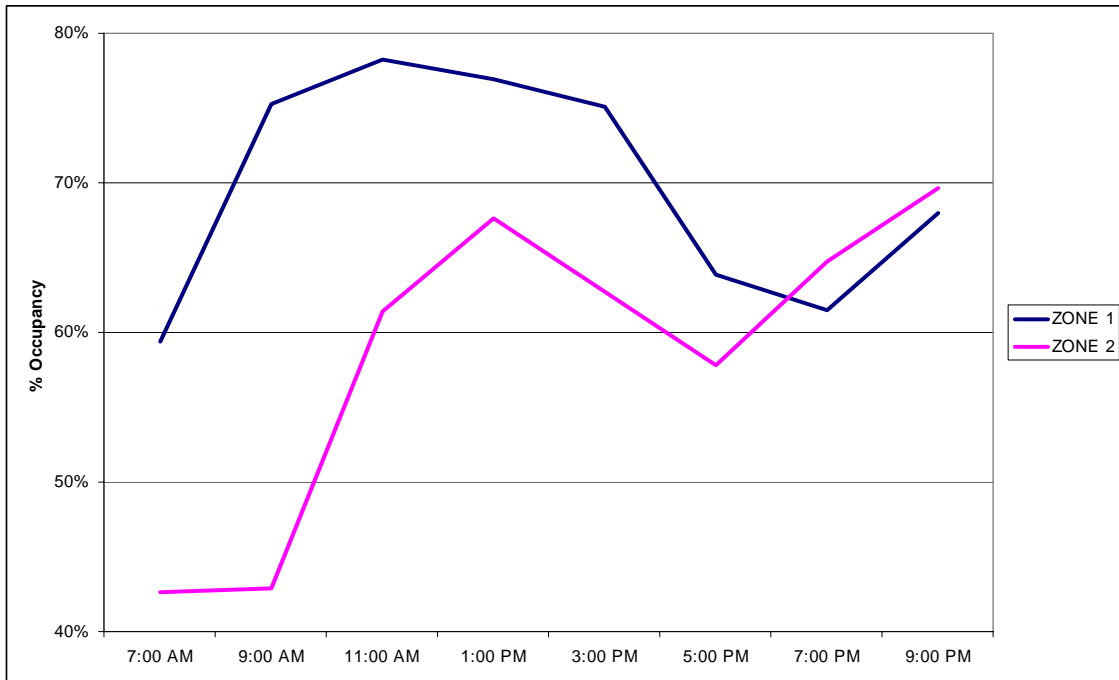


Figure 2.4: Overall Parking Demand by Zone Saturday 10/09/05



2.4 Summary of Overall Parking Supply and Demand

It should be noted that parking supply is generally not designed for the peak parking demand and therefore it is important to take note of the results in Figures 2.1 – 2.4. More detail of peak car parking demand by zone and time period is provided below:

- Car park demand rates are affected by location, function and time, and depending on these, a car parking space can be shared by several users – thus ‘shared parking’¹;
- Peak parking demand in the Rozelle Town Centre was moderately high, but is comparable to the Leichhardt centre (69%) and lower than the Balmain centre (77%), with overall peak demand in the order of 69% on Friday and 74% on Saturdays.
- The 7:00am parking occupancy count was designed to provide a measure of on street parking demand associated with local residents. It was timed so as to record parking demand prior to employees leaving for work and the parking activity associated with the local retail/commercial/hospitality facilities. The Friday and Saturday survey suggest that approximately 60% of the available on street parking is used by local residents.

¹ *Austrroads (1994) Guide to Traffic Engineering Practice – Parking* – states that parking needs should not be calculated by adding the individual land use needs in mixed use areas



- Both the Friday and Saturday surveys recorded high parking demands in the final study period between 9:00pm and 10:00pm (69% both nights). This suggests the local hospitality facilities are high weekend evening trip attractors.
- Zone 1 experienced a peak parking demand of 70% between 1:00pm-3:00pm on Friday and 78% between 11:00am-1:00pm on Saturday. During Friday the peak demand remained consistently high during the course of the day fluctuating between 63%-70%. Peak occupancy rates in the Saturday were in the order of 59%-78%. On street parking in Zone 1 experienced peak demand on Friday between 9:00pm-10:00pm suggesting an association with hospitality facilities. On Saturday the on street parking demand peaked between 11:00am-1:00pm suggesting an association with the local retail facilities.
- Off street parking demand in zone 1 was in the order of 90% on Friday and Saturday. On both days demand dropped significantly after 5:00pm. This suggests that the off street facilities in zone 1 predominantly do not serve the local hospitality facilities. The off street parking facilities are likely to serve a commuter function on Friday and a retail function on Saturday.
- Zone 2 experienced a peak demand of 74% on Friday and 70% on Saturday. On both days the peak demand occurred between 9:00pm-10:00pm suggesting an association with the local hospitality facilities.
- Parking demand at The West Tigers Car Park on Friday peaked at 76%-80% between 7:00pm-10:00pm and 72% between 1:00pm-3:00pm on Saturday.

3 Interview Surveys

Surveys were conducted on Friday 7th October 2005 to ascertain the parking and transport habits of three groups of users of the Rozelle Business Centre:

- (i) Business Centre Shoppers /Visitors;
- (ii) Business Centre Workers.

A copy of the interview sheets and respondent summaries is included in Appendix B.

