



**TRAFFIC AND PARKING IMPACT ASSESSMENT OF
PROPOSED CHILD CARE CENTRE
AT 133 PETER STREET, WAGGA WAGGA**



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Development Type: Proposed Child Care Centre

Site Address: 133 Peter Street, Wagga Wagga

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1 INTRODUCTION

McLaren Traffic Engineering was commissioned by Exceeding Pty Ltd to provide a Traffic and Parking Impact Assessment of the Proposed Child Care Centre at 133 Peter Street, Wagga Wagga as depicted in **Annexure A**.

1.1 *Description and Scale of Development*

The proposed development has the following characteristics relevant to traffic and parking, with the relevant plans reproduced in **Annexure A** for reference:

- A total of 60 children and 11 staff members as per the following:
 - 20 children between 0-2 years old (staff assigned at 1 per 4 children, or 5 staff);
 - 20 children between 2-3 years old (staff assigned at 1 per 5 children, or 4 staff);
 - 20 children between 3-5 years old (staff assigned at 1 per 10 children, or 2 staff);
- An at-grade parking area with vehicular access to 90-degree car parking spaces from Tongaboo Lane, accommodating a total of **5** staff car spaces including one (1) disabled car parking space.

1.2 *State Environmental Planning Policy (Infrastructure) 2007*

The proposed development does not qualify as a traffic generating development with relevant size and/or capacity under *Clause 104* of the *SEPP (Infrastructure) 2007*. Accordingly, formal referral to the Roads and Maritime Services (RMS) is unnecessary and the application can be assessed by Wagga Wagga City Council officers accordingly.

1.3 *Site Description*

The subject development is currently zoned *B3 – Commercial Core* under the Wagga Wagga Council LEP 2010 and is currently occupied by a commercial office building. The site has frontages to Peter Street to the west and Tongaboo Lane to the east.

The site is generally surrounded by commercial development with access from Peter Street and Tongaboo Lane. Low density residential dwellings are located to the west of the site.

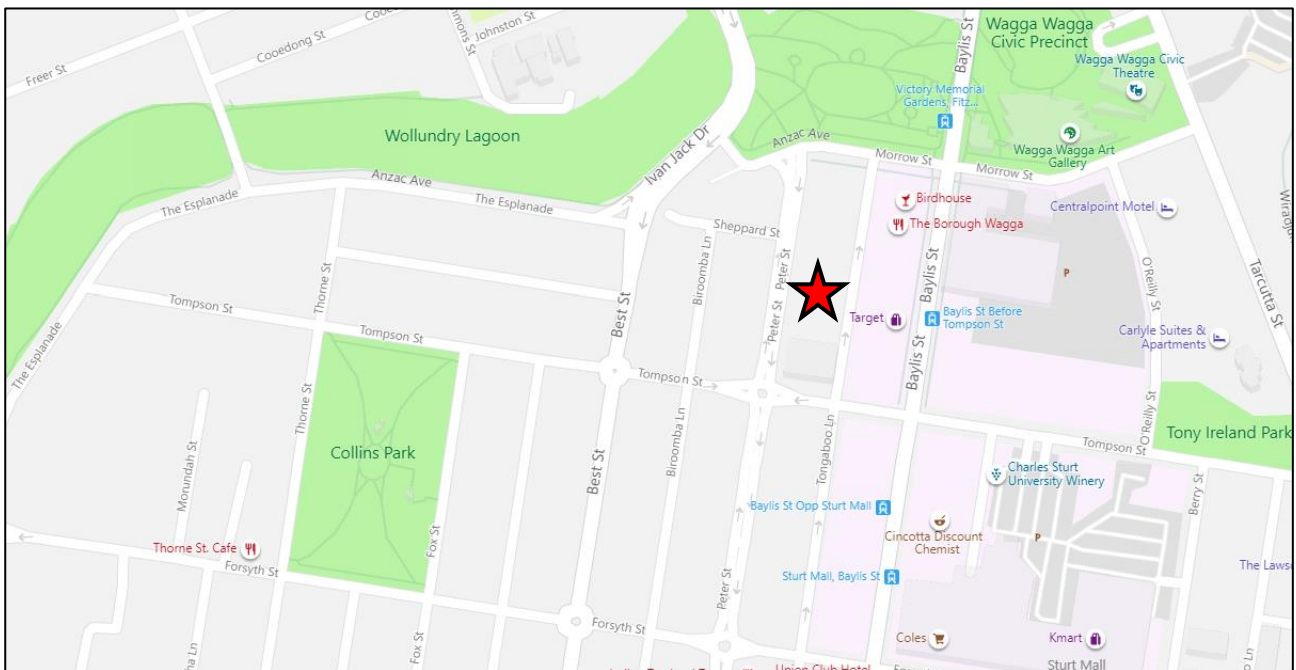
1.4 Site Context

The location of the site is shown on an aerial photo and a street map in **Figure 1** and **Figure 2** respectively.



Site Location

FIGURE 1: SITE CONTEXT – AERIAL PHOTO



Site Location

FIGURE 2: SITE CONTEXT – STREET MAP

2 EXISTING TRAFFIC AND PARKING CONDITIONS

2.1 *Road Hierarchy*

The road network servicing the site has characteristics as described in the following sub-sections.

2.1.1 Peter Street

- Unclassified LOCAL Road;
- Approximately 18m wide two-way carriageway separated by a median (one lane in each direction) and kerbside parking;
- Default 50km/h speed limit;
- Time restricted 2-hour parking permitted along both sides of the road.

2.1.2 Tongaboo Lane

- Unclassified LOCAL Road;
- Approximately 5m wide one-way northbound carriageway within near vicinity of the site;
- Default 50km/h speed limit;
- 'No Stopping' restrictions on the both sides of the road;

2.2 *Existing Traffic Management*

- Priority controlled intersection of Morrow Street / Peter Street;
- Priority controlled intersection of Morrow Street / Tongaboo Lane;
- Roundabout controlled intersection of Peter Street / Thompson Street;
- Roundabout controlled intersection of Tongaboo Lane / Thompson Street;

2.3 Existing Parking Environment

Parking surveys were undertaken on Tuesday 17th of November 2020 at 15-minute intervals within the adjacent Council car park between the hours of 7:30AM – 9:30AM and 3:30PM – 6:00PM, representing a typical weekday, and are summarised in **Figure 3** and full results reproduced within **Annexure B** for reference.

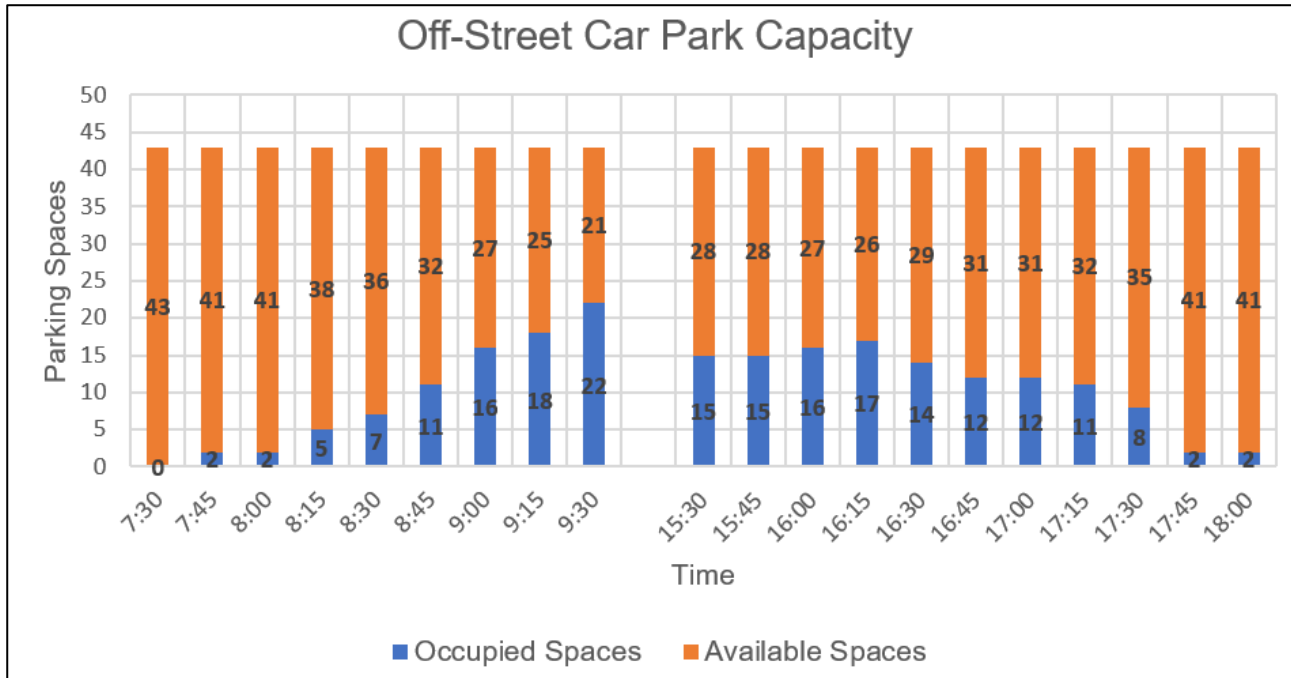


FIGURE 3: TYPICAL COUNCIL CAR PARKING ENVIRONMENT

As shown above, of the total **43** off-street car parking spaces adjacent to the subject development, a minimum of **21** and **28** spaces are available during the AM and PM drop-off / pick-up peak periods respectively, representing additional capacity for off-street car parking for use by parents accessing the development. Consideration needs to be made to providing parents a safe and convenient parking area which is further detailed in **Section 0**.

2.4 Existing Traffic Environment

Intersection traffic surveys were conducted at the intersections of Peter Street / Thompson Street, Peter Street / Morrow Street, Morrow Street / Tongaboo Lane, and Tongaboo Lane / Thompson Street on Tuesday 17th of November 2020 between the hours of 7:30AM – 9:30AM and 3:30PM – 6:00PM, representing a typical operating weekday. The full survey results are shown in **Annexure B** for reference.

2.4.1 Existing Road Performance

The performance of the surrounding intersections under the existing traffic conditions has been assessed using SIDRA INTERSECTION 8.0, **Table 1** summarises the resultant intersection performance data, with full SIDRA results reproduced in **Annexure C**.

TABLE 1: EXISTING INTERSECTION PERFORMANCES (SIDRA INTERSECTION 8.0)

Intersection	Peak Hour	Degree of Saturation ⁽¹⁾	Average Delay ⁽²⁾ (sec/veh)	Level of Service ⁽³⁾	Control Type	Worst Movement	95th Percentile Queue
EXISTING PERFORMANCE							
Peter Street / Morrow Street	AM	0.15	3.1 (Worst: 6.8)	NA (Worst: A)	Give Way	RT from Peter Street	0.7 veh (4.9m) Morrow Street
	PM	0.12	3 (Worst: 6.8)	NA (Worst: A)		RT from Peter Street	0.5 veh (3.6m) Morrow Street
Tongaboo Lane / Morrow Street	AM	0.09	0.2 (Worst: 8.6)	NA (Worst: A)	Stop	RT from Tongaboo Lane	0 veh (0.1m) Tongaboo Lane
	PM	0.09	0.7 (Worst: 8.8)	NA (Worst: A)		RT from Tongaboo Lane	0.1 veh (0.6m) Tongaboo Lane
Tongaboo Lane / Thompson Street	AM	0.06	0.4 (Worst: 8.7)	NA (Worst: A)	Give Way	RT from Tongaboo Lane	0.1 veh (0.4m) Thompson Street
	PM	0.09	0.5 (Worst: 10.6)	NA (Worst: A)		RT from Tongaboo Lane	0.2 veh (1.1m) Tongaboo Lane
Peter Street / Thompson Street	AN	0.15	5.3 (Worst: 9.7)	A (Worst: A)	Roundabout	RT from Peter Street	0.8 veh (5.5m) Peter Street
	PM	0.12	5.2 (Worst: 10.1)	A (Worst: A)		RT from Peter Street	0.6 veh (4.4m) Thompson Street

NOTES:

- (1) The Degree of Saturation is the ratio of demand to capacity for the most disadvantaged movement.
- (2) The average delay is the delay experienced on average by all vehicles. The value in brackets represents the delay to the most disadvantaged movement.
- (3) The Level of Service is a qualitative measure of performance describing operational conditions. There are six levels of service, designated from A to F, with A representing the best operational condition and level of service F the worst. The LoS of the intersection is shown in bold, and the LoS of the most disadvantaged movement is shown in brackets.
- (4) No overall Level of Service is provided for Give Way and Stop controlled intersections as the low delays associated with the dominant movements skew the average delay of the intersection. The Level of Service of the worst approach is an indicator of the operation of the intersection, with a worse Level of Service corresponding to long delays and reduced safety outcomes for that approach.

