Parking Assessment

Proposed Rozelle Village Development
Victoria Road, Darling Street and Waterloo Street, Rozelle

Reference: 11 294 Report v1

traffix
traffic & transport planners

po box 1061
potts point nsw 1335
t: +61 2 8324 8700
f: +61 2 9380 4481
w: www.traffix.com.au
abn: 66065132961

Document Verification

Job Number:	11 294
Project:	Rozelle Village
Client:	Rozelle Village PTY LTD

Revision		Initials	Date	Signature
Report V01	Prepared by:	DS	28/11/11	
	Checked by:	AJ	10/02/12	
	Approved by:	GP	10/02/12	

traffix
traffic & transport planners

po box 1061
potts point nsw 1335
t: +61 2 8324 8700
f: +61 2 9380 4481
w: www.traffix.com.au
abn: 66065132961

Contents

1. Introduction

TRAFFIX has been commissioned by Rozelle Village Pty Ltd to undertake a parking and internal design assessment of a proposed mixed use development to be submitted to the Department of Planning and Infrastructure and assessed under Part 3A of the EP&A Act.

The application relates to the construction of a mixed-use development located on Victoria Road, Darling Street and Waterloo Street, at Rozelle and consists of an eight level basement car park, five level podium and two residential towers comprising a total of 304 residential units. The development is located within the Leichardt Municipal Council LGA and has been assessed having regard for that council's controls, as well as other State Government policies and guidelines as relevant.

This report documents the findings of our investigations and should be read in the context of the Environmental Assessment (EA) prepared by Urbis and the TMAP assessment undertaken by Halcrow. The development is considered a major development and requires referral to the RMS under the provisions of SEPP (Infrastructure) 2007.

The report is structured as follows:

- Section 2: Describes the site and its location
- Section 3: Documents existing traffic conditions
- Section 4: Describes the proposed development
- Section 5: Assesses the parking requirements
- Section 6: Reviews the traffic impacts
- Section 7: Discusses access and internal design aspects
- Section 8: Presents the overall study conclusions.

2. Location and Site

The site is located within the Leichardt LGA approximately 4 kilometres west of the Sydney CBD. It is situated on the southern side of Victoria Road, within the block formed by Victoria Street to the north, Darling Street to the East, Waterloo Street to the south and Moodie Street to the west.

The site has an irregular configuration and currently accommodates the Balmain Leagues Club, in addition to retail, commercial and residential properties with a combined site area of approximately 8,190m^2. The site also forms part of the Rozelle Commercial Neighbourhood which includes the commercial units located along Darling Street. Specifically, the site includes the following properties:

- Balmain Leagues Club, 134-144 Victoria Road (Lot 1 DP528045)
- 154 Victoria Road (Lot 1 DP109047)
- 168 Victoria Road (Lot 2 DP323480)
- 170 Victoria Road (Lot B DP323480)
- 172 Victoria Road (Lot A DP436153)
- 1 Waterloo Street (Lot 101 DP629133)
- 3 Waterloo Street (Lot 38 DP421)
- 5 Waterloo Street (Lot 37 DP421)
- 7 Waterloo Street (Lot 36 DP190866)
- 17-19 Waterloo Street (Lot 3 SP67362)
- 697 Darling Street (Lot 104 DP733658)
- 699 Darling Street (Lot 102 DP629133)

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**. Reference should also be made to the Photographic Record presented in **Appendix A**, which provides an appreciation of the general character of roads and other key attributes in proximity to the site.