3.1 Shopper/Visitor Interviews

On street interview surveys were undertaken on Friday 7th October 2005. Fifty (50) were undertaken along Darling Street and all were usable. The intent of these surveys was to:

- ascertain the various modes of travel used;
- define the purpose of the trips to Rozelle Business Centre;
- ascertain the length of stay in the Centre; and
- define the parking habits of those who access the Centre by car.

The results indicate that the car was used by 24 (46%) of respondents:

- 46% drove cars;
- 29% walked;
- 10% utilized a bus;
- 8% were car passengers;
- 2% caught a taxi;
- 6% rode bicycles; and
- none rode motor bikes

Of the 46% interviewees who drove their cars the large majority (65%) utilised the on-street parking while 33% parked in the off-street carparks. The results of off-street carpark users also indicated that the Waterloo Street Council carpark is more attractive than other carparks in the area, namely Hamilton Street and Merton Street Council carparks.

It is encouraging to see that more than a quarter of the shopper/visitors interviewed, walked to the centre, suggesting a significant portion of shoppers are drawn from the local catchment.

Interviewees defined the purpose of their trips as follows (multi-purpose trips are included):

- Shopping – 44%;
- Banking – 12%;

- Medical – 6%
- Services eg real estate, hair dresser – 6%
- Services eg accountant– 0%
- Recreation – 23%
- Other – 15%

The above data indicates that in addition to shopping was the primary purpose of visiting the area, the recreation facilities also attracted considerable proportion (23%) of visitors.

In terms of expected duration of stay the results were as follows:

- Less than 30 minutes – 25%
- 30 minutes to an hour – 19%
- 1 hour to 2 hours – 25%
- 2 hours to 3 hours – 8%
- 3 hours or more – 24%

The intended duration of stay for approximately 69% of the respondents was 2 hours or less. This gives an indication of the average possible parking time management in the centre with a predominantly 2 hour demand for parking within the area.

3.2 Worker Interviews

A total of 100 survey sheets were distributed to workers in retail and commercial premises in the Rozelle Business Centre. These were distributed on 7th October 2005, of these a total of 87 were returned. The workers were asked to fill out the questionnaire which was collected later that day in the afternoon. The intent of these surveys was to:

- ascertain the various modes of travel used by the workers;
- ascertain whether the respondent worked part-time or full time;
- ascertain the length of stay in Rozelle Business Centre; and
- define the parking habits of workers who access the centre by car.

Workers nominated the following modes of travel used to access their work place (some are multi-modal):

- 77% drove a car;
- 6% were car passengers;
- 6% utilized buses;
- 2% rode a bicycle
- 11% walked; and
- None caught a taxi or rode a motor bike

By far the greatest majority travelled by car (83%). Of the 77% respondent drivers, the large majority (71%) utilised the on-street parking while 29% parked in the off-street car parks. The results of off-street car park users also indicated that only a few workers who drove to work utilise the Hamilton Street car park, Merton Street and Waterloo Street Council car parks. From the survey, it would appear that workers are using the most accessible parking to the retail hub for all day parking, rather than accessing off-street parking. This situation points to a poor management of premium available parking space, which could be used by visitors to the centre who frequent the businesses and generate the local economy.

The survey indicated 59% of the respondents were employed full-time and 41% part-time.

In terms of expected duration of stay the results were as follows:

- less than 3 hrs – 0%
- 3 hours to 4 hours – 10%
- 4 hours to 6 hours – 8%
- 6 hours to 8 hours – 21%
- Over 8 hours – 61%

The majority of workers who drove to work occupied parking for more than 8 hours.

3.3 Summary of Interview Surveys

The results from the interview surveys are summarised below as follows:

1. Shoppers/Visitors to Centre

- Approximately 54% of shoppers access Rozelle Business Centre by car with approximately 29% walking. About 12% used public transport (including taxis).
- 44% of trips included shopping, while other typical centre based activities such as banking (12%), and local services (6%) accounted for smaller mentions. Apart from shopping trips, a considerable percentage of trips made were for recreational purpose (23%).
- The surveys indicate that the majority (69%) spent 2 hours or less in Rozelle Business Centre.
- Of those who drove cars, the 65% utilised the on-street parking.

2. Workers at Centre

- This survey revealed that more employees use the car (83%) than the other groups – only 6% use public transport.
- The nature of employment in Rozelle Business Centre area consists of approximately 60% full-time and 40% part-time.
- The duration of stay for the majority of workers (61%) was more than 8 hours, with another 21% staying 6-8 hours.
- Of the car drivers 71% parked in on-street parking areas while a few (11%) utilised off-street car parks within the centre.



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From the survey, it would appear that employees are using the most accessible parking to the retail hub for all day parking, rather than utilising off-street carpark. This situation points to a possible poor management of premium available parking space, which could be used by visitors to the centre who frequent the businesses and generate the local economy.

4 Land Use and Floor Space Surveys

4.1 Preamble

The purpose of these surveys was to provide land use information for the business centre so that the statutory parking requirements could be calculated and then compared against the actual on and off street parking supply as surveyed on site and as discussed in Section 2 of this report. This would give some indication as to the level of shortfall or over supply of parking within the centre and would provide Leichhardt Council with important information on which to base decisions regarding the provision of parking within the centre.

A zoning plan, aerial photography and a listing of properties zoned “business use” within the study area was provided by Leichhardt Council to assist with the land use surveys.

The surveys were undertaken over the weekend of the 1st and 2nd of October 2005 to determine the existing commercial and retail floor space within the Rozelle business centre. This survey identified:

- The types of the land uses within the Rozelle business centre,
- The proportion of floor space that each land use occupied within the overall building; and
- Any private or unofficial off street car parking spaces associated with these land uses.

