



Peter Vogel

Traffic and Parking Impact Assessment Report

38 Tweed Street, Brunswick Heads

10 July 2024

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1 Introduction

Barker Ryan Stewart have been engaged by Peter Vogal to prepare a Traffic and Parking Impact Assessment in accordance with the requirements of Byron Shire Development Control Plan 2014 (DCP) and the NSW Government's '*Guide to Traffic Generating Developments*' to accompany a Development Application to formalise the use of the site for the purposes of a café and recreational facility (indoor) with opening hours from 5am–8pm.

As part of the Development Application to formalise the uses of the tenancies within the site, it is requested that the existing parking credit is recognised as part of the assessment and formally acknowledged within the development consent that is to be issued by Byron Shire Council.

The purpose of this report is to assess and address any traffic, access, car parking and pedestrian impacts generated by the proposed development. This can be briefly outlined as follows:

- Car parking credits
- The expected traffic generation to/from the proposed development.
- The impact of the proposed development on the road network.
- Intersection analysis based on traffic counts.
- Vehicle parking provisions.
- Access design requirements.
- Delivery and Waste Collection.
- Provision for pedestrians.
- Availability of public transport.

This Traffic and Parking Impact Assessment Report concludes that the subject site is suitable for the proposed development in relation to traffic impact, car parking provision, vehicle and pedestrian access and safety considerations.

2 Existing Conditions

2.1 Site Location

The site is located at 38 Tweed Street, Brunswick Heads. It is legally known as Lot 1 DP 303546.

Customer vehicular access to the site is from Slessor Lane and Tweed Street to service the sites previous use as a service station. There is also access to the previously used garage working bays via the garage doors in Slessor Street.

As shown in Figure 2.1 below, the site is located within the CBD of Brunswick Heads and is bound by residential lots to the north, south and west. To the southeast of the site there is a small shopping centre with IGA as the anchor tenant and some specialty shops.



Figure 2.1: (NSW Land & Property Information SIX Maps)



Figure 2.2: Site Location (NSW Land & Property Information SIX Maps)

2.2 Existing Development

The site is currently developed with a portion used as a shop and a café and there is a recently issued Complying Development Certificate for the use of a portion of the site as a Gym.

The site had been used as a motor mechanic service centre for 65 years under a previously issued Development Consent.

2.3 Car Parking Credits

In line with the requirements of the Byron Shire DCP section B4.2.7 car parking credits and street parking, there are car parking credits afforded to the site.

The subject property has a long history of use as a service station containing multiple work bays for vehicle servicing and repairs. Legal advice from MY Lawyers and planning advice from Town Planning Studio (attached at **Appendix B**) confirms that Development Consent No. 1999/0854 has lapsed and that the approvals issued prior to this 1999 Development Application appropriately inform the previous approved uses of the site.

The planning advice from Town Planning Studio confirms that 8 x workstations were in operation within the property, as well as 61.1 square metres of retail floor area. This has been calculated as providing a total parking credit of 35 spaces for the property.

As part of the Development Application to formalise the uses of the tenancies within the site, it is requested that the existing parking credit is recognised as part of the assessment and formally acknowledged within the development consent that is to be issued by Byron Shire Council.

The existing parking credit and the proposed formalisation of on-street parking within Fingal Street is provided over and above the parking requirements for the proposed development. The parking credit being sought will be used to support further uses of the property in the future.

For more details in relation to the car parking credits please review the advice attached at **Appendix B**.

2.4 Existing Road Conditions

The site is bound by Tweed Street in the east and Slessor Lane to the south.

Vehicular access to the site is from Slessor Lane and Tweed Street to service the sites previous use as a service station and motor mechanics. There is also access to the previously used garage working bays via the garage doors in Slessor Street.

Tweed Street

Tweed Street is an ancillary road under the care and control of TfNSW that provides access to and from the Pacific Motorway to Brunswick Heads. It generally consists of one lane in each direction with each lane being line marked 3m wide. There is also a 2m wide line marked bicycle path on either side of the road.

Across the frontage of the site Tweed Street is a sealed vehicle crossover with no kerb and gutter. Opposite the site Tweed Street has a bus stop with an unsealed road shoulder for a width of 5 metres with kerb and gutter. Street parking is available along Tweed Street in the vicinity of the site.

The posted speed limit in Tweed Street is 50mk/hr.

Slessor Lane

Slessor Lane is a rear laneway with a sealed carriageway width of 4m. It is under the care and control of Byron Shire Council. Slessor Lane provides rear lane access to a number of residential properties to the west.

2.5 Public Transport, Pedestrians and Cyclists

As mentioned above, there is a bus stop located directly opposite the site, another one located approximately 85m to the north on the adjacent side of the road in Tweed Street as well as the Brunswick Heads bus interchange located approximately 320m to the east of the site in Park Street.

These bus stops are serviced by bus routes 161, 162, 165, 610 and 645. These bus routes take passengers to Ocean Shores to the north, Lismore to the west and Byron Bay to the south. Bus Route Maps are attached at **Appendix E**.

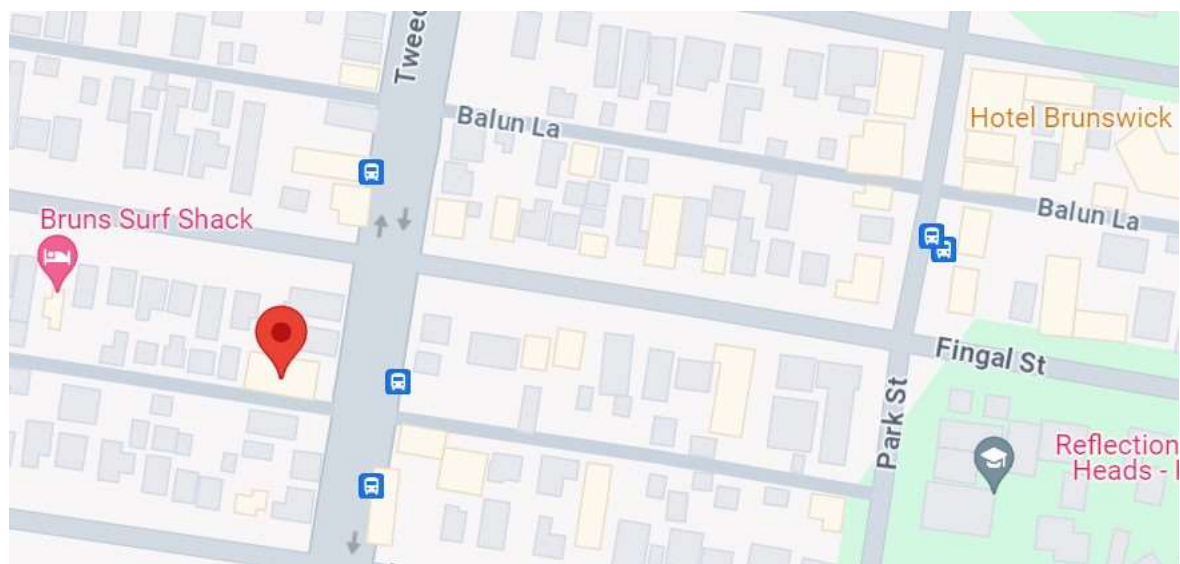


Figure 2.3: Map of surrounding bus stops (Google Maps 2020)

3 Proposed Development

3.1 Development Description

The proposal is to utilise the existing building and formalise its use for the following purposes:

- 46.8m² existing café with a new 86.5m² outdoor seating area
- 356.2m² recreational facility (indoor)/gym with opening hours from 5am–8pm.

Figure 3.1 below shows the proposed development.



Figure 3.1: Proposed Development

3.2 Car, motor bike and bicycle parking

It is proposed to formalise 31 on street car parking spaces in Fingal Street in the approximate location shown in Figure 3.2 below in accordance with the line marking and signage and associated requirements of AS 2890.5-1993 Parking Facilities - On Street Parking.

As indicated in the car parking survey undertaken on Wednesday 15 June 2024 between 5am and 8pm, there was between 64 and 90 available spaces in Fingal Street in this location.

It is also proposed to provide 8 on site bicycle parking spaces in the north east corner of the site as shown in Figure 3.1 above.



Figure 3.2: General location of proposed on street car parking to be formalised

3.3 Service Vehicles

Council's standard Waste Vehicle would be able to continue to collect waste from within Slessor Lane.

Deliveries to the café and gym will continue to be undertaken by smaller service vehicles such as vans via Tweed Street.

4 Car Parking Assessment

4.1 Vehicle On Street Parking Survey

On Wednesday 15 June 2024 Barker Ryan Stewart conducted an on street car parking survey in the CBD of Brunswick Heads between the proposed opening hours of the Gym from 5am to 8pm.

The area that formed part of the on street car parking survey is shown in Figure 4.1 below.



Figure 4.1: The extent of the on street car parking survey

The results of the on street car parking survey are shown in Figure 4.2 below and attached at **Appendix C**. They indicate that there is a substantial amount of available on street parking throughout the day within the Brunswick Heads during the period surveyed.

Note that there is plenty of available on street parking spaces) located in the near vicinity to the site during the survey period. That is in area 1 (between 7 and 36 available), area 3 (between 64 and 90 available) and area 4 (between 41 and 107 available).

38 Tweed Street, Brunswick Heads on street car park survey 24/05/15 7am-7pm																				
parallel (6.7m)	33		20					56				9		82		38				
perpendicular (2.6m)	12				117		132		96		189		156			54				
On street parking space	45		20		117		132		152		189		165		82		92		994	
Time	1. Tweed St N		2. Tweed St S		3. Fingal St W		4. Fingal St E		5. Mullumbimby		6. Booyun St		7. Nana St		8. Byron St		9. Park St		Total	
	Parked	availabl	Parked	availabl	Parked	availabl	Parked	availabl	Parked	availabl	Parked	availabl	Parked	availabl	Parked	availabl	Parked	availabl	Parked	availabl
5:00am	9	36	5	15	27	90	25	107	30	122	42	147	49	116	20	62	22	70	229	765
5:30am	10	35	4	16	30	87	25	107	27	125	44	145	50	115	21	61	23	69	234	760
6:00am	14	31	4	16	33	84	27	105	26	126	45	144	50	115	21	61	24	68	244	750
6:30am	17	28	6	14	32	85	28	104	26	126	47	142	46	119	20	62	24	68	246	748
7:00am	19	26	6	14	32	85	29	103	28	124	48	141	42	123	18	64	24	68	246	748
7:30am	19	26	6	14	35	82	29	103	27	125	46	143	42	123	17	65	30	62	251	743
8:00am	24	21	6	14	37	80	29	103	27	125	42	147	40	125	16	66	38	54	259	735
8:30am	28	17	6	14	43	74	46	86	30	122	44	145	39	126	16	66	40	52	292	702
9am	28	17	6	14	49	68	58	74	32	120	48	141	38	127	16	66	42	50	317	677
9:30am	28	17	6	14	53	64	62	70	34	118	48	141	36	129	17	65	47	45	331	663
10am	30	15	6	14	49	68	70	62	39	113	50	139	36	129	17	65	52	40	349	645
10:30am	30	15	6	14	49	68	78	54	43	109	51	138	38	127	18	64	55	37	368	626
11:00am	30	15	5	15	46	71	91	41	41	111	52	137	37	128	18	64	57	35	377	617
11:30am	33	12	5	15	51	66	89	43	40	112	50	139	36	129	18	64	50	42	372	622
12:00pm	25	20	5	15	48	69	82	50	44	108	51	138	36	129	18	64	55	37	364	630
12:30pm	21	24	5	15	42	75	72	60	48	104	44	145	37	128	18	64	57	35	344	650
1pm	25	20	5	15	42	75	70	62	50	102	48	141	37	128	19	63	52	40	348	646
1:30pm	25	20	5	15	41	76	69	63	57	95	50	139	36	129	19	63	45	47	347	647
2pm	23	22	6	14	44	73	70	62	53	99	47	142	37	128	19	63	49	43	348	646
2:30pm	20	25	6	14	43	74	60	72	48	104	42	147	38	127	18	64	51	41	326	668
3pm	21	24	6	14	43	74	60	72	47	105	43	146	36	129	18	64	51	41	325	669
3:30pm	15	30	5	15	31	86	61	71	41	111	45	144	41	124	18	64	42	50	299	695
4pm	20	25	6	14	33	84	59	73	39	113	40	149	45	120	18	64	40	52	300	694
4:30pm	22	23	6	14	39	78	53	79	40	112	39	150	43	122	18	64	37	55	297	697
5pm	27	18	7	13	38	79	51	81	43	109	42	147	43	122	18	64	35	57	304	690
5:30pm	30	15	5	15	37	80	58	74	40	112	40	149	42	123	19	63	30	62	301	693
6pm	35	10	4	16	46	71	63	69	33	119	39	150	49	116	19	63	28	64	316	678
6:30pm	35	10	5	15	46	71	63	69	33	119	39	150	49	116	19	63	28	64	317	677
7pm	38	7	6	14	46	71	69	63	37	115	41	148	49	116	18	64	25	67	329	665
7:30pm	30	15	5	15	46	71	64	68	38	114	40	149	49	116	18	64	24	68	314	680
8pm	29	16	5	15	46	71	60	72	35	117	40	149	45	120	18	64	22	70	300	694

Figure 4.2: Results of the on street car parking survey

4.2 Parking Requirements

The proposed car parking provision has been assessed against the requirements of the Byron Shire DCP 2014 and is in line with what was indicated by Byron Shire Council following a meeting and confirmed by email dated 28 June 2024.

Please note that the parking requirements are conservative as it is expected that the café will also partially function as an ancillary use to the Gym.

Byron Shire DCP 2014

The Byron Shire DCP Chapter B4 Traffic Planning, Vehicle Parking, Circulation and Access requires the following parking provisions for each use:

- Food and Drink premises (café) = 1 space per 20m² GFA for cars in business and industrial zones and 1 per 25m² for bicycles.
- Recreational facility (indoor) Gym = 1 space per 20m² GFA for cars and 1 per for employees and 1 per 200m² of GFA for bicycles.

Figure 4.3 below outlines the number of car parking spaces required by Byron Shire for the proposed development.

Land Use	Byron Shire DCP requirements (cars)	Byron Shire DCP requirements (bicycles)
Café (46.8m ² + 86.5m ²)	1 space per 20m ² GFA = 6.7	1 per 25m ² for bicycles = 5.3
Gym (356.2m ²)	1 space per 20m ² GFA = 17.8	1 per four employees and 1 per 200m ² of GFA = 2.8
TOTAL	24.5	8.1

Figure 4.3: Car Parking requirement and provision

4.3 Parking Provision

In accordance with Byron Shire's DCP car parking credits are afforded to sites based on current approved use. The extract of Council's section B4.2.7 is shown in Figure 4.4 below.