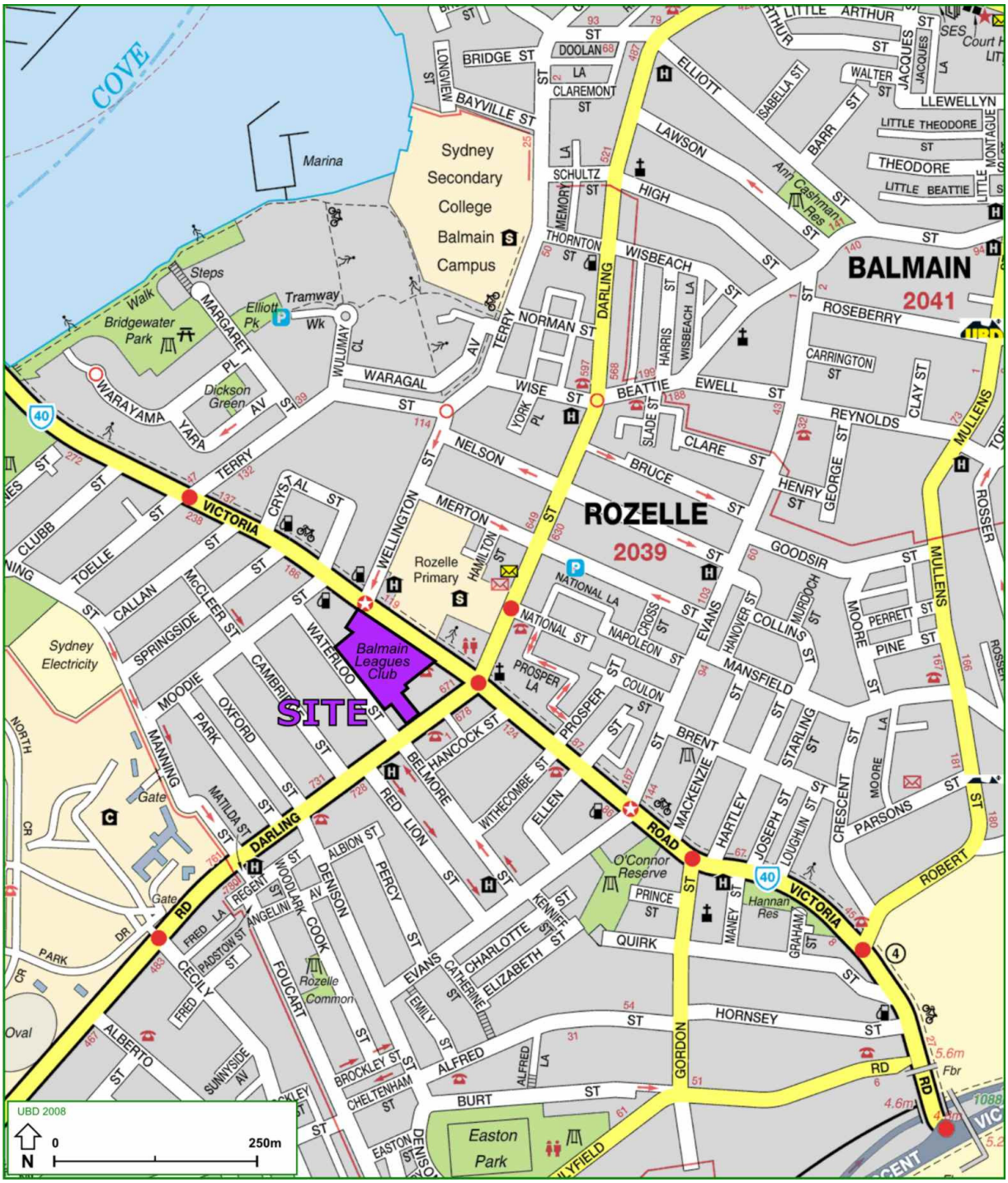

Figure 1: Location Plan

Figure 2: Site Plan

3. Existing Traffic Conditions

3.1 Road Network

The road hierarchy in the vicinity of the site is discussed below with the following roads of particular interest:

- Victoria Road: an RTA State Road (MR 165) that generally runs in an east-west direction between the Anzac Bridge in the east and Parramatta in the west. Victoria Road carries approximately 82,300 vehicles per day (vpd). 'No Stopping' and Clearway restrictions apply along its length during the AM and PM Peak periods. Victoria Road is generally subject to a 60km/h speed zoning in the vicinity of the site and carries three lanes of traffic in either direction within a separated carriageway of width 24.0 metres. Access to the non residential component of the development is proposed via the existing intersection of Victoria Road with Wellington Street.

