



PROPOSED SELF STORAGE FACILITY

9-13 COOK STREET, FORESTVILLE

TRAFFIC AND PARKING ASSESSMENT REPORT

7TH FEBRUARY 2019

REF 18083

Prepared by

Terraflow Pty Ltd

Traffic and Parking Consultants



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1. INTRODUCTION

This report has been prepared to accompany a Development Application to Northern Beaches Council to support the construction of a self storage facility at 9-13 Cook Street, Forestville (Figures 1 and 2).

The development site is located on the eastern side of Cook Street approximately 80m south of Warringah Road. It has a total site area of 11,230m² with a frontage of 57.475m to Cook Street. The site is primarily occupied by Eaton's Mitre 10 and includes:

- The main Mitre 10 sales building that has a floor area of approximately 1,500m²
- A two level office building with a floor area of approximately 250m² (currently occupied by Bower Power)
- Numerous storage sheds and warehouses storing building materials



Aerial photograph of the site highlighting the location of the proposed self storage facility

Vehicular access to the main sales building is via an 11m wide driveway off Cook Street that narrows to 9.0m at the boundary. The main sales building is currently served by 25 linemarked parking spaces and a large external loading area that also contains landscaping materials.

The separate office building is served by a 7 space unmarked carpark that gains vehicular access to Cook Street via a 4.0m wide combined entry/exit driveway located adjacent to the northern site boundary.







The proposed development comprises:

- Demolition of the existing 250m² office building and timber sheds/warehouses on the site and construction of a new 7,894m² self storage facility comprising:
 1. A self storage facility with a floor area of 7,637m²
 2. An office with a floor area of 168m²
 3. An 89m² retail shop on the ground level that will sell items such as cardboard boxes and tape for customers of the self storage facility
 4. A total of 11 parking spaces comprising 5 unsecured and 6 secured spaces located behind a security gate
 5. An 8.8m long x 3.5m wide linemarked loading bay capable of accommodating the Australian Standard AS2890.2:2002 8.8m long Medium Rigid Vehicle (MRV). The loading dock is also located within the secure section of the parking area.
- Retention of the existing main Mitre 10 sales building and relocation of the existing 25 off-street parking spaces serving the development. An additional 9 parking spaces will also be licensed to Mitre 10 will be located along the shop frontage. This additional parking provision will include a disabled parking space in accordance with AS/NZS2890.6:2009.

The combined entry/exit driveway currently serving the Mitre 10 business will be retained for customers, staff and deliveries. Vehicles accessing the 5 unsecured parking spaces serving the self storage facility will also utilise this access driveway to enter and exit the site.

Vehicles accessing the 6 secure parking spaces and loading bay serving the self storage facility will enter via the main 11m wide combined entry/exit driveway, travel through the security gate and depart via a 7.5m wide exit only driveway that will replace the 4m wide driveway serving the existing office building.

Plans of the proposed development are reproduced in Appendix A.

The purpose of this report is to assess the traffic and parking implications of the proposed development.



2. PARKING IMPLICATIONS

Self Storage Facility Parking Requirement

As the RMS Guidelines and Council Parking Codes generally do not provide guidance on parking requirements for self storage facilities, a study was commissioned by the Self-Storage Association of Australia Pty Ltd to provide guidance on parking needs at these facilities.

Aurecon Australia Pty Ltd undertook the study of self-storage facilities in cities and towns in NSW, Queensland, South Australia, Victoria and Western Australia for the Self-Storage Association of Australia Pty Ltd. The study recommended parking for self-storage facilities related to maximum leasable area (MLA) as set out below (note MLA directly relates to NLA).

Table 5-7: Recommended Number of Parking Spaces per MLA (m²)

MLA	Office Parking	Storage Area Parking*	Staff Parking	Trailer/Ute Parking	Total Parking Spaces
0-3,000 m ²	1	2	2	1	6
3,000 m ² -6,000 m ²	2	5	2	1	10
6,000 m ² – 9,500 m ²	3	5	2	1	11

*Note: Ranch style sites will not require designated storage area parking as vehicles in these sites will park in aisles adjacent to their storage units; similarly 'mixed' sites may require less designated storage area parking if they have a significant number of drive up storage units in a ranch style arrangement.

As noted in the foregoing, the proposed self storage facility will have a floor area of 7,894m² including an office and retail shop serving customers of the storage facility. Application of the recommended parking rates determined by the Aurecon study yields a parking requirement of 11 spaces comprising 3 office spaces, 5 customer spaces, 2 staff spaces and 1 trailer/ute parking space.

The proposed self storage facility satisfies this requirement with the provision of 11 off-street parking spaces and a loading bay capable of accommodating car trailers and medium sized trucks.



Mitre 10 Parking Requirement

As noted in the foregoing, the existing Mitre 10 business comprises a main sales building with a floor area of approximately 1,500m² served by 25 off-street car parking spaces. As the proposal will retain the existing main sales building, it follows that the current parking provision should also be retained to serve this part of the development.

