

TRAFFIC & PARKING ASSESSMENT

MANUFACTURED HOME ESTATE / LIFESTYLE RESORT

**LOT 1 DP 304132
40 - 80 CHAPMANS ROAD, TUNCURRY**

PREPARED FOR: ALLAM MHE #3 OPERATIONS PTY LTD

JULY 2022

22/073

**TRAFFIC & PARKING ASSESSMENT
ALLAM MHE #3 OPERATIONS PTY LTD****MANUFACTURED HOME ESTATE / LIFESTYLE RESORT
LOT 1 DP 304132
40 - 80 CHAPMANS ROAD, TUNCURRY**

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This document has been prepared, checked, and released in accordance with the Quality Control Standards established by Intersect Traffic Pty Ltd.

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B	01/07/22	Edit	JG
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Date 2nd July 2022**Disclaimer**

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1.0 INTRODUCTION

Intersect Traffic Pty Ltd (Intersect Traffic) was engaged by Allam MHE # 3 Operations Pty Ltd to prepare a Traffic and Parking Assessment Report for a proposed manufactured home estate / lifestyle resort on Lot 1 DP 304132, 40 - 80 Chapmans Road, Tuncurry. The resort yields 88 manufactured home sites ranging in size from 288.7 m² to 345.5 m² with an average size of 310.9 m². The development will include a community clubhouse and recreational facilities centrally located at the entrance to the development. A local road (11 metre wide pavement within a 20 metre road reserve) will be constructed within a new road reserve in the eastern section of the site to provide access to the site from Chapmans Road. This will become part of a larger collector road in the future connecting to future development to the south of the site. The development concept site plan is shown in **Attachment A**.

This report is required to support a development application to MidCoast Council and presents the findings of the traffic and parking assessment including the following:

1. An outline of the existing situation in the vicinity of the site.
2. An assessment of the traffic impacts of the proposed development including the predicted traffic generation and its impact on existing road and intersection capacities.
3. Reviews parking, public transport, pedestrian, and cycle way requirements for the proposed development, including assessment against Council, Local Government Regulations, Australian Standards and Transport for NSW (TfNSW) standards and requirements; and
4. Presentation of conclusions and recommendations.

2.0 SITE DESCRIPTION

The subject site is shown in **Figure 1** below. It is located on the southern side of Chapmans Road, Tuncurry approximately 520 metres west of The Lakes Way. The site is near Tuncurry racecourse and is approximately 2.7 km's and 3.8 km's north-east of the Tuncurry and Forster CBD areas, respectively.

The site is currently vacant with some derelict buildings associated with a previous use of the site and is addressed as 40 - 80 Chapmans Road, Tuncurry. The property is titled Lot 1 DP 304132 and has a total area of approximately 6.07 ha's however the development footprint is only 5.05 ha's. The site is currently zoned R2 – Low Density Residential and C2 – Environmental Conservation pursuant to the Great Lakes LEP (2014). The site currently is serviced by a 5 metre wide sealed access crossing to Chapmans Road located mid-block. The development site and the existing access from Chapmans Road are shown in **Photographs 1 & 2** below.

