



Traffic Impact Assessment

Redevelopment of Curl Curl North Public School
Playfair Road, North Curl Curl

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1. Introduction

TRAFFIX has been commissioned by the Department of Education to undertake a Traffic Impact Assessment (TIA) in support of a Development Application (DA) relating to the upgrade/redevelopment of Curl Curl North Public School, located on the corner of Playfair Road and Abbott Road, North Curl Curl. This DA proposes an expansion of the existing junior (primary) school to cater for a total of 1000 students and 76 staff. The current student and staff population are 920 and 70 respectively.

The objective of this subject traffic assessment is to assess the traffic impact of the redevelopment of the school when accommodating the additional students and teaching staff in response to projected enrolment growth in and around North Curl Curl school catchment.

The development is situated in the Northern Beaches Council (formerly Warringah Council) Local Government Area and has been assessed under that Council's controls. As the proposal is for a public school and is considered a State significant development (SSD), assessment has also been undertaken with regard for the relevant policies of the Department of Education with input sought from the Roads and Maritime Services (RMS) and Transport for New South Wales (TfNSW). This report documents the findings of our investigations and should be read in the context of the Environmental Impact Statement (EIS) as per Secretary's Environmental Assessment Requirements (SEARs) prepared separately. The report is structured as follows:

- Section 2: Describes the site and its location;
- Section 3: Documents existing traffic conditions;
- Section 4: Describes the proposed development;
- Section 5: Assesses the parking requirements;
- Section 6: Assesses traffic impacts;
- Section 7: Discusses access and internal design aspects;
- Section 8: Discusses a Sustainable (Green) travel plan;
- Section 9: Discusses Traffic Management during the construction phase;
- Section 10: Consultation with State agencies; and
- Section 11: Presents the overall study conclusions.



2. Location and Site

Curl Curl North Public School (site) is situated within North Curl Curl and is bounded by Playfair Road to the west and Abbott Street to the south. The site combined is legally known as Lot 1 in DP 731454 and Lot 286 in DP 752038. The northern and eastern frontages are bounded residential properties zoned as R2 Low Density Residential. It is located approximately 1.5 kilometres south of the Northern Beaches Council (Dee Why branch) and 13.5 kilometres north-east of the Sydney CBD.

The site is irregular in configuration having a total site area of approximately 27,982 m². It currently accommodates the Curl Curl North Public School, as well as residential property situated at the northern and eastern boundary of the site. It has a western frontage to Playfair Road of approximately 219 metres, a southern frontage to Abbott Road of approximately 134 metres, a northern boundary of 105 metres. The eastern property boundary is irregular with a combined length of approximately 220 metres.

Vehicular access to the site is provided via a vehicular crossing off Playfair Road servicing the on-site car parking area and waste collection area. There existing carpark has a capacity for 21 car spaces including one (1) disabled parking space that are line-marked and adjacent to the library building. There is also an existing driveway off Abbott Road towards the south eastern corner near the current playground / green space area. However vehicular entry via this driveway off Abbott Road into the school is banned evident by 'No Entry' signs erected and closed gate, therefore it can be assumed that this is for emergency access.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**. Reference should also be made to the Photographic Record presented in **Appendix A**, which provides and appreciation of the site and the road environment in proximity to the site.



Figure 1: Location Plan



Figure 2: Site Plan



3. Existing & Future Traffic Conditions

3.1 Road Network

The road hierarchy in the vicinity of the site is shown in **Figure 3**, with the following of particular interest:

- ② Griffin Road: a classified Secondary Road (SR 2102) under a 'Regional Road' administrative class to the east of the site that traversing in a north-south direction and forms a connection to Pittwater Road (State/Main Road 159) via continuation as Dee Why Parade in north and Oliver Street to the north. Griffin Road is subjected to a 50 km/h posted speed limit. The road has an on-road bike lane in both directions and footpath on both sides and is serviced by Sydney Buses. The carriageway is approximately 13 metre wide, carrying a single lane of traffic in both directions and primarily permits unrestricted parallel kerbside parking on both sides. Abbott Road and Pitt Road (via Playfair Road) are connected to Griffin Street to the west, providing access to the school.
- ② Pitt Road: an unclassified regional road (7346) traversing in an east-west direction between Robertson Road (east of Griffin Road) in the east and continues as Abbott Road in the west. Pitt Road is subject to a 50km/h posted speed limit however, '40km/h School Zone' speed restrictions apply between 8:00-9:30am and 2:30-4:00pm on school days in the section between Delaigh Avenue and Ross Street. The road has a 12 wide carriageway width, carrying a single lane of traffic in each direction and primarily permits unrestricted parallel kerbside parking on both sides of Pitt Road. The road provides access to the school via Playfair Road and connects to other road with access to the school, notably Abbott Road, Ross Street and Griffin Road.
- ② Abbott Road: an unclassified regional road (7346) that is part of the road network between the junction of Griffin Road and Warringah Road traversing in an east-west direction between proposed Harbord Road in the west and Griffin Road in the east. Abbott Road is subject to a '40km/h High Pedestrian Activity' posted speed limit in the section between junction of Pitt Road and Griffin Road, this is compounded with '40km/h 8:00-



9:30am and 2:30-4:00pm School Zone' speed restrictions signage and line-marking applying on school days in sections closer to the school. Abbott Road has a carriageway width of 11.4 metres, carries a single lane of traffic in both direction and permits parallel (primarily on the northern kerbside) and 90 degree angled (adjacent John Fisher Park) predominately unrestricted on both sides of the road. Abbott Road currently accommodates pedestrian access and will formalise additional pick-up and drop-off facilities to the school, noting that the proposed upgrade will have its main school entrance on Abbott Road. Furthermore, the school's on-site (staff) carpark will be relocated to the Abbott Road frontage opposite the Curl Curl Youth and Community Centre.

 Playfair Road:

a local road which runs in a north-south direction between Pitt Road to the north and Abbott Road to the south. Playfair Road has a carriageway width of 10.4 metres, carrying a single lane of traffic in both direction and permits unrestricted parallel kerbside parking on both sides with the exception of 'bus zone', 'no parking' restrictions and 'no stopping' restrictions associated with the 'Children's Crossing' (north of Lillie Street) applying during school peak times (8.30am-9.30am; 3pm-4pm) on school days. Playfair Road is also subjected to a '40km/h High Pedestrian Activity' posted speed limit between junction of Pitt Road and Abbott Road, this is compounded with '40km/h 8:00-9:30am and 2:30-4:00pm School Zone' speed restriction signage and line-marking applying on school days. Playfair Road currently accommodates pedestrian access via three (3) school entrances on Playfair Road, special school bus services/zones, pick-up/drop-off facilities and vehicular access to the existing on-site car parking and waste servicing areas. The school bus zones and pick-up/drop-off facility (restrictions) will be retained as per proposed upgrade to the school.

 Ross Street:

a proposed local road which generally runs in a north-south direction between Pitt Road to the north and Abbot Road to the south-east. Ross Street has a carriageway width of 10.1 metres, carrying a single lane of traffic in both direction and permits parallel unrestricted kerbside parking on both sides. Ross Street is subjected '40km/h High Pedestrian Activity' posted speed limit similarly to surrounding streets, near the



school. There is pedestrian school access on Ross Street via a laneway between No. 17 and No. 19 Ross Street which will be retained as per proposed upgrade. Currently, no formalised pick-up and drop-off facility is provided on Ross Street and likewise will not be proposed under the upgrade plans.

It can be seen in Figure 3 below, that the site is conveniently located with respect to the sub-arterial and collector road network servicing the region. It is therefore able to effectively distribute traffic onto the wider road network, minimising traffic impacts on local residential streets.

The existing intersection performance is discussed in **Section 3.4** of this report.

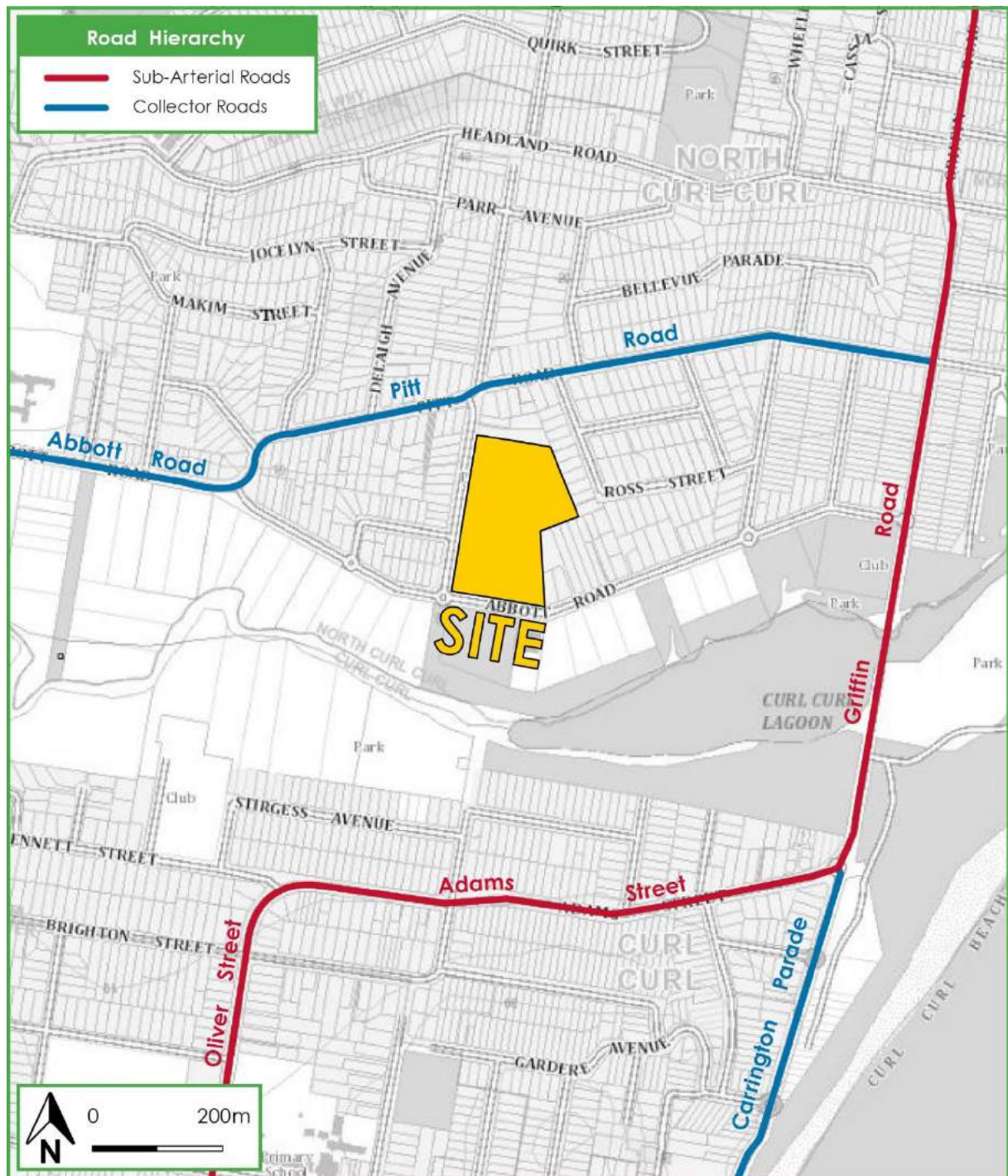


Figure 3: Existing Road Hierarchy



3.2 Public Transport

The site is generally serviced by buses, refer to **Figure 4** existing bus services (excludes school services). There are six (6) State Transit bus route/services operating from twelve (12) bus stops within 600 metres of Curl Curl North Public School. These services and accessibility to urban centres are summarised in **Table 1** and shown in **Figure 4**, below.

Table 1: State Transit Bus Services Near School

Bus Route Number	Bus Route	Urban Centres Serviced	Service Attributes (Weekdays)	Bus Stop Closest School
159	Manly Wharf to Dee Why	Dee Why, North Curl Curl, Brookvale, North Manly, Manly	From Dee Why to Manly Wharf: First bus starts at 8:35am, then 9:01am From 10:14am the frequency is hourly until the last service at 4:01pm From Manly Wharf to Dee Why: First bus starts at 9:20am, then 9:37am From 10:07am the frequency is hourly until the last service at 4:40pm	Pitt Road at Playfair Road (within 200m of School)
E36	North Curl Curl to Manly Wharf	Manly, Freshwater, North Curl Curl	From North Curl Curl to Manly Wharf: First bus starts at 5:43am Last bus at 8:25am Frequency of 17min-36min From Manly Wharf to North Curl Curl: First bus starts at 3:40pm Last bus at 7:30pm Frequency of 20min-30min	Pitt Road at Playfair Road (within 200m of School)
E76	Dee Why to City	Dee Why, North Curl Curl, Brookvale, North Manly, Manly Vale, Cremorne, Neutral Bay, City	From Dee Why to City: First bus starts at 5:45am Last bus at 8:01am Frequency of 8min-41min From City to Dee Why: First bus starts at 4:28pm Last bus at 7:28pm Frequency of 30min	Pitt Road at Playfair Road (within 200m of School)



E77	Dee Why to City	Dee Why, North Curl Curl, Brookvale, North Manly, Manly Vale, Cremorne, Neutral Bay, City	From Dee Why to City: First bus starts at 6:14am Last bus at 8:48am Frequency of 20min-30min From City to Dee Why: First bus starts at 4:38pm Last bus at 7:38pm Frequency of 30min	Pitt Road at Playfair Road (within 200m of School)
136	Manly to Chatswood	Manly, Queenscliff, Freshwater, Curl Curl, North Curl Curl, Dee Why Narraweena Beacon Hill Frenchs Forest Forestville Killarney Heights Roseville Chase Castle Cove Chatswood	From Manly to Chatswood: First bus starts at 5:48am Last bus at 8:07pm Frequency of 10min-55min From Chatswood to Manly: First bus starts at 6:13am Last bus at 9:09pm Frequency of 10min-45min	Griffin Road at Abbott Road (within 600m of School)

Additionally, there are three (3) School Special Bus Services that utilises the existing School Bus Zone (facilitating pick-up/drop-off of student patrons) adjacent to the school on Playfair Road which will be retained, details of the school bus services are summarised in **Table 2**.

Table 2: School Special Bus Services

Bus Route Number	Route	Service Attributes	
682	St John's School, Freshwater to Griffin Rd & Pitt Rd, North Curl Curl	3:13 pm St John's School, Freshwater 3:16 pm Harbord Primary School 3:21 pm Griffin Rd & Pitt Rd, North Curl Curl 3:24 pm Playfair Rd, Curl Curl North Public School 3:33 pm Griffin Rd & Headland Rd 3:40 pm Griffin Rd & Pitt Rd, North Curl Curl	
757	Curl Curl North Public School to Manly Wharf	3:18 pm Playfair Rd, Curl Curl North Public School 3:25 pm Harbord Primary School 3:26 pm St John's School, Freshwater 3:31 pm Stella Maris School, Manly 3:40 pm Manly Wharf	



759	Pitt Rd & Playfair Rd to Curl Curl North Primary	Morning (AM) 8:49 am Pitt & Playfair Rds, North Curl Curl 8:54 am Wheeler Pde & Headland Rd, Dee Why 9:04 am Griffin Rd & Pitt Rd, North Curl Curl 9:06 am Playfair Rd, Curl Curl North Public School
	Curl Curl North Public School to Griffin Rd & Headland Rd	Afternoon (PM) 3:20 pm Playfair Rd, Curl Curl North Public School 3:31 pm Wheeler Pde & Headland Rd, Dee Why 3:38 pm Griffin Rd & Headland Rd, North Curl Curl

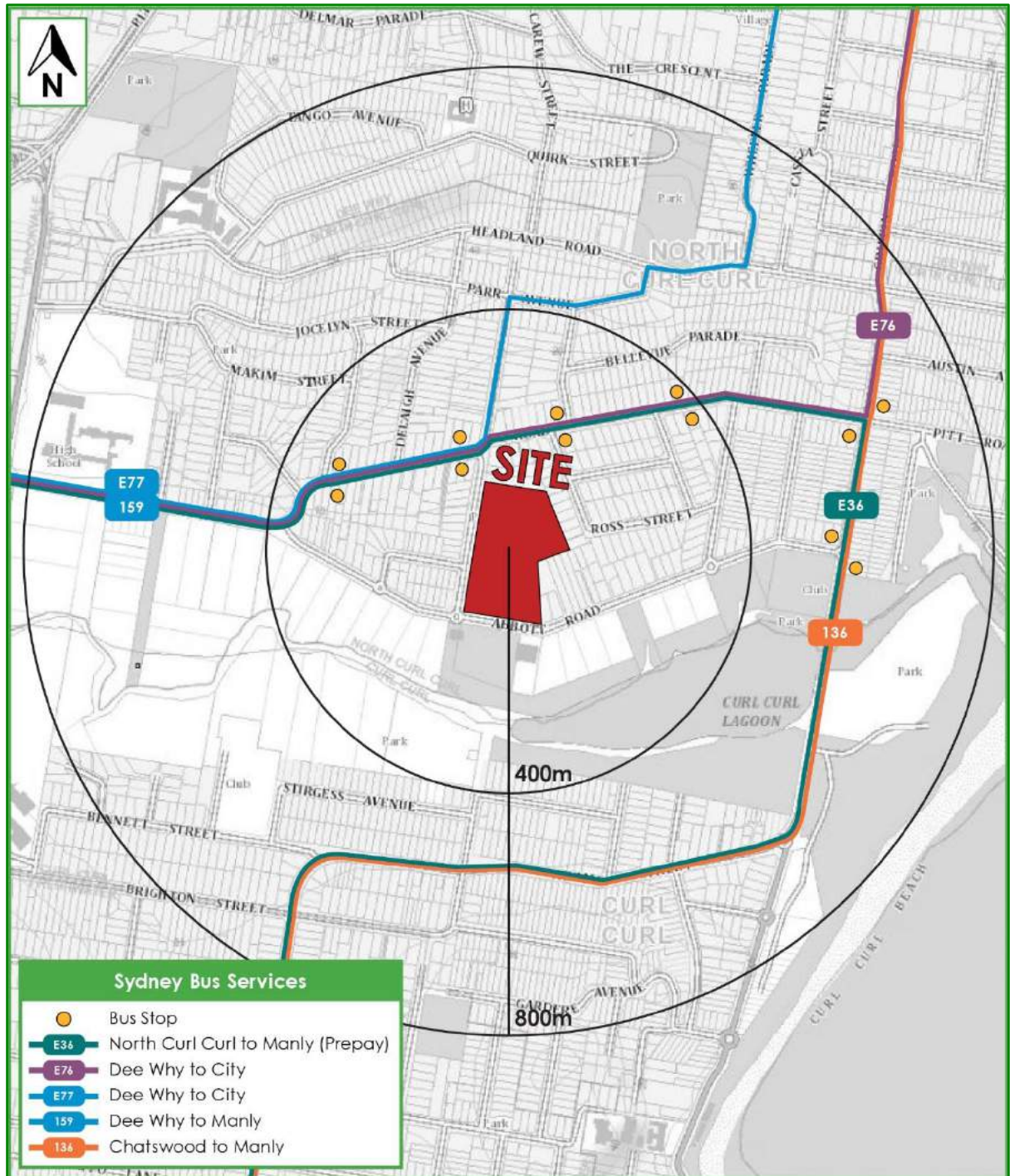


Figure 4: Existing Public Transport (Bus) Network



3.3 Existing School Catchment Area

Curl Curl North Public School on Sydney's Northern Beaches is located at Playfair Road, North Curl Curl. The current school catchment area boundaries, is shown below in Figure 5. The catchment area is under 1.2 kilometres radius of the school.