The proposed development retains the existing parking provision however they have been relocated further into the site as can be seen on the Site Plan reproduced in Appendix A.

While not required, an additional 9 off-street parking spaces will be licensed for use by Mitre 10. These spaces are located along the shop frontage and will include a disabled parking space in compliance with AS/NZS2890.6:2009.

Car Park Compliance

The proposed car parking areas have been designed to satisfy the following requirements of the Australian Standard AS/NZS2890.1:2004 as follows:

- Medium term parking spaces have a minimum length of 5.4m and width of 2.5m
- An additional 0.3m has been provided for spaces adjacent to a wall or obstruction
- Parallel spaces satisfy Figure 2.5 of the Standard
- The access/manoeuvring aisles satisfy the minimum requirement of 5.8m
- Pavement cross-falls at parking spaces do not exceed 5% (1 in 20) in any direction

The disabled parking spaces have also been designed in accordance with the Australian Standard AS/NZS2890.6:2009 – “*Off-street parking for people with disabilities*” as follows:

- A 5.4m long x 2.4m wide dedicated (non-shared) parking space
- An adjacent shared area that is also 5.4m long x 2.4m wide
- A minimum headroom of 2.5m above the disabled spaces
- Pavement cross-falls in disabled spaces do not exceed 2.5% (1 in 40) in any direction

The ability of the Australian Standard AS2890.2:2002 8.8m long Medium Rigid Vehicle (MRV) to access the site and the proposed loading bay was assessed using the Autodesk



Vehicle Tracking software. A copy of the MRV swept path is reproduced in Appendix B and confirms that this vehicle can adequately access the proposed self storage facility if required.

In the circumstances, it can be concluded that the off-street parking provision incorporated in the proposed development is adequate such that the proposed development has no unacceptable parking or servicing implications.



3. TRAFFIC IMPLICATIONS

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 3. As can be seen, Warringah Road is a classified State Road performing an arterial road function. It typically carries three traffic lanes in each direction in the vicinity of the site, with opposing traffic flows separated by a centre median island.

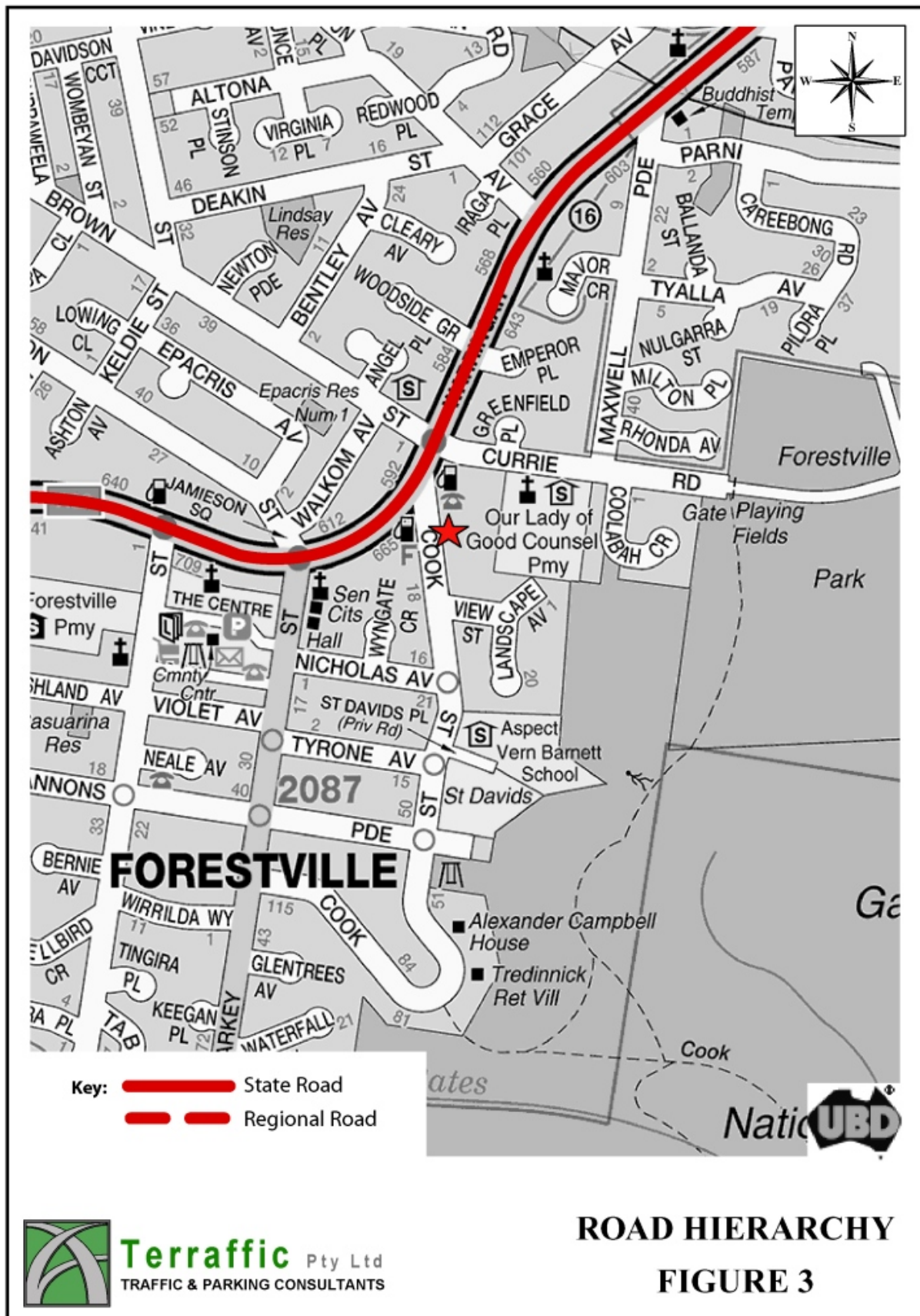
Cook Street is a local, unclassified road which is primarily function of providing access to frontage properties. It has a pavement width of approximately 13m with kerbside parking generally permitted on both sides of the road.

