

Ref: 21/193

15<sup>th</sup> February 2022

Interface Planning,  
PO Box 192  
TERRIGAL NSW 2260

Attention: - Chris Smith

Dear Chris,

**RE: Preliminary Traffic Advice – Seniors Living Development – Lot 1 DP 335574 & Lot 332 DP 18234 – 216 – 234 Pacific Highway, Charmhaven.**

Reference is made to your engagement of Intersect Traffic to prepare a preliminary traffic assessment for the above project. Intersect Traffic thanks you for the invitation and has pleasure in submitting the following preliminary assessment.

## PRELIMINARY TRAFFIC ASSESSMENT

### PLANNING PROPOSAL DESCRIPTION

Intersect Traffic has been engaged to undertake a preliminary traffic assessment for a planning proposal for seniors living development on Lot 1 DP 335574 & Lot 332 DP 18234 – 216 – 234 Pacific Highway, Charmhaven. The site is located opposite the Charmhaven Neighbourhood Shopping Village therefore is ideally located for excellent accessibility to commercial, medical and public transport services for residents of the village.

The proposal is to provide 71 home sites on the property to build a mix of 1, 2 and 3 bedroom self-care seniors living dwellings, to be considered as part of an application for a Site Compatibility Certificate. The concept plans also show a second stage to provide 32 residential lots on the site. This second stage residential is subject to a separate planning proposal utilising the seniors living development access. The concept plan for the proposed retirement village including typical unit plans, as well as the future planning proposal (not part of this SCC application) is provided in **Attachment 1**.

This preliminary assessment is provided to identify the likely traffic impacts of the proposal and provide commentary on how these impacts can be mitigated. The report is to be submitted as part of the 1<sup>st</sup> stage of the approval process. A more detailed complete traffic impact assessment will be prepared once a favourable Site Compatibility Certificate is obtained and submitted with the development application.

As the Pacific Highway through Charmhaven is a classified road the proposal will need to be supported by Transport for NSW (TfNSW) whose concurrence is required for any development on a classified road and any associated upgrading works on the

classified road. This report should also allow TfNSW officers to access the traffic impacts of the development at this preliminary planning stage.

## TRAFFIC GENERATION

The RTA's Technical Direction TDT 13/04 provides information of the likely traffic generation potential of a number of development types including seniors living and low density residential development. The relevant rates extracted from TDT 13/04 now administered by TfNSW. The relevant rates used in this assessment are as follows;

### *Seniors living*

Weekday daily vehicle trips = 2.1 per dwelling  
Weekday peak hour vehicle trips = 0.4 per dwelling  
(Note that morning site peak hour does not generally coincide with the network peak hour)

### *Low Density Residential*

Rates  
Daily vehicle trips = 10.7 per dwelling in Sydney, 7.4 per dwelling in regional areas  
Weekday average evening peak hour vehicle trips = 0.99 per dwelling in Sydney (maximum 1.39), 0.78 per dwelling in regional areas (maximum 0.90).  
Weekday average morning peak hour vehicle trips = 0.95 per dwelling in Sydney (maximum 1.32), 0.71 per dwelling in regional areas (maximum 0.85).  
(The above rates do **not** include trips made internal to the subdivision, which may add up to an additional 25%).

Using the average regional trip generation rates the likely additional AM and PM traffic volumes resulting from the development can be calculated.

Daily trips	= 70 x 2.1 + 32 x 7.4	= 384 vtpd (rounded up);
AM peak hour	= 70 x 0.4 + 32 x 0.71	= 51 vtph (rounded up);
PM peak hour	= 70 x 0.4 + 32 x 0.78	= 53 vtph (rounded up)

Advice within the technical direction is that the morning site peak from the seniors living self-care units does not generally coincide with the network peak hour. As the PM peak is likely to result in greater traffic generation than the AM peak anyway then it is considered the PM peak is the critical peak for assessment. However, for this assessment as a worst case scenario assessment it is assumed both the AM and PM site peak hours coincide with the road network peak periods.

## TRIP DISTRIBUTION

In considering trip distribution an analysis of likely origin / destinations has been undertaken and it is considered that the distribution at the entrance to the development will be 50 % north and 50 % south. In the AM peak there will be more outbound movements while in the PM peak there will be more inbound movements. For Seniors living where work and school trips don't dominate typical ratios of inbound to outbound trips is 60 % outbound in the AM peak and 60 % inbound in the PM peak.

