Traffic & Parking Assessment Report

207 Broulee Road, Broulee

Planning Proposal to Amend ELEP 2012 Planning Controls

Ref 22206

8th February 2023

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1. Introduction

1.1 Project Summary

CJP has been engaged by Brightlands Living to prepare a Traffic & Parking Assessment Report (TPAR) in support of a Planning Proposal (PP) to Eurobodalla Shire Council, involving the establishment of small residential housing lots located at 207 Broulee Road, Broulee.

In summary, the PP seeks to amend the planning controls within the Eurobodalla Local Environmental Plan 2012 which apply to the site, as follows:

- rezone the RU1 Primary Production portion of the site to C4 Environmental Living
- increase the size of the existing C2 Environmental Conservation portion of the site by approximately 5ha
- introduce new "village cluster housing", allowing 8 dwellings per hectare in the C4 zoned land associated with a large common property environmental lot under Cl.4.1AA, and
- add "indoor recreation facilities" (health studios), "restaurants or cafés" and "function centres" as additional permitted uses in Schedule 1 for the site.

The PP is a site-specific response to the property's desirable position, ecological attributes, and context. The proposed small residential lots on the site are intended to provide a unique housing alternative, comprising a mix of family, downsizer, and key worker/affordable housing.

The PP also includes the establishment of a "village hub", which will include community, business support, wellness and learning facilities, a café/restaurant, and a discovery/interpretive centre.

A new internal public road network along with off-street parking and loading facilities are also proposed, accessed via two new driveways located off Broulee Road.

Concept plans of the planning proposal have been prepared by Hatch, in collaboration with Roberts Day, and are reproduced in Appendix A.

Figure 1.1 – Site Location (Source: Open Street Map)

Based on State Environmental Policy (Transport & Infrastructure) 2021, Schedule 3 – Traffic Generating Development, referral to Transport for NSW is required due to the number of residential lots and associated car parking proposed on the site.

1.2 Assessment Tasks

The purpose of this TPAR is to assess the traffic, parking, access, transport and servicing characteristics of the PP, and the associated impacts of the proposal on the surrounding road network, parking and transport environment. This can be briefly summarised below:

- Description of the existing site and its location
- Existing traffic conditions and volumes
- Public transport services
- Traffic generation potential of the proposal and its impacts on the surrounding road network
- Off-street parking/loading/access requirements and provisions
- Design of access driveway, parking and service area layout

1.3 Relevant Planning Controls

The site lies within the Eurobodalla Shire Council (Council) Local Government Area (LGA), such that the relevant Council planning controls and strategies referenced in this TPAR include:

- Eurobodalla Local Environmental Plan 2012 (ELEP 2012)
- Eurobodalla Rural, R5 Large Lot Residential and E4 Environmental Living Zones Development Control Plan 2010 (September 2019)
- Eurobodalla Parking & Access Code (September 2012)
- Eurobodalla Site Waste Minimisation and Management Code (September 2012)
- Eurobodalla Shire Local Strategic Planning Statement 2020-2040
- Eurobodalla Shire Community Strategic Plan 2042

1.4 Traffic, Transport & Parking Guidelines & Standards

In preparing this TPAR, references are also made to the following site access, traffic and parking guidelines:

- Roads & Maritime Service's Guide to Traffic Generating Developments 2002 (RMS Guide)
- Roads & Maritime Service's Technical Direction Updated Traffic Surveys 2013 (TDT)
- State Environmental Planning Policy (Transport & Infrastructure) 2021
- Australian Standards 2890.1:2004 – Off-Street Car Parking (AS2890.1)
- Australian Standards 2890.2:2018 – Off-Street Commercial Vehicle Facilities (AS2890.2)
- Australian Standards 2890.3:2015 – Bicycle Parking (AS2890.3)
- Australian Standards 2890.6:2009 – Off-Street Parking for People with Disabilities (AS2890.6)
- Rural Fire Service Planning for Bushfire Protection (November 2019)

2. Existing Conditions

2.1 Site Location & Description

The development site is located on the northern side of Broulee Road, in between the Princes Highway and George Bass Drive, adjacent to the crematorium. The site has a street frontage of approximately 1.3km in length to Broulee Road and occupies a total area of approximately 126.85ha.