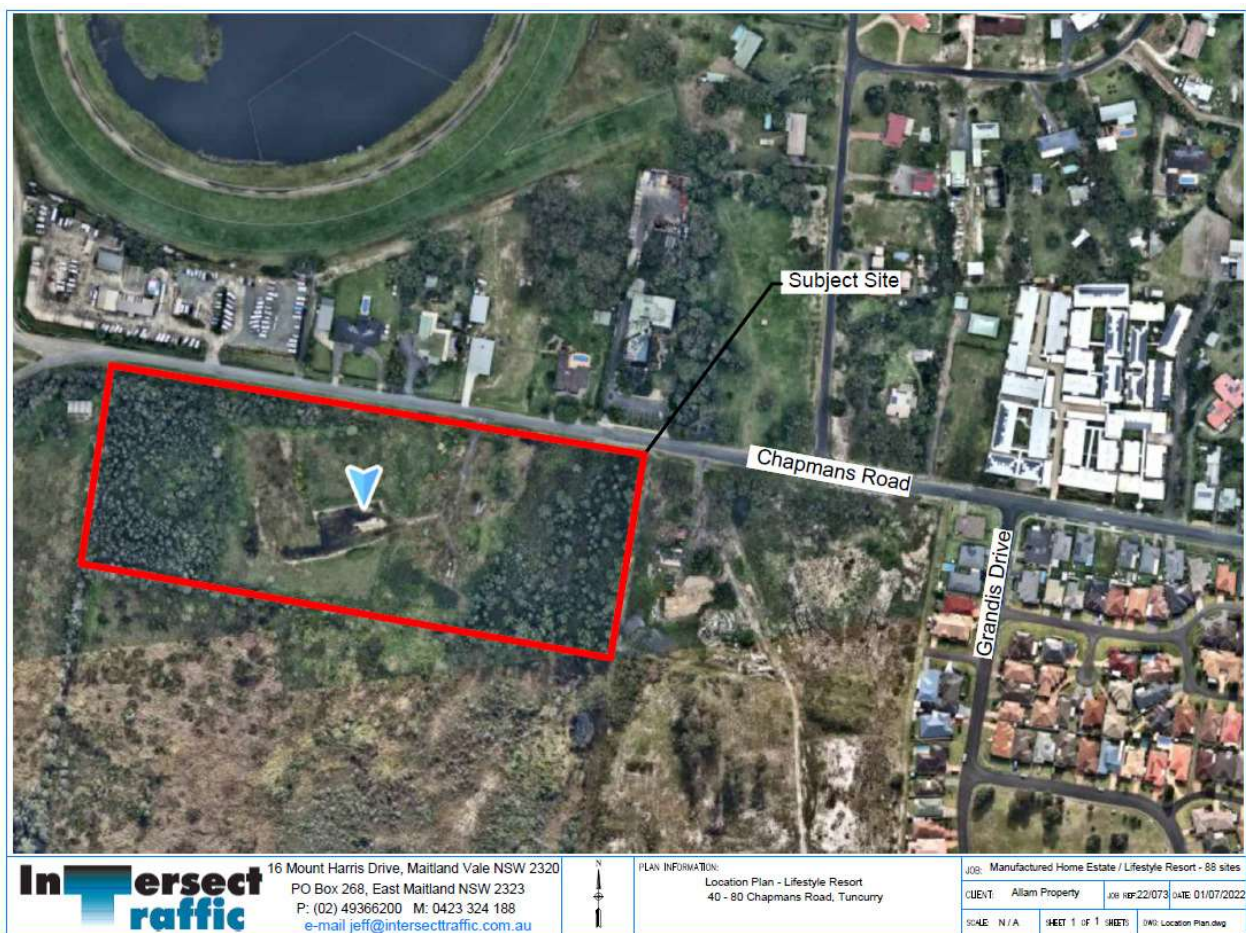


Figure 1 – Site Location



Photograph 1 – Development site from Chapmans Road



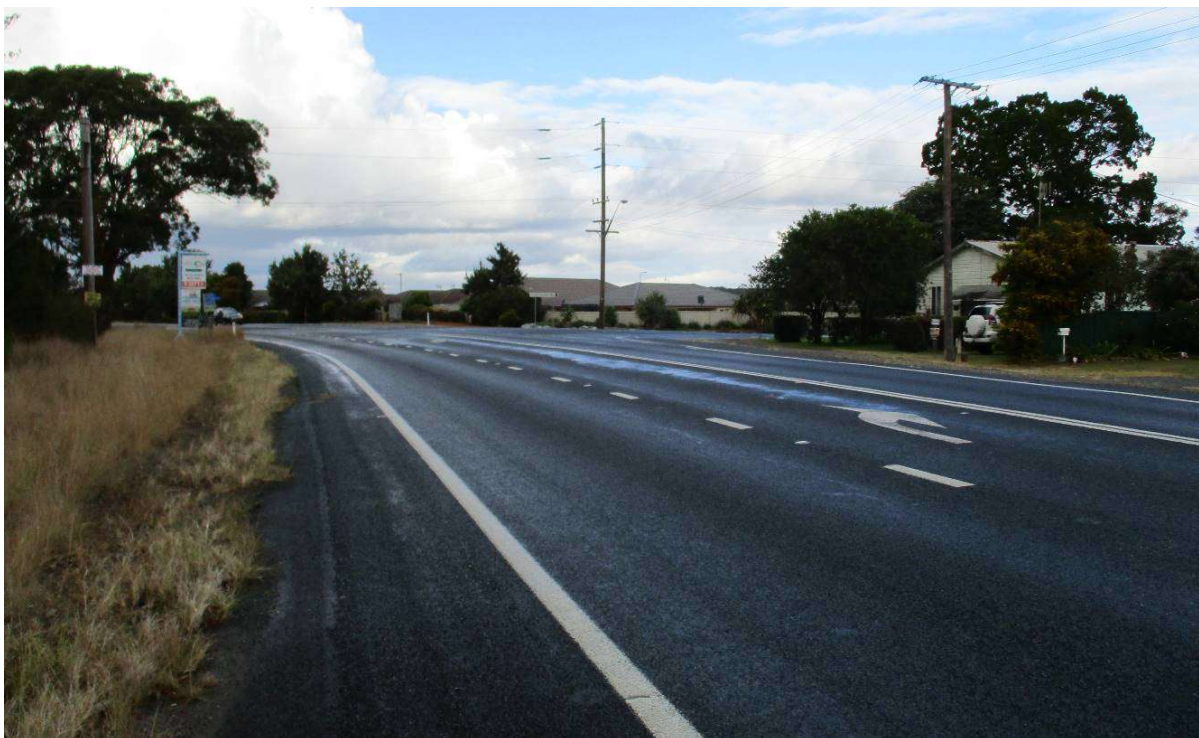
Photograph 2 – Existing vehicular access from Chapmans Road

3.0 EXISTING ROAD NETWORK

3.1 The Lakes Way

The Lakes Way is part of the classified state road network (MR692) under the care and control of the TfNSW. It is a major sub-arterial road in the region connecting Forster to the Pacific Motorway at Nambucca to the north and south via the Lakes Way (MR111) to Bulahdelah.

In the vicinity of the site The Lakes Way is a two lane two way urban road with sealed shoulders, grass verges and table drains along its length. Travel lane widths are between 3.3 and 3.5 metres while sealed shoulders between 1 and 3 metres wide exists on both sides of the road. Additional turning lanes are provided at major intersections including at Chapmans Road which is constructed with both a right turn protected deceleration lane and a left turn protected deceleration lane i.e. (CHR/AUL). A 50 km/h speed limit applies to this section of road and at the time of inspection The Lakes Way was observed to be in good condition. **Photograph 3** shows The Lakes Way near Chapmans Road.



Photograph 3 – The Lakes Way south of Chapmans Road.

3.2 Chapmans Road

Chapmans Road near the site is a local collector road providing access to The Lakes Way at a give-way controlled T-intersection. The road's main function is to collect traffic from the residential areas west of The Lakes Way providing access to The Lakes Way as well as providing vehicular access to properties along its length. As a local road Chapmans Road is under the care and control of MidCoast Council. Near the site it is a two-lane two-way sealed urban road with kerb and gutter along the developed sections of the road. The total sealed carriageway width near The Lakes Way is approximately 9 metres which allows a single lane of travel in each direction as well as some on-street car parking. West of Grandis Drive, including along the site frontage Chapmans Road becomes a rural standard road with a pavement width of 7 metres with grassed table drains. A 50 km/h speed limit zone applies to this section of road and at the time of inspection Chapmans Road was observed to be in good condition. (See **Photograph 4**).



Photograph 4 – Chapmans Road near site access.

4.0 ROAD NETWORK IMPROVEMENTS

It is understood that the intersection of The Lakes Way and Chapmans Road is to be upgraded in the future from a priority controlled give way intersection to a roundabout. This is to be funded by developer contributions for which the subject development will be liable. Construction of the roundabout therefore will be dependant on the rate of contribution collection i.e. development in the area and with no certainty as to when the roundabout is to be constructed this upgrade has been ignored in this assessment. The roundabout will in future however increase the capacity of the local road network by providing additional capacity within the intersection.

5.0 TRAFFIC VOLUMES

Northern Transport Planning on behalf of Intersect Traffic undertook manual traffic counts at the Lakes Way / Chapmans Road intersection on Thursday 9th June 2022 (PM) and Friday 12th June 2022 (AM). These counts were undertaken between 7 am – 9 am and 3.00 pm to 6 pm as they represent the periods when the peak road network traffic flows would occur. The peak hour periods identified by the count were 8 am – 9 am and 3.15 pm to 4.15 pm. The results of these traffic counts are provided in **Attachment B**.

