

ATTACHMENT E

**SUPPLEMENTARY TRAFFIC REVIEW
JULY 2013**

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30 July 2013

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Broadway Cycleway Link: - Chippendale traffic review

Following the comments received at a recent meeting with residents over proposed traffic management arrangements associated with the Broadway Cycleway project, I have reviewed the traffic signal design for the Myrtle Street, Meagher Street and Abercrombie Street intersection and undertaken a preliminary assessment of the impacts of the proposed signals on rat running via the local streets in Chippendale.

As you will recall, concerns were raised at the meeting over the proposed road geometry and need for traffic signals at the Myrtle Street and Abercrombie Street intersection and the impacts such provision may potentially have on intensifying the use of local streets by through traffic.

Existing conditions

The Chippendale area is generally bounded by the arterial roads of Regent Street, Cleveland Street, City Road and Broadway, whilst the arterial route of Abercrombie Street bisects the suburb. The existence of a number of turning and one way restrictions on these arterial roads, together with traffic congestion during some periods of the day, results in a degree of rat running through the local street network. These restrictions, which are described in the drawing provided in Figure 1, include:

- the one way northbound restriction on Abercrombie Street
- the no right turn restriction from Regent Street southbound at Cleveland Street
- the no right turn restriction from Broadway at Abercrombie Street/Wattle Street
- the one way southbound restriction on Regent Street
- the restriction of access to Broadway from Little Regent Street.

As a consequence of these restrictions and congestion on the arterial road network:

- Motorists exiting from the Concourse level of Central Railway via Lee Street have no alternative other than to turn right from Regent Street into either Queen Street or Meagher Street in order to travel west via Broadway or north to the Sydney Harbour Bridge and Anzac Bridge.

- A proportion of motorists avoid queuing in the dedicated left turn lane on Regent Street (northbound) on the approach to Cleveland Street and also in Cleveland Street on the approach to Abercrombie Street by continuing on Regent Street and using either Meagher Street or Queen Street to access Abercrombie Street and destinations to the north and west thereof.

Surveys at the Myrtle Street, Meagher Street and Abercrombie Street intersection, indicates the following level of activity:

Table 1 AM and PM peak traffic flows

Movement	7.00 am–8.00 am	8.00 am–9.00 am	4.00 pm–5.00 pm	5.00 pm–6.00 pm
Abercrombie Street				
Left	16	39	29	22
Through	1342	1410	1417	1412
Right	34	52	31	37
Myrtle Street				
Left	52	101	75	58
Through	9	7	4	5
Meagher Street				
Through	9	8	13	20
Right	100	118	196	200

Whilst the volume of vehicles entering and exiting Myrtle Street are of an order of magnitude which would suggest that the majority of the traffic flows are locally generated trips, the movements turning out of Meagher Street, particularly in the PM peak indicate activity more in keeping with use as a through traffic street. Recent observations indicate:

- Motorists have a tendency to turn right from Regent Street into either Meagher Street or Queen Street on the basis of gaps in the opposing traffic stream. If northbound traffic is constant, motorists have a tendency to turn right at Meagher Street. However if a gap in the opposing traffic flows is observed when approaching Queen Street, the opportunity is taken.
- In the main, motorists travelling north on Regent Street turn left into Meagher Street with very few being observed turning at Queen Street. On the few occasions where vehicles were observed queuing in Meagher Street on the approach to Abercrombie Street, a small number of vehicles turned right into Balfour Street to access Queen Street.

Future road network

The road network in the Chippendale area to the east of Abercrombie Street is in the process of significant transformation as a consequence of the redevelopment of the Frasers site. The project involves the construction of a new internal road network with new and revised access provisions to the arterial roads. The network, which is described in the drawing provided in Figure 2 incorporates:

- A new signalised intersection on Broadway with signal controlled right turn movements permitted from Broadway and left and right turn movements out onto Broadway (constructed).
- A new signalised intersection on Abercrombie Street at O'Connor Street with right in and left out only movements permitted (constructed).

