Central Park Mixed Use Development – Project Application for Blocks 3B, 3C & 10 Student Accommodation

Traffic and Transport Report

20 April 2012

FINAL

Prepared for

Frasers Broadway Pty Ltd

Halcrow

Central Park Mixed Use Development – Project Application for Blocks 3B, 3C & 10 Student Accommodation
Traffic and Transport Report

Prepared for
Frasers Broadway Pty Ltd

This report has been issued and amended as follows:

Rev	Description	Date	Prepared by	Approved by
1	Draft for client review	10/04/2012	ML	BM
2	Final Draft	17/04/2012	ML	ML
3	Final	20/04/2012	ML	ML

Halcrow
Suite 20, 809 Pacific Highway, Chatswood, NSW 2067 Australia
Tel +61 2 9410 4100 Fax +61 2 9410 4199
www.halcrow.com/australasia

Contents

1 Introduction

This traffic and transport report relates to a project application (PA) seeking approval for the construction of two new buildings (on Blocks 3B and 3C) plus adaptive re-use of an existing building (on Block 10) to provide student accommodation with retail use on the ground floor. The proposal involves works on sites known Blocks 3B, 3C and 10 in the approved Concept Plan for the project Central Park (formerly known as Frasers Broadway) – a mixed used development located on the southern fringe of the Sydney CBD area.

Blocks 3B, 3C and 10 together with Blocks 3A, 6 and 7 were collectively referred to in the approved Concept Plan as the Kensington Precinct.

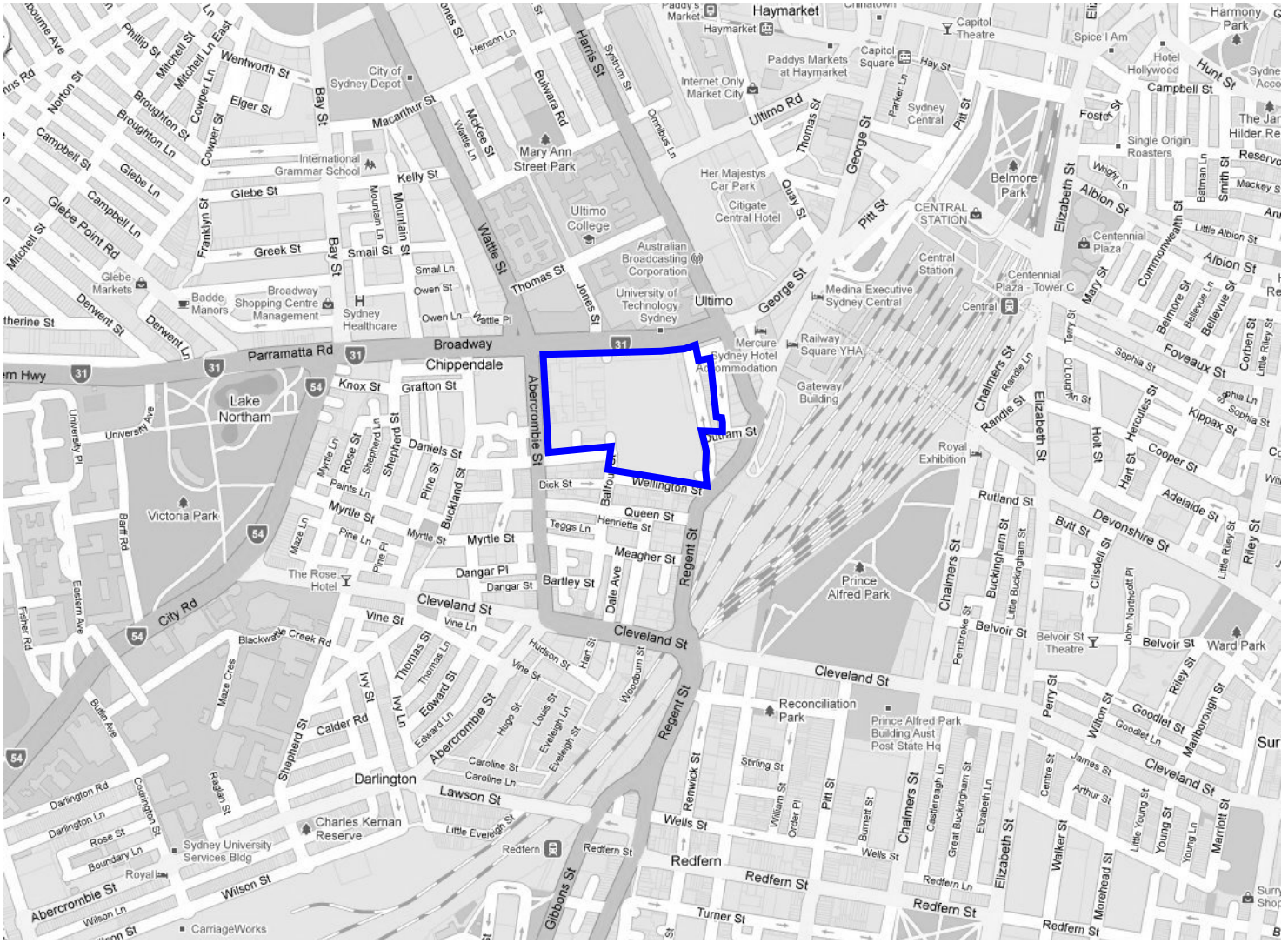
The location of the Central Park development site is shown in **Figure 1**, while **Figure 2** shows the location of Blocks 3B, 3C and 10 in the context of the overall Central Park site.

The PA seeks approval for a total gross floor area (GFA) of some 8,574m^2 comprising approximately 7,924m^2 of residential floor area plus 650m^2 of non residential / retail floor area. The buildings would accommodate approximately 201 student accommodation units (or 267 beds). A limited number of car parking spaces would be provided to serve the proposed development. These spaces are located within the combined basement parking areas beneath Blocks 2 and 5 as per the relevant approval (MP 09_0042 as amended).

It should be noted that a future PA will be lodged for the remaining blocks within the Kensington Precinct (i.e. Blocks 3A, 6 and 7). Blocks 3A, 6 and 7 comprising a mixture of commercial and retail uses are approved in the amended concept plan to have a total GFA of some 8,000m^2 including a 65 room hotel.