On this basis the likely trip distribution for the development at the site entrance is shown below in **Figure 1**.

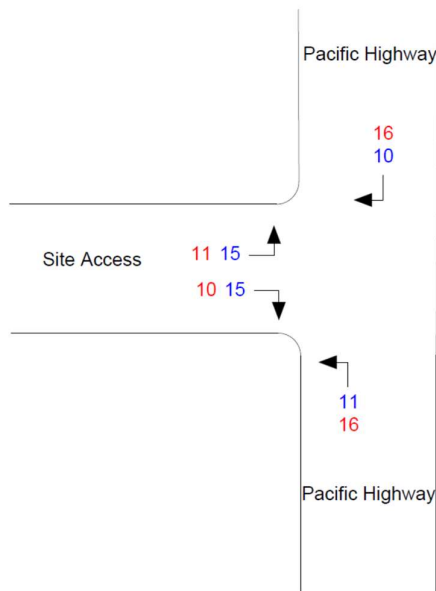


Figure 1 – Development Traffic Trip Distribution

This means that the additional two-way development traffic on the mid-block of any leg on the Pacific Highway is 27 vtp in the PM peak north of the site or 26 vtp in the AM and PM peak south of the access.

### TRAFFIC VOLUMES

A search of TfNSW's Traffic volume viewer has resulted in the following traffic data being obtained.

The latest accessible data was 2008 wherein the following AM and PM peak hour traffic volumes were recorded;

AM – 8 am - 9 am – 1,085 vtp; and  
PM – 3 pm – 4 pm – 1,347 vtp.

There have been no major changes to the local road network in Charmhaven since that time therefore by adopting a 1.5 % per annum background traffic growth rate, which is the rate used by TfNSW in all their modelling in the area would result in predicted 2021 peak hour traffic volumes as shown below.

AM – 8 am - 9 am – 1,320 vtp; and  
PM – 3 pm – 4 pm – 1,640 vtp.

As an undivided two-lane two-way road the Pacific Highway would have a technical capacity equivalent to 1,100 vtp per lane (level of service D). With directional flows

during peak hours likely to be 60:40 the likely 2021 peak lane traffic volume will be as follows;

AM – 8 am to 9 am – 792 vtp; and

PM – 3 pm – 4 pm – 984 vtp.

Therefore the additional loading from this development would increase the AM and PM peak lane volumes to 819 vtp and 1,011 vtp respectively. This is below the lane capacity determination of 1,100 vtp therefore it can be concluded that the existing road network is likely to have sufficient spare mid-block capacity to cater for the development. This would be investigated further in the traffic impact assessment at rezoning stage where current traffic counts will be undertaken to accurately determine the spare mid-block capacity within the road network.

## ACCESS

The main constraint to the development may be the provision of a safe access to the site. While a safe access to the site could be provided the cost of works to provide such an access may make the development infeasible. To determine the level of intersection control required at the access a simple SIDRA INTERSECTION model of the access has been developed on the basis that a minimum CHR / AUL intersection will be required due to the traffic volumes on the Pacific Highway. Other assumptions made were that % heavy vehicles is 5 % and in the AM peak southbound traffic on the Pacific Highway represents 60 % of flow while in the PM peak northbound traffic represents 60 % of the traffic flow on the Pacific Highway.

The model results indicate that in the AM peak the intersection works satisfactorily with the worst movement being the right turn out of the site which has an average delay of 28.3 seconds (LoS B) and a 95 % back of queue length of 0.3 vehicles. The TfNSW criteria for satisfactory intersection performance would indicate the access intersection as operating satisfactorily. In the PM peak with higher traffic volumes the access does not work as well with some delay being experienced on the right turn into the site, the right turn out of the site and the left turn out of the site. The worst movement was again the right turn out of the site which had a delay of 58.5 seconds (LoS E) and a 95 % back of queue length of 0.5 vehicles. Given the average delay experienced reaching nearly 1 minute it would be recommended that the right turn movement out of the site be prohibited with all exit movements from the site being left turn movements. Vehicles wishing to head south would then use Windermere Avenue, Resthaven Avenue and either Norah Avenue or Awaba Avenue to adjust their route to head south. Modelling of a left turn exit out of the site only shows satisfactory operation of the access in both the AM and PM peak.

