



Reference: 16.367r04v2

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traffic & transport planners

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28 November 2017

Meriton Group  
Level 11, Meriton Tower  
528 Kent Street  
SYDNEY NSW 2000

Attention: Ms Norelle Jones, Senior Development Planner

**Re: Dee Why Town Centre – Child Care Centre (Eastern Tower)  
Proposed Expansion – Traffic Impact Statement**

Dear Norelle,

We refer to the subject proposal and confirm that TRAFFIX has been commissioned to prepare this Traffic Impact Statement to accompany a Section 96 Application. We understand that approval is sought to increase the capacity of the approved child care centre at the eastern tower of Dee Why Town Centre from 130 placements to 159 placements.

Having reviewed the parking requirements and assessed the traffic impacts of the proposal, we now advise as follows.

#### Existing Conditions

##### Site and Location

The site accommodates the approved Dee Why Town Centre, which is situated between Oaks Avenue and Howard Avenue, immediately east of Pittwater Road. When fully constructed, the development will comprise of two attached buildings up to 17 storeys and accommodates residential, retail, commercial and child care land uses.

Dee Why Town Centre will be afforded three levels of basement car parking containing a total of 1,035 parking spaces. Vehicular access is to be provided by a left-in / left-out driveway at Howard Street, adjacent to the eastern site boundary, and by an unrestricted access at Oaks Avenue, towards the western site boundary. The site will also accommodate separate loading facilities accessed independently from Oaks Avenue.

The subject development area consists of a tenancy on the eastern tower of Dee Why Town Centre which has approval for operation of a child care centre with capacity for 130 placements. This tenancy was also afforded an allocation for 24 car parking spaces situated within the basement car park.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**.

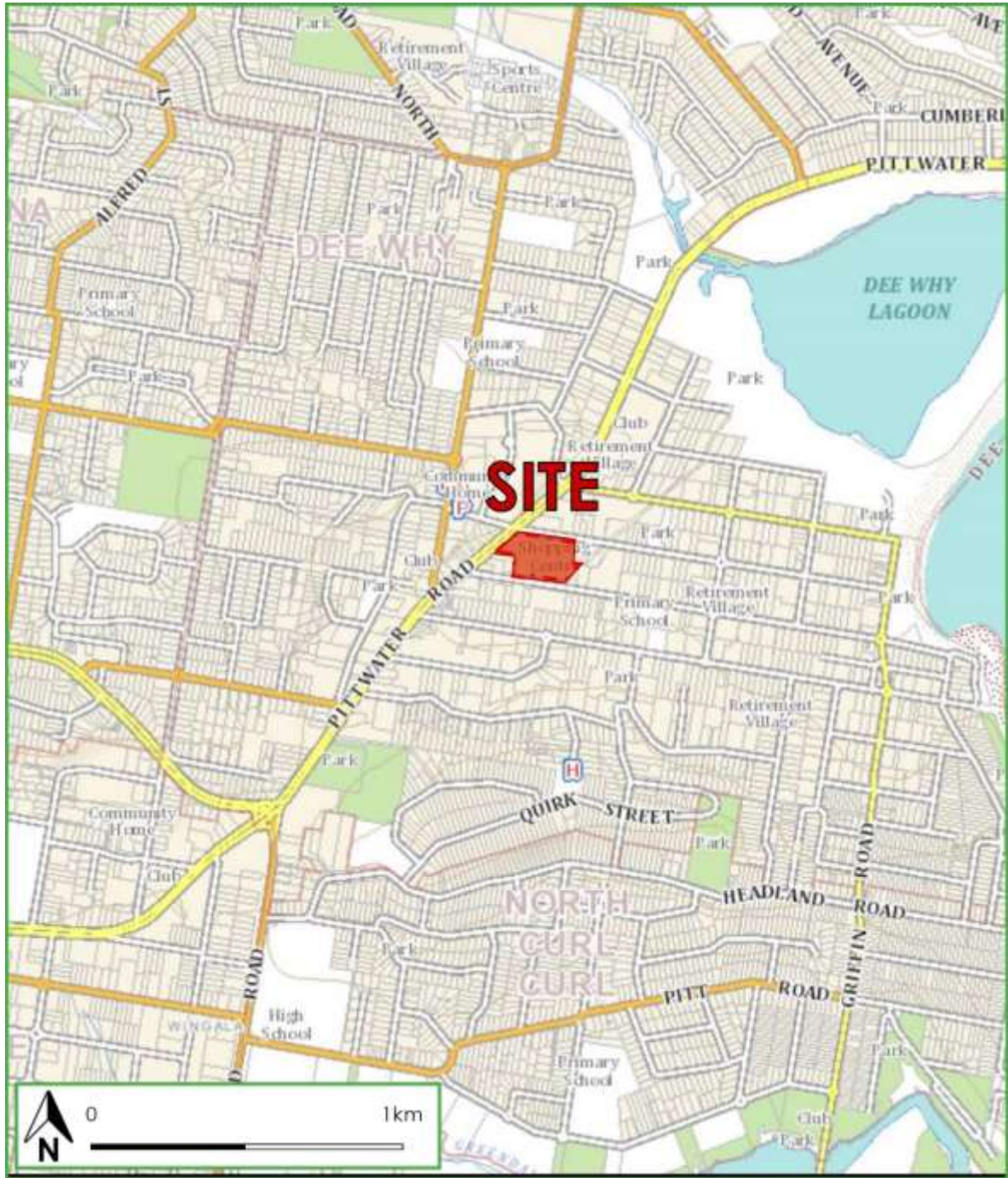


Figure 1: Location Plan



Figure 2: Site Plan



### Road Network

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

- **Pittwater Road:** an RMS Main Road (MR164) that generally runs in a north-south direction between Barrenjoey Road in the north and Condamine Street to the south (it continues northwest of Barrenjoey Road as a local road). In the vicinity of the site, Pittwater Road accommodates three lanes of traffic in each direction within a divided carriageway, where auxiliary turn lanes are provided for key intersections. Approval has been granted to upgrade the intersection of Oaks Avenue that would increase the right turn bay length from Fisher Road to Sturdee Parade.  
  
Bus lanes are operational on the eastern and western kerbside lanes during morning and evening peak periods respectively, with parking generally permissible during other times.
- **Howard Avenue:** a local road that runs in an east-west direction between The Strand in the east and Pittwater Road to the west. It generally accommodates a single lane of traffic in each direction within an undivided carriageway. Howard Avenue forms a signalised intersection with Pittwater Road and St David Avenue, where right movements from Pittwater Road into Howard Avenue are prohibited. A median is to be constructed on Howard Avenue that would restrict site specific traffic to a left-in / left-out arrangement.
- **Oaks Avenue:** a local road that runs in an east-west direction between Monash Parade in the east and Pittwater Road to the west. It generally accommodates a single lane of traffic in each direction within an undivided carriageway. Two approach lanes are provided on Oaks Avenue at the intersection of Pittwater Road which must turn left only. It is understood that Council intends to relocate a pedestrian crossing adjacent to the Dee Why Town Centre access (from approximately 130m east of the access location).

It can be seen from **Figure 3** that the site is conveniently located with respect to the arterial and local road systems serving the region. It is therefore able to effectively distribute traffic onto the wider road network, minimising traffic impacts.

### Public Transport

The public transport network operating in the locality is shown illustrated in Figure 4. It is evident that bus stops on Pittwater Road and Howard Avenue are within 200 metres walking distance from the site, which are serviced by an extensive number of routes. Connections are provided to key employment centres such as the Sydney central business district and Chatswood as well as the surrounding region.