Further follow up surveys were also undertaken to gather land use information that could not initially be obtained as a result of restricted access to certain properties at the time. *(It should be noted that a very small percentage of land use information was not obtained but this would have an insignificant affect on the overall final result.)*

The location of these various land uses were transposed onto aerial photography so that the actual gross floor area (GFA) of each commercial/retail property could be measured on GTA Consultants GIS system. This is discussed further in Section 4.2.

There were a total of 145 business properties identified and surveyed within the Rozelle Business Centre. These consisted of a wide range of land uses within the business centre of Rozelle including commercial, retail, professional consulting rooms, restaurants/cafes, community facilities, hotels and clubs.

For various reasons (primarily due to access restrictions) there were 5 of the 145 business properties where land use information could not be obtained. There were also 105 additional “private” (marked and unmarked) parking spaces recorded which were cross referenced against the original parking survey to determine if some of these are duplicated. (Land use data and aerial plans are provided in Appendix C)

4.2 Gross Floor Areas

The total GFA of non-residential premises within the Rozelle Business Centre is approximately 24458m². The distribution of different types of land uses among the zones is given in the Table 4.1 below.



Table 4.1 Land Use Distribution

Zone	Clubs	Commercial	Industry	Hotel	Professional Consulting	Restaurant	Retail/ Shops	Service Station	Market
1a	49%	27%	0%	66%	23%	40.5%	25%	0%	0%
1b	24%	26%	0%	0%	8%	40.5%	32%	0%	100%
2	27%	31%	24%	29%	68%	19%	40%	100%	0%
2b	0%	16%	76%	5%	1%	0%	3%	0%	0%
Total Area (m ²)	1,564	4,504	2,285	2,783	1,699	2,317	8,465	738	103

Accordingly, the Zone 1a primarily consists of land uses such as Clubs, Hotel and Restaurants which require relatively more parking spaces as discussed below.

4.3 Statutory Parking Requirements

Leichhardt Council's Development Control Plan 2000 (Part A) stipulates specific parking rates for developments within the Leichhardt Local Government Area. These specific parking rates have been applied to the corresponding land uses so that the level of statutory parking required for the Rozelle Business Centre in its current form can be calculated. (This information is also included in Appendix C).

Table 4.2 Parking Rates – LEICHHARDT DCP Part A

Land Use	Statutory Parking Requirements			
	Staff (per staff)		Visitor / Shoppers (Per 100m ² GFA)	
	Minimum	Maximum	Minimum	Maximum
Commercial	-	-	1.5	3
Clubs	(1)	(1)	5	10
Restaurants	0.44	0.55	5 2.5	10 5
Industrial	-	-	1	2
Shops	(1)	(1)	1.5	3
Professional Services	0.44	0.55	2	4
Auditorium	(1)	(1)	4	8
Hotel	(1)	(1)	5 3	10 5
Service Station	(1)	(1)	2 spaces/work bay 2 spaces/100m ² ancillary services	4 spaces/work bay 10 spaces/100m ² ancillary services

(1) Min - 80% of total staff

Max - 100% of total staff (depending on access to public transport).

4.4 Parking Supply Analysis

4.4.1 Applying the Statutory Parking Requirement

The statutory parking requirement for each zone in the Centre was calculated based on the parking rates provided in the Leichhardt DCP and the statutory requirement was then compared with the current parking supply. In the analysis, parking requirements for staff are excluded due to lack of data available. It should also be noted that such demand, specifically all-day staff parking, would need to be accommodated in off-street parking areas.

As the operating hours of different land uses vary, the following assumptions were made in the analysis to derive day time and night time statutory parking requirements of the DCP as follows:

<i>Operating Hours</i>	<i>Land use</i>
Day time only	Commercial, Professional services, Shops (50% of total), industrial
Night time only	Clubs
Day and night time	Restaurants, Shops (50%), Hotels, Hostels, Auditoriums

Using the above, the day and night time statutory parking requirements and current parking supply for each zone were calculated and are shown in Table 4.3.

4.4.2 Impact of Resident and Business Permit Parking

Due to the lack of off-street residential parking in the area, substantial on-street parking is a result of resident cars in the street. The parking occupancy surveys for the Rozelle Business Centre (conducted by GTA) show that about 61% of on-street parking is occupied at 7am. This is interpreted as the resident on-street parking demand impacting on the on-street parking supply which overlaps with evening and late night visitor parking around the centre (say from 9pm-7am).

In addition, residential, or permit holder, parking is also shown to impact on the on-street parking supply during the day, as found by parking occupancy surveys conducted by Leichhardt Council. Surveys were conducted in the nearby business centres of Balmain and Leichhardt, and these results were used to provide an approximate resident/permit holder daytime occupancy rate. On the basis of neighbouring suburbs, it is estimated that in Rozelle, approximately 55% of on-street parking is occupied by permit holders during the hours of 9am and 6pm. This results in a reduced number of available on-street parking spaces during the day.

In order to estimate the actual parking supply for the daytime period, which we have named the *net daytime* parking supply, we have followed the process below:

- Resident/permit holder parking occupancy (55%) is taken from the supply of on-street parking;
- To this remaining on street supply, we have added all of the available off-street public parking (assuming that residents/permit holders are unlikely to park in off-street car parks).