LOCATION PLAN

CENTRAL PARK BLOCKS 3B, 3C AND 10 PROJECT APPLICATION



Halcrow

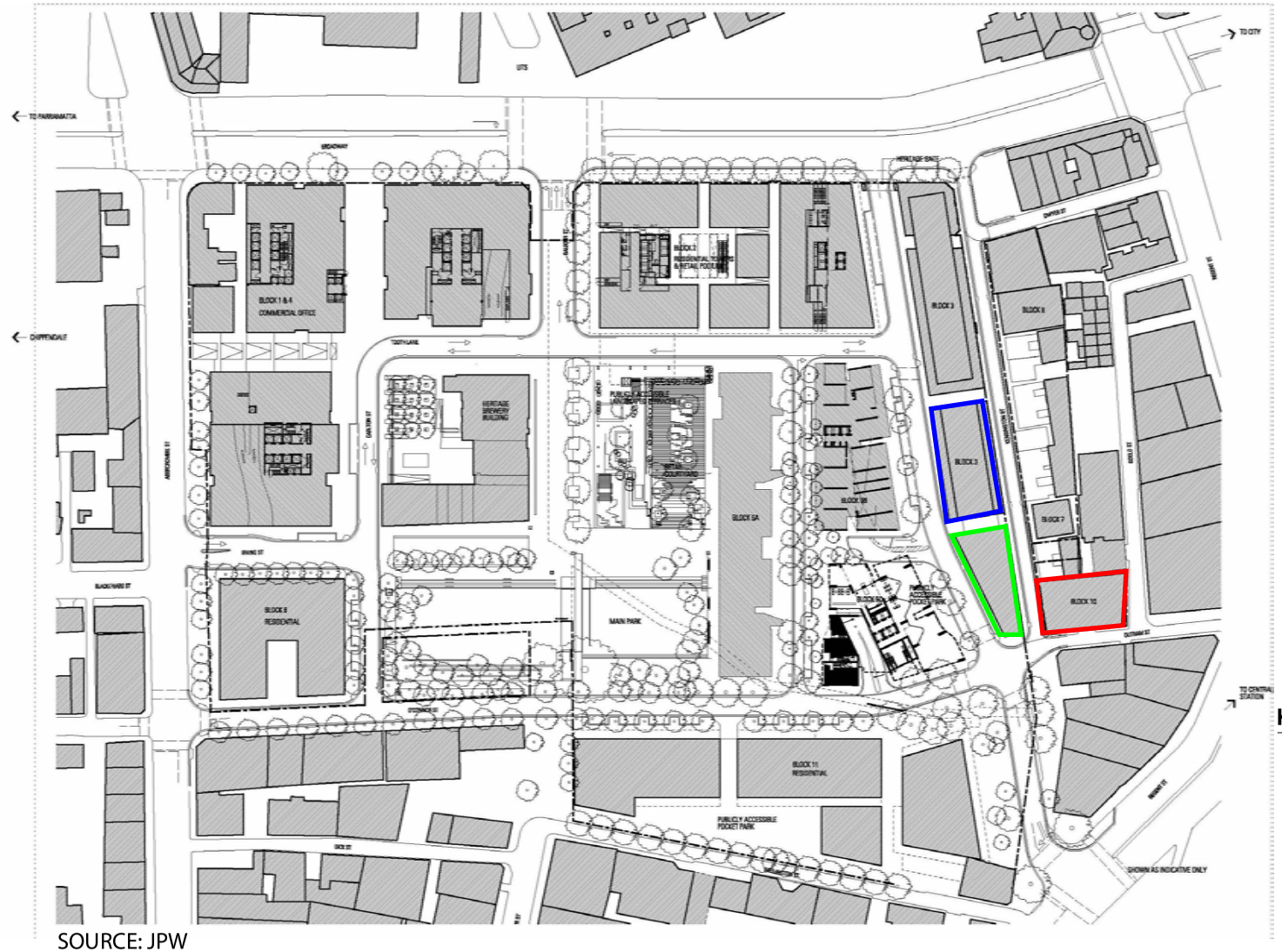
Figure 1

Filename: CTLRDOdi15.ai

Date: 10 April 2012

LOCATION OF BLOCKS 3B, 3C AND 10

CENTRAL PARK BLOCKS 3B, 3C AND 10 PROJECT APPLICATION



SOURCE: JPW

Halcrow

Figure 2

Filename: CTLRDOdi16.ai

Date: 10 April 2012

The proposed development (together with the remaining blocks within Kensington Precinct) is generally consistent with the amended Concept Plan (MP 06_0171 Mod 2) approved by the then Department of Planning (DoP) in February 2009[1].

This report has been prepared on behalf of Frasers Broadway Pty Ltd (Frasers) to examine the traffic and parking arrangements of the proposal. This report has been prepared in accordance with the methodology set out in the NSW Roads and Traffic Authority's (RTA) *Guide to Traffic Generating Development*, 2002.

This report has been prepared with consideration of the Director-General's Requirements (DGRs) issued by the Department of Planning and Infrastructure. The issues related to traffic and transport are summarised in **Table 1.1** together with an indication how this has been addressed in this assessment including a reference to the section of the report where it is addressed.

Table 1.1 DGR Issues

Issues	How Addressed	Report Section
EA to provide details on access, loading areas, car parking arrangements, pedestrian and bicycle linkages associated with the proposed works.	Proposed parking spaces are provided within the combined basement parking area for Blocks 2 and 5 and the Kensington Precinct as per approval contained in MP 09_0042.	See Sections 3 and 5.
	The amended Concept Plan for the overall site proposes a number of additional pedestrian and cycle facilities.	See Section 6.
A Work Place Travel Plan and Travel Access Guides for employees, residents and visitors to the site should also be prepared.	As the workforce demographics are not known at this stage, it would be difficult to prepare an effective Workplace/Green Travel Plan. However, in Section 7of this report, a framework for the development and implementation of such a travel plan has been outlined. It is suggested that there should be a consent condition requiring a travel plan be prepared after occupation of the buildings.	See Section 7.
	The Travel Access Guide is provided in **Appendix A**.	See Appendix A.

[1] MP 06_0171 (Mod 2) was the last significant modification relating to this approval. Subsequent approvals MP 06_0171 (Mod 3 and Mod 4) are of no significance to traffic and transport impacts.

This report deals specifically with traffic and transport issues relating to day to day operation. For traffic and transport effects during construction stage of the development refer to the Construction Traffic Management Plan prepared by Halcrow (Ref: CTLRDOr07 dated 12 April 2012).

The remainder of this report is set out below:

- Chapter 2 provides an overview of the project to date including the strategic context;
- Chapter 3 describes the development proposal;
- Chapter 4 reviews the traffic implications of the proposal;
- Chapter 5 assesses the off street car park provision and servicing arrangements;
- Chapter 6 provides a summary of other transport implications;
- Chapter 7 contains a framework for the preparation of a Workplace/Green Travel Plan; and
- Chapter 8 presents a summary and concludes the study.

2 Project to Date

2.1 Original Concept Plan

The Carlton and United Brewery site (as it was known back then) was originally approved for redevelopment in February 2007 (MP06_0171) under the Part 3A process. The proposed redevelopment of the site includes high density residential, commercial and retail uses.

A plan showing the development as approved in February 2007 is shown in **Figure 3**.

Halcrow (formerly Masson Wilson Twiney Pty Limited) prepared a traffic and transport assessment report[2] for the original concept scheme. The findings and recommendations of this report were taken into account in the concept plan approval.