- Darling Street: a RTA State Road (MR 652) road that runs in an northeast-southwest direction between Victoria Street in the north and the City West Link in the south. AM and PM "No Stopping" restrictions apply along its northern and southern sides in the location of its intersection with Victoria Street with periodic parking permitted outside peak times. A No Right Turn restriction applies between 6.30AM and 8.30PM for northbound vehicles on Darling Street turning south into Victoria Street. Darling Street carries approximately 18,000 vpd to the south of the site. It generally includes a parking lane and single through lane on both approaches and is constructed with an undivided 12.8m wide carriageway in the vicinity of the site.

- Waterloo Street: a local road that runs in a north-south direction parallel to Victoria Road and forms the western site boundary. Waterloo Street will facilitate all access to the residential component of the proposed development and forms the stem of a signalised T Junction with Darling Street in the south and a priority controlled T Junction with Moodie Street in the north. Waterloo Street is generally subject to a 4

hour time restricted parking along its length and accommodates parking associated with the residential dwellings fronting it and the parking demands associated with the retail developments along Darling Street. Waterloo Street is constructed with a 9.5m wide carriageway and subject to a 50km/h speed zoning.

- Moodie Street, Moodie Street is a local road that generally runs in an east-west direction between Victoria Street in the east and Manning Street in the west. It forms the stem of a priority controlled T Junction with Victoria Street and permits left in/left out movements only. Moodie Street generally permits 2 hour parking along both the northern and southern sides of the carriageway, with No Stopping and No Parking restrictions between Waterloo Street and Victoria Road.

It is evident that the site is conveniently located with respect to the arterial and local road systems serving the region. It is therefore able to effectively distribute traffic onto the wider road network, minimising traffic impacts.

3.2 Public Transport

The existing bus services that operate in the locality are shown in **Figure 3**. It is evident that the site is located adjacent to Victoria Road, a major public transport corridor in the region, which accommodates numerous services connections to Sydney CBD, Ryde, Drummoyne, Mortlake, Campsie and Parramatta.