The resulting mid-block traffic volumes calculated from these counts are shown in **Table 1** below with future 2032 traffic predicted using a 1.5 % per annum background traffic growth recommended by TfNSW. These existing and future volumes have been adopted in this assessment.

Table 1 – Existing and future traffic volumes near the site.

Road	Section	2022		2032 @ 1.5% p.a.	
		AM (vtph)	PM (vtph)	AM (vtph)	PM (vtph)
The Lakes Way	north of Chapmans Road	1325	1416	1538	1643
The Lakes Way	south of Chapmans Road	1375	1480	1596	1718
Chapmans Road	west of The Lakes Way	138	136	160	158

6.0 ROAD CAPACITY

The capacity of urban roads is generally determined by the capacity of intersections. However, Table 4.3 of the RTA's 'Guide to Traffic Generating Developments' provides some guidance on mid-block capacities for urban roads for a level of service (LoS) C. This table is reproduced below.

Table 4.3
Typical mid-block capacities for urban roads with interrupted flow

Type of Road	One-Way Mid-block Lane Capacity (pcu/hr)	
Median or inner lane:	Divided Road	1,000
	Undivided Road	900
Outer or kerb lane:	With Adjacent Parking Lane	900
	Clearway Conditions	900
	Occasional Parked Cars	600
4 lane undivided:	Occasional Parked Cars	1,500
	Clearway Conditions	1,800
4 lane divided:	Clearway Conditions	1,900

Source: - RTA's Guide to Traffic Generating Developments (2002).

Based on this table it is considered that both The Lakes Way and Chapmans Road would have a two-way mid-block capacity of up to 1,800 vtpd on the assumption that a LoS C or better was desirable on urban roads, as both are two way undivided roads with single lane capacities of 900 vtpd. However as a major sub-arterial road it would still be acceptable for a LoS D to be operating on The Lakes Way which equates to a one lane capacity of 1,100 vtpd per lane or a two way mid-block capacity of 2,200 vtpd.

However, in regard to a local road network (Chapmans Road) which may contain many residential dwellings it is considered that the environmental road capacity thresholds provided within Table 4.6 of the RTA's 'Guide to Traffic Generating Developments' (reproduced below) is of more relevance when considering the local road networks capacity to cater for additional traffic.

Table 4.6
Environmental capacity performance standards on residential streets

Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
			300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

Note: Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

Source: - RTA's Guide to Traffic Generating Developments (2002).

Chapmans Road as a local collector road would therefore have an environmental road capacity of up to 500 vtp. The road capacities adopted in this assessment for the sub-arterial and local road network impacted by this development are shown below in **Table 2**.

Table 2 - Adopted Road Capacities

Street	Two Way Mid-Block Road Capacity
The Lakes Way	2,200 vtp
Chapmans Road	500 vtp

From the traffic volume data provided in **Section 5** above, for this assessment it can be seen that as existing peak traffic volumes for The Lakes Way and Chapmans Road are less than the determined road capacities (**Table 2**) there is existing spare capacity within the state and local road network to cater for additional traffic generated by developments in the area.

7.0 ALTERNATE TRANSPORT MODES

7.1 Public Transport

Forster Buslines run public transport (bus) services in the area from Forster passing through Tuncurry with Town routes 303 & 304 (Stockland Forster – Forster – Tuncurry) as well as regional route 308 (Forster to Gloucester). The route locations are shown on the maps included as **Attachment 3**.

The nearest bus stops to the site are located in Chapmans Road approximately 440 metres east of the proposed site entry (see **Photograph 5**) and on The Lakes Way 70 metres south of Chapmans Road.



Photograph 5 – Existing Bus Stop on Chapmans Road

7.2 Pedestrians & Bicycles

There is no provision for cyclists on-road however a suitable shared pedestrian / bicycle path exists on the western footpath of The Lakes Way and the southern footpath of Chapmans Road to a location approximately 300 metres east of the proposed site entrance as shown in **Photograph 5**

below. This footpath extends to the intersection of The Lakes Way and Grandis Drive 470 metres south of Chapmans Road.

Beside the above shared pathway some concrete footpaths are provided within the residential estates around the site generally on one side of the road only however there is no real continuous network with footpaths appearing to be provided sporadically and haphazardly within the road network.

8.0 DEVELOPMENT PROPOSAL

The development proposal is to construct an 88 site manufactured home estate / lifestyle resort on existing vacant land at Lot 1 DP 304132, 40 - 80 Chapmans Road, Tuncurry .

Specifically, the proposal includes the following:

- ◆ Demolition of existing structure on the site and earthworks.
- ◆ Provision of a total of 88 long term manufactured home sites ranging in size from 288.7 m² to 345.5 m² with an average size of 310.9 m².
- ◆ Community clubhouse facility and recreational facilities.
- ◆ Internal road network with a ring road and one additional internal road.
- ◆ New vehicular access to Chapmans Road via a new short public road extension at the eastern end of the site and a secondary gravel emergency access at the wester end of the development.
- ◆ 18 on-site visitor car parking spaces within three (3) separate car parking areas and including two (2) accessible spaces; and
- ◆ Drainage and landscaping including provision of one on-site detention basin.

The development concept plans are shown in **Appendix 1**.

9.0 TRAFFIC GENERATION

As the Lifestyle Resort is to be an over 55's resort the applicable traffic generation rate for the development has been sourced from the latest TfNSW data for seniors housing contained in their *Technical Direction TDT 13/04*.

The rates nominated in this document for housing for seniors is as follows;

Weekday Daily vehicle trips = 2.1 per dwelling; and
Weekday Peak hour trips = 0.4 per dwelling.

Whilst the document states that while the morning peak hour site traffic does not coincide with the morning road network peak hour for this assessment it has been assumed that they do coincide. This ensures a robust assessment of the traffic impacts of the development.

Therefore the peak hour traffic generation from the site is as follows;

AM & PM Peak Hour

Traffic Generation = 0.4 vehicle trips per dwelling x 88 dwellings
 = **36 vtph.** (rounded up)

Daily Trips

Traffic Generation = 2.1 vehicle trips per dwelling x 88 dwellings
 = **185 vtph.**

10.0 TRIP DISTRIBUTION

Before considering the traffic impacts of the development, the traffic generated by the development needs to be distributed onto the local road network. In this regard assumptions need to be made in relation to origins and destinations of trips and the nature of the trips to and from the site.