B4.2.7 Car Parking Credits and Street Parking

1. Council may acknowledge car parking credits for a site based on the current approved use/s.
2. Any car parking credit shall be based on the rates in Table B4.1 in this DCP Chapter.
3. Car parking credit is equivalent to the parking requirement for current approved use/s calculated in accordance with (1) and (2) above, less the number of parking spaces specified by current approvals.
4. Where a developer contribution for car parking has previously been paid for a current approved use/s on a development site, new development may be entitled to car parking credits equivalent to the number of spaces for which developer contributions were received by Council if the above calculation does not acknowledge the credit.
5. Where a car parking credit has previously been granted for land dedications in conjunction with development, a new development on the same site will be entitled to take that into consideration in calculating the number of car parking credits.
6. Car parking credits are not transferable to other development sites.
7. Council will consider proposals to increase on street parking capacity for the provision of some or all customer car parking spaces by increasing on street parking capacity where there is a material public benefit, and where:
 - a) The net increase in formalised (ie paved &/or linemarked) on street parking is 25% greater than the number otherwise required on site;
 - b) The resulting streetscape conforms with the principles of good urban design;
 - c) The level of pedestrian, cycle and traffic amenity on the street is maintained; and
 - d) The proposal is not detrimental to utility services.

Note: Council is more likely to give favourable consideration to such proposals if they provide an offsetting benefit to the public - such as property boundary setback dedication to allow conversion of existing parallel parking to angle parking. Other proposals that promote ESD policies will also be entertained.

In B4.2.7, 'current approved use' means a current use for which there is an effective development consent in place or an existing lawful use.

Figure 4.4: Byron Shire DCP B4.2.7 Car Parking Credits and Street Parking

As outlined in Section 2.3 of this report, the subject property has a long history of use as a service station containing multiple work bays for vehicle servicing and repairs. Legal advice from MY Lawyers and planning advice from Town Planning Studio (attached at **Appendix B**) confirms that Development Consent No. 1999/0854 has lapsed and that the approvals issued prior to this 1999 Development Application appropriately inform the previous approved uses of the site.

The planning advice from Town Planning Studio confirms that 8 x workstations were in operation within the property, as well as 61.1 square metres of retail floor area. This has been calculated as providing a total parking credit of 35 spaces for the property.

As part of the Development Application to formalise the uses of the three tenancies within the site, it is requested that the existing parking credit is recognised as part of the assessment and formally acknowledged within the development consent that is to be issued by Byron Shire Council.

The existing parking credit and the proposed formalisation of 31 on-street parking spaces within Fingal Street is provided over and above the parking requirements for the proposed development. The parking credit being sought will be used to support further uses of the property in the future.

The 31 parking spaces to be provided in Fingal Street were determined in line with the Byron Shire's DCP B4.2.7, that is $25 \times 1.25 = 31.25$ on street car parking spaces.

The on street car parking survey outlined in Section 4.1 showed that there is plenty of existing on street parking space available in Fingal Street and elsewhere in the vicinity of the site during the proposed opening hours of the Gym between 5am and 8pm.

It is also proposed to provide 8 bicycle parking spaces on site in accordance with the Byron Shire DCP requirements.

4.4 Green Travel Plan initiatives

It is proposed to encourage staff and customers to use active transport initiatives by making greater use of public transport, cycling, walking and car sharing. This can be briefly outlined as follows:

- Promotion and incentives to use public transport options.
- Encourage walking and cycling as part of visitors exercise routine. Most of the visitors to the facility are likely to locals living within Brunswick Heads or visitors that would drive to the CBD of Brunswick Heads and walk to the site as part of their multi-purpose trip.
- The provision of 8 on site bicycle parking spaces and end of trip facility.

The benefits of implementing strategies such as these are:

- Reduce the number of single-occupancy car trips
- Reduce greenhouse gas emissions and reliance on finite fossil fuel resources.
- Improve resident health from increased exercise.
- Improve wellbeing from exercise and social interactions.
- Less local pollution and traffic noise.

5 Traffic Assessment

5.1 Existing traffic flows and volumes

Traffic counts were undertaken at the intersection of Tweed Street and Fingal Street on Wednesday 15 May 2024 between 7:30am-9:30am and 3pm-6pm.

From the peak hour traffic counts at the intersection of Tweed Street and Fingal Street, there was a total of 323 south bound and 382 north bound vehicle movements in the AM peak between 8:30am-9:30am passing the subject site. There was 331 south bound and 378 north bound vehicle movements in the PM peak between 4:30pm-5:30pm passing the subject site

The summary of the AM and PM peak hour traffic counts for this intersection are shown in Figures 5.1 and 5.2 below. The data sheets are located in **Appendix C**.

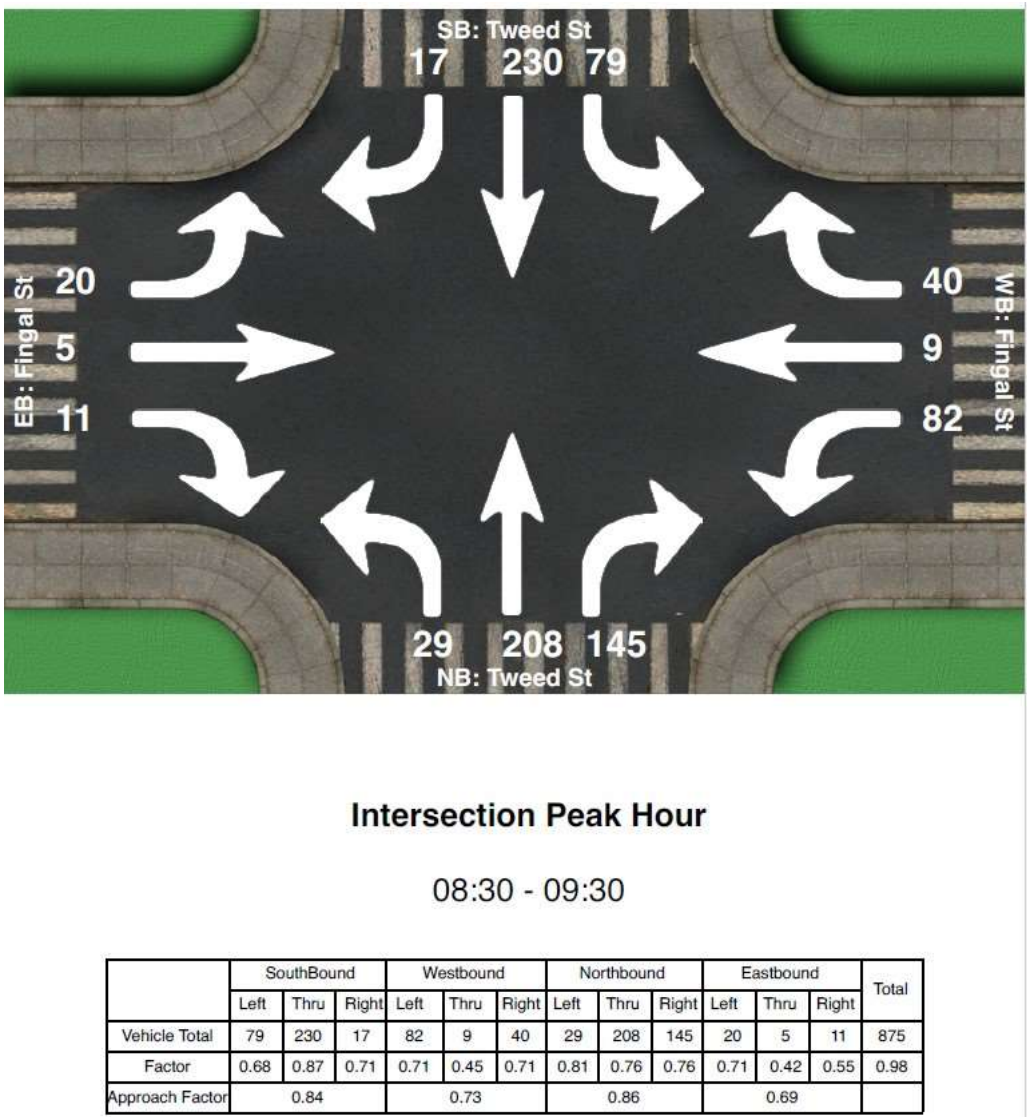


Figure 5.1: AM peak hour traffic counts at the Tweed Street/Fingal Street intersection

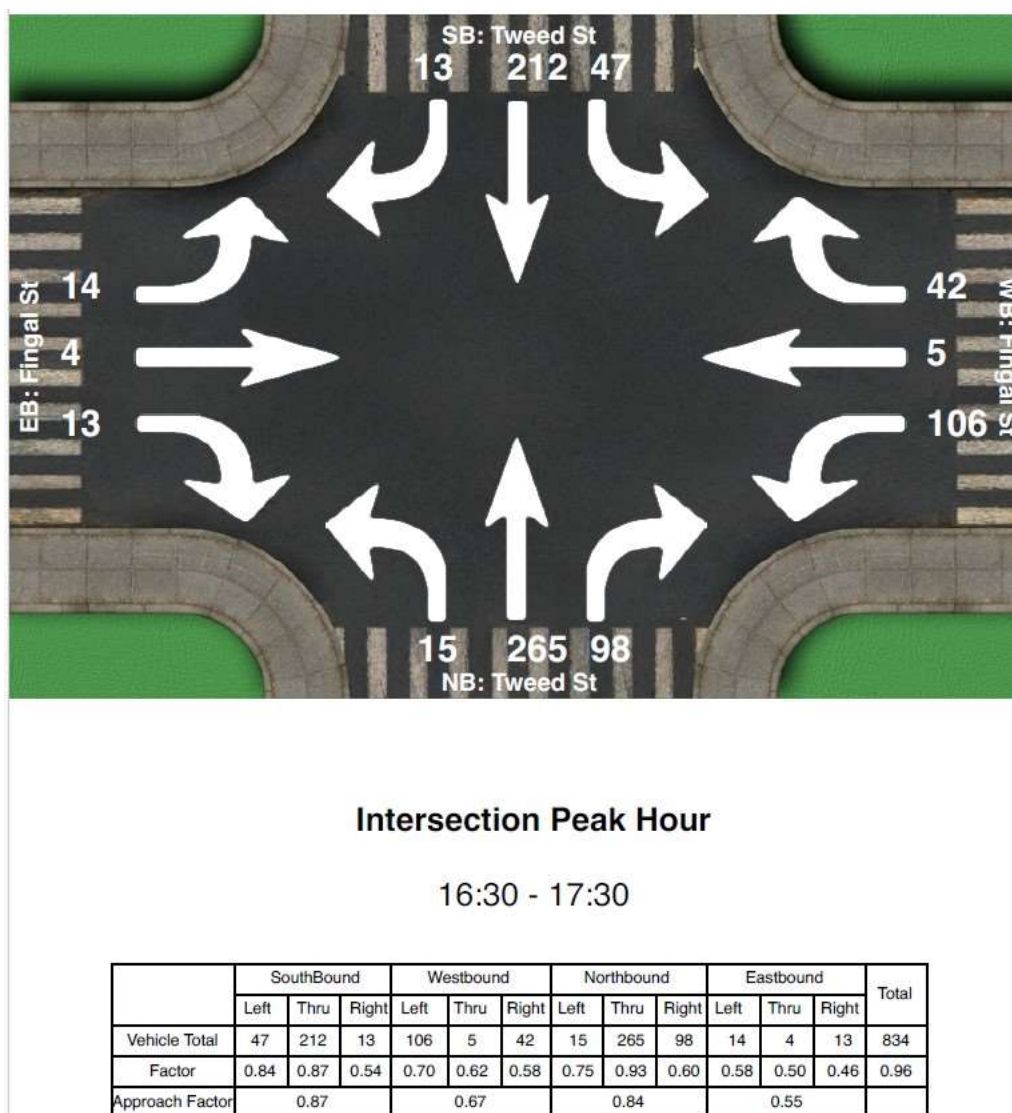


Figure 5.2: PM peak hour traffic counts at the Tweed Street/Fingal Street intersection

5.2 Trip Generation

5.2.1 Existing Development

The existing development comprises of the following:

- Tenancy 1 – 40.5m² existing retail shop
- Tenancy 2 – 51m² existing café
- Tenancy 3 – 311m² unused, previously operated as a mechanical workshop.

Based TfNSW's 'Guide to Traffic Generating Developments' for the existing use of tenancy 1 as a retail shop and tenancy 2 as a café, the peak hour traffic generation for the site would currently be:

- Tenancy 1 – 40.5m² existing retail shop x 12.3/100m² = 4.98 vehicles/hour
- Tenancy 2 – 51m² existing café x 5/100m² = 2.55 vehicles/hour
- Total = 8 vehicles/hour

Note that the traffic generated by the existing use of the site would have been captured in the traffic counts undertaken on Wednesday the 15 May 2024.

5.2.2 Proposed Development

Based TfNSW's 'Guide to Traffic Generating Developments' for the proposed use of the site the peak hour traffic generation would be:

- 46.8m² existing café with 86.5m² outdoor seating area x 5/100m² = 6.67 vehicles/hour
- 356.2m² recreational facility (indoor)/gym x 9/100m² = 32.1 vehicles/hour
- Total = 38.8 (say 40) vehicles/hour

In summary the proposed development would generate an estimated 40 vehicle/trips, an additional 32 vehicle trips to existing current use of the site.

5.3 Road capacity

TfNSW's 'Guide to Traffic Generating Developments' Tables 4.3 and 4.4 is shown in Figure 5.3 below. It provides the two way peak hour road capacity of two-lane urban roads for a desirable level of service (LoS) B.

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

Table 4.4
Urban road peak hour flows per direction

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

Figure 5.3: Urban lane capacity (TfNSW 'Guide to Traffic generating Developments')

Based an outer or kerb lane with adjacent parking Tweed Street has a one way mid block capacity of 900 vehicles an hour and level of service B during peak hour would accommodate 380 vehicles in one lane.

As mentioned in Section 5.1 above, from the peak hour traffic counts at the intersection of Tweed Street and Fingal Street, there was a total of 323 south bound and 382 north bound vehicle movements in the AM peak between 8:30am-9:30am passing the subject site. There was 331 south bound and 378 north bound vehicle movements in the PM peak between 4:30pm-5:30pm passing the subject site

The addition of 32 vehicle movements per hour will not cause the capacity thresholds determined above to be reached in Tweed Street for south bound vehicles in the morning and evening peaks, they would continue to operate at a level of service 'B'.