In terms of the location of the access it is noted that at the proposed access location the required safe intersection sight distance is 100 metres to comply with Australian Standards requirements or 150 metres to comply with Austroad requirements for a public road intersection on a 70 km/h frontage road. Sight distance to the north at the proposed access has been estimated at 150 metres while to the south it is over 300 metres. Therefore it is considered the sight distance availability at the proposed access would comply with Australian Standards and the minimum requirements of Austroads. An alternative access point between Awaba Avenue and Norah Avenue

with a back to back CHR with the Awaba Street CHR would increase sight distance to the north to 200 metres without really deteriorating the sight distance to the south.

Overall it is concluded that a suitably safe vehicular access could be provided to the site that is compliant with Council, Australian Standards and TfNSW requirements as well as SEPP Housing for seniors and people with a disability. Again more work will put into determining a suitably safe access to the site as the project develops and progresses through the planning stage and a full assessment will be undertaken within the Traffic Assessment for the rezoning application.

The Department has raised concerns about the impact of this development on the rest of the Precinct 9 development area. As shown in the attached Figure 2 the site is at the northern end of the Precinct 9 area and as such the proposed development will have no impact on further development of Precinct 9. As can be seen in the Figure the preferred road connection from Precinct 9 to the Pacific Highway remains unaltered as a result of the development and a suitable internal road network can be provided to service the rest of the Precinct 9 lands.

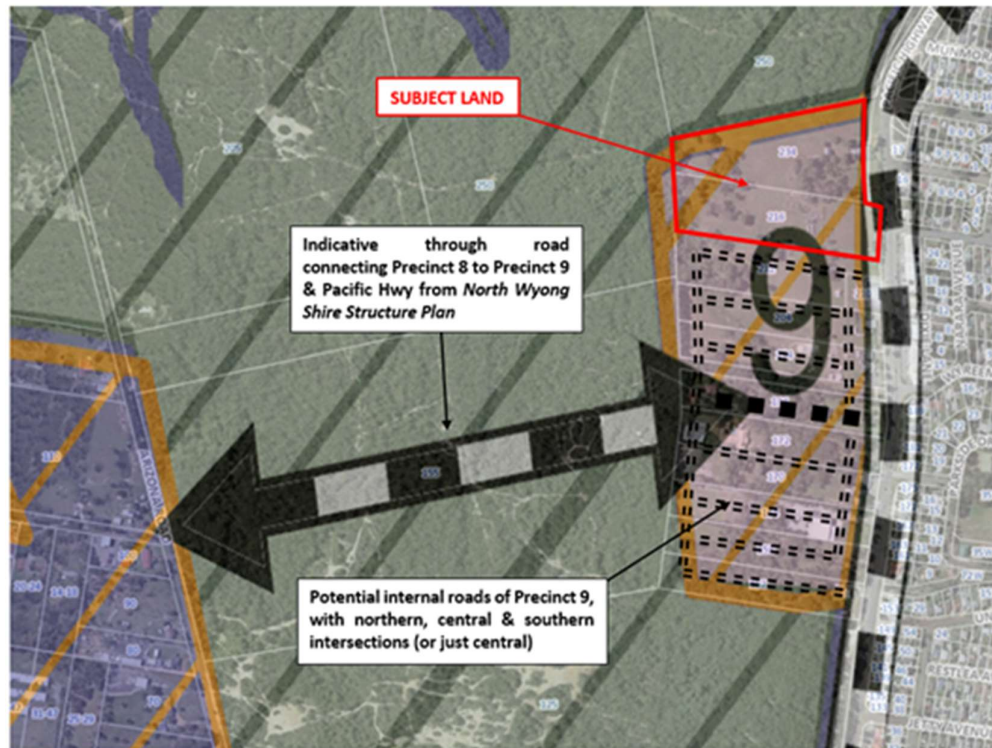


Figure 2 – Impact on developability of Precinct 9 lands.

## ON-SITE CAR PARKING AND MANOUVRABILITY

Under the relevant SEPP, Australian Standard and regulations the SL development is required to have the following design standards in regard to on-site car parking and internal access roads.

- On-site car parking supply needs to be a minimum of 0.5 spaces per bedroom;



- Major internal roads should be 8 metres wide while minor roads should be 5.5 metres to 6 metres wide for two way flow.
- Suitable visitor car parking needs to be provided.

Noting that each dwelling will be provided with at least a single garage space and external car parking for approximately 40 cars is also provided ensures suitable on-site car parking is provided within the development. The proposed residential lots will comply with the minimum lot size requirements of Central Coast Council therefore will have sufficient space to provide the DCP on-site car parking requirement.