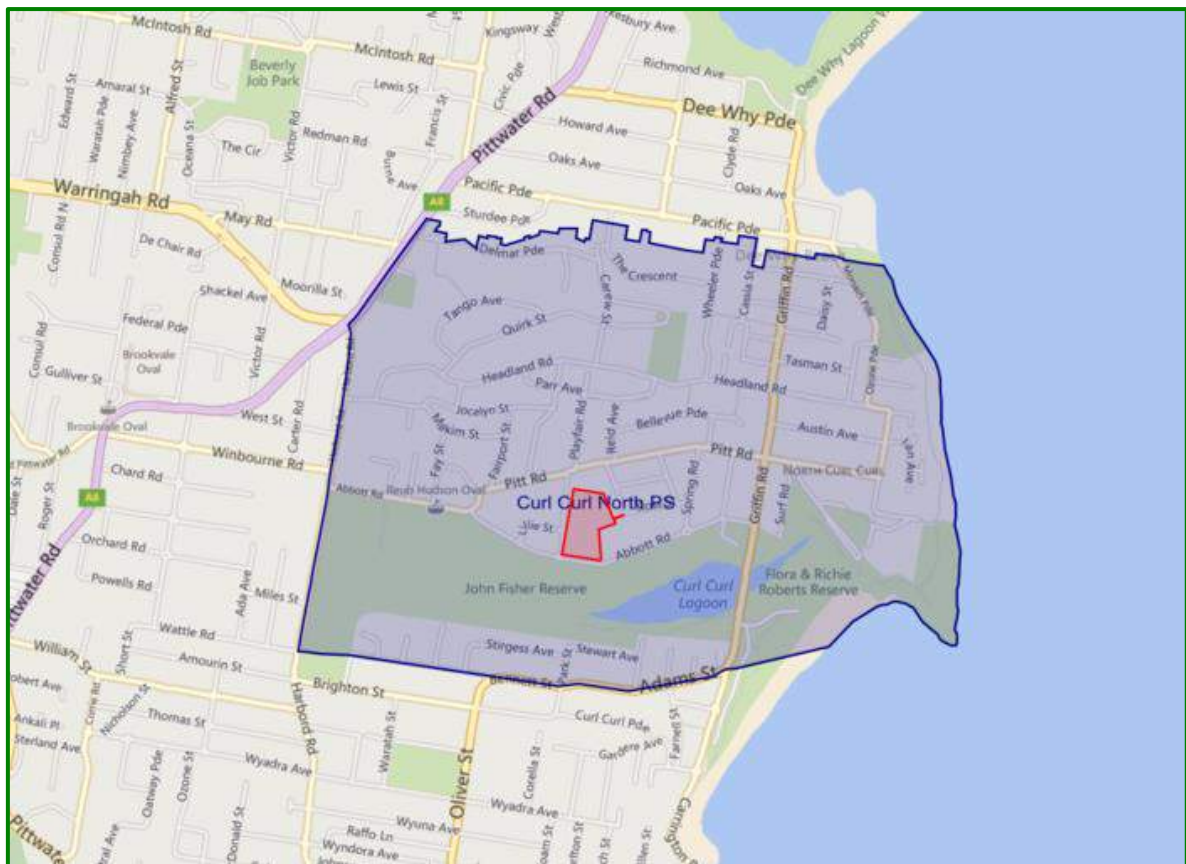


Figure 5: Curl Curl North Public School Catchment Area

The catchment extents are summaries as follows:

- ⑦ Northern Extent: Streets south side of but not including Pacific Parade and Sturdee Parade, Dee Why.
- ⑦ Southern Extent: Northern side of Adams Street and Bennett Street, Curl Curl.



➡ Eastern Extent: Pacific Ocean

➡ Western Extent: Eastern side of Pittwater Road and Harbord Road, Curl Curl/Brookvale/Dee Why

3.4 Existing Travel Modes & Site Traffic Generation

As a means of assessing the travel modes and traffic generation of the existing (and proposed) school, online travel mode questionnaire surveys were prepared by TRAFFIX and distributed by the school to all staff and parents / carers (with children in Kindergarten to Year 6).

The online survey was open for responses for a one week period from 14th to 22nd March 2017. A sample response rate representing approximately 7% of students and 64% of staff was completed. The survey included a range of questions which were primarily aimed to gain baseline data on average car occupancies and travel modes in the morning and afternoon to understand the existing travel habits in order to evaluate the future traffic impacts of the development. The key results of these surveys are discussed in the following sections.

Table 3 below shows the existing travel modes of both staff and students during the AM and PM school peak periods.

Table 3: Existing Travel Modes – AM and PM School Peak Periods

Travel Mode	AM Peak		PM Peak	
	Staff	Student	Staff	Student
Car Driver	92.9%	0%	92.9%	0%
Car Passenger	4.7%	72.7%	4.7%	66.7%
Public Transport	0%	0%	0%	6%
Other (Walking & Cycling)	2.4%	27.3%	2.4%	27.3%

It is evident from the table above that 92.9% of staff drive to / from the school. The results also show that 72.7% of students are dropped-off by car to the school in the morning, with 66.7% of students being picked-up by car in the afternoon. No students utilise public transport in the morning, however in the afternoon 6% of students use public transport (by bus) on their journey home. Furthermore, a



considerable proportion i.e. 27.3% of students travel to and from the school using other modes of transport mostly walking but also by bicycle. Further insight into the travel modes for staff and students is discussed below.

3.4.1 Staff

The results of the travel questionnaires completed by a sample of the staff at Curl Curl North Public School are outlined in the **Table 4** to **Table 9** below.

Table 4: Staff Sample Survey Results - Mode Share

Travel Mode	Number of Staff (Average- To/From School)	Proportion of Staff
Car Driver	39	92.9%
Car Passenger	2	4.7%
Walk	1	2.4%
Public Transport	0	0
Cycle	0	0
TOTAL	42	100%

Table 5: Staff Sample Survey Results – Private Vehicle Occupancy

Private Vehicle Occupancy	Number of Staff Vehicle (Arrivals)	Proportion
1	37	94.9%
2	2	5.1%
3	0	0
TOTAL	39	100%

Table 6: Staff Sample Survey Results – AM Arrivals

Arrival Time	Number of Staff (Arrivals)	Proportion
Before 7:00am	2	4.8%
7:00am – 8:00am	20	47.6%
8:00am – 9:00am	19	45.2%
9:00am – 10:00am	0	0
Other (12:00pm)	1	2.4%
TOTAL	42	100%



Table 7: Staff Sample Survey Results – PM Departures

Departure Time	Number of Staff (Departures)	Proportion
Before 3:00pm	1	2.4%
3:00pm – 4:00pm	7	16.7%
4:00pm – 5:00pm	20	47.6%
5:00pm – 6:00pm	14	33.3%
TOTAL	42	100%

Table 8: Staff Sample Survey Results – Parking Location

Location	Number of Staff Vehicles	Proportion
School Carpark (On-Site)	23	59%
Surrounding Street (On-Street)	15	38.5%
Curl Curl Youth and Community Centre (Off-Street)	1	2.6%
TOTAL	39	100%

Table 9: Staff Sample Survey Results – Distance From School

Where Staff Travel From	Distance (km)	Number of Staff	Proportion
Allambie Heights	3	3	7%
Avalon	15	2	5%
Beacon Hill	4	4	10%
Belrose	8	1	2%
Brookvale	2	1	2%
Collaroy (incl. Plateau)	3.5	3	7%
Cromer	4	1	2%
Curl Curl	1	2	5%
Curl Curl South	1	1	14%
Dee Why	1.5	6	12%
North Curl Curl	1	5	5%
Fairlight	3.5	2	2%
Freshwater	2.5	1	2%
Glenhaven	27	1	2%
Manly	3.5	1	2%
Mona Vale	10	1	2%
Mosman	8.5	1	2%
Narrabeen	5	1	2%
Neutral Bay	10	1	2%
Seaforth	5	1	2%
St Ives	12	1	2%



Wheeler Heights	4	1	2%
Wollstonecraft	12	1	2%
TOTAL		42	100%

The key findings are summarised as below:

- 92.9% of staff at the school travel via car as a driver.
- 59% of staff who drove parked within the school carpark on-site.
- 94.9% of staff that travel via car to school travel alone and 5.1% travel with a passenger. This is shown in **Table 4** and **Table 5** which suggests the overall staff vehicle occupancy is 1.05.
- For the purpose of reviewing trip arrival patterns, 45.2% of staff arrived at the school between the hours of 8:00am - 9:00am and 16.7% of staff depart the school between the hours of 3:00pm - 4:00pm. These are the highest hourly period proportion.
- 79% of staff travel up to 5km to get to work.

3.4.2 Students

The result of the travel questionnaires completed by a sample of the students at Curl Curl North Public School are outlined in the **Table 10** to **Table 15** below.

Table 10: Student Sample Survey Results – AM Modal Share

Travel Mode	Number of Students (Average- To School- AM)	Proportion of Students
Car Passenger	48	72.7%
School Bus	0	0%
Public Transport	0	0%
Cycle	2	3%
Walk	16	24.2%
TOTAL:	66	100%



Table 11: Student Sample Survey Results – PM Modal Share

Travel Mode	Number of Students (Average- From School- PM)	Proportion of Students
Car Passenger	44	66.7%
School Bus	2	3%
Public Transport (Bus)	2	3%
Cycle	1	1.5%
Walk	17	25.8%
TOTAL	66	100%

Table 12: Student Sample Survey Results – Private Vehicle Occupancy

Private Vehicle Occupancy	AM		PM	
	Number of Students (Vehicle Arrivals)	Proportion	Number of Students (Vehicle Departures)	Proportion
1	12	40%	12	42.9%
2	18	60%	16	57.1%
3	0	0%	0	0%
4	0	0%	0	0%
TOTAL	30	100%	28	100%

Table 13: Student Sample Survey Results – AM Car Arrivals

Arrival Time	Number of Students (Car Arrivals)	Proportion
Prior to 7:30am	0	0%
7:30am - 8:44am	7	14.6%
8:45am - 9:09am	41	85.4%
9:10am – 9:30am	0	0%
After 9:00am	0	0%
TOTAL	48	100%

Table 14: Student Sample Survey Results – PM Car Departures

Departure Time	Number of Students (Car Departures)	Proportion
Prior to 3:10pm	0	0%
3:10pm – 3:29pm	37	84.1%
3:30pm – 3:49pm	0	0%
3:50pm – 4:19pm	0	0%
4:20pm – 5:00pm	5	11.4%
After 5:00 pm	2	4.5%



TOTAL	44	100%
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Table 15: Student Sample Survey Results – Distance from School

Where Students Travel From	Distance (km)	Number of Student	Proportion
Curl Curl	1	7	11%
North Curl Curl	1	34	52%
Dee Why	1.5	18	27%
Brookvale	1.5	2	3%
Narraweena	2.5	1	2%
Collaroy	3	2	3%
Beacon Hill	4	2	3%
TOTAL		66	100%

The key findings are as follows:

- ➊ The highest mode of travel for students arriving to school in the morning is via private car, with 72.7% of students as car passengers. Similarly, private car is the highest mode of travel for students departing the school in the afternoon but less than arrivals, with 66.7% of students as car passengers.
- ➋ The remaining proportion of student travel is via bus, cycling or walking. Active transport particularly walking is second highest mode of travel for students, at over 25% (quarter) for both morning arrivals and afternoon departures.
- ➌ In the morning, the average car occupancy for students arriving at the school was 1.6.
- ➍ Of these students that arrived at the school by car, 100% arrived between the peak period of 8:00am-9:00am, which equates to 60 vehicle trips with 30 car arrivals and 30 car departures for the existing sample student population during the morning peak hour period.
- ➎ In the afternoon, the average car occupancy for students departing the school was 1.57
- ➏ Of these students that departed the school by car, 84.1% left during the peak period of 3:00pm-4:00pm which equates to 56 vehicle trips with 28 car arrivals and 28 car departures for the existing sample student population in the peak hour period in the afternoon. The remaining percentage is assumed to consist of children attending after-school care service, whom would depart after 4:00pm (a before-school care service also operates).



- 100% of surveyed students travel less than 4km to get to school with 67% living with 1.5km of the school. 1.5km is equivalent to a 20 minutes' walk which is an acceptable walking distance for older students (above year 4).

The above trip rates are therefore utilised in assessing the traffic generation of the proposed development, which is discussed in further detail in **Section 6**.

3.5 Existing Intersection Performance

Traffic count surveys and intersection performance testing has been undertaken to assess the existing network conditions using the SIDRA modelling software program. The SIDRA model produces a range of outputs, the most useful of which are the Degree of Saturation (DOS) and Average Vehicle Delay per vehicle (AVD). The AVD is in turn related to a level of service (LOS) criteria. These performance measures can be interpreted using the following explanations:

DOS - the DOS is a measure of the operational performance of individual intersections. As both queue length and delay increase rapidly as DOS approaches 1, it is usual to attempt to keep DOS to less than 0.9. When DOS exceeds 0.9 residual queues can be anticipated, as occurs at many major intersections throughout the metropolitan area during peak periods. For intersections controlled by roundabout or give way/stop control, satisfactory intersection operation is generally indicated by a DOS of 0.8 or less.

AVD - the AVD for individual intersections provides a measure of the operational performance of an intersection. In general, levels of acceptability of AVD for individual intersections depend on the time of day (motorists generally accept higher delays during peak commuter periods) and the road system being modelled (motorists are more likely to accept longer delays on side streets than on the main road system).

LOS - this is a comparative measure which provides an indication of the operating performance of an intersection. The following **Table 16** provides a recommended baseline for assessment as per the RMS Guide:

Table 16: Traffic Model Performance Criteria



Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode
F	More than 70	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment.

A summary of the modelled results are provided in **Table 17** below. Reference should also be made to the SIDRA outputs included in **Appendix B** which provide detailed results for individual lanes and approaches.

Table 17: AM & PM Peak Hour Intersection Performances

Intersection Description	Control Type	Model	Period	Degree of Saturation	Intersection Average Delay (sec)	Level of Service
Pitt Road / Playfair Road	Stop Control (Two-way)	Existing	AM	0.084	10.7	A
			PM	0.056	11.3	A
Abbott Road / Playfair Road	Roundabout	Existing	AM	0.107	3.6	A
			PM	0.140	3.8	A

* Note: All SIDRA results reported for priority controlled intersections relate to the movement with the highest delay, in accordance with the RMS Guide to Traffic Generating Developments.

It can be seen from **Table 17** above, that the two existing intersections are operating with low delays and a Level of Service of A during the critical AM and PM peak period. These are existing operations and the impact of the proposed school will be assessed on the net impact which is discussed in detail in **Section 6** of this report.



4. Description of Proposed Development

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

- ② Demolition of all existing buildings mostly in the northern section of the School's site except two (2) existing buildings.
- ② Construction including alterations of new buildings including the following aspects:
 - Classrooms
 - Staff and administration building
 - Library
 - Landscaping
 - Playground
- ② The provision of 17 off-street car parking spaces (including one (1) accessible car space). All entry and exit movements to this car park are to occur via a new vehicular crossing located on Abbott Road towards the south-eastern corner.
- ② The overall objective of the above development is to increase the student/staff capacity from its current level of 920 to 1000 students and from 70 staff to 76 staff. This represents an increase of 80 students and six (6) staff which is equivalent to a minor percentage increase of 8.7% and 8.6% respectively.
- ② There are will be four (4) pedestrian accesses to the School including the main entrance designated on the Abbott Road frontage towards the south-western corner. The other two (2) pedestrian entrances will be on the Playfair Road boundary and the existing access from Ross Street will be retained.

The parking requirements and traffic impacts arising from the development are discussed in **Sections 5 and 6** respectively. Reference should be made to the plans submitted separately to Council which are presented at reduced scale in **Appendix C**.



5. Parking Requirements

5.1 Parking Assessment

5.1.1 Council Requirement

Northern Beaches Council's DCP (specifically former Warringah Council DCP 2011) requires parking rates (on-site) for educational establishments as outlined in **Table 18**, below. The numbers are based on the proposed staff and student capacity.

Table 18: Council Parking Rates and Provision

Type	Number	Council Parking Rates	No. Spaces Required
Former Warringah Council			
Staff	76	1 space / staff member	76
Students (Kindergarten – Year 6)	1000	Adequate provision for student parking	0
a drop off/ pick up area	8 (44.4m) existing	Adequate space should be provided	3 based on 80 student increase (refer to 5.1.6)
Bus standing area	51m existing	Adequate space should be provided	51m (no change)
Totals			79

It can be seen from **Table 18** above, that with 76 proposed staff members and 1000 students (Kindergarten to Year 6), there is a requirement to provide a total of 76 car parking spaces when assessed against the Council's DCP. However, the Department of Education has policies that are contrary and stipulates on-site parking requirements for government schools are to be kept a minimum, which are discussed further below.

5.1.2 Department of Education Policy (DoE)

The Department of Education (DoE) has its own set of guidelines in the relation to provision of parking for staff within educational facilities. The Department's Educational Facilities Standards and Guidelines (EFSG) actively encourages the use of sustainable means of transport. A copy of the EFSG has been included in **Appendix D**. Section PS610.17 Services Zone states:



“In order to ensure that the available site area for teaching, learning and play is maximised, to enable community use and to encourage the use of sustainable means of transport to and from the school, on school site parking should be kept to a minimum.”

Furthermore, The Motor Vehicle Policy for NSW Government Agencies v13.0.14 April 2014, **Section 4.8** does not entitle parking spaces for private use vehicles. A copy of the Motor Vehicle Policy for NSW Government Agencies v13.0.14 April 2014 has been included in **Appendix E**. The document states:

“For 100% private use vehicles (whether owned, novated or 100% Departmental or Agency packaged) are not entitled to a parking space on Government leased or owned premises.”

5.1.3 Parking Provisions

The school currently provides a total of 21 parking spaces for the existing 70 staff. The parking space are provided on-site and accessed via Playfair Road. The proposed upgrade to the school will result in an increase of six (6) employees. In response to the Northern Beaches Council parking requirements, the proposed development seeks to provide 17 car parking spaces including one (1) accessible parking space. The proposed car parking space will be accessed on Abbott Road via a new vehicular crossover near the south-eastern boundary. The overall parking provision for Curl Curl North Public School is supported for the following reasons:

- ➊ There is a high capacity of on-street parking particularly on the southern side of Abbott Road adjacent to John Fisher Park between Pitt Road and Griffin Road, able to accommodate staff parking that would not impact on the amenity of the street in a manner that would be considered unacceptable. Additionally, majority of staff (66.7%) based on sample staff survey response, depart school prior to 5:00pm and would not conflict with the typical commuter travelling home to find parking on residential streets, surrounding the school.
- ➋ Parking occupancy surveys conducted on a school weekday which is attached in **Appendix G**, and discussed in **Section 5.1.4** confirm that there are low occupancies and there is capacity in surrounding streets which include Abbott Road, Playfair Road, Ross Street and Lillie Street to support the proposed parking provision. Noting that there is a nominal increase of up to three (3) staff.
- ➌ Parking occupancy surveys conducted on a school weekday, confirm that there are low occupancies and there is capacity in surrounding streets which include Abbott Road, Playfair Road, Ross Street



and Lillie Street to support the proposed parking provision. Noting that there is a nominal increase of up to six (6) staff.