For north bound vehicles the additional trips to the morning peak would keep the level of service at a level of C and in the evening peak just tip the level of service from a level of service B to a level of service C.

Therefore, the proposed development would not have any discernible impact on the local and state road networks mid-block efficiency.

5.4 SIDRA analysis and Impact of generated traffic

Note that in urban areas it is more important to assess the intersection performance to determine the efficiency of the road network rather than rely on mid-block efficiency.

The intersection of Tweed Street and Fingal Street has been assessed using the SIDRA modelling software which uses the level of service (delay) model adopted by the Transport for NSW to assess intersection performance. As shown in table 4.2 from the *Guide to Traffic Generating Developments* (see Figure 5.3 below), average delay is used to determine the level of service (LOS), which ranges from 'A' which is excellent service to 'F', with a LOS of 'D' being the minimum ideal performance.

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

Figure 5.3: Level of service at intersections (TfNSW 'Guide to Traffic generating Developments')

The intersection of Tweed Street and Fingal Street were assessed as a network for the existing and 10-year growth traffic volumes for AM and PM peak periods. A growth rate of 2% per annum was applied to the surveyed intersection to obtain the 10-year growth volumes.

The differences in performance between these scenarios are summarised in the table in Figure 4.4 below and a more detailed SIDRA output attached at **Appendix D**.

Tweed Street / Fingal Street		Existing Scenario		10-year Growth Scenario	
		Existing Conditions	Post Development	Existing Conditions	Post Development
AM	Delay (s)	3.1	3.1	3.6	3.6
	LOS	A	A (with one leg at B)	A (with two legs at B)	A (with 3 legs at B)
PM	Delay (s)	3.1	3.1	3.7	3.8
	LOS	A (with two legs at B)	A (with 2 legs at B)	A for Tweed St and B Fingal St	A for Tweed St and B Fingal St

Figure 4.4: SIDRA modelling Tweed Street and Fingal Street

As shown in the table above, the development traffic does not have a discernable negative impact on the existing traffic conditions at the intersection of Tweed Street and Fingal Street. The intersection will continue to operate at a consistent Level of Service A with a slight delay increase by up to 3.1 seconds once the site is developed.

The growth scenario over 10 years was also modelled, this shows that the intersection would also continue to operate at a level of service A for the Tweed Street legs and move to B for the Fingal Street legs with a slight delay increase by up to 3.8 seconds.

The development traffic will not have any significant impact on the queues and delays currently experienced within the road network. Only during the 10 year growth scenario that the Fingal Street legs will move from a level of service A to a level of service B, note that this is the case for the existing 10 year growth scenario without any development also.

Consequently, the development can be supported based on traffic grounds.

6 Conclusion/Recommendations

This Traffic and Parking Impact Assessment has been prepared in accordance with the requirements of Byron Shire DCP 2014 and the TfNSW's 'Guide to Traffic Generating Developments' to accompany a Development Application for to formalise the use of the site for the purposes of a café and recreational facility (indoor)/gym with opening hours from 5am–8pm.

As part of the Development Application to formalise the uses of the tenancies within the site, it is requested that the existing parking credit is recognised as part of the assessment and formally acknowledged within the development consent that is to be issued by Byron Shire Council.

Based on the approved past use of the site as a motor mechanic there are 35 car parking credits for the site.

The existing parking credit and the proposed formalisation of 31 on-street parking spaces within Fingal Street is provided over and above the parking requirements for the proposed development. The parking credit being sought will be used to support further uses of the property in the future.

The 31 parking spaces to be provided in Fingal Street were determined in line with the Byron Shire's DCP B4.2.7, that is $25 \times 1.25 = 31.25$ on street car parking spaces.

The on street car parking survey showed that there is plenty of existing on street parking available Fingal Street and elsewhere in the vicinity of the site during the proposed opening hours of the Gym between 5am and 8pm.

It is also proposed to provide 8 on site bicycle parking spaces.

Council's standard Waste Vehicle would be able to continue to collect waste from within Slessor Lane. Deliveries to the café and gym will continue to be undertaken by smaller service vehicles such as vans via Tweed Street.

the development traffic does not have a discernible negative impact on the existing traffic conditions at the intersection of Tweed Street and Fingal Street. The intersection will continue to operate at a consistent Level of Service A with a slight delay increase by up to 3.1 seconds once the site is developed.

The growth scenario over 10 years was also modelled, this shows that the intersection would also continue to operate at a level of service A for the Tweed Street legs and move to B for the Fingal Street legs with a slight delay increase by up to 3.8 seconds.

The development traffic will not have any significant impact on the queues and delays currently experienced within the road network. Consequently, the development can be supported based on traffic grounds.

The Traffic and Parking Impact Assessment concludes that the subject site is suitable for the proposed development in relation to the impact of traffic, car parking provision, vehicle and pedestrian access and safety considerations.

7 References

Australian Standards, 'AS/NZS 2890.1:2004 Off-Street Car Parking'.

Australian Standards, 'AS 2890.2:2018 Off-Street Commercial Vehicle Facilities'.

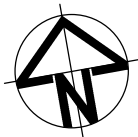
Australian Standards, 'AS/NZS 2890.6:2002 Off-Street Parking for People with Disabilities'.

Roads and Maritime Services, 'Guide to Traffic Generating Developments' Version 2.2 dated October 2002.

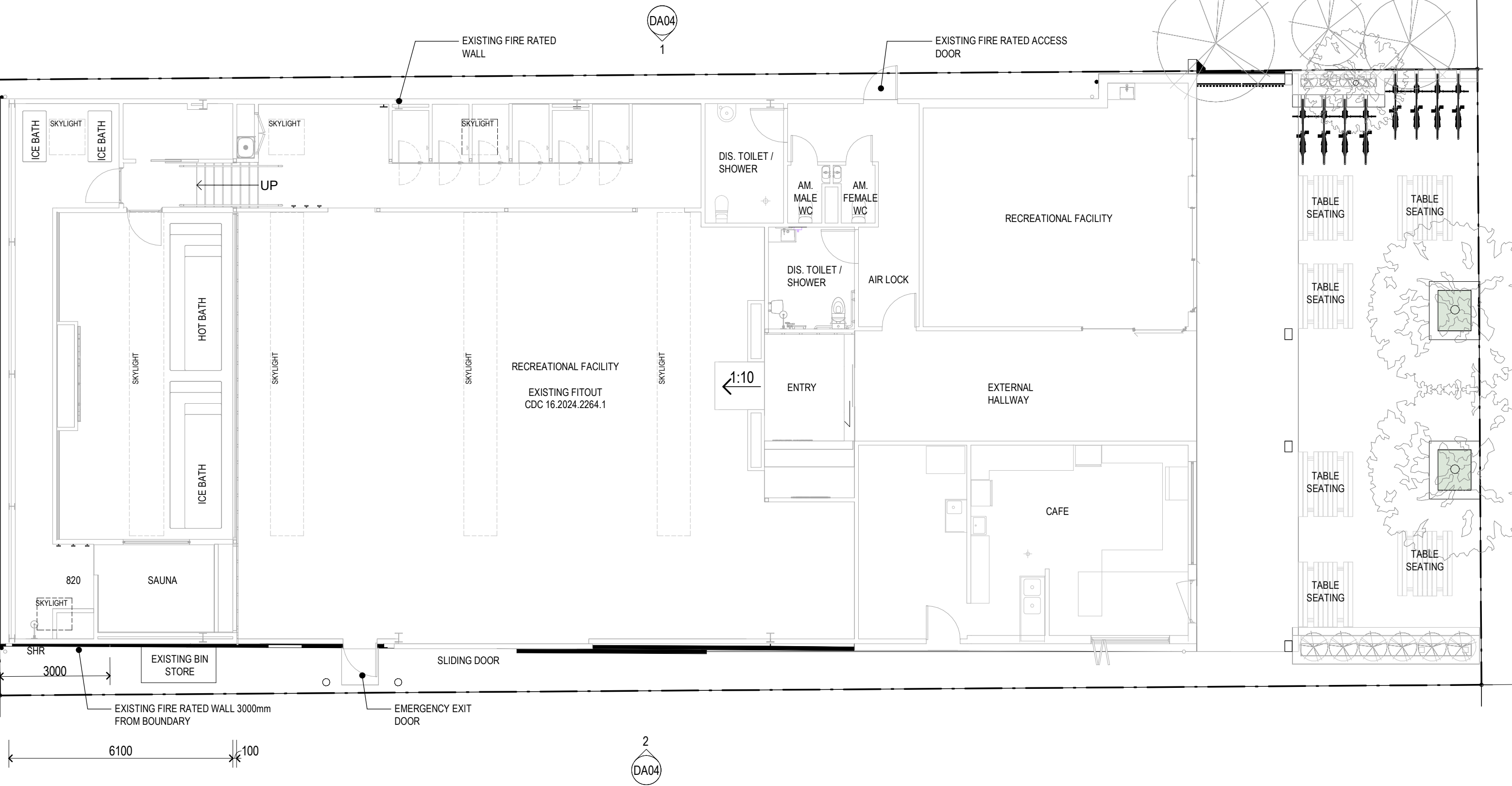
NSW Department of Planning, 'SEPP (Infrastructure) 2007'

Byron Shire Development Control Plan 2014

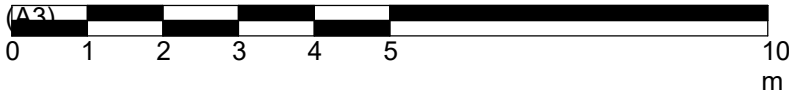
Appendix A - DA Plan



TRUE NORTH



SCALE 1:100



1 FLOOR PLAN
1 : 100



INFO@COBBOLDBUILDINGDESIGN.COM.AU
+61 412 877 090
REG #: DP-AD 44217

DO NOT SCALE FROM DRAWING - Builder to verify all levels, boundaries, set-outs, dimensions before construction. All the building works specified in the plans must comply with all council regulations, engineers specifications, building surveyors recommendations and all Australian standards referred to in the drawing and specifications. all work, materials & procedures must comply with the building Code of Australia

**PROJECT
CLIENT
ADDRESS**

**CHANGE OF USE
B3 FITNESS
38 TWEED ST, BRUNSWICK HEADS
LOT 1 - DP303546**

**DRAWING
NOTES:**

**FLOOR PLAN
DRAWN BY
CHECKED BY
AMENDMENT NO.**

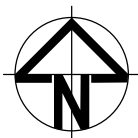
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AJ DATE
A DRAWING NO.**

1 : 100

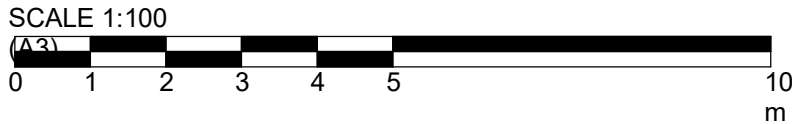
08/07/2024

DA03

8/07/2024 10:53:43 AM



TRUE NORTH



1 GFA CALCULATION PLAN

1 : 100



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+61 412 877 090
REG #: DP-AD 44217

DO NOT SCALE FROM DRAWING - Builder to verify all levels, boundaries, set-outs, dimensions before construction. All the building works specified in the plans must comply with all council regulations, engineers specifications, building surveyors recommendations and all Australian standards referred to in the drawing and specifications. all work, materials & procedures must comply with the building Code of Australia

PROJECT
CLIENT
ADDRESS

CHANGE OF USE
B3 FITNESS
38 TWEED ST, BRUNSWICK HEADS
LOT 1 - DP303546

DRAWING
NOTES:

GFA CALCULATION PLAN

DRAWN BY
CHECKED BY
AMENDMENT NO.

SC SCALE 1 : 100
AJ DATE 08/07/2024
A DRAWING NO. DA06

8/07/2024 10:53:48 AM

Appendix B – Parking Credits

Voglet Unit Trust Pty Ltd
By email: mail@petervogel.co

27 June 2024

**RE: Advice in relation to Parking Credits
38 Tweed Street, Brunswick Heads
Lot 1 DP 303546**

I refer to recent correspondence from Byron Shire Council dated 21 June 2024 within which Council staff have questioned the validity of the Complying Development Certificate issued by Techton Building Services for alterations to Tenancies 1 & 2 within the east of the subject property.

I note that Shaun Yong Town Planner has been engaged to prepare a Development Application to formalise the following uses within the site:

Tenancy 1 – Shop

Tenancy 2 – Cafe

Tenancy 3 – Recreation facility (indoor) / gym

I note that Chapter B4.2.7 of Byron Development Control Plan 2014 (copy below) allows Council to acknowledge car parking credits for a site based on the current approved uses. Accordingly, I provide this correspondence to outline my understanding of the parking credits for the property.

B4.2.7 Car Parking Credits and Street Parking

1. Council may acknowledge car parking credits for a site based on the current approved use/s.
2. Any car parking credit shall be based on the rates in Table B4.1 in this DCP Chapter.
3. Car parking credit is equivalent to the parking requirement for current approved use/s calculated in accordance with (1) and (2) above, less the number of parking spaces specified by current approvals.
4. Where a developer contribution for car parking has previously been paid for a current approved use/s on a development site, new development may be entitled to car parking credits equivalent to the number of spaces for which developer contributions were received by Council if the above calculation does not acknowledge the credit.
5. Where a car parking credit has previously been granted for land dedications in conjunction with development, a new development on the same site will be entitled to take that into consideration in calculating the number of car parking credits.

6. Car parking credits are not transferable to other development sites.
7. Council will consider proposals to increase on street parking capacity for the provision of some or all customer car parking spaces by increasing on street parking capacity where there is a material public benefit, and where:
 - a) The net increase in formalised (ie paved &/or linemarked) on street parking is 25% greater than the number otherwise required on site;
 - b) The resulting streetscape conforms with the principles of good urban design;
 - c) The level of pedestrian, cycle and traffic amenity on the street is maintained; and
 - d) The proposal is not detrimental to utility services.

Note: Council is more likely to give favourable consideration to such proposals if they provide an offsetting benefit to the public - such as property boundary setback dedication to allow conversion of existing parallel parking to angle parking. Other proposals that promote ESD policies will also be entertained.

In B4.2.7, 'current approved use' means a current use for which there is an effective development consent in place or an existing lawful use.

I have reviewed the legal advice provided by MY Lawyers dated 4 June 2024 which confirms that Development Consent No. 1999/0854 has lapsed. During a meeting at Byron Shire Council on 19 June 2024, the Council staff suggested that this consent was lawfully commenced due to fire extinguisher inspections being carried out by Wormald after the development consent was issued.

However, the Development Application Assessment Report provided within the attached historic planning files indicates that 4 portable fire extinguishers were already in place at the time the Development Application was being assessed. Council staff have confirmed that no Construction Certificate and no Occupation Certificate were issued for this development consent, despite being requirements set out within the conditions.