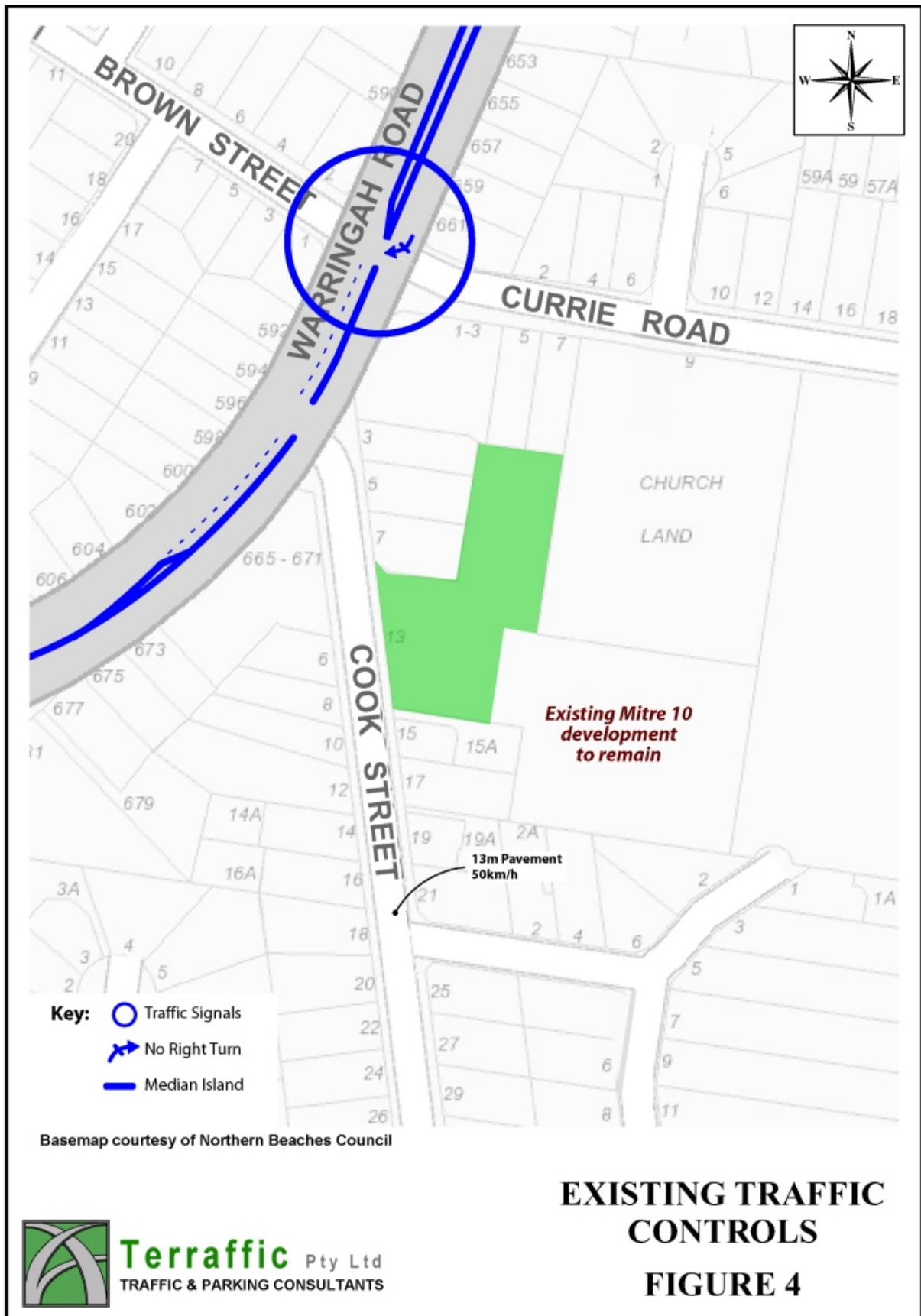
The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4 and include the designated right turn bay into Cook Street off Warringah Road. The upstream traffic signals at Currie Road and the KEEP CLEAR linemarking on Warringah Road at Cook Street facilitates all right turn movements at this intersection.