The major roads within the site have been designed with a minimum 8 metre wide carriageway while the minor roads have a 5.5 metre wide carriageway ensuring compliance with the requirements of the SEPP and Australian Standards.

### ALTERNATIVE TRANSPORT MODES

The Charmhaven area is well serviced by public transport with routes operated by three companies being Busways Central Coast, Red Bus Services and Coastal Liner. These provide regular and frequent services to the area that could be utilised by residents to access all commercial, retail, educational, medical, sporting and transport facilities in the area. Connections to major transport interchanges provides access to the state rail network which then connects to other areas of NSW. Notwithstanding it is likely the development will operate its own shuttle bus for residents to meet the public transport accessibility requirements of the SEPP. Bus stops exist within close proximity to the site on the Pacific Highway providing excellent accessibility to the existing public transport service.

The existing footpath network including an existing pedestrian refuge on the Pacific Highway can be used by residents of the village accessing the neighbourhood shopping centre however this will require a suitable internal pedestrian network as well as connection to the existing external network with footpaths along the site frontage. It is noted that the development will include older more vulnerable pedestrians who could use the existing pedestrian refuge on the Pacific Highway to facilitate crossing of the road to the Charmhaven shops. However, it is unlikely there will be any significant pedestrian traffic from the site to the Charmhaven shops as the operator of the seniors living development intends providing a mini bus shuttle service for residents that can be booked for special trips as well as the provision of a regular daily service to the Lake Haven Shopping Centre which provides more retail and commercial services than the local shopping centre. It is also likely that the Precinct 9 lands public road access to the Pacific Highway will in future be a signalised T-intersection which could include pedestrian phases if required.

The development is not likely to generate a high demand for cycle facilities therefore it is considered there is no nexus for the planning proposal to provide any external cycle facilities.

## CONCLUSION

This preliminary traffic assessment of a planning proposal for a seniors living development (Stage 1) and a residential development (Stage 2) has determined that;

1. There is sufficient spare capacity within the local and state road network to cater for the increase in traffic resulting from the development without that traffic adversely impacting on the effectiveness and efficiency of the nearby local and state road networks.
2. That a suitably safe vehicular access to the planning proposal can be provided off the Pacific Highway though it is likely that right turn movements out of the site will need to be prohibited with motorists using an alternative route via Windermere Avenue, Resthaven Avenue and either Norah Avenue or Awaba Avenue to adjust their route to head south.
3. The site access will need to be constructed as a minimum CHR / AUL(s) access due to the high traffic volumes on the Pacific Highway.
4. The site development will not impact on the future development of land within the Precinct 9 area.
5. The development can provide sufficient and suitable on-site car parking for the site to meet Council, Australian Standard and SEPP requirements.
6. The site is well serviced by public transport with excellent access to services and infrastructure near the site. Notwithstanding it is likely the seniors living development operator will look to provide its own shuttle bus for resident use and convenience.
7. Internal and external linkages to the existing pedestrian infrastructure in the area should and will be provided within and from the site. In this regard an external footpath along the site frontage will be required. Pedestrians would be able to use the existing pedestrian refuge on the Pacific Highway to facilitate the crossing of the Pacific Highway to the Charmhaven shops however it is not expected that such pedestrian traffic will be high as the seniors living development operator will provide a regular daily minibuss shuttle service for residents to the Lake Haven Shopping Centre which provides more retail and commercial choices for residents.
8. The development is not likely to generate a high demand for cycle facilities therefore it is considered there is no nexus for the planning proposal to provide any external cycle facilities.

## RECOMMENDATION

Having undertaken this preliminary traffic assessment for a planning proposal for a seniors living development and residential development on 216 - 234 Pacific Highway, Charmhaven it is recommended the Department of Planning, Industry and Environment can support the gateway application for the proposal as it will not adversely impact on the effectiveness and efficiency of the existing local and state road network and can comply with all requirements of Central Coast Council, Australian Standards, TfNSW and SEPP (Housing for seniors and people with a disability) 2009.

For further information or clarification please do not hesitate to contact me on 0423 324 188.

Yours sincerely

A handwritten signature in black ink, appearing to read 'J. Garry', with a small, illegible mark below it.