- ② The conservative car parking provision of one (1) space per staff member appears to be idealistic, however this generous rate only encourages the use of single occupied private car usage and inherently increases motor vehicle traffic congestion particularly on quiet local streets. It also leads to further car dependency with its associated negative impacts as observed across Sydney.
- ② Limiting parking has the potential to reduce trip rates by private vehicle. A person's decision to drive is influenced by the availability of parking at the destination and availability of alternative transport modes. Restriction of parking, along with the promotion of other sustainable modes such as walking, cycling and public transport (in which Oran Park has been master planned for), may sway a potential motorist away from using the car in favour of alternatives.
- ② Facilities catering for motorists inherently diminish access for pedestrians and cyclists. Driveways into car parks and car parks themselves, create barriers to the free movement of pedestrian and cyclists, increasing the stress and danger associated with walking and cycling. A smaller parking provision creates opportunities to improve pedestrian and cycling connectivity for the Curl Curl North Public School for the wider community.
- ② The degree to which supply induces demand, as mentioned above, the availability of parking at the destination influences the decision whether to drive or take an alternative mode. There are efficiency gains in providing for something less than peak demand – a car park remaining empty for the majority of the time is a waste of resources.
- ② Parking provision for each employee, undermines commitments to sustainable travel habits as there are no 'constraints' making it harder to promote staff to change to alternative sustainable transport modes notably active transport (walking and cycling) and public transport as it would be less competitive and less convenient, considering a scenario where on-site parking space is available for all staff. Providing incentives to encourage sustainable travel habits is important however, without any constraints, it will not be as effective.
- ② As discussed in earlier **Section 3.4.1, Table 9**, based on the staff sample survey responses, it is apparent that up to 79% of existing staff reside within 5km of the Curl Curl North Public School and are also Northern Beaches Council residents. Distances of up to 5km is considered an ideal and comfortable distance for bicycle commuting and there opportunities to increase the active transport modal share based on further commitment to the Warringah Bike Plan (2010). It is evident under the Warringah Bike Plan which is also under review, that there are a range of bike routes and



infrastructure priorities that will improve cycling and walking connectivity to the school. The Bike Plan has been included in **Appendix F** for reference to existing and proposed priority routes.

- 2 In consideration of the DoE policies and commitment to a Green Travel Plan (discussed in **Section 8**) it is considered that the proposed parking arrangement will accommodate the requirements.

Furthermore, there were concerns raised about the potential staff overflow parking on Abbott Road adjacent the John Fisher Netball Courts / Curl Curl Sports Centre. However, this is considered irrelevant based on the assumption that netball games or sports field use mostly occurs outside school hours and school days. Therefore, the prospect of staff parking on Abbott Road adjacent the park would not interfere or have minimal impact on the function of the playing fields. Nevertheless, there is apparent spare capacity for on-street parking on surrounding streets that would not interfere with the amenity of residents or cause any inconvenience. If the event whereby it becomes an issue, staff can always be instructed to park in areas further away from the school.

5.1.4 On-Street Parking Analysis

As abovementioned, the redevelopment of the school will be deficient of on-site car parking provision in accordance to Council's DCP, and there are concerns raised by Council that the 'overflow' parking demand will have a negative impact on the surrounding local streets. As such, a parking occupancy survey was undertaken by Trans Traffic Survey on Tuesday, 28th March 2017 between 7:00am and 5:00pm (correlating to standard weekday work hours) with hourly intervals on streets surrounding the school and within a 400m radius. The streets include: Playfair Road, Abbott Road (Spring Road – Pitt Road), Lillie Street and Ross Street. A summary of the overall parking occupancy levels is shown below in **Chart 1**, with the full results provided in **Appendix G**.

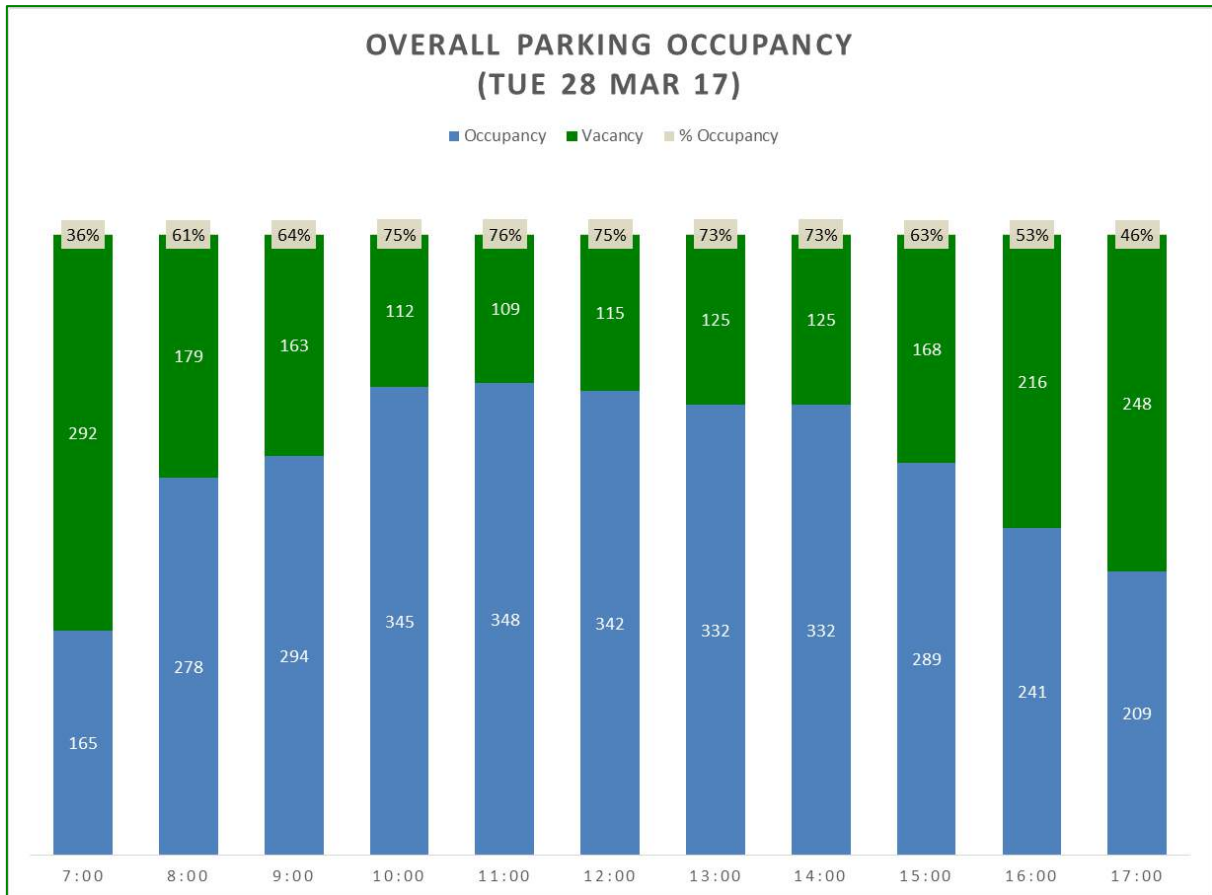


Chart 1: Overall On-Street Parking Occupancy (Tuesday, 28 March 2017)

It can be seen from **Chart 1** above, that the maximum parking demand/occupancy is 76% at 11:00am, this represents 348 parked vehicles and 109 vacant spaces available on streets surrounding the school which is within 400m radius of the site. Before 10:00am and from 3:00pm onwards the parking occupancies are below 65% equivalent to (vacancies over 160 spaces). It drops to below 50% occupancy after 5:00pm. Based on the results, the potential increase in parking demand regardless of the on-site parking provision deficiency, can be accommodated for and will have minimal impact on the amenity of residents in the area, also given that the peak parking demand is only during school hours and days.



5.1.5 Existing Pick-Up and Drop-Off Arrangement

The school's current pick-up/drop-off arrangement is on Playfair Road, with a combined 44.4 metres of 'No Parking 8:30am – 9:30am School Days' restrictions equivalent to 8 spaces (taking 5.5m car length) adjacent the school, on the eastern side of Playfair Road between the existing 'children's crossing' and junction of Abbott Road/Playfair Road.

Reference should be made to **Appendix H** for the existing signage plan containing existing parking restrictions surrounding the school on Playfair Road and Abbott Road.

5.1.6 Proposed Pick-Up and Drop-Off Arrangement

The Northern Beaches Council DCP requires adequate pick-up/set-down area on site, however it is proposed that all additional pick-up/drop-off spaces will be provided on-street on Playfair Road as per existing arrangement. This is considered acceptable given the detrimental impact associated with the provision of on-site pick-up/drop-off facilities on the valuable on-site area that are better allocated for teaching, learning and play as per DoE policies.

Additionally, in reality the provision of on-site pick-up/drop-off does not guarantee efficient operation and may actually adversely impact on the safety of children. This is based on the expected concentration of cars entering and leaving the school grounds across footpaths (active frontages) surrounding the school via driveways, that would be in direct conflict with the high pedestrian activity during school peak periods. There will be reliance on parents to drive safely and be cautious when entering and exiting driveways across footpaths; this is not an ideal outcome considering the ambiguity around right-of-way across driveways and unpredictability of pedestrians particularly children; it may also cause queuing on-street overflowing from on-site pick-up/drop-off provisions. The better outcome is to reduce vehicular access points on-site to prevent conflicts between pedestrians and cars. Therefore, it is considered safer and more practical to retain pick-up and drop-off arrangement on-street as per existing operations.

It is inevitable that all schools that have on-street pick-up and drop-off arrangements experience a period of 'disorder' during the peak times, considering the concentration of cars and this can be managed with coordination. The provision of on-site pick-up and drop-off facilities (without taking a significant amount of valuable site area) does not necessarily improve efficiency or safety and would not outweigh the benefits of retaining on-site area for teaching and playgrounds, considering that pick-up



and drop-off only occurs twice a day during a small period (up to 15 minutes) in the morning and afternoon and is not critical to overall benefit the redevelopment of the school offers.

TRAFFIX have been commissioned by the Department of Education in the past, to complete Traffic Impact Assessments on over five (5) primary schools across Sydney. In our experience it is considered that the satisfactory operational rate for pick-up and drop-off parking is one (1) space per 30 children. Therefore, with an anticipated increase in student population of 80, it is considered that an additional three (3) on-street pick up and drop off spaces would be sufficient to manage the influx of private vehicles in peak periods. It is worth noting that this rate is more conservative, given that there are only eight (8) pick-up and drop-off spaces provided on Playfair Road that currently facilitates drop-off and pick-up for up to 920 students (current student population).

There is an existing 'Children's Crossing' with associated part-time 'No Stopping' restrictions midblock on Playfair Road, near north of Lillie Street. Upon observation, it is apparent that the existing Children's Crossing is not functioning as it is intended to, this based on the following morning observations:

- The Children's Crossing flags were up, however there was no supervision and drivers were unsure with the road rules associated with Children's Crossing and did not stop, likely due to the ambiguity surrounding the operation of Children's Crossing;
- Some parents were using the 'No Stopping 8:30am-9:30am 3:00pm-4:pm School Days' zones associated with the Children's Crossing for dropping off;
- There is no kerb ramp or pram ramp on either side of the crossing point, making it non-compliant and unsafe as it is not clear that it is a crossing point;
- The crossing point is 5.8m-6.1m wide, however according to the RMS technical directions TDT 2002/12c this dimension is not compliant with the RMS technical directions;
- The Children's Crossing location is not within pedestrian desire lines because pedestrians coming from all directions of the school do not need to cross at Children's Crossing's current location because the desired walking route will be crossing at the junction of Abbott Road and Playfair Road and junction of Pitt Road and Playfair Road; and
- The children's crossing only captures students that happen to live in Lillie Street or if parents are parking in Lillie Street to walk students into school from Lillie Street. Hence, why there were very



low numbers of students crossing at the Children's Crossing which explains the lack of supervisors and lack of awareness from road users to stop at the stop lines for children to cross.

In summary, the current Children's crossing is unsafe, non-compliant in some design aspects and underutilised. Furthermore, the removing the existing Children's Crossing and its associated 'No Stopping' restrictions would free up kerb space that could be converted for the use of additional drop-off and pick-up spaces. This would provide more of benefit as it improves the operation of pick-up and drop-off by providing additional spaces without gaps, as oppose to the Children's Crossing's current lack of use and ambiguity. It is noteworthy, that there is an authorised School Crossing officer that supervises the zebra pedestrian crossing at the intersection of Pitt Road near Playfair Road, where majority of students are walking from.

It is therefore recommended and proposed that the existing Children's Crossing and associated parking restrictions be removed and be replaced with 'No Parking 8:30am-9:30am 3:00pm-4:00pm' restrictions, as per proposed signage plan displayed in **Appendix H**. The signage plan proposes 12 additional pick-up and drop-off spaces on the eastern side of Playfair Road on top of the existing eight (8) spaces or 44.4 metres of 'No Parking 8:30am-9:30am School Days' zone. This will result in a total of 20 car spaces or 109.3 metres of pick-up and drop-off spaces that will be posted with the updated 'No Parking 8:30am-9:30am 3:00pm-4:00pm School Days' restrictions which also covers the PM period. This exceeds the requirements of pick-up and drop-off facilities and is capable of fulfilling the future demands of the school, especially as that the student population is only increasing by 80 students or 8.7%. As previously mentioned the school currently has 920 students, operates with eight (8) existing morning drop-off spaces and as expected the proposed additional 12 spaces catering for both drop-off/pick-up will provide a drastic improvement and outweighs the recommended removal of the existing Children's Crossing which currently takes up 55.9 metres or 10 kerbside spaces.

Note that the proposed pick-up / drop-off areas also includes sections that are across driveways/vehicular crossovers. This utilisation of driveways to facility pick-up and drop-off is legal under the NSW Road Rules as driveways essential functions as 'No Parking' restrictions, whereby a driver is permitted to stop their car across a driveway to pick-up and drop-off provided it is under two (2) minutes and the driver can be within three (3) metres of the car.



5.1.7 Recommended Measures to Assist With Parking Demand Reduction

The following recommendations are made to meet the needs of staff, students and parents of the school.

- ➊ The deployment of supervisors to monitor and coordinate parent pick-up and drop-off areas, in regards to duration.
- ➋ School student registration scheme. Each car to display a number/the child/ren' name on the windscreen to allow traffic controller/supervisors to match children with their car as it approaches the pick-up area.
- ➌ Staggering start times for AM peak periods. Drop-off schemes are usually more difficult to manage but can be implemented as guidelines to reduce congestion during AM peak periods. Simple scheme include having older students arrive earlier during the AM period. For families with students in different years, the drop-off time for all students should be the same as the eldest student.
- ➍ Staggering finish times in the PM peak periods for pick-up to distribute and dilute traffic volumes. This includes deployment of supervisors and monitoring arriving vehicles with parents allocated with a name tag which is positioned in the driver's front windscreen. Supervisors using CB radio communication to inform each other of approaching parents and prepare the respective child for collection.
- ➎ Provision of informative/advertising material (posters) along the school boundary i.e. Playfair Road and Abbott Road informing parents of the Road Rules associated with 'No Parking' restrictions, these being:
 - Two (2) minute duration for car to stand
 - The driver must be within three (3) metres of the vehicle
- ➏ Parent Re-Education Policy

Typically, audits of school operations for pick-up and drop-off facilities result in the need to implement managed solutions. It is recommended that in addition to the 'Traffic Management Policy' advised above, effective enforcement of the time period is to be considered in conjunction. This would require additional volunteers to monitor the facilities during peak periods.

- ➐ Walking school bus program



The walking bus is a concept where a group of children walk to school with one or more adults. The walking school bus alleviates safety concerns that some parents may have with their child/ren walking alone to school. These programs can change mind-set and encourage active travel habits outside school for both adults and children. A walking school bus has huge potential for Curl Curl North Public School given the School's catchment is under 2km radius and majority of students living in Curl Curl (North/South).

Workplace Travel Plans (WTP) and Active Travel Guide (ATG)

Workplace Travel Plans (WTP) can be issued to teachers before the first day of work and Active Travel Guides (ATG) can be provided to students and parents on the first day of school or advertised throughout the year. Early issue and promotion of these documents is essential in establishing alternative sustainable travel habits early on.

WTPs and ATG provides information on travelling to and from Curl Curl North Public School. It shows parents, staff and students and the wider school community on how to get to and from school with an emphasis on sustainable forms of transport, notably walking, cycling and public transport.

It is noteworthy that Curl Curl North Public School currently has an Active Travel Guide (ATG) which is included in **Appendix I** in addition to the prepared Workplace Travel Plan (WTP) for reference. Furthermore, there are multiple school special bus services operating at the school, and this was discussed earlier in **Section 3.2, Table 2**.

Car sharing/pool scheme

Car sharing schemes can be encouraged for both parents/students and staff. Parents should be encouraged to car-pool multiple students to alleviate congestion during pick-up and drop-off periods. Initiatives should be implemented for staff whereby off-street parking spaces are only available for vehicles transporting two (2) or more staff to work.

There are also websites and apps that facilitate car sharing that are supported by Transport for NSW such as <http://www.sydneycarpool.org/> where workplaces/organisations can sign up.



5.2 Accessible Parking

The Northern Beaches DCP does not provide a rate for the provision of accessible car parking. Accordingly, this has been assessed having regard for the Building Code of Australia (BCA) which recommends that educational establishments (Class 9b Structures) provide accessible parking at a rate of 1 space per 100 parking spaces or part thereof.

The development is proposing 17 car parking spaces including the provision of one (1) accessible parking space, therefore satisfying the minimum requirements of the BCA. It is noteworthy that the new disabled parking spaces have been designed in accordance with AS 2890.6 (2009) *Part 6: Off-street parking for people with disabilities*.

5.3 Bicycle Parking

The Northern Beaches Council's DCP provides a bicycle parking rate for students but not staff. In this regards to staff, we have assessed with consideration of the *Planning Guidelines for Walking and Cycling (2004)*, the requirements for students and staff are as follows:

- 🚲 Students: 1 per 5 students over Year 4, (facility protected from weather)
- 🚲 Long Term Use: 3-5% Staff (2-4 spaces)
- 🚲 Short Term Use: 5-10% Staff (4-8 spaces)

Application of the above rates results in the school requiring between 6-12 bicycle parking spaces for staff taking into account the 76 staff (proposed). Assuming that there is an even split in school year population between kindergarten and Year 6, Year 5 and 6 would make up 286 out of 1000 students (i.e. 2 / 7 of 1000), therefore the bicycle requirement for students would be 57 bicycle spaces.

Based on the above, we recommend providing 69 bicycle spaces (57 plus 12) this would cover the lieu of on-site car parking spaces and promotes cycling to school.

All bicycle spaces provided within the site shall be located in a weather protected area, such as under an awning or bike room and designed to satisfy the requirements of AS 2890.3 (2015) or in accordance with the manufacturer's specifications.



5.4 Bus Set-down and Pick-up Arrangement

The Northern Beaches Council DCP specifies a requirement for an on-site bus standing and turning area. However, there is already three (3) school special bus services operating and utilising the existing 51m of 'Bus Zone 8.30am-9.30am, 3pm-4pm School Days' restrictions on Playfair Road adjacent the school near the north-western boundary. The existing bus zone is capable of standing four (4) buses at a time, based on a standard bus being 12.5m long. It is envisaged that this existing bus standing arrangement provided on-street is sufficient to accommodate the requirements of local bus operators and the school for current and future use. Also noting that the student population will only increase by 80 students which is a 9% increase overall.

The three (3) existing bus services are:

- ➡ Route 682 – PM Service
- ➡ Route 757 – PM Service
- ➡ Route 759 – AM and PM Service

The above existing bus school special services in addition to the additional Sydney buses services is considered sufficient to cater for future demands noting the nominal increase in student numbers. Notwithstanding, the proposed 'bus zone' arrangement (which is the same as existing) has capacity for a fourth school bus service particularly in the PM period if considered necessary.

Further details of bus services are discussed earlier in **Section 3.2** with reference from <http://www.sydneybuses.info/>.