As shown above, the two relevant intersections are currently performing at a high level of efficiency, with a level of service “A” or “B” conditions in both the AM & PM peak hour periods. The level of service “A” and “B” performance is characterised by low approach delays and spare capacity.

2.5 Public Transport

The subject site has access to existing bus stop (ID: 265068) located approximately 250m walking distance to the east of site on Baylis Street. The bus stop services existing bus route 961 (Wagga Wagga to Bourkelands), 962/963 (Wagga Wagga to Glenfield Park), 965 (Forest Hill to Wagga Wagga) and 969 (Tatton to Wagga Wagga) provided by Busabout Wagga.

Wagga Wagga Train Station is located 1.25km walking distance to the south of the subject site, servicing the Southern NSW Line. A train service is provided twice daily between Sydney Central and Melbourne.

The location of the site subject to the surrounding public transport network is shown in **Figure 4**.

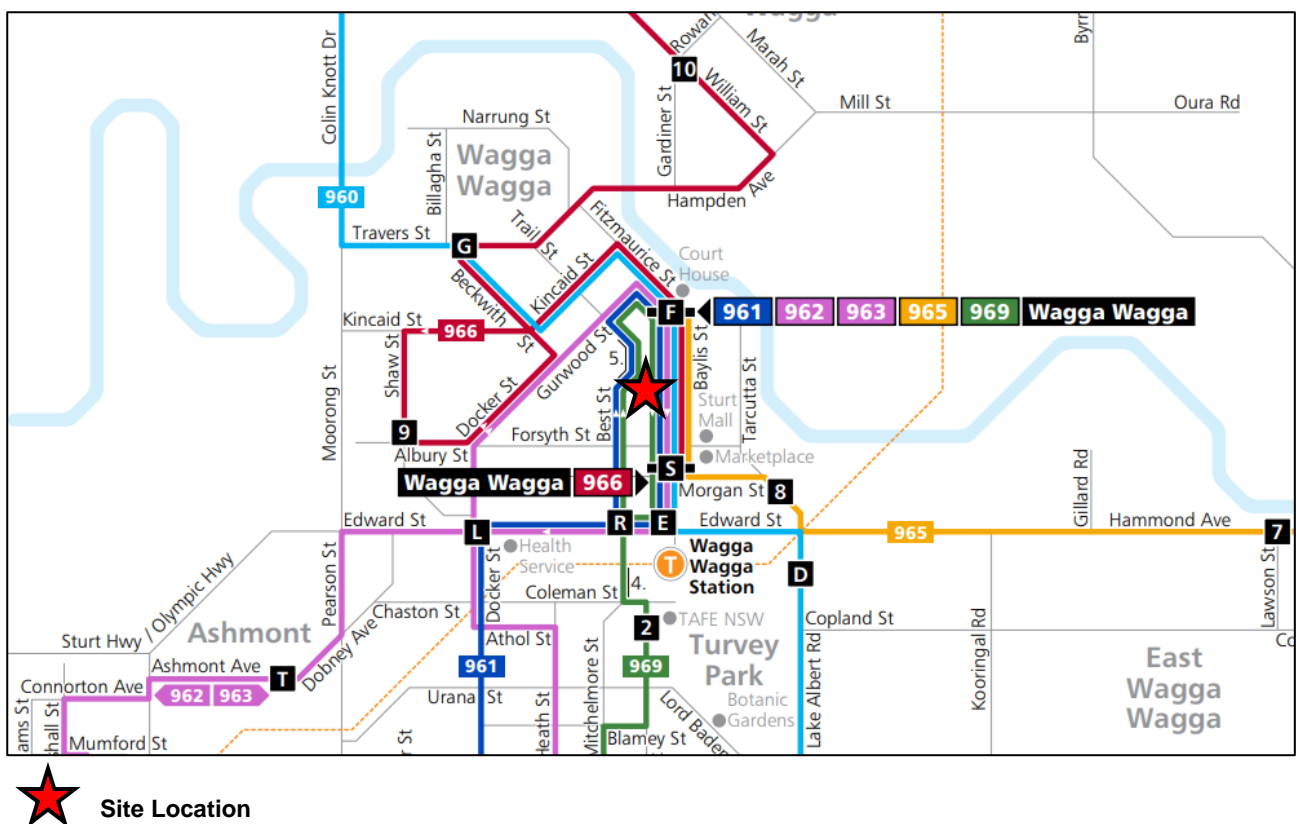


FIGURE 4: PUBLIC TRANSPORT NETWORK MAP

2.6 Future Road and Infrastructure Upgrades

From Wagga Wagga Council Development Application tracker and website, it appears that there are no future planned road or public transport changes that will affect traffic conditions within the immediate vicinity of the subject site.

3 **PARKING ASSESSMENT**

3.1 ***Council Parking Requirement***

Reference is made to the *Wagga Wagga City Council Development Control Plan Section 2 - General Controls for All Developments* which designates the following parking rates applicable to the proposed development:

Preschools and childcare centres – 1 space/ 4 children in attendance

Table 2 presents the parking requirements of the proposal according to the Council's above car parking rates.

TABLE 2: DCP PARKING RATES

Land Use	Scale	Rate	Spaces Required	Spaces Provided
Child Care Centre	60 Children	1 per 4 children	15	15

As shown above, strict application of the DCP requires a total **15** car parking spaces, with no designation for parent or staff car parking spaces. The proposed plans detail a total of **5** car parking spaces, resulting in a numerical shortfall of **10** parking spaces from Council's DCP requirements. The car parking shortfall is justified in the following subsections.

3.2 ***Parent/Visitor Parking***

3.2.1 **Car Parking Shortfall- Queuing Analysis**

In order to assess the peak demand of the child care centre visitor car parking spaces, conventional queuing theory has been employed, with relevant details and assumptions provided below:

- A ten (10) minute service time for each parking space (i.e. a parent uses a parking space for approximately ten minutes to drop off/ pickup their child);
 - This is a conservative estimate, as the RMS Guide states 7.8-minute average service time for long day child care centres;
- Morning peak hour traffic generation of 48 trips (24 in, 24 out) is used as outlined within **Section 4.1**.

By applying conventional queuing theory, it has been determined that nine (**9**) spaces can adequately accommodate the 98th percentile demand of child care centre visitors in the AM peak period. This is a conservative measure given that no reduction has been applied for dual use. For example, it is expected that some portion of parents work within walking distance of the child care centre. These parents are likely to utilise the parking at their place of work and walk with their child to the centre. Additionally some staff may be parents of children within the centre. This parent / staff member will utilise an on-site parking space for the purpose of staff parking and a pickup/drop off space.

3.2.2 Car Parking Shortfall- On-street

Existing parking surveys of car parking within the adjacent Council car park between the hours of 7:30am – 9:30am and 3:30pm – 6:00pm were undertaken in order to identify the public parking available within the area. Survey results and locations have been outlined in **Section 2.3**, with full results reproduced within **Annexure B**.

Of the **43** on-street kerbside parking available to the public within the survey area, a minimum of **21** (48.8%) and **28** (65.1%) spaces were available during the AM and PM peak periods respectively. It is evident that more than enough safe and convenient public parking is available to accommodate an additional **9** vehicles during the peak pickup and dropoff periods for the child care centre.

It is noted that the existing driveway to Peter Street will be reinstated as kerbside parking, which will act to offset some of the parking shortfall. Further to this, pram parking has been provided on the site, which promotes walking as a viable form of transport for parents. These items will likely reduce the visitor parking demand below the **9**-visitor parking space demand.

Safe and convenient parking is defined as parking that is accessible to the development via a continuous pedestrian footpath, that uses pedestrian road crossing facilities if required. The adjacent Council car park can be easily and safely accessed from the site along Council's footpath along Peter Street.

3.3 Staff Parking

The proposed child care centre requires a minimum of 11 staff members based upon the minimum child care centre staffing requirements outlined as follows:

- Child care centre scale total of 60 children and 11 staff members as per the following:
 - 20 children between 0-2 years old (staff assigned at 1 per 4 children, or 5 staff);
 - 20 children between 2-3 years old (staff assigned at 1 per 5 children, or 4 staff);
 - 20 children between 3-5 years old (staff assigned at 1 per 10 children, or 2 staff);

The site provides five (5) staff car parking spaces on site which is sufficient for 45% of staff members (5/11). This provision is adequate for the child care centre staff considering the following:

- The child care centre is conveniently located within the Wagga Wagga Commercial Core zone and is well serviced by bus routes.
- Child care centre staff tend to be a younger demographic and have a lower car drivership rate than the rest of the workforce.
- The site is located within 10 minutes walking distance from residential areas along Thompson Street and Forsyth Street.
- The building can easily accommodate bicycle parking. Peter Street has a wide carriageway that is conducive for a safe cycling route to / from the centre.
- Some staff may choose to carpool to the centre.

- Some staff shifts are short term shifts intended to cover for lunch breaks. These staff could utilise the vacant timed on-street parking along Peter Street or within the Council carpark.
- 11 staff members are only required when the centre is fully occupied. There will be occasions when the centre is not operating at capacity, which would result in a lesser staff parking demand.

A Plan of Management could be implemented, if necessary, to ensure that five (5) staff parking spaces are sufficient for the centre. The on-site spaces could be allocated to certain specific staff members. Public transport information and cycling maps should be provided to all staff to encourage the use of public and alternative transport measures.

3.4 Disabled Parking

Wagga Wagga Council DCP does not outline disabled car parking rates for child care centre developments. Typically, a rate of 1-2% of all parking should be designed as disabled spaces based upon the *Building Code of Australia* (BCA). The site provides a total of 5 car parking spaces, resulting in the requirement for one (1) disabled car parking space, which need not be marked as a disabled space solely for the use of disabled persons.

The site provides a disabled car parking space. The space is not strictly compliant with AS2890.6:2009 and, therefore, its use as a disabled parking space must be certified by a suitably qualified accessibility consultant.

3.5 Bicycle & Motorcycle Parking Requirements

The Wagga Wagga Council DCP does not require the provision of bicycle / motorcycle parking. No bicycle / motorcycle has been provided, satisfying Council requirements.

It is unlikely that parents would take their children to the child care centre via bicycle. If a staff member intended on cycling to the child care centre, the bicycle could be stored informally within the building. This should be encouraged in order to reduce the staff car parking demand.

3.6 Servicing & Loading

The Wagga Wagga Council DCP does not specify the requirement of service facilities for child care centres. It is expected that all deliveries will be undertaken within the proposed car parking area outside peak drop off/ pick up times, under a plan of management if necessary. A van (standard B99 design vehicle) or similar can be accommodated within the Council car parking area or on Peter Street. This will not noticeably affect operation of the site. It is reiterated that deliveries and other arrivals of similar nature are low in frequency and can be easily managed.

It is expected that site will be serviced by Council's waste collection services from the Peter Street frontage, similar to a residential development.

3.7 Car Park Design & Compliance

The car parking layout as depicted in **Annexure A**, have been assessed to generally achieve the relevant clauses and objectives of *AS2890.1:2004* and *AS2890.6:2009*. Any variances

from standards are addressed in the following subsections including required changes, if any. Swept Path Testing has been undertaken and are reproduced within **Annexure D** for reference.