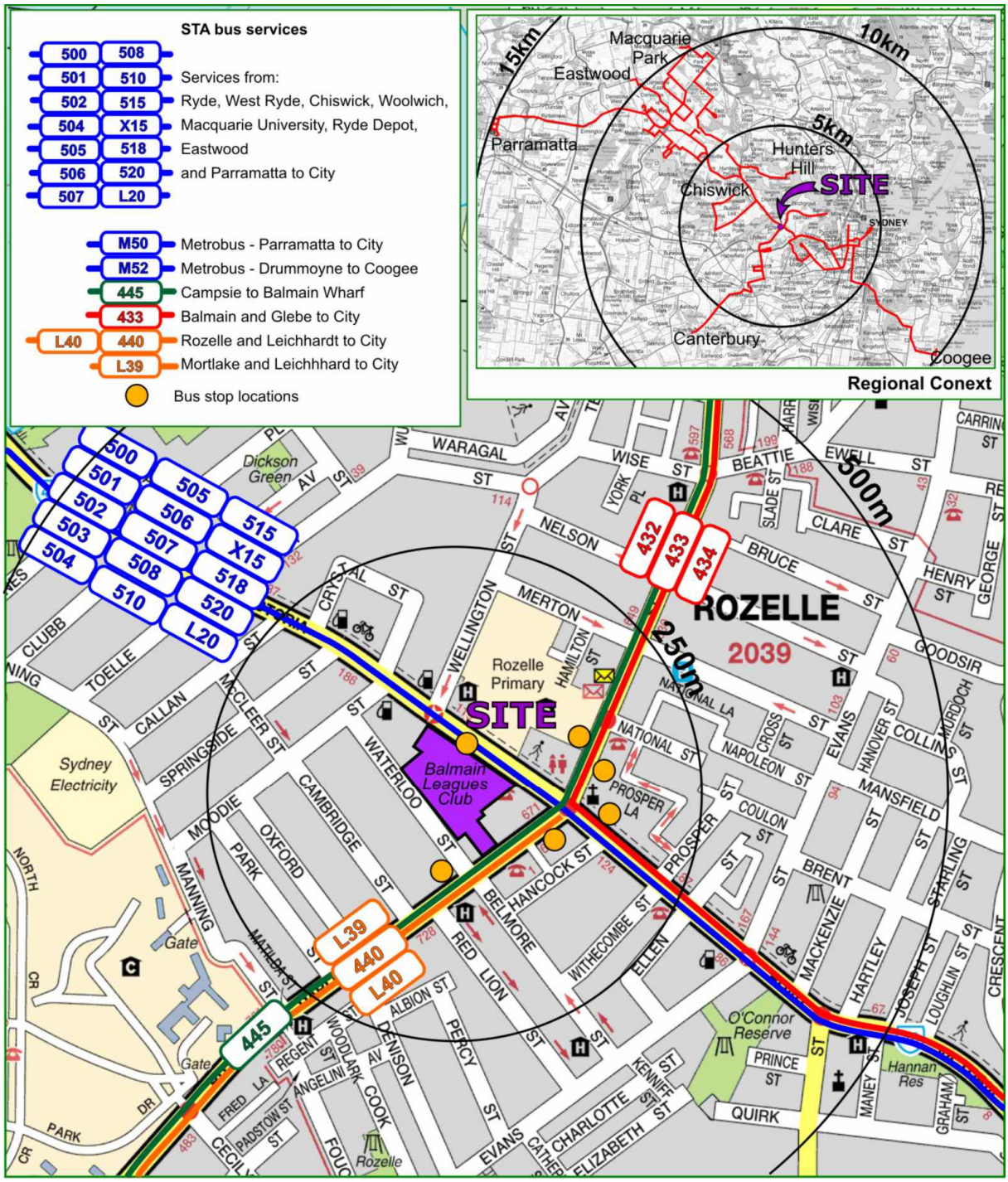

Figure 3: Public Transport

4. Description of Proposed Development

A detailed description of the proposed development is provided in the Environmental Assessment prepared by Urbis. In summary, the development for which approval is now sought comprises the following components:

- Demolition of all existing structures;
- Construction of two residential towers comprising of 304 apartments including:
  - 112 x one bedroom apartments;
  - 178 x two bedroom apartments; and
  - 14 x three bedroom apartments.
- Construction of 11,941m^2 of retail floor space including:
  - 3,688m^2 supermarket
  - 4,508m^2 of specialty retail and mini major retail, and
  - 3,673m^2 of non lettable area.
- Construction of a total of 2,301m^2 of restaurant, café and other refreshment uses;
- Construction of a 3,676m^2 of gymnasium use;
- Construction of a 2,676m^2 club;
- Construction of a 417m^2 of community centre;
- Construction of a 716m^2 of childcare centre use;
- Construction of 492m^2 of medical centre use;
- Construction of 1,132m^2 of commercial use; and
- Construction of an 8 level basement car park including a total of 834 spaces accessed via both Victoria Road and Waterloo Street.

The parking impacts arising from the development are discussed in Sections 5. Reference should be made to the plans submitted separately to the DoPI which are presented at reduced scale in **Appendix B** of this document. Reference should also be made to the Halcrow report which assesses the traffic impacts associated with the development.

5. Parking Requirements

5.1 Car Parking Requirements and Provision

The parking requirements associated with the proposed development have been assessed having regard for the following controls and relevant documentation:

- Leichardt Council's DCP Part A 8.0
- Leichardt Council's DCP Part D – Balmain Leagues Club Site Specific DCP.
- The Director General's Requirements Part 7.
- The RMS Guide to Traffic Generating Developments; and
- The Sydney Metropolitan Strategy.

Although all documents above have been considered, the site specific DCP (Part D) states that should any conflict between the site specific controls and any other section of Council's DCP, that the site specific DCP shall prevail. Accordingly, the requirements outlined in the Balmain Leagues Club Precinct DCP have generally been adopted as the reflection of Council's requirements. This DCP outlines the strategic objectives and rationale which have been considered in the provision of parking for the development. In particular the following key objectives are considered noteworthy:

- To provide parking on site that reflects the site's proximity to public transport and to promote choice in available transport modes and reduce dependency on cars.
- Integrate required quantum of vehicular parking within the design of buildings.
- Retain separate parking and servicing areas for residential and non residential uses on site, and
- That no parking permits will be issued to workers or residents.

