APPENDIX A

TRAFFIC SURVEY RESULTS

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

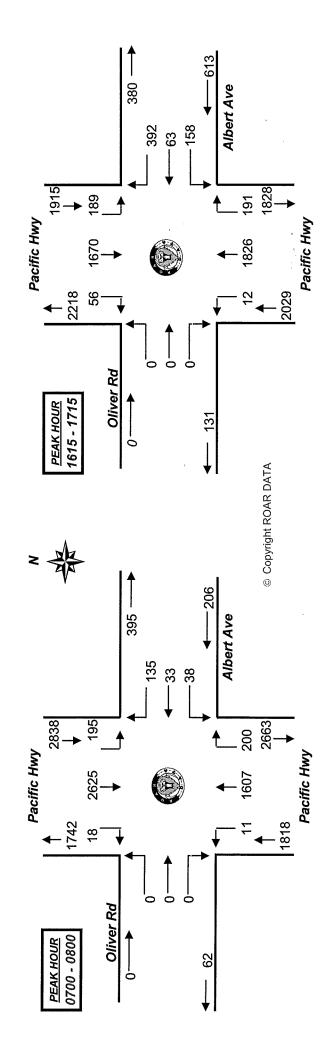
Job No/Name : 2320 Chatswood Albert L

: T.T.P.A.

Client

Day/Date : Thursday 26th June 08

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: T.T.P.A.

Client

R.O.A.R. DATA
Reliable, Original & Authentic Results
Ph 88196847 Fax 88196849 Mark 0418-230010

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R.O.A.R. DATA *Reliable, Original & Authentic Results*Ph.88196847, Fax 88196849, Mob.0418-239019

All Vehicles

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0730 - 0745		1	0	2	4		7
0745 - 0800		2	0	1	2		10
0800 - 0815		1	0	1	2		7
0815 - 0830		1	0	ε	2		9
0830 - 0845		1	0	2	4		2
0845 - 0900		1	1	2	7		11
Period End	0	6	2	13	31	0	55

		TOTAL	24	30	30	30	31
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os	Albert	씸	13	18	18	18	18
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PEAK HR 0 4 1	↑ Albert L	→	1 18 × ° ° ×	

: T.T.P.A. Client

: 2320 Chatswood Albert L Job No/Name

: Thursday 26th June 08 Day/Date

All Vehicles

	<u>S</u>	NORTH	EA	EAST	SOUTH	ЛΉ	
	Albert L	THE	Fleet I	et L	Albert	711	
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1645 - 1700		0	ε	2	1		11
1700 - 1715		1	2	4	3		13
1715 - 1730		1	4	9	3		14
1730 - 1745		0	7	4	1		7
1745 - 1800		0	1	7	8		16
Period End	0	9	22	43	87	0	66

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1600 - 1700	0	4	10	22	13	0	49
1615 - 1715	0	3	12	20	10	0	45
1630 - 1730	0	3	15	21	10	0	49
1645 - 1745	0	2	14	21	8	0	45
1800	0	2	12	21	15	0	20

2 12 21 15 0 50 Albert	2 <u>PEAK HOUR</u> 4 1700 - 1800	Fleet L 17 — 12	21 	21 + Albert L
0	← ₽ <	>→	← °	± 12 ,
PEAK HR				© Copyright ROAR DATA

R.O.A.R. DATA
Reliable, Original & Authentic Results

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All Vehicles

		TOTAL	68	61	74	94	112	86	66	66	929
ST	Thomas St	H	9	4	8	2	12	9	11	4	22
EAST	Thom	Ϊ	3	12	2	12	12	14	2	13	78
SOUTH	ert I	R	20	18	40	23	25	99	46	49	339
SOI	Albert	T	0	ε	1	1	0	2	l	9	13
WEST	Thomas St	낌	0	2	2	4	5	4	9	4	27
M	Lhon	H	11	22	18	19	26	16	28	24	164
***************************************		Time Per	0700 - 0715	0715 - 0730	0730 - 0745	0745 - 0800	0800 - 0815	0815 - 0830	0830 - 0845	0845 - 0900	Period End

	M	NEST	าดร	SOUTH	EAST	ST	
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Peak Per	Ī	씸	L	씸	J	H	TOTAL
0700 - 0800	0.2	8	9	131	32	22	268
0715 - 0815	85	13	2	168	41	29	341
0730 - 0830	79	15	4	206	43	31	378
0745 - 0845	88	19	4	212	45	34	403
0800 - 0080	94	19	8	208	46	33	408