As part of the Northern Beaches Transport Access Plan, Transport for NSW has announced that new public transport interchanges will be built, including at Dee Why, opposite the subject site. This interchange will be served by the introduction new services that will be known as the Bus Rapid Transit, which will be supported by bus bays and continuous bus lanes. These initiatives are anticipated to encourage the uptake of public transport and reduce private car dependency.

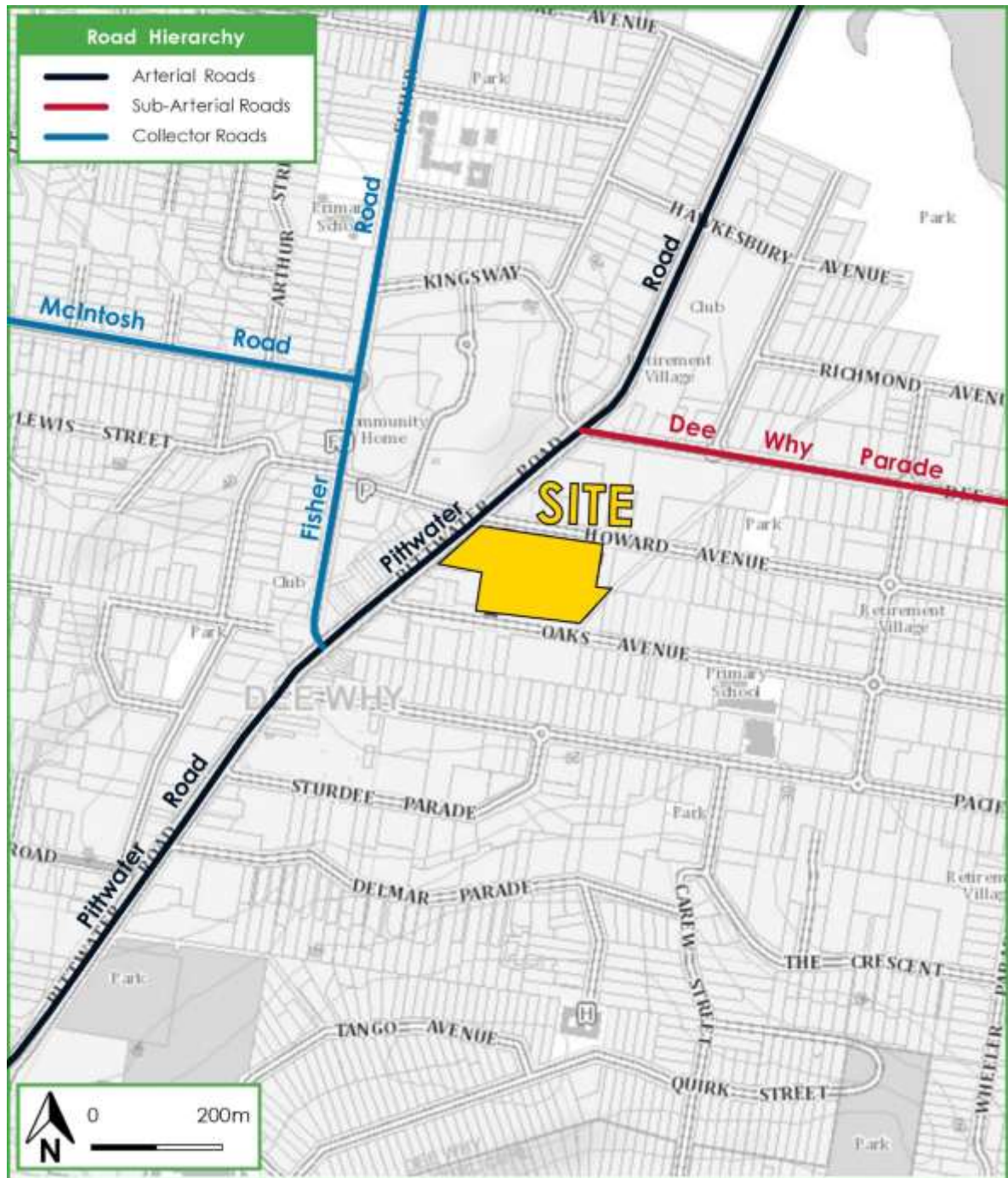


Figure 3: Road Hierarchy

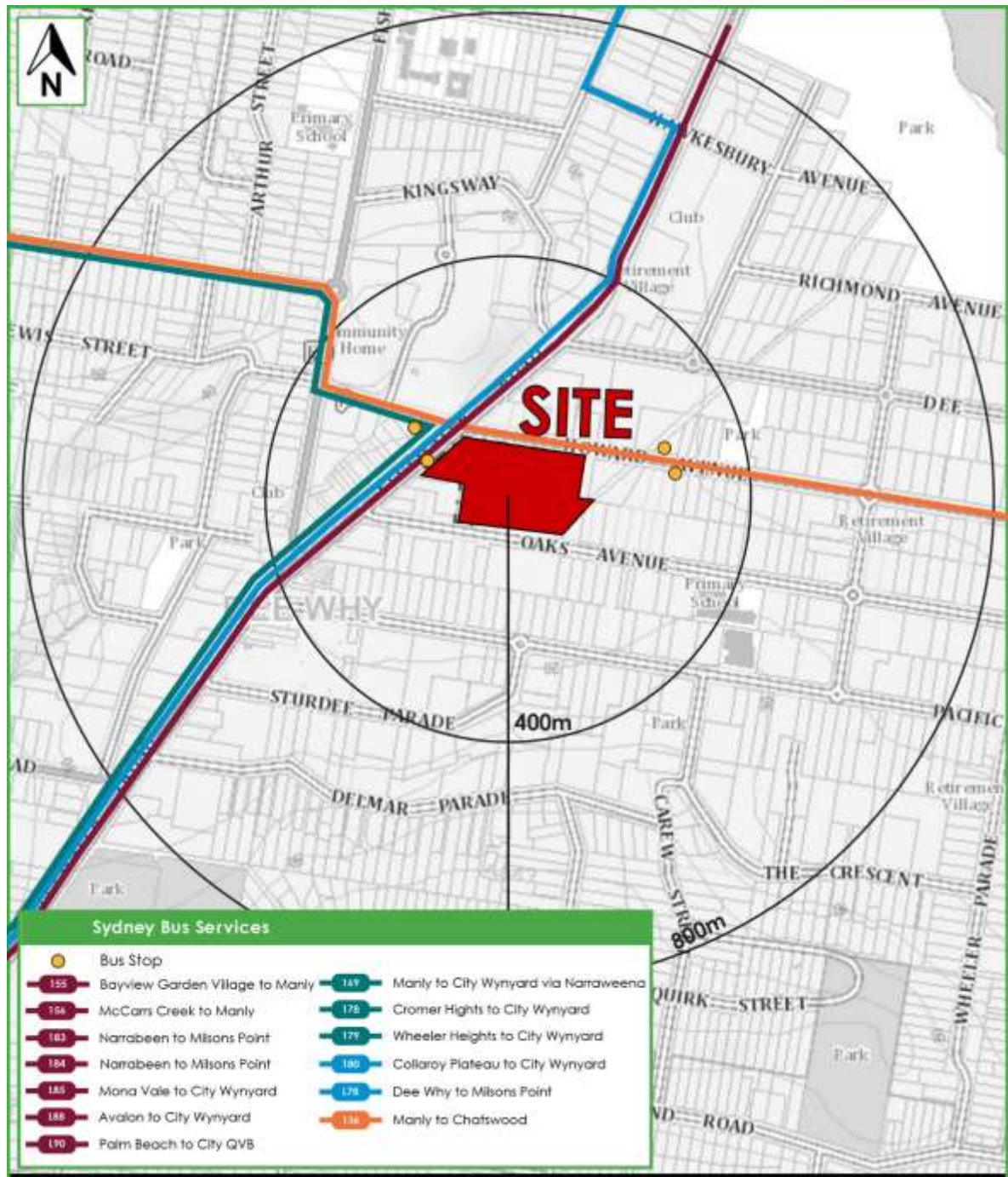


Figure 4: Public Transport



## Proposal

A full description of the proposed development can be found in the Statement of Environmental Effects prepared separately. In summary, a Section 96 Application seeks approval to increase the capacity of the approved child care centre at the eastern tower from 130 placements to 159 placements. The tenancy will be afforded an additional six (6) parking spaces and will have access to a total pool of 30 spaces.