Whilst the plans have been assessed to comply with the relevant standards, it is usual and expected that a design certificate be required at the Construction Certificate stage to account for any changes following the development application.

3.8 Variations from Standards

3.8.1 Reduced Aisle Width

The minimum aisle width for Class 1 parking spaces is 6.2m. The proposed parking spaces are located along Tongaboo Lane, which has a width of approximately 6m. Although there is a shortfall in aisle width strictly speaking, the swept paths in **Annexure D** show that the spaces can be easily accessed in three manoeuvres total (2 in, 1 out). The spaces are for staff use, who will be familiar with the movements necessary to enter and exit the space. The variation from the standard is therefore supported.

4 TRAFFIC ASSESSMENT

The impact of the expected traffic generation levels associated with the subject proposal is discussed in the following sub-sections.

4.1 *Traffic Generation*

Traffic generation rates for the relevant land uses are provided in the *Roads and Maritime Services (RMS) Guide to Traffic Generating Developments (2002)* and recent supplements and are as follows:

3.11.3 *Child care centres*

Long-day care

7.00-9.00am	0.8 peak vehicle trips per child
2.30-4.00pm	0.3 peak vehicle trips per child
4.00-6.00pm	0.7 peak vehicle trips per child

The resulting traffic generation is summarised in **Table 3**.

TABLE 3: ESTIMATED TRAFFIC GENERATION

Use	Scale	Peak	Generation Rate	Trips
Long-day care	60 Children	AM	0.8 per child	48 (24 IN , 24 OUT)
		PM	0.7 per child	42 (21 IN , 21 OUT)

Note: (1) Assumes 50/50 split of inbound and outbound traffic.

As shown, the expected traffic generation associated with the proposed development is in the order of **48** vehicle trips in the AM peak period (24 IN, 24 OUT) and **42** vehicle trips in the PM peak period (21 IN, 21 OUT). Note that this traffic generation is considered to be conservative as it does not incorporate the traffic generation of the existing site use.

4.2 *Traffic Assignment*

The road network and the locations of residential areas surrounding the site have been assessed and the following traffic assignment has been assumed for all traffic to and from the site:

- 20% to / from the north along Peter Street;
- 30% to / from the west along Thompson Street;
- 25% to / from the east along Thompson Street;
- 25% to / from the south along Peter Street.

The traffic assignment is shown in **Figure 5** and **Figure 6**.

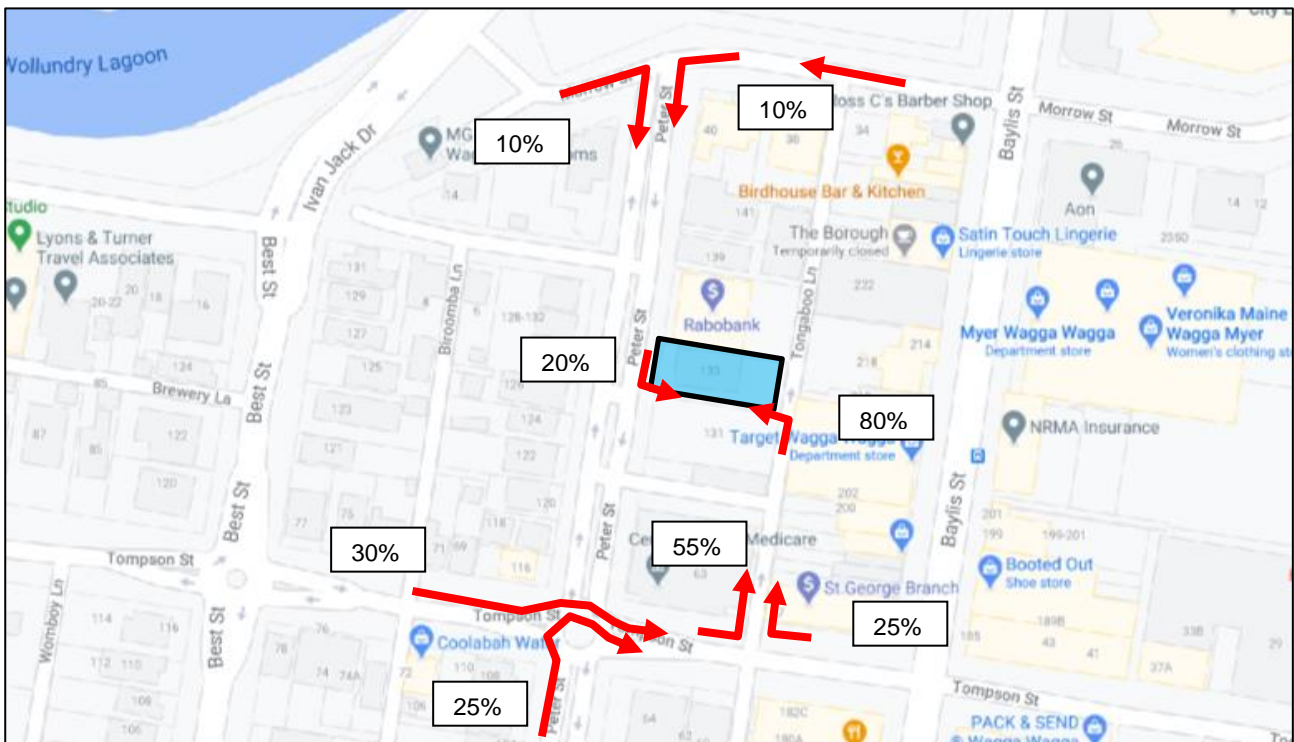


FIGURE 5: ARRIVING TRAFFIC ASSIGNMENT

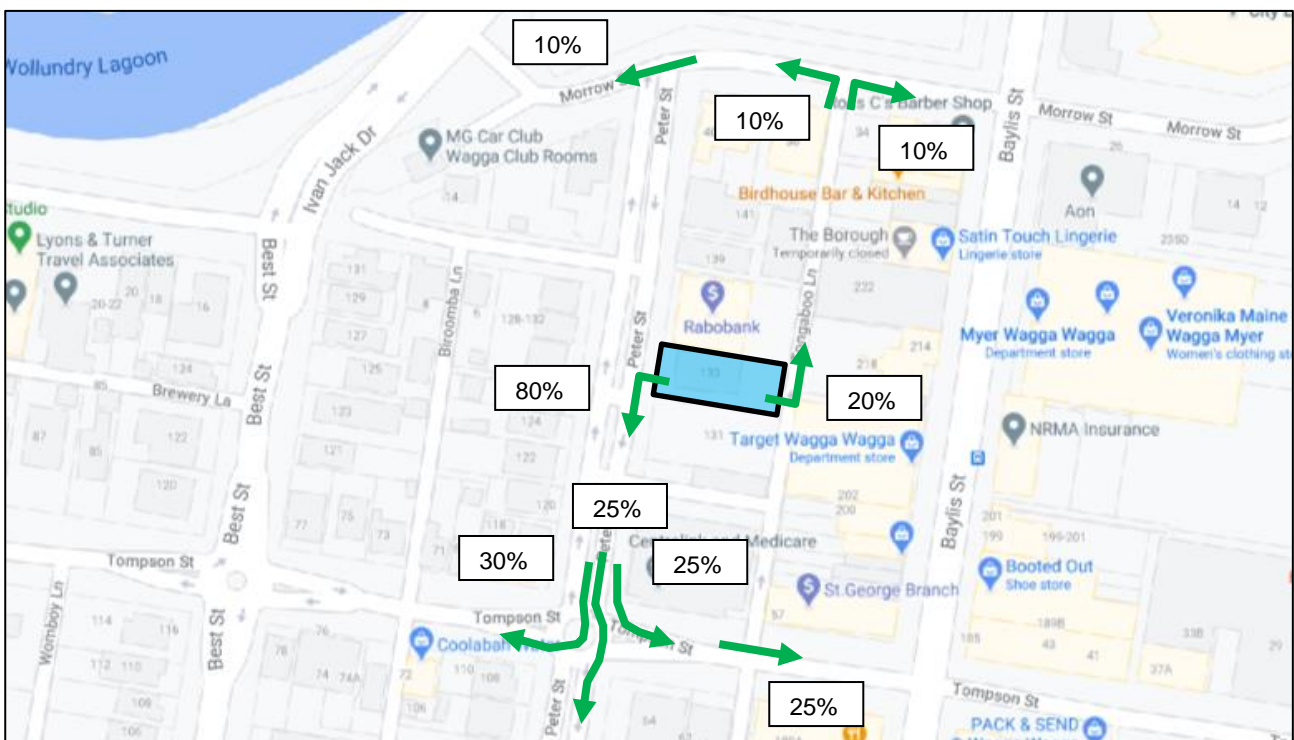


FIGURE 6: DEPARTING TRAFFIC ASSIGNMENT

4.3 Traffic Impact

The traffic generation outlined in **Section 4.1 & 4.2** above has been added to the existing traffic volumes recorded. SIDRA INTERSECTION 8.0 was used to assess the intersections performance. The purpose of this assessment is to compare the existing intersection operations to the future scenario under the increased traffic load. The results of this assessment are shown in **Table 5**, and can be compared to the existing performances in **Table 4**.

TABLE 4: EXISTING INTERSECTION PERFORMANCE (SIDRA INTERSECTION 8.0)

Intersection	Peak Hour	Degree of Saturation ⁽¹⁾	Average Delay ⁽²⁾ (sec/veh)	Level of Service ⁽³⁾	Control Type	Worst Movement	95th Percentile Queue
EXISTING PERFORMANCE							
Peter Street / Morrow Street	AM	0.15	3.1 (Worst: 6.8)	NA (Worst: A)	Give Way	RT from Peter Street	0.7 veh (4.9m) Morrow Street
	PM	0.12	3 (Worst: 6.8)	NA (Worst: A)		RT from Peter Street	0.5 veh (3.6m) Morrow Street
Tongaboo Lane / Morrow Street	AM	0.09	0.2 (Worst: 8.6)	NA (Worst: A)	Stop	RT from Tongaboo Lane	0 veh (0.1m) Tongaboo Lane
	PM	0.09	0.7 (Worst: 8.8)	NA (Worst: A)		RT from Tongaboo Lane	0.1 veh (0.6m) Tongaboo Lane
Tongaboo Lane / Thompson Street	AM	0.06	0.4 (Worst: 8.7)	NA (Worst: A)	Give Way	RT from Tongaboo Lane	0.1 veh (0.4m) Thompson Street
	PM	0.09	0.5 (Worst: 10.6)	NA (Worst: A)		RT from Tongaboo Lane	0.2 veh (1.1m) Tongaboo Lane
Peter Street / Thompson Street	AN	0.15	5.3 (Worst: 9.7)	A (Worst: A)	Roundabout	RT from Peter Street	0.8 veh (5.5m) Peter Street
	PM	0.12	5.2 (Worst: 10.1)	A (Worst: A)		RT from Peter Street	0.6 veh (4.4m) Thompson Street

See notes in **Table 1**

TABLE 5: FUTURE INTERSECTION PERFORMANCES (SIDRA INTERSECTION 8.0)

Intersection	Peak Hour	Degree of Saturation ⁽¹⁾	Average Delay ⁽²⁾ (sec/veh)	Level of Service ⁽³⁾	Control Type	Worst Movement	95th Percentile Queue
FUTURE PERFORMANCE (Post Development)							
Peter Street / Morrow Street	AM	0.16	3.1 (Worst: 6.8)	NA (Worst: A)	Give Way	RT from Peter Street	0.7 veh (5m) Morrow Street
	PM	0.12	3 (Worst: 6.8)	NA (Worst: A)		RT from Peter Street	0.5 veh (3.7m) Morrow Street
Tongaboo Lane / Morrow Street	AM	0.09	0.4 (Worst: 8.6)	NA (Worst: A)	Stop	RT from Tongaboo Lane	0 veh (0.3m) Tongaboo Lane
	PM	0.09	0.8 (Worst: 8.8)	NA (Worst: A)		RT from Tongaboo Lane	0.1 veh (0.7m) Tongaboo Lane
Tongaboo Lane / Thompson Street	AM	0.07	0.7 (Worst: 8.8)	NA (Worst: A)	Give Way	RT from Tongaboo Lane	0.1 veh (0.8m) Thompson Street
	PM	0.09	0.7 (Worst: 10.8)	NA (Worst: A)		RT from Tongaboo Lane	0.2 veh (1.1m) Tongaboo Lane
Peter Street / Thompson Street	AN	0.17	5.5 (Worst: 9.8)	A (Worst: A)	Roundabout	RT from Peter Street	0.9 veh (6.4m) Peter Street
	PM	0.13	5.3 (Worst: 10.2)	A (Worst: A)		RT from Peter Street	0.6 veh (4.5m) Thompson Street

See notes in **Table 1**

As shown, the intersections all retain the same overall Level of Service under future conditions with minimal delays and additional capacity, indicating that there will be negligible impact on the existing road network as a result of the proposed development.