In order to estimate the actual parking supply for the evening period, which we have named the *net night time* parking supply, we have followed the process below:

- Resident/permit holder parking occupancy (as measured at 7am) is taken from the supply of on-street parking;

- To this remaining on street supply, we have added all of the available off-street public parking (assuming that residents/permit holders are unlikely to park in off-street car parks).

The *gross* parking supply refers to the total number of parking spaces, including all on street and off street public parking as measured by GTA's parking inventory.

In addition to the above, consideration was made for the off-street parking supply owned by the West Tigers Leagues Club, yet leased by Council as a public car park. This lease agreement is not assured to continue in the future, so separate parking supply figures have been provided in the table below that discount the 152 spaces as included in this car park. Also provided are separate figures discounting the night time maximum and minimum statutory requirements (42 and 21 respectively) as generated by the Leichhardt DCP for the West Tigers Leagues Club, due to the fact that any parking demand for the club will still be accommodated by the existing car park.

Table 4.3 summarises the above calculations.

Table 4.3 Statutory Parking Requirements and Supply

Zone	Maximum Requirements		Minimum Requirements		Parking Supply			Surplus / (Deficiency)	
	Day time	Night time	Day time	Night time	Gross	Net day time	Net night time	Net daytime	Net night time
1a	360	384	180	192	274	142	128	(218) (DCP max) (38) (DCP min)	(256) (DCP max) (64) (DCP min)
1b	176	172	88	86	550	279	249	103 (DCP max) 191 (DCP min)	77 (DCP max) 163 (DCP min)
2 & 2b	464	300 [258]	187	124 [103]	448 [296]	291 [139]	274 [122]	(173) [(325)] (DCP max) 104 [(48)] (DCP min)	(26) [(136)] (DCP max) 150 [19] (DCP min)
Total	1,000	856 [814]	455	402 [381]	1,272 [1,120]	712 [560]	651 [499]	(288) [(440)] (DCP max) 257 [105] (DCP min)	(205) [(315)] (DCP max) 249 [118] (DCP min)

Note: [xx] refers to the revised figure once consideration has been made for the West Tigers Leagues Club (as mentioned above)

From the above table, the *net daytime* parking supply for the Rozelle business centre as a whole is:

- under-catered to by 288 parking spaces according to the statutory maximum parking requirement (440 if the West Tigers Leagues Club car park is not available);
- there are 257 more parking spaces than the minimum requirement (105 if the West Tigers Leagues Club car park is not available);
- all zones (except Zone 1a) comply with the minimum statutory parking requirement, however

- if the West Tigers Leagues Club car park is not available, then the Zone 2 and 2b parking supply would also not comply with the minimum statutory requirement;
- Only Zone 1b complies with the maximum statutory requirement.

The *net night time* parking supply for the Rozelle business centre as a whole is:

- under-catered to by 205 parking spaces according to the statutory maximum parking requirement (315 if the West Tigers Leagues Club car park is not available);
- there are 249 more parking spaces than the minimum requirement (118 if the West Tigers Leagues Club car park is not available);
- all zones (except Zone 1a) comply with the minimum statutory parking requirement, with or without the West Tigers Leagues Club car park;
- Only Zone 1b complies with the maximum statutory requirement.

For Zone 1a, the current parking supply is significantly below the maximum and marginally below the minimum parking requirement. The results of the occupancy survey given in Table 2.3 indicates high occupancies in on-street and off-street parking areas in Zone 1 as a whole, particularly during normal business hours on weekdays and weekends and to a lesser extent at night time on Saturday, reaching about 90% occupancy in the off-street car parking in Zone 1 during the day time.

Overall, the Rozelle centre is under-catered in parking supply taking the statutory requirements into consideration, although Zone 1b has some over-supply of parking. It should be noted that the majority of parking supply in the centre is on-street.

If the West Tigers Leagues Club car park becomes no longer available to the general public, the net daytime supply falls to below both the maximum and minimum requirements. The net night time supply also falls, but still meets the minimum statutory requirements. The Leagues Club car park would still be available for their visitors, which has been assumed as only during the evening, so parking for the Club need not be provided elsewhere in the Rozelle centre.

4.5 Statutory Parking Requirement Comparisons

The table below has been constructed from an application of parking rates from other inner city LGAs to the Rozelle Centre. The table shows that only Leichhardt LGA has a maximum and minimum rate; the South Sydney rates were also proposed to have maximums and minimums prior to the amalgamation with Sydney City. The minimum parking rates of Leichhardt LGA are generally lower than the other comparative LGAs, and only the minimum rates proposed by the South Sydney Transport DCP were to be more restrictive. The Leichhardt LGA maximum rates are double the minimum rates.

The selective land uses used to construct this table have been developed to resemble as close as possible the land use distribution in this Centre.