The site is currently occupied by two residential dwelling houses as well as several ancillary outbuildings, both located on the southern portion of the site. Established trees are located along the northern edges of the site as part of the Illawong Nature Reserve, along with several small dams and additional trees scattered throughout the site. The vast majority of the site, however, consists of maintained grass.

Vehicular access to the site is provided via a single wide driveway located midway along the Broulee Road site frontage, directly opposite the access driveways of No.208 and No.210 Broulee Road.

A recent aerial image of the site and its surroundings is reproduced below, along with a series of Streetview images on the following page.

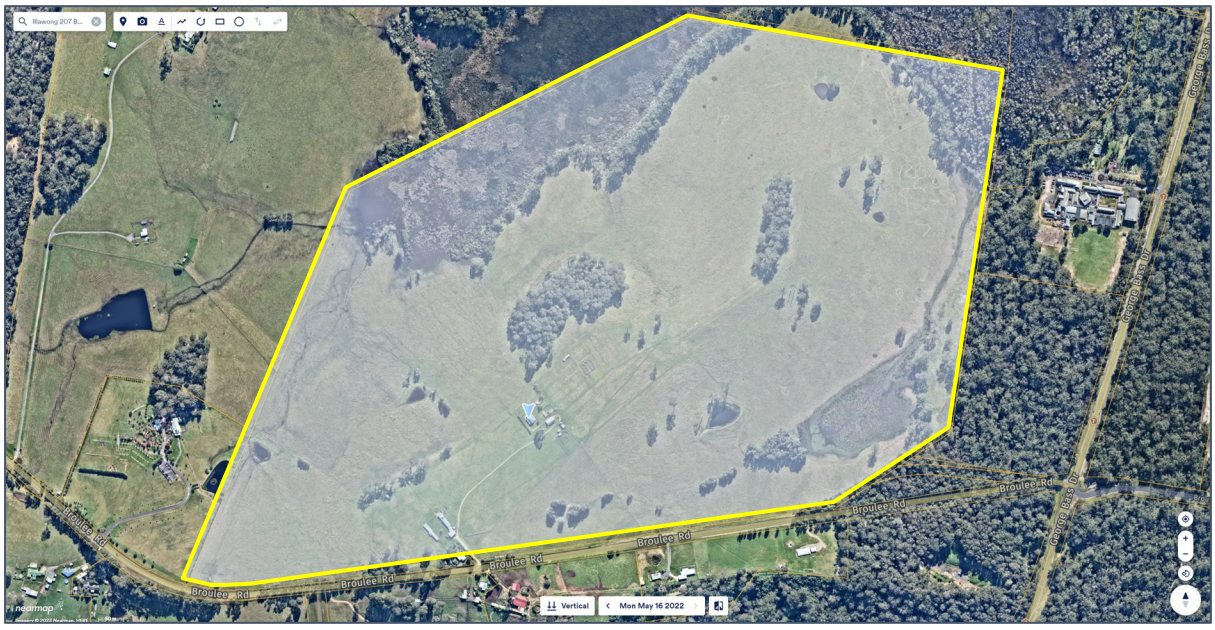

Figure 2.1 – Aerial Map (Source: Nearmap)

2.2 Existing Planning Controls

The majority of the existing site including the cleared portion of the land and central cluster trees is zoned RU1 Primary Production. The existing bushland portion of the site is zoned C2 Environmental Conservation. A zoning map of the site, based on the Eurobodalla LEP 2021, is provided on the following page.

Figure 2.2 – Broulee Road Streetview image of existing site access driveway, looking east (Source: Google Maps)

Figure 2.3 – Broulee Road Streetview image of existing site access driveway, looking west (Source: Google Maps)