4.4 Residential Amenity

Increased traffic volumes along residential roads have the potential to impact some aspects of the amenity of residents in low-density residential neighbourhoods. Over certain traffic thresholds, the ability for aged or impaired persons to cross the road and the ability for children to play safely in the street are reduced and the ambient road noise becomes noticeable to residents. The *RMS Guide to Traffic Generating Developments 2002* (RMS Guide), suggests that the environmental goal thresholds for local streets is 200 vehicles per hour and that ideally local streets should not 300 vehicles per hour.

The traffic generated by the site will travel to and from the centre via the residential roads Tongaboo Lane and Peter Street. The existing and future peak hourly traffic volumes along these roads have been considered, as summarised in **Table 6**.

TABLE 6: RESIDENTIAL AMENITY - PEAK HOUR TRAFFIC FLOWS

Street	Existing ⁽¹⁾		Future ⁽²⁾	
	AM	PM	AM	PM
Tongaboo Lane	19	11	39	24
Peter Street	258	217	278	230

Notes (1) Taken from intersection surveys reproduced within **Annexure B**.

(2) Future equals existing two-way traffic flow plus traffic generation as determined in **Section 4.1**.

As shown in the above table, the two-way peak hour flows on Tongaboo Lane under the future scenario remain significantly below the 200 vehicle per hour environmental goal threshold suggested in the RMS Guide. The Peter Street peak hour flows remains below the maximum threshold of 300 trips per hour. The development does not raise the traffic flows from existing conditions above any thresholds. Therefore, it is concluded that residential amenity will not be adversely affected by the relatively minor increases in two-way trips.

5 **CONCLUSION**

In view of the foregoing, the subject Proposed Child Care Centre proposal at 133 Peter Street, Wagga Wagga (as depicted in **Annexure A**) is fully supportable in terms of its traffic and parking impacts. The following outcomes of this traffic impact assessment are relevant to note:

- The proposal includes a total of **5** staff car parking spaces within a proposed at-grade carpark, resulting in a shortfall of **10** spaces when compared to the relevant controls applicable to the development, including Council's DCP requirements.
 - The parent/visitor car parking demand is conservatively 9 spaces, which can be easily accommodated within the adjacent Council car park during peak pick up / drop off periods
 - Staff will be encouraged to carpool and utilise public and alternative transport methods. Five (5) staff spaces is considered adequate for the site setting.
- Council's DCP does not require the provision of bicycle and motorcycle parking facilities.
- The parking areas of the site have been assessed against the relevant sections of AS2890.1 and have been found to satisfy the objectives of each standard with any acceptable variances have been outlined in **Section 3.8**. Swept Path Testing has been undertaken and is reproduced within **Annexure D**.
- The traffic generation of the proposed development has been estimated to be some **48** trips in the AM peak period (24 IN, 24 OUT) and **42** trips in the PM peak period (21 IN, 21 OUT). The impacts of the traffic generation have been modelled using SIDRA INTERSECTION 8.0, indicating that there will be no detrimental impact to the performance of the intersections or on residential amenity surrounding the site as a result of the generated traffic.



ANNEXURE A: PROPOSED PLANS

(1 SHEET)



1 GROUND FLOOR PLAN
SCALE 1 : 100

2 FIRST FLOOR
SCALE 1 : 100

NOTE:
All existing & overall dimensions are nominal & subject to verification on site, where any discrepancy occurs between new work & existing dimensions - existing dimensions/work should take preference where necessary - otherwise notify Innovate Architects Pty Ltd.

Selected termite protection to be used on site in accordance with local council's requirements, B.C.A and all relevant Australian Standards.

Smoke detectors to comply with requirements of specification e1.7 (NSW) fire and smoke alarms shall comply with AS 3786 and be connected to the main power supply.

GENERAL NOTES:
All work to be carried out in accordance with the Building Code of Australia, all Local and State Government Ordinances, relevant Australian Standards, Local Electricity and Water Authorities Regulations and all other relevant Authorities concerned.

All structural work and site drainage to be subject to Engineer's details or certification where required by Council. This shall include r.c. slabs and footings, r.c. and steel beams and columns, wind bracing to AS 1170 and AS4055, anchor rods or bolts, tie downs, fixings etc., driveway slabs and drainage to Council's satisfaction.

All timbers to be in accordance with SAA Timber Structure Code AS1720 and SAA Timber Framing Code AS 1684. All work to be carried out in a professional and workmanship like manner according to the plans and specification.

NOTE:
Do not scale off the drawings unless otherwise stated and use figured dimensions in preference. All dimensions are to be checked and verified on site before the commencement of any work, all dimensions and levels are subject to final survey and set-out. No responsibility will be accepted by this firm for any variations in design, builder's method of construction or materials used, deviation from specification without permission or accepted work practices resulting in inferior construction. Locate and protect all services prior to construction.

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P1	PRELIMINARY DA PLANS	03/12/2020	DATE	INT.
ISSUE		AMENDMENT		

Client: DRANSFIELD

Address: 133 PETER STREET, WAGGA WAGGA

Project: PROPOSED CHANGE OF USE TO CHILD CARE CENTRE

Drawing title: FLOOR PLANS

Innovate Architects

Suite 9b, 32 Frederick Street
Oxley NSW 2223

PO BOX 214 Oxley NSW

REGISTERED ARCHITECT
Nominated Architect
Cameron Jones

02 9686 1856
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	Drawn: JW	Scale: 1:100@A1
	Check: GJ	Issue: P1
	Date: NOV 2020	
Job Number: 2696	Sheet: 02	DEVELOPMENT APPLICATION

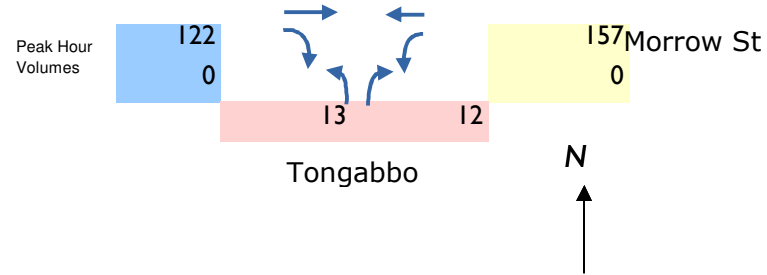


ANNEXURE B: TRAFFIC SURVEY DATA
(11 SHEETS)

Curtis Traffic Surveys

Job: 201105mcl (20_0829)
Day, date: 18/11/20
Location: Morrow St & Tongaboo Ln
Weather: Fine
Client: McLaren Traffic Engineering

Turning movement count



Time Period	From Morrow St west					From Tongaboo Ln		From Morrow St east		Total vehicles	Peak
	through	right	left	right	left	through	left	through	right		
15:30 to 15:45	50	0	1	1	0	34	86	peak			
15:45 to 16:00	37	0	2	3	0	31	73				
16:00 to 16:15	32	0	1	1	0	35	69				
16:15 to 16:30	25	0	4	2	0	32	63				
16:30 to 16:45	36	0	4	1	0	36	77				
16:45 to 17:00	37	0	3	4	0	38	82				
17:00 to 17:15	28	0	5	4	0	36	73				
17:15 to 17:30	22	0	3	3	0	41	69				
17:30 to 17:45	35	0	2	1	0	42	80				
17:45 to 18:00	30	0	1	0	0	31	62				
Total	332	0	26	20	0	356					

Hourly summary

15:30 to 16:30	144	0	8	7	0	132	291	
15:45 to 16:45	130	0	11	7	0	134	437	
16:00 to 17:00	130	0	12	8	0	141	433	
16:15 to 17:15	126	0	16	11	0	142	444	
16:30 to 17:30	123	0	15	12	0	151	443	
16:45 to 17:45	122	0	13	12	0	157	452	peak hour
17:00 to 18:00	115	0	11	8	0	150	370	

Curtis Traffic Surveys

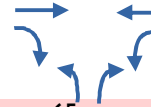
Job: 201105mcl (20_0829)
Day, date: 18/11/20
Location: Peter St, The Esplanade & Morrow St
Weather: Fine
Client: McLaren Traffic Engineering

Turning movement count

Esplanade

Peak Hour
Volumes

104
89



Peter St

N

Morrow St

Time Period	From The Esplanade		From Peter St		From Morrow St		Total vehicles	Peak
	through	right	left	right	left	through		
15:30 to 15:45	45	30	21	5	2	32	135	peak
15:45 to 16:00	31	24	18	6	3	28	110	
16:00 to 16:15	25	22	15	7	4	31	104	
16:15 to 16:30	18	19	18	7	7	25	94	
16:30 to 16:45	30	24	14	6	7	29	110	
16:45 to 17:00	29	26	19	8	8	30	120	
17:00 to 17:15	22	18	20	6	9	27	102	
17:15 to 17:30	14	14	16	8	8	33	93	
17:30 to 17:45	31	13	12	4	4	38	102	
17:45 to 18:00	27	11	9	3	3	28	81	
Total	272	201	162	60	55	301		

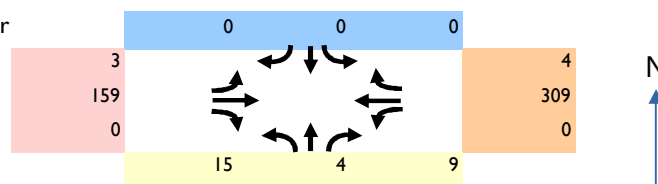
Hourly summary

15:30 to 16:30	119	95	72	25	16	116	443	
15:45 to 16:45	104	89	65	26	21	113	640	peak hour
16:00 to 17:00	102	91	66	28	26	115	623	
16:15 to 17:15	99	87	71	27	31	111	621	
16:30 to 17:30	95	82	69	28	32	119	608	
16:45 to 17:45	96	71	67	26	29	128	633	
17:00 to 18:00	94	56	57	21	24	126	513	

Curtis Traffic Surveys

Job: 201105mcl (20_0829)
Day, date: 18/11/20
Location: Thompson St & Tongaboo Ln
Weather: Fine
Client: McLaren Traffic Engineering
 All motor vehicles