- A new signalised intersection on Regent Street at Kent Road South (formerly Kensington Street) with all movements permitted and including a signal controlled dedicated right turn bay on Regent Street (constructed).
- In addition, secondary (non-signalised) access provisions are proposed on Broadway (at Kent Road) and Abercrombie Street (north of O'Connor Street).

As a consequence of these provisions the following movements will be accommodated:

- Regent Street to Broadway via either Kent Road or the signal controlled Central Park Road intersection
- Regent Street to Abercrombie Street via either the signal controlled O'Connor Street or the uncontrolled intersection to the north
- Broadway (eastbound) to Regent Street via the signal controlled intersection of Central Park Road and Kent Road (at Regent Street).

Assessment

The road geometry of the proposed Traffic Signal installation at the Myrtle Street, Meagher Street and Abercrombie Street intersection has been reviewed in consultation with representatives of both the Network Operations and Traffic Management sections of the Roads and Maritime Services. As indicated earlier, the primary purpose for the review was to ascertain the extent to which the existing traffic management arrangements in Myrtle Street could be retained without compromising the safety of all road user groups who could be expected to traverse the intersection. Following this consultation, written in principle support has been given to the revised design described in Figure 3.

The existing traffic management measures introduced within the western precinct of Chippendale (between Abercrombie Street and City Road) are such that use of the local roads by through traffic is negligible. On the other hand the existence of relatively direct connections between Regent Street and Abercrombie Street encourages a moderate use of the local roads by through traffic.

The proposed installation of traffic signals at the Myrtle Street, Meagher Street and Abercrombie Street is not being provided so much as a result of an adverse accident history or as a consequence of any unacceptable traffic delay/congestion in the side streets, but rather to provide a safe crossing facility of a major arterial road for cyclists of a levels of competence when travelling on what will be a highly recognisable bicycle corridor.

By providing signal control at this intersection, motorists who currently turn onto Abercrombie Street at will through the gaps in the Abercrombie Street traffic stream, will be constrained by the extent of green time afforded this approach. With this green time expected to be less than 20% of the total cycle time, a good proportion of the motorists who currently use Meagher Street to access Abercrombie Street will establish that the arterial road network offers a better trip time than the alternative of having to re-enter the arterial road network from a signal controlled side street. Having said this, it is acknowledged that whilst ever the local road network provides a relatively direct alternative, it is inevitable that some motorists, no matter how few, will continue to use of this route.

The Frasers site road network has been designed in a manner to quarantine the existing local road network in Chippendale from the effects of traffic generated by the development by enabling access to and from the site only via the surrounding arterial roads. The completion of this road network (currently expected to be around mid-2014) will present a positive outcome for existing residents and businesses in Chippendale, by providing alternative routes for motorists travelling between Regent Street and Broadway/Abercrombie Street. For example it is in not an unreasonable assumption that motorists travelling south on Regent Street

will turn right at the signal controlled Kent Street south intersection and access either Abercrombie Street or Broadway via the intersections created by the Frasers development rather than continuing past the intersection and using Meagher Street to access Abercrombie Street.

In conclusion, I am of the view that the proposed signalisation of the Meagher Street, Myrtle Street and Abercrombie Street intersection is not only critical to ensuring a safe crossing facility of Abercrombie Street for cyclists, but that such provision will also act to reduce the extent of rat running on Meagher Street. Further, it is inevitable that the additional routes which will be established with the opening of the roads within the Frasers site to general traffic will facilitate further reductions in the extent of through traffic movements on the existing local roads.

Whilst I am of the opinion that the works outlined above will by default result in a reduction of through traffic movements on Meagher Street and Queen Street, should circumstances arise where the introduction of additional measures are considered necessary, Council may wish to consider the implementation of the following:

- introduce a No Left Turn restriction from Regent Street at Meagher Street
- introduce a No Right Turn restriction from Regent Street at Queen Street
- convert Little Queen Street between Abercrombie Street and Balfour Street to One Way east.