The concept plan provided for a floor space ratio of 4.4:1 for the site which equates to the following potential development yield:

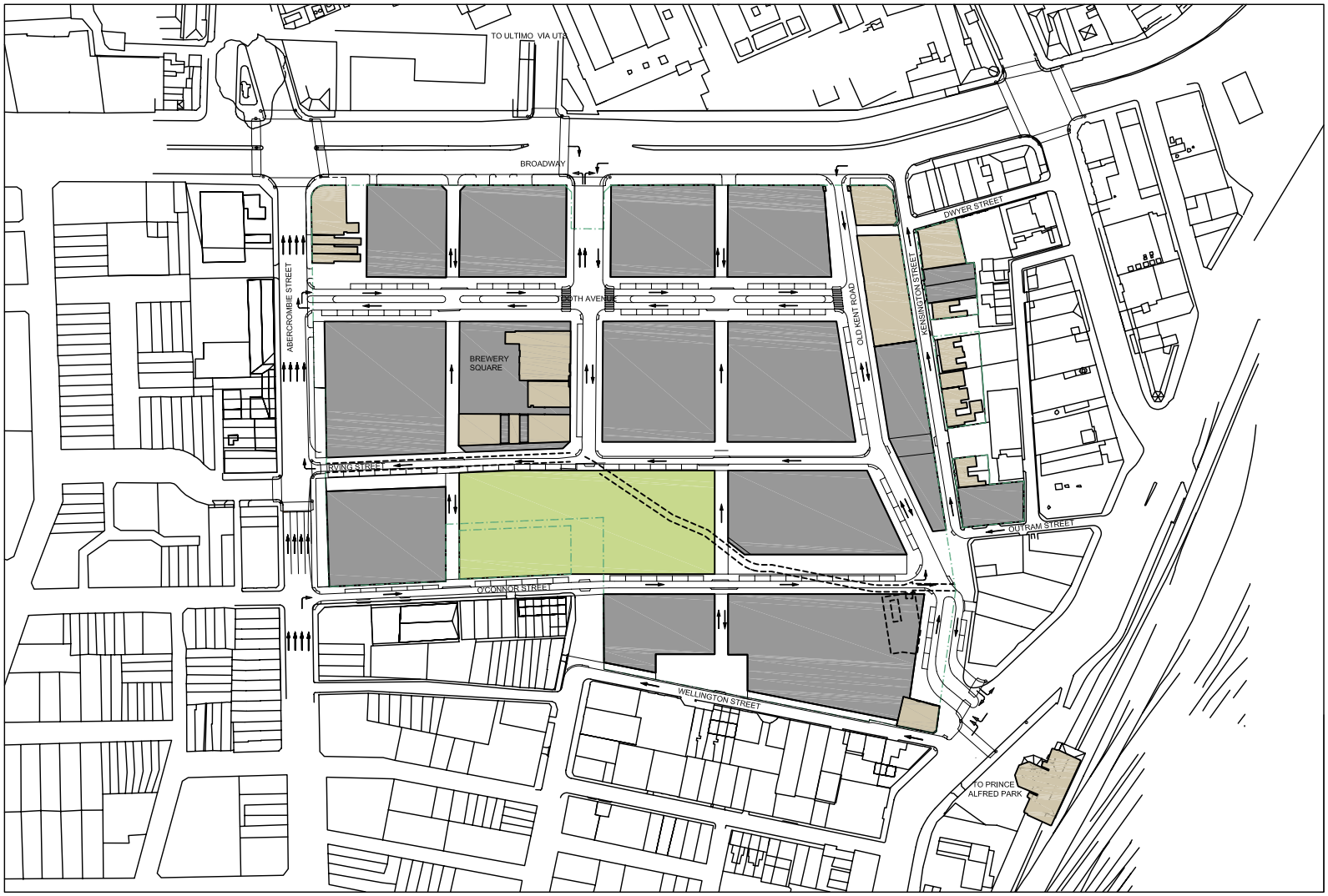
- 92,773 m^2 floorspace area (GFA) of commercial
- 12,191 m^2 GFA of retail
- 1,689 residential apartments (15% studio, 30% one bedroom, 40% two bedroom and 15% three bedroom)

Traffic implications of the original concept plan were examined in detail by the RTA using a Paramics microsimulation traffic model. The RTA found the traffic impacts of the development were within acceptable limits and granted its agreement to the concept plan transport elements including all proposed road connections to the surrounding road network.

[2] Carlton and United Brewery Site – Stage 1 Masterplan Traffic Report, Masson Wilson Twiney Pty Limited October 2006

APPROVED CONCEPT PLAN

CENTRAL PARK BLOCKS 3B, 3C AND 10 PROJECT APPLICATION



North

Halcrow

Figure 3

Filename: CTLRDOdi17.ai

Date: 10 April 2012

2.2 Amended Concept Plan

The site was purchased in June 2007 by Frasers and is now known as Central Park.

Following a series of stakeholder consultations, Frasers developed an amended scheme for the site. The amended Concept Plan was approved by the DoP in July 2007 (MP06_171 MOD 1). This was followed by three further modifications[1] approved in February 2009 (MP 06_0171 MOD 2), May 2010 (MP 06_0171 MOD 3) and August 2011 (MP 06_0171 MOD 4).

The amended Concept Plan included the same grid like building configuration as the original concept scheme. Below is a summary of the relevant amendments to the original approval (from the three approved modifications):

- increased in site area and GFA with revised residential and commercial land use mix;
- changes to building envelopes for the 11 development blocks;
- increased in area of public open space;
- reduced car parking provision (maximum of 2,000 car spaces) provided within various combined underground car parks proposed to minimise surface traffic within the site; and
- removal of some internal streets to create a low speed traffic environment within the precinct.

The current approved development mix is as follow:

- up to a maximum of 255,500m^2 GFA for mixed use;
- a minimum of 76,650m^2 of commercial use (including retail use); and
- a maximum of 178,850m^2 (equivalent to approximately 2,000 apartments) of residential use.

A plan showing the approved amended concept plan including the internal road network and external road network connections is shown in **Figure 4**.