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: T.T.P.A. Client

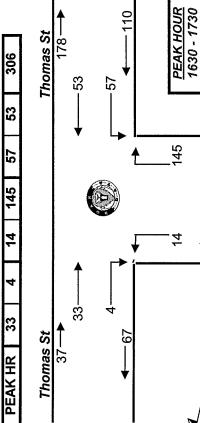
: 2320 Chatswood Albert L Job No/Name

: Thursday 26th June 08 Day/Date

All Vehicles

											,
		TOTAL	91	64	69	81	82	74	29	80	809
EAST	Thomas St	Ī	34	18	13	10	17	13	15	21	141
EA	Thom	ī	14	16	10	14	18	15	11	12	110
ТH	erti	낌	32	25	36	44	31	34	31	33	269
HLNOS	Albert	7	2	2	3	2	5	4	ı	3	22
ST	Thomas St	씸	3	1	0	2	2	0	2	1	11
WEST	Thom	T	3	2	7	6	6	8	7	10	22
		Time Per	1600 - 1615	1615 - 1630	1630 - 1645	1645 - 1700	1700 - 1715	1715 - 1730	1730 - 1745	1745 - 1800	Period End

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eak Per	⊢l	اری	J	씸	T	⊢l	TOTAL
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1715	27	2	12	136	28	58	296
1630 - 1730	33	4	14	145	29	53	908
1645 - 1745	33	9	12	140	28	22	304
1800	34	2	13	129	99	99	303



Albert I

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Albert I

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APPENDIX B

ROAD NETWORK OPTIONS

GHD CLIENTS PEOPLE PERFORMANCE

MEMORANDUM

16 February 2009

То	James Brocklebank, Matthew Wilson		
Copy to	Steven Head, David Sung		
From	Benjamin Taylor	Tel	(03) 8687 8526
Subject	Chatswood Traffic Study- Proposed Options Treatments	Job no.	21/17241

James, Matthew

As discussed please find the following proposed options treatments to be tested as part of the Chatswood Traffic Study.

The options are described in sections 1 and 2.

Diagrams of the location of the treatments are available in section 3. These diagrams do not include detailed plans showing the actual modifications.

The additional treatments to Malvern Ave, Pacific Hwy parking ban and the re-opening of Malvern Ave are included in the treatments.

Each of these treatments include the known changes that will occur in the modelled area before 2013. These known changes are:

- Rebuilt Chatswood Interchange, including retention of One Way eastbound on Endeavour St;
- Help St widening to 6 lanes between Orchard & Railway;
- Albert Ave widening to 4 lanes under rail line;
- TCS on Albert Ave at Thomas Lane, inc pedestrian phase to Frank Channon Walk;
- Thomas Lane re-opened for 1 way southbound;
- Archer St, widening along frontage of 63A Archer to provide for extended right turn bay on southbound approach to Albert Ave;
- Ban right turn out of Chatswood Chase carpark at Victoria/Neridah and right turn phase for eastbound out of Neridah;
- Right turn phase into Malvern (eastbound) from Archer (northbound);
- ▶ PM peak right turn ban northbound on Archer at Ashley has been introduced;
- Albert Ave widening west of Crispe Lane for extra lane;
- Fleet lane closed through Thomas st carpark site; and
- Reintroduction of NB flow in Albert Lane in place of current 2 way



1 2013 Design Year

The following options will be tested with 2013 Design Year Traffic Volumes

1.1 2013-A

- Pacifc Hwy/Mowbray Road- provision of dual right turning lanes from Pacific Hwy to Mowbray Road (South to East);
- Pacific Hwy/Boundary St- provision of dual right turning lanes from Pacific Hwy to Boundary St (South to East) and widening of Boundary St approach to Pacific Hwy; and
- ▶ Ban Parking on Pacific Hwy SB between Boundary St and Help St during all modelled time periods (unless already banned)

1.2 2013-B

- All treatments in 2013-A;
- Northern Bypass of Chatswood CBD via Help St and Wattle Lane- widening of Wattle Lane to provide 1 lane in each direction;
- Victoria Ave Bus Only- provision of bus lanes on Victoria Ave and Anderson St between Endeavour St and Archer St. Left turn at Anderson/Victoria (North to East) for buses only. No access to Victoria Ave West from Archer St/Victoria Ave intersection;
- Closure of Spring St @ Victoria Ave;
- Albert Ave/Archer St- provision of right turn lane from Albert Ave to Archer St (East to North); and
- Re-opening of Malvern Ave between Archer St and Havilah St (if required).

1.3 2013- C

- ▶ All treatments in 2013-B
- Signalise pedestrian crossing at Victoria Ave/Railway St (current Zebra crossing outside Chatswood Railway Station)

This option will be tested but will not have full reporting.