Jeff Garry  
**Director**  
**Intersect Traffic**



**Lot Yield Summary**

- \* Stage 1 Seniors Living - 70 lots
- \* Stage 2 Residential Sub-division - 32 lots

**LOT 35**  
Boundary 349.31m  
RL 14.0 AHD  
RL 12.0 AHD  
RL 10.0 AHD  
RL 8.0 AHD

**LOT 2**  
RL 16.0 AHD  
RL 14.0 AHD  
RL 12.0 AHD  
RL 10.0 AHD  
RL 8.0 AHD  
RL 6.0 AHD

**Potential Future 8 Lot Residential Development**  
future 29m APZ  
future 8m wide ring road  
UTILITIES 20.00 m<sup>2</sup>  
ADMINISTRATION 240.00 m<sup>2</sup>  
WASTE 60.00 m<sup>2</sup>

**Potential Future 9 Lot Residential Development**  
Road Widening  
Bus Stop

**LOT 1 DP 335574**  
**LOT 332 DP 18234**

**234 Pacific Hwy**  
**216 Pacific Hwy**

**MENS SHED 108.06 m<sup>2</sup>**  
**PUMP 22.86 m<sup>2</sup>**  
**Bowling Green 800.00 m<sup>2</sup>**  
**CLUB HOUSE 402.57 m<sup>2</sup>**  
**AUXILIARY 332.73 m<sup>2</sup>**  
**PUMP 22.86 m<sup>2</sup>**  
**OSD Existing Dam**

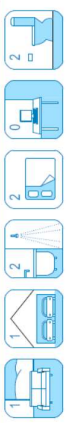
**RESIDENTIAL**  
Various lot sizes and details are provided throughout the plan.

**HOWARD LESLIE & ASSOCIATES**  
PRACTISING SURVEYORS  
11 DUNDAS AVENUE  
SYDNEY NSW 2008  
Tel: (02) 4332 4500  
Fax: (02) 4332 4501  
www.howardleslie.com.au

**SITE PLAN**  
Scale: 1:500  
Date: 10/10/2019  
Project: 21713-SK02  
Client: Seniors Living Development  
No. 216-234 Pacific Hwy Charnhaven NSW 2282  
Lot 00 DP 00000



scale 1:100



# PLANS - Villa02

- 1 Garage
- 2 Entry
- 5 Lounge
- 6 Dining
- 7 Kitchen
- 8 Laundry
- 10 Main Bed
- 13 Hall
- 14 Ensuite
- 15 Bath
- 17 Lin
- 18 Robe
- 20 POS
- 21 Service Court

Home Footprint = 135.58m2  
Living = 100m2  
Garage = 24m2  
Alfresco = 10m2



Villa\_02\_2 bec  
A: 135.58 m<sup>2</sup>  
270.00 m<sup>2</sup>

SITE COVERAGE		
	Area	% of site
New	Villa_01_3 Bed	1,048.25
New	Villa_02_2 Bed	7,185.74
New	Villa_03_1 bed + study	231.12
New	Villa_04_2 bed	390.69
New	Villa_05_3 bed	313.50
New	Villa_06_2 bed + study	142.88
New	Villa_07_2 bed + study	143.72
New	Villa_08_2 bed + study	278.30
		9,734.30 m <sup>2</sup>
		1622.59



**HOWARD LESLIE & ASSOCIATES**  
residential and commercial building design

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Issue: 21713  
SK04  
Capital Property  
216-234 Pacific Hwy Charmhaven NSW 2262



## Attachment 2 – Site access Sidra Movement Summary Tables

### MOVEMENT SUMMARY

▽ Site: 101 [Charmhaven SL access AM peak (Site Folder: General)]

Pacific Highway access to proposed SL 216 to 234 Pacific Highway Charmhaven.

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 ] m				
South: Pacific Highway														
1	L2	11	5.0	12	5.0	0.006	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
2	T1	528	5.0	556	5.0	0.294	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		539	5.0	567	5.0	0.294	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.7
North: Pacific Highway														
8	T1	792	5.0	834	5.0	0.441	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
9	R2	10	5.0	11	5.0	0.015	8.7	LOS A	0.1	0.4	0.53	0.68	0.53	50.8
Approach		802	5.0	844	5.0	0.441	0.3	NA	0.1	0.4	0.01	0.01	0.01	59.5
West: SL Site Access														
10	L2	15	5.0	16	5.0	0.024	8.8	LOS A	0.1	0.6	0.51	0.70	0.51	51.0
12	R2	15	5.0	16	5.0	0.093	28.3	LOS B	0.3	2.3	0.90	0.96	0.90	39.9
Approach		30	5.0	32	5.0	0.093	18.6	LOS B	0.3	2.3	0.70	0.83	0.70	44.8
All Vehicles		1371	5.0	1443	5.0	0.441	0.6	NA	0.3	2.3	0.02	0.03	0.02	59.2

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

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

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

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

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.