AMENDED CONCEPT PLAN

CENTRAL PARK BLOCKS 3B, 3C AND 10 PROJECT APPLICATION

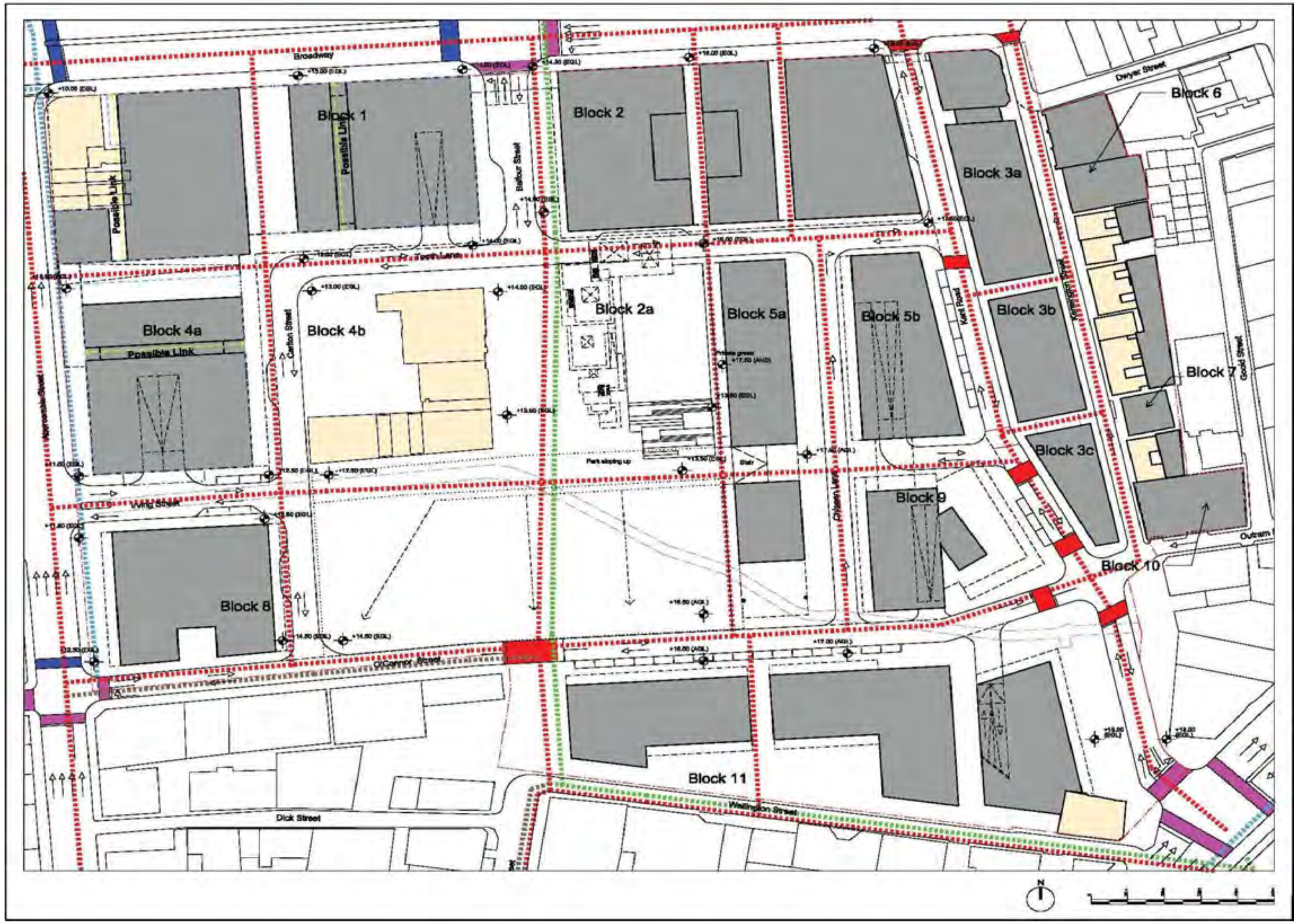


Figure 4

Halcrow

Filename: CTLRDOdi18.ai

Date: 10 April 2012

Under the amended Concept Plan as approved by DoP, the Kensington Precinct (Blocks 3A, 3B, 3C, 6, 7 and 10) would have the following maximum gross floor area:

- Block 3 – 10,500m^2;
- Block 6 – 2,550m^2;
- Block 7 – 1,250m^2;
- Block 10 – 1,700m^2; and
- Total – 16,000m^2.

The amended Concept Plan was supported by a traffic report[3] which assessed the traffic generation implications of the revised mix of uses. This amended scheme, including the proposed internal road network and external road connections, has been approved by the DoP.

[3] Frasers Broadway Masterplan Traffic and Transport Report - Masson Wilson Twiney Pty Limited July 2008

3 The Proposed Development

3.1 Blocks 3B, 3C & 10 Proposed Development

The Project Application seeks approval for the construction of two new buildings and adaptive re-use of an additional existing building. These buildings would be provided to accommodate student accommodation plus retail use on the ground floor.

The two new buildings would be located on Blocks 3B and 3C. These would be constructed as eight and six level buildings respectively. An elevated glazed walkway/common lounge area is proposed on each level over the central through site link to connect the two new buildings. A second through site link would be provided between Blocks 3A and 3B.

On Block 10, the façade of the existing single level building would be retained with construction of additional levels over it to provide a six level structure.

The PA seeks approval for a total gross floor area of some 8,574m^2 comprising:

- approximately 7,294m^2 of residential (student accommodation) floor area;
- approximately 650m^2 of non residential (retail) floor area.

Table 3.1 summarises the distribution of the floor areas across the three buildings.

Table 3.1 Proposed Development Floor Area

Building	Residential Floor Area (m^2 GFA)	Non Residential Floor Area (m^2 GFA)	Total Floor Area (m^2 GFA)
Block 3B+C	6,124.3	378	6,502.4
Block 10	1,799.8	272	2,071.4
Total	**7,924**	**650**	**8,574**

The proposed scheme would allow 201 individual student accommodation units (or 267 beds).

The retail uses would be located on the ground floor of each building.

It is proposed to provide five car parking spaces and 53 motorcycle parking spaces to serve the proposed development. The car parking and motorcycle spaces would be located in the combined basement car park for Blocks 2, 5, 9 and the Kensington Precinct as per the approvals contained in MP 09_0042 (including subsequent approved modifications) and MP 06_0171 MOD 4.

In addition, it is proposed to provide 54 bicycle parking spaces. These are proposed to be located in two separate lockable communal areas – 39 spaces on the ground floor within the Block 3B building and 15 spaces on the ground floor of Block 10 building.

Finally, in relation to Kensington Street it is proposed to generally retain its existing traffic arrangements. That is, it would continue to operate as one-way from south to north except between Broadway and Dwyer Street where it would continue to have two-way traffic flow operation. Its intersection with Broadway would continue to permit only left-in/left-out traffic movements from/to Broadway. It would continue to have one parking lane and one traffic lane. However, to improve the aesthetic of Kensington Street, it is proposed to provide additional landscaped areas within the existing parking lane.

3.2 Kensington Precinct

Under the approved Concept Plan, Blocks 3A, 3B, 3C, 6, 7 and 10 were assessed collectively (for traffic and parking implications) as a contiguous precinct known as the Kensington Precinct. However, the approved Concept Plan permits Kensington Precinct to have a maximum GFA of 16,000m^2 as follow:

- Block 3– 10,500m^2;
- Block 6 – 2,550m^2;
- Block 7 – 1,250m^2; and
- Block 10 – 1,700m^2.

Across the entire Central Park site, the maximum allowable residential floor area is not to exceed 70 per cent of the total GFA (255,550m^2), while non-residential uses is not to be less than 30 per cent of the total GFA.

The maximum permissible floor space area for Blocks 3B, 3C and 10 (the subject of this PA) is 7,600m^2 GFA. The proposed floor area of 8,574m^2 would be a little higher than the approved floor area for Blocks 3B, 3C and 10. However, this slight increase of the GFA in Blocks 3B, 3C and 10 would not exceed the approved maximum allowable GFA of the entire Central Park site i.e. 255,559m^2 (refer to JBA Planning report for further justification/clarification on the proposed GFA).

In addition, as discussed below, student accommodation is a very low traffic generating use and thus exceedance of the floor space allocations would not have any significant traffic implications.