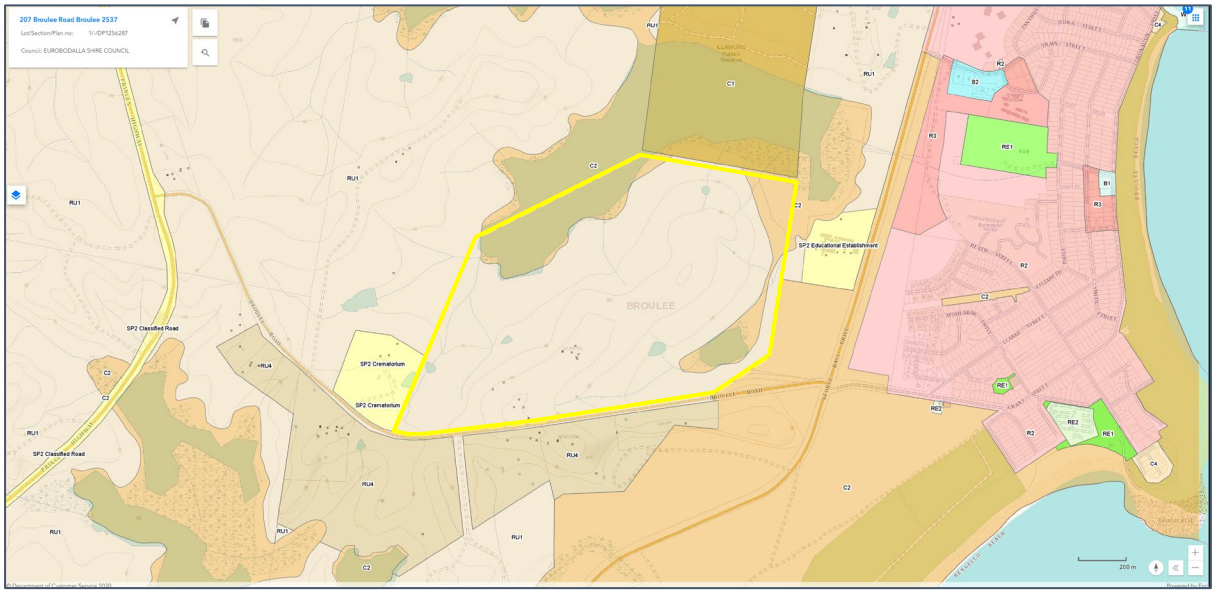

Figure 2.4 – Existing ELEP 2012 Zoning Map (Source: ePlanning Spatial Viewer)

2.3 Strategic Planning

Both the Eurobodalla Shire Local Strategic Planning Statement 2020-2040 and the Eurobodalla Shire Community Strategic Plan 2042, are strategic documents which set out a 20-year vision for land use planning in the Shire. They outline how growth and change will be managed to ensure high levels of liveability, prosperity and environmental protection are achieved in Eurobodalla.

Those that move into the region are attracted to the coastal lifestyle, however, as many people leave the region for better job security. As such, population growth has been relatively low in recent years and this trend is expected to continue into the future.

Eurobodalla Shire has a current population of almost 40,000 people and is expected to grow by approximately 6,000 people by 2036, representing an annual growth rate of 0.9%. Over the summer holiday period, the population is reported to swell to 130,000.

Employment land within the Shire, made up of commercial and industrial land, is generally located within or in close proximity to Batemans Bay, Moruya, Narooma and the Princes Highway. There are also several niche retail centres located in Mogo, Bodalla and Central Tilba, and a number of small activity centres in several villages. According to Council's Local Strategic Planning Statement, over 93% of Shire residents work within the Shire.

Council's two strategic documents take into account the State and Regional Planning framework and builds on the communities' priorities outlined in the Community Strategic Plan and Local Strategic Planning Statement to outline how the Shire will continue to evolve in a way that protects the local character, natural areas and landscapes in accordance with the communities' expectations.

In total there are 13 "Planning Priorities", as follows, all with their own set of actions:

1. Encourage greater housing diversity and affordability
2. Enhance the distinctive character and heritage of towns, villages and hamlets
3. Consolidate development within town and village centres
4. Adapt to natural hazards
5. Conserve and celebrate bushland waterways
6. Promote sustainable living
7. Collaborate with NSW government in delivering strategic infrastructure projects
8. Align local infrastructure delivery with planned growth
9. Develop highly accessible town and activity centres
10. Promote nature-based tourism opportunities
11. Activate town and village centres
12. Ensure an adequate supply of employment lands
13. Promote a diverse and sustainable agriculture sector

The planning proposal therefore achieves many of the objectives of the Local Strategic Planning Statement 2020-2040 and the Community Strategic Plan, including providing a unique form of residential housing, providing employment opportunities (during construction), and promoting a happy and healthy lifestyle.