By prohibiting left turn movements into Meagher Street and introducing a one way southbound restriction in Little Queen Street, through traffic using the local roads in this precinct will be required to take a more circuitous route in order to access Abercrombie Street. Whilst the introduction of these measures will also have an impact on motorists with a destination in the precinct, a number of alternative routes are available which are less palatable to those motorists travelling through the precinct. The drawing provided in Figure 4 outlines the proposed traffic management arrangements and the alternative routes available for local access.

Yours sincerely



Richard West

Principal Transport Engineer
Parsons Brinckerhoff

Encl: Figure 1. Existing Traffic Controls
Figure 2. Frasers Site road network
Figure 3. Modified Traffic Signal Design
Figure 4. Recommended Traffic Management measures

ATTACHMENT E

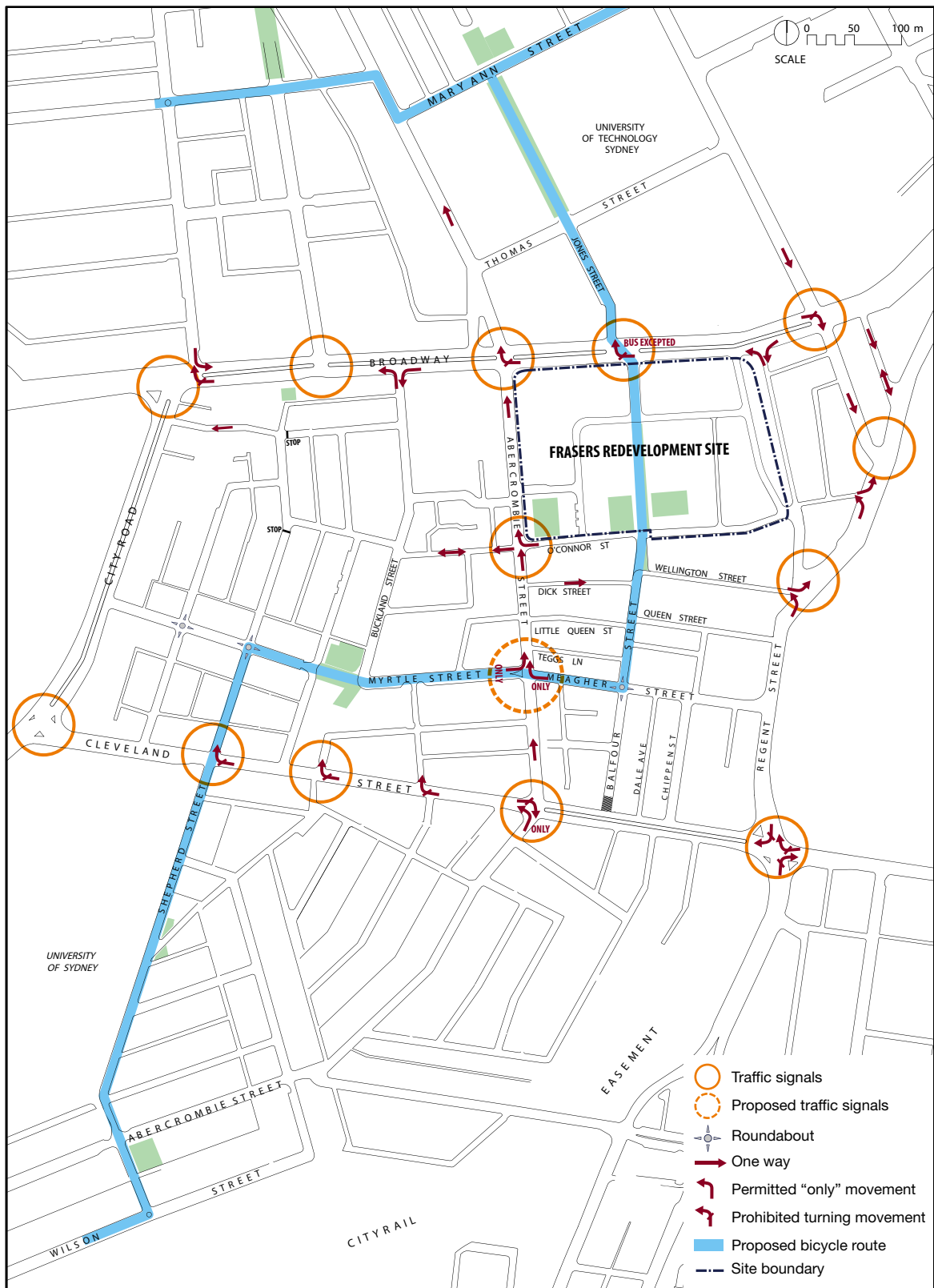


Figure 1 Existing traffic controls

ATTACHMENT E

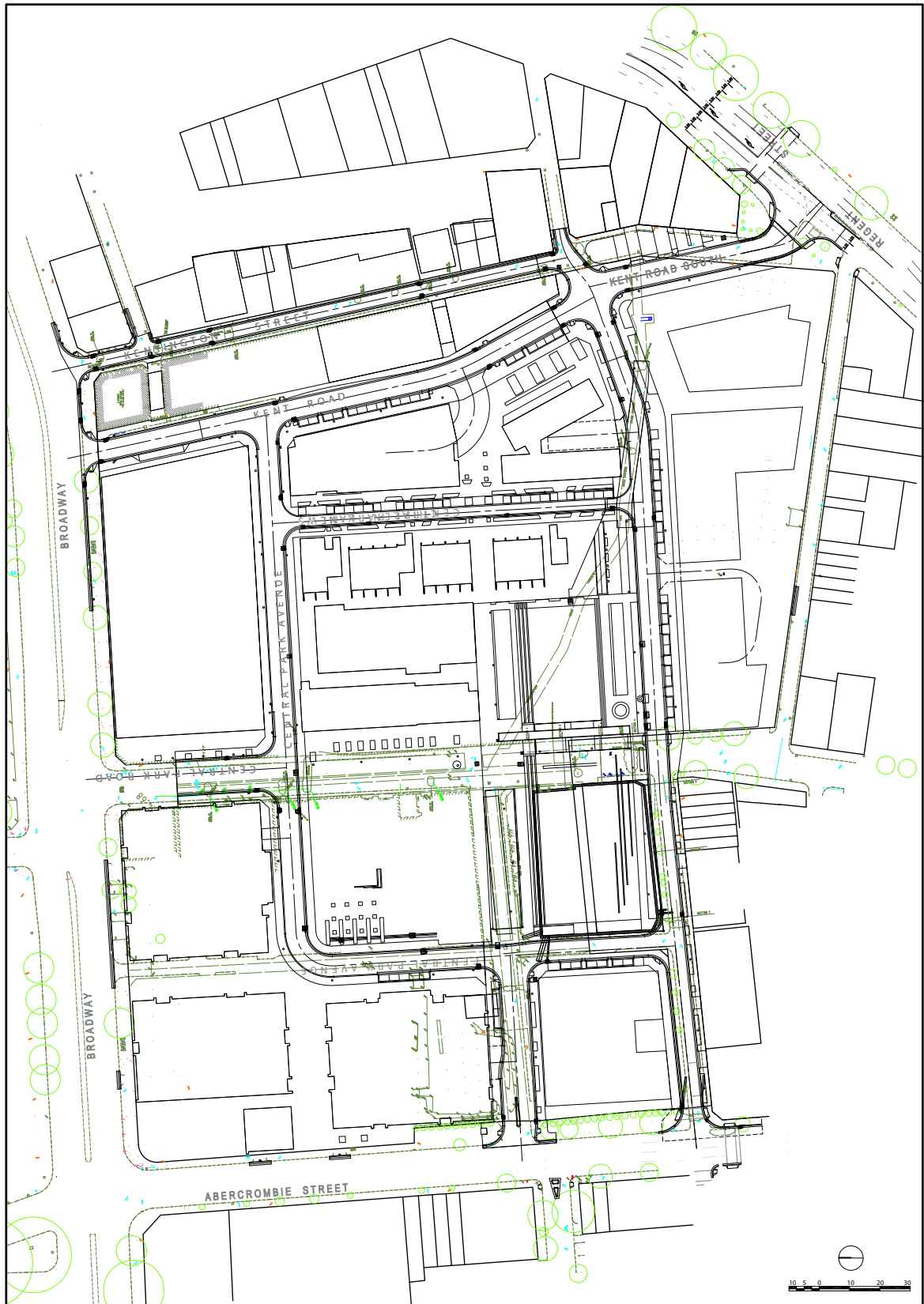
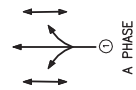