3.3 Vehicular Access

Consistent with MP 09_0042 approvals, car parking spaces to serve the proposed Kensington Precinct development would be provided within the combined basement beneath Blocks 2 and 5.

Therefore, proposed car and motorcycle parking spaces for Blocks 3B, 3C and 10 being part of the Kensington Precinct would be located in the combined basement. These would be accessed either from Kent Road or O'Connor Street.

In relation to waste collection, these would be conducted from Kent Road for Blocks 3B and 3C and from Goold Street for Block 10.

The student accommodation will be fully furnished, therefore requirement for removalist vehicles to access the site would be very low. On rare occasions when this is required, removalist vehicles would load and unload on Kensington Street.

4 Traffic Implications

4.1 Previous Modification Traffic Assessment

The Roads and Maritime Services, RMS (formerly RTA) previously examined the traffic implications on the surrounding road network due to the Central Park development as proposed under the Concept Plan including consideration of the proposed connections to the surrounding road network. RMS found that the surrounding road network would continue to operate satisfactorily.

The approved Concept Plan (and the subsequent amended Concept Plan) estimated that the entire development would generate some 493 vehicle trips per peak hour.

Subsequent modifications to the original approval for Blocks 2 and 5 resulted in the overall development traffic increasing from 493 vph to 532 vph – an increase of 39 vph.

Additional intersection analysis was conducted to examine the effects of this additional traffic. **Table 4.1** compares the analysis results under the original approval with the results examining the effects of the additional traffic.

Table 4.1 Intersection Performance Results

	Morning Peak Hour		Evening Peak Hour	
	LoS	**Ave. Delay (sec/veh)**	**LoS**	**Ave. Delay (sec/veh)**
Original Approval				
- Abercrombie St Access	A	11	A	10
- Broadway Access	A	13	B	16
- Regent St Access	B	15	B	15
Amended PA				
- Abercrombie St Access	A	11	A	10
- Broadway Access	A	13	B	16
- Regent St Access	B	16	B	16

Note: The level of service (LoS) provides an indication of the operational efficiency of a given intersection. LoS A indicates that an intersection has good operating conditions, while LoS F indicates that the intersection operates unsatisfactorily. LoS D is the long term desirable level of service.

It was found that the extra traffic would have negligible effects on the operation of the surrounding intersections. They would continue to operate at the same levels of service as those applying to the original approval i.e. level of service B or better for both peak periods.

Subsequent to the above, additional changes to Blocks 2 and 5 unit mix resulted in an additional 3 vph increasing the overall development traffic to 535 vph. It was considered that the additional 3 vph was so small to have any negligible traffic impact.

4.2 Kensington Precinct Traffic Assessment

4.2.1 Previous Assessments

As indicated previously, the traffic implications of proposed developments within Blocks 3, 6, 7 and 10 were assessed collectively (Kensington Precinct). The traffic assessment for the approved Concept Plan made an allowance of some 20 vph arising from the assumed developments within the Kensington Precinct. This level of traffic estimate related to the following uses:

- 33 residential units; and
- 9,155m^2 of commercial use.

The above mix included a 3,708m^2 GFA boutique hotel with some 65 hotel rooms. This was anticipated to be located within Block 3A. The remainder of Block 3A plus Blocks 6 and 7 were proposed to be developed with a mixture of commercial and retail uses (total gross floor area of some 4,690m^2).

4.2.2 Current Scheme

Blocks 3B, 3C and 10 are now proposed to accommodate 201 student accommodation units with five parking spaces proposed to serve the development. These would be reserved predominately for the use by administration staff.

It is expected that the students living within the proposed development would not generate significant vehicle types for the following reasons:

- the majority of students would not own a motor vehicle;

- on-site parking is not provided for students (so that students that did own cars would tend to live elsewhere);
- the site is located within walking distances to nearby public transport nodes including Central Railway Station and bus stops and terminal at Railway Square;
- the site being within the City Centre is located within walking distances to amenities, services and other recreational facilities; and
- educational campuses where the students living on the site could be attending are located within walking distances e.g. UTS (including its Broadway, Haymarket and Blackfriars campuses), TAFE NSW Sydney Institute Ultimo Campus and University of Sydney Camperdown Campus.

Any traffic demand arising from the proposed development would predominately be generated by the administration staff. Five car parking spaces are proposed for administration staff. Therefore, in a high case scenario, the proposed development would generate only 5 vph during the peak periods (assuming all staff would arrive or depart for work within the same peak hour).

The traffic generation estimate for the remainder of the Kensington Precinct (i.e. Blocks 3A, 6 and 7) is as follow:

- a 65 room boutique hotel in Block 3A (3,708m^2 GFA)
  @ 0.26 trips per room = 17 vph[4]
- remainder of Block 3A, Blocks 6 & 7 (4,690m^2)[5] 29 car spaces
  @ 0.32 trips per space = 9 vph[6]
- **total trips (for Blocks 3A, 6 and 7) = 26 vph**

Therefore, the entire Kensington Precinct including the current scheme for Blocks 3B, 3C and 10 would generate a total of 31 vph. This is a little higher than the allowance in the previous assessment of 20 vph.

[4] Recommended RTA traffic generation rate for 5-star luxury hotels.
[5] Based on approved floor space area in the amended concept plan.
[6] Assumed worst case scenario where all 4,690m^2 would be developed as commercial development – the LEP does not make provision for retail customer parking.

This change would increase the overall site development traffic from 535 vph to 546 vph. This is considered to be acceptable for the following reasons:

- the additional traffic (11 vph) is only two per cent of the overall development traffic and less than 0.5 per cent of the peak hour traffic on Broadway;
- the previous analysis indicated that the access intersections serving the site would have ample spare capacity (LoS B or better); and
- the additional traffic would be spread across three access intersections.

In the light of the above, the additional traffic arising from the proposed development would have negligible traffic effects. The surrounding road network would continue to operate well in the future as originally planned.

5 Parking Assessment

5.1 Blocks 3B, 3C and 10 Parking Requirements

Parking requirement for the proposed development has been assessed against various relevant guidelines and codes, namely:

- State Environmental Planning Policy (Affordable Rental Housing) 2009;
- City of Sydney Boarding Houses Development Control Plan 2004; and
- City of Sydney Local Environmental Plan Chapter 2 Central Sydney.

SEPP Affordable Housing states that a consent authority can not refuse development on the grounds of parking if, in the case of development in an accessible area (as is in this case i.e. the site is within 400m walking distance of a bus stop):

- "*0.2 parking spaces are provided for each boarding room*"; and
- "*1 parking space is provided for each person employed*".

Thus, the proposed development is required to provide 43 parking spaces (assuming the student accommodation would have three employees). However, in accordance with clause 29(4) of SEPP Affordable Housing, a consent authority can approve a development proposal which provides a lesser parking rate if it considers it reasonable in the circumstances.

SEPP Affordable Housing also requires at least one bicycle parking space and one motorcycle parking space for every five boarding rooms. Therefore, 40 bicycle and 40 motorcycle parking spaces (based on 201 units proposed) are required to be provided.