I am therefore satisfied that Development Consent No. 1999/0854 has lapsed and that the approvals issued prior to this 1999 Development Application appropriately inform the previous approved uses of the site.

Upon review of the historic approval documentation, it is evident that a service station has operated within the property for over 65 years. The Council Assessment Report for Development Application No. 1999/0854 acknowledges statutory declarations prepared by former owner/operators of the subject site/business, Mr Arthur Wraight and Mr Joseph Spielacler, confirming that the mechanical workshop/smash repair business had been in operation on the subject site since 1958.

Building Application No. 75/198 approved the addition of two toilets within the north-eastern corner of the original garage/service station building.

Building Application No. 76/157 approved the construction of the large shed to the west of the original garage/service station building to accommodate new workstations.

Building Application No. 93/2352 approved the construction of a spray painting booth within the north-western corner of the shed adjacent to established workstations.

Building Application No. 98/2311 approved the removal of underground fuel storage tanks from the eastern end of the property.

The attached statutory declarations from previous business owners / operators / staff confirm that the subject property operated with a total of 8 x workstations and had a retail/commercial area of 61.1 square metres.

The following extract from Table B4.1 of Byron Development Control Plan 2014 outlines the current parking requirements for a service station use:

Service station	5 spaces per mechanical Work bay plus 1 space per 20m² of GFA of convenience store GFA. Tandem Parking permitted and work bays can be counted as a space.
------------------------	---

With the only on-site parking provided for the use being contained to the 8 x workstations, the following parking credits are nominated:

8 workstations x 5 spaces minus 1 space per workstation	= 8 x 5 - 8
	= 32
61.1 square metres @ 1 space per 20 square metres	= 3.056

TOTAL PARKING CREDIT (rounded to nearest whole number) = 35 spaces

Please contact me directly by telephone on 0402 405 555 should you have any queries.

Yours sincerely



Joe Davidson

Director / Town Planning Consultant

Appendix C – Traffic counts and car parking survey

38 Tweed Street, Brunswick Heads on street car park survey 240515 7am-7pm

parallel (6.7m)		33		20					56				9		82		38		
perpendicular (2.6m)		12				117		132		96		189		156			54		
On street parking sapces		45		20		117		132		152		189		165		82		92	994

Time	1. Tweed St North		2. Tweed St South		3. Fingal St West		4. Fingal St East		5. Mullumbimbi St		6. Booyun St		7. Nana St		8. Byron St		9. Park St		Total	
	Parked	Available	Parked	Available	Parked	Available	Parked	Available	Parked	Available	Parked	Available	Parked	Available	Parked	Available	Parked	Available	Parked	Available
5:00am	9	36	5	15	27	90	25	107	30	122	42	147	49	116	20	62	22	70	229	765
5:30am	10	35	4	16	30	87	25	107	27	125	44	145	50	115	21	61	23	69	234	760
6:00am	14	31	4	16	33	84	27	105	26	126	45	144	50	115	21	61	24	68	244	750
6:30am	17	28	6	14	32	85	28	104	26	126	47	142	46	119	20	62	24	68	246	748
7:00am	19	26	6	14	32	85	29	103	28	124	48	141	42	123	18	64	24	68	246	748
7:30am	19	26	6	14	35	82	29	103	27	125	46	143	42	123	17	65	30	62	251	743
8:00am	24	21	6	14	37	80	29	103	27	125	42	147	40	125	16	66	38	54	259	735
8:30am	28	17	6	14	43	74	46	86	30	122	44	145	39	126	16	66	40	52	292	702
9am	28	17	6	14	49	68	58	74	32	120	48	141	38	127	16	66	42	50	317	677
9:30am	28	17	6	14	53	64	62	70	34	118	48	141	36	129	17	65	47	45	331	663
10am	30	15	6	14	49	68	70	62	39	113	50	139	36	129	17	65	52	40	349	645
10:30am	30	15	6	14	49	68	78	54	43	109	51	138	38	127	18	64	55	37	368	626
11:00am	30	15	5	15	46	71	91	41	41	111	52	137	37	128	18	64	57	35	377	617
11:30am	33	12	5	15	51	66	89	43	40	112	50	139	36	129	18	64	50	42	372	622
12:00pm	25	20	5	15	48	69	82	50	44	108	51	138	36	129	18	64	55	37	364	630
12:30pm	21	24	5	15	42	75	72	60	48	104	44	145	37	128	18	64	57	35	344	650
1pm	25	20	5	15	42	75	70	62	50	102	48	141	37	128	19	63	52	40	348	646
1:30pm	25	20	5	15	41	76	69	63	57	95	50	139	36	129	19	63	45	47	347	647
2pm	23	22	6	14	44	73	70	62	53	99	47	142	37	128	19	63	49	43	348	646
2:30pm	20	25	6	14	43	74	60	72	48	104	42	147	38	127	18	64	51	41	326	668
3pm	21	24	6	14	43	74	60	72	47	105	43	146	36	129	18	64	51	41	325	669
3:30pm	15	30	5	15	31	86	61	71	41	111	45	144	41	124	18	64	42	50	299	695
4pm	20	25	6	14	33	84	59	73	39	113	40	149	45	120	18	64	40	52	300	694
4:30pm	22	23	6	14	39	78	53	79	40	112	39	150	43	122	18	64	37	55	297	697
5pm	27	18	7	13	38	79	51	81	43	109	42	147	43	122	18	64	35	57	304	690
5:30pm	30	15	5	15	37	80	58	74	40	112	40	149	42	123	19	63	30	62	301	693
6pm	35	10	4	16	46	71	63	69	33	119	39	150	49	116	19	63	28	64	316	678
6:30pm	35	10	5	15	46	71	63	69	33	119	39	150	49	116	19	63	28	64	317	677
7pm	38	7	6	14	46	71	69	63	37	115	41	148	49	116	18	64	25	67	329	665
7:30pm	30	15	5	15	46	71	64	68	38	114	40	149	49	116	18	64	24	68	314	680
8pm	29	16	5	15	46	71	60	72	35	117	40	149	45	120	18	64	22	70	300	694

Turn Count Summary

Location: Tweed St at Fingal St, Brunswick Heads
GPS Coordinates: Lat=-33.607219, Lon=150.744164
Date: 2024-05-15
Day of week: Wednesday
Weather: Clear
Analyst: Finn

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	2	35	3	16	2	5	4	35	16	3	3	2	126
07:45	7	50	5	9	1	3	8	32	20	2	3	1	141
08:00	10	72	5	15	3	5	1	32	13	0	3	1	160
08:15	18	52	4	21	2	5	2	43	23	6	0	4	180
08:30	29	50	3	17	1	12	9	48	34	7	1	5	216
08:45	26	66	5	29	2	14	6	41	26	5	3	1	224
09:00	13	54	3	16	5	5	6	68	37	3	1	2	213
09:15	11	60	6	20	1	9	8	51	48	5	0	3	222

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	2	35	3	14	2	4	4	32	14	3	3	2	118
07:45	7	47	5	9	1	3	7	30	20	2	3	1	135
08:00	10	65	5	13	3	5	1	31	13	0	3	1	150
08:15	18	51	4	20	2	5	2	41	22	6	0	4	175
08:30	28	49	3	15	1	12	8	44	33	6	1	4	204
08:45	25	65	5	29	2	14	6	39	26	5	3	1	220
09:00	13	53	3	16	5	4	6	67	37	3	1	2	210
09:15	11	60	6	19	1	9	8	51	47	5	0	3	220

Truck traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	0	0	2	0	1	0	3	2	0	0	0	8
07:45	0	3	0	0	0	0	1	2	0	0	0	0	6
08:00	0	7	0	2	0	0	0	1	0	0	0	0	10
08:15	0	1	0	1	0	0	0	2	1	0	0	0	5
08:30	1	1	0	2	0	0	1	4	1	1	0	1	12
08:45	1	1	0	0	0	0	0	2	0	0	0	0	4
09:00	0	1	0	0	0	1	0	1	0	0	0	0	3
09:15	0	0	0	1	0	0	0	0	1	0	0	0	2

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:30	2	3	5	3	3	6	2	0	2	1	2	3	16
07:45	7	2	9	5	3	8	5	0	5	0	5	5	27
08:00	1	0	1	2	4	6	5	0	5	1	3	4	16
08:15	4	1	5	0	3	3	0	0	0	2	0	2	10
08:30	5	7	12	2	1	3	0	0	0	0	5	5	20
08:45	2	1	3	3	1	4	8	0	8	0	1	1	16
09:00	2	3	5	0	2	2	7	0	7	1	0	1	15
09:15	2	2	4	2	2	4	6	0	6	0	0	0	14

Intersection Peak Hour

08:30 - 09:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	79	230	17	82	9	40	29	208	145	20	5	11	875
Factor	0.68	0.87	0.71	0.71	0.45	0.71	0.81	0.76	0.76	0.71	0.42	0.55	0.98
Approach Factor	0.84			0.73			0.86			0.69			

Peak Hour Vehicle Summary

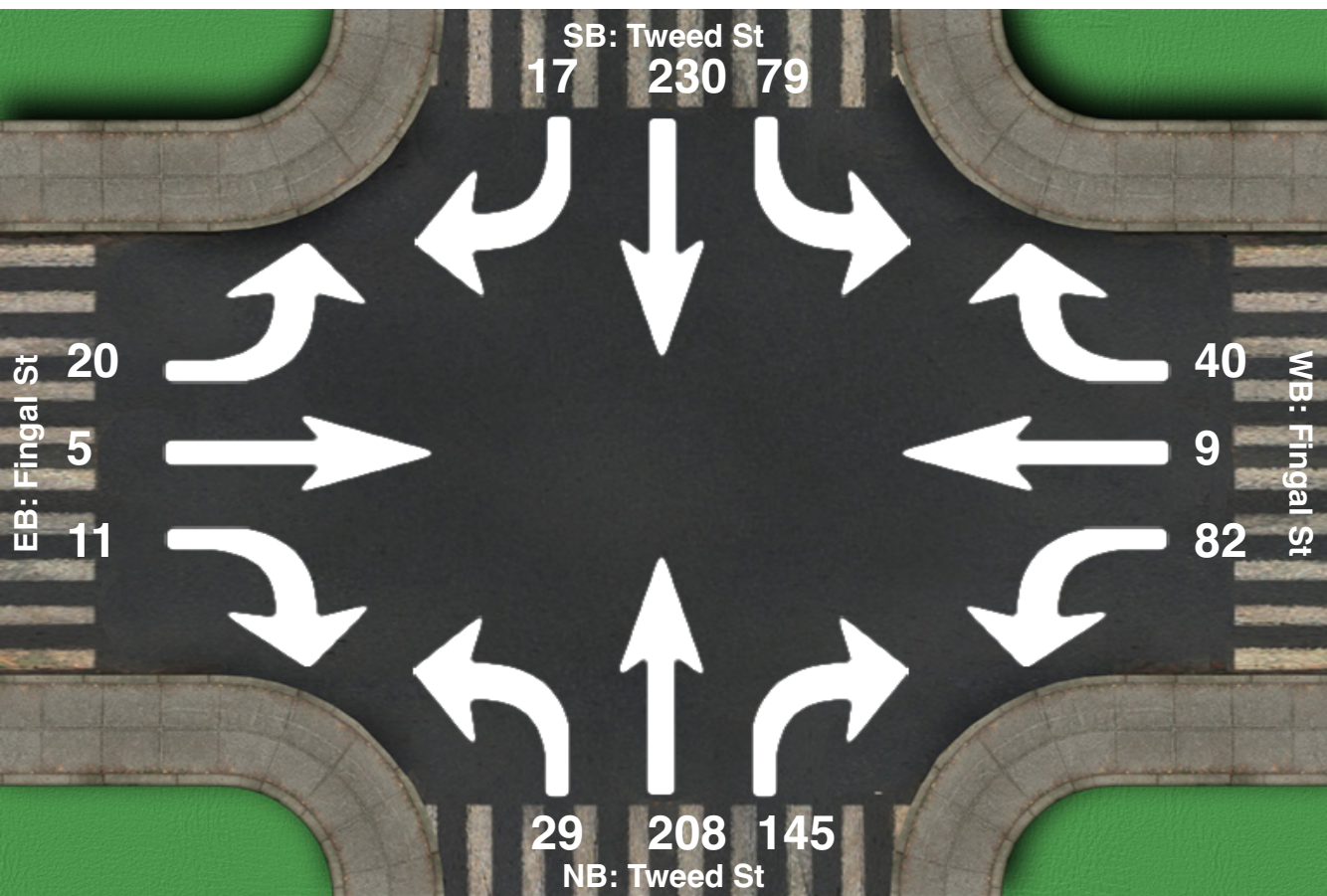
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	77	227	17	79	9	39	28	201	143	19	5	10	854
Truck	2	3	0	3	0	1	1	7	2	1	0	1	21

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	11	13	24	7	6	13	21	0	21	1	6	7	65

Intersection Peak Hour

Location: Tweed St at Fingal St, Brunswick Heads
GPS Coordinates: Lat=-33.607219, Lon=150.744164
Date: 2024-05-15
Day of week: Wednesday
Weather: Clear
Analyst: Finn



Intersection Peak Hour

08:30 - 09:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	79	230	17	82	9	40	29	208	145	20	5	11	875
Factor	0.68	0.87	0.71	0.71	0.45	0.71	0.81	0.76	0.76	0.71	0.42	0.55	0.98
Approach Factor	0.84			0.73			0.86			0.69			

Turn Count Summary

Location: Tweed St at Fingal St, Brunswick Heads
GPS Coordinates: Lat=-33.607219, Lon=150.744164
Date: 2024-05-15
Day of week: Wednesday
Weather: Clear
Analyst: Finn

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15:00	11	53	4	27	0	5	0	54	27	2	2	1	186
15:15	10	47	3	20	0	14	3	57	25	3	1	1	184
15:30	13	60	4	21	0	7	5	81	30	4	1	3	229
15:45	12	40	1	19	2	13	4	71	19	2	1	0	184
16:00	10	67	0	25	0	14	3	63	21	1	0	2	206
16:15	9	52	3	24	0	11	5	63	26	6	0	2	201
16:30	11	61	6	20	2	8	5	69	24	6	0	3	215
16:45	12	50	1	24	1	7	3	71	17	3	2	2	193
17:00	14	43	4	38	1	18	3	58	16	5	2	7	209
17:15	10	58	2	24	1	9	4	67	41	0	0	1	217
17:30	10	59	3	15	0	13	2	49	20	5	0	2	178
17:45	17	50	7	16	1	7	4	59	11	3	1	2	178