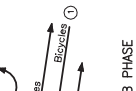
Figure 2 Frasers site road network

DATE IN SERVICE : 00000000

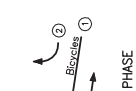
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A PHASE

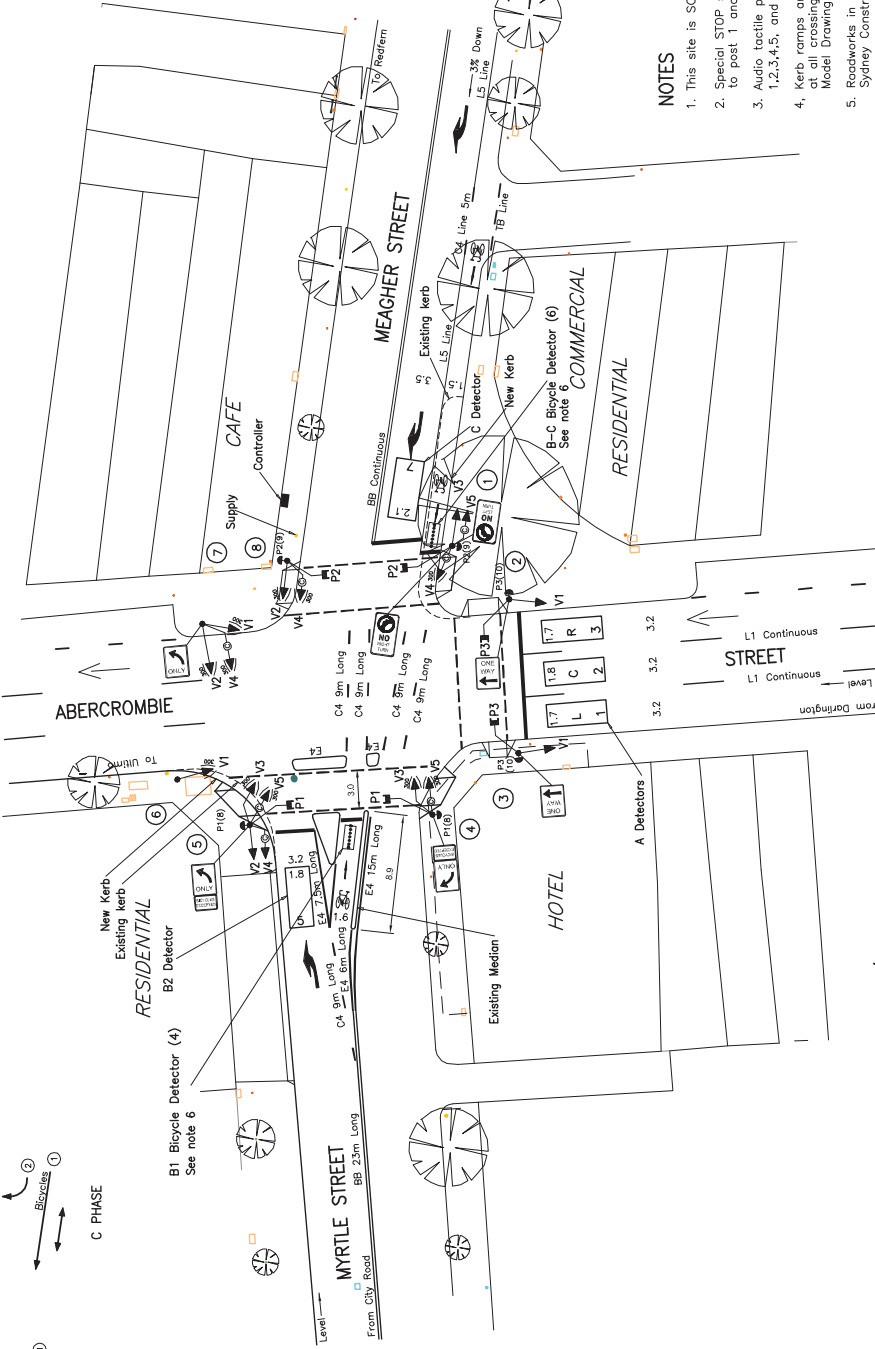


B PHASE



C PHASE

MOVEMENTS



POST	TYPE	LENGTH	REMARKS
1	2	4.1	NEW
2	2	4.1	NEW
3	2	4.1	NEW
4	2	4.1	NEW
5	2	4.1	NEW
6	2	4.1	NEW
7	2	4.1	NEW
8	2	4.1	NEW

DETECTOR SPECIFICATION

Detector	Specifications		
	FN	A(L)	A(E1)
A	S6/PS	A	A
B1	DS	B(NL)	B(E2)
B2	S6/PS	B	B
B-C	FN	B(L)	B(E3)
B-C	DS	B	B
B-C	FN	C(NL)	B(E1)
B-C	S6/PS	V5	B
B-C	DS	C(NEXT)	B(NEXT)
C	FN	C(L)	C(E2)
C	S6/PS	C	C
C	DS	C	C
P1	FN	A(PB)	B(L)
P1	S6/PS	P1(WALK)	A(P1(WALK))
P1	DS	B(C)	B(C)
P2	FN	A(PB)	B(L)
P2	S6/PS	P2(WALK)	A(P2(WALK))
P2	DS	B(C)	B(C)
P3	FN	B(PB)	A(L)
P3	S6/PS	P3(WALK)	B(C3(WALK))
P3	DS	C	A

SIGNAL GROUP / PHASE CHART

SIGNAL GROUP	PHASES WHEN GREEN			REMARKS
	A	B	C	
V1	X		1	
V2		X	1	
V3			X	1
V4		X		1
V5		X	X	3
P1	X			1
P2	X			1
P3		X	X	6

NOTES

1. This site is SCATS linked.