Figure 2.5 – Eurobodalla Town & Activity Centres (Source: Eurobodalla Local Strategic Planning Statement)

2.4 Road Network

The Transport for NSW (TfNSW) road hierarchy comprises the following road classifications:

- State Roads: Freeways, Motorways and Primary Arterial Roads (TfNSW managed)
- Regional Roads: Secondary or Sub-Arterial (Council managed, partly funded by the State)
- Local Roads: Collector and Local Access Roads (Council managed)

The road hierarchy in the vicinity of the site is shown in the figure below, whilst the key roads and intersections are summarised as follows:

- The Princes Highway (A1) is classified as a State Road and provides the key north-south road link along the NSW South Coast, extending through into Victoria. It typically carries one traffic lane in each direction in the vicinity of the site, with turning lanes and overtaking lanes provided at regular intervals.

- George Bass Drive is classified as a Regional Road which provides another north-south road link in the local area, linking Moruya to Batehaven. It also carries one traffic lane in each direction, with turning lanes provided at key intersections.

- Broulee Road is a local road which runs on an east-west alignment between the Princes Highway and the Broulee township. It carries one traffic lane in each direction.

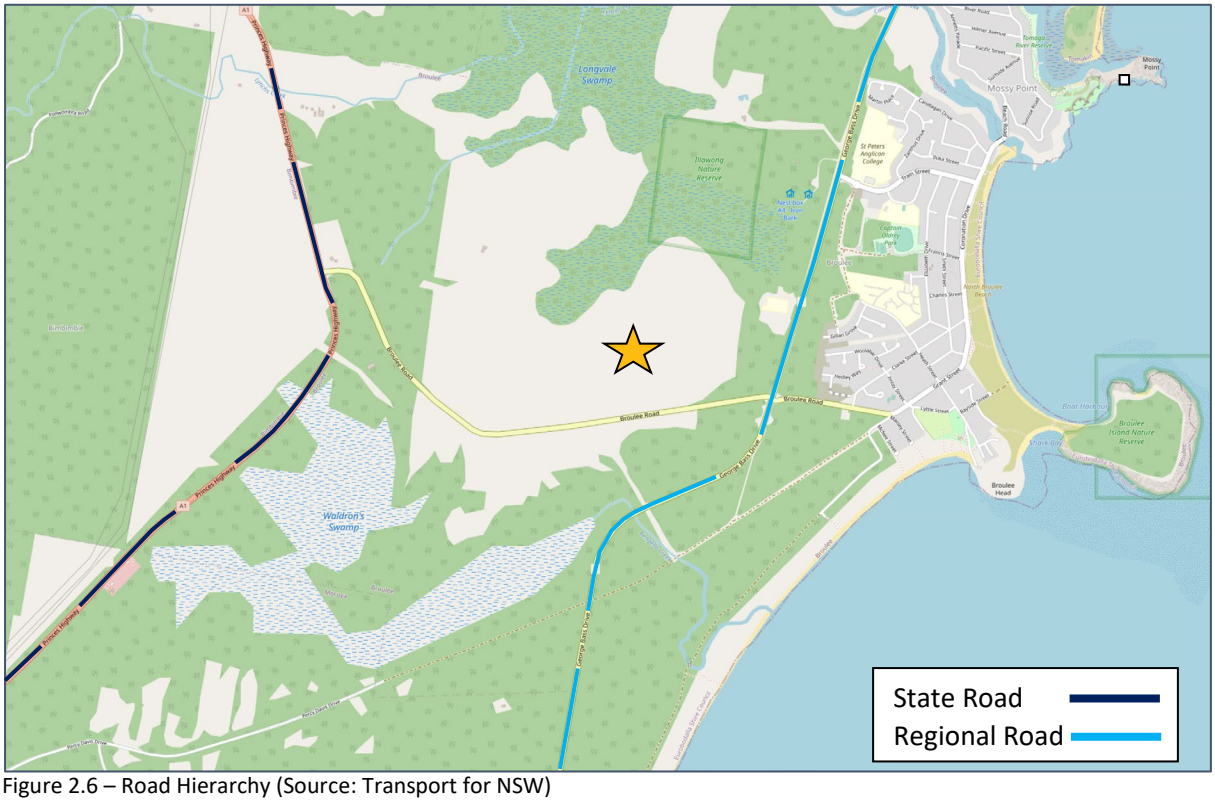

Figure 2.6 – Road Hierarchy (Source: Transport for NSW)

2.5 Public Transport, Active Transport & Essential Services

Existing public and active transport options available in the vicinity of the site are limited. Footpaths are non-existent and road shoulders tend to be gravel rather than bitumen. As such, walking and cycling along Broulee Road is dangerous and also non-existent.