Existing Traffic Conditions

An indication of existing traffic conditions on the road network serving the site is provided from a count of traffic activity at the intersection of Cook Street and the existing Mitre 10 store on the subject site. The surveys were conducted between 7.00am -10.00am and 3.00pm - 6.00pm on Friday 7th December 2018 with the results of the count reproduced in Appendix C revealing that:

- the AM peak period occurred between 8.15 – 9.15am. At that time, there were a total of 362 vehicles per hour (vph) on Cook Street comprising 261vph heading southbound and 101vph heading northbound. At that time, there were 48vph accessing the Mitre 10 site comprising 25vph entering and 23vph exiting the site







- the peak AM traffic generating period for the Mitre 10 store occurred between 8.45-9.45am when 65vph accessed the site comprising 33vph entering and 32vph exiting the site
- the PM site peak period occurred between 3.00 – 4.00pm. At that time, there were a total of 256vph on Cook Street comprising 143vph heading southbound and 113vph heading northbound. At that time, there were 56vph accessing the Mitre 10 site comprising 24vph entering and 32vph exiting the site. This time period was also the PM peak traffic generating period of the site.

In addition to the Mitre 10 access driveway, the survey included vehicles accessing the 7 space carpark serving the separate office building. The results of this survey are also reproduced in Appendix C and reveal that:

- the peak AM traffic generating period for the office building occurred between 7.30-8.30am when 4vph accessed the site comprising 3vph entering and 1vph exiting the site
- the peak PM traffic generating period for the office building occurred between 4.30-5.30pm when 4vph accessed the site comprising 1vph entering and 3vph exiting the site

Projected Traffic Generation Potential

While the RMS Guidelines specify typical traffic generation rates for a wide variety of land uses and development, they do not incorporate a typical traffic generation rate for self-storage developments.

As noted in Chapter 2 of this report, Aurecon Australia was commissioned by the Self-Storage Association of Australia Pty Ltd to provide guidance on parking needs at these facilities. The study also calculated the following traffic generating rates for self storage facilities:

**Table 5-8: Estimated traffic generation range for whole site**

Daily	Weekday Trips	Weekend Trips
0-3,000 m ²	60 to 130	40 to 100
3,000 m ² -6,000 m ²	110 to 220	80 to 160
6,000 m ² -9,500 m ²	160 to 260	120 to 260
AM Peak Hour		
0-3,000 m ²	5 to 15	
3,000 m ² -6,000 m ²	10 to 20	
6,000 m ² -9,500 m ²	15 to 30	
PM Peak Hour		
0-3,000 m ²	5 to 20	
3,000 m ² -6,000 m ²	10 to 20	
6,000 m ² -9,500 m ²	20 to 30	
Business Peak Hour		
0-3,000m ²		10 to 30
3,000 m ² -6,000 m ²		10 to 30
6,000 m ² -9,500 m ²		20 to 40

Based on a floor area of 7,894m², the proposed self storage facility will generate in the order of 25 to 30 vehicle trips per hour (vtph) during peak periods as follows:

Weekday AM Peak	25vtph (15 inbound / 10 outbound)
Weekday PM Peak	25vtph (10 inbound / 15 outbound)
Weekend Business Peak	30vtph (15 inbound / 15 outbound)

The traffic generated by the proposed self storage facility should be discounted by that traffic generated by the existing office building and timber storage areas on the site that will be demolished as part of the proposed development.

From the surveys conducted at the site in December 2018, it can be determined that the existing office block generates in the order of 4 vehicle trips during the weekday peak periods. This level of traffic is consistent with the RMS traffic generation rate of 2vtph per 100m² for office blocks.

While it is difficult to accurately quantify, it can be assumed that the loss of the timber storage areas will impact on sales of these building materials and slightly reduce the traffic generating



potential of the existing Mitre 10. For the purposes of this assessment, it has been assumed that the removal of the timber storage will reduce traffic by up to 6 vehicle movements per hour during peak periods (ie 3 inbound and 3 outbound vehicle movements).