Peak Hour

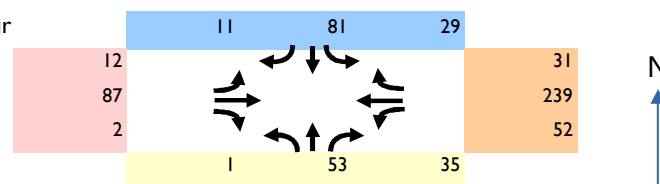


Time Period	From Tongaboo Ln north			From Thompson St west			From Tongaboo Ln south			From Thompson St east			Total vehicle movements
	left	through	right	left	through	right	left	through	right	left	through	right	
15:30 to 15:45	0	0	0	1	36	0	2	0	1	0	48	0	88
15:45 to 16:00	0	0	0	0	42	0	4	0	0	0	62	1	109
16:00 to 16:15	0	0	0	1	42	0	4	0	2	0	101	1	151
16:15 to 16:30	0	0	0	0	32	0	3	0	2	0	86	0	123
16:30 to 16:45	0	0	0	1	35	0	4	1	2	0	73	1	117
16:45 to 17:00	0	0	0	0	38	0	3	3	0	0	64	0	108
17:00 to 17:15	0	0	0	1	42	0	5	0	5	0	83	2	138
17:15 to 17:30	0	0	0	1	44	0	3	0	2	0	89	1	140
17:30 to 17:45	0	0	0	1	21	0	1	0	0	0	74	1	98
17:45 to 18:00	0	0	0	0	18	0	2	0	1	0	81	0	102
Totals	0	0	0	6	350	0	31	4	15	0	761	7	
15:30 to 16:30	0	0	0	2	152	0	13	0	5	0	297	2	471
15:45 to 16:45	0	0	0	2	151	0	15	1	6	0	322	3	500
16:00 to 17:00	0	0	0	2	147	0	14	4	6	0	324	2	499
16:15 to 17:15	0	0	0	2	147	0	15	4	9	0	306	3	486
16:30 to 17:30	0	0	0	3	159	0	15	4	9	0	309	4	503 Peak Hour
16:45 to 17:45	0	0	0	3	145	0	12	3	7	0	310	4	484
17:00 to 18:00	0	0	0	3	125	0	11	0	8	0	327	4	478

Curtis Traffic Surveys

Job: 201105mcl (20_0829)
 Day, date: 18/11/20
 Location: Peter St & Thompson St
 Weather: Fine
 Client: McLaren Traffic Engineering
 All motor vehicles

Peak Hour

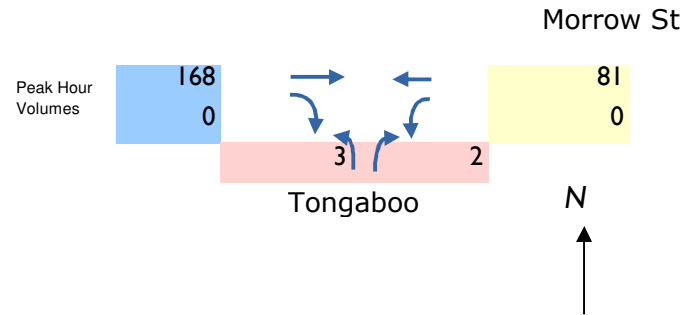


Time Period	From Peter St north			From Thompson St west			From Peter St south			From Thompson St east			Total vehicle movements
	left	through	right	left	through	right	left	through	right	left	through	right	
15:30 to 15:45	7	21	3	4	22	1	1	8	7	9	31	8	122
15:45 to 16:00	6	25	2	3	30	1	0	11	6	10	43	9	146
16:00 to 16:15	9	22	2	2	18	0	0	15	15	15	77	9	184 Peak
16:15 to 16:30	5	14	3	3	21	1	1	14	6	15	65	6	154
16:30 to 16:45	9	20	4	4	18	0	0	13	8	12	54	7	149
16:45 to 17:00	10	19	8	2	20	2	3	7	8	6	53	5	143
17:00 to 17:15	11	20	2	1	24	2	0	14	7	3	75	5	164
17:15 to 17:30	12	15	3	2	26	3	1	12	6	4	81	4	169
17:30 to 17:45	5	13	1	1	11	1	1	10	5	6	65	3	122
17:45 to 18:00	6	10	2	1	9	3	1	11	3	6	71	4	127
Totals	80	179	30	23	199	14	8	115	71	86	615	60	
15:30 to 16:30	27	82	10	12	91	3	2	48	34	49	216	32	606
15:45 to 16:45	29	81	11	12	87	2	1	53	35	52	239	31	633 Peak Hour
16:00 to 17:00	33	75	17	11	77	3	4	49	37	48	249	27	630
16:15 to 17:15	35	73	17	10	83	5	4	48	29	36	247	23	610
16:30 to 17:30	42	74	17	9	88	7	4	46	29	25	263	21	625
16:45 to 17:45	38	67	14	6	81	8	5	43	26	19	274	17	598
17:00 to 18:00	34	58	8	5	70	9	3	47	21	19	292	16	582

Curtis Traffic Surveys

Job: 201105mcl (20_0829)
Day, date: 18/11/20
Location: Morrow St & Tongaboo Ln
Weather: Fine
Client: McLaren Traffic Engineering

Turning movement count



Time Period	From Morrow St west					From Tongaboo Ln		From Morrow St east		Total vehicles	Peak
	through	right	left	right	left	through	left	through	right		
07:30 to 07:45	25	0	1	0	0	0	0	7	0	33	
07:45 to 08:00	31	0	0	2	0	0	0	8	0	41	
08:00 to 08:15	33	0	1	1	0	0	0	10	0	45	
08:15 to 08:30	54	0	0	0	0	0	0	19	0	73	peak
08:30 to 08:45	51	0	1	1	0	0	0	19	0	72	
08:45 to 09:00	37	0	2	0	0	0	0	19	0	58	
09:00 to 09:15	26	0	0	1	0	0	0	24	0	51	
09:15 to 09:30	19	0	1	0	0	0	0	21	0	41	
Total	276	0	6	5	0	0	0	127	0		

Hourly summary

07:30 to 08:30	143	0	2	3	0	44	192
07:45 to 08:45	169	0	2	4	0	56	340
08:00 to 09:00	175	0	4	2	0	67	340
08:15 to 09:15	168	0	3	2	0	81	368 peak hour
08:30 to 09:30	133	0	4	2	0	83	295

Curtis Traffic Surveys

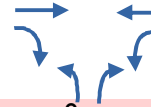
Job: 201105mcl (20_0829)
Day, date: 18/11/20
Location: Peter St, The Esplanade & Morrow St
Weather: Fine
Client: McLaren Traffic Engineering

Turning movement count

Esplanade

Peak Hour
Volumes

133
125



8 35

Peter St

N

52
29 Morrow St

From The Esplanade

From Peter St

From Morrow St

Time Period	through	right	left	right	left	through	Total vehicles	Peak
07:30 to 07:45	20	15	3	5	2	5	50	
07:45 to 08:00	25	21	2	6	3	5	62	
08:00 to 08:15	26	23	2	7	4	6	68	
08:15 to 08:30	46	35	2	8	7	12	110	peak
08:30 to 08:45	36	32	3	15	6	13	105	
08:45 to 09:00	30	38	2	7	7	12	96	
09:00 to 09:15	21	20	1	5	9	15	71	
09:15 to 09:30	14	30	1	5	8	13	71	
Total	218	214	16	58	46	81		

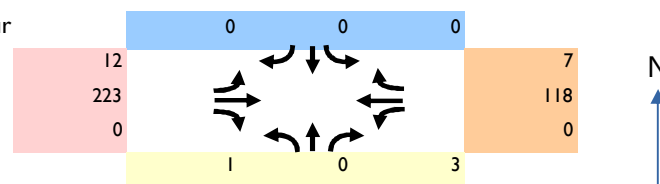
Hourly summary

07:30 to 08:30	117	94	9	26	16	28	290	
07:45 to 08:45	133	111	9	36	20	36	512	
08:00 to 09:00	138	128	9	37	24	43	521	
08:15 to 09:15	133	125	8	35	29	52	563	peak hour
08:30 to 09:30	101	120	7	32	30	53	453	

Curtis Traffic Surveys

Job: 201105mcl (20_0829)
 Day, date: 18/11/20
 Location: Thompson St & Tongaboo Ln
 vweather: fine
 Client: McLaren Traffic Engineering
 All motor vehicles

Peak Hour

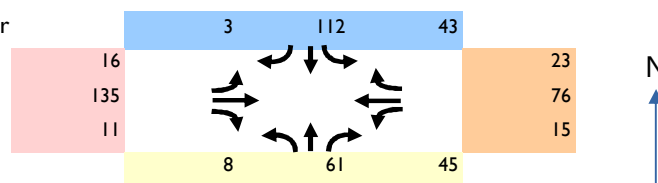


Time Period	From Tongaboo Ln north			From Thompson St west			From Tongaboo Ln south			From Thompson St east			Total vehicle movements
	left	through	right	left	through	right	left	through	right	left	through	right	
07:30 to 07:45	0	0	0	0	18	0	0	1	0	0	10	3	32
07:45 to 08:00	0	0	0	2	25	0	0	0	1	0	20	3	51
08:00 to 08:15	0	0	0	1	30	0	2	0	1	0	23	2	59
08:15 to 08:30	0	0	0	3	33	0	0	1	0	0	24	1	62
08:30 to 08:45	0	0	0	2	40	0	1	0	0	0	31	2	76
08:45 to 09:00	0	0	0	5	64	0	0	0	2	0	36	2	109 Peak
09:00 to 09:15	0	0	0	4	64	0	0	0	1	0	29	3	101
09:15 to 09:30	0	0	0	1	55	0	0	0	0	0	22	0	78
Totals	0	0	0	18	329	0	3	2	5	0	195	16	
07:30 to 08:30	0	0	0	6	106	0	2	2	2	0	77	9	204
07:45 to 08:45	0	0	0	8	128	0	3	1	2	0	98	8	248
08:00 to 09:00	0	0	0	11	167	0	3	1	3	0	114	7	306
08:15 to 09:15	0	0	0	14	201	0	1	1	3	0	120	8	348
08:30 to 09:30	0	0	0	12	223	0	1	0	3	0	118	7	364 Peak Hour

Curtis Traffic Surveys

Job: 201105mcl (20_0829)
 Day, date: 18/11/20
 Location: Peter St & Thompson St
 vweather: fine
 Client: McLaren Traffic Engineering
 All motor vehicles

Peak Hour



Time Period	From Peter St north			From Thompson St west			From Peter St south			From Thompson St east			Total vehicle movements
	left	through	right	left	through	right	left	through	right	left	through	right	
07:30 to 07:45	4	8	2	1	13	2	0	11	1	2	6	2	52
07:45 to 08:00	4	13	2	3	13	3	0	9	8	7	10	3	75
08:00 to 08:15	5	12	3	5	15	4	1	10	10	3	15	5	88
08:15 to 08:30	6	25	1	4	18	3	2	14	9	4	16	4	106
08:30 to 08:45	10	24	0	4	20	2	5	15	10	2	20	8	120
08:45 to 09:00	14	31	0	3	39	4	0	18	11	6	23	6	155 Peak
09:00 to 09:15	10	28	2	4	41	3	2	15	13	4	19	5	146
09:15 to 09:30	9	29	1	5	35	2	1	13	11	3	14	4	127
Totals	62	170	11	29	194	23	11	105	73	31	123	37	
07:30 to 08:30	19	58	8	13	59	12	3	44	28	16	47	14	321
07:45 to 08:45	25	74	6	16	66	12	8	48	37	16	61	20	389
08:00 to 09:00	35	92	4	16	92	13	8	57	40	15	74	23	469
08:15 to 09:15	40	108	3	15	118	12	9	62	43	16	78	23	527
08:30 to 09:30	43	112	3	16	135	11	8	61	45	15	76	23	548 Peak Hour

Curtis Traffic Surveys

Job: 201103mcl (20_0678)
 Client: McLaren Traffic Engineering
 Day, date: 17/11/20
 Location: Wagga Wagga
 Weather: Fine
 Surveyor: MC

Parking round commencing...