In relation to Council's Boarding Houses DCP, it requires off-street parking to be provided in accordance with the requirements of the relevant local environmental plan or development control plans. Assessment of the parking requirement against the relevant LEP is discussed further below.

In addition, the Boarding Houses DCP also requires bicycle parking spaces to be provided at a rate of two racks per six bedrooms. Therefore, the DCP requires 89 bicycle spaces (based on 267 beds proposed) to be provided.

The Sydney City Council's *Local Environmental Plan Chapter 2 Central Sydney* (LEP) requires parking for various types of development uses. However, it does not provide parking rates specifically for a student accommodation use. In this case, the LEP indicates that the following parking provision be provided if the LEP does not have a specific rate for such a use:

$$\text{Max. Car Parking} = \frac{\text{Proposed FSA}}{\text{Total FSA within Development}} \text{ X } \frac{\text{Site Area}}{50}$$

Based on a proposed floor space area for the proposed development of 8,574m^2, the allowable maximum car parking spaces is 51 spaces[7].

In addition, Council's Central Sydney Development Control 1996 (DCP) requires parking for motorcycles to be provided at rate equivalent to at least one car parking space for every 100 car parking spaces provided. Similarly for bicycles, one car parking space for the exclusive use of bicycles to be provided for every 100 car parking spaces provided.

On this basis, one car space (say three motorcycle parking spaces) is to be provided for the parking of motorcycles plus one additional car space (say three bicycle parking spaces) for the parking of bicycles.

Table 5.1 summarises the parking requirements contained within various guidelines and codes. The proposed parking provision is also shown in **Table 5.1**.

Table 5.1 Parking Requirements and Proposed Provision

Parking Requirements	SEPP Affordable Housing	Boarding Houses DCP	LEP/DCP	Proposed Provision
Car	43	51	51	5
Bicycle	40	89	3	54
Motorcycle	40	§	3	53

§ - no specific requirements

[7] Based on a development FSA of 177,917m^2 and a site area of 58,346m^2.

It is proposed to provide five car spaces in recognition of the following factors:

- the accommodation is specifically aimed at students who would not have a car;
- the site is located within walking distances to major transport nodes, and amenities and services;
- a number of tertiary educational campuses are located in close proximity of the site (UTS, University of Sydney and TAFE NSW); and
- a significant number of car share spaces will be provided on the Central Park site and will be available for student use.

It is noted that the proposed car parking provision would be less than the requirements specified in SEPP Affordable House and the Boarding Houses DCP. However, it complies with the maximum allowable parking provision stipulated in the LEP. Further, both Council and the Department of Planning and Infrastructure have made clear their objective to reduce the amount of parking provided on the site due to the sites central location. The proposed reduced parking provision rate is consistent with this objective and Frasers intention to deliver a sustainable development where use of sustainable forms of transport is encouraged.

Finally, it is noted that the City of Sydney recently approved a similar development at Chippendale. This approved development was for 98 bedrooms for student accommodation, but provision of on-site car parking was not required. Council's assessment report indicates this is acceptable as it would reduce car dependency.

In relation to provision for motorcycle and bicycle parking, it is proposed to provide 53 motorcycle parking spaces and 54 bicycle parking spaces. Therefore, the proposed parking provisions for motorcycles and bicycles complied with both the SEPP Affordable Housing and DCP requirements.

However, the proposed 54 bicycle parking spaces would be less than the requirement contains in the Boarding Houses DCP. This is considered to be satisfactory given the site is located within walking distances to major public transport nodes, and services and amenities.

Overall, it is considered the proposed parking provision would be satisfactory.

5.2 Overall Parking Provision

For the overall Central Park development, the Sydney City LEP stipulates general vehicle parking requirement to 1,909 car spaces. In addition to this, the DCP requires an additional 126 spaces for service vehicle parking. This is inclusive of visitor parking, car share spaces and accessible car spaces.

Condition B5 of the Modification Approval places a limit on the on-site parking provision to be the lesser of the Sydney Council LEP requirement for parking spaces and 2,000 spaces. At this stage, the 1,909 spaces limit applies and Frasers Broadway is committed to not exceed this number of spaces.

6 Other Transport Implications

6.1 Existing Public Transport

The site, being within the Sydney City Centre, is well served by regular bus services along Parramatta Road/Broadway as well as Harris Street with direct services into the CBD and surrounding destinations such as Glebe, Newtown, Abbotsford, Kogarah etc. The nearest bus stop is on Broadway which is literally at the "door step" to the site.

In addition, the site is located approximately within 550m walking distance to Central Railway Station. Central Railway Station services all train lines within the CityRail network, and is a major terminus for suburban as well as interstate rail services. As such, all CityRail railway stations could be accessed from Central.

The site is also located within walking distance of a light rail stop at Central Railway Station. Running from Central Railway Station, the light railway network connects Lilyfield to the inner city areas such as Darling Harbour and Ultimo. It has a peak period frequency of 10 minutes.

The Travel Access Guide prepared for the site (see **Appendix A**) provides details on the available bus and train services near the site. The Travel Access Guide indicates that the area is very well served by public transport.

6.2 Existing Walking & Cycling Facilities

The site is also very well situated in terms of provision for walking and cycling. There are a number of strategic and local cycling routes and links in the vicinity of the site.

Public footpaths are currently provided along the majority of roads in the local network. Fully constructed footpaths are available on both sides of Broadway in the vicinity of the site with generous width. Similarly, along Harris Street, Regent Street, and Abercrombie Street fully constructed pedestrian footpaths are also available on both sides of the streets. The pedestrian network is continued into the residential streets to

the south and west of the site as well as across Broadway into the area to the north of the site.

There is an existing RTA on-road cycle path that runs along Wilson Street near Newton that joins on to Shepherd Street to continue along Broadway near Mountain Street before heading north along Jones Street towards Pyrmont Bay. The section along Broadway is provided as off-road shared pedestrian/cycle path.

A combination of other on-road and off-road cycle links provide access to the surrounding suburbs.

In addition, on-road cycling is also permissible on the local road network where traffic volumes are generally considered to be moderate.

6.3 Existing Bicycle Parking Provision

Sydney City Council provides free bicycle parking spaces on most streets within its local government area. They are provided either as bicycle parking rings or U-rail parking. There are a number of bicycle parking rings located on Broadway within the immediate vicinity of the site.

6.4 Proposed Cycling and Walking Arrangements

It is anticipated that the development would attract some additional walking and cycling trips. However, it is considered that the development would have minimal impact on existing walking and cycling facilities on the surrounding road network.

The following enhancements to pedestrian and cycle networks are proposed as part of the amended Concept Plan for the overall Central Park development site.

Pedestrian crossing facilities will be provided across the main roads surrounding the site, namely Broadway, Abercrombie Street and Regent Street. Pedestrian pathways will be provided on both sides of all internal streets within the site. A shared pedestrian/cycleway link to Wellington Street will be provided through the proposed park. This shared pathway would continue through the park to connect to Central Park

Street (Balfour Street). A raised pedestrian threshold is also proposed across O'Connor Street adjacent to the main park at the centre of the overall site.