Having regard for the above, the parking requirements set out in Table 12.1 of Leichardt DCP Part D have been adopted and the requirements and proposed parking allocation is summarised below. A comparison with the parking requirements set out in the RMS Guideline has also been provided for reference.

Table 1: Council Parking Rates and Provision

Use	Area or No.	DCP Part-D Rate	RMS Parking Rate	DCP Part-D Spaces	RMS Spaces	Spaces Provided
Non Residential uses						
Retail	11,941m^2	1.5/100m^2	6.1/100m^2	179	546*	163
Restaurant, Café	2,301m^2	5/100m^2	6.1/100m^2	115	140	115
Gymnasium	3,676m^2	4.5/100m^2	7.5/100m^2	165	275	165
Club Lounge Area & Bar	1,019m^2	5/100m^2	10/100m^2	51	102	51
Club Dinning	771m^2	4/100m^2	8/100m^2	31	61	19
Community Centre	417m^2	1.5/100m^2	1.5/100m^2	6	6	6
Childcare Centre	716m^2	Nill	1 space / 4 children	0	15	0
Consulting Rooms	492m^2	2/100m^2	4/100m^2	10	20	10
Commercial	1,132m^2	1.5/100m^2	1/40m^2	17	28	15
Total				574	1193	544
Residential Use						
1 bedroom unit	112	0.5/Unit	0.6/Unit	56	67	56
2 bedroom unit	178	0.8/Unit	0.9/Unit	142	160	178
3 bedroom unit	14	1.0/Unit	1.4/Unit	14	20	28
visitor	304	0.1/Unit	1/5 Units	30	61	28
Totals				226	308	290
Overall Parking Requirement & Provision				**791**	**1426**	**834**

*: The RMS Guide requires the retail land use to be assessed based on NLFA not GFA. Accordingly, a 75% reduction in the GFA has been applied to estimate the NLFA as recommended in the RTA Guide (Section 5.7.1)

For land uses which require surveys of comparable developments under the RTA Guide, the rates published in the Leichardt DCP Part A have been adopted.

5.1.1 Non Residential Parking

The above application of Council's DCP – Part D to the proposed development results in a maximum permissible parking provision of 574 spaces associated with the non residential component of the

development. In response the development provides 544 spaces for non-residential uses. Accordingly, the parking provision proposed for the non residential uses, which includes the retail, commercial, restaurants, club facilities, gym, medical consulting rooms and child care centre, fully comply with the requirements of the Council's DCP – Part D and is also consistent with the requirements of the DGR's to reduce parking.

5.1.2 Residential Parking

Application of the site specific DCP permits a maximum of 226 spaces to be provided for the use of both residents and residential visitors. The development however proposes a total of 290 spaces which represents a surplus of 64 spaces (28%). This however is considered to be supportable in the circumstances for the reasons discussed below.

Expected Demand Based on Census Data

The aims and objectives of Council's DCP Part D generally relate to the suppression of on-site parking to promote alternative travel modes and reduced reliance on private vehicles. Whilst this objective is agreed and understood, the parking rates proposed are considered to suppress demand to an unacceptable degree and is unsustainable in the short to medium term. A review of the 2006 Census data for the suburb of Rozelle indicates a much higher level of car ownership than the parking provision proposed under Council's DCP. A summary of the Census data results is provided in **Table 2** below which shows the parking provision based on the application of the parking demand rate obtained from this data:

Table 2: Census Parking Rates and Requirements

Type	Number Dwellings In LGA	Number of Vehicles Owned	Implicit Parking Rate	Units Proposed In Development	Parking Req. Based on Census Rate
1 bedroom	420	352	0.83/unit	112	93
2 bedroom	1165	1353	1.16/unit	178	202
3 bedroom	977	1396	1.43/unit	14	20
Totals				304	312

It is evident from Table 2 that vehicle ownership levels across the suburb of Rozelle are much higher than the maximum parking permissible under Council's DCP. Indeed, should the application be assessed on the current ownership levels in Rozelle, a requirement of 312 spaces for residents plus 30 spaces for visitors would arise. This equates to a total provision of 342 spaces which is 116 spaces more than the maximum permissible under Council's DCP and 52 spaces more than the provision proposed.