Based on this assumption and the surveyed results of the office carpark, a discount of 10 vehicle trips per hour can be applied to the projected traffic generating potential of the proposed self storage facility. In the circumstances, the additional traffic generated by the proposed development will be in the order of 15 to 20 vehicle trips per hour (vtph) during peak periods as follows:

Weekday AM and PM Peak	15vtph
Weekend Business Peak	20vtph

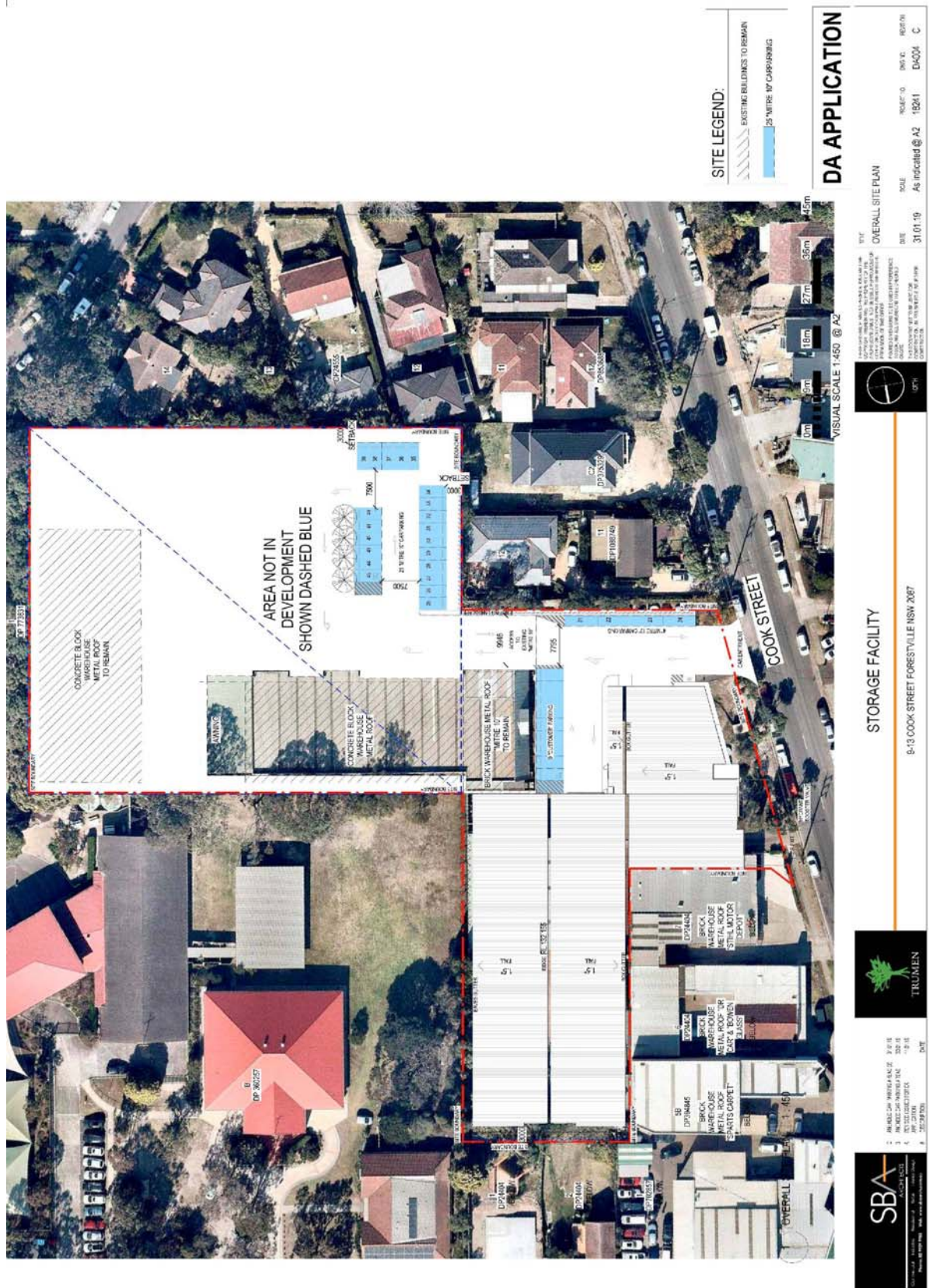
It will be readily appreciated that the additional traffic generated by the proposed development is relatively minor (15-20vtph) which will not have any noticeable or unacceptable effect on the road network serving the site in terms of road network capacity or traffic-related environmental effect.