Table 4.4 Application of Visitor/Shoppers Parking Rates (per 100 sqm) to Select Land Uses

Land Use	Gross Floor Area	Leichhardt LGA		Marrickville LGA		(previous) South Sydney LGA		Woollahra LGA		RTA Rate	
		Max	Min			Proposed					
						Max	Min				
Commercial	4504	3	1.5	2.2		2.0	0.8	2.5		2.5	
Retail/Shops	8465	3	1.5	2.2		2.5	1.5	3.3		6.1	
Clubs	1564	10	5	16.7		5.0	5.0	20		0	
Restaurants	2317	10	5	2.2		2.5	1.5	15.0		15.0	
Industrial	2285	2	1	1.1		1.3	0.8	2.0		0.3	
Prof. Services	1699	4	2	2.2		4.0	3.2	4.0		2.5	
Hotel	2783	10	5	16.7		4.0	4.0	3		0	
Total parking spaces required		1169	585	1127	1127	647	459	1249	1249	1027	1027
Comparison with Leichhardt Parking Max Min				-4%	+93%	-45%	-22%	+7%	+114%	+40%	+176%

Rozelle is less accessible to the wider metropolitan area than the former South Sydney area as it has no railway station within walking distance of 600m and the light rail station at Lilyfield is well outside the 600m distance. Rozelle Business Centre is similar to Leichhardt Centre, as it must rely on the linking bus services, which in this case run on Victoria Road, to connect to the wider metropolitan area by public transport. While the day time use of the Victoria Road bus services could be used by a large number of visitors outside the LGA, for evening recreational purposes this would decrease significantly, even though a large number of services pass through the Rozelle area along Victoria Road.

However it is questioned whether the parking maximum rates as applicable to the Rozelle Business Centre are meaningful. To achieve the DCP maximum amount of car parking spaces, and considering the high level of permit parking both day and night in the area, to comply with the DCP, some 288 spaces would be required at this stage to address the higher day time net deficiency in supply. However if the West Tigers were taken out of public parking, then 440 spaces would be required. It is unlikely that Council could find a location to accommodate this amount of additional parking. Without major redevelopment of the centre, the minimum parking rates are a more realistic target for this centre.



5 Summary and Recommendations

5.1 Parking Supply

The Rozelle Business Centre provides a *gross* total of 1,272 public car parking spaces which includes 1,018 spaces on-street and 254 off-street parking spaces. Of the on-street parking, 2P accounts for 27%, 4P for 25% , 18% for 2P/4P and the rest is for 1P and unrestricted.

The occupancy surveys indicated that 60%-61% (Friday and Saturday) of on-street parking is occupied before normal business hours (i.e. 7am). During daytime hours (i.e. 9am-6pm), about 55% of on-street parking has been estimated as being occupied by residents. The peak parking time is therefore likely to converge with resident (and possibly some business) permit holders' on-street parking demand.

The above results indicate that permit holders occupy a large percentage of the limited on-street parking in the Rozelle Business District, which obviously impacts on visitor parking demand both in the daytime and night time.

Eligible Business like residents are entitled to apply for a maximum of 2 Business permits (no main street parking) and can also apply for a Loading Permit to assist with deliveries as there are no Loading Zones. There have been some rare cases where businesses and community organisations have been issued more than 2 permits and these are assessed on valid reasons such as safety issues e.g. staff finishing at 3am and having to walk several blocks to their vehicle with no reasonable parking alternative. The survey has identified 301 businesses currently operating in the Balmain Business Centre. If the limited on-street parking is allowed to be utilised by the residential and business occupiers in the area, it is unlikely that visitors have a fair share of the current parking stock.

When consideration is made for resident and permit holder occupancy, the number of public car parking spaces during the daytime, nominated as the *net daytime* parking supply, is reduced from 1,272 to 712 spaces. The number of public car parking spaces during the night time, nominated as the net night time parking supply, is reduced further to 651 spaces.

Further to this, if the West Tigers Leagues Club car park becomes no longer available to the general public, these parking supply values are reduced even further. The *net daytime* parking supply reduces to 560, while the *net night time* parking supply reduces to 499.

Overall, the area which has the greatest parking shortfall is Zone 1a, which lies northwest of Darling Street in the block between Victoria Road and Norman Street. It is believed that the West Tigers Leagues Club car park is unlikely to service this area, particularly at night time, due to the barrier of Victoria Road.

5.2 Parking Demand

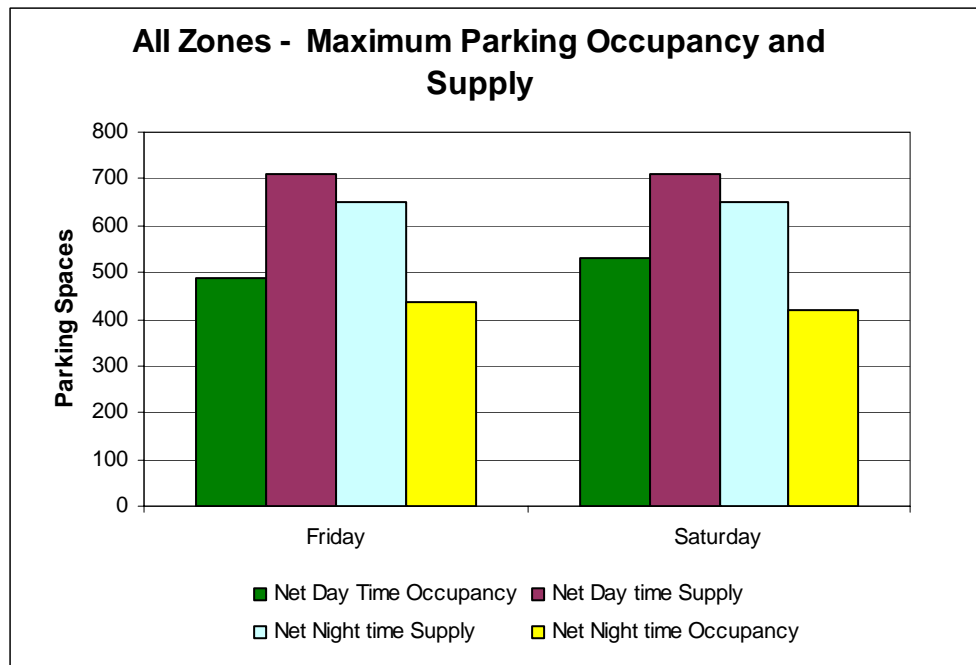
The parking demand surveys were carried out in September 2005. During this period, schools operation was typical and the weather was warm and dry. Therefore, the survey period is considered as "typical". Visitor trips would be expected to increase closer to Christmas as retail and recreation/leisure activities increase in early December, while schools and the workforce are also still operating. A seasonal factor can be applied to the measured parking demand to estimate the demand in such short peaks. However, this parking review is based on a "typical" day parking demand as it is impractical to design the parking system to cater for such short peak demands.