The approved operating hours for the development will be retained, which are from 7:00am to 7:00pm.

The parking requirements and traffic impacts associated with the additional 39 placements are discussed below.

## Parking Requirements

### Car Parking

The *Warringah Development Control Plan (DCP) 2011* requires parking for child care centre uses to be provided at the rates shown listed in **Table 1**.

**Table 1: Council Parking Rates and Provision**

Type	Number	Parking Rate	Spaces Required
Child Care Centre	29	1 space for every 4 children	7

It can be seen that under the DCP, the proposed addition of 29 placements will result in a nominal requirement for seven (7) parking spaces. However, the prior approval for the child care centre took into consideration its location within the Dee Why Town Centre, whereby a reduction rate of 25% was agreed having regard for accessibility of the development to nearby residents as well as proximity to public transport services.

On this basis, the reduction would reduce the DCP requirement to six (6) parking spaces (when rounding up to the nearest whole number). In this regard, the allocation of an additional six (6) parking spaces within the basement car park is expected to satisfactorily accommodate all additional demands generated by the additional 29 placements.

### Accessible Parking

The DCP does not stipulate any specific requirements to provide accessible parking for child care centres. Nonetheless, Dee Why Town Centre contains 11 accessible parking spaces that are non-residential and would be available for use by parents.

### Bicycle Parking

The DCP does not stipulate any specific requirements to provide bicycle parking for child care centres. Nonetheless the Dee Why Town Centre development provides bicycle parking facilities which may be of benefit to staff for the proposed child care centre.



### Service Vehicle Parking

It is anticipated that servicing and waste collection for the proposed child care centre will be accommodated by the in-house loading facilities provided for the Dee Why Town Centre, which include a separate and dedicated loading area accessed off Oaks Avenue. It is proposed that any additional demands of the expanded child care centre be catered for by these facilities.

## **📍 Traffic Impacts**

### Trip Generation

The RMS *Guide to Traffic Generating Developments* provides traffic generation rates for various types of child care centres in the Sydney region. For a long-day care centre, it recommends an hourly trip generation rate of 0.8 vehicle trips per child during the AM peak period and 0.7 vehicle trips per child during the PM peak period.

When previously assessing the approved child care centre, Council has stipulated a site specific trip generation rate of 0.6 vehicle trips per child during the AM peak period and 0.525 vehicle trips per child during the PM peak period. This 25% reduction over the RMS guideline rate still remains appropriate, having regard for trips either being redundant with parents residing at Dee Why Town Centre, or by trips already being accounted for by employees of other developments on-site.

Application of these reduced rates results in the following traffic generation associated with the additional 29 placements:

- 17 vehicle trips per hour during the AM peak period; and
- 15 vehicle trips per hour during the PM peak period.

During both AM and PM peak periods, it is assumed that these volumes would be split with equal parents arriving and departing.

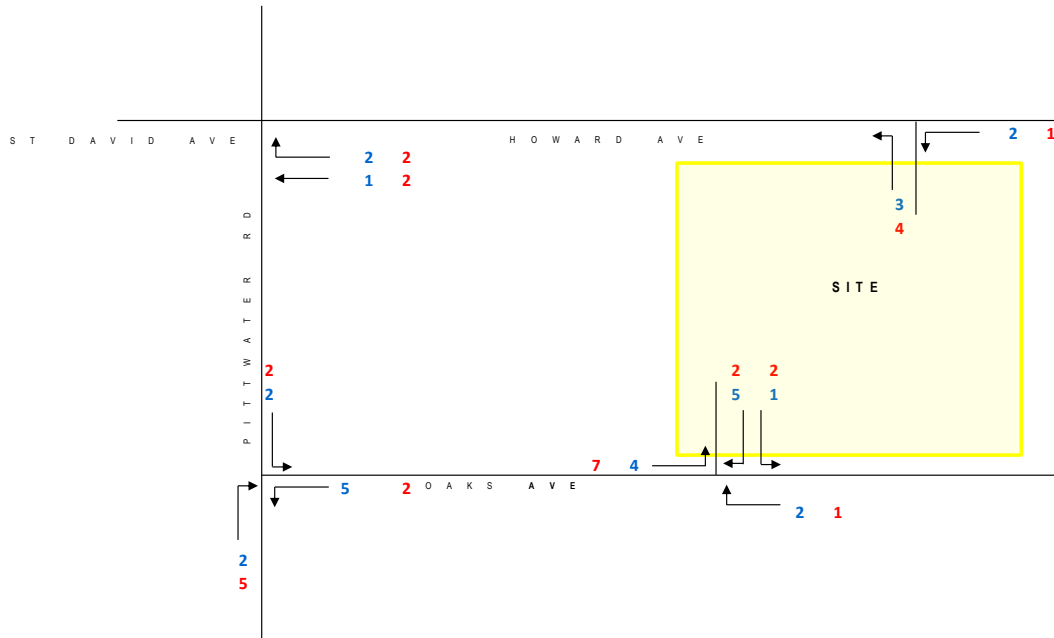
### Distributions

After observing the local road network, it is apparent that Howard Avenue would provide the only convenient means to access streets west of Pittwater Road, continuing as St David Avenue (a right turn is prohibited onto Fisher Road, south of Oaks Avenue). This is relevant for parents of the child care centre, whom would typically reside within close proximity of the site, as opposed to staff for Dee Why Town Centre, whom would likely use Oaks Avenue to access Pittwater Road.

Before dropping off or immediately after picking up a child, it is thus expected that the majority of parents would enter/exit the site from the Howard Avenue access, or exit left on Oaks Avenue if they reside east of the site. Reliance on the Oaks Avenue access to or from Pittwater Road would thus be mostly limited to parents departing to work in the morning after dropping of their child, or only when arriving to pick-up their child in the evening.

The net changes in traffic volumes arising from the additional 29 placements have subsequently been distributed as shown in **Figure 1** and are based on the percentage splits outlined in **Attachment 1**.





**Figure 5: Distributions**

### Intersection Performance

Based on previous modelling undertaken for the Dee Why Town Centre, the intersections considered most sensitive are:

- The intersection of Pittwater Road and Oaks Avenue
- The site access at Oaks Avenue

SIDRA Intersection (Version 7.0) software been used to model these two intersections has a network for the following two scenarios:

- An approved scenario which includes base case traffic volumes generated by the approved Dee Why Centre (inclusive of a subsequent approved change of use application for a child care centre at the western tower).
- A future scenario which adds the development traffic associated with the additional 29 placements as illustrated in Figure 5.

As previously requested by Council, a planned relocation of pedestrian crossing adjacent to the Oaks Avenue site access has been incorporated into the network model.

A summary of the critical parameters as per RMS guidelines are provided below in **Table 2**. Reference should also be made to the SIDRA outputs provided in **Attachment 2** which provide detailed results for individual lanes and approaches.