The nearest bi-directional bus stops are located approximately 2.9km east of the site along Coronation Drive, which is serviced by the 860 bus operated by Priors Scenic Express. The 860 service operates Monday-Saturday between Batemans Bay and Moruya TAFE via Broulee and Surf Beach. In total there are 18 services per day on weekdays (9 northbound & 9 southbound) and 6 services on Saturdays (3 northbound & 3 southbound). A timetable of the 860 bus is reproduced in Appendix B.

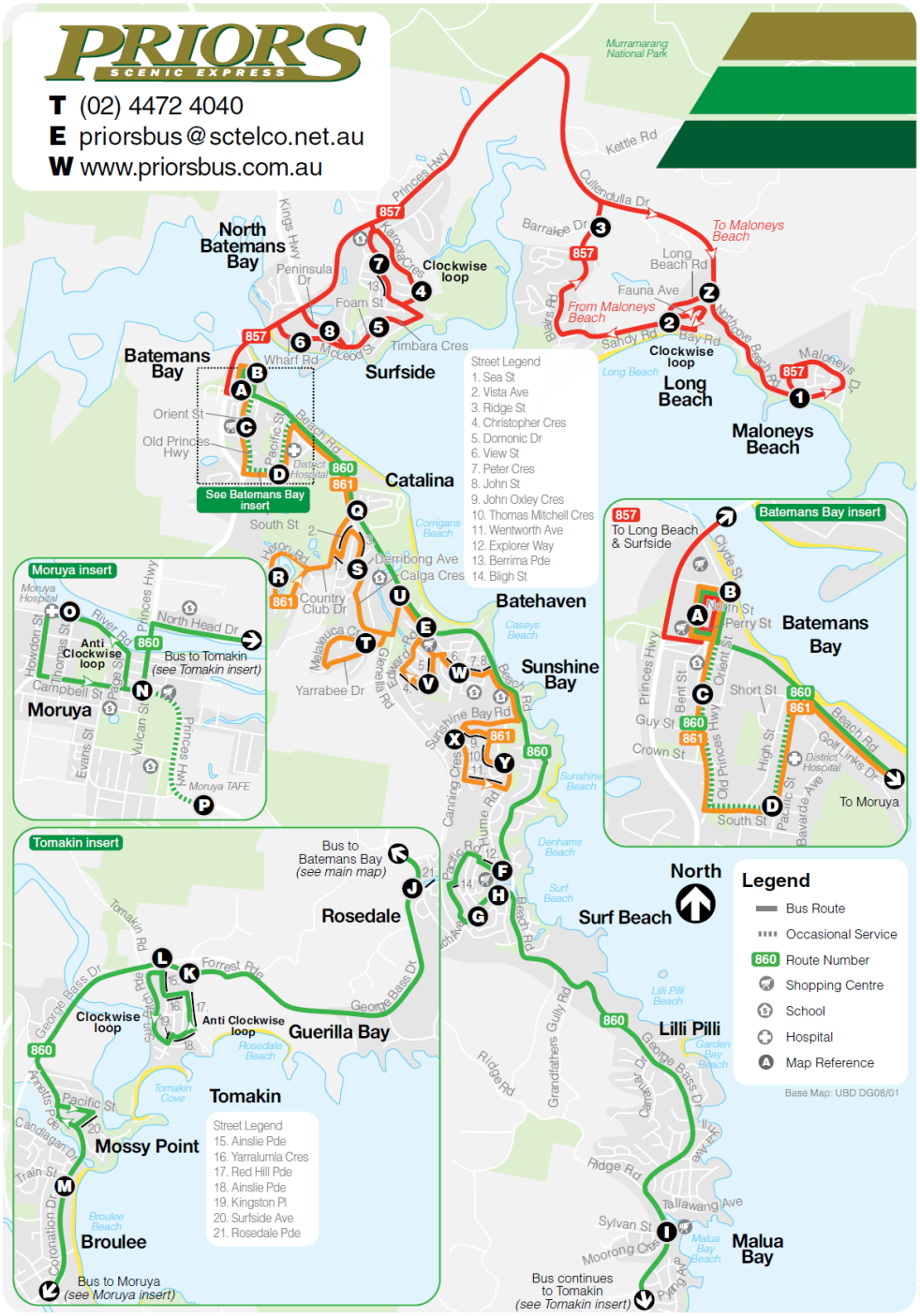

Figure 2.7 – 860 bus service route map (Source: Priors Scenic Express)