2. Special STOP sign (R1-4) attached to post 1 and 5.
3. Audio tactile push buttons provided on posts 1,2,3,4,5, and 6.
4. Kerb ramps are to be constructed at all crossings in accordance with Model Drawing MD.R173.Bo1.A.1
5. Roadworks in accordance with City of Sydney Construction Drawings
6. Bicycle detectors to be installed in accordance with RMS drawing VC005-36A
7. BICYCLE LANES on both approaches to the intersection to be coloured green.
8. Provision to be made in cabling and ducting for future pedestrian crossing on Abercrombie Street, north of Myrtle Street.

FIGURE 3

A ORIGINAL ISSUE	DESIGN LAYOUT	TCS No. 0000	7000.412.VV.0000	SHEET	1
	TRAFFIC SIGNALS AT THE INTERSECTION OF ABERCROMBIE STREET AND MEAGHER STREET	CHIPPENDALE		SCALE	1:200
ROADS AND MARITIME SERVICES	SYDNEY COUNCIL AREA	EXISTING	PROPOSED	FILE	412 TS 000
DESIGN APPROVAL	RMS ACCEPTANCE	CAAD FILE:	VV0000_1A.dgn	RESULT	A
APPROVED	RECOMMENDED	FILE	412 TS 000	SUPERVISOR	
APPROVED	RECOMMENDED	FILE	412 TS 000	SUPERVISOR	