**Table 2: Intersection Performance: AM and PM Peak Hour**

Intersection Description	Control Type	Model	Period	Degree of Saturation	Intersection Delay* (sec)	Level of Service
Oaks Avenue / Site Access	Priority*	Approved	AM	0.097	6.2	A
			PM	0.571	12.5	A
		Future	AM	0.116	6.4	A
			PM	0.605	13.3	A
Pittwater Road / Oaks Avenue**	Signal	Approved	AM	0.883	17.3	B
			PM	0.924	19.9	B
		Future	AM	0.912	18.8	B
			PM	0.940	21.0	B

\* Movement with largest delay shown in accordance with RMS guidelines.

\*\* Intersection assessed under present arrangement, prior to planning upgrade for right turn bay at Pittwater Road.

It can be seen from Table 2 that the addition of 29 placements will have minimal effects on delays to these intersections, with a maximum increase of 1.5 seconds. Furthermore, both intersections will continue to operate at a Level of Service of B or greater, indicating acceptable overall performance.

While detailed SIDRA outputs indicate that average delays for right turns from Pittwater Road into Oaks Avenue will increase by 9.0 seconds and 6.2 seconds for AM and PM peak periods respectively, it is understood that plans to increase the length of the right turn bay from Fisher Road to Sturdee Parade to approximately 270 metres. This would account for the largest 95<sup>th</sup> percentile queue experienced during the PM peak period for a future scenario, and as such the Level of Service for this individual movement is expected to improve substantially and with the additional delays to be less pronounced.

It is also noted that all movements within the Oaks Avenue site access perform at a Level of Service of A and will experience a 95<sup>th</sup> percentile queue length that is equivalent to two vehicle lengths.

Furthermore, the assessed volumes are considered to be conservative in light of the following site specific operating characteristics:

- The child care centre will close at 7:00pm, thereby spreading the evening peak traffic across a three-hour period (from 4:00pm).
- The base case volumes are representative of a traditional Thursday late night trading scenario despite the major tenancy being a supermarket, which operating late every day, has more even customer demands throughout the week.

Accordingly, the traffic impacts associated with the proposed additional 29 placements are considered to have minimal impacts on the local road network.



## Summary

In summary, the proposed expanded child care centre is expected to operate satisfactorily, with parking demands accommodated on-site and with minimal traffic impacts to the local road network. Support is therefore given on transport planning grounds.

We trust the above is of assistance and please contact the undersigned should you have any queries or require any further information.

Yours faithfully,

**traffix**

Kedar Ballurkar  
**Senior Engineer**

Attachments: 1) Distributions  
2) SIDRA Outputs



# Attachment 1

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## Distributions



**Land Use**

Child Care Centre

Capacity: 29 children

AM Rate: 0.6 vehicle trips per child

PM Rate: 0.525 vehicle trips per child

**Traffic Generation**

AM Traffic Generation: 17 vehicle trips per hour

PM Traffic Generation: 15 vehicle trips per hour

**Split**

AM Split  
50% IN  
50% OUT

PM Split  
50% IN  
50% OUT

AM IN 9  
AM OUT 9

PM IN 8  
PM OUT 8

**Distributions - AM IN**

Pittwater Road - North (Oaks Avenue)	25%	2 vehicle trips per hour
Pittwater Road - South (Oaks Avenue)	25%	2 vehicle trips per hour
Oaks Avenue - East	25%	2 vehicle trips per hour
Howard Avenue - West	25%	2 vehicle trips per hour

**Distributions - AM OUT**

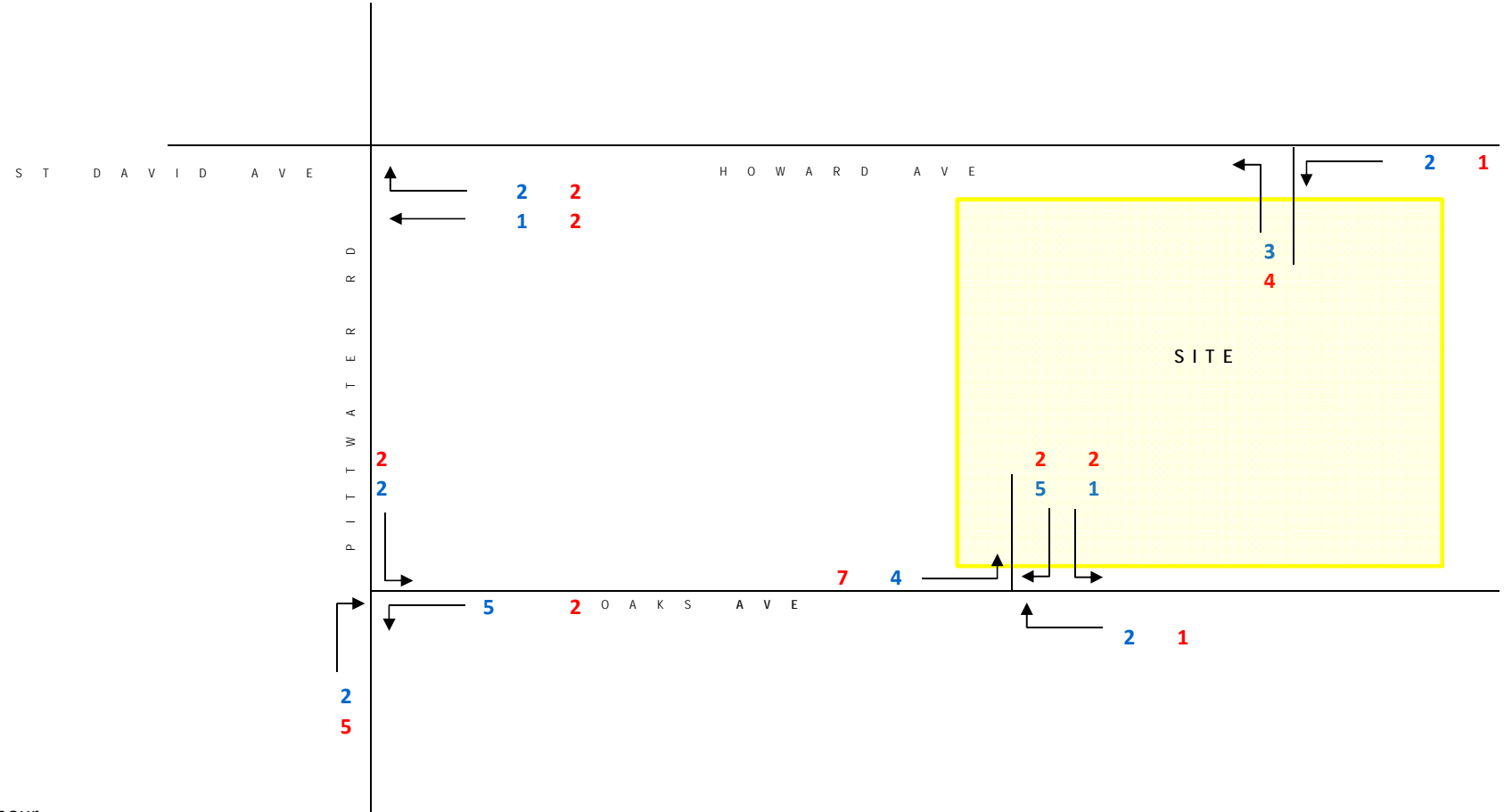
Pittwater Road - North (Howard Avenue)	20%	2 vehicle trips per hour
Pittwater Road - South (Oaks Avenue)	60%	5 vehicle trips per hour
Oaks Avenue - East	10%	1 vehicle trips per hour
St David Avenue - West	10%	1 vehicle trips per hour