31/01030/03/161674



2 2018 Design Year

The following options will be tested with 2018 Design Year Traffic Volumes

2.1 2018- A

- Pacifc Hwy/Mowbray Road- provision of dual right turning lanes from Pacific Hwy to Mowbray Road (South to East);
- Pacific Hwy/Boundary St- provision of dual right turning lanes from Pacific Hwy to Boundary St (South to East) and widening of Boundary St approach to Pacific Hwy; and
- ▶ Ban Parking on Pacific Hwy SB between Boundary St and Help St during all modelled time periods (unless already banned)

This option involves the same infrastructure as 2013-A but will be tested will 2018 predicted volumes.

2.2 2018-B

- All treatments in 2018-A;
- Northern Bypass of Chatswood CBD via Help St and Wattle Lane- widening of Wattle Lane to provide 1 lane in each direction;
- Victoria Ave Bus Only- provision of bus lanes on Victoria Ave and Anderson St between Endeavour St and Archer St. Left turn at Anderson/Victoria (North to East) for buses only. No access to Victoria Ave West from Archer St/Victoria Ave intersection; and
- Closure of Spring St @ Victoria Ave.
- Albert Ave/Archer St- provision of right turn lane from Albert Ave to Archer St (East to North); and
- Re-opening of Malvern Ave between Archer St and Havilah St (if required).

This option involves the same infrastructure as 2013-A but will be tested will 2018 predicted volumes.

2.3 2018-C

- All treatments in 2013-B
- Pacific Hwy/Albert Ave/Centennial Ave- closure of Centennial Ave to remove TCS site 892 (Pacific Hwy/Centennial Ave signals). Widening of Oliver Road to allow 2-way traffic. Re-configuration of Pacific Hwy/Albert Ave signal operations.
- Archer St/Boundary St- extension of Bus Lane on Archer St approach to Boundary St by widening on western side of Archer St and banning of parking on eastern side.

2.4 2018-D

- All treatments in 2013-C
- Signalise pedestrian crossing at Victoria Ave/Railway St (current Zebra crossing outside Chatswood Railway Station)

This option will be tested but will not have full reporting.

31/01030/03/161674

Treatment Diagrams

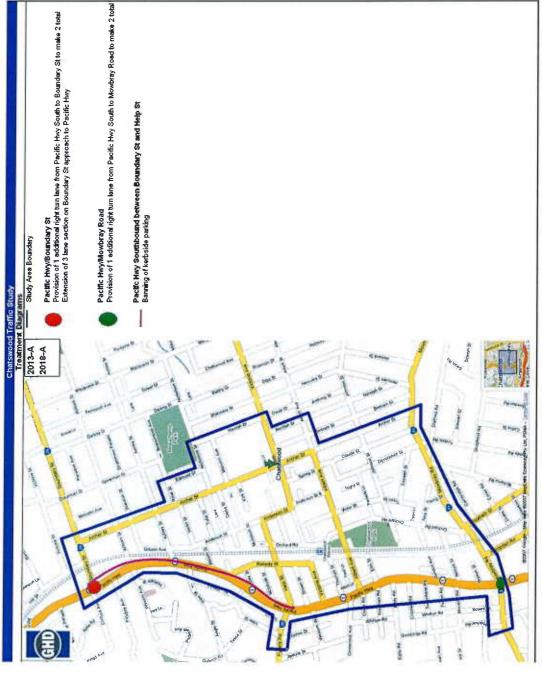


Figure 3.1 2013-A and 2018-A Treatments

SNOT030031161614 GHD Level 8, 180 Lonsdele Street Melbourne VIC 3000 Australia T 61 3 8587 8000 F 61 3 8887 8111 E memali@phot.com.au Wwww.ghot.com.au