Based on likely origin / destinations for residents the assumptions used in distributing the traffic generated by the development are listed below.

AM peaks & PM peaks

- ◆ 30% of trips will arrive / depart via The Lakes Way to the north.
- ◆ 70 % of trips will arrive / depart via The Lakes Way to the south.
- ◆ In the AM 70% of the trips will be outbound and 30% of trips will be inbound; and
- ◆ In the PM 70% of the trips will be inbound and 30% of the trips outbound.

The resulting trip distribution onto the road network is therefore likely to be as shown below in **Figure 2**.



Figure 2 – Development Traffic Distribution

11.0 TRAFFIC IMPACTS OF DEVELOPMENT

11.1 Road Network Two-way Mid-Block Capacity

It has previously been shown in **Section 6** of this report that the local road network is currently operating well within its technical and environmental two-way mid-block capacity as relevant.

The Lifestyle Resort is likely to generate the following additional traffic (maximum) on the local road network based on the trip distributions shown in **Figure 3**.

- ◆ The Lakes Way – north of Chapmans Road – 11 vtpm (AM and PM peak).
- ◆ The Lakes Way – south of Chapmans Road – 25 vtpm (AM & PM peak); and
- ◆ Chapmans Road – west of The Lakes Way – 36 vtpm (AM & PM peak).

The addition of this traffic onto the 2022 traffic volumes determined in **Section 5** will not result in the capacity thresholds for the local road network determined in **Section 6** to be reached. Even with the predicted 2032 traffic volumes these road capacity thresholds are not reached. This is demonstrated in **Table 3** below.

Table 3 - Road Capacity Assessment

Road	Section	Capacity vtpm	2022		2032 @ 1.5% p.a.		Development traffic	
			AM (vtpm)	PM (vtpm)	AM (vtpm)	PM (vtpm)	AM	PM
The Lakes Way	north of Chapmans Road	2200	1336	1427	1549	1654	11	11
The Lakes Way	south of Chapmans Road	2200	1400	1505	1621	1743	25	25
Chapmans Road	west of The Lakes Way	500	174	172	196	194	36	36

The post development traffic flows are lower than the determined road capacities through to at least 2032 and as such the local and state road network has sufficient spare capacity to cater for the proposed development, whilst maintaining suitable residential amenity for dwellings near the site.

11.2 Intersection Capacity

The two main intersections impacted by the development are The Lakes Way / Chapmans Road CHR/AUL give way controlled T-intersection (see **Photograph 6**) and the site access off Chapmans Road.

Traffic volumes on Chapmans Road and the site access are low and as such uninterrupted flow conditions would prevail at this intersection with little or no delay for motorists on Chapmans Road and the site entry. No additional intersection analysis is required for the access.

By observation traffic volumes on The Lakes Way are high enough for traffic using Chapmans Road, particularly those exiting Chapmans Road to be delayed therefore analysis of the impact of the additional traffic on this intersection is required to be undertaken using the SIDRA INTERSECTION 9 intersection modelling software. This software package predicts likely delays, queue lengths and thus levels of service that will occur at intersections. Assessment is then based on the level of service requirements of TfNSW shown below in *Table 4.2 of RTA's Guide to Traffic Generating Developments 2002*.

Table 4.2
Level of service criteria for intersections

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

Source: - RTA's Guide to Traffic Generating Developments (2002).



Photograph 6 – The Lakes Way / Chapmans Road give way T-intersection

Assumptions made in this modelling were:

- ◆ The intersection layout will remain as per current conditions.
- ◆ Traffic volumes used in the modelling were as described in **Section 5** above.
- ◆ Traffic generated by the development is distributed as per **Figure 3**.
- ◆ Future traffic growth predicted using a 1.5 % per annum background traffic growth rate as recommended by TfNSW; and

- ◆ When calibrating the model to reflect observed delays and queue lengths it was found the best calibration was with a gap acceptance for the right turn movement out of Chapmans Road of 6.5 seconds rather than the default 7 seconds and use of a 50 % extra bunching factor on the south approach along The Lakes Way to account for the impact of the Grandis Avenue signals on traffic flows from the south.

The summarised results of the network modelling with the worst average delays and LoS recorded are provided in **Table 4** below. The full Sidra Movement Summary Tables are provided in **Attachment D**.

Table 4 – The Lakes Way / Chapmans Road – Sidra Modelling – Results Summary

Modelled Peak	Degree of Saturation (v/c)	Worst Average Delay (s)	Average Level of Service	95% back of queue length (cars)
2022 AM	0.426	26.1	B	0.7
2022 PM	0.395	22.7	B	0.6
2022 AM plus development	0.426	28.1	B	1.1
2022 PM plus development	0.395	24.3	B	0.8
2032 AM plus development	0.527	51.8	D	2.1
2032 PM plus development	0.458	40.0	C	1.4

The modelling shows that this intersection will continue to operate satisfactorily post development through to 2032. Average delays and queue lengths remain within the acceptable criteria set by TfNSW though in the AM peak by 2032 the right turn out movement from Chapmans Road is reaching capacity and Council should be looking to upgrade the intersection at that time. Overall it is reasonable to conclude however that the proposed development does not adversely impact on the local and state road network.

11.3 Access

The proposed development will utilise a short public road extension from Chapmans Road to provide access to the entrance to the Lifestyle Resort. Access to the site and individual sites would be required to meet the requirements of the *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021* as well as Australian Standard AS2890.1-2004 *Parking facilities Part 1: Off-street car parking*.

In regard to the regulation the important requirements and an assessment of compliance are:

- ◆ A dwelling site must have access to an access road – Proposal is compliant.
- ◆ An entry road to a manufactured home estate must be a minimum of 8 metres wide. In the case of a divided entrance and exit road the width of the sealed road on either side of the median must be at least 5 metres. – It is not proposed to have a divided access road within the development and therefore the proposed site access being 9.9 metres wide is compliant with this requirement.
- ◆ The width of an access road (internal) must be 6 metres for two way flow or 4 metres for one way flow and one way flow needs to be indicated by a conspicuous sign. The proposal complies with this requirement as all roads are 6 metres wide therefore suitable for two-way flow.

Overall, it is therefore considered reasonable to conclude the proposed internal access roads are suitable for two way flow of vehicles.

Sight distance along Chapmans Road at the proposed new access would comply with Austroads requirements for a public road intersection being greater than 97 metres for a 50 km/h speed zoning (*Table 3.2 of Guide to Road Design Part 4A – Unsignalised and signalised Intersections*

(2020)). By observation on site the sight distance at this access are in excess of 200 metres and thus compliant with Austroads requirements.