5.5 Servicing & Emergency Access

Garbage servicing is to be undertaken from within the proposed loading/waste collection area accessed via a driveway off Playfair Road. It will operate outside of school hours and is capable of entering and exiting site in a forward direction, undertaking a three point turn within the site. As such the proposed design meets the minimum requirements of the design standard AS2890.2.



The loading area has been assessed using swept path analysis in accordance with AS 2890.2 (2002), with the use of a 9.25 metre heavy rigid vehicle (11.5m turning radius wall to wall), considered to be a typical garbage truck. These swept paths are provided in **Appendix J** for reference and the assessment demonstrates that satisfactory access will be achieved with a 5.80m wide vehicular crossing (driveway) turning right or left into the site in a forward direction and exit in a forward direction left or right. Therefore, waste servicing will satisfactorily operate with the proposed arrangement and driveway. This has no impact on safety and servicing waste trucks will still be able to exit turning in either direction.

Furthermore, the proposed vehicular crossing off Playfair Road abovementioned to facilitate on-site waste servicing can also be used as drop-off/pick-up, as according to the Road Rules driveways function exactly like 'No Parking' restrictions, where by a vehicle is permitted to stop across a driveway (or driver must within 3m of the vehicle) for dropping off or picking up passengers for no longer than 2 minutes. This further supports the proposed removal of the Children's Crossing, as discussed earlier in **Section 5.1.6**.

The existing vehicular crossover on Playfair Road that currently provides access to staff parking, will be retained for emergency vehicle access. However, all vehicular accessed to the school on Playfair Road and Abbott Road are available for emergency vehicles when the event arises.



6. Traffic Impacts

6.1 Trip Generation

The *RMS Guide to Traffic Generating Developments* does not nominate a specific generation rate for schools, therefore the anticipated traffic generation is to be calculated using surveys. As discussed in **Section 3.4**, extensive surveys were undertaken of Curl Curl North Public School to establish appropriate traffic generation rates based on results from travel mode questionnaire of existing staff and students. The surveys establishes the following trip rates associated with staff and students in the AM (8:00am-9:00am) and PM (3:00pm-4:00pm) peak periods, which is also summaries in **Table 19** and **Table 20**:

➊ Student drop off vehicles during AM Peak (8:00am-9:00am):

- 836 vehicle trips (418 in, 418 out)

➋ Staff vehicles during AM Peak:

- 65 vehicles (65 in, 0 out)

Existing Combined: 901 vehicle trips (483 in, 418 out)

➌ Student drop off vehicles during PM Peak (3:00pm-4:00pm):

- 658 vehicle trips (329 in, 329 out)

➍ Staff vehicles during PM Peak:

- 11 vehicles (0 in, 11 out)

Existing Combined: 669 vehicle trips (329 in, 340 out)

Note: The above rates are based on survey results indicating 100% students and 45.2% staff arrive during the 8:00am-9:00am AM peak; and 84.1% students and 16.7% staff leave during the 3:00pm-4pm PM peak. Car occupancies have also been factored in based on survey results.



Application of these rates to the proposed increase of 80 students and six (6) staff results in the following additional traffic generation:

- ➊ 75 vehicle trips (39 in, 36 out) during the 8:00-9:00am peak hour
- ➋ 59 vehicle trips (29 in, 30 out) during the 3:00-4:00pm peak hour

It is important to note that the above extrapolated traffic generations are based on existing modes of travel to and from the school, obtained from surveys with the results representing 7% (or 66) of the current student population and 60% (or 42) of the current staff population. Therefore, the above calculated traffic generation can be regarded as a 'worst case' scenario. It is considered that the PM peak occurs outside the normal commuter peak periods, regardless both AM and PM peaks have been modelled.



Table 19 Travel Mode Breakdown for proposed increase in Staff and Students at Curl Curl North Public School AM peak period.

Morning Arrival	No.	Car			Public Transport (Bus)		Walk		School Bus		Cycle	
		%	No. People	No. Cars	%	No. People	%	No. People	%	No. People	%	No. People
Existing												
Students	920	72.7%	669	418*	0%	0	24.2%	223	0%	0	3%	28
Staff	70	97.6%	68	65**	0%	0	2.4%	2	0%	0	0%	0
Proposed Increase												
Students	1000	72.7%	727	454*	0%	0	24.2%	242	0%	0	3%	30
Staff	76	97.6%	74	70**	0%	0	2.4%	2	0%	0	0%	0
Difference												
Students	80	72.7%	58	36*	0%	0	24.2%	19	0%	0	3%	2
Staff	6	97.6%	6	6**	0%	0	2.4%	0	0%	0	0%	0
Worst case scenario trips for proposed School during AM Peak:												
TOTAL Student Trip Increase					58	TOTAL Staff Trip Increase					6	
Student Car Occupancy*:					1.6	Staff Car Occupancy**:					1.05	
% of Students arriving between 8:00am-9:00am:					100%	% of Staff arriving between 8:00am-9:00am:					45.2%	
# vehicles arriving/departing during AM Peak:					36	# vehicles arrivals during AM Peak:					3 (rounded up)	



Table 20 Travel Mode Breakdown for proposed increase in Staff and Students at Curl Curl North Public School PM peak period.

Afternoon Departure	No.	Car			Public Transport (Bus)		Walk		School Bus		Cycle	
		%	No. People	No. Cars	%	No. People	%	No. People	%	No. People	%	No. People
Existing												
Students	920	66.7%	614	391*	3%	28	25.8%	237	3%	28	1.5%	14
Staff	70	97.6%	68	65**	0%	0	2.4%	2	0%	0	0%	0
Proposed Increase												
Students	1000	66.7%	667	425*	3%	30	25.8%	258	3%	30	1.5%	15
Staff	76	97.6%	74	70**	0%	0	2.4%	2	0%	0	0%	0
Difference												
Students	80	66.7%	53	34*	3%	2	25.8%	21	3%	2	1.5%	1
Staff	6	97.6%	6	6**	0%	0	2.4%	0	0%	0	0%	0
Worst case scenario trips for proposed School during PM Peak:												
TOTAL Student Trip Increase					53	TOTAL Staff Trip Increase					6	
Student Car Occupancy*:					1.57	Staff Car Occupancy**:					1.05	
% of Students arriving between 3:00pm-4:00pm:					84.1%	% of Staff arriving between 3:00pm-4:00pm:					16.7%	
# vehicles arriving/departing during PM Peak:					29	# vehicles departing during PM Peak:					1 (rounded up)	



6.2 Traffic Distribution

To estimate the distribution of the additional vehicle trips associated with the expansion of the school, the surveys (questionnaire) previously discussed that were completed by existing students and staff also contained data that would be used to establish the directional split of traffic when arriving or departing the school. The projected directional split is as follows for students and staff:

➊ Student AM/PM Drop-off Directional Split:

- 75% enter into Playfair Road from Pitt Road (westbound, left-turn in) and exit Abbott Road (eastbound, left-turn)
- 25% enter into Playfair Road from Pitt Road (eastbound, right-turn in) and exit Abbott Road (westbound, right-turn)

➋ Staff Directional Split:

- 100% enter into Playfair Road from Pitt Road (eastbound, right-turn in) and exit Abbott Road (westbound, right-turn)

Note a maximum of three (3) additional trips from staff (calculated for AM peak), is marginal.

The trip distribution and volumes are based on the assessed net increases during the AM and PM peak period which are tabulated in **Table 19** and **Table 20**, above. In summary the net increases are:

➊ Vehicles arriving / departing during AM Peak (8:00am-9:00am):

- 36 parent car arrivals and departures
- Three (3) staff car arrivals
- Total 39 inbound car movements, 36 outbound car movements

➋ Vehicles arriving/departing during PM Peak (3:00pm-4:00pm):

- 29 parent car arrivals and departures



- One (1) staff car departures
- Total 29 inbound car movements, 30 outbound car movements

Traffic distributions calculated above that were established from the survey of traffic modes and presumptions, combined with the AM/PM peak vehicle trips results in following traffic distribution shown in **Figure 6** and **Figure 7** for the AM and PM peak periods below.

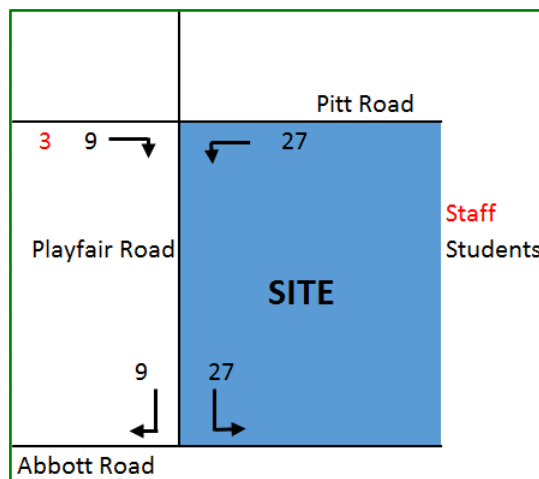


Figure 6: Traffic Distribution during AM Peak Period for Curl Curl North Public School

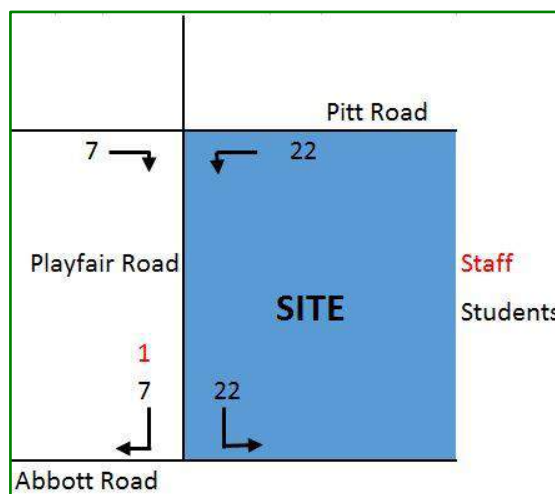


Figure 7: Traffic Distribution during PM Peak Period for Curl Curl North Public School



6.3 Peak Period Intersection Performances

To ascertain the impact of the proposed redevelopment of the school in regards to traffic generation and distribution on the local network, modelling was undertaken at key intersections (Pitt Road/Playfair Road/Abbott Road) to assess the base scenario i.e. the exiting conditions on the local road network. The modelling has focused on the 8:00am-9:00am for the AM peak period and 3:00pm-4:00pm for the PM peak period. However, it worth mentioning that the AM peak period is more critical due to the PM period not coinciding with the commuter peak hour (generally 5:00-6:00pm).

A summary of the modelled results for existing conditions was discussed previously in **Section 3.5** and additionally shown in **Table 17**. As previously discussed the two existing key intersections are operating with low delays and a Level of Service of A during critical AM and PM peak period.

TRAFFIX has modelled the critical intersections with the proposed future staff/student traffic generation, derived from travel modes survey data collected from staff and students of Curl Curl North Public School. The results of SIDRA model on the additional development traffic generation, is shown below in **Table 21**. Furthermore, the SIDRA outputs for both existing and future results are also included in **Appendix B** which provide detailed results for individual lanes and approaches.

Table 21: AM and PM Peak Hour Intersection Performances – Existing plus Future

Intersection Description	Control Type	Period	Scenario	Degree of Saturation	Intersection Average Delay (sec)	Level of Service
Pitt Road / Playfair Road	Stop Control* (Two-way)	AM	Existing	0.084	10.7	A
			Future	0.087	10.9	A
		PM	Existing	0.056	11.3	A
			Future	0.058	11.4	A
Abbott Road / Playfair Road	Roundabout	AM	Existing	0.107	3.6	A
			Future	0.109	4	A
		PM	Existing	0.140	3.8	A
			Future	0.144	4.1	A



* Note: All SIDRA results reported for priority controlled intersections (Stop Control for this case) relate to the movement with the highest delay, in accordance with the RMS Guide to Traffic Generating Developments.

It can be seen above from **Table 21** that all key intersections are expected to operate satisfactorily with the proposed additional development traffic and maintains a Level of Service of A during the critical AM and PM peak periods. The results also indicate that the proposed development would have only minor impacts on the operation of the key intersection during the AM and PM peak periods, thus it will continue to operate with acceptable delays with spare capacity.

It is therefore evident that the additional traffic volumes generated by the proposed development will be accommodated by the existing road network with no additional upgrades required. The traffic impacts of the redevelopment of the school on the external road network are therefore considered acceptable.

In addition, it is pertinent to note that this analysis assumes the existing travel mode splits are to be maintained, and as such represent a 'worst case' analysis. With improved public transport facilities and the encouragement of alternative modes of transport the school can expect to further minimise impact on the intersections within the local network.



7. Access & Internal Design Aspects

7.1 Vehicular Access

7.1.1 Staff Parking Area (Abbott Road)

The development proposes an access driveway to serve the proposed on-site car park. This includes a 5.5 metre wide entry-exit driveway onto Abbott Road, on the eastern frontage of the site. The proposed arrangements satisfy the Category 1 Driveway requirements of AS 2890.1 (2004) and are considered acceptable.

7.1.2 Servicing (Waste Collection) Area (Playfair Road)

Furthermore, the development proposed a separate vehicular access with a 5.8m wide combined entry/exit on Playfair Road and this also complies with AS 2890.1 (2004). In accordance AS 2890.2 (2002) swept path analysis has been undertaken of the proposed arrangements with the use of a garbage truck design vehicle (9.25 metre rigid vehicle with an 11.5 metre minimum turning circle radius wall to wall). This analysis confirms satisfactory access and compliance with the above standards, with relevant swept paths provided in **Appendix J** for reference.

7.1.3 Emergency Access (Playfair Road)

The existing vehicular crossover on Playfair Road that currently provides access to staff parking, will be retained for emergency vehicle access. However, all vehicular accessed to the school on Playfair Road and Abbott Road are available for emergency vehicles when the event arises.

7.2 Internal Design

The proposed changes to the internal parking arrangements comply with relevant sections of AS 2890.1 (2004), AS 2890.2 (2002), AS 2890.3 (2015) and AS 2890.6 (2009), with the following considered noteworthy:



7.2.1 Parking Modules

- ➊ All staff parking spaces shall be designed in accordance with a Class 1A User and provided with a minimum space length of 5.4m, a minimum width of 2.4m and a minimum aisle width of 5.8m.
- ➋ The disabled parking space proposed is designed in accordance with AS 2890.6 (2009). The space is provided with a clear width of 2.4m and located adjacent to a minimum shared area of 2.4m, between the two spaces.
- ➌ All spaces located adjacent to obstructions of greater than 150mm in height are provided with an additional width of 300mm.
- ➍ Dead-end aisles are provided with the required 1.0m aisle extension in accordance with Figure 2.3 of AS 2890.1 (2004).

7.2.2 Other Considerations

- ➎ Appropriate visual splays are to be provided on the driveway onto Abbott Road in accordance with the requirements of Figure 3.3 of AS 2890.1 (2004).

In summary, the proposed changes to the internal parking arrangements comply with relevant sections of AS 2890.1 (2004), AS 2890.2 (2002) and AS 2890.6 (2009). It is however envisaged that a condition of consent would be imposed requiring compliance with these standards and as such any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

7.3 Pedestrian Access

The redeveloped Curl Curl North Public School, will have four (4) pedestrian accesses/entrances. The main pedestrian entrance will be from Abbott Road in the same alignment with the existing raised 'wombat' pedestrian crossing on Abbott Road east of Playfair Road (roundabout) intersection. Two (2) other pedestrian entrances are from Playfair Road (western boundary), with one near the proposed soccer fields and the other near the library. The fourth pedestrian access is off Ross Street near its north-eastern boundary which is being retained. Reference can be made below in **Figure 8** and also on the accompanying architectural plans.



It is also proposed that the existing Children's Crossing will be removed permanently as discussed earlier in the report, due to its unsafe operation (ambiguity and lack of supervision), underutilisation, and undesirable location in terms of pedestrian desire lines /volumes, which warrants its removal. In lieu of the Children's Crossing, it would be more beneficial that it be replaced with the proposed parking restrictions to facilitate additional pick-up/drop-off spaces, as shown in **Appendix H**.



Figure 8: Curl Curl North Public School Catchment Area



8. Green Travel Plan

8.1 Staff

A sustainable Travel Plan is a work place plan developed to make it easier for employees to get to and from work and reduce reliance on private vehicle and parking spaces. Such a plan typically includes support for walking, cycling, car pooling and public transport use. It is an important part of managing the transport demand generated by a development.

The travel plan should be based on the findings of the Transport Assessment Study and be prepared with reference to the Premiers Council for Active Living and section titled Workplace Travel Plan (WTP) Resource.

As previously mentioned in **Section 5.1.7**, a comprehensive Workplace Travel Plan (WTP) is considered to be the most effective travel planning measure to encourage employees to travel by alternative means other than by private car. A draft Workplace Travel Plan has been prepared and is also attached in **Appendix I**, similarly to the active travel guide (ATG). The WTP/ATG provides relevant transport and access information that would be relayed to school employees. In addition, the school proposes bicycle parking within the car park in order to encourage additional cycle trips with employees safe in the knowledge that secure bike parking is available. This WTP/ATG information that would be provided to staff includes:

- Local bus facilities and network maps;
- Local cycle route maps; and
- Information on car-pooling schemes

The development of a WTP/ATG is encouraged to promote alternative modes of transport however it is highly noteworthy that such a document is generally more effective for new developments. Whilst Council's objective to reduce private vehicle usage is acknowledged, it is clear that if no parking was provided on site, then staff would continue to utilise the on-street parking in the area. Therefore, the travel targets in this case must be uniquely tailored to encourage alternative modes of transport. In this regard, it is recommended that a car pool scheme be considered by the school. Carpooling can be an



effective method reducing the impact of private vehicle usage. As an additional incentive off-street staff parking can be allocated to vehicles transporting two (2) or more staff members to and from work. Travel Mode data gathered indicates that there is a current staff car occupancy of 1.05 people. By developing such a scheme, the school will actively attempt to reduce vehicular reliance.

8.2 Students/Parents

A comprehensive Travel Access Guide (TAG) also known as Active Travel Guide (ATG) is considered to be the most effective travel planning measure to encourage travel by alternative means other than private car for visitors to the subject development. A Travel Access Guide can be developed by schools to distribute to students, parents and visitors. The TAG provides relevant transport and access information. In addition, the school proposes bicycle parking within the site for visitors in order to encourage additional cycle trips and to provide safe storage and comfort in the knowledge that secure bike parking is available. This TAG information that would be provided to students, parents and visitors includes:

- Local bus facilities and network maps;
- Local cycle route maps
- Information regarding a walking school bus
- Information regarding staggered pick up and drop off times; and
- Cycle initiatives and events

The development of a TAG / ATG is encouraged to promote alternative modes of transport however it is highly noteworthy that such a document is generally more effective for new developments. Whilst Council's objective to reduce private vehicle usage is acknowledged, it is clear that if no pick-up and drop-off locations were provided on-site, then parents would continue to utilise the on-street parking in the area. Therefore, the travel targets in this case must be uniquely tailored to encourage alternative modes of transport.

As discussed in **Section 5.1.7**, the School already has an Active Travel Guide (ATG) prepared and this is also attached in **Appendix I**. The ATG with its continued promotion particularly for new



students/parents, will further reduce traffic impacts of the school and increase participation in active travel modes of transport to school providing all round benefits, aligning with DoE policies.