Expected Demand Based on RMS Guidelines

Application of the RMS Guideline Rate for high density residential dwellings in metropolitan sub regional centres would result in a minimum requirement of 308 spaces for the residential component of the development. Again this substantially exceeds the parking proposed under the application and demonstrates compliance with the objectives of the DGR's which seek to provide a reduced parking provision for residents.

Implications of Providing Insufficient Parking

Whilst the provision of minimum parking provision is considered supportable as a matter of good planning policy and is in line with State planning policies, it is still important that an adequate supply of parking be provided to ensure all parking demands associated with the development are provided on-site, which is a fundamental objective of the RMS Guidelines. In this regard, the local road network in the vicinity of the site currently provides for a high proportion of parking demands associated with residents and businesses in and around the Rozelle and Darling Street Precincts.

To establish the existing utilisation of parking, surveys were undertaken within 200 metres walking distance of the site. The surveys were undertaken on a typical day between 6.00am – 9.00am and between 6.00pm – 9.00pm and included a total of 299 spaces. The results indicated a maximum utilisation between 8.00pm and 9.00pm of 80%. This represents a very high level of on-street parking utilisation, especially considering the residential nature of the surrounding road network. That is, while available parking is indicated, residents generally require parking in reasonably close proximity to their dwellings. For this to occur, utilisation of less than 80% is considered highly desirable.

Accordingly, an increased reliance on on-street parking by any vehicles associated with either the proposed development or development in the precinct in general will have a significant impact on the existing amenity of residents in the locality, who already experience high parking demands. This suggests a need for caution when pursuing restrictive parking policies and a 'balanced' planning outcome is required in this instance.

Requirements of Different Trip Types

Council's DCP-Part D considers the location of a site with respect to public transport and concludes that a reduced parking allocation is reasonable where public transport services are available to meet the displaced demand from car users. This is typically associated with the journey to work, where these public transport services are good and are also focussed on employment centres.

However the DCP does not consider the need for private vehicles for other trip types, including shopping, educational, recreational and other social trips. These trip types often occur at times where public transport services are limited or not available, including during evenings and weekends. They can also involve trips involving bulky purchases and children, where public transport is not a viable option even where it is available. For these trips, the use of private vehicles is important and this is reflected in the high level of car ownership discussed above. That is not to say that owning a car will translate to its use for the journey to work and many residents will leave their car at home and catch public transport, so that these competing travel modes are not mutually exclusive.

Even so, a review of the 2006 Journey to Work Data demonstrates a very low level of car usage for journey to work trips. The data indicates that alternative transport modes were utilised for only 49% of all trips from the Statistical Sub Division (SSD 331) within which the site is situated. This represents a relatively high pattern of car usage that suggests that the maximum DCP rates may be very difficult to achieve, certainly in the short to medium term.

Flexibility in the Use of Parking Spaces

It is noted that a second car space for a two bedroom dwelling provides flexibility for the parking of bicycles, motorcycles, motor scooters, boats and trailers as well as storage more generally. Such activities do not create any adverse transport planning implications.

Summary of Residential Parking Provision

Having regard for the cumulative effect of the above factors, it is reasonable to conclude that the provision of 290 spaces for the residential use will ensure that all parking demands are accommodated

on-site with no adverse impacts on the amenity of existing residential streets that are already under pressure. Parking at this level does not undermine the objectives of the DCP and is in line with RMS requirements, which already incorporate adjustments to suppress private car use to a reasonable degree, even though the RMS rates are applicable to centres that are better served by public transport than the subject site, including many with rail services and higher density land uses.

For this reason the proposed allocation of 290 spaces compared to the 308 spaces as required by the RTA and 342 spaces that would be required to accommodate existing ownership levels based on Census data is an outcome which is considered satisfactory and achieves the correct balance between Council's policies and the need to protect and preserve the amenity of residents in the locality.