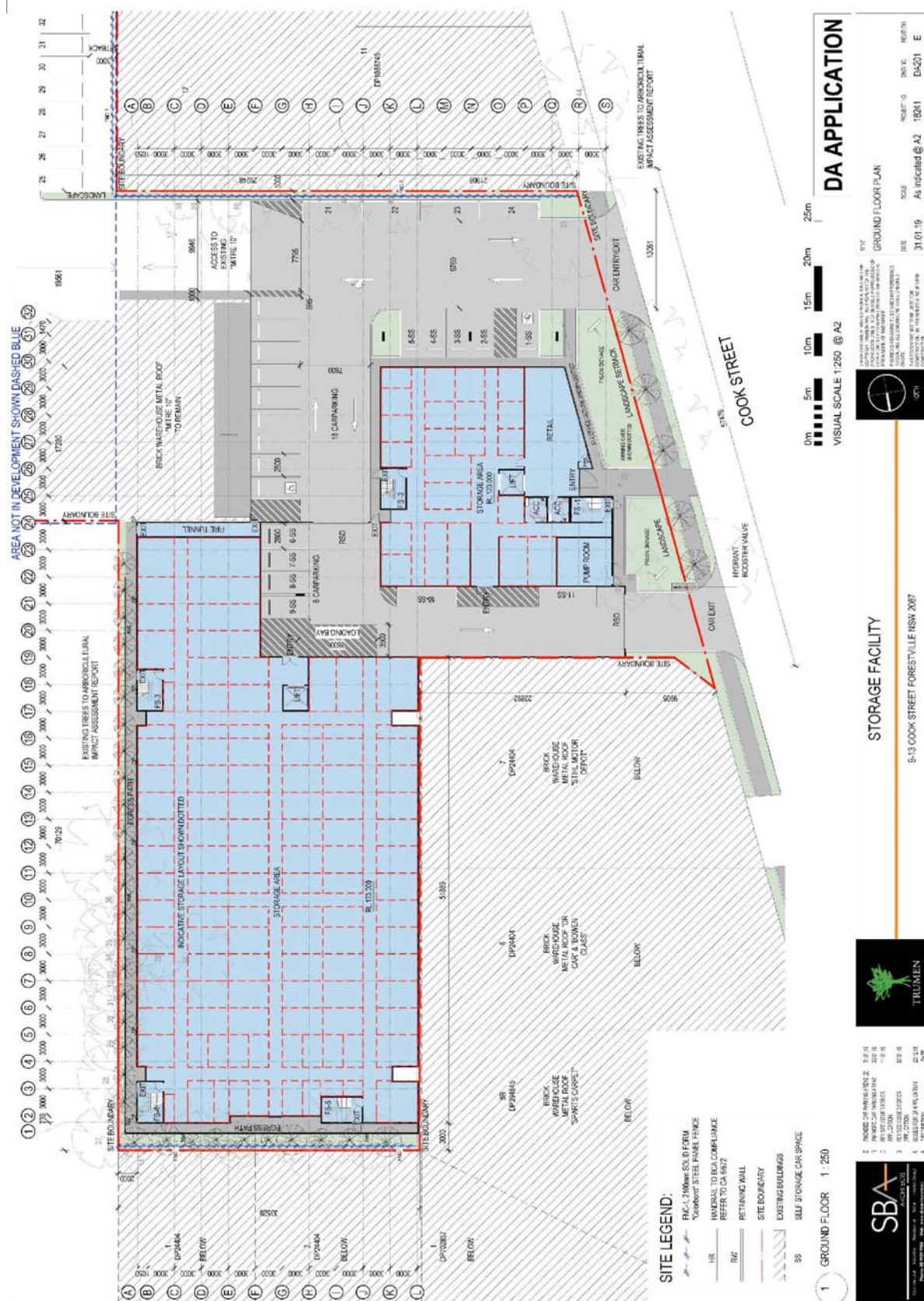
In the circumstances, the proposed development will not have any unacceptable traffic implications.