Zone	Street	From	To	Capacity	Street	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00
a	off street			43		15	15	16	17	14	12	12	11	8	2	2
b	Peter St	Morrow St	Tompson St	24 east		13	12	12	11	12	12	9	7	6	1	1
c	Morrow St	Peter St	Tongaboo Ln	6 south		3	1	2	2	4	2	2	1	2	3	3
d	Morrow St	Tongaboo Ln	200m	2 south		0	0	0	0	0	1	1	1	0	0	0
e	Morrow St	200m	1 Jack Dr	14 north		9	11	10	9	8	6	6	6	8	8	6
f	Esplanade	1 Jack Dr	Peter St	3 south		2	3	3	2	1	1	1	1	1	1	1
g	Peter St	Morrow St	Sheppard St	3 west		3	3	3	3	2	2	1	0	0	0	0
h	Sheppard St	Peter St	Biroomba Ln	2 south		3	3	3	2	2	2	2	2	1	1	1
i	Biroomba Ln	Sheppard St	Tompson St	both		0	0	0	0	0	0	0	0	0	0	0
j	Sheppard St	Biroomba Ln	end	3 south		2	2	2	2	2	2	2	0	0	0	0
k	1 Jack Dr	Anzac Av	200m	west		0	0	0	0	0	0	0	0	0	0	0
L	1 Jack Dr	200m	Sheppard St	east		0	0	0	0	0	0	0	0	0	0	0
m	Sheppard St	1 Jack Dr	Peter St	11 north		4	3	3	2	2	2	2	1	1	1	1
n	Peter St	Sheppard St	Tompson St	15 west		10	10	10	10	8	7	6	6	6	5	4
o	Tompson St	Peter St	Tongaboo Ln	3 north		1	1	2	3	2	0	1	0	0	0	0
p	Tongaboo Ln	Tompson St	Morrow St ?	both		0	0	0	0	0	0	0	0	0	0	0
q	Tompson St	Tongaboo Ln	Peter St	5 south		2	2	2	2	2	2	1	2	2	1	1
r	Peter St	Tompson St	200m	6 east		1	1	1	1	1	1	2	2	1	1	1
s	Peter St	200m	Tompson St	5 west		3	3	3	3	3	2	2	2	2	2	2
t	Tompson St	Peter St	Biroomba Ln	4 south		1	1	1	2	2	1	1	2	1	1	1
u	Biroomba Ln	Tompson St	200m	both		0	0	0	0	0	0	0	0	0	0	0
v	Tompson St	Biroomba Ln	200m	1 south		1	1	1	1	0	0	0	0	0	0	0
w	Tompson St	200m	Biroomba Ln	1 north		1	1	1	1	1	0	0	1	1	1	1
x	Tompson St	Biroomba Ln	Peter St	3 north		1	1		1	1	1	1	1	1	1	1

Curtis Traffic Surveys

Job: 201103mcl (20_0678)
 Client: McLaren Traffic Engineering
 Date 17/11/20
 Location Wagga Wagga
 Weather Fine
 Survey MC

Start Finish Interval Size
 7:30 9:30 0:15

Restriction Table

u	unrestricted
np	no parking
p	hour parking
ns	no stopping
dis	disabled
r	authorised residents or other permit holders excepted
bz	bus zone
tz	taxi zone
res	reserved parking
ms	marked parallel space, standard hours (8:30-6pm M-F, 8:30-12:30 Sat)
um	unrestricted marked parallel space
dis3	3 hour disabled parking
lz4	loading zone 6am-6pm M-Sat

Zone	Street	From	To	Side of Street	Capacity	Restriction
a	off street				43	34*2p+8res+1dis
b	Peter St	Morrow	Tompson	east	24	2ms
c	Morrow	Peter St	Tongab	south	6	1ms
d	Morrow	Tongabo	200m	south	2	1ms
e	Morrow	200m	1 Jack D	north	14	2ms
f	Esplanad	1 Jack Dr	Peter St	south	3	u
g	Peter St	Morrow	Sheppar	west	3	2ms
h	Shepparc	Peter St	Biroomb	south	2	4u normally
i	Biroomb	Shepparc	Tompson	both	0	too narrow
j	Shepparc	Biroomb	end	south	3	u
k	1 Jack Dr	Anzac A	200m	west	0	ns
L	1 Jack Dr	200m	Sheppar	east	0	ns
m	Shepparc	1 Jack Dr	Peter St	north	1	1 u
n	Peter St	Shepparc	Tompson	west	15	13*2ms+2dis3
o	Tompson	Peter St	Tongab	north	3	1*1ms+2dis
p	Tongabo	Tompson	Morrow	both	?	lz4
q	Tompson	Tongabo	Peter St	south	5	1ms
r	Peter St	Tompson	200m	east	6	2ms
s	Peter St	200m	Tompson	west	5	2ms
t	Tompson	Peter St	Biroomb	south	4	um
u	Biroomb	Tompson	200m	both	0	too narrow
v	Tompson	Biroomb	200m	south	1	um
w	Tompson	200m	Biroomb	north	1	um
x	Tompson	Biroomb	Peter St	north	3	um



ANNEXURE C: SIDRA RESULTS
(16 SHEET)

MOVEMENT SUMMARY

▽ Site: 101 [Morrow Street / Peter Street EX AM]

Morrow Street / Peter Street
Existing Conditions
AM Peak Period
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Peter Street												
1	L2	8	0.0	0.044	5.7	LOS A	0.1	1.0	0.22	0.60	0.22	52.8
3	R2	37	0.0	0.044	6.8	LOS A	0.1	1.0	0.22	0.60	0.22	52.3
Approach		45	0.0	0.044	6.6	LOS A	0.1	1.0	0.22	0.60	0.22	52.4
East: Morrow Street												
4	L2	31	0.0	0.045	5.5	LOS A	0.0	0.0	0.00	0.21	0.00	56.6
5	T1	55	0.0	0.045	0.0	LOS A	0.0	0.0	0.00	0.21	0.00	58.1
Approach		85	0.0	0.045	2.0	NA	0.0	0.0	0.00	0.21	0.00	57.5
West: Morrow Street												
11	T1	140	0.0	0.152	0.2	LOS A	0.7	4.9	0.17	0.28	0.17	56.9
12	R2	132	0.0	0.152	5.7	LOS A	0.7	4.9	0.17	0.28	0.17	54.8
Approach		272	0.0	0.152	2.9	NA	0.7	4.9	0.17	0.28	0.17	55.9
All Vehicles		402	0.0	0.152	3.1	NA	0.7	4.9	0.14	0.30	0.14	55.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

MOVEMENT SUMMARY

▽ Site: 101 [Morrow Street / Peter Street EX PM]

Morrow Street / Peter Street
Existing Conditions
AM Peak Period
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Peter Street												
1	L2	68	0.0	0.075	5.9	LOS A	0.3	2.0	0.22	0.57	0.22	53.0
3	R2	27	0.0	0.075	6.8	LOS A	0.3	2.0	0.22	0.57	0.22	52.4
Approach		96	0.0	0.075	6.1	LOS A	0.3	2.0	0.22	0.57	0.22	52.8
East: Morrow Street												
4	L2	22	0.0	0.073	5.5	LOS A	0.0	0.0	0.00	0.09	0.00	57.6
5	T1	119	0.0	0.073	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	59.1
Approach		141	0.0	0.073	0.9	NA	0.0	0.0	0.00	0.09	0.00	58.9
West: Morrow Street												
11	T1	109	0.0	0.116	0.3	LOS A	0.5	3.6	0.22	0.27	0.22	56.8
12	R2	94	0.0	0.116	5.9	LOS A	0.5	3.6	0.22	0.27	0.22	54.8
Approach		203	0.0	0.116	2.9	NA	0.5	3.6	0.22	0.27	0.22	55.9
All Vehicles		440	0.0	0.116	3.0	NA	0.5	3.6	0.15	0.28	0.15	56.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

MOVEMENT SUMMARY



Site: 101 [Morrow Street / Tongaboo Lane EX AM]

Morrow Street / Tongaboo Lane

Existing Conditions

AM Peak Period

Site Category: (None)

Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Tongaboo Lane												
1	L2	3	0.0	0.005	8.3	LOS A	0.0	0.1	0.19	0.89	0.19	51.7
3	R2	2	0.0	0.005	8.6	LOS A	0.0	0.1	0.19	0.89	0.19	51.0
Approach		5	0.0	0.005	8.4	LOS A	0.0	0.1	0.19	0.89	0.19	51.4
East: Morrow Street												
5	T1	85	0.0	0.044	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		85	0.0	0.044	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Morrow Street												
11	T1	177	0.0	0.091	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		177	0.0	0.091	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		267	0.0	0.091	0.2	NA	0.0	0.1	0.00	0.02	0.00	59.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

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MOVEMENT SUMMARY

 **Site: 101 [Morrow Street / Tongaboo Lane EX PM]**

Morrow Street / Tongaboo Lane

Existing Conditions

AM Peak Period

Site Category: (None)

Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Tongaboo Lane												
1	L2	14	0.0	0.026	8.6	LOS A	0.1	0.6	0.29	0.87	0.29	51.6
3	R2	13	0.0	0.026	8.8	LOS A	0.1	0.6	0.29	0.87	0.29	51.0
Approach		26	0.0	0.026	8.7	LOS A	0.1	0.6	0.29	0.87	0.29	51.3
East: Morrow Street												
5	T1	165	0.0	0.085	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		165	0.0	0.085	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Morrow Street												
11	T1	128	0.0	0.066	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		128	0.0	0.066	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		320	0.0	0.085	0.7	NA	0.1	0.6	0.02	0.07	0.02	59.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

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MOVEMENT SUMMARY

▽ Site: 101 [Tompson Street / Tongaboo Lane EX AM]

Tompson Street / Tongaboo Lane

Existing Conditions

AM Peak Period

Site Category: (None)

Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: Tongaboo Lane												
1	L2	1	0.0	0.006	5.8	LOS A	0.0	0.2	0.30	0.58	0.30	51.8
3	R2	3	0.0	0.006	8.7	LOS A	0.0	0.2	0.30	0.58	0.30	51.4
Approach		4	0.0	0.006	7.9	LOS A	0.0	0.2	0.30	0.58	0.30	51.5
East: Tompson Street												
5	T1	124	0.0	0.035	0.1	LOS A	0.1	0.4	0.04	0.03	0.04	59.5
6	R2	7	0.0	0.035	6.4	LOS A	0.1	0.4	0.10	0.07	0.10	56.9
Approach		132	0.0	0.035	0.4	NA	0.1	0.4	0.05	0.03	0.05	59.4
West: Tompson Street												
10	L2	13	0.0	0.064	5.5	LOS A	0.0	0.0	0.00	0.06	0.00	57.8
11	T1	235	0.0	0.064	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
Approach		247	0.0	0.064	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.6
All Vehicles		383	0.0	0.064	0.4	NA	0.1	0.4	0.02	0.04	0.02	59.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

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MOVEMENT SUMMARY

▽ Site: 101 [Tompson Street / Tongaboo Lane EX PM]

Tompson Street / Tongaboo Lane

Existing Conditions

AM Peak Period

Site Category: (None)

Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: Tongaboo Lane												
1	L2	16	0.0	0.041	6.2	LOS A	0.2 1.1	0.37	0.61	0.37	51.7	
2	T1	4	0.0	0.041	9.0	LOS A	0.2 1.1	0.37	0.61	0.37	52.2	
3	R2	9	0.0	0.041	10.6	LOS A	0.2 1.1	0.37	0.61	0.37	51.3	
Approach		29	0.0	0.041	8.0	LOS A	0.2 1.1	0.37	0.61	0.37	51.7	
East: Tompson Street												
5	T1	325	0.0	0.085	0.0	LOS A	0.0 0.2	0.01	0.01	0.01	59.9	
6	R2	4	0.0	0.085	6.2	LOS A	0.0 0.2	0.02	0.02	0.02	57.7	
Approach		329	0.0	0.085	0.1	NA	0.0 0.2	0.01	0.01	0.01	59.9	
West: Tompson Street												
10	L2	3	0.0	0.044	5.5	LOS A	0.0 0.0	0.00	0.02	0.00	58.2	
11	T1	167	0.0	0.044	0.0	LOS A	0.0 0.0	0.00	0.01	0.00	59.9	
Approach		171	0.0	0.044	0.1	NA	0.0 0.0	0.00	0.01	0.00	59.9	
All Vehicles		529	0.0	0.085	0.5	NA	0.2 1.1	0.03	0.04	0.03	59.3	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