The measured “typical” parking demand for the Rozelle Business District is 880 spaces (69% of supply) on Friday and 937 spaces (74% of supply) on Saturday. These current demands however contain residents parking demand, which is approximately 55% of on-street supply during the daytime and 61% at night time.

Overall peak demand in the area occurred at 1pm and 9pm on Friday, and 1pm on Saturday giving 69% and 74% levels of occupancy. At this peak demand level, the off-street parking in the area north of Victoria Road reached 90% occupancy level.

The pattern of parking demand in the Rozelle Business District is different from demand patterns in other two districts. This is likely to relate to the significantly lower concentration of Clubs and Restaurants in the area and higher concentration of commercial (57% commercial GFA) land uses.

Figure 5.1 Overall Parking Occupancy and Supply



The net parking occupancy and existing net supply for the Rozelle Business Centre as a whole is shown in the above figure. This does not show the differences between the zones in the centre.

It should be noted that the values in the above figure have been adjusted to exclude the estimated permit holders’ share of occupancy. However, as shown in the Figure 5.1 above, overall in the business centre there is still some available supply of parking, which reduces further on a Saturday during the daytime.

If the West Tigers Leagues Club car park becomes no longer available to the general public, the available supply of parking in both the daytime and night time will reduce, and put more pressure on the remaining car park facilities.

5.3 Statutory Compliance

The parking supply was assessed against the statutory parking requirements according to parking rates provided in the Leichhardt DCP. The DCP requirements and current supply levels are shown in Figure 5.2 below.

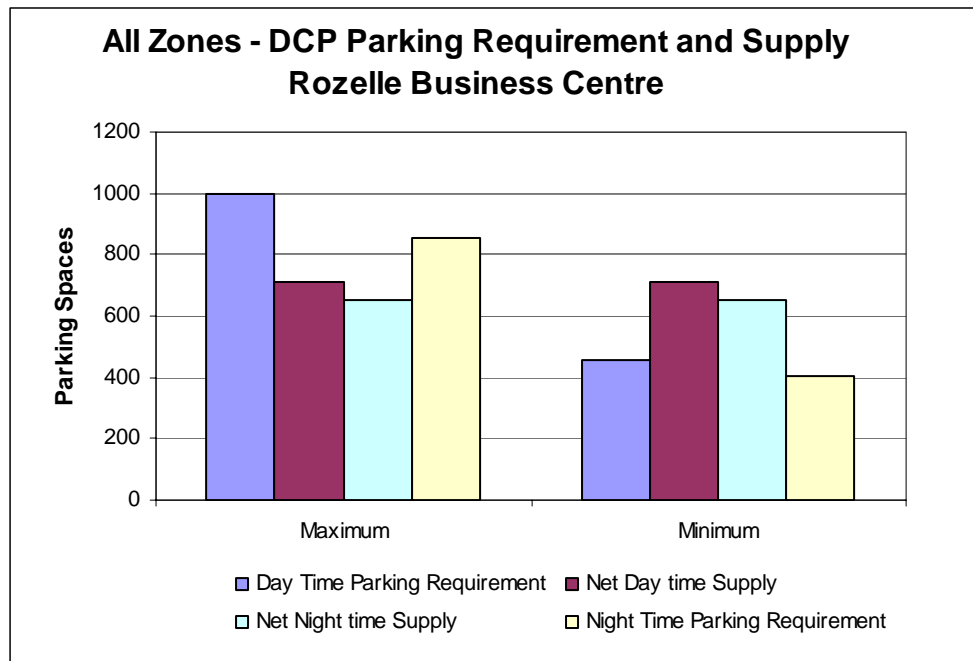
The parking requirements were generated separately for the day time and night time and calculated as 1,000 spaces for day time operating land uses and 856 spaces for night time operating land uses.

The *net daytime* parking supply of 712, which is considered as available during normal business hours, does not comply with the maximum statutory requirements, and gives a deficiency of 288 spaces. The supply value has been adjusted to exclude any parking occupied by residents and permit holders.

The *net night time* parking supply of 651 spaces, which is the night time parking availability, does not comply with the maximum statutory parking requirement of the existing land uses, and is deficient by 205 parking spaces. The supply value has been adjusted to exclude any parking occupied by residents and permit holders.

The Rozelle Business Centre parking complies with the statutory parking space minimum, with 257 oversupply in the day time, and 249 parking spaces oversupply in the night time period, if all on-street and off-street parking is taken into consideration. If only the amount of off street parking (254 spaces) is considered, then the centre has a shortfall. This shortfall will increase further if the West Tigers Leagues Club car park becomes no longer available for the general public, as off-street parking supply would reduce to 102 spaces.