9. Construction Traffic Management (CTMP)

A detailed construction Traffic Management Plan (CTMP) will be prepared and submitted to Council separate to this Development Application. The below commentary addresses the overall management principles for the site during the construction process as a preliminary CTMP. It is noted that the preparation of a detailed CTMP report would require significant input from the appointed builder and would heavily rely upon the construction methodology which at this point cannot be confirmed. The proposed development would however adhere to the general CTMP principle that are provided for information purposes:

Truck Routes

The truck routes utilised for the construction of the development would utilise the arterial road network where possible. A copy of those routes would be provided to all drivers prior to attending the site and all trucks serving the site will do so via the proposed route only. The proposed truck routes are recommended so that all vehicles could access the site in a forward direction and likewise the vehicle could also exit the site in a forward direction. The route is therefore recommended to ensure that no reverse manoeuvres on the public roadway.

With regard to the access locations that are nominated for the site, a swept path analysis assessment should be undertaken demonstrating forward entry and forward exit manoeuvres with all revers manoeuvres to occur on site.

Truck Size and Volumes

The maximum size of vehicles and frequency of construction delivery vehicles will be documented in the detailed CTMP report however it is anticipated that a maximum vehicle size of 12.5m HRV is generally feasible and should be included in the aforementioned swept paths. The anticipated truck volumes should be estimated and discussed in the Preliminary Construction Management Plan.

Contractor Parking



Contractors will be encouraged to either use public transport or ride share to/ from the site nothing that the current layout of the school would allow for some off-street parking until future buildings are erected. This parking would of course be restricted for construction employees who car pool to reduce the impact and this can be further detailed subject to the detailed CTMP which will be undertaken at CC stage.

Traffic Plans (if necessary)

Traffic Control Plans will be designed in accordance with the RMS Traffic Control at Worksites Manual and AS 1742.3. The TCP's would primarily relate pedestrian control to ensure appropriate safety measures are implemented.

Swept Path Analysis

Swept Path Analysis should be undertaken for each construction stage demonstrating forward entry and exit during all construction stages. All entry and exit movements will be monitored by certified traffic controllers.

Accordingly, it is anticipated that a standard condition of consent would be imposed requiring a site specific CTMP be provided for this development application. The CTMP will be designed in accordance with the above principles and the draft CTMP would be issued to Council and State authorities at a later stage for consideration and review.

Notwithstanding, it is proposed that access into the school site for construction related vehicles will be via Playfair Road at its existing driveway, as it is the most appropriate access location for construction vehicles for all stages of construction, due to majority of buildings being towards the southern end of the site, towards Abbott Road. Also due to run-off concerns, access via Abbott Road would not be appropriate. Staff will be required to park surrounding streets, which will be temporary during the construction period. Parking occupancy surveys reveal that there will be sufficient on-street parking to cater for the demands of staff and construction worker parking, with impact that would not be considered unacceptable on the amenity of the surrounding streets and residents.



10. Consultation

Input has been received from the following relevant state government agencies to help inform the traffic assessment with the issues raised being addressed in this report.

Council

Northern Beaches Council Road Assets Manager provided further input on the proposals for the redevelopment of Curl Curl North School as part of the pre-DA minutes for the meeting held on 7 February 2017. The comments were primarily regarding DCP Control C3. Parking Facilities and pressing the requirement for adequate on-site car parking spaces for staff. This has been addressed in **Section 5** for the report.

Transport for New South Wales (TfNSW)

There has been correspondence between Department of Education (DoE) requesting for TfNSW input on the draft Secretary's Environmental Assessment Requirements (SEARs). In response the Principal Manager, Land Use Planning and Development Freight, Strategy and Planning, Mark Ozinga highlighted the following traffic discussions points to the SEARs in a letter dated 4 April 2017:

- Proposed bicycle parking facilities and appropriate locations
- Details of proposed construction vehicle access arrangements at all stages of construction
- Assessment of cumulative impacts associated with construction (if any)
- Inclusion of truck routes, quantity, hours of operation and traffic control measures during demolition and construction activities

The above as per SEARs is discussed in this report and furthermore in the construction traffic management plan (CTMP) report, however as a builder is not appointed yet the details will be limited.

Roads and Maritime Services (RMS)



RMS has reviewed the submitted draft SEARs from a letter from DoE dated 10 March 2017. In response letter dated 23 March 2017 from Pahee Rathan, Senior Land Use Planner, RMS has no further requirements for inclusion to the current SEARs.



11. Conclusion

In summary:

- ② The proposed redevelopment of the Curl Curl North Public School will be catering for an additional 80 students and six (6) staff. This represents an increase of 8.7% and 8.6% in student and staff population respectively. It is evident that this is a minor change compared to other NSW School redevelopments and expectedly will create minimal impacts and can be accommodated for, whilst providing a better outcome for the community with the improved school facilities and design.
- ② The proposed development is expected, in the worst case (based on our assessment), to generate an increase total of 75 vehicle trips (39 in, 36 out) during the 8:00-9:00am peak hour and 59 vehicle trips (29 in, 30 out) during the 3:00-4:00pm peak hour based on travel modes obtained from survey data. Noting that the survey participation rate accounted for only 7% (66) of students and 60% (42) staff. Notwithstanding, the anticipated modelled performance of the two (2) critical intersections have retained a Level of Service A.
- ② The proposed site provides a total of 17 off-street car parking spaces including a single accessible space for staff use. Council requirements for off-street car parking and the Department of Education's Policies for Facility Guidelines, the Motor Vehicle Policy for NSW Government Agencies and the Crown Employees' Salaries and Condition Award indicate that off street parking should not be provided for staff. The proposed car parking provision is therefore considered acceptable under these circumstances and supports sustainable transport objectives by creating 'constraints'. Furthermore, it is apparent (from the parking survey results) that there is high level of on-street capacity on surrounding streets to accommodate staff parking which will not interfere (no coinciding sporting events during school days and hours) or if anything cause minimal impact (within acceptability) with the amenity of the surrounding streets and residents.
- ② In addition, it is proposed to provide an additional 12 pick-up and drop-off parking spaces, on Playfair Road increasing it from the existing eight (8) drop-off parking spaces. This results in a total of 20 pick-up and drop-off parking spaces which is more than capable of facilitating future demand of the school. This is subject to the recommended removal of the existing Children's Crossing on Playfair Road, which currently operates unsafely and is underutilised thus, its removal to facilitate additional pick-up/drop-off spaces would benefit the school and the community.



- ② The existing Bus Zone for set-down of 51 metres will be retained on Playfair Road and is sufficient to accommodate future demand, noting that three (3) school special buses currently operate there, and only an additional 80 students or 8.7% is anticipated for the future growth of the school.
- ② The proposed access and parking arrangements comply with the relevant sections of AS 2890.1 (2004), AS 2890.2 (2002), AS 2890.3 (2015) and AS 2890.6 (2009). The proposed arrangements have also been assessed using Vehicle Tracking software, which confirms satisfactory operation.

It is therefore concluded that the proposed development is supportable on traffic planning grounds and will operate satisfactorily.



Appendix A

Photographic Record



View looking east on Abbott Road showing Raised Zebra Crossing



View looking east on Abbott Road showing existing driveway with no access from street





View of the Abbott Road and Playfair Road Roundabout Intersection



View on Ross Street of laneway access to the school





View looking east on Pitt Road and Playfair Road intersection



View of Children's Crossing on Playfair Road with no kerb ramps





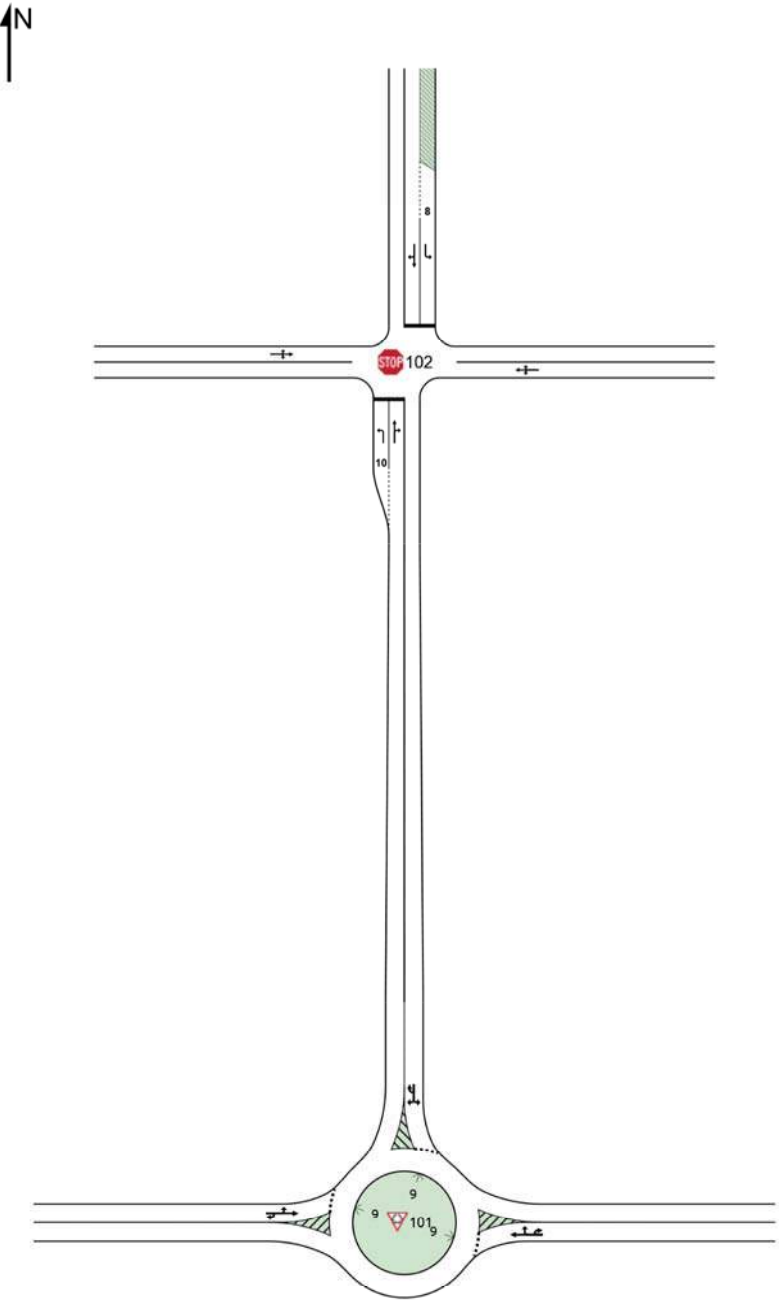
Appendix B

SIDRA Outputs – Existing & Future Results

NETWORK LAYOUT

Network: N101 [1. Playfair Road EX AM]

New Network



SITES IN NETWORK	
Site ID	Site Name
101	1. Abbott Road and Playfair Road EX AM
102	2. Pitt Rd Playfair Rd EX AM

MOVEMENT SUMMARY

 Site: 102 [2. Pitt Rd Playfair Rd EX AM]

 Network: N101 [1. Playfair Road EX AM]

Pitt Road and Playfair Road
Existing Road AM
Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV %	Arrival Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Playfair Road S													
1	L2	16	0.0	16	0.0	0.014	7.7	LOS A	0.1	0.4	0.35	0.84	37.5
2	T1	13	0.0	13	0.0	0.041	9.4	LOS A	0.1	1.0	0.49	0.95	33.8
3	R2	13	0.0	13	0.0	0.041	9.9	LOS A	0.1	1.0	0.49	0.95	36.0
Approach		41	0.0	41	0.0	0.041	8.9	LOS A	0.1	1.0	0.43	0.91	36.3
East: Pitt Road East													
4	L2	43	0.0	43	0.0	0.172	3.6	LOS A	0.2	1.3	0.05	0.09	39.4
5	T1	263	1.2	263	1.2	0.172	0.1	LOS A	0.2	1.3	0.05	0.09	39.7
6	R2	20	0.0	20	0.0	0.172	4.1	LOS A	0.2	1.3	0.05	0.09	39.5
Approach		326	1.0	326	1.0	0.172	0.8	NA	0.2	1.3	0.05	0.09	39.7
North: Playfair Road N													
7	L2	15	0.0	15	0.0	0.012	7.2	LOS A	0.0	0.3	0.24	0.86	37.0
8	T1	17	0.0	17	0.0	0.084	9.6	LOS A	0.3	2.1	0.50	0.98	28.5
9	R2	32	10.0	32	10.0	0.084	10.7	LOS A	0.3	2.1	0.50	0.98	36.4
Approach		63	5.0	63	5.0	0.084	9.6	LOS A	0.3	2.1	0.44	0.95	35.7
West: Pitt Road W													
10	L2	19	16.7	19	16.7	0.109	4.3	LOS A	0.3	2.3	0.19	0.13	39.4
11	T1	136	6.2	136	6.2	0.109	0.3	LOS A	0.3	2.3	0.19	0.13	39.5
12	R2	34	0.0	34	0.0	0.109	4.6	LOS A	0.3	2.3	0.19	0.13	39.1
Approach		188	6.1	188	6.1	0.109	1.5	NA	0.3	2.3	0.19	0.13	39.4
All Vehicles		619	2.9	619	2.9	0.172	2.4	NA	0.3	2.3	0.16	0.24	39.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.0 %

Number of Iterations: 3 (maximum specified: 10)

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Project: \\192.168.3.1\data\Synergy\Projects\17\17.069\Modelling\17.069m01v01 TRAFFIX Playfair Road Network Model.sip7

MOVEMENT SUMMARY

 Site: 104 [4. Pitt Rd Playfair Rd EX PM]

 Network: N102 [2. Playfair Road EX PM]

Pitt Road and Playfair Road
Existing Road P
Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV %	Arrival Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Playfair Road S													
1	L2	32	3.3	32	3.3	0.027	7.5	LOS A	0.1	0.8	0.29	0.86	37.6
2	T1	25	0.0	25	0.0	0.084	9.6	LOS A	0.3	2.0	0.50	0.98	33.6
3	R2	26	0.0	26	0.0	0.084	10.1	LOS A	0.3	2.0	0.50	0.98	35.9
Approach		83	1.3	83	1.3	0.084	9.0	LOS A	0.3	2.0	0.42	0.93	36.3
East: Pitt Road East													
4	L2	29	3.6	29	3.6	0.130	4.0	LOS A	0.2	1.7	0.11	0.10	39.2
5	T1	181	5.2	181	5.2	0.130	0.2	LOS A	0.2	1.7	0.11	0.10	39.6
6	R2	23	9.1	23	9.1	0.130	4.5	LOS A	0.2	1.7	0.11	0.10	39.3
Approach		234	5.4	234	5.4	0.130	1.1	NA	0.2	1.7	0.11	0.10	39.6
North: Playfair Road N													
7	L2	16	0.0	16	0.0	0.014	7.6	LOS A	0.1	0.4	0.32	0.85	36.9
8	T1	15	0.0	15	0.0	0.056	9.5	LOS A	0.2	1.4	0.51	0.97	28.4
9	R2	17	12.5	17	12.5	0.056	11.3	LOS A	0.2	1.4	0.51	0.97	36.3
Approach		47	4.4	47	4.4	0.056	9.5	LOS A	0.2	1.4	0.45	0.93	35.5
West: Pitt Road W													
10	L2	23	9.1	23	9.1	0.155	4.0	LOS A	0.3	2.3	0.12	0.09	39.6
11	T1	225	2.8	225	2.8	0.155	0.2	LOS A	0.3	2.3	0.12	0.09	39.7
12	R2	33	6.5	33	6.5	0.155	4.4	LOS A	0.3	2.3	0.12	0.09	39.4
Approach		281	3.7	281	3.7	0.155	1.0	NA	0.3	2.3	0.12	0.09	39.6
All Vehicles		645	4.1	645	4.1	0.155	2.7	NA	0.3	2.3	0.18	0.26	39.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.0 %

Number of Iterations: 3 (maximum specified: 10)

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MOVEMENT SUMMARY

 Site: 101 [1. Abbott Road and Playfair Road EX AM]

 Network: N101 [1. Playfair Road EX AM]

Abbott Road and Playfair Road
Existing AM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV %	Arrival Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Abbott Road East													
5	T1	106	0.0	106	0.0	0.107	2.8	LOS A	0.5	3.8	0.17	0.42	37.8
6	R2	25	0.0	25	0.0	0.107	5.6	LOS A	0.5	3.8	0.17	0.42	36.4
6u	U	7	0.0	7	0.0	0.107	6.8	LOS A	0.5	3.8	0.17	0.42	38.9
Approach		139	0.0	139	0.0	0.107	3.5	LOS A	0.5	3.8	0.17	0.42	37.7
North: Playfair Road N													
7	L2	36	0.0	36	0.0	0.067	3.2	LOS A	0.3	2.2	0.22	0.51	37.1
9	R2	38	0.0	38	0.0	0.067	5.8	LOS A	0.3	2.2	0.22	0.51	36.2
9u	U	5	0.0	5	0.0	0.067	7.0	LOS A	0.3	2.2	0.22	0.51	33.7
Approach		79	0.0	79	0.0	0.067	4.7	LOS A	0.3	2.2	0.22	0.51	36.6
West: Abbott Road West													
10	L2	14	0.0	14	0.0	0.064	3.0	LOS A	0.3	2.2	0.15	0.35	32.6
11	T1	65	4.8	65	4.8	0.064	2.6	LOS A	0.3	2.2	0.15	0.35	38.4
12u	U	1	0.0	1	0.0	0.064	6.8	LOS A	0.3	2.2	0.15	0.35	38.0
Approach		80	3.9	80	3.9	0.064	2.7	LOS A	0.3	2.2	0.15	0.35	38.1
All Vehicles		298	1.1	298	1.1	0.107	3.6	LOS A	0.5	3.8	0.17	0.42	37.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.0 %

Number of Iterations: 3 (maximum specified: 10)

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Organisation: TRAFFIX PTY LTD | Processed: Wednesday, 29 March 2017 11:20:42 AM

Project: \\192.168.3.1\data\Synergy\Projects\17\17.069\Modelling\17.069m01v01 TRAFFIX Playfair Road Network Model.sip7

MOVEMENT SUMMARY

 Site: 103 [3. Abbott Road and Playfair Road EX PM]

 Network: N102 [2. Playfair Road EX PM]

Abbott Road and Playfair Road
Existing PM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV %	Arrival Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Abbott Road East													
5	T1	135	3.1	135	3.1	0.140	3.0	LOS A	0.8	5.4	0.23	0.42	37.6
6	R2	32	0.0	32	0.0	0.140	5.8	LOS A	0.8	5.4	0.23	0.42	36.2
6u	U	6	0.0	6	0.0	0.140	7.0	LOS A	0.8	5.4	0.23	0.42	38.8
Approach		173	2.4	173	2.4	0.140	3.6	LOS A	0.8	5.4	0.23	0.42	37.5
North: Playfair Road N													
7	L2	36	5.9	36	5.9	0.092	3.7	LOS A	0.5	3.3	0.31	0.55	36.7
9	R2	57	1.9	57	1.9	0.092	6.2	LOS A	0.5	3.3	0.31	0.55	35.6
9u	U	8	0.0	8	0.0	0.092	7.4	LOS A	0.5	3.3	0.31	0.55	33.1
Approach		101	3.1	101	3.1	0.092	5.4	LOS A	0.5	3.3	0.31	0.55	36.0
West: Abbott Road West													
10	L2	18	0.0	18	0.0	0.116	3.0	LOS A	0.6	4.3	0.17	0.36	32.3
11	T1	125	3.4	125	3.4	0.116	2.6	LOS A	0.6	4.3	0.17	0.36	38.3
12u	U	5	0.0	5	0.0	0.116	6.8	LOS A	0.6	4.3	0.17	0.36	37.8
Approach		148	2.8	148	2.8	0.116	2.8	LOS A	0.6	4.3	0.17	0.36	38.1
All Vehicles		422	2.7	422	2.7	0.140	3.8	LOS A	0.8	5.4	0.23	0.43	37.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.0 %

Number of Iterations: 3 (maximum specified: 10)