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15:00	10	52	4	27	0	5	0	54	26	2	2	0	182
15:15	10	46	3	19	0	14	3	56	25	3	1	1	181
15:30	13	60	4	21	0	6	5	72	28	4	1	3	217
15:45	12	40	1	19	2	12	4	71	19	2	1	0	183
16:00	10	67	0	25	0	12	3	61	21	1	0	2	202
16:15	9	51	3	22	0	11	5	61	26	6	0	2	196
16:30	11	61	6	20	2	8	5	69	24	6	0	3	215
16:45	12	48	1	23	1	7	3	70	17	3	2	2	189
17:00	14	43	4	38	1	18	3	58	16	5	2	6	208
17:15	10	58	2	22	1	9	4	65	41	0	0	1	213
17:30	10	58	3	15	0	11	2	48	20	5	0	2	174
17:45	17	50	6	16	1	6	4	58	11	3	1	2	175

Truck traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15:00	1	1	0	0	0	0	0	0	1	0	0	1	4
15:15	0	1	0	1	0	0	0	1	0	0	0	0	3
15:30	0	0	0	0	0	1	0	9	2	0	0	0	12
15:45	0	0	0	0	0	1	0	0	0	0	0	0	1
16:00	0	0	0	0	0	2	0	2	0	0	0	0	4
16:15	0	1	0	2	0	0	0	2	0	0	0	0	5
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	2	0	1	0	0	0	1	0	0	0	0	4
17:00	0	0	0	0	0	0	0	0	0	0	0	1	1
17:15	0	0	0	2	0	0	0	2	0	0	0	0	4
17:30	0	1	0	0	0	2	0	1	0	0	0	0	4
17:45	0	0	1	0	0	1	0	1	0	0	0	0	3

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
15:00	1	3	4	0	5	5	0	0	0	0	0	0	9
15:15	1	1	2	0	5	5	1	0	1	0	0	0	8
15:30	2	0	2	1	5	6	4	0	4	0	1	1	13
15:45	3	1	4	0	2	2	0	0	0	0	10	10	16
16:00	7	0	7	1	1	2	4	0	4	0	1	1	14
16:15	2	0	2	0	0	0	0	0	0	0	8	8	10
16:30	3	2	5	0	2	2	1	0	1	0	4	4	12
16:45	1	6	7	2	1	3	6	0	6	0	1	1	17
17:00	6	0	6	0	5	5	1	0	1	0	2	2	14
17:15	3	1	4	2	2	4	6	0	6	0	6	6	20
17:30	7	0	7	1	0	1	2	0	2	0	5	5	15
17:45	5	3	8	1	0	1	3	0	3	1	2	3	15

Intersection Peak Hour

16:30 - 17:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	47	212	13	106	5	42	15	265	98	14	4	13	834
Factor	0.84	0.87	0.54	0.70	0.62	0.58	0.75	0.93	0.60	0.58	0.50	0.46	0.96
Approach Factor	0.87			0.67			0.84			0.55			

Peak Hour Vehicle Summary

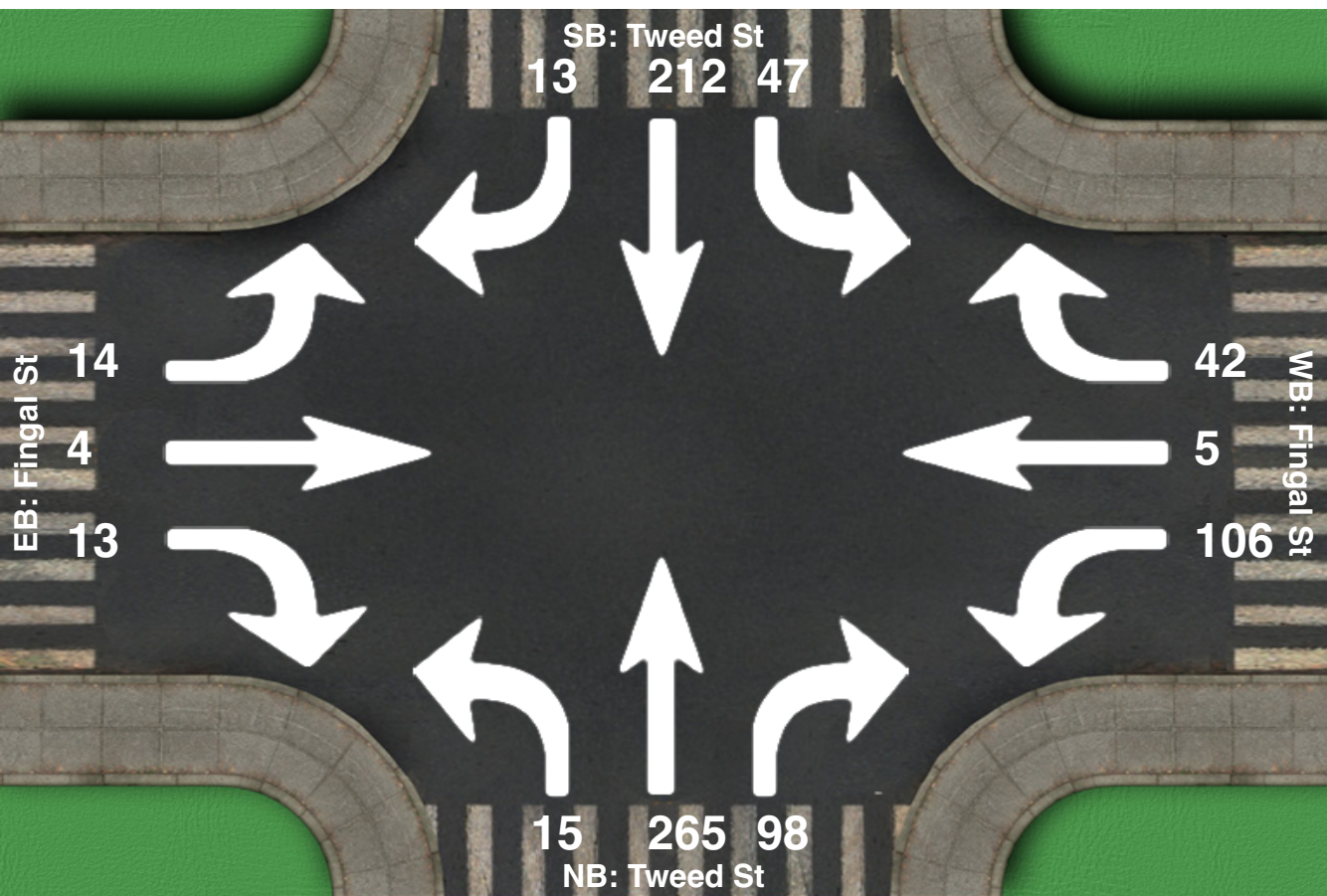
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	47	210	13	103	5	42	15	262	98	14	4	12	825
Truck	0	2	0	3	0	0	0	3	0	0	0	1	9

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	13	9	22	4	10	14	14	0	14	0	13	13	63

Intersection Peak Hour

Location: Tweed St at Fingal St, Brunswick Heads
GPS Coordinates: Lat=-33.607219, Lon=150.744164
Date: 2024-05-15
Day of week: Wednesday
Weather: Clear
Analyst: Finn



Intersection Peak Hour

16:30 - 17:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	47	212	13	106	5	42	15	265	98	14	4	13	834
Factor	0.84	0.87	0.54	0.70	0.62	0.58	0.75	0.93	0.60	0.58	0.50	0.46	0.96
Approach Factor	0.87			0.67			0.84			0.55			

Appendix D – SIDRA modelling

SITE LAYOUT

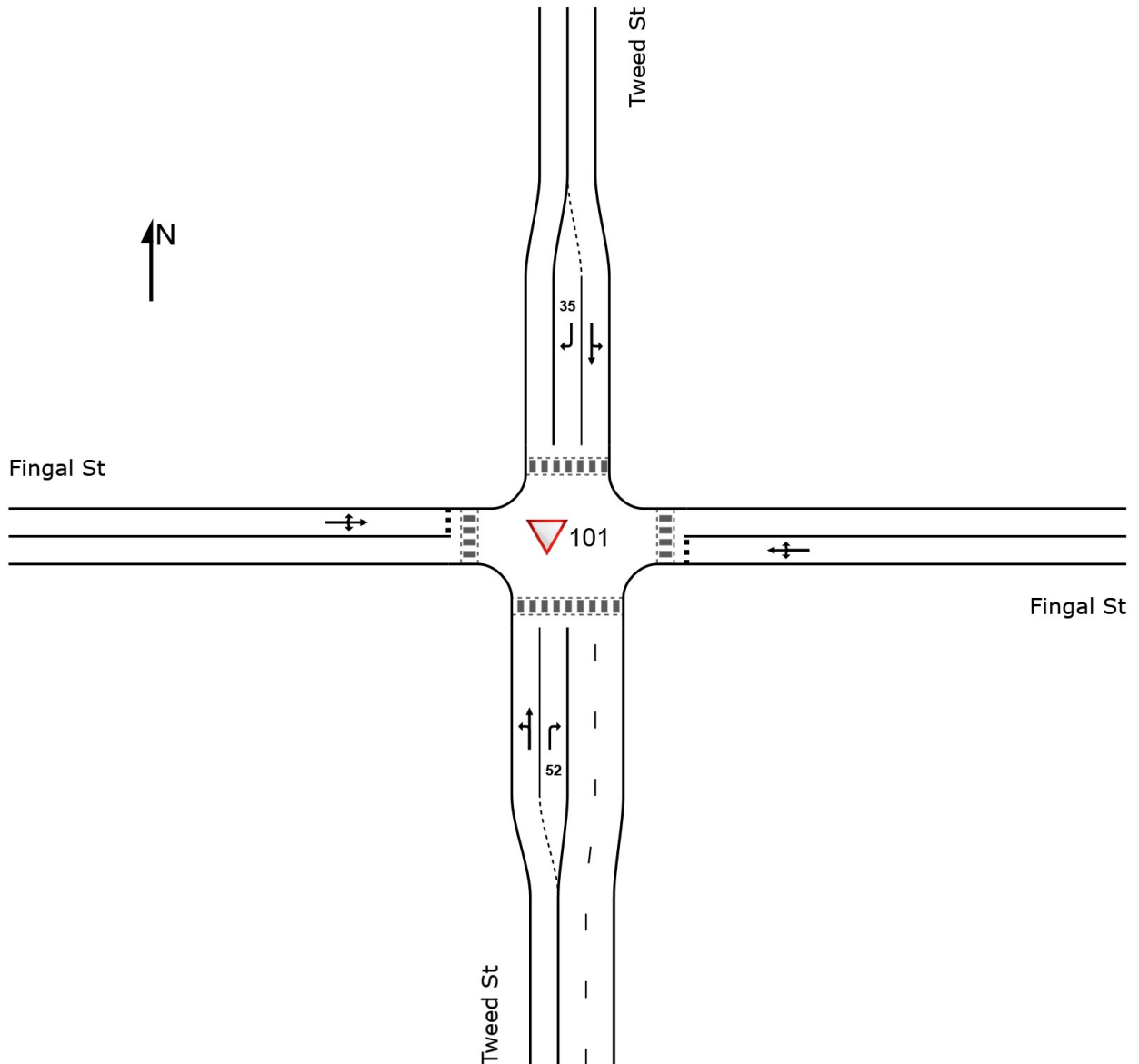
▽ Site: 101 [1. Tweed St/ Fingal St 2024 EX AM (Site Folder: 2024 EX)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