**Distributions - PM IN**

Pittwater Road - North (Oaks Avenue)	20%	2 vehicle trips per hour
Pittwater Road - South (Oaks Avenue)	60%	5 vehicle trips per hour
Oaks Avenue - East	10%	1 vehicle trips per hour
Howard Avenue - West	10%	1 vehicle trips per hour

**Distributions - PM OUT**

Pittwater Road - North (Howard Avenue)	25%	2 vehicle trips per hour
Pittwater Road - South (Oaks Avenue)	25%	2 vehicle trips per hour
Oaks Avenue - East	25%	2 vehicle trips per hour
St David Avenue - West	25%	2 vehicle trips per hour





## Attachment 2

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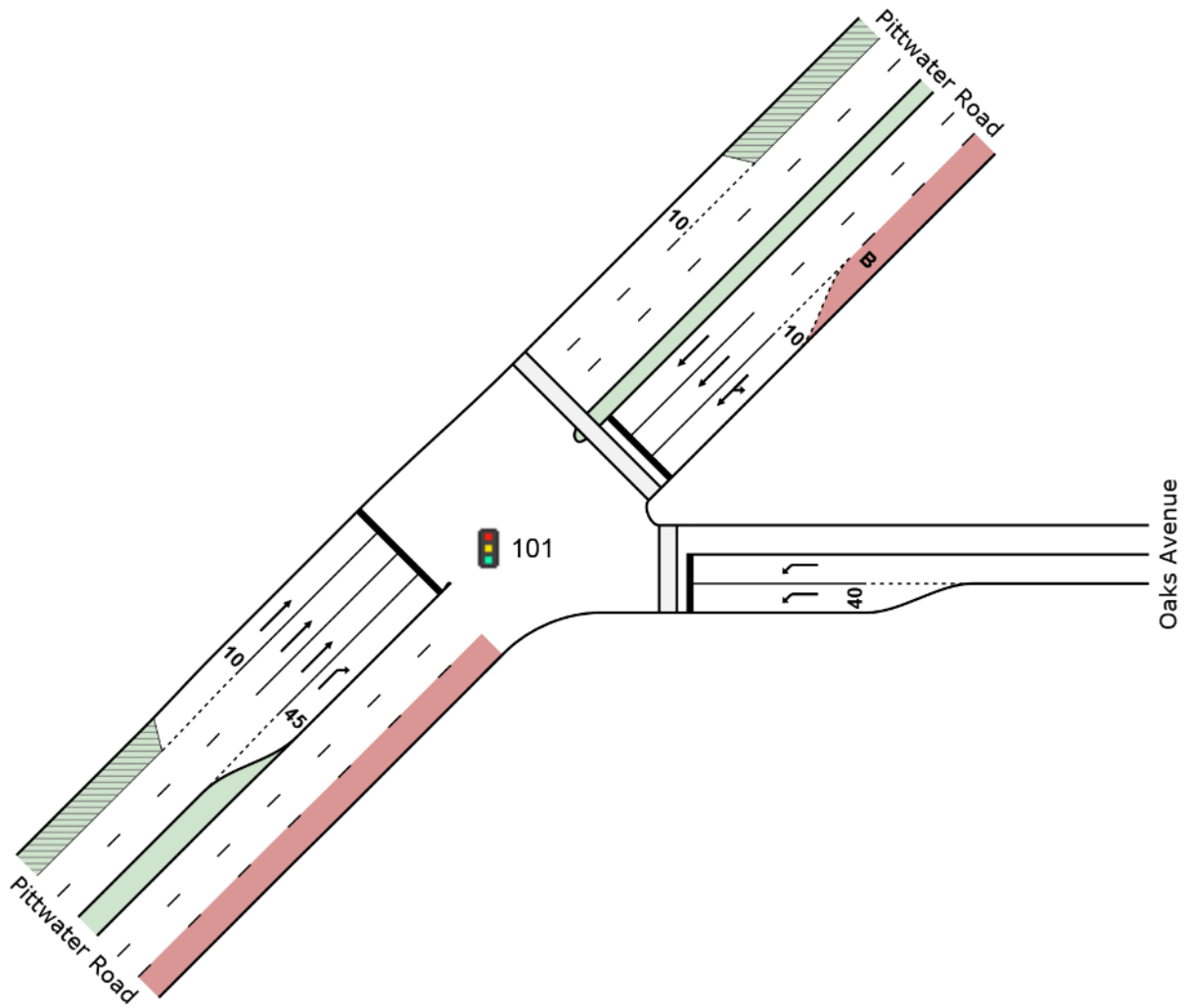
SIDRA Outputs



# SITE LAYOUT

 Site: 101 [1. Pittwater Road / Oaks Avenue - Approved AM]

Signals - Fixed Time Isolated

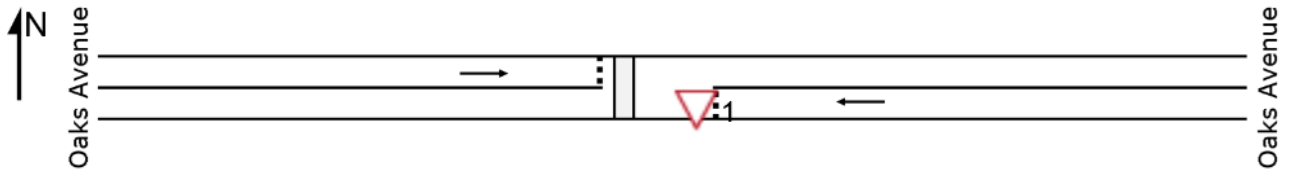


# SITE LAYOUT

▽ Site: 1 [3. Zebra Crossing / Oaks Avenue - Approved PM]

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Giveway / Yield (Two-Way)



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SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: TRAFFIX PTY LTD | Created: Thursday, 23 November 2017 6:09:05 PM  
Project: T:\Synergy\Projects\16\16.367\Modelling\16.367m02v06 - Proposed Child Care Centre.sip7