## MOVEMENT SUMMARY

▼ Site: 101 [Charmhaven SL access AM peak - left out only  
(Site Folder: General)]

Pacific Highway access to proposed SL 216 to 234 Pacific Highway Charmhaven.

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 ] m				
South: Pacific Highway														
1	L2	11	5.0	12	5.0	0.006	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
2	T1	528	5.0	556	5.0	0.294	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		539	5.0	567	5.0	0.294	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.7
North: Pacific Highway														
8	T1	792	5.0	834	5.0	0.441	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
9	R2	10	5.0	11	5.0	0.015	8.7	LOS A	0.1	0.4	0.53	0.69	0.53	50.6
Approach		802	5.0	844	5.0	0.441	0.3	NA	0.1	0.4	0.01	0.01	0.01	59.5
West: SL Site Access														
10	L2	30	5.0	32	5.0	0.047	8.9	LOS A	0.2	1.1	0.51	0.73	0.51	51.0
Approach		30	5.0	32	5.0	0.047	8.9	LOS A	0.2	1.1	0.51	0.73	0.51	51.0
All Vehicles		1371	5.0	1443	5.0	0.441	0.4	NA	0.2	1.1	0.02	0.03	0.02	59.4

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

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

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

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

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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Project: Not Saved

## MOVEMENT SUMMARY

▼ Site: 101 [Charmhaven SL access PM peak (Site Folder: General)]

Pacific Highway access to proposed SL 216 to 234 Pacific Highway Charmhaven.

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 % ]	v/c	sec		[ Veh. veh ]	[ Dist m ]				km/h
South: Pacific Highway														
1	L2	16	5.0	17	5.0	0.009	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
2	T1	984	5.0	1036	5.0	0.548	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
Approach		1000	5.0	1053	5.0	0.548	0.3	NA	0.0	0.0	0.00	0.01	0.00	59.4
North: Pacific Highway														
8	T1	656	5.0	691	5.0	0.369	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
9	R2	16	5.0	17	5.0	0.062	17.9	LOS B	0.2	1.4	0.82	0.92	0.82	45.1
Approach		672	5.0	707	5.0	0.369	0.5	NA	0.2	1.4	0.02	0.02	0.02	59.3
West: SL Site Access														
10	L2	11	5.0	12	5.0	0.047	18.3	LOS B	0.1	1.0	0.82	0.92	0.82	45.0
12	R2	10	5.0	11	5.0	0.148	58.5	LOS E	0.4	3.3	0.96	0.98	0.96	30.0
Approach		21	5.0	22	5.0	0.148	37.5	LOS C	0.4	3.3	0.89	0.95	0.89	36.4
All Vehicles		1693	5.0	1782	5.0	0.548	0.9	NA	0.4	3.3	0.02	0.03	0.02	58.9

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

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

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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Project: Not Saved



## MOVEMENT SUMMARY

▼ Site: 101 [Charmhaven SL access PM peak - left out only  
(Site Folder: General)]

Pacific Highway access to proposed SL 216 to 234 Pacific Highway Charmhaven.

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 ] m				
South: Pacific Highway														
1	L2	16	5.0	17	5.0	0.009	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
2	T1	984	5.0	1036	5.0	0.548	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
Approach		1000	5.0	1053	5.0	0.548	0.3	NA	0.0	0.0	0.00	0.01	0.00	59.4
North: Pacific Highway														
8	T1	656	5.0	691	5.0	0.369	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
9	R2	16	5.0	17	5.0	0.062	17.8	LOS B	0.2	1.4	0.82	0.93	0.82	44.9
Approach		672	5.0	707	5.0	0.369	0.5	NA	0.2	1.4	0.02	0.02	0.02	59.3
West: SL Site Access														
10	L2	21	5.0	22	5.0	0.090	18.6	LOS B	0.3	1.9	0.82	0.93	0.82	44.9
Approach		21	5.0	22	5.0	0.090	18.6	LOS B	0.3	1.9	0.82	0.93	0.82	44.9
All Vehicles		1693	5.0	1782	5.0	0.548	0.7	NA	0.3	1.9	0.02	0.03	0.02	59.1

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

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

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

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

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.