Therefore it is considered the proposed access arrangements to the site and within the site are suitable being compliant with Austroad, Council and Local Government Regulations requirements.

11.4 Off-Street Parking

The proposed development will generate an on-site parking demand. Therefore, on-site parking in accordance with the *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021* will need to be provided. The relevant requirements within the Regulation are:

Resident Parking

1 resident parking space per dwelling site

Visitor Parking

For developments with between 70 and 105 sites – 16 spaces

Accessible Parking

1 visitor accessible parking space per 100 sites or fraction of 100 sites

Resident and visitor parking is to be 6.1 metres x 2.5 metres while the accessible visitor car parks are to comply with Australian Standard AS2890.6-2009 Parking facilities Part 6: Off-street parking for people with disabilities.

Noting that on completion of the proposed expansion a total of 88 long term sites would exist within the park the following on-site parking is required to be provided:

- ◆ Resident Parking – 88 car parks
- ◆ Visitor Car Parking - 16 car parks
- ◆ Accessible Visitor Car Parking $88 / 100 = 1$ accessible car park (within the 16 visitor car parks to be provided).

On examination of the plans it was found that:

- ◆ As each site has an area in excess of 150 m² it is considered there is sufficient room on each site to provide an on-site resident car park; and
- ◆ 18 visitor car parking spaces including 2 accessible spaces are shown on the plans.

Therefore the plans show that the development is compliant with the caravan park regulations. Whilst not dimensioned there is adequate space for the visitor (including access) car parking spaces to be provide on-site to the dimensioned requirements.

It is therefore concluded that in regard to on-site car parking the proposal would meet the requirements of the *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021*.

11.5 Servicing

The site will be serviced by a medium rigid sized waste collection vehicle that can enter the site in a forward direction and proceed to collect bins from in front of each site before exiting the site in a

forward direction. Therefore, on assessment it is concluded that the servicing arrangements for the proposed Lifestyle Resort are satisfactory.

12.0 PEDESTRIAN FACILITIES

The proposed development may generate some external pedestrian traffic. Therefore, it is considered there is sufficient nexus for the development to be required to extend the existing off-road shared pathway (pedestrian and cycle) on the southern side of Chapmans Road to the site. Internal pedestrian paths will also need to be provided to facilitate the safe passage of pedestrians around the site.

13.0 ALTERNATE TRANSPORT MODE FACILITIES

The proposed development may generate an increased demand for public transport however it is not expected that this demand would be sufficient to require changes to the existing public transport in the area. It is concluded that no changes to the existing public transport services is required as a result of this development and no additional infrastructure would be required. However it is also considered that the provision of a private bus shuttle within the development is likely to be of particular benefit to residents and should be considered by the operator of the Lifestyle Resort.

The development will not generate any significant additional bicycle traffic therefore no nexus for the provision of additional cycle ways in the vicinity of the site is necessary as a result of the development noting that it is recommended that the off-road shared pathway in Chapmans Road be extended to the site.



14.0 CONCLUSIONS

This traffic and parking assessment for a proposed manufactured home estate / lifestyle resort on Lot 1 DP 304132, 40 - 80 Chapmans Road, Tuncurry has determined the following:

- ◆ Current traffic volumes on the local and state road network are below the technical and environmental mid-block capacities of the roads and as such there is spare capacity within the road network to cater for development in the area.
- ◆ It is expected that the additional traffic generated by the development will be up to 36 vtpm in the AM and PM peak or 185 vtpd.
- ◆ The local road network has sufficient spare two-way mid-block capacity to cater for the additional development traffic without adversely impacting on current level of service (LoS) experienced by motorists on the road network or the residential amenity for adjoining residences.
- ◆ Sidra Intersection modelling has shown the proposed development will not have an adverse impact on the operation / capacity of The Lakes Way / Chapmans Road give way controlled T-intersection.
- ◆ The proposed access arrangements to the site and within the site are suitable being compliant with Austroad, Council and Local Government Regulations requirements.
- ◆ In regard to on-site car parking the proposal would meet the requirements of the *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021*.
- ◆ Waste collection vehicles would be able to enter the site in a forward direction and collect bins from in front of sites before exiting the site in a forward direction. Therefore the site is able to be safely and conveniently serviced for waste collection.
- ◆ There is sufficient nexus for the development to be required to extend the existing off-road shared pathway (pedestrian and cycle) on the southern side of Chapman Street to the site. Internal pedestrian paths will also need to be provided to facilitate the safe passage of pedestrians around the site.
- ◆ No changes to the existing public transport services is required as a result of this development and no additional infrastructure would be required. However it is also considered that the provision of a private bus shuttle within the development is likely to be of particular benefit to residents and should be considered by the operator of the Lifestyle Resort; and
- ◆ No nexus for the provision of additional cycle ways in the vicinity of the site is necessary as a result of the development noting that it is recommended that the off-road shared pathway in Chapmans Road be extended to the site.

15.0 RECOMMENDATION

Having carried out this traffic and parking assessment for a proposed manufactured home estate / lifestyle resort on Lot 1 DP 304132, 40 - 80 Chapmans Road, Tuncurry it is recommended that the proposal can be supported from a traffic and parking impact perspective as it will not adversely impact on the local and state road network and complies with all relevant MidCoast Council, Australian Standard, Austroad and TfNSW requirements.