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Organisation: TRAFFIX PTY LTD | Processed: Wednesday, 29 March 2017 11:29:04 AM

Project: \\192.168.3.1\data\Synergy\Projects\17\17.069\Modelling\17.069m01v01 TRAFFIX Playfair Road Network Model.sip7

MOVEMENT SUMMARY

 Site: 202 [6. Pitt Rd Playfair Rd EX + FU AM]

 Network: N101 [1. Playfair Road EX + FU AM]

Pitt Road and Playfair Road
Existing + Future AM
Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV %	Arrival Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Playfair Road S													
1	L2	16	0.0	16	0.0	0.014	7.7	LOS A	0.1	0.4	0.35	0.84	37.5
2	T1	13	0.0	13	0.0	0.042	9.7	LOS A	0.1	1.0	0.50	0.95	33.6
3	R2	13	0.0	13	0.0	0.042	10.3	LOS A	0.1	1.0	0.50	0.95	35.9
Approach		41	0.0	41	0.0	0.042	9.1	LOS A	0.1	1.0	0.44	0.91	36.2
East: Pitt Road East													
4	L2	75	0.0	75	0.0	0.189	3.8	LOS A	0.2	1.4	0.05	0.16	40.8
5	T1	263	1.2	263	1.2	0.189	0.3	LOS A	0.2	1.4	0.05	0.16	40.3
6	R2	20	0.0	20	0.0	0.189	4.3	LOS A	0.2	1.4	0.05	0.16	40.5
Approach		358	0.9	358	0.9	0.189	1.2	NA	0.2	1.4	0.05	0.16	40.4
North: Playfair Road N													
7	L2	15	0.0	15	0.0	0.012	7.2	LOS A	0.0	0.3	0.24	0.86	37.0
8	T1	17	0.0	17	0.0	0.087	10.1	LOS A	0.3	2.2	0.51	0.99	28.3
9	R2	32	10.0	32	10.0	0.087	10.9	LOS A	0.3	2.2	0.51	0.99	36.3
Approach		63	5.0	63	5.0	0.087	9.8	LOS A	0.3	2.2	0.45	0.96	35.7
West: Pitt Road W													
10	L2	19	16.7	19	16.7	0.120	4.8	LOS A	0.4	3.1	0.25	0.18	40.1
11	T1	136	6.2	136	6.2	0.120	0.7	LOS A	0.4	3.1	0.25	0.18	40.0
12	R2	47	0.0	47	0.0	0.120	4.9	LOS A	0.4	3.1	0.25	0.18	40.1
Approach		202	5.7	202	5.7	0.120	2.1	NA	0.4	3.1	0.25	0.18	40.1
All Vehicles		664	2.7	664	2.7	0.189	2.8	NA	0.4	3.1	0.17	0.29	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.0 %

Number of Iterations: 3 (maximum specified: 10)

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Organisation: TRAFFIX PTY LTD | Processed: Wednesday, 5 April 2017 3:29:21 PM

Project: T:\Synergy\Projects\17\17.069\Modelling\17.069m01v01 TRAFFIX Playfair Road Network Model.sip7

MOVEMENT SUMMARY

 Site: 204 [8. Pitt Rd Playfair Rd EX + FU PM]

 Network: N102 [2. Playfair Road EX + FU PM]

Pitt Road and Playfair Road
Existing + Future Road PM
Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV %	Arrival Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Playfair Road S													
1	L2	32	3.3	32	3.3	0.027	7.5	LOS A	0.1	0.8	0.29	0.86	37.6
2	T1	25	0.0	25	0.0	0.087	9.8	LOS A	0.3	2.1	0.51	0.98	33.5
3	R2	26	0.0	26	0.0	0.087	10.4	LOS A	0.3	2.1	0.51	0.98	35.8
Approach		83	1.3	83	1.3	0.087	9.1	LOS A	0.3	2.1	0.43	0.94	36.2
East: Pitt Road East													
4	L2	57	1.9	57	1.9	0.145	4.0	LOS A	0.2	1.8	0.10	0.18	40.8
5	T1	181	5.2	181	5.2	0.145	0.4	LOS A	0.2	1.8	0.10	0.18	40.3
6	R2	23	9.1	23	9.1	0.145	4.8	LOS A	0.2	1.8	0.10	0.18	40.5
Approach		261	4.8	261	4.8	0.145	1.6	NA	0.2	1.8	0.10	0.18	40.4
North: Playfair Road N													
7	L2	16	0.0	16	0.0	0.014	7.6	LOS A	0.1	0.4	0.32	0.85	36.9
8	T1	15	0.0	15	0.0	0.058	9.8	LOS A	0.2	1.4	0.52	0.98	28.2
9	R2	17	12.5	17	12.5	0.058	11.4	LOS A	0.2	1.4	0.52	0.98	36.3
Approach		47	4.4	47	4.4	0.058	9.6	LOS A	0.2	1.4	0.45	0.93	35.5
West: Pitt Road W													
10	L2	23	9.1	23	9.1	0.162	4.3	LOS A	0.4	3.0	0.15	0.12	40.0
11	T1	225	2.8	225	2.8	0.162	0.3	LOS A	0.4	3.0	0.15	0.12	39.9
12	R2	42	5.0	42	5.0	0.162	4.5	LOS A	0.4	3.0	0.15	0.12	39.9
Approach		291	3.6	291	3.6	0.162	1.2	NA	0.4	3.0	0.15	0.12	39.9
All Vehicles		682	3.9	682	3.9	0.162	2.9	NA	0.4	3.0	0.19	0.30	39.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.0 %

Number of Iterations: 3 (maximum specified: 10)

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Project: T:\Synergy\Projects\17\17.069\Modelling\17.069m01v01 TRAFFIX Playfair Road Network Model.sip7

MOVEMENT SUMMARY



Site: 201 [5. Abbott Road and Playfair Road EX + FU AM]



Network: N101 [1. Playfair Road EX + FU AM]

Abbott Road and Playfair Road
Existing + Future AM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Abbott Road East													
5	T1	106	0.0	106	0.0	0.109	2.8	LOS A	0.6	3.9	0.19	0.42	37.7
6	R2	25	0.0	25	0.0	0.109	5.7	LOS A	0.6	3.9	0.19	0.42	36.3
6u	U	7	0.0	7	0.0	0.109	6.9	LOS A	0.6	3.9	0.19	0.42	38.9
Approach		139	0.0	139	0.0	0.109	3.6	LOS A	0.6	3.9	0.19	0.42	37.6
North: Playfair Road N													
7	L2	67	0.0	67	0.0	0.100	4.0	LOS A	0.5	3.5	0.22	0.54	43.1
9	R2	48	0.0	48	0.0	0.100	6.7	LOS A	0.5	3.5	0.22	0.54	39.9
9u	U	5	0.0	5	0.0	0.100	8.1	LOS A	0.5	3.5	0.22	0.54	37.7
Approach		121	0.0	121	0.0	0.100	5.2	LOS A	0.5	3.5	0.22	0.54	41.9
West: Abbott Road West													
10	L2	14	0.0	14	0.0	0.064	3.0	LOS A	0.3	2.2	0.15	0.35	32.6
11	T1	65	4.8	65	4.8	0.064	2.6	LOS A	0.3	2.2	0.15	0.35	38.4
12u	U	1	0.0	1	0.0	0.064	6.8	LOS A	0.3	2.2	0.15	0.35	38.0
Approach		80	3.9	80	3.9	0.064	2.7	LOS A	0.3	2.2	0.15	0.35	38.1
All Vehicles		340	0.9	340	0.9	0.109	4.0	LOS A	0.6	3.9	0.19	0.44	39.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.0 %

Number of Iterations: 3 (maximum specified: 10)

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Project: T:\Synergy\Projects\17\17.069\Modelling\17.069m01v01 TRAFFIX Playfair Road Network Model.sip7

MOVEMENT SUMMARY

 Site: 203 [7. Abbott Road and Playfair Road EX + FU PM]

 Network: N102 [2. Playfair Road EX + FU PM]

Abbott Road and Playfair Road
Existing + Future PM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV %	Arrival Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Abbott Road East													
5	T1	135	3.1	135	3.1	0.144	3.0	LOS A	0.8	5.5	0.25	0.43	37.6
6	R2	32	0.0	32	0.0	0.144	5.8	LOS A	0.8	5.5	0.25	0.43	36.1
6u	U	6	0.0	6	0.0	0.144	7.1	LOS A	0.8	5.5	0.25	0.43	38.8
Approach		173	2.4	173	2.4	0.144	3.7	LOS A	0.8	5.5	0.25	0.43	37.4
North: Playfair Road N													
7	L2	63	3.3	63	3.3	0.128	4.3	LOS A	0.7	4.6	0.32	0.57	42.0
9	R2	69	1.5	69	1.5	0.128	7.0	LOS A	0.7	4.6	0.32	0.57	38.6
9u	U	8	0.0	8	0.0	0.128	8.3	LOS A	0.7	4.6	0.32	0.57	36.2
Approach		141	2.2	141	2.2	0.128	5.8	LOS A	0.7	4.6	0.32	0.57	40.4
West: Abbott Road West													
10	L2	18	0.0	18	0.0	0.116	3.0	LOS A	0.6	4.3	0.17	0.36	32.3
11	T1	125	3.4	125	3.4	0.116	2.6	LOS A	0.6	4.3	0.17	0.36	38.3
12u	U	5	0.0	5	0.0	0.116	6.8	LOS A	0.6	4.3	0.17	0.36	37.8
Approach		148	2.8	148	2.8	0.116	2.8	LOS A	0.6	4.3	0.17	0.36	38.0
All Vehicles		462	2.5	462	2.5	0.144	4.1	LOS A	0.8	5.5	0.25	0.45	38.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.0 %

Number of Iterations: 3 (maximum specified: 10)

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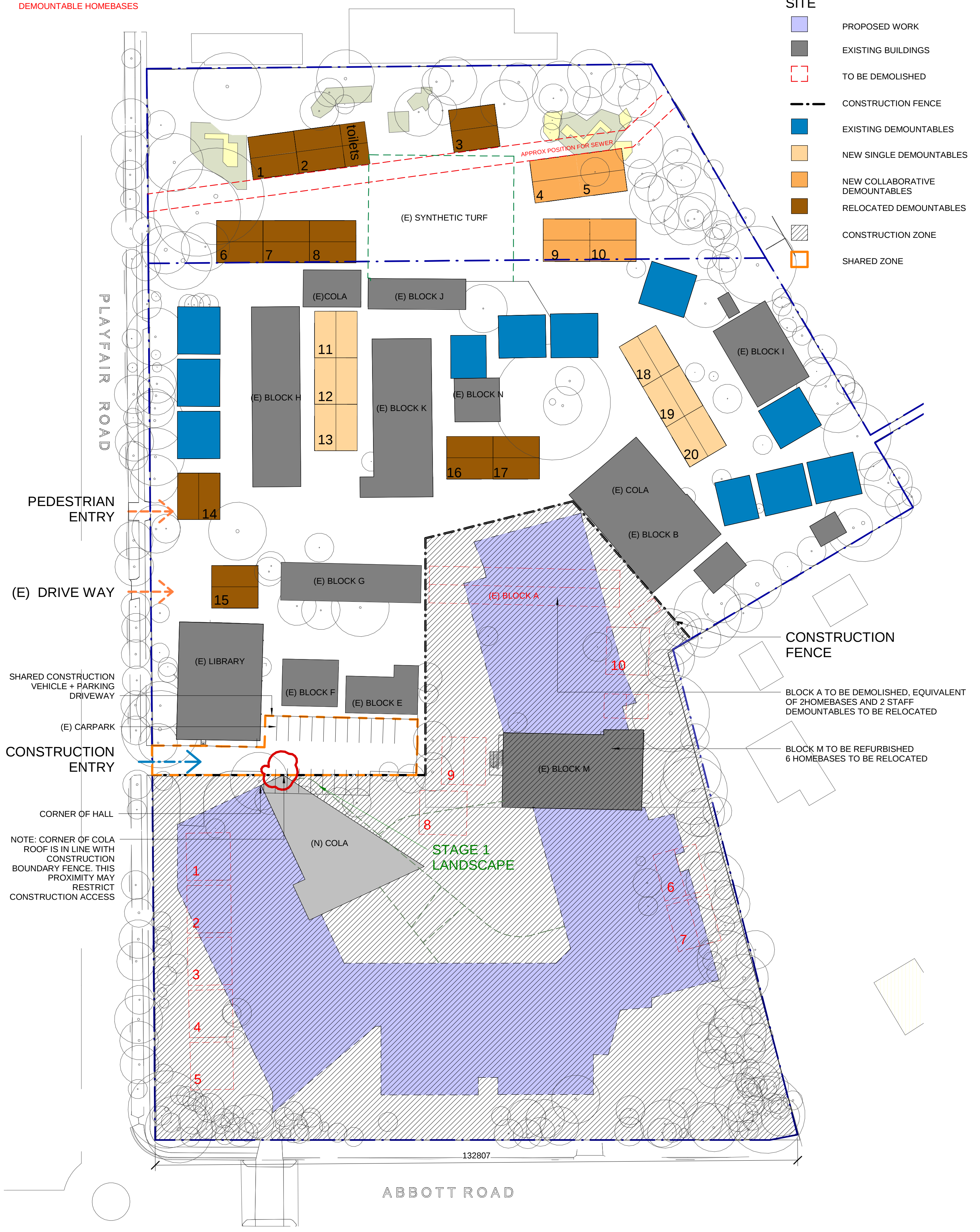


Appendix C

Reduced Plans

BLOCK A - STAFF, CLERICAL, 2 DEPUTY AND 2X HOMEBASE
ALL OTHER BUILDINGS TO BE DEMOLISHED DURING CONSTRUCTION ARE DEMOUNTABLE HOMEBASES

- OPTION 1A**
STAGE 01
PLACE 18 DEMOUNTABLES (10 REUSE, 8 NEW)
STAGE 02
- CONSTRUCTION OF BUILDINGS TO SOUTH OF SITE
- PROPOSED WORK
 - EXISTING BUILDINGS
 - TO BE DEMOLISHED
 - CONSTRUCTION FENCE
 - EXISTING DEMOUNTABLES
 - NEW SINGLE DEMOUNTABLES
 - NEW COLLABORATIVE DEMOUNTABLES
 - RELOCATED DEMOUNTABLES
 - CONSTRUCTION ZONE
 - SHARED ZONE



- OPTION 1A**
STAGE 3
-DEMOLISH BUILDINGS TO NORTH OF SITE
-FINALISE LANDSCAPING TO NORTH OF SITE
- TO BE DEMOLISHED
 - CONSTRUCTION FENCE



CLIENT	DEPARTMENT OF EDUCATION	Client Logo
T + 61 2 9561 1136		
F + -		
LANDSCAPE CONSULTANT		
Context		
T + 61 2 8244 8900		
STRUCTURAL & CIVIL CONSULTANT		
Woolacotts Consulting Engineers Pty Ltd		
T + 61 2 8241 9907		
GEOTECHNICAL CONSULTANT		
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Wilkinson Murray		
T + 61 2 9437 4611		
NCC/BCA & ACCESS CONSULTANT		
Design Confidence		
T + 61 2 8399 3707		
TRAFFIC CONSULTANT		
-		
T + -		

NSW Nominated Architects: Robert Denton Reg. No. 5782, Alex Kibble Reg. No. 6015				
Do not scale drawings. Verify all dimensions on site. Notify architect of all discrepancies				
Rev	Date	Description	Checked	Auth.
P4	17.5.11	SK - Sketch - Updated construction fence	AH	AK
P3	17.5.10	SK - Sketch - Updated Demountable	AH	AK
P2	17.5.08	SK - Sketch - Updated Demountable	AH	AK
P1	17.5.03	SK - Sketch - Demountable options for review	AH	AK

NOT FOR CONSTRUCTION

Project
CURL CURL NORTH PUBLIC SCHOOL

Drawing Title
STAGING PLAN- OPTION A1

Proj. Dir	Proj. Arch	Drawn
AK/RD	AH	BO
Job No.	Date	Scale
161029	Feb 17	1 : 500 @ B1

Drawing No. AR-SK SK-0024
Revision P4

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Appendix D

Departments Educational Facilities Standards & Guidelines (EFGS)

Published on *NSW Department of Education - EFSG* (<https://efsg.det.nsw.edu.au>)

PS610.17 Services Zone

FUNCTION AND LOCATION

Function:

- Landscape design to reduce the visual impact of services
- Consider the siting of the zone in relation to the rest of the school landscape

Location:

Easily accessed from roads or driveways for maintenance and metering

PLANNING

The services zone supports the day to day functioning of the school. It includes supporting infrastructure such as car parks, bicycle racks, service roads, bulk waste pads, fire hydrants and LPG tank enclosures. This infrastructure can be integrated with built structures or screened as necessary.

Service areas must be considered as an integral part of the school design. The siting of these facilities should balance the needs of amenity and security. Planting may be used to screen services from particular vantage points, while security may require clear views of that service from other areas.

In order to ensure that the available site area for teaching, learning and play is maximised, to enable community use and to encourage the use of sustainable means of transport to and from the school, on school site parking should be kept to a minimum. The parking numbers indicated in the EFSG accommodation summary are maximums and should only be provided when a site specific traffic report indicates that these numbers are required taking into account the location of the facility, public transport links, cycle routes etc.

Adequate space should be provided in car parks for tree planting to provide visual amenity and shade.

Cycle facilities can be located adjacent to buildings, which provide a level of security and weather protection.

PLANNING CRITERIA AND CONSIDERATIONS

CRITERIA	CONSIDERATIONS
Microclimate	Avoid heat and glare from paved surfaces.
Context	Consider relationship of service to surrounding buildings and street - noise, odour, function, views.

Biodiversity Recovery	Low opportunity due to amount of hard paving required for most services.
Pedestrian movement	Separate service access from student use/ activity zones. Prevent student access in potentially dangerous areas.
Shade	Allow clear sightlines to vehicles from adjacent buildings.
Winter solar access	Maintain to key spaces in adjoining buildings.
Furniture	Not required.
Water	Consider desire lines and spill out from edges of paving.
Erosion	Consider desire lines and spill out from edges of paving.
Surface finish	Paved to civil engineers design.
Solar glare	Bright, reflective areas to be avoided.
Allergenic plants	Plants that may cause allergies may be able to be used if there are no suitable alternatives, as student use is restricted.
Stormwater	Incorporate services pits within paved areas, rather than turf or planting beds. Provide for naturally landscaped drainage treatments e.g. planted swales, retention basins, and permeable surfaces.
Lighting	Refer Schools Facilities Standards.
Signage	Any services used by the public e.g. visitor car parks (refer Schools Facilities Standards and Specification Standard).
Maintenance	Low level due to restricted student access.

2015-12-03 13:15:30 | NB | The information on this sheet once printed/exported is classed as an uncontrolled copy. The currency of the information should be checked by visiting the ESFG website prior to using the information for any purposes.