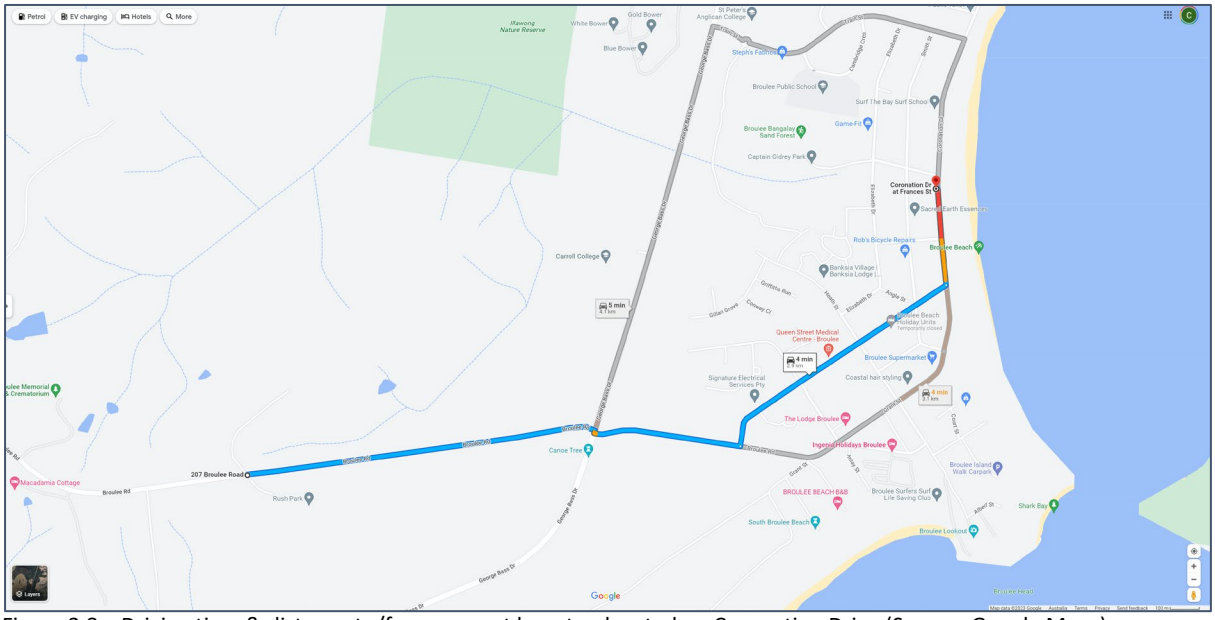

Figure 2.8 – Driving time & distance to/from nearest bus stop located on Coronation Drive (Source: Google Maps)

In addition, there is also a daily private service (700-1) operating between Bomaderry railway station and Eden via Ulladulla, Batemans Bay, Narooma and Bega. The nearest bi-directional bus stops for this private service are located on the corner of the Princes Highway & Broulee Road, approximately 2.1km west of the site. A timetable of the 700-1 bus is also reproduced in Appendix B.

Existing public and active transport options available in the vicinity of the site are limited. Footpaths are non-existent and road shoulders tend to be gravel rather than bitumen. As such, walking and cycling along Broulee Road is dangerous and also non-existent.

Other key points of interest and essential services and their respective driving distances/times are summarised below:

- St Bernard's Catholic Primary School, Batemans Bay: 18.2km (16 minutes)
- St Mary's Catholic Primary School, Moruya: 11.4km (10 minutes)
- Carroll College, Broulee: 1.9km (3 minutes)
- St Peter's Anglican College, Broulee: 2.7km (3 minutes)
- Broulee Long Day Care Centre: 2.9km (3 minutes)
- Broulee Public School: 3.5km (5 minutes)
- Moruya High School: 12.9km (12 minutes)
- Moruya Public Pool: 11.4km (10 minutes)
- Broulee Surf Life Saving Club: 2.7km (4 minutes)
- Broulee Local Supermarket, Service Station & Post Office: 2.5km (3 minutes)
- Woolworths Supermarket, Moruya: 11.5km (10 minutes)
- Moruya Hospital: 12.4km (11 minutes)
- Batemans Bay Hospital: 19.2km (17 minutes)
- Bunnings, Batemans Bay: 18.2km (15 minutes)
- Kmart, Batemans Bay: 19.8km (18 minutes)
- McDonalds, Batemans Bay: 19.9km (18 minutes)