Figure 5.2 Leichhardt DCP Parking Requirement compared to Supply



5.4 Off Street Car Park Changes

In the Parking Review Study commissioned by Leichhardt Council in July 2005, the following proposals have been considered:

- *the existing 25 space car park at Merton Street to increase by an additional 7 spaces*

- *the Hamilton Street car park is to be sealed and parking bays be rationalised and line marked with no increase in parking.*

Therefore only 7 parking spaces would be added to the supply. There has also been some suggestion that the lease agreement between Council and the West Tigers Leagues Club is not assured to continue in the future. If these parking spaces are removed from the parking supply, up to 152 off-street spaces would no longer be available for public parking. This is likely to have a greater effect on the area south of Victoria Road than north of Victoria Road.

5.5 Modal Split of Visitor/Shoppers and Workers Trips

As discussed in Section 3.3 above, among the shoppers/visitors to centre, 54% of shoppers access the business centre by car while 29% walked and 12% used public transport. A larger proportion of workers (83%) drove to the centre while only 6% used public transport.

In terms of utilisation of parking in the area, 33% of visitors/shoppers utilised the off-street parking while the 67% utilised the on-street parking. The split of off-street and on-street parking utilisation for workers was 28%-72%.

The modal split also indicated that only 6% of the shoppers/visitors to the area were from Rozelle, while 50% of them were from Leichhardt. Among the workers, 16% originated from Rozelle.

The majority of shoppers/visitors (69%) spent 2 hours or less in the centre while 82% of workers stayed 6 or more hours.

5.6 Public Transport and Taxis

The modes of public transport available for visitors/shoppers in the LGA are buses and taxis. The nearest railway station is Petersham and Lilyfield light rail station lies to the south.

A review of current bus routes operating between Petersham railway station and the Rozelle centre indicated that only one bus route operates between the Petersham railway station and Rozelle (via Leichhardt), with a headway between 7pm and midnight of one hour on weekdays and weekends. Given the poor level of service and lack of seamless public transport service available at night time, the majority of visitors/shoppers are unlikely to utilise the current rail and bus service.

The bus routes along Victoria Road link Rozelle well with the larger metropolitan area. However, these bus routes are not equally well linked with the other business centres in the LGA.

There are currently few taxi ranks provided in the Rozelle Business Centre.

The Lilyfield Light Rail station is located down hill from Rozelle, however is more than 600m away and is not considered a viable public transport system for the centre due to the long walking distance.

5.7 Conclusions

5.7.1 Mode Split

In summary, the user modal split indicates that:

- Among shoppers/visitors, 29% walked and 54% depended on car transport to the business centre;
- Among workers, 11% walked and 83% depended on car transport to the business centre;

5.7.2 Parking Supply and Demand

The *net daytime* and *net night time* parking supplies, including the West Tigers Leagues Club off-street car park, are presently 712 and 651 respectively, and would be increased marginally to 719 and 658 spaces when the additional parking (as discussed in Section 4.5.4) is available. The statutory maximum parking requirements for current land uses are 1,000 spaces during the daytime and 856 spaces at night time, consequently the parking supply does not meet the maximum in either case. The parking supply does, however meet the minimum parking requirement of the DCP for day and night times when on-street and off-street supply are considered.

However, if the West Tigers Leagues Club car park becomes no longer available to the general public, the *net daytime* and *net night time* parking supplies would be reduced to 560 and 499 respectively. This would mean that the overall statutory minimum parking requirement would still be met.

The worst parking situation in Rozelle Business District occurs in day time, beginning around 1pm. During this time the impact from residents and permit holders on parking is significant, causing high demands on both on-street and off-street parking supplies.

In summary, the existing parking supply (assuming the West Tigers Leagues Club is not available to the general public) and level of parking usage indicates that:

- Parking demand data are obtained on a “typical” day and $\pm 10\%$ gives any seasonal high/low;
- The peak level of occupancy occurs around 1pm, particularly in Zone 1, which lies north of Victoria Road;
- The peak level of occupancy on-street (73%) is considered acceptable;
- The peak level of occupancy off-street (90%) is reaching “critical” levels in Darling Street, north of Victoria Road;
- It is estimated from occupancy surveys that the permit holders (residents and some business property occupiers) occupy around 55% of on-street parking supply during the daytime, and 61% of on-street parking supply during the night time;
- The supply of parking (on-street and off-street) for visitors during the daytime is estimated at 560 spaces, while the night time supply is estimated at 499 spaces (excluding the proposed parking and on street permit holder parking);
- The daytime supply of 560 spaces currently provides 105 spaces above the DCP minimum requirement, while the night time supply of 499 spaces provides 118 spaces above the DCP minimum requirement;
- If only the off-street spaces are considered (102 spaces excluding Leagues Club car park), then according to the minimum DCP requirements, the centre has a daytime shortfall of 353 spaces (455 min requirement) and a night time shortfall of 279 spaces (381 min requirement).

Presently Rozelle Business Centre relies on on-street parking and the West Tigers Leagues Club car park (152 spaces) to service its non residential land use parking needs. Contemporary parking policy specifies that all parking should be off street. Clearly it will be difficult for existing uses to comply with this as the

current occupancy levels in off-street parking is reaching “critical” stages as Rozelle has a restricted amount of off-street parking (254 spaces).

Table 5.1 is a summary of the existing parking environment examined in this report; the highlighted components present a deficiency which needs addressing.