Appendix E

Motor Vehicle Policy for NSW Government Agencies v13.0 14 April
2014



MOTOR VEHICLE POLICY

for New South Wales Government Agencies*

Version Control

No	Date	Comment	Memo or Circular (if applicable)
1	26 Sep 2002	New version of Policy.	C2002-45
2	10 Aug 2003	Target for Hybrids into the Fleet.	C2003-32
3	27 Jul 2004	CEO responsibilities for Fleet Management.	C2004-19
4	23 Dec 2004	Removal of V8s from the Fleet.	C2004-47
5	28 Jan 2005	Definition of emergency vehicle.	C2005-30
6	21 Feb 2005	Cleaner Fleet Initiative.	M2005-3
7	10 Apr 2006	Biofuel / E10 requirements.	M2006-3
8	15 June 2007	Fleet Improvement Reporting amendment & 12 week logbook (Red Tape review).	C2007-26
9	19 Oct 2007	Biofuel / E10 update to usage.	M2007-16
10	3 Dec 2007	Transfer of Policy to StateFleet.	C2007-54
11	1 Oct 2010	New targets for Hybrid.	Cabinet Minute
12	1 Jul 2011	Minimum retention time for vehicles & other minor updates to definitions, titles etc.	Cabinet Minute
12a	1/4/2012	Minor change to parking clause for alignment to other policy documents	
12b	1/6/2013	Update of Memorandum reference in Clause 4.8	M2012-20
13	14/4/2014	Changes to Salary Packaging arrangements (see Section next page)	DFSC2014-003

TRANSITIONAL ARRANGEMENTS FOR SALARY PACKAGING

In line with implementation of the Government Sector Employment Act (2013) and review of the Government Motor Vehicle Policy, the Department of Finance and Services Circular DFSC2014-003 has been issued.

From 14 April 2014, the following transitional arrangements apply in relation to leasing government-owned vehicles (StateFleet or agency-owned) for the duration of the review period:

1. Public Service agencies cannot enter into new salary sacrifice arrangements for senior executive* and non-executive employees to lease government-owned vehicles, except as provided below.
2. Agencies may allow employees who currently have salary sacrifice arrangements for the leasing government-owned vehicles to continue with those arrangements. These employees may roll over their existing arrangements at the completion of their current vehicle leases.
3. Secretaries and other agency heads may approve, on a case-by-case basis, new salary packaging arrangements for leasing government-owned vehicles, for stated special circumstances, provided the new arrangement does not increase the department's or agency's fleet size.

Senior executive and non-executive employees can continue to salary package 100% novated lease vehicles, provided that these vehicles do not form part of the agency's fleet.

(*Excluding judicial and statutory officers)

Introduction

In keeping with the Government's commitment to providing improved public services and efficient resource management, departments and agencies must implement effective motor vehicle policies and management procedures. It is a responsibility of Directors General and Chief Executive Officers to ensure such policies and procedures are observed by their staff.

This document outlines factors that must be addressed in the management of a department's or agency's motor vehicles. Probity, accountability and transparency of procedures must be accorded the highest priority. Audit and regular review processes should be put in place to ensure compliance.

It is mandatory for a department or agency to observe this policy document. In some instances discretion is afforded to accommodate the specific business needs of departments or agencies, and Directors General and Chief Executive Officers have a responsibility to ensure that clear guidelines are developed that address these needs and are appended to the policy. Any other variation to this policy requires the written approval of the Executive Director, StateFleet who has responsibility for the Motor Vehicle Policy.

Adherence to this *Motor Vehicle Policy* should contribute to significant financial and environmental benefits. The policy applies to all New South Wales government departments and agencies.* Where appropriate, comment is included on the position relating to those mainly non-budget dependent agencies excluded from this policy. While the principles contained within the Policy must be observed by all general government, it is also strongly recommended as a basis for other government organisations, including public trading enterprises, to follow.

* Agencies covered by this document includes all those Departments and Declared Authorities listed in Schedule 1 of the Public Sector Employment and Management Act 2002 and all those Departments listed in Schedule 3 of the Public Finance and Audit Act 1983. It also includes all agencies categorised by the Australian Bureau of Statistics as being "General Government" (as published in the Treasurer's annual *Budget Statement*).

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Definitions

The following definitions are used in this document:

“agency fleet” is the mixture of motor vehicles, including those packaged for business/private use, that are required to meet the business needs of the agency.

“agency vehicle” is a vehicle that forms part of an agency fleet.

“Chief Executive Officer” is the head of an agency covered by this policy and guidelines. It can be abbreviated as CEO.

“continuous logbook period” means log book is kept over the entire FBT year or over the period in the FBT year when the car is held.

“departmental fleet” is the mixture of motor vehicles, including those packaged for business/private use, that are required to meet the business needs of the department.

“department vehicle” is a vehicle that forms part of an department fleet.

“Director General” is the head of a department covered by this policy and guidelines. It can be abbreviated as DG.

“eligibility for leasing” means an agency is a NSW Government entity classified in the General Government section as specified in the annual NSW Budget Papers. This will apply unless an exemption to lease is approved by NSW Treasury”

“EPS” is the Environmental Performance Score sourced from the Green vehicle guide Air Pollution rating and Greenhouse Emissions rating.

“Fringe Benefit Tax” is the tax levied on benefits obtained by employees in respect of their employment. It can be abbreviated as FBT.

“garaging” refers to situations where an employee is permitted to take a Government vehicle home to park in his/her garage or carport.

“Goods and Services Tax” is the broad-based tax (currently 10 percent) on the supply of most goods and services consumed in Australia. It is abbreviated as GST.

“government vehicle” is any vehicle owned or leased by a department or one of its agencies. It includes those defined as being in the department or agency fleet plus those vehicles acquired under the government leasing facility and packaged on a 100 percent private basis. It excludes vehicles acquired by individuals through a novated lease.

“logbooks / running sheets” are used to log details of all trips undertaken by a pool vehicle and all business trips undertaken by a packaged vehicle consistent with Australian Taxation Office (ATO) policy.

“novated lease” is a three-way agreement between the employer, employee and finance company for a 100 percent private use vehicle acquired privately by an executive or officer in a leasing arrangement that is the subject of an approved deed of novation that enables the vehicle to form part of a remuneration packaging arrangement.

“odometer record” is a record of the opening and closing kilometres and dates for the FBT year and used to determine the annual kilometres for FBT purposes.

“operating method” the operating cost method uses a formula in calculating the taxable value of a car fringe benefit by using all the operating costs for the car such as leasing costs, registration and insurance costs, fuel, maintenance, repairs (excluding smash repair) etc and applying a business private percentage of use.

“packaged vehicle” is a vehicle that forms part of a remuneration package (either as part of a total remuneration package, by way of salary sacrifice, or in accordance with award provisions).

“parking space levy” is the charge payable under the Parking Service Levy Act 1992 for parking within specified business districts.

“personal use” refers to the use of an agency vehicle for a non-business purpose. It generally includes travel to and from the usual workplace.

“pool vehicle” is a general business use vehicle that comprises part of an agency fleet.

“private/business” refers to a vehicle packaged as part of a remuneration package on a split basis for both private and business use. Such a vehicle forms part of an agency's fleet.

“record keeping” refers to the system of keeping logbook records for a continuous **or** 12-week period, and odometer records of the total distance travelled and period held in the FBT year the logbook records are maintained

“running sheets” refer to definition for logbooks

“StateFleet website” www.statefleet.nsw.gov.au

“Statutory method” is a formula that uses the total annual percentage of kilometre use to calculate the FBT.

“12-week representative log book period” means a period of at least 12 weeks when a vehicle is used for average or typical business use and taking into account all relevant matters and any variations in the pattern of business use throughout the year due to occurrences like holidays or seasonal factors. It should not be a period chosen because of maximum business use but be reflective of the actual business and private use of the vehicle.

1 Policy overview

- 1.1** A DG or CEO is responsible for ensuring that the policy is implemented within his/her department or agency.
- 1.2** Departments and Agencies must lease all standard passenger and standard light commercial vehicles through the New South Wales Government leasing facility unless exempted by Treasury. The leasing facility is managed by StateFleet.
- 1.3** Should any vehicles be purchased (not leased) by a department or agency, these vehicles must be included on the department's or agency's asset register.
- 1.4** Each department or agency must implement a fleet management system or use the StateFleet Fleet Management service.
- 1.5** Departments and agencies must purchase associated goods and services (eg vehicles, fuel, CTP, disposal etc) through contracts, where available, as arranged by the NSW State Contracts Control Board (SCCB) unless a specific exemption is approved by Treasury.
- 1.6** Any public sector organisation not subject to this policy should nevertheless evaluate, on a first preference basis, the SCCB goods and services contract and/or services provided by StateFleet when considering purchase options.
- 1.7** Standard passenger, standard light commercial and 4-wheel drive general purpose motor vehicles must be replaced in accordance with the requirements of the SCCB Motor Vehicle Contract (no. 653) and the Treasury leasing arrangements.
- 1.8** All passenger and light commercial vehicles, whether leased or owned by NSW Government Agencies, will be held for a minimum of 36 months or 60,000 kilometres whichever occurs first. Owned vehicles must not be disposed of unless they have reached 36 months from the date of purchase or have travelled 60000 kilometres. Leases should be determined based on either the 36 month or 60,000 kilometre variable.
- 1.9** Vehicles forming part of remuneration packages for the Chief Executive Service and Senior Executive Service or other approved packages (see clause 1.14) must be chosen from within the current SCCB contract unless a novated lease option is chosen.

SES Officers can package one motor vehicle as either of the following:

- a 100% private use vehicle
- a business/private vehicle, where the private portion is funded by the executive officer through salary sacrifice.

A DG or CEOs can package an additional vehicle. This means they can have a 100% private vehicle and a business/private vehicle. Both vehicles are funded by way of salary sacrifice

All officers other than a DG or CEO can only salary sacrifice one vehicle, whether by novation or an agency vehicle.

- 1.10** Leased motor vehicles must be accounted for, for financial statement purposes, in accordance with AAS17 "Accounting for Leases."

- 1.11** Departments and agencies must have comprehensive motor vehicle insurance with the Treasury Managed Fund.
- 1.12** Departments and agencies must have Compulsory Third Party insurance with the commercial insurer contracted through Treasury via a NSW SCCB contract.
- 1.13** Salary packaging of motor vehicles must be calculated using the statutory fraction method for calculating the Fringe Benefit Tax (FBT) liability and using rates (standing charges and running costs) issued annually through the Department of Premier and Cabinet circulars. Reconciliation can be done using the lowest cost method in accordance with ATO guidelines.
- 1.14** Personal use of agency vehicles is not permitted unless such use is authorised by the DG or CEO through an internal policy or otherwise provided for under an industrial award, enterprise agreement or Government policy, such as the CES/SES salary packaging scheme.
- 1.15** Departmental agencies as determined by StateFleet are required to complete an annual "Fleet Improvement Plan and Report. These agencies will be notified by StateFleet annually that a Fleet Improvement Plan and Report is required. The annual Fleet Improvement Plan and Report is to be submitted to StateFleet by 31st October each year as part of the Sustainability Policy for Government reporting requirements. The Fleet Improvement Plan and Report must include 3 year forward order / lease commitments.

The Cleaner NSW Government Fleet Initiative applies to all agencies whether or not a "Fleet Improvement Plan and Report" is required. The Initiative has a whole of government reporting requirement and all agency vehicles are to be included in the annual scoring. Those agencies who do not have to provide a Fleet Improvement Plan and Report are required to advise StateFleet of the numbers and EPS, fuel and kilometres by vehicle category of their fleet by 31st October each year using the tables in the Fleet Improvement Plan and Report.

2 Procurement

- 2.1** A comprehensive range of motor vehicles to meet most requirements of departments and agencies is available through the SCCB's Motor Vehicle Supply Contract (no. 653). Departments and agencies are required to use this contract (except in cases where a 100 percent private use packaged vehicle is acquired through a novated lease). StateFleet makes use of this contract on behalf of agencies.
- All Directors General or Chief Executives are to ensure that motor vehicles are purchased under this contract.
- 2.2** For non-budget dependent organisations not subject to this policy, use of SCCB contracts is optional, but recommended because of the savings that can be achieved through the economies and efficiencies of scale arising from centralised procurement.
- 2.3** If an appropriate vehicle for a specific work-related application is not available in contract, agencies should seek advice from StateFleet on alternative procurement options.
- 2.4** Where there is an operational need backed by a business case, agencies may request to either lease or purchase outright heavy or non standard commercial vehicles (over one tonne capacity) through StateFleet.
- 2.5** Motor vehicle associated goods and services, including accessories, repair and servicing, lubricating oils and greases, fuel and disposal services are also available through SCCB contracts. Agencies are required to use these contracts.
- 2.6** The DG or CEO is responsible for the size and composition of their agency motor vehicle fleets. This responsibility includes those vehicles packaged on a business/private basis. Selection of vehicles, including options and accessories, should be based on firm business principles according to the agency's operational needs and prudent financial management and with due regard to:
- current NSW Government vehicle purchasing policy;
 - a need to optimise fleet utilisation by limiting its size to that required for normal operations (peak demand periods may need to be supplemented by public transport, taxis or short-term rentals);
 - measures to reduce total fuel consumption, improve energy efficiency and reduce greenhouse gas emissions;
 - whole-of-life costs; and
 - occupational health and safety factors.
- 2.7** The DG or CEO must ensure that the inclusion of vehicles packaged on a private/business basis is integrated as part of the agency's fleet and meet a genuine business need. Careful consideration to this requirement should precede any decision to acquire four wheel drive vehicles. Where a private/business option cannot be justified for a position, an executive or approved officer (see clause 1.14) is entitled to package a vehicle on either a 100 percent private usage basis through StateFleet or on a novated lease basis.
- 2.8** All vehicles leased through StateFleet (including those leased on a 100% private use basis) are subject to Government policy, such as the Cleaner NSW Government Fleet Policy. This policy requires all departments and agencies to achieve and report on a series of Clean Car Benchmarks.

- 2.9** For departments and agencies to achieve the required benchmarks for its overall fleet, the choice of available vehicle may be limited. Further advice can be obtained from StateFleet.
- 2.10** The Government's procurement policy discourages the inclusion of non-essential accessories on vehicles acquired through the Government leasing facility. Departments and agencies and/or individuals requiring non-essential accessories will be required to pay the full cost and will forfeit any right to either remove or receive compensation for them prior to disposal. Unless a strong business case exists, there is no place for a vehicle with non-standard accessories in a departmental or agency fleet vehicle. StateFleet maintains details of approved accessories on its website.
- 2.11** A novated lease is the appropriate means for an individual to package a motor vehicle with non-standard accessories.
- 2.12** Vehicles that exceed the luxury car tax threshold set by the Australian Taxation Office cannot be procured through the leasing facility. Exemptions can only be authorised by the Executive Director, StateFleet based on operational need.
- 2.13** Agencies are to note that V8 powered vehicles (with the exception of emergency vehicles) are not available under contract. An "emergency vehicle" is defined as:
- (a)** a vehicle used by an ambulance service, a fire fighting service or a police service; and
 - (b)** is visibly marked on its exterior for that use; and
 - (c)** is fitted with:
 - (i)** a flashing warning light; and
 - (ii)** a horn, bell or alarm that can give audible warning of the approach or position of the car by making sounds with different amplitude, tones or frequencies on a regular time cycle; and
 - (iii)** its primary purpose is for use as an emergency vehicle
- 2.14** Exemptions to this policy are as follows:
- (a)** NSW Police where a vehicle is dedicated to VIP or Diplomatic protection, highway patrol, and/or may be involved with Counter Terrorist operations;
 - (b)** NSW Department of Premier and Cabinet in circumstances identified by the Director-General, having regard to roles and responsibilities, and factors of time, distance and safety;
 - (c)** Any specific operational requirement that may be justified from time-to-time. The Executive Director, StateFleet, will be the approving authority for this justification. Any decision to grant an exemption under this provision will only be made following provision of an approved business case signed by the relevant agency Director General or Chief Executive.
- 2.15** Any request for a V8 powered vehicle required for operational purposes must be in accordance with (2.13) above and be authorised by the Executive Director, StateFleet.
- 2.16** The V8 policy applies to those vehicles obtained under novated lease arrangements. Departments and agencies are to refuse to sign novation documents for V8 or high powered vehicles.

3 Fleet Management

3.1 Fleet management of all departmental or agency fleets is mandatory.

Fleet management must be used to monitor motor vehicle use with the objectives of maximising utilisation, minimising changeover costs and minimising vehicle numbers.

Fleet management may be undertaken in-house, be negotiated directly with StateFleet (without the need to call tenders) or outsourced to a private sector fleet manager (subject to normal tendering requirements).

3.2 Further information on fleet management arrangements can be obtained from StateFleet. The essential components of a fleet management system are:

- Lease/Asset Management System (purchasing information, lease details, sales records). This should include a unique identification for each vehicle
- Servicing and repairs
- Records of fuel cards issued and cancelled, including a system of automatically cancelling cards when vehicles are sold. The processes followed need to be consistent with Treasurer's Direction 89/2.
- Commissioning (registration, CTP, Roadside Assist).
- A system of lease management that ensures agencies avoid penalties and efficiently ensures that delivery of new vehicles is aligned with the disposal of old vehicles
- A system of ensuring that input tax credits for recouping the Goods and Services Tax (GST) feeds into the agency's business activity statement (BAS).
- Reporting (financials, utilisation, overdue services, fuel, FBT, running costs, value of reportable fringe benefits provided to employees). It also needs to take into account any requirements of the Government Energy Management Policy (GEMP).

3.3 Running sheets must be kept for all journeys undertaken in Agency vehicles (apart from those vehicles packaged under a private/business arrangement as outlined in clause 3.4). A sample running sheet is appended to these Guidelines.

3.4 The DG or CEO must apply a policy that complies with Australian Taxation Office Fringe Benefit legislation to all departmental or agency vehicles that are packaged on a private/business basis: This allows for either:

- Log Books/running sheets to be maintained for all business journeys undertaken throughout the entire year (continuous log book); and/or
- Log Books/running sheets to be maintained for all business journeys undertaken during a representative 12-week representative period in each year.

The DG or CEO can determine when a representative 12-week period is to be logged. This can vary between individual officers.

A new representative period should be logged where the business/private usage changes by more than 10%. That is, an increase or decrease of 10% in the business use of a car is considered a major change in the pattern of use of the car.

Odometer records must be kept year to year. If these records indicate a 10% difference in kilometres from previous years, this is taken to mean a 10% variation in business use unless the officer demonstrates otherwise.

Consistent with ATO guidelines, once this 12 week period establishes the business use percentage then the calculated business use can be applied for a maximum 5 year period. The other 4 years are called non log book years.

However, if the private use percentage calculated using the 12 week representative period method is less than 80% of the expected total distance/usage, a new 12 week representative period must be logged the following year. This restriction is intended to ensure employers do not end up paying an excessive proportion of a vehicle's operating costs.

It is compulsory to maintain an Odometer Record (opening and closing - odometer and dates records for the FBT year) to calculate the FBT liability.

3.5 The following procedures are to be followed when calculating and reconciling a NSW Government private/business packaged vehicle:

Package Calculation

- At the start of the FBT year or at commencement of the package, the officer who is packaging the vehicle must nominate an estimated proportion of private/business usage and an estimated total distance that the vehicle is expected to travel during the FBT year. If no figure is nominated, 100% private is applied.
- The initial cost to the officer's package is calculated using the estimated figures. Costs are contained in the NSW Premier and Cabinet Circulars and are updated annually. FBT will be calculated/estimated using the Statutory Method.
- The DG or CEO is to put in place a consistent policy that allows officers to either adopt the continuous log book method or 12 week representative log book period for calculation of private/business use in a package calculation. The log book method is to be nominated at the commencement of each FBT year.
- A 12 week log book calculation can be retained for 5 years provided:
 - the private usage percentage is 80% or more of the total usage; and
 - provided there is not a variation of 10% or more in calculated usage. Where the private use percentage is less than 80%, or there is a variation of 10% or more in usage, a new representative period should be logged.
- The DG or CEO can request that an Officer log a new continuous 12 week period. This can occur when the DG or CEO considers that the original 12 week period does not accurately reflect the officer's use of the vehicle. A random audit could be conducted annually on a selection of packages where the 12 week log book method has been used.

Package Reconciliation – Continuous Logbook/Running Sheet Method

- Continuous period running sheets are used to record the actual business use for the full year to determine the actual private/business split percentage calculated at the end of the FBT year. This is based on

the actual distance travelled and the level of business use.