2.6 Existing Traffic Volumes

In order to understand the existing traffic volumes on the surrounding road network, traffic surveys were undertaken at the Princes Highway & Broulee Road intersection as well as the George Bass Drive & Broulee Road intersection during the weekday AM & PM road network peak periods on Wednesday 9th November 2022. The results of the surveys are reproduced in Appendix C and summarised in the diagrams below, along with aerial images of the two intersections for context.

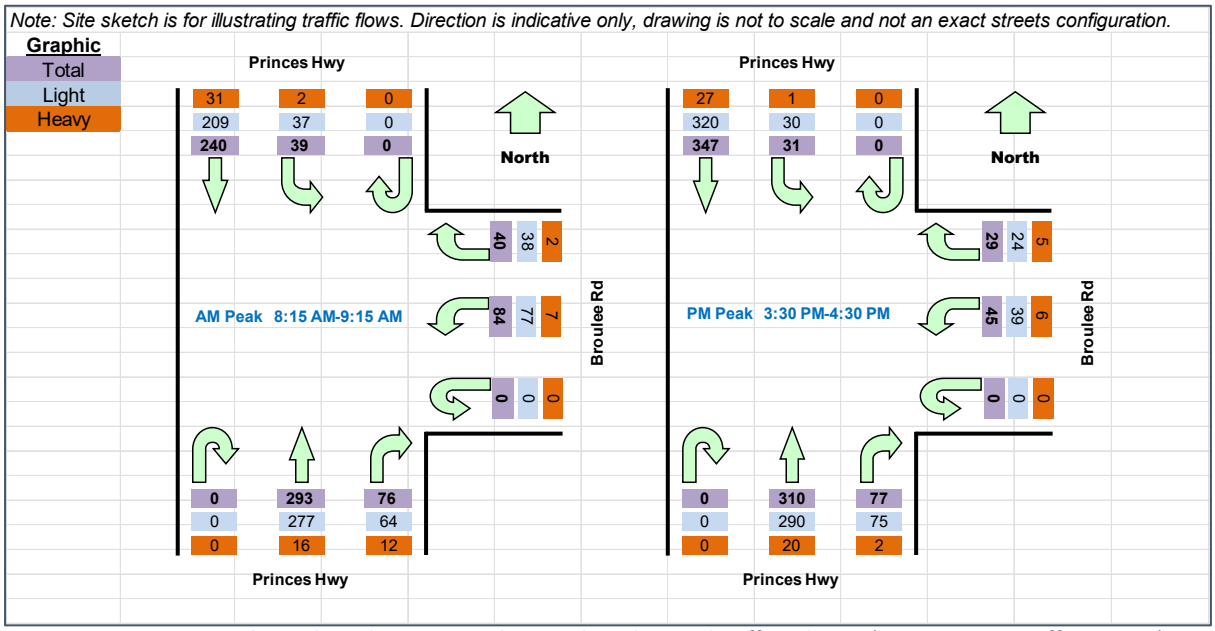

Figure 2.9 – Princes Hwy & Broulee Rd existing road network peak period traffic volumes (Source: Trans Traffic Surveys)

Figure 2.10 – Princes Hwy & Broulee Rd intersection (Source: Nearmap)