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MOVEMENT SUMMARY

 **Site: 102 [Tompson Street / Peter Street EX AM]**

Tompson Street / Peter Street
Existing Conditions
AM Peak Period
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Peter Street												
1	L2	8	0.0	0.099	4.4	LOS A	0.5	3.6	0.27	0.53	0.27	53.0
2	T1	64	0.0	0.099	4.5	LOS A	0.5	3.6	0.27	0.53	0.27	54.3
3	R2	47	0.0	0.099	9.1	LOS A	0.5	3.6	0.27	0.53	0.27	54.2
Approach		120	0.0	0.099	6.3	LOS A	0.5	3.6	0.27	0.53	0.27	54.2
East: Tompson Street												
4	L2	16	0.0	0.043	4.6	LOS A	0.2	1.6	0.27	0.43	0.27	54.3
5	T1	80	0.0	0.043	4.4	LOS A	0.2	1.6	0.28	0.47	0.28	55.0
6	R2	24	0.0	0.043	9.2	LOS A	0.2	1.5	0.29	0.52	0.29	54.1
Approach		120	0.0	0.043	5.4	LOS A	0.2	1.6	0.28	0.48	0.28	54.7
North: Peter Street												
7	L2	45	0.0	0.148	4.9	LOS A	0.8	5.5	0.39	0.51	0.39	53.7
8	T1	118	0.0	0.148	5.1	LOS A	0.8	5.5	0.39	0.51	0.39	55.1
9	R2	3	0.0	0.148	9.7	LOS A	0.8	5.5	0.39	0.51	0.39	55.0
Approach		166	0.0	0.148	5.1	LOS A	0.8	5.5	0.39	0.51	0.39	54.7
West: Tompson Street												
10	L2	17	0.0	0.061	4.6	LOS A	0.3	2.2	0.27	0.43	0.27	54.3
11	T1	142	0.0	0.061	4.5	LOS A	0.3	2.2	0.28	0.45	0.28	55.3
12	R2	12	0.0	0.061	9.2	LOS A	0.3	2.1	0.28	0.47	0.28	55.0
Approach		171	0.0	0.061	4.8	LOS A	0.3	2.2	0.28	0.45	0.28	55.2
All Vehicles		577	0.0	0.148	5.3	LOS A	0.8	5.5	0.31	0.49	0.31	54.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

MOVEMENT SUMMARY

 **Site: 102 [Tompson Street / Peter Street EX PM]**

Tompson Street / Peter Street
Existing Conditions
AM Peak Period
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Peter Street												
1	L2	1	0.0	0.090	5.3	LOS A	0.5	3.2	0.45	0.59	0.45	52.3
2	T1	56	0.0	0.090	5.5	LOS A	0.5	3.2	0.45	0.59	0.45	53.6
3	R2	37	0.0	0.090	10.1	LOS A	0.5	3.2	0.45	0.59	0.45	53.5
Approach		94	0.0	0.090	7.3	LOS A	0.5	3.2	0.45	0.59	0.45	53.6
East: Tompson Street												
4	L2	55	0.0	0.116	4.5	LOS A	0.6	4.4	0.24	0.44	0.24	54.4
5	T1	252	0.0	0.116	4.4	LOS A	0.6	4.4	0.25	0.46	0.25	55.3
6	R2	33	0.0	0.116	9.1	LOS A	0.6	4.4	0.26	0.47	0.26	55.0
Approach		339	0.0	0.116	4.8	LOS A	0.6	4.4	0.25	0.45	0.25	55.1
North: Peter Street												
7	L2	31	0.0	0.107	4.5	LOS A	0.5	3.8	0.30	0.48	0.30	53.9
8	T1	85	0.0	0.107	4.6	LOS A	0.5	3.8	0.30	0.48	0.30	55.3
9	R2	12	0.0	0.107	9.3	LOS A	0.5	3.8	0.30	0.48	0.30	55.1
Approach		127	0.0	0.107	5.0	LOS A	0.5	3.8	0.30	0.48	0.30	54.9
West: Tompson Street												
10	L2	13	0.0	0.038	4.5	LOS A	0.2	1.4	0.26	0.43	0.26	54.3
11	T1	92	0.0	0.038	4.4	LOS A	0.2	1.4	0.27	0.43	0.27	55.5
12	R2	2	0.0	0.038	9.2	LOS A	0.2	1.3	0.28	0.43	0.28	55.4
Approach		106	0.0	0.038	4.5	LOS A	0.2	1.4	0.27	0.43	0.27	55.3
All Vehicles		666	0.0	0.116	5.2	LOS A	0.6	4.4	0.29	0.47	0.29	54.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

MOVEMENT SUMMARY

▽ Site: 101 [Morrow Street / Peter Street FUT AM]

Morrow Street / Peter Street
Existing Conditions
AM Peak Period
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: Peter Street												
1	L2	8	0.0	0.045	5.7	LOS A	0.1	1.0	0.22	0.60	0.22	52.8
3	R2	37	0.0	0.045	6.8	LOS A	0.1	1.0	0.22	0.60	0.22	52.3
Approach		45	0.0	0.045	6.6	LOS A	0.1	1.0	0.22	0.60	0.22	52.4
East: Morrow Street												
4	L2	34	0.0	0.046	5.5	LOS A	0.0	0.0	0.00	0.23	0.00	56.5
5	T1	55	0.0	0.046	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	58.0
Approach		88	0.0	0.046	2.1	NA	0.0	0.0	0.00	0.23	0.00	57.4
West: Morrow Street												
11	T1	143	0.0	0.156	0.2	LOS A	0.7	5.0	0.18	0.28	0.18	56.9
12	R2	135	0.0	0.156	5.7	LOS A	0.7	5.0	0.18	0.28	0.18	54.8
Approach		278	0.0	0.156	2.9	NA	0.7	5.0	0.18	0.28	0.18	55.9
All Vehicles		412	0.0	0.156	3.1	NA	0.7	5.0	0.14	0.30	0.14	55.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

MOVEMENT SUMMARY

▽ Site: 101 [Morrow Street / Peter Street FUT PM]

Morrow Street / Peter Street
Existing Conditions
AM Peak Period
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Peter Street												
1	L2	68	0.0	0.075	5.9	LOS A	0.3	2.0	0.22	0.57	0.22	53.0
3	R2	27	0.0	0.075	6.8	LOS A	0.3	2.0	0.22	0.57	0.22	52.4
Approach		96	0.0	0.075	6.2	LOS A	0.3	2.0	0.22	0.57	0.22	52.8
East: Morrow Street												
4	L2	24	0.0	0.075	5.5	LOS A	0.0	0.0	0.00	0.10	0.00	57.5
5	T1	121	0.0	0.075	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	59.1
Approach		145	0.0	0.075	0.9	NA	0.0	0.0	0.00	0.10	0.00	58.8
West: Morrow Street												
11	T1	109	0.0	0.118	0.3	LOS A	0.5	3.7	0.23	0.27	0.23	56.8
12	R2	96	0.0	0.118	5.9	LOS A	0.5	3.7	0.23	0.27	0.23	54.7
Approach		205	0.0	0.118	2.9	NA	0.5	3.7	0.23	0.27	0.23	55.8
All Vehicles		446	0.0	0.118	3.0	NA	0.5	3.7	0.15	0.28	0.15	56.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

MOVEMENT SUMMARY

 **Site: 101 [Morrow Street / Tongaboo Lane FUT AM]**

Morrow Street / Tongaboo Lane

Existing Conditions

AM Peak Period

Site Category: (None)

Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Tongaboo Lane												
1	L2	6	0.0	0.011	8.3	LOS A	0.0	0.3	0.20	0.89	0.20	51.7
3	R2	5	0.0	0.011	8.6	LOS A	0.0	0.3	0.20	0.89	0.20	51.0
Approach		12	0.0	0.011	8.5	LOS A	0.0	0.3	0.20	0.89	0.20	51.4
East: Morrow Street												
5	T1	88	0.0	0.045	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		88	0.0	0.045	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Morrow Street												
11	T1	177	0.0	0.091	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		177	0.0	0.091	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		277	0.0	0.091	0.4	NA	0.0	0.3	0.01	0.04	0.01	59.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

MOVEMENT SUMMARY



Site: 101 [Morrow Street / Tongaboo Lane FUT PM]

Morrow Street / Tongaboo Lane

Existing Conditions

AM Peak Period

Site Category: (None)

Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Tongaboo Lane												
1	L2	16	0.0	0.030	8.6	LOS A	0.1	0.7	0.29	0.88	0.29	51.6
3	R2	15	0.0	0.030	8.8	LOS A	0.1	0.7	0.29	0.88	0.29	51.0
Approach		31	0.0	0.030	8.7	LOS A	0.1	0.7	0.29	0.88	0.29	51.3
East: Morrow Street												
5	T1	167	0.0	0.086	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		167	0.0	0.086	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Morrow Street												
11	T1	128	0.0	0.066	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		128	0.0	0.066	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		326	0.0	0.086	0.8	NA	0.1	0.7	0.03	0.08	0.03	59.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

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MOVEMENT SUMMARY

▽ Site: 101 [Tompson Street / Tongaboo Lane FUT AM]

Tompson Street / Tongaboo Lane

Existing Conditions

AM Peak Period

Site Category: (None)

Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: Tongaboo Lane												
1	L2	1	0.0	0.006	5.8	LOS A	0.0	0.2	0.31	0.58	0.31	51.7
3	R2	3	0.0	0.006	8.8	LOS A	0.0	0.2	0.31	0.58	0.31	51.3
Approach		4	0.0	0.006	8.1	LOS A	0.0	0.2	0.31	0.58	0.31	51.4
East: Tompson Street												
5	T1	124	0.0	0.038	0.2	LOS A	0.1	0.8	0.07	0.05	0.07	59.2
6	R2	14	0.0	0.038	6.5	LOS A	0.1	0.8	0.17	0.13	0.17	56.2
Approach		138	0.0	0.038	0.8	NA	0.1	0.8	0.08	0.06	0.08	58.9
West: Tompson Street												
10	L2	27	0.0	0.069	5.5	LOS A	0.0	0.0	0.00	0.12	0.00	57.3
11	T1	241	0.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.5
Approach		268	0.0	0.069	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.3
All Vehicles		411	0.0	0.069	0.7	NA	0.1	0.8	0.03	0.07	0.03	59.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

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MOVEMENT SUMMARY

▽ Site: 101 [Tompson Street / Tongaboo Lane FUT PM]

Tompson Street / Tongaboo Lane

Existing Conditions

AM Peak Period

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: Tongaboo Lane												
1	L2	16	0.0	0.042	6.2	LOS A	0.2	1.1	0.38	0.61	0.38	51.7
2	T1	4	0.0	0.042	9.3	LOS A	0.2	1.1	0.38	0.61	0.38	52.1
3	R2	9	0.0	0.042	10.8	LOS A	0.2	1.1	0.38	0.61	0.38	51.3
Approach		29	0.0	0.042	8.1	LOS A	0.2	1.1	0.38	0.61	0.38	51.6
East: Tompson Street												
5	T1	325	0.0	0.088	0.0	LOS A	0.1	0.6	0.02	0.02	0.02	59.7
6	R2	11	0.0	0.088	6.2	LOS A	0.1	0.6	0.05	0.04	0.05	57.4
Approach		336	0.0	0.088	0.2	NA	0.1	0.6	0.02	0.02	0.02	59.7
West: Tompson Street												
10	L2	16	0.0	0.049	5.5	LOS A	0.0	0.0	0.00	0.10	0.00	57.5
11	T1	174	0.0	0.049	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.6
Approach		189	0.0	0.049	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.4
All Vehicles		555	0.0	0.088	0.7	NA	0.2	1.1	0.03	0.06	0.03	59.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