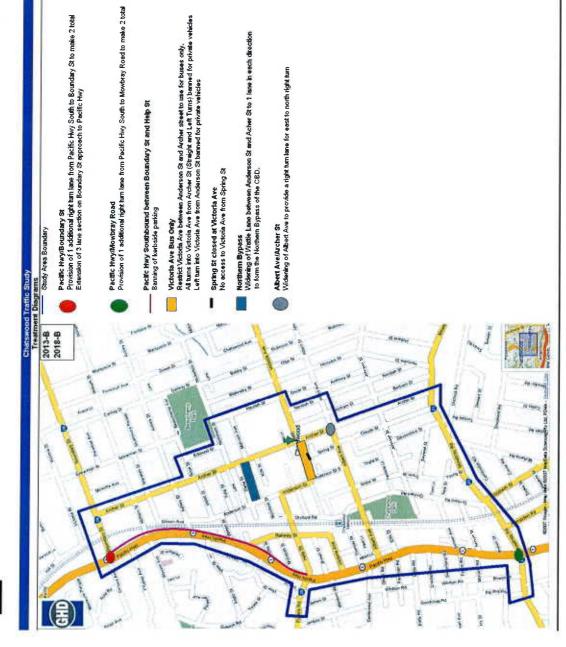


Figure 3.2 2013-B and 2018-B Treatments

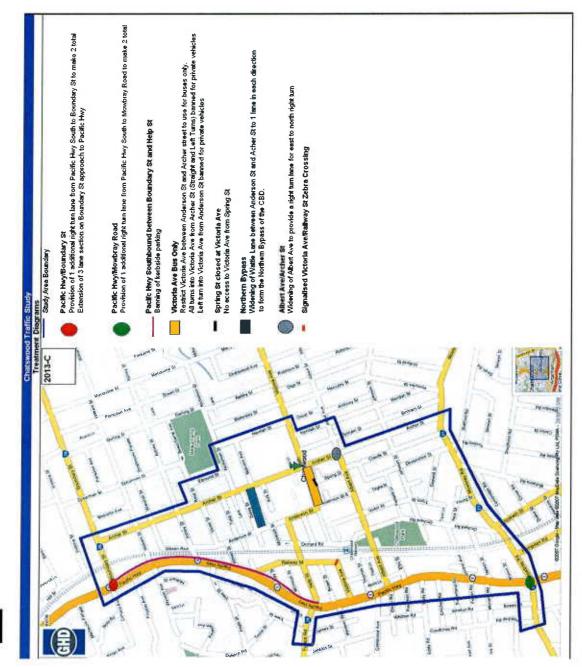


Figure 3.3 2013-C Treatments





Figure 3.4 2018-C Treatments

31/0103000316/16



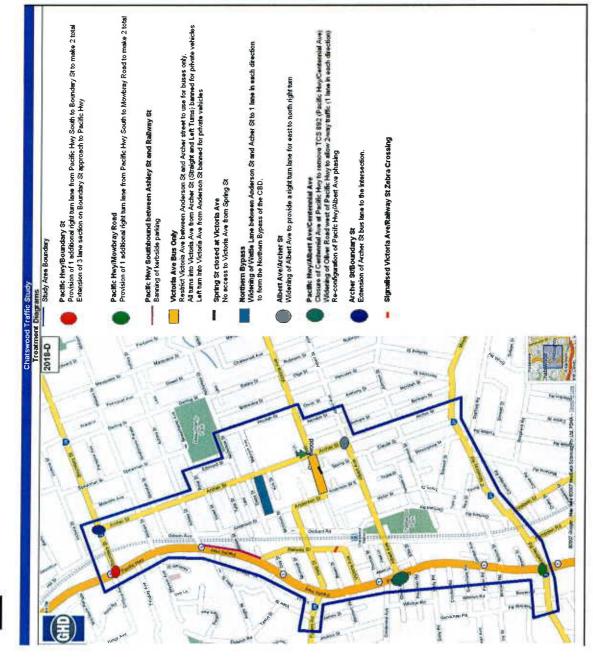


Figure 3.5 2018-D Treatments

31/01030/03/16/1674

APPENDIX C

COMMERCIAL BUILDING SURVEYS

SYDNEY CBD OFFICE USE PARKING SPACE TRAFFIC GENERATION

There is no current published data in relation to the traffic generation rates of contemporary office buildings in the CBD where the 'generation' is essentially a factor of the 'constrained' number of parking spaces provided (rather than floorspace). In order to establish this characteristic surveys were undertaken from commercial office buildings in the CBD as follows:

AMP Building, 33 Alfred Street	-	100 spaces
Hambros House, 165 Macquarie Street	-	104 spaces
229 Elizabeth Street	-	86 spaces
Westpac HQ, 58 Martin Place	· -	95 spaces

Surveys were undertaken of ingressing and egressing vehicles at 5 minute timeframes for the periods 7.00 - 9.30am, 12 noon - 2.00pm and 4.00 - 6.30pm on normal weekdays. These surveys also included service vehicles movements and the results of these surveys are summarised in the following:

· ·	АМ		M	D	PM		
	IN	OUT	IN	OUT	IN	OUT	
AMP Building	23	2	4	4	, 1	6	
Hambros House	26	2	11	4	10	19	
229 Elizabeth St	19	2	4	4	0	17	
Westpac	26	1	4	4	5	17	

The morning peak in all cases represented the most concentrated directional movements and the average of recorded movements can be evaluated to provide a traffic generation (ie vtph) per parking spaces as follows:

•	P	M	ľ	MD		M
	IN	OUT	IN	OUT	iN	OUT
Total for 385 spaces	94	7	23	16	16	59
Traffic generation per space	0.26	3 vtph	0.10	0 vtph	0.26	S vtph

APPENDIX D

6

TURNING PATH ASSESSMENT