- Where the continuous period is adopted, reconciliation of the package occurs at the end of the FBT year. Following this reconciliation, the costs to the officer's package are adjusted to reflect the difference in estimated and actual usage of the vehicle. That is, the officer's estimated package costs are recalculated based on the actual distance travelled during the year and the private/business level determined from the running sheets

Package Reconciliation – 12 Week Representative Period Method

- The private/business split percentage obtained from 12 week representative period is used to determine the officer's estimated package costs.
- At the end of the FBT year, the estimated package costs are recalculated to determine any difference between the actual distance travelled during the year and the estimated private/business split determined in the representative 12 week review period.
- Where the actual distance travelled varies by more than 10% from the estimated usage, a new 12 week representative log book must be carried out for the new FBT year.

Package Reconciliation – No Running Sheets

- An officer who has packaged a vehicle on a private/business basis and does not maintain running sheets under one of the above two options is to have their motor vehicle package cost calculated and reconciled on a 100% private basis. The officer must provide an Odometer Record (opening and closing - odometer and dates records for the FBT year) to calculate the FBT liability in clause 3.4 and to reconcile the package

Package Reconciliation – FBT Method

- The FBT liability to the officer can be calculated at the end of the FBT year based on either Statutory Method or Operating Cost method. The method that provides the lowest FBT amount can be used.

- 3.6** The use of StateFleet provides a one-stop point of service that enables Government agencies to obtain the benefits of procuring vehicles (through leases), spare parts, accessories, fuel and other vehicle related products at Government contract rates. Public Service agencies are required to deal directly with StateFleet under s16 of the Public Sector Management (Goods and Services) Regulation 2000.
- 3.7** An officer who has packaged a vehicle supplied through the Government contract must ensure it is kept in a clean condition, inside and out, and has a responsibility, in association with the agency's fleet manager, to ensure the vehicle is properly maintained. The fleet manager shall report to the DG or CEO cases where vehicles are returned at the end of the lease period in an unsatisfactory or unclean state.
- 3.8** The Government Motor Spirit and Petroleum Products Contract (no.366) covers fuel card supply from specified service stations direct to vehicle, bulk and packaged fuel (drums). Agencies are required to use this contract

3.9 All salary sacrifice charges continue when the officer is on leave. The salary package is an ongoing commitment and leave should be factored into the business / private nomination by the executive officer at establishment of each package. All adjustments to usage are done at reconciliation.

However when an executive officer has exclusive use of a business/private vehicle during any periods of leave over three consecutive months, they should be charged at the rate for a 100% private vehicle. This will alleviate any possible large charges owed by the executive officer at reconciliation of the package.

Alternatively where the executive officer chooses to leave the vehicle in the department or agency pool, the executive officer's payroll deductions for the vehicle are not to be ceased. If this period is for over three consecutive months the package can be ceased and recommenced when the executive officer returns from the extended leave. Each package should then be treated individually

4 Personal use

4.1 Personal use of a vehicle in an departmental or agency fleet is not permitted unless such use is authorised by the DG or CEO or otherwise provided for under an industrial award, enterprise agreement or other Government policy, such as the CES/SES salary packaging scheme (see also clause 1.14).

4.2 “Personal use” includes the carriage of non-government passengers and/or non-business passengers. It also generally includes travel to and from the usual workplace. Where an officer is authorised to garage the vehicle at his/her residence, the travel between the officer's home and the usual workplace is generally classified as private travel ie commuting.

Garaging is usually authorised because the agency lacks suitable secure parking or because it is essential the employee has immediate access to a vehicle in order to perform his/her duties.

4.3 The DG or CEO is responsible for developing an internal policy that clearly defines the situations where limited personal use of an agency vehicle is permitted. These situations would normally be restricted to:

- The garaging of a department or agency vehicle at the private residence of an officer (either on a regular basis or when an officer is either commencing or returning from a field trip). Limited private use, such as dropping family members off at school on the way to work (provided extra travel is not involved), may be permitted;
- Transporting non-government personnel between work locations when such personnel are assisting the department or agency in its normal business activities;
- In exceptional cases, permitting an officer on an extended field trip to be accompanied by family members. If such cases involve children, the officer concerned will be responsible for meeting the cost of any necessary child restraints. The officer involved should indemnify the agency against any possible public liability claims arising as a result of the presence of the family members.

4.4 Under no circumstances should agency vehicles be used to transport hitchhikers.

4.5 Government owned or leased vehicles that are the subject of approved remuneration packaging arrangements for private/business use form part of the department's or agency's fleet during normal business hours.

4.6 The cost of the parking space used by an agency fleet vehicle that is packaged on a private/business basis is an expense borne by the agency. This is because the vehicle is to be available for business use during the normal business hours in which it is parked on business premises.

However, officers will remain responsible for meeting the cost of the Parking Space Levy (where applicable). The Parking Space Levy is a charge on non-residential parking spaces within business districts specified by the Parking Space Levy Act 2009. The rate is indexed to the Consumer Price Index and updated from 1 July each year. The Parking Space Levy is not the parking space cost but a levy on top of the parking space cost This is explained further in 4.7 below.

4.7 Officers who have access to a parking space are required to meet the cost of the Parking Space Levy where it applies. The following points should be noted:

- In those business districts where such a levy applies, the levy can be met by executives or other eligible officers on a salary sacrifice basis provided the arrangement is made prospectively. This means the sacrifice should be arranged before the officer uses a parking space for personal advantage.
- Should an exceptional circumstance arise where a non-executive officer is provided with the use of a parking space that gives rise to a personal liability for the Parking Space Levy, payment by the officer should be made from post-tax salary. This payment can be treated as an employee contribution for the purpose of reducing the FBT taxable value in situations where a non-executive has a packaged vehicle.
- The Parking Space Levy is exempt from the Goods and Services Tax (GST). This means the employee should not pay GST on the amount of the levy even where it is treated as an employee contribution for the purpose of calculating the FBT taxable value.
- The Parking Space Levy is paid by the employee in all cases and cannot be waived by the DG or CEO.

4.8 For 100% private use vehicles (whether owned, novated or 100% Departmental or Agency packaged) are not entitled to a parking space on Government leased or owned premises. (originally Principle 11 in Premier's Memorandum 2008-06 now principle 12 in Premiers Memorandum 2012-20).

In cases approved before this Memorandum where parking has been allocated and approved by the DG or CEO, the department or agency will recover the full cost of the allocated parking from post tax salary.

The DG or CEO has some discretion to waive the payment on a case by case basis taking into account disability, hardship, safety and/or other operational matters.

5 Health and Safety

5.1 Employers have a duty of care to provide and supervise a safe system of work under the Occupational Health and Safety Act 2000. This includes an obligation on agencies to maintain plant and systems of work that are safe and without risk to health. A vehicle used for business is considered a work place. Agencies must also provide such information, instruction, training and supervision necessary to ensure the health and safety of employees.

5.2 The DG or CEOs have a responsibility to both ensure that employees using motor vehicles for work-related purposes are properly licensed and to encourage employees to observe safe driving practices.

5.3 Vehicles are to be maintained in accordance with the manufacturer's requirements and must at all times comply with relevant road transport legislation.

5.4 The driver in control of the vehicle at the time of any offence must promptly pay for all traffic and parking infringements. If NSW Police notifications or reminders are issued in a department's or agency's name, the driver's details must be obtained from the vehicle running records and the Statutory Declaration provided on the reverse side of the fine should be completed and returned to the Infringement Processing Bureau. The fine will then be reissued in the nominated driver's name. This should ensure that the driver of the vehicle and not the department or agency is fined.

Departments or Agencies should take appropriate steps to record the identity of a driver of a vehicle. The use of running sheets meets this requirement. In the case of vehicles packaged on a private/business basis, the absence of running sheets or other appropriate measures to record business use of such vehicles will make the officer who has packaged the vehicle liable for any financial and/or points penalties imposed.

5.5 A driver involved in an accident is required to stop and render assistance, regard of whether on official business or not. The driver must:

- stop at the scene;
- attempt to make the scene as safe as possible;
- render assistance to any person injured;
- arrange emergency services as required;
- exchange vehicle and licence information with the other driver(s); and
- not admit liability.

The police must be called to the scene of the accident where the following occur:

- a person is injured or killed;
- any of the drivers involved in the accident fail to stop after the accident;
- any of the drivers involved in the accident appear to be under the influence of alcohol or drugs; or
- a vehicle involved in the accident has to be towed.

The Police Advice Line for reporting the accident is 131 444.

5.6 Smoking is not permitted in Government vehicles.

- 5.7** Drivers must not use mobile telephones unless a hands-free device is fitted. It is illegal for a driver to use a mobile telephone when driving unless a hands-free device is being used.
- 5.8** *Clause rescinded*

6 Disposal

- 6.1** *Clause rescinded – see clause 1.8.*
- 6.2** *Clause rescinded – see clause 1.8.*
- 6.3** The replacement criteria for other vehicles are to be aimed at achieving the best long-term return on investment for each vehicle type. Appropriate economic analysis should be regularly undertaken to determine when non-standard passenger and light commercial vehicles above one tonne but less than seven tonne capacity should be replaced.
- 6.4** Commercial vehicles of seven tonnes or greater capacity may be retained until the end of their useful economic life. The condition, running costs and use of such vehicles should be reviewed annually.
- 6.5** Vehicles are generally to be sold registered, but in some cases there may be a need to sell a vehicle unregistered. Approval of the Executive Director StateFleet is required to sell a vehicle unregistered.
- 6.6** Agencies are required to dispose of owned or leased vehicles in accordance with the NSW State Contracts Control Board contract or the requirements of the leasing facility as advised through StateFleet. This includes compliance with any instructions issued by StateFleet relating to the condition of vehicles at time of sale.
- 6.7** The law requires all registered vehicles that are offered for sale at auction have a RTA Safety Inspection Report (“pink slip”). Vehicles sold at auction without a pink slip must be sold unregistered. (see also clause 6.5).
- 6.8** Vehicles disposed as an insurance company write-off may be subject to a registration rebate.

7 Financial

- 7.1** Where there is an operational need, backed by a business case, departments or agencies may purchase heavy commercial vehicles (over one tonne) outright or request a lease through the NSW Government Leasing Facility (managed by StateFleet).
- 7.2** Non-budget dependent agencies not subject to this policy are able to make their own commercial arrangements for the financing of motor vehicles.
- 7.3** Consistent with accrual accounting requirements, Treasurer's Directions and Total Asset Management (TAM), departments or agencies are required to maintain asset registers for owned vehicles.
- 7.4** Consistent with TAM, departments or agencies are accountable for minimising the whole of life cost of assets, and therefore should maintain appropriate management information systems for this purpose. (see clause 3.2)
- 7.5** Fringe Benefit Tax (FBT) is payable by employers on the total taxable value of fringe benefits provided to their employees.
- 7.6** The value of motor vehicle benefits must be included as a reportable fringe benefit on the employee's PAYG payment summary
- 7.7** Leased motor vehicles must be accounted for in accordance with Australian Accounting Standard AAS17 "Accounting for Leases." In particular, motor vehicles leased through StateFleet constitute operating leases and must be accounted for as such under AAS17.
- 7.8** Purchased motor vehicles must be depreciated over their estimated total useful life in accordance with AAS4 "Depreciation of Non-Current Assets" subject to materiality.
- 7.9** A fundamental element of the Treasury Managed Fund is the adoption of risk management practices by participating departments or agencies. Departments or agencies are responsible for the development of programs that best fit their exposures.
- 7.10** Departments or agencies must ensure comprehensive motor vehicle insurance is effected either through the Treasury Managed Fund or in accordance with contract arrangements applicable to vehicles subject to novated leases.
- 7.11** Departments or agencies must ensure compulsory third party insurance (CTP) is effected either with the commercial insurer contracted through the Treasury or in accordance with contract arrangements applicable to vehicles subject to novated leases
- 7.12** Non-budget dependent agencies not subject to this policy may participate in the Treasury Managed Fund and the CTP tender.

8 Environmental

- 8.1** In the management of motor vehicle fleets, departments or agencies must consider the Government's commitment to environmental issues and the priorities in *Action for Air* concerning more and better transport choices and making vehicles "cleaner."
- 8.2** Departments or agencies should ensure officers are aware of government policies promoting the use of public transport and encouraging car pooling.
- 8.3** The *Cleaner NSW Government Fleet policy* has as one of its key initiatives an improvement in the environmental performance of the NSW Government vehicle fleet. This requires departments or agencies to develop fleet improvement plans demonstrating reductions in fuel use, greenhouse gas emissions and better average fuel consumption (see also clause 1.15).
- 8.4** Departments or Agencies are required to incorporate into their fleet hybrid, plug in hybrid electric or electric vehicles. All Departments are required to meet the Governments motor vehicle fleet target of 5% of their passenger fleet being hybrid, plug in hybrid electric or electric vehicles by December 2015.
- 8.5** Fuel consumption is one of the major expenses of operating a motor vehicle and managing fuel costs should be taken into account when optimising the size, composition and operation of the vehicle fleet and improving driver behaviour
- 8.6** All public service staff, and executive officers who drive Government-owned vehicles as part of their remuneration package, will be required to use E10 blends (or other alternative fuels) where this is practicable, available and cost effective.
- 8.7** Vehicles managed by the StateFleet will be issued with fuel cards specifically providing for the consumption of E10. Other departments or agencies should obtain fuel cards direct from suppliers on the contract. *(Note that E10 may not be suitable for all Government owned vehicles, and should not be used if the manufacturer has stated that it will void vehicle warranties, or damage the vehicle in some way.)*
- 8.8** In reviewing transport needs, the use of public transport, including taxis, and the short-term use of rental cars should be an integral part of the evaluation and justification process
- 8.9** Fleet size and composition are to be reviewed annually by the DG or CEO to ensure optimisation against actual transport requirements (optimum fleet size will usually be less than required to meet peak demand).
- 8.10** Procedures should include the appropriate justification of the need for new and replacement vehicles and encouraging the choice of the most cost effective and environmentally friendly vehicle for the normal transport task
- 8.11** Vehicle maintenance should be undertaken according to the manufacturer's recommendations to help ensure optimum fuel efficiency, emission performance and return on investment.

8.12 Staff should be made aware of the need to optimise fuel efficiency and emission performance by ensuring tyres are maintained at recommended pressures, wheels are correctly aligned, fuel tanks are not over-filled, vehicles are not used to carry unnecessary loads, and that good driving habits are observed.

8.13 Departments and Agencies are to be aware that in light of expensive fuel and running costs and increased greenhouse gas emission levels, V8 powered vehicles are no longer available under the Motor Vehicle Acquisitions contract.

The DG or CEO are also advised that they should not enter into any novated lease arrangement for V8 powered vehicles with their staff. This provision is encouraged to be applied to other employees (such as those in State Owned Corporations) who package novated lease vehicles. (see also clause 2.16)

9 Industrial

9.1 In those situations where discretion on a policy item has been given to accommodate the business needs of departments or agencies, care should be taken to ensure that all documentation is clear, concise and not open to misinterpretation.

9.2 A department or agency negotiating an award or workplace agreement that proposes to include a motor vehicle component must consult with the Department of Premier and Cabinet, before negotiations commence.

Vehicle Running Record Coversheet

FBT Trip Codes

Business Km Codes

1. business trip during working day (not home garaged overnight).
2. work/office – home overnight – meeting/field work – work/office *
3. work/office – meeting/field work – home overnight – work/office *
4. work/office – home overnight – business trip – home overnight – work/office (*only applies to infrequent use of car for this purpose*)
5. work/office – home – work/office travel when on-call AND required to transport bulky-heavy equipment used regularly to perform duties
6. home – incident – home travel when in response to being called-out from home
7. other business kms
- * Conditions apply to codes 2 and 3:
 - Employee has regular place of employment;
 - Alternative destination, i.e. meeting or field work, is not a regular place of employment; and
 - Employee performs substantial duties at alternative destination. Picking up mail, newspapers will not qualify as business travel.

Private Km Codes

8. work/office – home overnight – work/office
9. work/office – home overnight – work/office on-call
10. work/office – home overnight – work/office travel to provide secure overnight garaging of vehicle
11. other private kms

Private Days for FBT purposes

Private days are each day that the car is parked at or near the employee's home. Private days need to be counted on a midnight to midnight basis with a particular calendar day being counted no more than once.

- If the car is home garaged overnight one night during the week, counts as 2 private days
- If the car is home garaged a number of consecutive nights (possibly by different drivers), the first night home garaged counts as 2 private days and the subsequent nights garaged count as 1 additional private day

- Saturday and Sunday are to be counted as 2 additional private days when the car is home garaged over the weekend (i.e. Friday-Monday would be 4 private days)

Days home garaged need to be counted irrespective of whether the car was used to travel business or private kilometres or even if the car was home garaged but not actually used that day.

Reportable Fringe Benefits Amounts

The grossed-up taxable value of most fringe benefits provided to an employee during an FBT year are required to be reported on that employee's annual payment summary for the financial year in which the FBT year ends. Car benefits are a reportable benefit.

The grossed-up taxable value is only reported if the employee's individual fringe benefits amount (IFBA) is more than \$1,000. The IFBA is the employee's total aggregate taxable value of all reportable fringe benefits for that year.

The amount reported is called the employee's reportable fringe benefits amount (RFBA).

Even though a RFBA is included on your payment summary and is shown on your tax return, it is not included in your assessable income. It is however, included in a number of income tests related to:

- Medicare levy surcharge
- deduction for personal superannuation contributions
- government Super Co-contribution
- tax offset for eligible spouse superannuation contributions
- Higher Education Contribution Scheme (HECS) and Higher Education Loan Programme (HELP) repayments
- child support obligations, and
- entitlement to certain income-tested government benefits.

Employees should further seek advice from their accountant or the ATO.

Vehicle Running Record

Driver Instructions

A separate entry is required for each trip. If multiple stop journey, separate entries are to be made for each leg of the trip where intermediate stops are greater than 30 minutes.

Employer: _____ FBT Year Ending 31 March 20____

Rego No.: Make/Model: Office/Unit where vehicle is stationed: Period ending: / /

TRIP DETAILS							Purpose of journey and address of overnight garaging (where applicable) <i>please print</i>	Driver's name <i>please print</i>	Driver's signature	DESIGNATED OFFICER				
Date	Departed		Arrived		Odometer Reading					Trip kms	Tript Code	Busin kms	Private kms	Private Days †
	Time*	From	Time*	At	Start	Finish								
TOTAL								Running record continues overleaf			TOTAL			

† Trip codes and private days explanation are listed on the cover sheet instructions of the VRR.

* Times are to be based on a 24-hour clock

12-hr clock	Midnight	1.00am	2.00am	3.00am	4.00am	5.00am	6.00am	7.00am	8.00am	9.00am	10.00am	11.00am	Midday	1.00pm	2.00pm	3.00pm	4.00pm	5.00pm	6.00pm	7.00pm	8.00pm	9.00pm	10.00pm	11.00pm
24-hr clock	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300

Rego No.:

TRIP DETAILS							Purpose of journey and address of overnight garaging (where applicable) <i>please print</i>	Driver's name <i>please print</i>	Driver's signature	DESIGNATED OFFICER				
Date	Departed		Arrived		Odometer Reading					Trip kms	Trip† Code	Busin kms	Private kms	Private Days †
	Time*	From	Time*	At	Start	Finish								

† Trip codes and private days explanation are listed on the cover sheet instructions of the VRR.

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24-hr clock	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300

Authorisation Detail
 I certify that this sheet has been completed in accordance with Departmental requirements.

 Designated officer: _____ Date ____/____/____

 Position: _____ Telephone: _____



Appendix F

Warringah Bike Plan 2010