USER REPORT FOR SITE

 **Project: 240327-Sidra**

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Template: New User Report

Site: 101 [1. Tweed St/ Fingal St 2024 EX AM (Site Folder: 2024 EX)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist]				
			veh/h	%	veh/h	%	v/c	sec			m				km/h
South: Tweed St															
1	L2	All MCs	31	3.4	31	3.4	0.132	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	55.2
2	T1	All MCs	219	3.4	219	3.4	0.132	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
3	R2	All MCs	9	22.2	9	22.2	0.008	7.1	LOS A	0.0	0.3	0.41	0.57	0.41	46.4
Approach			259	4.1	259	4.1	0.132	0.9	NA	0.0	0.3	0.02	0.09	0.02	58.4
East: Fingal St															
4	L2	All MCs	86	3.7	86	3.7	0.207	6.8	LOS A	0.8	5.9	0.51	0.68	0.51	47.1
5	T1	All MCs	9	0.0	9	0.0	0.207	11.0	LOS A	0.8	5.9	0.51	0.68	0.51	42.1
6	R2	All MCs	42	2.5	42	2.5	0.207	13.5	LOS A	0.8	5.9	0.51	0.68	0.51	47.0
Approach			138	3.1	138	3.1	0.207	9.1	LOS A	0.8	5.9	0.51	0.68	0.51	46.8
North: Tweed St															
7	L2	All MCs	83	2.5	83	2.5	0.171	5.6	LOS A	0.0	0.0	0.00	0.15	0.00	54.4
8	T1	All MCs	242	1.3	242	1.3	0.171	0.0	LOS A	0.0	0.0	0.00	0.15	0.00	58.6
9	R2	All MCs	18	0.0	18	0.0	0.013	6.2	LOS A	0.1	0.4	0.34	0.56	0.34	49.1
Approach			343	1.5	343	1.5	0.171	1.7	NA	0.1	0.4	0.02	0.17	0.02	57.3
West: Fingal St															
10	L2	All MCs	21	5.0	21	5.0	0.064	6.6	LOS A	0.2	1.7	0.49	0.65	0.49	46.9
11	T1	All MCs	5	0.0	5	0.0	0.064	10.6	LOS A	0.2	1.7	0.49	0.65	0.49	41.8
12	R2	All MCs	12	9.1	12	9.1	0.064	14.1	LOS A	0.2	1.7	0.49	0.65	0.49	46.5
Approach			38	5.6	38	5.6	0.064	9.4	LOS A	0.2	1.7	0.49	0.65	0.49	46.3
All Vehicles			778	2.8	778	2.8	0.207	3.1	NA	0.8	5.9	0.13	0.26	0.13	55.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Site: 101 [1. Tweed St/ Fingal St 2024 EX PM (Site Folder: 2024 EX)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Tweed St															
1	L2	All MCs	16	0.0	16	0.0	0.153	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	48.0
2	T1	All MCs	279	1.1	279	1.1	0.153	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	49.8
3	R2	All MCs	103	0.0	103	0.0	0.094	5.7	LOS A	0.4	2.6	0.37	0.58	0.37	43.4
Approach			398	0.8	398	0.8	0.153	1.7	NA	0.4	2.6	0.10	0.17	0.10	48.3
East: Fingal St															
4	L2	All MCs	112	2.8	112	2.8	0.106	5.6	LOS A	0.4	2.8	0.32	0.57	0.32	43.5
5	T1	All MCs	5	0.0	5	0.0	0.166	12.4	LOS A	0.6	4.0	0.70	0.85	0.70	33.1
6	R2	All MCs	44	0.0	44	0.0	0.166	15.2	LOS B	0.6	4.0	0.70	0.85	0.70	37.9
Approach			161	2.0	161	2.0	0.166	8.5	LOS A	0.6	4.0	0.44	0.66	0.44	41.5
North: Tweed St															
7	L2	All MCs	49	0.0	49	0.0	0.027	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	44.5
8	T1	All MCs	223	0.9	223	0.9	0.115	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	All MCs	14	0.0	14	0.0	0.010	5.5	LOS A	0.0	0.3	0.37	0.53	0.37	43.4
Approach			286	0.7	286	0.7	0.115	1.1	NA	0.0	0.3	0.02	0.12	0.02	48.9
West: Fingal St															
10	L2	All MCs	15	0.0	15	0.0	0.015	5.7	LOS A	0.0	0.3	0.34	0.55	0.34	43.5
11	T1	All MCs	4	0.0	4	0.0	0.075	12.2	LOS A	0.2	1.7	0.72	0.87	0.72	31.3
12	R2	All MCs	14	7.7	14	7.7	0.075	19.2	LOS B	0.2	1.7	0.72	0.87	0.72	36.4
Approach			33	3.2	33	3.2	0.075	12.2	LOS A	0.2	1.7	0.55	0.72	0.55	38.9
All Vehicles			878	1.1	878	1.1	0.166	3.1	NA	0.6	4.0	0.15	0.26	0.15	47.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Site: 101 [1. Tweed St/ Fingal St 2024 DEV AM (Site Folder: 2024 DEV)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Tweed St															
1	L2	All MCs	31	3.4	31	3.4	0.146	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	55.2
2	T1	All MCs	246	3.0	246	3.0	0.146	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
3	R2	All MCs	9	22.2	9	22.2	0.008	7.2	LOS A	0.0	0.3	0.42	0.57	0.42	46.3
Approach			286	3.7	286	3.7	0.146	0.9	NA	0.0	0.3	0.01	0.08	0.01	58.6
East: Fingal St															
4	L2	All MCs	86	3.7	86	3.7	0.215	6.8	LOS A	0.9	6.1	0.52	0.69	0.52	46.8
5	T1	All MCs	9	0.0	9	0.0	0.215	11.6	LOS A	0.9	6.1	0.52	0.69	0.52	41.8
6	R2	All MCs	42	2.5	42	2.5	0.215	14.3	LOS A	0.9	6.1	0.52	0.69	0.52	46.7
Approach			138	3.1	138	3.1	0.215	9.4	LOS A	0.9	6.1	0.52	0.69	0.52	46.6
North: Tweed St															
7	L2	All MCs	83	2.5	83	2.5	0.174	5.6	LOS A	0.0	0.0	0.00	0.15	0.00	54.5
8	T1	All MCs	248	1.3	248	1.3	0.174	0.0	LOS A	0.0	0.0	0.00	0.15	0.00	58.6
9	R2	All MCs	18	0.0	18	0.0	0.013	6.3	LOS A	0.1	0.4	0.36	0.57	0.36	49.0
Approach			349	1.5	349	1.5	0.174	1.7	NA	0.1	0.4	0.02	0.17	0.02	57.3
West: Fingal St															
10	L2	All MCs	21	5.0	21	5.0	0.068	6.7	LOS A	0.2	1.8	0.51	0.67	0.51	46.5
11	T1	All MCs	5	0.0	5	0.0	0.068	11.2	LOS A	0.2	1.8	0.51	0.67	0.51	41.4
12	R2	All MCs	12	9.1	12	9.1	0.068	15.0	LOS B	0.2	1.8	0.51	0.67	0.51	46.2
Approach			38	5.6	38	5.6	0.068	9.9	LOS A	0.2	1.8	0.51	0.67	0.51	45.9
All Vehicles			812	2.7	812	2.7	0.215	3.1	NA	0.9	6.1	0.13	0.25	0.13	55.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Site: 101 [1. Tweed St/ Fingal St 2024 DEV PM (Site Folder: 2024 DEV)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Tweed St															
1	L2	All MCs	16	0.0	16	0.0	0.156	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	48.0
2	T1	All MCs	285	1.1	285	1.1	0.156	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	49.8
3	R2	All MCs	103	0.0	103	0.0	0.097	5.9	LOS A	0.4	2.7	0.39	0.59	0.39	43.4
Approach			404	0.8	404	0.8	0.156	1.7	NA	0.4	2.7	0.10	0.17	0.10	48.3
East: Fingal St															
4	L2	All MCs	112	2.8	112	2.8	0.109	5.7	LOS A	0.4	2.9	0.34	0.58	0.34	43.4
5	T1	All MCs	5	0.0	5	0.0	0.177	13.2	LOS A	0.6	4.3	0.72	0.86	0.72	32.5
6	R2	All MCs	44	0.0	44	0.0	0.177	16.2	LOS B	0.6	4.3	0.72	0.86	0.72	37.4
Approach			161	2.0	161	2.0	0.177	8.8	LOS A	0.6	4.3	0.46	0.67	0.46	41.3
North: Tweed St															
7	L2	All MCs	49	0.0	49	0.0	0.027	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	44.5
8	T1	All MCs	251	0.8	251	0.8	0.129	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	All MCs	14	0.0	14	0.0	0.010	5.5	LOS A	0.0	0.3	0.37	0.53	0.37	43.4
Approach			314	0.7	314	0.7	0.129	1.0	NA	0.0	0.3	0.02	0.11	0.02	49.0
West: Fingal St															
10	L2	All MCs	15	0.0	15	0.0	0.015	5.7	LOS A	0.1	0.4	0.34	0.55	0.34	43.5
11	T1	All MCs	4	0.0	4	0.0	0.081	12.9	LOS A	0.3	1.9	0.74	0.88	0.74	30.6
12	R2	All MCs	14	7.7	14	7.7	0.081	20.5	LOS B	0.3	1.9	0.74	0.88	0.74	35.8
Approach			33	3.2	33	3.2	0.081	12.9	LOS A	0.3	1.9	0.56	0.73	0.56	38.5
All Vehicles			912	1.0	912	1.0	0.177	3.1	NA	0.6	4.3	0.15	0.26	0.15	47.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Site: 101 [1. Tweed St/ Fingal St 2034 EX AM (Site Folder: 2034 EX)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Tweed St															
1	L2	All MCs	37	2.9	37	2.9	0.161	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	55.3
2	T1	All MCs	267	3.5	267	3.5	0.161	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
3	R2	All MCs	12	18.2	12	18.2	0.011	7.4	LOS A	0.0	0.4	0.46	0.59	0.46	46.7
Approach			316	4.0	316	4.0	0.161	1.0	NA	0.0	0.4	0.02	0.09	0.02	58.5
East: Fingal St															
4	L2	All MCs	105	4.0	105	4.0	0.297	7.6	LOS A	1.3	9.6	0.60	0.77	0.67	45.4
5	T1	All MCs	12	0.0	12	0.0	0.297	14.3	LOS A	1.3	9.6	0.60	0.77	0.67	40.0
6	R2	All MCs	52	2.0	52	2.0	0.297	17.6	LOS B	1.3	9.6	0.60	0.77	0.67	45.4
Approach			168	3.1	168	3.1	0.297	11.1	LOS A	1.3	9.6	0.60	0.77	0.67	45.2
North: Tweed St															
7	L2	All MCs	101	2.1	101	2.1	0.208	5.6	LOS A	0.0	0.0	0.00	0.15	0.00	54.5
8	T1	All MCs	296	1.4	296	1.4	0.208	0.1	LOS A	0.0	0.0	0.00	0.15	0.00	58.5
9	R2	All MCs	22	0.0	22	0.0	0.016	6.4	LOS A	0.1	0.5	0.38	0.58	0.38	49.0
Approach			419	1.5	419	1.5	0.208	1.7	NA	0.1	0.5	0.02	0.17	0.02	57.3
West: Fingal St															
10	L2	All MCs	25	4.2	25	4.2	0.092	6.8	LOS A	0.3	2.3	0.56	0.71	0.56	45.6
11	T1	All MCs	6	0.0	6	0.0	0.092	13.2	LOS A	0.3	2.3	0.56	0.71	0.56	40.2
12	R2	All MCs	14	7.7	14	7.7	0.092	17.7	LOS B	0.3	2.3	0.56	0.71	0.56	45.3
Approach			45	4.7	45	4.7	0.092	11.0	LOS A	0.3	2.3	0.56	0.71	0.56	45.0
All Vehicles			948	2.8	948	2.8	0.297	3.6	NA	1.3	9.6	0.15	0.28	0.16	55.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Site: 101 [1. Tweed St/ Fingal St 2034 EX PM (Site Folder: 2034 EX)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Tweed St															
1	L2	All MCs	19	0.0	19	0.0	0.186	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	48.0
2	T1	All MCs	340	1.2	340	1.2	0.186	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	49.8
3	R2	All MCs	125	0.0	125	0.0	0.122	6.1	LOS A	0.5	3.5	0.42	0.62	0.42	43.3
Approach			484	0.9	484	0.9	0.186	1.8	NA	0.5	3.5	0.11	0.18	0.11	48.2
East: Fingal St															
4	L2	All MCs	137	3.1	137	3.1	0.137	5.9	LOS A	0.5	3.7	0.37	0.60	0.37	43.4
5	T1	All MCs	6	0.0	6	0.0	0.267	17.7	LOS B	1.0	6.8	0.80	0.94	0.91	29.2
6	R2	All MCs	54	0.0	54	0.0	0.267	21.6	LOS B	1.0	6.8	0.80	0.94	0.91	34.7
Approach			197	2.1	197	2.1	0.267	10.6	LOS A	1.0	6.8	0.50	0.70	0.53	40.2
North: Tweed St															
7	L2	All MCs	60	0.0	60	0.0	0.032	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	44.5
8	T1	All MCs	272	0.8	272	0.8	0.140	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
9	R2	All MCs	17	0.0	17	0.0	0.013	5.7	LOS A	0.1	0.4	0.41	0.55	0.41	43.3
Approach			348	0.6	348	0.6	0.140	1.1	NA	0.1	0.4	0.02	0.12	0.02	48.9
West: Fingal St															
10	L2	All MCs	18	0.0	18	0.0	0.019	6.0	LOS A	0.1	0.5	0.38	0.57	0.38	43.4
11	T1	All MCs	5	0.0	5	0.0	0.129	16.1	LOS B	0.4	2.9	0.81	0.91	0.81	27.7
12	R2	All MCs	17	6.3	17	6.3	0.129	26.7	LOS B	0.4	2.9	0.81	0.91	0.81	33.3
Approach			40	2.6	40	2.6	0.129	16.1	LOS B	0.4	2.9	0.62	0.76	0.62	36.7
All Vehicles			1069	1.1	1069	1.1	0.267	3.7	NA	1.0	6.8	0.17	0.28	0.18	46.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Site: 101 [1. Tweed St/ Fingal St 2034 DEV AM (Site Folder: 2034 DEV)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Tweed St															
1	L2	All MCs	37	2.9	37	2.9	0.175	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	55.3
2	T1	All MCs	295	3.2	295	3.2	0.175	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
3	R2	All MCs	12	18.2	12	18.2	0.011	7.5	LOS A	0.0	0.4	0.46	0.60	0.46	46.6
Approach			343	3.7	343	3.7	0.175	0.9	NA	0.0	0.4	0.02	0.08	0.02	58.6
East: Fingal St															
4	L2	All MCs	105	4.0	105	4.0	0.310	7.8	LOS A	1.4	10.2	0.62	0.79	0.71	45.0
5	T1	All MCs	12	0.0	12	0.0	0.310	15.2	LOS B	1.4	10.2	0.62	0.79	0.71	39.5
6	R2	All MCs	52	2.0	52	2.0	0.310	18.8	LOS B	1.4	10.2	0.62	0.79	0.71	45.0
Approach			168	3.1	168	3.1	0.310	11.7	LOS A	1.4	10.2	0.62	0.79	0.71	44.7
North: Tweed St															
7	L2	All MCs	101	2.1	101	2.1	0.212	5.6	LOS A	0.0	0.0	0.00	0.15	0.00	54.5
8	T1	All MCs	302	1.4	302	1.4	0.212	0.1	LOS A	0.0	0.0	0.00	0.15	0.00	58.6
9	R2	All MCs	22	0.0	22	0.0	0.017	6.5	LOS A	0.1	0.5	0.40	0.59	0.40	48.9
Approach			425	1.5	425	1.5	0.212	1.7	NA	0.1	0.5	0.02	0.17	0.02	57.3
West: Fingal St															
10	L2	All MCs	25	4.2	25	4.2	0.097	7.0	LOS A	0.3	2.5	0.58	0.73	0.58	45.2
11	T1	All MCs	6	0.0	6	0.0	0.097	13.9	LOS A	0.3	2.5	0.58	0.73	0.58	39.6
12	R2	All MCs	14	7.7	14	7.7	0.097	18.8	LOS B	0.3	2.5	0.58	0.73	0.58	44.9
Approach			45	4.7	45	4.7	0.097	11.5	LOS A	0.3	2.5	0.58	0.73	0.58	44.6
All Vehicles			982	2.7	982	2.7	0.310	3.6	NA	1.4	10.2	0.15	0.27	0.16	55.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Site: 101 [1. Tweed St/ Fingal St 2034 DEV PM (Site Folder: 2034 DEV)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				km/h
South: Tweed St															
1	L2	All MCs	19	0.0	19	0.0	0.189	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	48.0
2	T1	All MCs	346	1.2	346	1.2	0.189	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	49.8
3	R2	All MCs	125	0.0	125	0.0	0.125	6.3	LOS A	0.5	3.6	0.44	0.63	0.44	43.2
Approach			491	0.9	491	0.9	0.189	1.8	NA	0.5	3.6	0.11	0.18	0.11	48.3
East: Fingal St															
4	L2	All MCs	137	3.1	137	3.1	0.141	6.1	LOS A	0.5	3.8	0.39	0.61	0.39	43.3
5	T1	All MCs	6	0.0	6	0.0	0.285	19.1	LOS B	1.0	7.3	0.81	0.95	0.94	28.4
6	R2	All MCs	54	0.0	54	0.0	0.285	23.3	LOS B	1.0	7.3	0.81	0.95	0.94	34.0
Approach			197	2.1	197	2.1	0.285	11.2	LOS A	1.0	7.3	0.52	0.72	0.56	39.9
North: Tweed St															
7	L2	All MCs	60	0.0	60	0.0	0.032	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	44.5
8	T1	All MCs	299	0.7	299	0.7	0.154	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
9	R2	All MCs	17	0.0	17	0.0	0.013	5.8	LOS A	0.1	0.4	0.42	0.56	0.42	43.3
Approach			376	0.6	376	0.6	0.154	1.0	NA	0.1	0.4	0.02	0.11	0.02	49.0
West: Fingal St															
10	L2	All MCs	18	0.0	18	0.0	0.019	6.0	LOS A	0.1	0.5	0.39	0.58	0.39	43.4
11	T1	All MCs	5	0.0	5	0.0	0.139	17.1	LOS B	0.4	3.0	0.83	0.92	0.83	26.9
12	R2	All MCs	17	6.3	17	6.3	0.139	28.7	LOS C	0.4	3.0	0.83	0.92	0.83	32.6
Approach			40	2.6	40	2.6	0.139	17.0	LOS B	0.4	3.0	0.63	0.76	0.63	36.2
All Vehicles			1103	1.0	1103	1.0	0.285	3.8	NA	1.0	7.3	0.17	0.27	0.18	46.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Organisation: BARKER RYAN STEWART | Licence: NETWORK / 1PC | Created: Wednesday, 3 July 2024 11:02:38 AM

Project: C:\Users\jason\OneDrive - BARKER RYAN STEWART PTY LIMITED\0. TRAF\Projects\24\240327\PlanEngSurv\BRS Documentation

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Appendix E – Bus Route Maps

How to use this timetable

This timetable provides a snapshot of service information in 24-hour time (e.g. 5am = 05:00, 5pm = 17:00). Information contained in this timetable is subject to change without notice. Please note that timetables do not include minor stops, additional trips for special events, short term changes, holiday timetable changes, real-time information or any disruption alerts.