It is nevertheless recommended that a Transport Access Guide (TAG) be developed in accordance with the RMS Guidelines to maximise the use of public transport and other alternative transport modes for all trip types and for all uses.

In addition, a single car share spaces are proposed within the basement car park in accordance with the requirements of Council's DCP, together with extensive bicycle parking (see below). These initiatives will also form an integral part of the TAG.

5.2 Disabled Parking

The development proposes the allocation of 10 spaces for the non residential component of the application with a further 31 spaces provided for the residential uses. These spaces have been provided in accordance with the Morris Godding Accessibility Report submitted as part of the Environmental Assessment.

5.3 Bicycle Facilities

Bicycle parking facilities have been assessed in accordance with Part A8 of Council's DCP Part A. Applicable rates are summarised in **Table 3** below:

Table 3: Council Bicycle Parking Rates and Provision

Type	Number	Staff/Resident Rate	Visitor Rate	Requirement
Residential	304	0.33/unit	0.08/unit	125
Retail	11,941m^2	3/1,000m^2	2/1,000m^2	60
Restaurant/Café	2,301m^2	4/100m2	2 spaces	94
Gymnasium	3,676m^2	No Requirement	No Requirement	0
Club - Bar	1,019m^2	4 spaces per 100m^2	4 spaces per 100m^2	81
Club - Lounge	771m^2	1 space per 100m^2	1 space per 100m^2	15
Community Centre	417m^2	Not specified	Not specified	0
Child Care Centre	716m^2	2.5/1,000m^2	5/1,000m^2	5
Medical Centre	492m^2	0.125 per practitioner	0.25 per practitioner	2
Commercial	1,132m^2	5/1,000m^2	1.33/1,000m^2	7
Totals				389

It is evident from Table 3 that the development would require the provision of 389 spaces based on Council's DCP. In response the application includes the provision of 304 spaces for use by residents (1 space per unit) with an additional 256 spaces provided for residential visitors and all other non residential uses. This exceeds the minimum requirement of Council's DCP.

5.4 Servicing

All servicing associated with the subject development will occur on-site and service docks will be accessed via Victoria Road. The development proposes the provision of 3 loading bays suitable for use by all vehicles up to and including a 12.5m HRV and 2 bays for use by vehicles up to and including an 8.8m MRV. Two garbage collection bays are also provided and can accommodate vehicles up to 12.5m in length. The design and layout of the servicing area is discussed further below.

5.5 Existing Council Car Park

The proposal will result in the removal of the Council Car Park located within Waterloo Street. The car park has been leased to Council on a short term basis since the closure of the existing Balmain Leagues Club. The operation of this car park will cease as a result of the application.

5.6 Community Bus and Taxis

A taxi pickup and drop-off area is proposed within Waterloo Street, adjacent to the main residential pedestrian entry for use by residents and visitors to the club. It is also proposed that a pickup drop-off area capable of accommodating vehicles up to and including a 25 seat community bus also be located adjacent to the main access for use by club visitors.

6. Access & Internal Design Aspects

6.1 Access

The proposed development has access from both Victoria Road and Waterloo Street in accordance with the requirements of Council's DCP and following consultation with the RTA. The site access from Victoria Road consists of a deceleration lane and a signalised four-way intersection with Victoria Road and Wellington Street. The design and operation of this access is assessed in the report undertaken by Halcrow and submitted separately as part of the Environmental Assessment. This access is to accommodate all residential visitor demands, all non residential uses and all service vehicles associated with the site.

All residents are to access the site via a 6.7 metre combined entry/exit driveway crossing on Waterloo Street. This access has been designed in accordance with the requirements of AS2890.1 for a Class 2 driveway onto a local road. This segregation of residential and non-residential parking is sound transport policy.

6.2 Internal Design

The internal basement car park generally complies with the requirements of AS 2890.1 (2004) and the following characteristics are noteworthy:

6.2.1 Parking Modules

- All non residential parking spaces have been designed in accordance with a Class 3A user and are provided with a minimum space length of 5.4m a minimum width of 2.7m and a minimum aisle width of 6.2m.
- All residential parking spaces have been designed in accordance with a Class 1A user and are provided with a minimum space length of 5.4m a minimum width of 2.4m and a minimum aisle width of 5.8m.