Table 5.1 Synthesis of Parking Demand, Statutory Requirements, Permit Parking in Rozelle

Peak Parking Demand (based on Tables 2.3 & 2.4)				
Day	Location	Where / When	Parking Demand as % of Gross Supply	
Friday	Rozelle Business Centre	All - at 9pm	69%	
	Greatest Demand Zone	Zone 2 – at 7pm & 9pm	74%	
Saturday	Rozelle Business Centre	All - at 1 pm	74%	
	Greatest Demand Zone	Zone 1 – at 11am	78%	
	Greatest Demand Zone	Zone 2 – at 9pm	70%	
Statutory Parking Space Requirements and Existing Net Supply (based on Table 4.3)				
Existing Gross Parking Supply		1272 [1120- this excludes West Balmain Tigers parking]		
DCP	Minimum Parking Requirement	Net Supply	Net Surplus / Deficiency	
Daytime -	all Centre	455	712 [560]	257 [105]
	Zone 1a	180	142	-38
	Zone 2	187	291 [139]	104 [-48]
Night time –	all Centre	402	651 [499]	249 [118]
	Zone 1a	192	128	-64
Net (Visitor) Parking Supply and Net (Visitor) Occupancy (based on Figure 5.1)				
	Net Parking Supply [ex West Balmain Parking]	Net Occupancy	Net Occupancy excluding West Balmain Tigers Parking	
Friday	Daytime	712 [560]	69%	87%
	Night time	651 [499]	67%	88%
Saturday	Daytime	712 [560]	75%	95%
	Night time	651 [499]	64%	84%

Table 5.1 summarises the peak parking demand and when it occurs. This demand includes resident and business parking. From this analysis, there appears to be a moderate to moderately high (about 80%) demand on parking spaces.

If the DCP minimum parking rate is applied to the land uses in the Centre, daytime and night time deficiencies are indicated if the on street permit parking is excluded from the supply.

Finally, examining the existing demand within the context of the net component – that is the actual parking available to visitors and the degree of take up of that parking in the centre by visitors, then the existing situation is acceptable. However with the removal of the West Balmain Tigers supply, the situation becomes ‘critical’ in the Centre particularly during the day time on Saturday, and the demand is very high for all the other time periods.

5.7.3 Recommendations

The principal recommendation in relation to parking supply for this Centre is that Council should not relinquish the parking lease of the West Balmain Tigers parking at this time, as this would reduce day time supply in the Centre when the demand is highest and it is most likely to be used. In the longer term, Council will need to provide up to 100 spaces to address the existing demand without relying on West Balmain Tigers if it is to lower demand from 95% day time demand – this can be done by adding to supply or restricting permit parking.

To maximise the utilisation of the current parking stock, particularly on-street, it is important to:

Increase the availability of public parking for visitors/shopper by:

- Limiting the number of parking permits issued to residents and business property occupiers/owners to be more in line with other inner city LGAs;
- Introducing a “cap” for the permits issued for properties north of Victoria Road;
- Relocating “permit holders excepted” parking outside the Rozelle Business Centre;
- Modifying the parking regulations to prevent permit holders utilising on-street parking in Darling Street, particularly north of Victoria Road; and
- Increasing awareness of availability of parking and taxi ranks to visitors (use of parking maps, transport access guide by restaurants) to the centre.

Improve public transport facilities within the LGA by:

- Investigating better public transport from Lilyfield Light Rail Station;
- Increasing capacity of Taxi Ranks in Darling Street particularly in the area north of Victoria Road; and
- Investigating the possibility of a “shopper bus” which can service the business centres of the LGA at least once per day and particularly on Saturdays.

Ensure future land-uses, including developments that increase evening trips and residential developments, accommodate additional parking generated within their premises. This can be done by:

- Future Development Applications for retail, commercial or residential premises, particularly in Zone 1, including a provision for off-street parking as a condition of consent;
- Council refusing to accept monetary contributions in-lieu of off-street parking provisions; and
- Business permits no longer being granted to new businesses.

Implement measures to accommodate potential car ownership growth by:

- Resolving whether priority is to be given to visitor parking or resident parking in terms of utilising the available on-street parking;
- Provision of off street parking for visitors and local residents; and
- Investigate the car share option for commercial uses, with the allocation of car share spaces to be provided in the most convenient locations – possibly on Darling Street.

5.7.4 On-Street Parking Management

The main day time surveyed trip purposes include shopping, recreation (visiting cafes & meeting friends) and would normally require a minimum 3 hour time period. The short trips (2hr trips) are likely to cover banking and some services such as real estate, a short hotel visit, a shopping trip that excludes a visit to a café (but excluding services such as hairdressing, accountant).

GTA's interview surveys carried out during the day in Rozelle indicate that about 69% of visitors stayed 2 hours or less, while 24% stayed 3 hours or more. The sample was too small to distinguish between those who used cars and those who used other modes.

It is therefore, recommended that the peak demand areas – ie Zone 1 (Darling Street from Beattie Street to Victoria Road), be provided with the following mixture of parking time zones:

- 1P (25%) – mostly from Merton Street to Victoria Road,
- 2P (44%) and
- 3P (33%).

Additionally, no 4P parking is provided during the day time on street, as this would be taken up in the first instance by local employees who only need to repark the car once. The demand for 4P during the day time should be accommodated in off street car parking areas only.

At night time all on-street parking could be reverted to 4P which is more suitable for recreation uses, and can still accommodate residential needs.

Appendix A Parking Supply & Demand - Data Sheets

Appendix B Questionnaire Surveys

Appendix C Land Use Survey Plans & Data Sheets