APPENDIX A

PLANS OF THE PROPOSED DEVELOPMENT



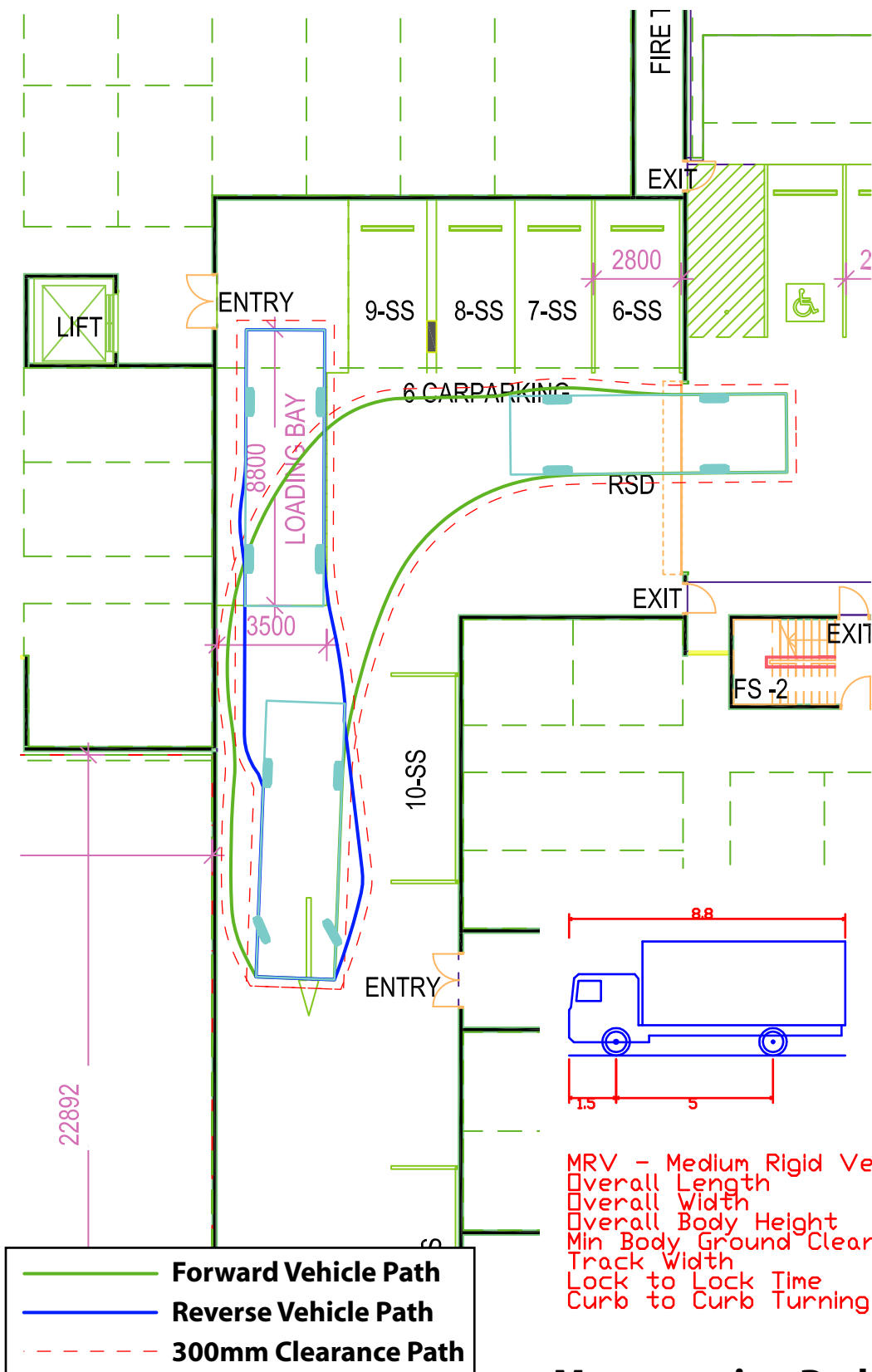
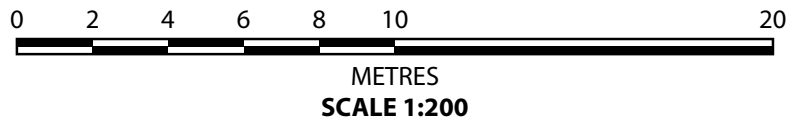




APPENDIX B

VEHICLE SWEPT PATH ANALYSIS

Path prepared using
Autodesk Vehicle Tracking



**Manoeuvring Path of Australian
Standard AS2890.2:2002
8.8m Medium Rigid Vehicle
Accessing Loading Bay**



Terraflow Pty Ltd
TRAFFIC & PARKING CONSULTANTS



APPENDIX C

TRAFFIC COUNT DATA



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : Terra Traffic Pty. Ltd.

Job No/Name : 6985 FORESTVILLE 9-13 Cook St

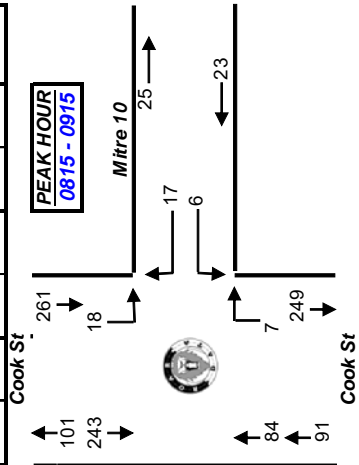
Day/Date : Friday 7th December 2018

All Vehicles

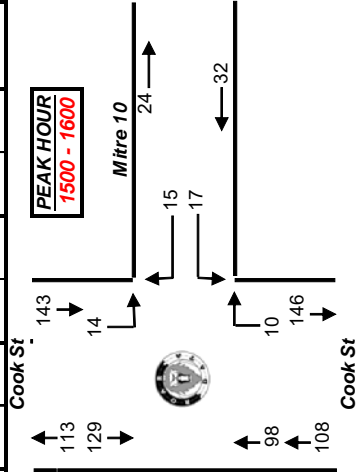
All Vehicles	NORTH			EAST			SOUTH			
	Cook St			Mitre 10			Cook St			
	T	L	R	T	L	R	T	L	R	
Time Per										TOTAL
0700 - 0715	23	8	6	4	3	9				53
0715 - 0730	31	4	3	4	1	8				51
0730 - 0745	37	5	2	0	3	10				57
0745 - 0800	33	2	3	4	2	9				53
0800 - 0815	35	5	3	1	1	16				61
0815 - 0830	53	1	4	0	1	14				73
0830 - 0845	83	5	4	0	2	16				110
0845 - 0900	76	2	4	2	4	17				105
0900 - 0915	31	10	5	4	0	37				87
0915 - 0930	30	7	5	3	3	15				63
0930 - 0945	20	6	6	3	1	9				45
0945 - 1000	19	2	0	1	3	6				31
Period End	471	57	45	26	24	166				789