The provision of bicycle facilities through the site has accounted for external linkages to existing and proposed bicycle routes as part of the Sydney City Council Bicycle Plan.
A shared pedestrian/cycleway will be provided through the park from Wellington Street to Balfour Street. Recreational cyclists will utilise the shared laneways to access Central Park Avenue (Tooth Avenue) before making their way to Broadway. Non-recreational cyclists will utilise the signposted cycle route through the site along Balfour Street.

This will create a permeable pedestrian/cycle network through the Central Park site which will be fully accessible by local people and people traversing the site. This accessibility will thus enhance existing pedestrian/cycle accessibility between Chippendale and the node of public transport represented by Railway Square/Central Station.

In addition, Council's has plans for an off road shared pedestrian/cycle pathway along the eastern side of Abercrombie Street.

Figure 4 also shows the above amended Concept Plan proposed additional pedestrian and cycle facilities.

In addition, the proposed overall Central Park development proposes to provide bicycle parking spaces in accordance with the requirements set out in Council's LEP and DCP.

6.5 Future Public Transport Patronage

It is expected that students living on the site would make use of the existing available public transport services. However, as the site is well serviced by both bus and heavy rail services, it is not expected that it would require further augmentation to enhance existing public transport service in the area.

Further, any improvement to public transport services would be a matter for the consideration of the Ministry of Transport as part of its long term strategic planning and implementation of public transport services.

7 Workplace/Green Travel Plan

7.1 Introduction

Transport is a necessary part of life, but it has economic, public health and environmental consequences. The transport sector is one of the fastest growing emissions sectors in Australia, and therefore is one of the key opportunities for reducing greenhouse gases. As well as delivering better environmental outcomes, providing a range of travel choices with a focus on walking, cycling and public transport will have major public health benefits and will ensure a strong and prosperous community.

The physical infrastructure being provided as part of the development is only part of the solution. A Workplace/Green Travel Plan will ensure that the transport infrastructure, services and policies both within and external to the site are tailored to the users and co-ordinated to achieve the most sustainable outcome possible.

7.2 What is a Workplace/Green Travel Plan

A Workplace/Green Travel Plan is a package of measures aimed at promoting sustainable travel and reducing reliance on the private car. It is not designed to be 'anti-car', but will encourage and support people's aspirations for carrying out their daily business in a more sustainable way. Travel Plans can provide both:

- measures which restrict car use (disincentives or 'sticks');
- measures which encourage or support sustainable travel, reduce the need to travel or make travelling more efficient (incentives or 'carrots').

The Travel Plan would promote the use of transport, other than the private car, for choice for travel to and from the site, which is more sustainable and environmentally friendly.

Indeed, there are a range of "non car" transport options that are available at the site which have been described in this report.

7.3 Key Objectives

The aim of the Workplace/Green Travel Plan is to bring about better transport arrangements for staff working on the site as well as residents (students) living on the site. The key objectives of the Travel Plan are:

- to encourage walking;
- to encourage cycling;
- to encourage the use of public transport;
- to reduce the use of the car, in particular single car occupancy; and
- where it is necessary to use the car, encourage more efficient use.

The introduction of a Travel Plan would:

- offer wider travel choices to staff/residents;
- help employees/residents to be healthier, fitter and more productive; and
- provide equal opportunities by supporting those staff/residents without access to a car.

It is the intention therefore that the Travel Plan will deliver the following benefits:

- enable higher mode share targets to be achieved;
- contribute to greenhouse gas emission reductions and carbon footprint minimisation;
- contribute to healthy living for all;
- contribute to social equity and reduction in social exclusion; and
- improve knowledge and contributes to learning.

Workplace/Green travel plans are historically the most common type of travel plan in the UK and the USA as regular journeys such as the daily commute to work tend to be the easiest to influence.

It is difficult at this stage without knowing the type and location of the occupants (both staff and residents) to prepare a detailed Workplace/Green travel plan. It would be reasonable for a condition to be imposed on a development consent which would ask the developer to design and implement a plan prior to occupation of the site and Frasers

(and any future owners of the buildings) will commit to providing such a Workplace/Green travel plan.

7.4 Site Specific Measures

As stated earlier, it is difficult to be specific about the measures that might be introduced until the demographics of the occupants are fully understood.

However, it is likely that the Workplace/Green Travel Plan at this site could include the following measures.

- appointment of a travel plan co-ordinator – this will not be a full time position, but will become a responsibility for a designated member of the existing staff and/or a representative of the residents living within the buildings;
- provision of secure cycle parking and shower facilities in the development layout so that cycle users have the benefit of facilities from day one;
- investigation into potential car pooling – this will not realistically be possible until the site is occupied and the whereabouts of staff and workers is fully understood;
- investigation into discounts/interest free loans to cyclists to purchase cycle;
- investigation into provision of discounted public transport tickets;
- provision of a transport access guide which would be given to all occupants during their introductions and will also be made available on staff and/or resident related intranet websites as appropriate; and
- public transport notice boards to make staff/residents more aware of the alternative transport options available to them and also for car pooling notices/invitations.

Frasers has therefore put together the framework of a Workplace/Green Travel Plan which would form the basis of the formal document. Future building owners and/or employers will also make a commitment in how the plan will be practically managed. There should also be a clause in the leasing contract committing potential employers to commit to developing such a plan.

7.5 Travel Plan Management

There is no standard methodology for this, but it is suggested that the following be undertaken:

- appoint a company travel plan co-ordinator – as stated above, this is only likely to involve an additional task for somebody already holding another post. They will be responsible for issuing information to staff/residents about transport initiatives;
- monitor the Travel Plan to ensure that it is achieving the desired benefits and modify it if required; and
- if the targets have not been met, the operator will be expected to introduce additional measures to try & achieve the required modal shift. It will not be possible at this stage to state what these additional measures might involve as this will be dependent upon the particular circumstances prevailing at that time.

There are however, several keys to the successful development and implementation of a Workplace/Green Travel Plan. These include:

- communications – good communications are an essential part of the Travel Plan. It will be necessary to explain the reason for adopting a plan, promote the benefits available and provide information about the alternatives to driving alone.
- commitment from future building owners/employers – Travel Plans involve changing established habits and working practices. To achieve employee/resident co-operation it is essential for the operator to promote positively the wider objectives and benefits of the Plan. This commitment includes the provision of the necessary resources to develop and implement the Plan, beginning with the introduction of the 'carrots' or incentives for changing travel modes.
- consensus – it will be necessary to obtain broad support for the introduction of the Plan from the staff/residents.

Once the Plan has been adopted it is essential to maintain interest in the scheme. Each new initiative in the Plan will need to be publicised and marketing of the project as a whole will be important. Once up and running the scheme needs regular new publicity

drives to attract new takers e.g. as part of an employee/resident newsletter at say every six months. This will be the responsibility of the Travel Plan Co-ordinator.