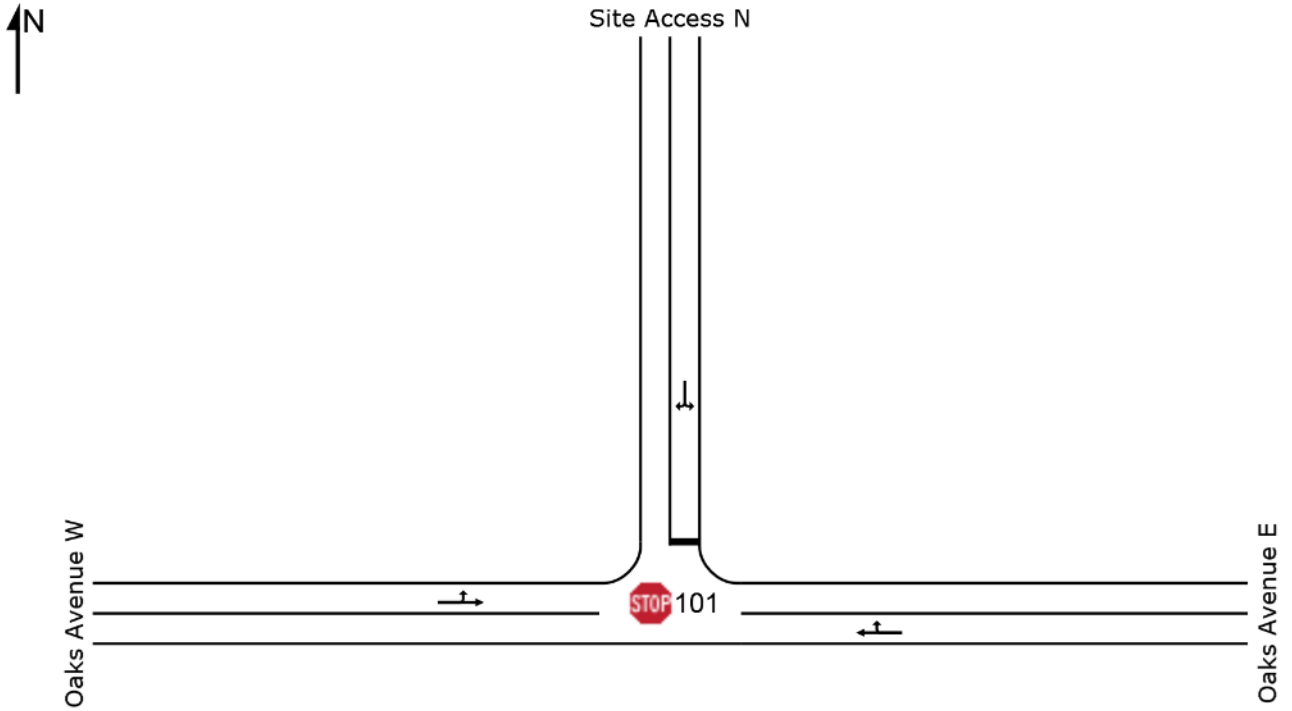


# SITE LAYOUT

 Site: 101 [2. Oaks Avenue / Site Access - Approved AM]

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Stop (Two-Way)

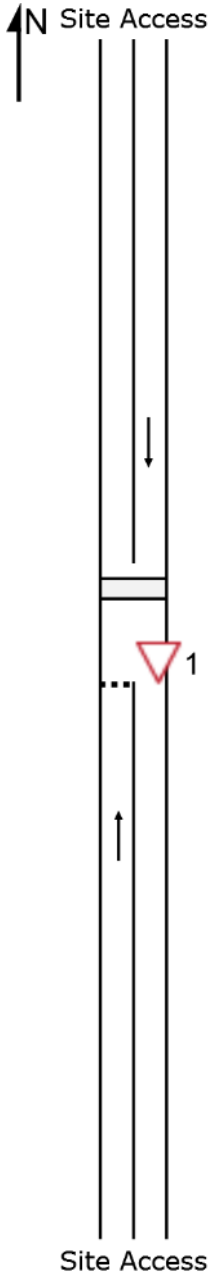


# SITE LAYOUT

## ▽ Site: 1 [3. Site Access / Pedestrian Footpath - Approved AM]

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Giveway / Yield (Two-Way)



# MOVEMENT SUMMARY

Site: 101 [1. Pittwater Road / Oaks Avenue - Approved AM] Network: N101 [Approved AM]

Signals - Fixed Time Isolated Cycle Time = 110 seconds (User-Given Phase Times)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oaks Avenue													
4a	L1	191	2.7	191	2.7	0.233	40.5	LOS C	4.2	30.4	0.86	0.73	11.7
Approach		191	2.7	191	2.7	0.233	40.5	LOS C	4.2	30.4	0.86	0.73	11.7
NorthEast: Pittwater Road													
24b	L3	134	2.8	134	2.8	0.459	13.5	LOS A	1.5	12.7	0.39	0.59	24.0
25	T1	1753	5.0	1753	5.0	0.745	11.5	LOS A	33.1	238.4	0.65	0.61	29.4
Approach		1886	4.8	1886	4.8	0.745	11.6	LOS A	33.1	238.4	0.64	0.61	29.0
SouthWest: Pittwater Road													
31	T1	860	5.0	860	5.0	0.232	0.4	LOS A	1.5	10.7	0.14	0.13	57.6
32a	R1	444	3.5	444	3.5	0.883	64.3	LOS E	26.5	191.3	1.00	1.20	4.1
Approach		1304	4.5	1304	4.5	0.883	22.2	LOS B	26.5	191.3	0.44	0.49	17.2
All Vehicles		3381	4.6	3381	4.6	0.883	17.3	LOS B	33.1	238.4	0.57	0.57	21.9

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.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.0 %

Number of Iterations: 6 (maximum specified: 10)

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	8.4	LOS A	0.1	0.1	0.39	0.39	
P6	NorthEast Full Crossing	53	48.3	LOS E	0.2	0.2	0.94	0.94	
All Pedestrians		105	28.4	LOS C			0.67	0.67	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: 1 [3. Zebra Crossing / Oaks Avenue - Approved PM]

Network: N101 [Approved AM]

Giveway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows 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: Oaks Avenue													
8	T1	117	2.9	117	2.9	0.094	2.8	LOS A	0.3	2.5	0.29	0.43	36.9
Approach		117	2.9	117	2.9	0.094	2.8	LOS A	0.3	2.5	0.29	0.43	36.9
West: Oaks Avenue													
2	T1	266	3.9	266	3.9	0.216	1.8	LOS A	0.9	6.4	0.32	0.43	38.4
Approach		266	3.9	266	3.9	0.216	1.8	LOS A	0.9	6.4	0.32	0.43	38.4
All Vehicles		383	3.6	383	3.6	0.216	2.1	NA	0.9	6.4	0.31	0.43	37.9

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: Akçelik M1.

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

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.0 %

Number of Iterations: 6 (maximum specified: 10)

# MOVEMENT SUMMARY

 Site: 101 [2. Oaks Avenue / Site Access - Approved AM]

 Network: N101 [Approved AM]

Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oaks Avenue E													
5	T1	84	4.0	84	4.0	0.076	0.8	LOS A	0.3	1.9	0.26	0.15	23.1
6	R2	33	0.0	33	0.0	0.076	3.7	LOS A	0.3	1.9	0.26	0.15	23.1
Approach		117	2.9	117	2.9	0.076	1.6	NA	0.3	1.9	0.26	0.15	23.1
North: Site Access N													
7	L2	9	0.0	9	0.0	0.097	4.3	LOS A	0.4	2.9	0.50	0.90	7.0
9	R2	60	0.0	60	0.0	0.097	6.2	LOS A	0.4	2.9	0.50	0.90	7.0
Approach		69	0.0	69	0.0	0.097	5.9	LOS A	0.4	2.9	0.50	0.90	7.0
West: Oaks Avenue W													
10	L2	182	0.0	182	0.0	0.254	3.5	LOS A	0.0	0.0	0.00	0.19	35.3
11	T1	257	4.0	257	4.0	0.254	0.0	LOS A	0.0	0.0	0.00	0.19	35.3
Approach		439	2.3	439	2.3	0.254	1.4	NA	0.0	0.0	0.00	0.19	35.3
All Vehicles		625	2.2	625	2.2	0.254	2.0	NA	0.4	2.9	0.10	0.26	32.1

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.0 %

Number of Iterations: 6 (maximum specified: 10)

# MOVEMENT SUMMARY

Site: 1 [3. Site Access / Pedestrian Footpath - Approved AM]

Network: N101 [Approved AM]

Giveway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Site Access													
2	T1	215	0.0	215	0.0	0.215	2.1	LOS A	0.8	5.9	0.48	0.46	21.0
Approach		215	0.0	215	0.0	0.215	2.1	LOS A	0.8	5.9	0.48	0.46	21.0
North: Site Access													
8	T1	69	0.0	69	0.0	0.070	1.7	LOS A	0.2	1.7	0.43	0.33	28.7
Approach		69	0.0	69	0.0	0.070	1.7	NA	0.2	1.7	0.43	0.33	28.7
All Vehicles		284	0.0	284	0.0	0.215	2.0	NA	0.8	5.9	0.46	0.43	22.3

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.