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MOVEMENT SUMMARY

 **Site: 102 [Tompson Street / Peter Street FUT AM]**

Tompson Street / Peter Street
Existing Conditions
AM Peak Period
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Peter Street												
1	L2	8	0.0	0.105	4.4	LOS A	0.5	3.8	0.29	0.54	0.29	52.9
2	T1	64	0.0	0.105	4.6	LOS A	0.5	3.8	0.29	0.54	0.29	54.2
3	R2	54	0.0	0.105	9.2	LOS A	0.5	3.8	0.29	0.54	0.29	54.1
Approach		126	0.0	0.105	6.5	LOS A	0.5	3.8	0.29	0.54	0.29	54.1
East: Tompson Street												
4	L2	16	0.0	0.043	4.6	LOS A	0.2	1.6	0.29	0.44	0.29	54.2
5	T1	80	0.0	0.043	4.5	LOS A	0.2	1.6	0.30	0.47	0.30	54.9
6	R2	24	0.0	0.043	9.2	LOS A	0.2	1.6	0.31	0.53	0.31	54.1
Approach		120	0.0	0.043	5.5	LOS A	0.2	1.6	0.30	0.48	0.30	54.6
North: Peter Street												
7	L2	52	0.0	0.169	5.0	LOS A	0.9	6.4	0.41	0.53	0.41	53.5
8	T1	124	0.0	0.169	5.2	LOS A	0.9	6.4	0.41	0.53	0.41	54.9
9	R2	12	0.0	0.169	9.8	LOS A	0.9	6.4	0.41	0.53	0.41	54.8
Approach		187	0.0	0.169	5.4	LOS A	0.9	6.4	0.41	0.53	0.41	54.5
West: Tompson Street												
10	L2	17	0.0	0.064	4.6	LOS A	0.3	2.3	0.28	0.44	0.28	54.2
11	T1	151	0.0	0.064	4.5	LOS A	0.3	2.3	0.29	0.45	0.29	55.3
12	R2	12	0.0	0.064	9.2	LOS A	0.3	2.3	0.29	0.47	0.29	55.0
Approach		179	0.0	0.064	4.8	LOS A	0.3	2.3	0.29	0.45	0.29	55.1
All Vehicles		613	0.0	0.169	5.5	LOS A	0.9	6.4	0.33	0.50	0.33	54.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

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MOVEMENT SUMMARY

 **Site: 102 [Tompson Street / Peter Street FUT PM]**

Tompson Street / Peter Street
Existing Conditions
AM Peak Period
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: Peter Street												
1	L2	1	0.0	0.097	5.4	LOS A	0.5	3.5	0.45	0.60	0.45	52.2
2	T1	56	0.0	0.097	5.5	LOS A	0.5	3.5	0.45	0.60	0.45	53.5
3	R2	43	0.0	0.097	10.2	LOS A	0.5	3.5	0.45	0.60	0.45	53.4
Approach		100	0.0	0.097	7.5	LOS A	0.5	3.5	0.45	0.60	0.45	53.4
East: Tompson Street												
4	L2	55	0.0	0.118	4.5	LOS A	0.6	4.5	0.26	0.44	0.26	54.3
5	T1	252	0.0	0.118	4.4	LOS A	0.6	4.5	0.27	0.46	0.27	55.2
6	R2	33	0.0	0.118	9.1	LOS A	0.6	4.5	0.28	0.48	0.28	54.9
Approach		339	0.0	0.118	4.9	LOS A	0.6	4.5	0.27	0.46	0.27	55.1
North: Peter Street												
7	L2	37	0.0	0.125	4.6	LOS A	0.6	4.5	0.32	0.50	0.32	53.7
8	T1	92	0.0	0.125	4.7	LOS A	0.6	4.5	0.32	0.50	0.32	55.1
9	R2	19	0.0	0.125	9.4	LOS A	0.6	4.5	0.32	0.50	0.32	54.9
Approach		147	0.0	0.125	5.3	LOS A	0.6	4.5	0.32	0.50	0.32	54.7
West: Tompson Street												
10	L2	13	0.0	0.040	4.6	LOS A	0.2	1.5	0.27	0.43	0.27	54.3
11	T1	99	0.0	0.040	4.4	LOS A	0.2	1.5	0.28	0.43	0.28	55.5
12	R2	2	0.0	0.040	9.2	LOS A	0.2	1.4	0.28	0.43	0.28	55.4
Approach		114	0.0	0.040	4.5	LOS A	0.2	1.5	0.28	0.43	0.28	55.3
All Vehicles		700	0.0	0.125	5.3	LOS A	0.6	4.5	0.31	0.48	0.31	54.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

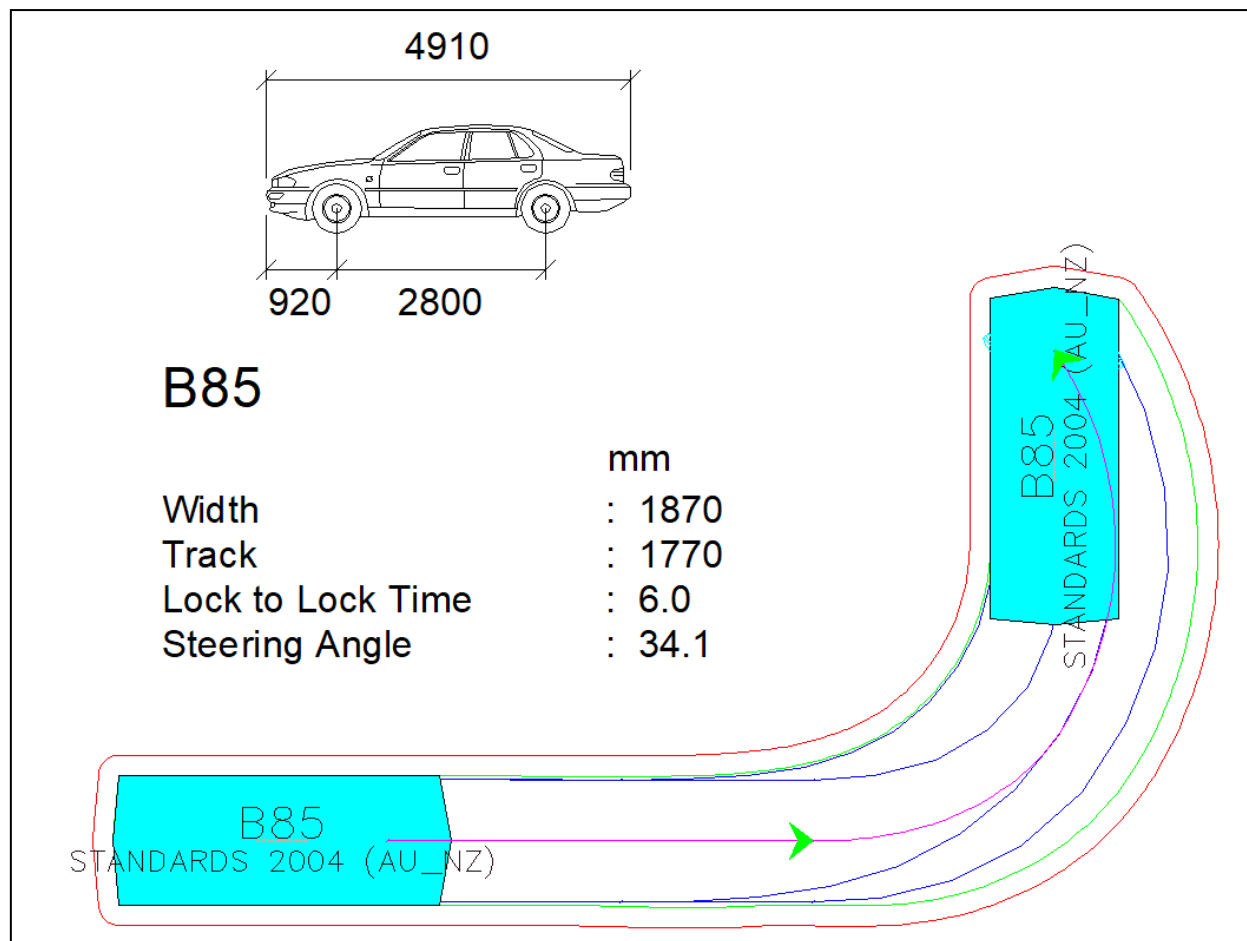
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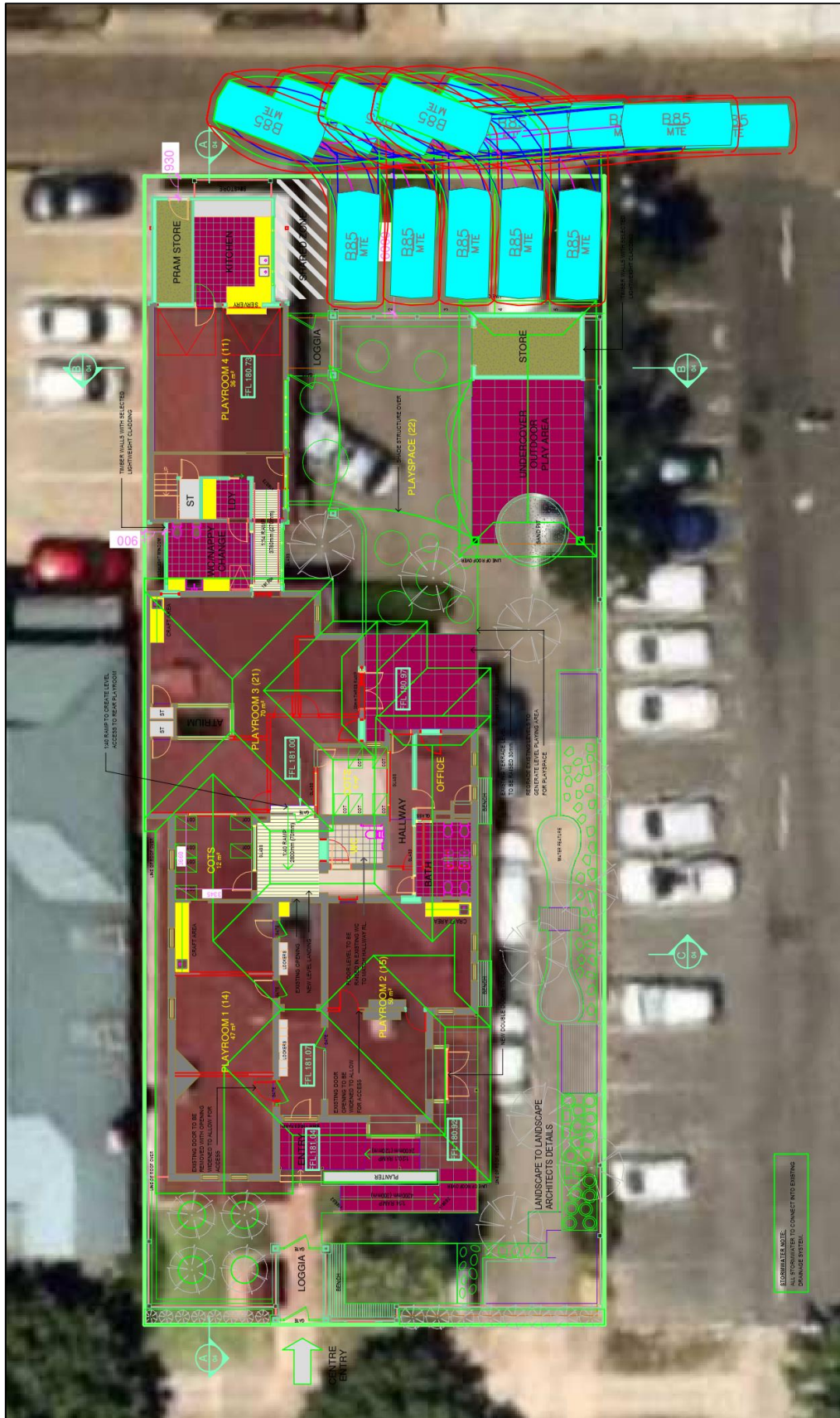


ANNEXURE D: SWEEP PATH TESTING
(3 SHEETS)



AUSTRALIAN STANDARD 85TH PERCENTILE SIZE VEHICLE (B85)

Blue – Tyre Path
 Green – Vehicle Body
 Red – 300mm Clearance



**B85 ENTRY PATHS
SUCCESSFUL (2 MOVEMENTS)**



B85 EXIT PATHS

SUCCEESSFUL (1 MOVEMENT)