Initiatives that Travel Plan Coordinators have used successfully elsewhere include:-

- walk to work day;
- cycle to work day;
- bus to work day;
- provision of a free weekly/quarterly public transport ticket to the initial occupants of the student accommodation;
- provision of discounted membership to car sharing schemes; and
- meal deals for students incorporating public transport fare for travel later.

It is often the case that if a person has found it easy to travel on such days, they will try that mode of travel again.

As not all of the initiatives can be implemented prior to the occupation of the buildings, it is proposed that two additional milestones are set:

- within three months of the first occupation of the building, a travel survey will be conducted. The results of the travel survey will be analysed and used to determine if measures are required to cater for existing demand and also encourage modal shift away from the private car. The measures will be dependent on the needs of the occupants.
- within six months of occupation the full travel plan will be developed and include;
    - results of the travel survey;
    - recommended travel plan measures including how they will be adopted;
    - agreed procedure and timescales for implementation; and
    - details of future travel plan monitoring and review.

Full implementation of the plan will then proceed.

7.6 Travel Access Guide

A Travel Access Guide (TAG) provides information to staff, residents (students) and visitors on how to travel to the site using sustainable transport modes such as walking and public transport. The information is presented visually in the format of a map showing the site location and nearby transport nodes highlighting available pedestrian and cycle routes. The information is usually presented as a brochure to be included in a welcome pack or on the back of company stationary and business card.

A preliminary TAG has been specifically prepared for the subject proposed development. This is contained in **Appendix A**.

7.7 Summary

Future building owners and employers should be required to develop and utilise a Workplace/Green Travel Plan to improve the use of sustainable transport by their staff and residential occupants of the building. Although it is difficult to predict what measures might be achievable until the demographics of the workforce and the travel patterns of the students are fully understood, the above measures provide a framework for the development and implementation of a future Workplace/Green travel plan for the site.

It is considered that it is appropriate that any development consent is conditioned to ensure that a Workplace/Green travel plan is implemented prior to occupation of the development.

8 Summary & Conclusions

This report has been prepared to accompany a project application for a proposed development to provide student accommodation on Blocks 3B, 3C and 10 within the Central Park site. The proposal involves the construction of two new buildings on Blocks 3B and 3C, and adaptive re-use of an additional existing building on Block 10.

The proposed development would provide a total of 8,574m^2 of gross floor area comprising 7,924m^2 of student accommodation and 650m^2 of non residential (retail) uses. The proposed development would accommodate 201 individual student accommodation units or 267 beds.

It is proposed to provide five car parking spaces, 53 motorcycle parking spaces and 54 bicycle parking spaces to serve the proposed development. The car parking and motorcycle spaces would be located in the combined basement car park for Blocks 2 and 5 and the Kensington Precinct as per the approvals contained in MP 09_0042.

Kensington Street would be provided with additional landscaped areas within the existing parking lane.

Under the approved Concept Plan, it was estimated that the Central Park development would generate some 493 vph. Of the 493 vph, an allowance of some 20 vph was related to the Kensington Precinct.

The Concept Plan traffic impacts of the site as a whole have been assessed by the RTA and were found to be within acceptable limits.

The subject development (on Blocks 3B, 3C and 10) is anticipated to generate only 5 vph during the peak periods. The remaining blocks on Kensington Precinct (Blocks 3A, 6 and 7) are expected to generate an additional 26 vph. Therefore, the total development traffic for Kensington Precinct would increase from 20 vph to 31 vph. The extra traffic is not expected to create any material adverse impacts to the surrounding road network.

The proposed parking provisions comply with parking requirements stipulated in Council's relevant Local Environmental Plan and Development Control Plan.

The amended Concept Plan for the entire Central Park site includes a number of pedestrian and cycle facilities that would improve access to/from the site for pedestrians and cyclists within the site as well as the permeability of the site for pedestrians/cyclists traversing the site.

It would be reasonable for any approval consent to include a condition requiring a Workplace/Green Travel Plan be produced. **Appendix A** contains a Travel Access Guide for the site. The Workplace/Green Travel Plan and Travel Access Guide will equally apply to staff working and students living on the site.

Overall, the traffic and parking implications of the proposed development are considered to be satisfactory.

Appendix A Travel Access Guide

Central Park Blocks 3B, 3C & 10 – Travel Access Guide

Transport Services and Facilities

Train

Central Railway Station, located 500 metres away from the site, is one of the largest railway station and transport interchange in Australia. It serves all Sydney suburban, intercity, country and interstate trains except for the Cumberland Line and the regional Hunter Line.

	Frequency – AM Peak		Frequency – PM Peak	
	To city	*From City*	*To city*	*From City*
Suburban Line				
Eastern Suburbs & Illawarra Line	10 min	10 min	10 min	10 min
Bankstown Line	10 min	10 min	10 min	10 min
Bankstown Line	5 min	5 min	5 min	5 min
Airport & East Hills Line	5 min	5 min	5 min	5 min
South Line	5 min	5 min	5 min	5 min
North Shore/ Western Line	5 min	5 min	5 min	5 min
Carlingford Line	30 min	40 min	30 min	30 min
Northern Line	15 min	15 min	15 min	15 min
Intercity Line				
South Coast	15 min	30 min	30 min	15 min
Southern Highlands	30 min	15 min	30 min	15 min
Blue Mountains	15 - 30 min	20 - 40 min	45 min	15 - 30 min
Newcastle & Central Coast	15 - 20 min	30 min	20 - 40 min	15 min

Bus

Route No.	Service Route	Frequency – AM Peak	Frequency – PM Peak
M30	Mosman to Sydenham	10 min	10 min
352	Marrickville to Bondi	15 – 25 min	20 min
422	City to Kogarah	20 min	15 min
423/ L23	City to Kingsgrove	10 min	15 min
426	City to Dulwich Hill	10 – 20 min	5 – 15 min
428/ L28	City to Canterbury	10 – 20 min	5 – 15 min
431	Millers Point to Glebe Point	5 – 10 min	5 – 15 min
433	Balmain & Glebe Point to City	5 – 15 min	5 – 15 min
436	City to Chiswick	10 – 20 min	10 – 25 min
438/ L38	City to Abbotsford	5 – 15 min	5 – 15 min
439/ L39	City to Mortlake	15 – 30 min	15 – 30 min
440	City to Rozelle	5 min	5 – 15 min
461	City to Burwood	10 min	10 – 20 min
470	Lilyfield to City	5 – 15 min	5 – 15 min
480/ 483	City to Strathfield Station	10 – 20 min	10 – 20 min

Light Rail

Light Rail operates every 10-15 minutes on day time from Central Station to Lilyfield. Service to Lilyfield finish at 11pm and overnight service is available from Central Station to The Star Casino for every 30 minutes

Wheelchair accessible buses operate on some routes. Call Sydney Buses or the Transport Infoline for details.

The closet cycle routes run along Jones Street, Shepherd Street and Meagher Street. The cycle routes are connected to Sydney CBD, inner west and eastern suburbs.

Note: See attached maps of ***Existing Public Transport Nodes***, ***Existing Bus Routes*** and ***Existing Cycle Network***.