JR Garry BE (Civil), Masters of Traffic
Director
Intersect Traffic Pty Ltd

ATTACHMENT A

Development Plans



ATTACHMENT B

Traffic Data

10/6/2022 - THE LAKES WAY / CHAPMANS RD, TUNCURRY

9:00 <<< HOUR ENDING

Friday

Summary:

THE LAKES WAY / CHAPMANS RD

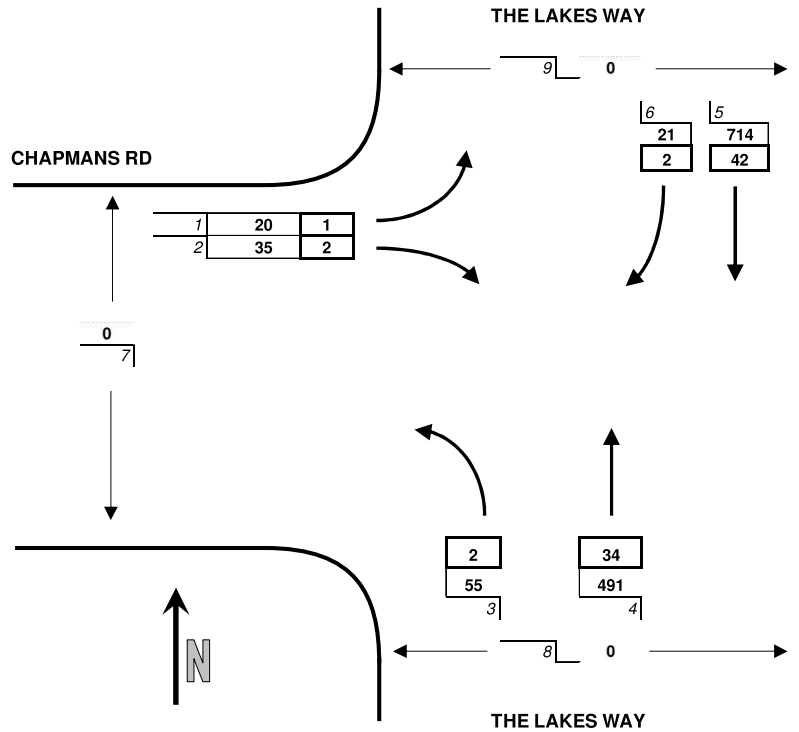
1336 Total Light Vehicles

83 Total Heavy Vehicles

0 Total Pedestrians



Quality Surveys
223505



491 Light Vehicles
34 Heavy Vehicles
0 Pedestrians

9/6/2022 - THE LAKES WAY / CHAPMANS RD, TUNCURRY

16:15 <<< HOUR ENDING

Thursday

Summary:

THE LAKES WAY / CHAPMANS RD

1458 Total Light Vehicles

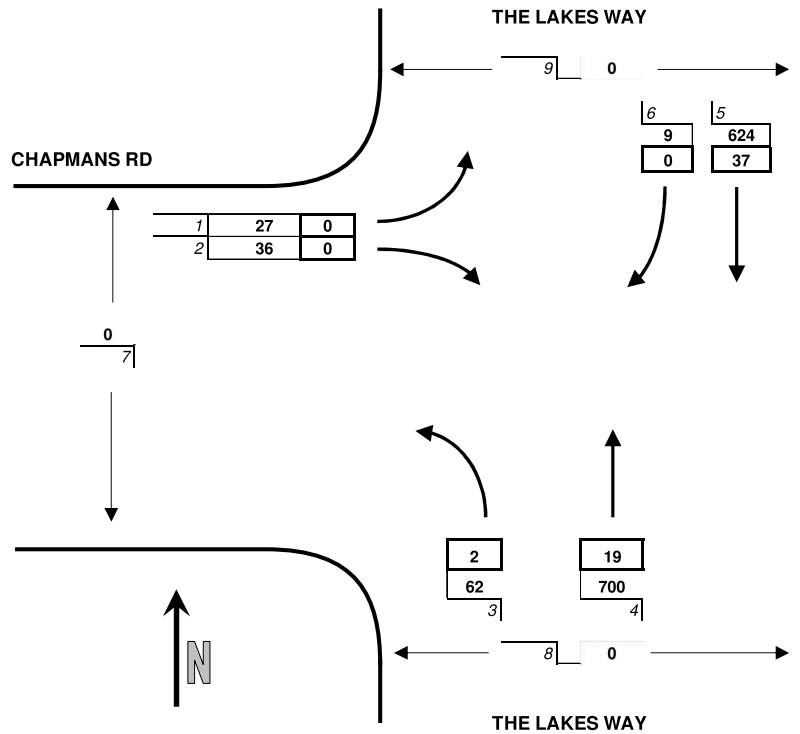
58 Total Heavy Vehicles

0 Total Pedestrians



Quality Surveys

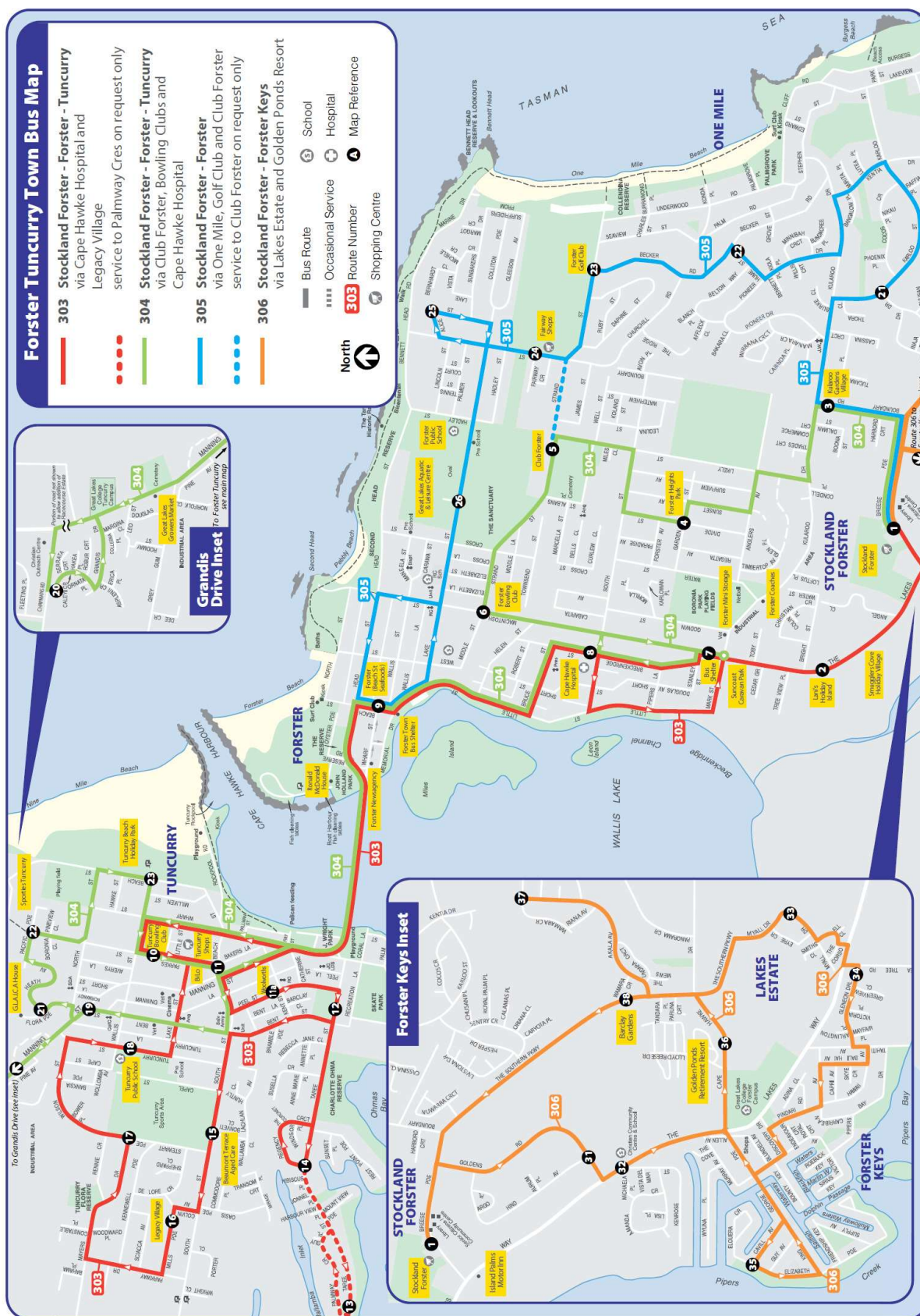
223505

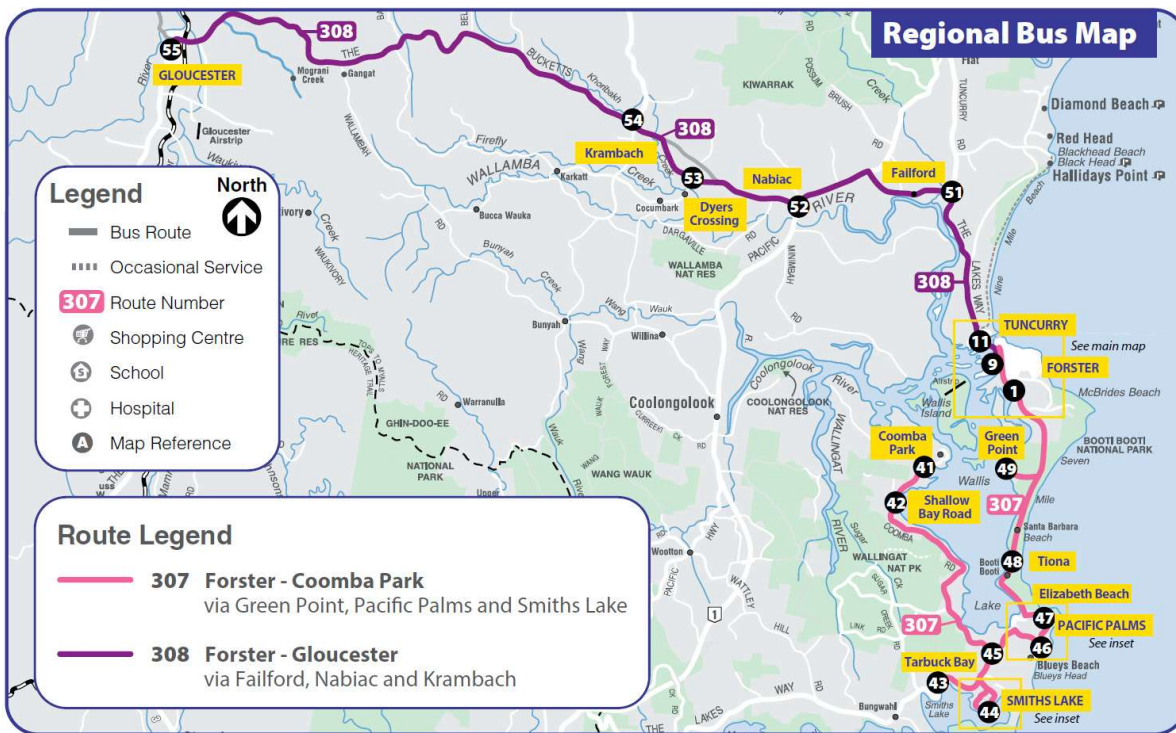
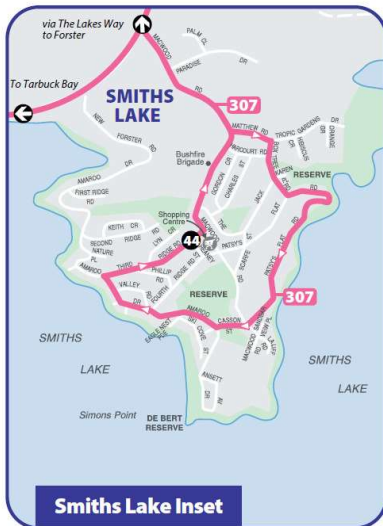


700	Light Vehicles
19	Heavy Vehicles
0	Pedestrians

ATTACHMENT C

Forster Buslines Routes





ATTACHMENT D

Sidra Summary Tables

MOVEMENT SUMMARY

Site: 101 [2022 AM (Site Folder: General)]

The Lakes Way / Chapmans Road T-intersection Tuncurry

June 2022 counts

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: The Lakes Way														
1	L2	57	2	60	3.5	0.033	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.5
2	T1	525	34	553	6.5	0.295	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		582	36	613	6.2	0.295	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.1
North: The Lakes Way														
8	T1	756	42	796	5.6	0.426	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
9	R2	23	2	24	8.7	0.029	8.6	LOS A	0.1	1.1	0.53	0.62	0.53	47.7
Approach		779	44	820	5.6	0.426	0.4	NA	0.1	1.1	0.02	0.02	0.02	59.2
West: Chapmans Road														
10	L2	21	1	22	4.8	0.027	7.6	LOS A	0.1	1.0	0.52	0.59	0.52	47.7
12	R2	37	2	39	5.4	0.205	26.1	LOS B	0.7	5.4	0.88	0.96	0.92	38.3
Approach		58	3	61	5.2	0.205	19.4	LOS B	0.7	5.4	0.75	0.82	0.78	41.2
All Vehicles		1419	83	1494	5.8	0.426	1.3	NA	0.7	5.4	0.04	0.07	0.04	58.2

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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 [2022 PM (Site Folder: General)]