6.2.2 Ramps

- All ramps accessing the non residential basement car park have a maximum gradient of 20% (1 in 5) with transitions of 10% (1 in 10).

- Ramps associated with the residential basement car park have a maximum gradient of 25% (1 in 4) with transitions of 12.5% (1 in 8). These provisions satisfy the requirements of AS 2890.1 (2004) for the car park;

6.2.3 Clear Head heights

- A minimum clear head height of 2.2m is provided for all areas within the basement car park as required by AS2890.1. A clear head height of 2.5m is provided above all disabled spaces as required by AS2890.6.

6.2.4 Other Considerations

- Columns are generally located outside of the parking space design envelope shown in Figure 5.2 of AS 2890.1 (2004).
- Appropriate visual splays are to be provided in accordance with the requirements of Figure 3.3 of AS2890.1 at all accesses.
- The internal design complies with the Section 3.4 of AS2890.1 with appropriate queuing areas provided. Furthermore the max gradient of 1:10 for not less than 80% of the queuing length has also been achieved.
- A swept path analysis of all critical movements has been undertaken to confirm geometry and compliance with the relevant standards. The swept path assessment is included in **Appendix C**.

6.2.5 Service Area Design

- The internal design of the service area has been undertaken in accordance with the requirements of AS28090.2 for the maximum length vehicle permissible on-site being a 12.5m HRV
- A minimum clear head height of 4.5m is provided within the service area
- All ramps have been designed in accordance with Table 3.2 of AS2890.2 with a maximum grade not in excess of 1:6.5 (15.4%) and maximum rate of change of 1:16 (6.25%).
- A minimum bay width of 3.5m is provided for all service bays.
- A swept path analysis has been undertaken as permissible under AS2890.2 and confirms the internal design. The swept path assessment is included in **Appendix D**.

In summary the internal configuration of the basement car park and loading areas have been designed in accordance with the both AS2890.1 and AS2890.2. It is however envisaged that a condition of

consent would be imposed requiring compliance with these standards and as such any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

7. Conclusions

In summary:

- The development proposes 544 parking spaces for the non residential component, which includes the retail, commercial, restaurants, club facilities, gym, medical consulting rooms and child care centre. This provision complies fully with the requirements of the Council's DCP – Part D which requires a maximum total provision of 574 spaces. This is also consistent with the requirements of the DGR's.

- The parking for the residential component of the development (290 spaces) has had regard for all relevant controls, guidelines and policies and is considered is considered to achieve a suitable balance that will still achieve the objectives of these policies, while also protecting the amenity of local residents who would adversely impacted by any shortfall in demand.

- Specifically, the 290 spaces proposed may be compared with 308 spaces required by the RMS and the 342 spaces to accommodate existing car ownership levels based on Census data. The RMS requirement in particular already has a high level of public transport usage built into its rate.

- There are numerous other reasons that support provision higher than Council's DCP requirement as discussed above. These include the need to provide for a wide range of trip purposes that occur outside peak service times, the need to provide for trip types that are not suited to public transport in any event, and the need to provide flexibility for the storage/parking of motorcycles, scooters, trailers etc., which are growing in popularity.

- The provision of 290 spaces still achieves the requirements of the DGR's as the parking is less than the RMS and census requirements, both of which reflect current demands. Conversely, adherence to Council's DCP, which is a guideline document, will result in increased pressure for on-street parking in a location that is already subject to high demands and competition, with an adverse impact on residential amenity.

- The internal design of the basement car park complies with the relevant sections of AS2890.1 and AS2890.2 and will operate safely and efficiently. A swept path analysis of the basement car park and servicing areas is provided in Appendix C and Appendix D and these demonstrate satisfactory operation. Nevertheless, a condition requiring compliance with AS 2890.1 and AS 2890.2 is invited.

It is therefore concluded that the overall parking for the proposed development is supportable, justifiable and represents a good planning outcome

.