All Vehicles	NORTH			EAST			SOUTH			
	Cook St			Mitre 10			Cook St			
	T	L	R	T	L	R	T	L	R	
Time Per										TOTAL
1500 - 1515	35	5	5	8	2	17				72
1515 - 1530	33	5	3	5	2	37				85
1530 - 1545	34	4	4	3	4	25				74
1545 - 1600	27	0	3	1	2	19				52
1600 - 1615	44	3	1	4	2	13				67
1615 - 1630	25	4	3	0	0	13				45
1630 - 1645	34	2	2	3	4	12				57
1645 - 1700	37	2	2	2	1	6				50
1700 - 1715	22	0	1	2	1	7				33
1715 - 1730	26	0	2	1	1	9				39
1730 - 1745	23	0	1	1	0	8				33
1745 - 1800	14	1	0	0	0	7				22
Period End	354	26	27	30	19	173				629

	NORTH			EAST			SOUTH		
	Cook St	Mitre 10	Cook St	Mitre 10	Cook St	Cook St	Mitre 10	Cook St	
Peak Per	I	L	R	L	R	I	R	I	
0700 - 0800	124	19	14	12	9	36	214	214	
0715- 0815	136	16	11	9	7	43	222	222	
0730 - 0830	158	13	12	5	7	49	244	244	
0745- 0845	204	13	14	5	6	55	297	297	
0800 - 0900	247	13	15	3	8	63	349	349	
0815 - 0915	243	18	17	6	7	84	375	375	
0830 - 0930	220	24	18	9	9	85	365	365	
0845 - 0945	157	25	20	12	8	78	300	300	
0900 - 1000	100	25	16	11	7	67	226	226	
PEAK HR	243	18	17	6	7	84	375	375	



	NORTH			EAST			SOUTH		
	Cook St			Mitre 10			Cook St		
Peak Per	I	L	R	L	R	I	R	I	TOTAL
1500 - 1600	129	14	15	17	10	98			283
1515- 1615	138	12	11	13	10	94			278
1530 - 1630	130	11	11	8	8	70			238
1545- 1645	130	9	9	8	8	57			221
1600 - 1700	140	11	8	9	7	44			219
1615 - 1715	118	8	8	7	6	38			185
1630 - 1730	119	4	7	8	7	34			179
1645 - 1745	108	2	6	6	3	30			155
1700 - 1800	85	1	4	4	2	31			127
PEAK HR	129	14	15	17	10	98			283



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R.O.A.R DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : Terraffic Pty. Ltd.

Job No/Name : 6985 FORESTVILLE 9-13 Cook St

Day/Date : Friday 7th December 2018

7

Capacity



TERRAFFIC PTY LTD

At Start	6
CAR	
PARK	
Accum	6
	6
	6
	5
	4
	4
	3
	2
	0
	0
End	0

All Vehicles		Office	
		Carpark	
Time Per		IN	OUT TOTAL
1500 - 1515		0	0 0
1515 - 1530		0	0 0
1530 - 1545		0	0 0
1545 - 1600		0	1 1
1600 - 1615		0	1 1
1615 - 1630		0	0 0
1630 - 1645		0	1 1
1645 - 1700		0	0 0
1700 - 1715		0	1 1
1715 - 1730		0	2 2
1730 - 1745		0	0 0
1745 - 1800		0	0 0
Period End		0	6 6

At Start	3
CAR	
PARK	
Accum	4
	4
	4
	6
	6
	6
	6
	6
	6
	7
	6
End	6

All Vehicles		Office	
		Carpark	
Time Per		IN	OUT TOTAL
0700 - 0715		1	0 1
0715 - 0730		0	0 0
0730 - 0745		0	0 0
0745 - 0800		2	0 2
0800 - 0815		0	0 0
0815 - 0830		1	1 2
0830 - 0845		0	0 0
0845 - 0900		0	0 0
0900 - 0915		0	0 0
0915 - 0930		0	0 0
0930 - 0945		1	0 1
0945 - 1000		0	1 1
Period End		5	2 7

Office		Carpark	
		IN	OUT TOTAL
Peak Per		0	1 1
1500 - 1600		0	2 2
1515 - 1615		0	2 2
1530 - 1630		0	3 3
1545 - 1645		0	2 2
1600 - 1700		0	2 2
1615 - 1715		0	4 4
1630 - 1730		0	3 3
1645 - 1745		0	3 3
1700 - 1800		0	3 3

PEAK HR	0	1	1
---------	---	---	---

Office		Carpark	
		IN	OUT TOTAL
Peak Per		3	0 3
0700 - 0800		2	0 2
0715 - 0815		3	1 4
0730 - 0830		3	1 4
0745 - 0845		1	1 2
0800 - 0900		0	0 0
0815 - 0915		1	0 1
0830 - 0930		1	1 2
0845 - 0945		1	1 2
0900 - 1000		1	1 2

PEAK HR	1	1	2
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