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: Akçelik M1.

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

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.0 %

Number of Iterations: 6 (maximum specified: 10)

# MOVEMENT SUMMARY

 Site: 101 [2. Oaks Avenue / Site Access - Approved PM]

 Network: N101 [Approved PM]

Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oaks Avenue E													
5	T1	122	4.0	122	4.0	0.080	0.4	LOS A	0.1	1.1	0.13	0.05	29.0
6	R2	15	0.0	15	0.0	0.080	4.2	LOS A	0.1	1.1	0.13	0.05	29.0
Approach		137	3.6	137	3.6	0.080	0.8	NA	0.1	1.1	0.13	0.05	29.0
North: Site Access N													
7	L2	57	0.0	57	0.0	0.571	9.4	LOS A	1.4	9.9	0.73	1.41	4.1
9	R2	287	0.0	287	0.0	0.571	12.5	LOS A	1.4	9.9	0.73	1.41	4.1
Approach		344	0.0	344	0.0	0.571	12.0	LOS A	1.4	9.9	0.73	1.41	4.1
West: Oaks Avenue W													
10	L2	126	0.0	126	0.0	0.296	3.5	LOS A	0.0	0.0	0.00	0.11	37.0
11	T1	394	4.0	394	4.0	0.296	0.0	LOS A	0.0	0.0	0.00	0.11	37.0
Approach		520	3.0	520	3.0	0.296	0.8	NA	0.0	0.0	0.00	0.11	37.0
All Vehicles		1001	2.1	1001	2.1	0.571	4.7	NA	1.4	9.9	0.27	0.55	23.2

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.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

# MOVEMENT SUMMARY

Site: 1 [3. Zebra Crossing / Oaks Avenue - Approved AM]

Network: N101 [Approved PM]

Giveway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oaks Avenue													
8	T1	137	3.6	137	3.6	0.111	2.8	LOS A	0.4	3.0	0.29	0.43	36.9
Approach		137	3.6	137	3.6	0.111	2.8	LOS A	0.4	3.0	0.29	0.43	36.9
West: Oaks Avenue													
2	T1	451	3.5	451	3.5	0.364	2.0	LOS A	1.8	12.7	0.38	0.46	38.3
Approach		451	3.5	451	3.5	0.364	2.0	LOS A	1.8	12.7	0.38	0.46	38.3
All Vehicles		587	3.5	587	3.5	0.364	2.2	NA	1.8	12.7	0.36	0.46	37.9

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: Akçelik M1.

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

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)



# MOVEMENT SUMMARY

Site: 101 [1. Pittwater Road / Oaks Avenue - Approved AM] Network: N101 [Approved PM]

Signals - Fixed Time Isolated Cycle Time = 110 seconds (User-Given Phase Times)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oaks Avenue													
4a	L1	452	1.8	452	1.8	0.599	43.7	LOS D	10.9	77.6	0.94	0.80	11.1
Approach		452	1.8	452	1.8	0.599	43.7	LOS D	10.9	77.6	0.94	0.80	11.1
NorthEast: Pittwater Road													
24b	L3	174	4.1	174	4.1	0.201	13.5	LOS A	3.4	24.4	0.39	0.70	22.9
25	T1	1164	5.0	1164	5.0	0.795	12.6	LOS A	38.2	272.7	0.72	0.67	28.1
Approach		1338	4.9	1338	4.9	0.795	12.7	LOS A	38.2	272.7	0.68	0.67	27.4
SouthWest: Pittwater Road													
31	T1	1380	5.0	1380	5.0	0.395	0.5	LOS A	3.1	22.3	0.18	0.16	57.1
32a	R1	489	4.0	489	4.0	0.924	72.2	LOS F	31.1	225.6	1.00	1.26	3.7
Approach		1869	4.7	1869	4.7	0.924	19.3	LOS B	31.1	225.6	0.39	0.45	19.7
All Vehicles		3659	4.4	3659	4.4	0.924	19.9	LOS B	38.2	272.7	0.57	0.57	19.8

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.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	8.4	LOS A	0.1	0.1	0.39	0.39	
P6	NorthEast Full Crossing	53	48.3	LOS E	0.2	0.2	0.94	0.94	
All Pedestrians		105	28.4	LOS C			0.67	0.67	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: 1 [3. Site Access / Pedestrian Footpath - Approved PM]

Network: N101 [Approved PM]

Giveway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Site Access													
2	T1	238	0.0	238	0.0	0.243	2.5	LOS A	0.9	6.6	0.48	0.52	22.4
Approach		238	0.0	238	0.0	0.243	2.5	LOS A	0.9	6.6	0.48	0.52	22.4
North: Site Access													
8	T1	47	0.0	47	0.0	0.048	1.6	LOS A	3.2	22.6	0.42	0.31	22.3
Approach		47	0.0	47	0.0	0.048	1.6	NA	3.2	22.6	0.42	0.31	22.3
All Vehicles		285	0.0	285	0.0	0.243	2.3	NA	3.2	22.6	0.47	0.49	22.4

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

# MOVEMENT SUMMARY

Site: 101 [1. Pittwater Road / Oaks Avenue - Future AM]

Network: N101 [Future AM]

Signals - Fixed Time Isolated Cycle Time = 110 seconds (User-Given Phase Times)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oaks Avenue													
4a	L1	200	2.6	200	2.6	0.244	40.6	LOS C	4.5	32.0	0.87	0.73	11.7
Approach		200	2.6	200	2.6	0.244	40.6	LOS C	4.5	32.0	0.87	0.73	11.7
NorthEast: Pittwater Road													
24b	L3	142	2.7	142	2.7	0.484	13.5	LOS A	1.6	12.8	0.39	0.59	23.9
25	T1	1753	5.0	1753	5.0	0.748	11.5	LOS A	33.4	240.7	0.66	0.61	29.4
Approach		1895	4.8	1895	4.8	0.748	11.6	LOS A	33.4	240.7	0.64	0.61	29.0
SouthWest: Pittwater Road													
31	T1	860	5.0	860	5.0	0.232	0.4	LOS A	1.5	10.7	0.14	0.13	57.6
32a	R1	459	3.4	459	3.4	0.912	73.3	LOS F	29.6	213.2	1.00	1.25	3.6
Approach		1319	4.4	1319	4.4	0.912	25.8	LOS B	29.6	213.2	0.44	0.52	15.4
All Vehicles		3414	4.5	3414	4.5	0.912	18.8	LOS B	33.4	240.7	0.57	0.58	20.8

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.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 9 (maximum specified: 10)

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	8.4	LOS A	0.1	0.1	0.39	0.39	
P6	NorthEast Full Crossing	53	48.3	LOS E	0.2	0.2	0.94	0.94	
All Pedestrians		105	28.4	LOS C			0.67	0.67	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

 Site: 101 [2. Oaks Avenue / Site Access - Future AM]

 Network: N101 [Future AM]

Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oaks Avenue E													
5	T1	84	4.0	84	4.0	0.085	1.0	LOS A	0.3	2.2	0.29	0.17	21.6
6	R2	38	0.0	38	0.0	0.085	3.9	LOS A	0.3	2.2	0.29	0.17	21.6
Approach		122	2.8	122	2.8	0.085	1.9	NA	0.3	2.2	0.29	0.17	21.6
North: Site Access N													
7	L2	12	0.0	12	0.0	0.116	4.3	LOS A	0.5	3.5	0.51	0.91	6.9
9	R2	69	0.0	69	0.0	0.116	6.4	LOS A	0.5	3.5	0.51	0.91	6.9
Approach		81	0.0	81	0.0	0.116	6.1	LOS A	0.5	3.5	0.51	0.91	6.9
West: Oaks Avenue W													
10	L2	211	0.0	211	0.0	0.286	3.5	LOS A	0.0	0.0	0.00	0.21	34.9
11	T1	257	4.0	257	4.0	0.286	0.0	LOS A	0.0	0.0	0.00	0.21	34.9
Approach		467	2.2	467	2.2	0.286	1.6	NA	0.0	0.0	0.00	0.21	34.9
All Vehicles		671	2.0	671	2.0	0.286	2.2	NA	0.5	3.5	0.12	0.29	31.4

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 9 (maximum specified: 10)

# MOVEMENT SUMMARY

Site: 1 [3. Site Access / Pedestrian Footpath - Future PM] Network: N101 [Future AM]

Giveway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Site Access													
2	T1	248	0.0	248	0.0	0.249	2.5	LOS A	1.0	7.0	0.49	0.54	23.2
Approach		248	0.0	248	0.0	0.249	2.5	LOS A	1.0	7.0	0.49	0.54	23.2
North: Site Access													
8	T1	81	0.0	81	0.0	0.082	1.7	LOS A	0.3	2.0	0.43	0.34	30.3
Approach		81	0.0	81	0.0	0.082	1.7	NA	0.3	2.0	0.43	0.34	30.3
All Vehicles		329	0.0	329	0.0	0.249	2.3	NA	1.0	7.0	0.47	0.49	24.6

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: Akçelik M1.  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %  
 Number of Iterations: 9 (maximum specified: 10)

# MOVEMENT SUMMARY

Site: 1 [3. Zebra Crossing / Oaks Avenue - Future PM]

Network: N101 [Future AM]

Giveway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oaks Avenue													
8	T1	122	2.8	122	2.8	0.098	2.8	LOS A	0.4	2.6	0.29	0.43	36.9
Approach		122	2.8	122	2.8	0.098	2.8	LOS A	0.4	2.6	0.29	0.43	36.9
West: Oaks Avenue													
2	T1	268	3.8	268	3.8	0.217	1.8	LOS A	0.9	6.5	0.32	0.43	38.4
Approach		268	3.8	268	3.8	0.217	1.8	LOS A	0.9	6.5	0.32	0.43	38.4
All Vehicles		391	3.5	391	3.5	0.217	2.1	NA	0.9	6.5	0.31	0.43	37.9

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: Akçelik M1.

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

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 9 (maximum specified: 10)

# MOVEMENT SUMMARY

Site: 101 [1. Pittwater Road / Oaks Avenue - Future PM]

Network: N101 [Future PM]

Signals - Fixed Time Isolated Cycle Time = 110 seconds (User-Given Phase Times)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oaks Avenue													
4a	L1	464	1.8	464	1.8	0.634	43.9	LOS D	11.3	80.0	0.94	0.80	11.1
Approach		464	1.8	464	1.8	0.634	43.9	LOS D	11.3	80.0	0.94	0.80	11.1
NorthEast: Pittwater Road													
24b	L3	177	4.0	177	4.0	0.205	13.5	LOS A	3.4	24.8	0.39	0.70	22.9
25	T1	1164	5.0	1164	5.0	0.795	12.6	LOS A	38.2	273.0	0.72	0.67	28.1
Approach		1341	4.9	1341	4.9	0.795	12.8	LOS A	38.2	273.0	0.68	0.67	27.4
SouthWest: Pittwater Road													
31	T1	1380	5.0	1380	5.0	0.395	0.5	LOS A	3.1	22.3	0.18	0.16	57.1
32a	R1	498	4.0	498	4.0	0.940	78.4	LOS F	33.2	240.2	1.00	1.29	3.4
Approach		1878	4.7	1878	4.7	0.940	21.2	LOS B	33.2	240.2	0.40	0.46	18.4
All Vehicles		3683	4.4	3683	4.4	0.940	21.0	LOS B	38.2	273.0	0.57	0.58	19.1

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.

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

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	8.4	LOS A	0.1	0.1	0.39	0.39	
P6	NorthEast Full Crossing	53	48.3	LOS E	0.2	0.2	0.94	0.94	
All Pedestrians		105	28.4	LOS C			0.67	0.67	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

 Site: 101 [2. Oaks Avenue / Site Access - Future PM]

 Network: N101 [Future PM]

Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oaks Avenue E													
5	T1	122	4.0	122	4.0	0.083	0.5	LOS A	0.2	1.2	0.15	0.06	27.9
6	R2	17	0.0	17	0.0	0.083	4.3	LOS A	0.2	1.2	0.15	0.06	27.9
Approach		139	3.5	139	3.5	0.083	1.0	NA	0.2	1.2	0.15	0.06	27.9
North: Site Access N													
7	L2	61	0.0	61	0.0	0.605	10.0	LOS A	1.4	9.9	0.75	1.47	3.9
9	R2	300	0.0	300	0.0	0.605	13.3	LOS A	1.4	9.9	0.75	1.47	3.9
Approach		361	0.0	361	0.0	0.605	12.8	LOS A	1.4	9.9	0.75	1.47	3.9
West: Oaks Avenue W													
10	L2	138	0.0	138	0.0	0.309	3.5	LOS A	0.0	0.0	0.00	0.12	36.9
11	T1	394	4.0	394	4.0	0.309	0.0	LOS A	0.0	0.0	0.00	0.12	36.9
Approach		532	3.0	532	3.0	0.309	0.9	NA	0.0	0.0	0.00	0.12	36.9
All Vehicles		1032	2.0	1032	2.0	0.605	5.1	NA	1.4	9.9	0.28	0.59	22.4

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)



# MOVEMENT SUMMARY

Site: 1 [3. Site Access / Pedestrian Footpath - Future PM] Network: N101 [Future PM]

Giveway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Site Access													
2	T1	252	0.0	252	0.0	0.259	2.7	LOS A	1.0	7.1	0.49	0.55	23.0
Approach		252	0.0	252	0.0	0.259	2.7	LOS A	1.0	7.1	0.49	0.55	23.0
North: Site Access													
8	T1	64	0.0	64	0.0	0.064	1.6	LOS A	3.8	26.5	0.42	0.33	27.7
Approach		64	0.0	64	0.0	0.064	1.6	NA	3.8	26.5	0.42	0.33	27.7
All Vehicles		316	0.0	316	0.0	0.259	2.4	NA	3.8	26.5	0.48	0.51	23.8

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.  
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %  
 Number of Iterations: 7 (maximum specified: 10)

# MOVEMENT SUMMARY

Site: 1 [3. Zebra Crossing / Oaks Avenue - Future AM]

Network: N101 [Future PM]

Giveway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oaks Avenue													
8	T1	139	3.5	139	3.5	0.112	2.8	LOS A	0.4	3.0	0.29	0.43	36.9
Approach		139	3.5	139	3.5	0.112	2.8	LOS A	0.4	3.0	0.29	0.43	36.9
West: Oaks Avenue													
2	T1	455	3.5	455	3.5	0.368	2.0	LOS A	1.8	12.9	0.38	0.46	38.2
Approach		455	3.5	455	3.5	0.368	2.0	LOS A	1.8	12.9	0.38	0.46	38.2
All Vehicles		594	3.5	594	3.5	0.368	2.2	NA	1.8	12.9	0.36	0.46	37.9

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: Akçelik M1.

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

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)