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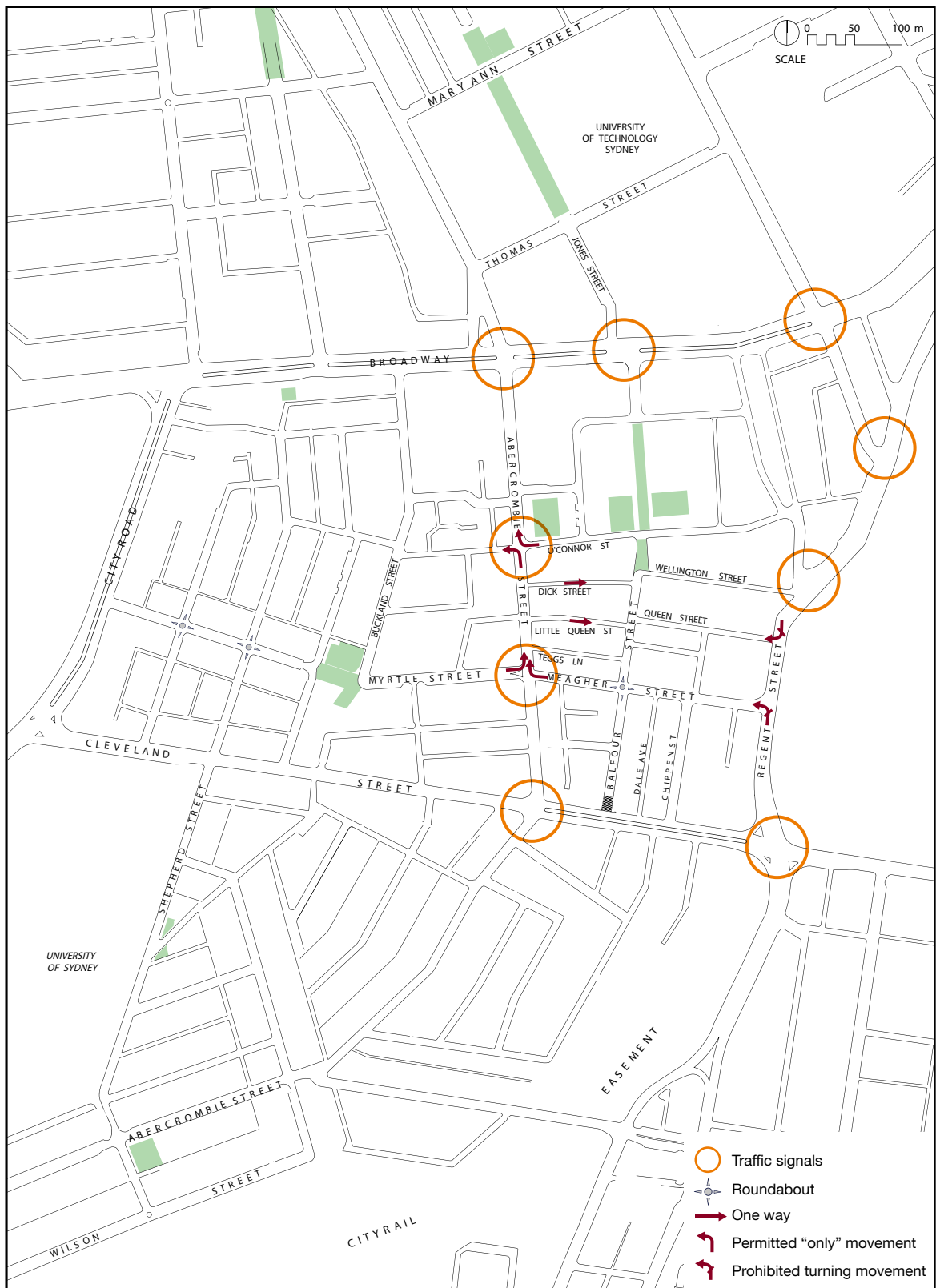


Figure 4 Recommended traffic management