For the most up-to-date times, use the Trip Planner or Departures at transportsw.info

Real-time planning


You can plan your trip with real-time information using the Trip Planner or Departures at transportsw.info or by downloading travel apps on your smartphone or tablet.

The Trip Planner, Departures and travel apps offer various features:

- favourite your regular trips
- see where your service is on the route
- get estimated pick-up and arrival times
- receive service updates
- find nearby stations, stops, wharves and routes
- check accessibility information.

Find the latest apps at transportsw.info/apps

Accessible services

All new buses are wheelchair-accessible with low-level floors and space for wheelchairs, prams or strollers. Look for the  symbol in this timetable. Some older buses may not have all the features you need. There will be more accessible services as older buses are replaced.

Who is providing my bus services?

The bus services shown in this timetable are run by Buslines Group Pty Limited.

Fares

In Sydney and surrounding regions, fares are based on:

- the distance you travel from tap on to tap off
- the mode of transport you choose
- whether you're eligible for a concession fare or free travel
- any Opal benefits such as discounts and capped fares that apply.

You can use an Opal card or a contactless payment to pay for your travel.

Opal cards

An Opal card is a smartcard you keep and reuse. Add value before you travel, and tap on and tap off to pay your fares throughout Sydney, the Blue Mountains, the Central Coast, the Hunter and the Illawarra.

Which Opal card is right for you?

Adult – Customers 16 years or older who are not entitled to any concessions and normally pay full fare.

Child/Youth – For customers aged 4-15 (inclusive), or customers 16 years or older who hold a NSW/ACT Senior Secondary Student Concession Card.

Gold Senior/Pensioner – For eligible NSW and interstate seniors, pensioners, war widows/ers and asylum seekers.

Concession – For eligible tertiary students, job seekers, apprentices and trainees.

How to get an Opal card

You can get an Adult or Child/Youth Opal card over the counter at Opal retailers that display the Opal sign . To find your nearest retailer visit transportsw.info/opal.

If you are eligible to travel with concession fares, you can apply for a Gold Senior/Pensioner or Concession Opal card online. Visit transportsw.info/opal for more information.

Contactless payments

If you have an American Express, Mastercard, Visa card or linked device, you can use it to pay for all public transport on the Opal network. Just make sure to tap on and tap off at Opal readers at the beginning and end of your trip.

Always separate your cards when you tap on and tap off so your preferred card is charged.

You will receive the same travel benefits of an Adult Opal card when you tap on and tap off consistently with the same credit card, debit card or linked device. This includes daily, weekly and weekend travel caps, and a \$2 transfer discount when you change between metro/train, ferry, bus and light rail services within 60 minutes. Adult Opal fare pricing applies.

Find out more at transportsw.info/contactless

610

Byron Bay to Lismore via Bangalow

B

Valid from: 31 May 2024

Creation date: 30 June 2024

NOTE: Information is correct on date of download.

Monday to Friday

Stuart St at Burringbar St, Mullumbimby	07:20	-	-	-	-
Brunswick Heads Coach Stop, Brunswick Heads	07:30	-	-	-	-
McGettigans Lane after Ewingsdale Rd, Ewingsdale	07:43	-	-	-	-
Ewingsdale Rd before McGettigans Lane, Ewingsdale	-	-	-	-	17:10
Byron Bay Interchange, Byron Bay	-	07:35	11:30	16:40	-
Byron Bay High School, Arakwal Ct, Byron Bay	-	07:45	-	-	-
Bangalow Rd at Robinson St	08:00	08:00	11:43	-	17:25
Binna Burra Coach Stop, Binna Burra	08:04	-	11:50	-	17:27
Lismore Rd before Taylors Rd, Nashua	08:06	-	11:55	-	17:30
Clunes Coach Stop, Clunes	08:18	08:15	12:02	-	17:35
Eltham Hotel, Eltham Rd, Eltham	-	-	12:05	-	-
Bexhill Coach Stop, Bexhill	08:23	08:20	12:12	-	17:42
Lismore Square, Brewster St, Lismore	-	-	12:17	-	17:50
St Carthages Primary School, Dawson St, Lismore	-	08:30	-	-	-
Trinity Catholic College, Leycester St, Lismore	-	08:35	-	-	-
Southern Cross University - Trinity Catholic College, Lismore	-	08:40	-	-	-
Living School, Conway St, Lismore	-	08:45	12:17	-	-
Lismore Transit Centre, Molesworth St, Lismore	-	08:45	12:20	-	17:55
Lismore Base Hospital, Uralba St, Lismore	-	-	-	-	17:58
Tasman Way before Wollongbar St, Byron Bay	-	-	-	16:50	-
Trinity Interchange, Brewster St, Lismore	08:30	-	-	-	-
Trinity Interchange, Brewster St, Lismore	08:35	-	-	-	-
Trinity Interchange, Brewster St, Lismore	08:40	-	-	-	-
St John's College, Woodlawn Rd, North Lismore	08:50	-	-	-	-

610**Lismore to Byron Bay via Bangalow****B****Monday to Friday**

Lismore Transit Centre, Molesworth St, Lismore	06:15	10:30	15:30	15:30
Trinity Interchange, Brewster St, Lismore	–	–	15:38	15:40
Leycester St opp Trinity Catholic College, Lismore	–	–	–	15:40
Bexhill Coach Stop, Bexhill	06:25	10:40	15:48	15:52
Eltham Hotel, Eltham Rd, Eltham	–	10:45	–	–
Clunes Coach Stop, Clunes	06:33	10:50	15:55	16:00
Lismore Rd before Taylors Rd, Nashua	06:34	10:54	16:02	–
Binna Burra Coach Stop, Binna Burra	06:35	10:57	16:10	16:12
Bangalow Coach Stop, Bangalow	–	11:05	16:15	16:15
Ewingsdale Rd before McGettigans Lane, Ewingsdale	07:00	–	16:30	–
Stuart St at Burringbar St, Mullumbimby	07:20	–	16:45	–
Brunswick Heads Coach Stop, Brunswick Heads	–	–	16:55	–
Byron Bay Interchange, Byron Bay	–	–	–	16:40



Ocean Shores to Byron Bay Bus Guide

Reprinted October 2020

B.V.C

Brunswick Valley Coaches



Please
signal
driver

Bus route descriptions

645 Ocean Shores to Byron Bay
via Brunswick Heads &
Mullumbimby.
**Service operates Monday
to Saturday.**



Includes accessible services

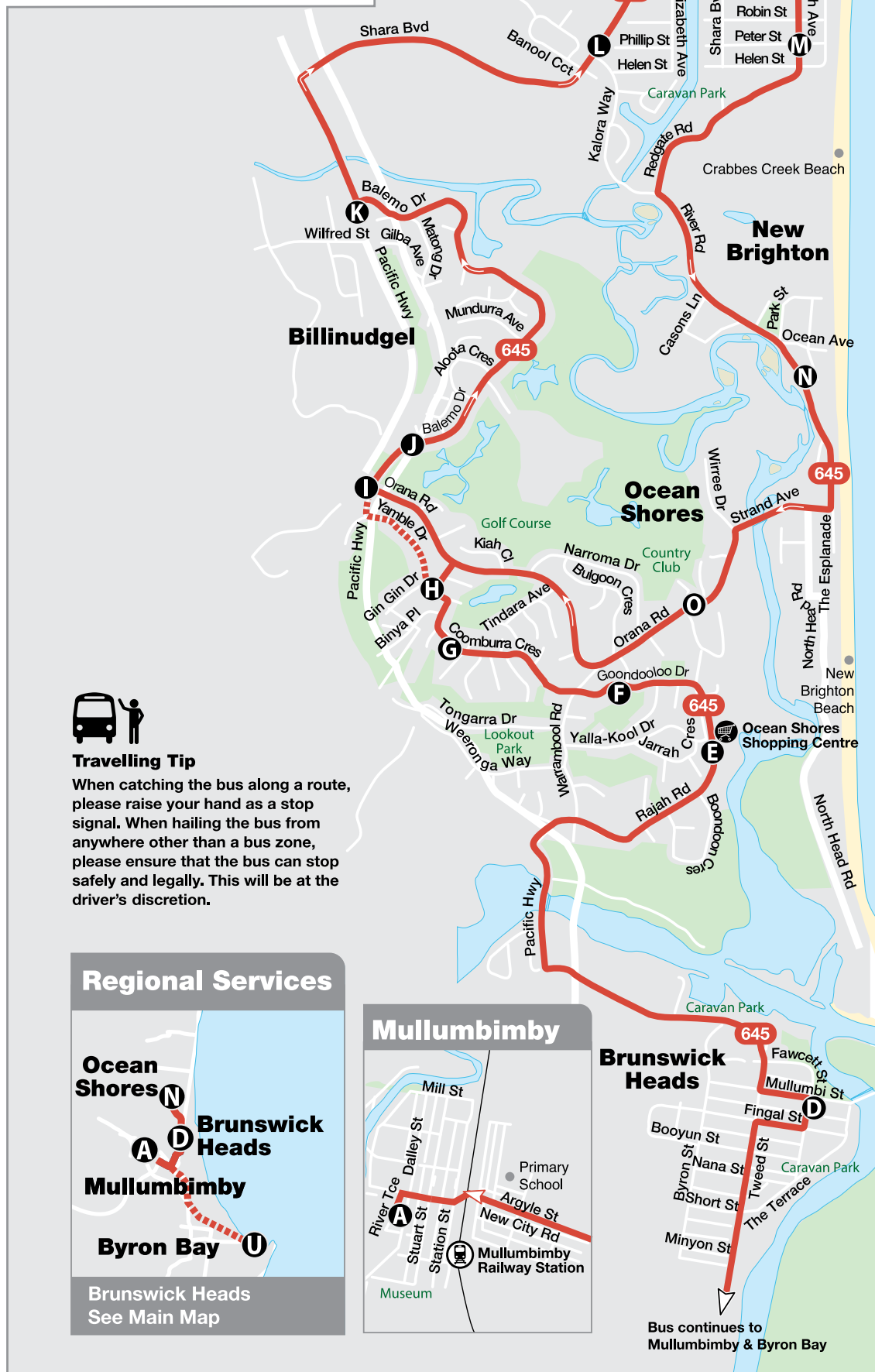
How to use this timetable

1. Using the route map provided, find the two timing points you are located between.
2. Locate these two timing points on the timetables.
3. Your bus is scheduled to arrive between the times shown for these points. For example, if your bus stop is situated between timing points **A** and **B** on the map, then the bus is scheduled to arrive between the time listed for **A** and the time listed for **B**.

Bus Route

Route 645

Ocean Shores



Travelling Tip

When catching the bus along a route, please raise your hand as a stop signal. When hailing the bus from anywhere other than a bus zone, please ensure that the bus can stop safely and legally. This will be at the driver's discretion.

Regional Services



Mullumbimby



Brunswick Heads



B.V.C








13 Mogo Place
BILLINUDGEL NSW 2483





For timetables, fares and information visit
www.brunswickvalleycoaches.com

TG20036 | Version 2








645 Ocean Shores to Byron Bay via Brunswick Heads & Mullumbimby







Monday to Friday								
map ref	Route Number	645	645	645	645	645	645	645
		am 	am 	am 	am 	pm 	pm 	pm 
K	Billinudgel - Mogo Place Humble Pies	...	7.40	9.51				
J	Balemo Drive Ocean Shores	7.30	n7.44	9.55	11.08	12.21	2.08	3.49
L	Shara Blvd (SDA Church)	7.37	...	10.02	11.15	12.28	2.15	3.56
M	Golden Beach - (Bus zone adjacent Golden Beach Shop)	7.41	...	10.06	11.19	12.32	2.19	4.00
N	New Brighton Shop	7.45	...	10.10	11.23	12.36	2.23	4.04
O	Orana Road (east of Wahlooga Way)	7.48	...	10.13	11.26	12.39	2.26	4.07
I	Yamble Drive Ocean Shores	7.52	...	...	...	...	...	...
H	Wahlooga Way Ocean Shores	...	7.50	10.17	11.30	12.43	2.30	4.11
G	Coomburra Crescent Ocean Shores	7.54	7.54	10.19	11.32	12.45	2.32	4.13
F	Goondooloo Drive Ocean Shores	7.56	7.56	10.21	11.34	12.47	2.34	4.15
E	Ocean Shores Shopping Centre	7.58	7.58	10.23	11.36	12.49	2.36	4.17
D	Brunswick Heads Info Centre (Park St)	8.03	8.03	10.28	11.41	12.54	2.41	4.22
	Bayside (Tweed Street)	8.06	8.06	10.31	11.44	12.57	2.44	4.25
	Uncle Toms	8.09	8.10	10.34	11.47	1.00	2.47	4.28
A	Mullumbimby (River Terrace Bus Zone)	bc8.20	...	c10.40	c11.53	1.06	2.53	4.34
	Ewingsdale - Byron Central Hospital	...	8.20	...	...	...	3.08	4.48
U	Byron Bay Bus Interchange	...	8.45	...	...	...	3.15	4.54


Saturday			
645	645	645	645
am 	am 	am 	pm 
8.36	...	...	3.26
8.40	9.54	11.59	3.30
8.47	10.01	12.06	3.37
8.51	10.05	12.10	3.41
8.55	10.09	12.14	3.45
8.58	10.12	12.17	3.48
...
9.02	10.16	12.21	3.52
9.04	10.18	12.23	3.54
9.06	10.20	12.25	3.56
9.08	10.22	12.27	3.58
9.13	10.27	12.32	4.03
9.16	10.30	12.35	4.06
9.19	10.33	12.38	4.09
c9.25	10.39	c12.44	c4.15
...
...