The Lakes Way / Chapmans Road T-intersection Tuncurry

June 2022 counts

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: The Lakes Way														
1	L2	64	2	67	3.1	0.037	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.5
2	T1	719	19	757	2.6	0.395	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		783	21	824	2.7	0.395	0.6	NA	0.0	0.0	0.00	0.05	0.00	59.2
North: The Lakes Way														
8	T1	661	37	696	5.6	0.370	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
9	R2	9	0	9	0.0	0.013	9.6	LOS A	0.1	0.4	0.60	0.63	0.60	47.1
Approach		670	37	705	5.5	0.370	0.3	NA	0.1	0.4	0.01	0.01	0.01	59.5
West: Chapmans Road														
10	L2	27	0	28	0.0	0.042	9.2	LOS A	0.2	1.4	0.60	0.66	0.60	46.8
12	R2	36	0	38	0.0	0.175	22.7	LOS B	0.6	4.4	0.86	0.94	0.87	39.8
Approach		63	0	66	0.0	0.175	16.9	LOS B	0.6	4.4	0.75	0.82	0.75	42.5
All Vehicles		1516	58	1596	3.8	0.395	1.1	NA	0.6	4.4	0.03	0.06	0.03	58.4

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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 [2022 AM + development (Site Folder: General)]

The Lakes Way / Chapmans Road T-intersection Tuncurry
June 2022 counts
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: The Lakes Way														
1	L2	65	2	68	3.1	0.038	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.5
2	T1	525	34	553	6.5	0.295	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		590	36	621	6.1	0.295	0.7	NA	0.0	0.0	0.00	0.06	0.00	59.1
North: The Lakes Way														
8	T1	756	42	796	5.6	0.426	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
9	R2	26	2	27	7.7	0.033	8.6	LOS A	0.2	1.2	0.53	0.63	0.53	47.7
Approach		782	44	823	5.6	0.426	0.4	NA	0.2	1.2	0.02	0.02	0.02	59.2
West: Chapmans Road														
10	L2	29	1	31	3.4	0.037	7.6	LOS A	0.2	1.4	0.52	0.60	0.52	47.7
12	R2	54	2	57	3.7	0.295	28.1	LOS B	1.1	8.2	0.89	0.99	1.02	37.5
Approach		83	3	87	3.6	0.295	21.0	LOS B	1.1	8.2	0.76	0.85	0.85	40.5
All Vehicles		1455	83	1532	5.7	0.426	1.7	NA	1.1	8.2	0.05	0.09	0.06	57.6

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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 [2022 PM + development (Site Folder: General)]

The Lakes Way / Chapmans Road T-intersection Tuncurry

June 2022 counts

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV]	[Total veh/h	HV]				[Veh. veh	Dist]				
South: The Lakes Way														
1	L2	81	2	85	2.5	0.047	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.5
2	T1	719	19	757	2.6	0.395	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		800	21	842	2.6	0.395	0.7	NA	0.0	0.0	0.00	0.06	0.00	59.0
North: The Lakes Way														
8	T1	661	37	696	5.6	0.373	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
9	R2	17	0	18	0.0	0.025	9.7	LOS A	0.1	0.9	0.61	0.66	0.61	47.0
Approach		678	37	714	5.5	0.373	0.4	NA	0.1	0.9	0.02	0.02	0.02	59.3
West: Chapmans Road														
10	L2	30	0	32	0.0	0.047	9.2	LOS A	0.2	1.6	0.61	0.67	0.61	46.8
12	R2	44	0	46	0.0	0.219	24.3	LOS B	0.8	5.7	0.87	0.96	0.93	39.1
Approach		74	0	78	0.0	0.219	18.2	LOS B	0.8	5.7	0.76	0.84	0.80	41.9
All Vehicles		1552	58	1634	3.7	0.395	1.4	NA	0.8	5.7	0.04	0.08	0.04	58.0

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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 [2032 AM + development (Site Folder: General)]

The Lakes Way / Chapmans Road T-intersection Tuncurry

June 2022 counts

Site Category: (None)

Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: The Lakes Way														
1	L2	65	2	79	3.1	0.044	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.5
2	T1	525	34	641	6.5	0.343	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		590	36	721	6.1	0.343	0.7	NA	0.0	0.0	0.00	0.06	0.00	59.0
North: The Lakes Way														
8	T1	756	42	924	5.6	0.495	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
9	R2	26	2	32	7.7	0.042	9.3	LOS A	0.2	1.5	0.58	0.66	0.58	47.2
Approach		782	44	955	5.6	0.495	0.5	NA	0.2	1.5	0.02	0.02	0.02	59.1
West: Chapmans Road														
10	L2	29	1	35	3.4	0.048	8.4	LOS A	0.2	1.7	0.57	0.64	0.57	47.2
12	R2	54	2	66	3.7	0.527	51.8	LOS D ¹¹	2.1	15.2	0.95	1.08	1.30	30.2
Approach		83	3	101	3.6	0.527	36.7	LOS C	2.1	15.2	0.82	0.92	1.04	34.5
All Vehicles		1455	83	1777	5.7	0.527	2.7	NA	2.1	15.2	0.06	0.09	0.07	56.7

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.

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

¹¹ Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

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MOVEMENT SUMMARY

▽ Site: 101 [2032 PM + development (Site Folder: General)]

The Lakes Way / Chapmans Road T-intersection Tuncurry

June 2022 counts

Site Category: (None)

Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: The Lakes Way														
1	L2	81	2	99	2.5	0.054	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.5
2	T1	719	19	878	2.6	0.458	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		800	21	977	2.6	0.458	0.7	NA	0.0	0.0	0.00	0.06	0.00	59.0
North: The Lakes Way														
8	T1	661	37	807	5.6	0.431	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
9	R2	17	0	21	0.0	0.033	11.0	LOS A	0.2	1.1	0.65	0.71	0.65	46.3
Approach		678	37	828	5.5	0.431	0.4	NA	0.2	1.1	0.02	0.02	0.02	59.3
West: Chapmans Road														
10	L2	30	0	37	0.0	0.063	10.7	LOS A	0.3	2.1	0.65	0.72	0.65	46.0
12	R2	44	0	54	0.0	0.378	40.0	LOS C	1.4	10.1	0.93	1.02	1.13	33.5
Approach		74	0	90	0.0	0.378	28.2	LOS B	1.4	10.1	0.82	0.90	0.94	37.6
All Vehicles		1552	58	1896	3.7	0.458	1.9	NA	1.4	10.1	0.05	0.08	0.05	57.5

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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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