645 Byron Bay to Ocean Shores via Mullumbimby & Brunswick Heads

Monday to Friday								
map ref	Route Number	645	645	645	645	645	645	645
		am 	am 	am 	am 	pm 	pm 	pm 
U	Byron Bay Bus Interchange	...	9.05	...	...	...	3.35	5.10
	Ewingsdale - Byron Central Hospital	...	9.09	...	...	...	3.45	5.15
A	Mullumbimby (River Terrace Bus Zone)	bc8.25	9.30	c10.44	c11.57	1.44	3.25	5.30
	Opposite Uncle Toms	8.30	9.35	10.49	12.02	1.49	3.30	5.35
	Opposite Bayside (Tweed Street)	8.33	9.38	10.52	12.05	1.52	3.33	5.38
D	Brunswick Heads Info Centre (Park St)	8.40	9.41	10.55	12.08	1.55	3.36	5.41
E	Opposite Ocean Shores Shopping Centre	8.48	9.48	11.02	12.15	2.02	3.43	5.48
F	Goondooloo Drive Ocean Shores	8.49	9.49	11.03	12.16	2.03	3.44	5.49
G	Coomburra Crescent Ocean Shores	8.51	9.51	11.05	12.18	2.05	3.46	5.51
H	Wahlooga Way Ocean Shores	...	9.52	11.06	12.19	2.06	...	5.52
I	Yamble Drive Ocean Shores	8.54	...	...	...	3.48	...	...
J	Balemo Drive Ocean Shores	8.56	9.55	11.08	12.21	2.08	3.49	5.54
K	Billinudgel - Mogo Place Humble Pies	...	...	...	...	...	4.25	...
L	Shara Blvd (SDA Church)	...	10.02	11.15	12.28	2.15	3.56	6.00
M	Golden Beach - (Bus zone adjacent Golden Beach Shop)	...	10.06	11.19	12.32	2.19	4.00	6.04
N	New Brighton Shop	...	10.10	11.23	12.36	2.23	4.04	6.07
O	Orana Road (east of Wahlooga Way)	...	10.13	11.26	12.39	2.26	4.07	6.10
K	Billinudgel - Mogo Place Humble Pies	...	...	...	...	...	...	6.15

Saturday			
645	645	645	645
am 	am 	pm 	pm 
...
...
c9.30	11.35	c12.50	c4.20
9.35	11.40	12.55	4.25
9.38	11.43	12.58	4.28
9.41	11.46	1.01	4.31
9.48	11.53	1.08	4.38
9.49	11.54	1.09	4.39
9.51	11.56	1.11	4.41
9.52	11.57	1.12	4.42
...
9.54	11.59	1.14	4.44
...
10.01	12.06	1.21	4.51
10.05	12.10	1.25	4.55
10.09	12.14	1.29	4.59
10.12	12.17	1.32	5.02
...	...	1.38	5.08

Explanations

- b** – Uses Stuart Street Bus Zone at Newsagency.
- c** – Connects at Mullumbimby with route 640 Service travelling to and from Byron Bay.
- n** – Enters Balemo Drive from the northern end at intersection of Balemo Drive & Tweed Valley Way.
-  – Accessible buses operate at these times on this route.

Wheelchair Accessible Services

We try to make sure accessible buses run as intended. If an accessible bus is not available for a scheduled route, we apologise in advance for the inconvenience.

Fares

Passes must be produced for concession discounts each time a ticket is purchased. Unreadable passes are invalid. Passengers 16 years and over are required to pay full fare unless travelling to and from school, or upon presenting a valid school pass or other valid ID. Note health care cards do not entitle travellers to concession fares.

Lost Property

Please take all items with you before you leave the bus. If you find an item left on the bus, please hand it to the driver. Lost property enquiries for this service can be made at our depot, on 6686 2144. Please keep your bus ticket to help identify the bus involved.

***Weekends & Public Holidays**

Route 641 operates weekdays. Route 637 operates weekdays and Saturday evenings. Routes 664 and 665 operate weekdays and Saturdays (not Easter Saturday). Route 640 operates on weekdays, Saturdays and Sundays. On public holidays the Route 640 Sunday timetable operates (not Christmas Day).

For timetables, fares and information visit
www.brunswickvalleycoaches.com.au

The 161 bus line Casino to Tweed Heads has one route. For regular weekdays, their operation hours are:
(1) Tweed Heads: 02:35
Use the Moovit App to find the closest 161 bus station near you and find out when is the next 161 bus arriving.

Direction: Tweed Heads

20 stops
[VIEW LINE SCHEDULE](#)

- Casino Station, Coach Bay
- Lismore Station, Coach Stop
- Lismore Transit Centre, Molesworth St
- Ballina Rd at James Rd
- Lismore Rd at Rifle Range Rd
- Main St before Ballina Rd
- River St before Quays Dr
- Ballina Bus Interchange, Tamar St
- Ballina St after Rutherford St
- Broken Head Rd after Beech Dr
- Byron Bay Interchange, Stand C
- Mullumbimby Station, Coach Stop
- Park St after Balun Lane
- Rajah Rd opp Ocean Village Shops
- Bonanza Dr before Lucky Lane
- 5885 Tweed Valley Way
- Tweed Valley Way before Cudgera Creek Rd
- Murwillumbah Station, Coach Stop
- Minjungbal Dr at Water St
- Wharf St opp Tweed Heads Visitor Information Centre

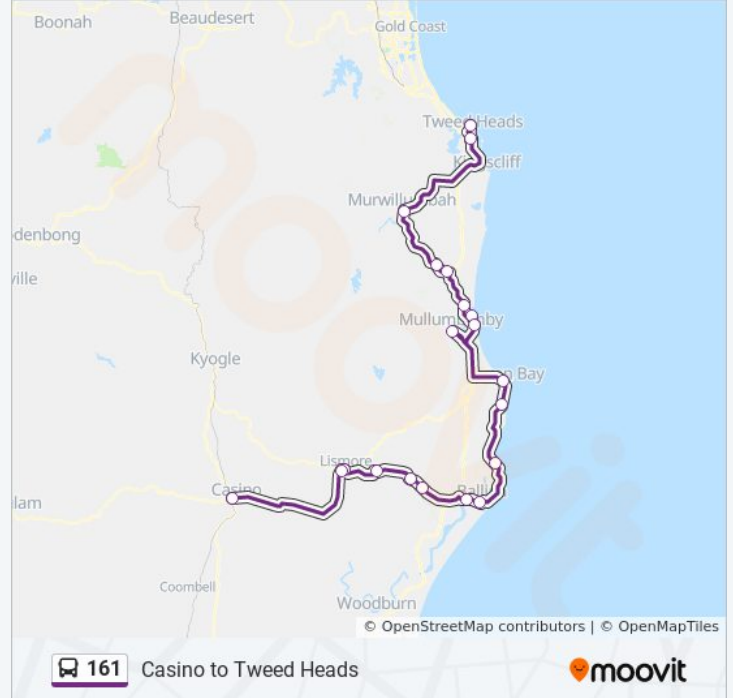
161 bus Time Schedule

Tweed Heads Route Timetable:

Sunday	02:35
Monday	02:35
Tuesday	02:35
Wednesday	02:35
Thursday	02:35
Friday	02:35
Saturday	02:35

161 bus Info

Direction: Tweed Heads
Stops: 20
Trip Duration: 193 min
Line Summary:



161 bus time schedules and route maps are available in an offline PDF at moovitapp.com. Use the [Moovit App](#) to see live bus times, train schedule or subway schedule, and step-by-step directions for all public transit in Sydney.

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Tweed Heads to Casino

Get The App

The 162 bus line Tweed Heads to Casino has one route. For regular weekdays, their operation hours are:
(1) Casino: 05:15
Use the Moovit App to find the closest 162 bus station near you and find out when is the next 162 bus arriving.

Direction: Casino

15 stops

[VIEW LINE SCHEDULE](#)

- Tweed Mall, Wharf St
- Minjungbal Dr after Water St
- Murwillumbah Station, Coach Stop
- Tweed Valley Way at Cudgera Creek Rd
- Tweed Valley Way opp 5885
- Bonanza Dr before Lucky Lane
- Ocean Village Shops, Rajah Rd
- Park St after Balun Lane
- Mullumbimby Station, Coach Stop
- Lismore Rd before Friday Hut Rd
- Eltham Hotel, Eltham Rd
- Coleman St before Withers St
- Lismore Transit Centre, Molesworth St
- Lismore Station, Coach Stop
- Casino Station, Coach Bay

162 bus Time Schedule

Casino Route Timetable:

Sunday	05:15
Monday	05:15
Tuesday	05:15
Wednesday	05:15
Thursday	05:15
Friday	05:15
Saturday	05:15

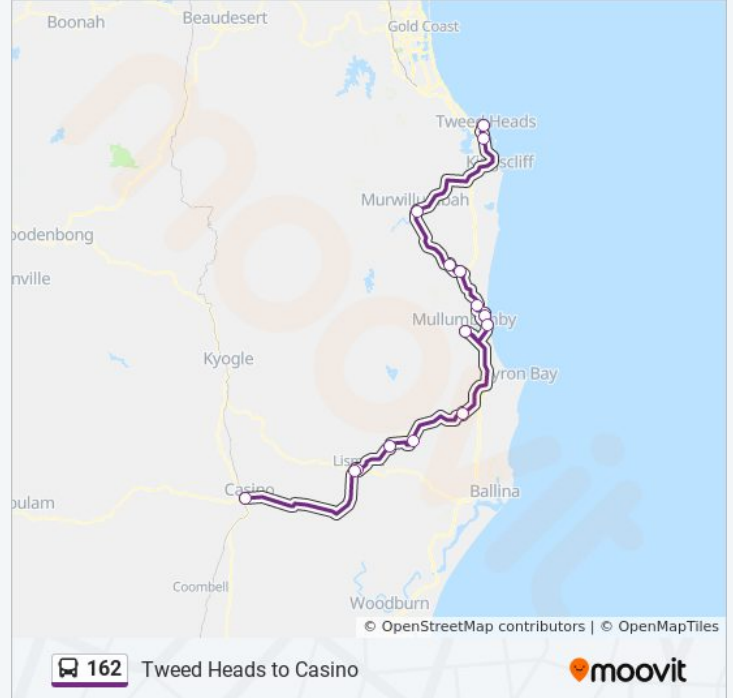
162 bus Info

Direction: Casino

Stops: 15

Trip Duration: 174 min

Line Summary:



162 bus time schedules and route maps are available in an offline PDF at moovitapp.com. Use the [Moovit App](#) to see live bus times, train schedule or subway schedule, and step-by-step directions for all public transit in Sydney.

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Casino to Tweed Heads

Get The App

The 165 bus line Casino to Tweed Heads has one route. For regular weekdays, their operation hours are:
(1) Tweed Heads: 08:40
Use the Moovit App to find the closest 165 bus station near you and find out when is the next 165 bus arriving.

Direction: Tweed Heads

19 stops
[VIEW LINE SCHEDULE](#)

- Casino Station, Coach Bay
- Lismore Station, Coach Stop
- Lismore Transit Centre, Molesworth St
- Coleman St after Withers St
- Eltham Hotel, Eltham Rd
- Clunes Village Park, Main St
- Lismore Rd at Friday Hut Rd
- Station St before Byron St
- Byron Bay Interchange, Stand C
- Mullumbimby Station, Coach Stop
- Park St after Balun Lane
- Rajah Rd opp Ocean Village Shops
- Bonanza Dr before Lucky Lane
- 5885 Tweed Valley Way
- Tweed Valley Way before Cudgera Creek Rd
- Murwillumbah Station, Coach Stop
- Chinderah Bay Dr at Main St
- Minjungbal Dr at Water St
- Wharf St opp Tweed Heads Visitor Information Centre

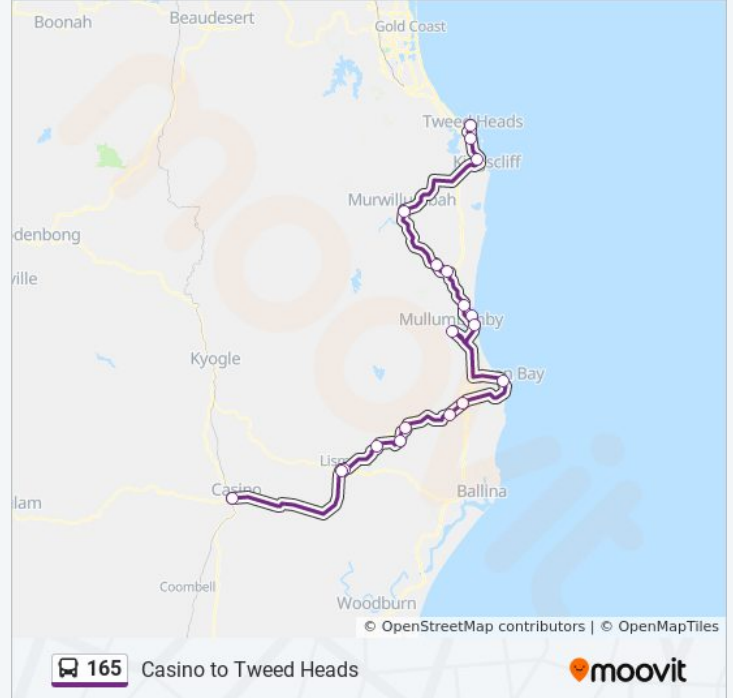
165 bus Time Schedule

Tweed Heads Route Timetable:

Sunday	08:40
Monday	08:40
Tuesday	08:40
Wednesday	08:40
Thursday	08:40
Friday	08:40
Saturday	08:40

165 bus Info

Direction: Tweed Heads
Stops: 19
Trip Duration: 180 min
Line Summary:



165 bus time schedules and route maps are available in an offline PDF at moovitapp.com. Use the [Moovit App](#) to see live bus times, train schedule or subway schedule, and step-by-step directions for all public transit in Sydney.

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