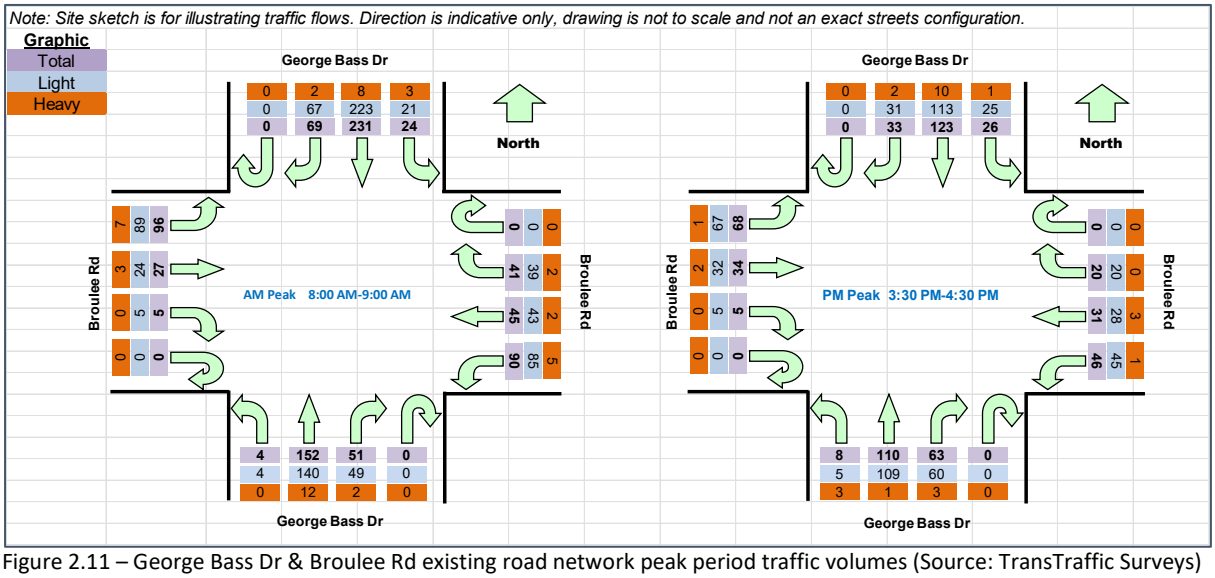

Figure 2.11 – George Bass Dr & Broulee Rd existing road network peak period traffic volumes (Source: TransTraffic Surveys)

Figure 2.12 – George Bass Dr & Broulee Rd intersection (Source: Nearmap)

In addition to the peak period intersection survey, automatic tube count (ATC) surveys were also undertaken along Broulee Road outside the site frontage, between 5th November and 12th November, 2022. Key data statistics of the ATC surveys are as follows:

- the 85th percentile vehicle speed along Broulee Road outside the site frontage is 95-100km/h
- the weekday morning road network peak hour is typically 8am to 9am, where there is in the order of 236 vehicle movements, comprising 119 eastbound vehicle movements and 117 westbound vehicle movements
- the weekday afternoon road network peak hour is typically 3pm to 4pm, where there is in the order of 182 vehicle movements, comprising 97 eastbound vehicle movements and 85 westbound vehicle movements

- the weekend road network peak hour is typically 10am to 11am, where there is in the order of 128 vehicle movements, comprising 79 eastbound vehicle movements and 49 westbound vehicle movements

Figure 2.13 – Location of automatic tube count surveys on Broulee Rd (Source: Nearmap)

2.7 Existing Surrounding Traffic Controls

The existing traffic restrictions in the vicinity of the site comprise:

- a 100km/h speed limit which applies to the Princes Highway
- a 100km/h speed limit which applies to George Bass Drive, south of Broulee Road
- an 80km/h speed limit which applies to George Bass Drive, north of Broulee Road
- a 50km/h speed limit which applies to Broulee Road, in the vicinity of the township
- CHR & AUL turning treatments at the Princes Highway & Broulee Road intersection
- a staggered arrangement at the intersection of George Bass Drive & Broulee Road, with give way restrictions on the Broulee Road approaches and passing lanes on the George Bass Drive in the event of turning vehicles

3. Planning Proposal

3.1 Concept Development Description

As noted in the introduction of this report, the PP seeks to amend the planning controls within the Eurobodalla Local Environmental Plan 2012 which apply to the site, as follows:

- rezone the RU1 Primary Production portion of the site to C4 Environmental Living
- increase the size of the existing C2 Environmental Conservation portion of the site by approximately 5ha
- introduce new "village cluster housing", allowing 8 dwellings per hectare in the C4 zoned land associated with a large common property environmental lot under Cl.4.1AA, and
- add "indoor recreation facilities" (health studios), "restaurants or cafés" and "function centres" as additional permitted uses in Schedule 1 for the site.

The above amendments to the ELEP 2012 planning controls will ultimately allow for a mixed use site with a number of land uses, as indicated in the concept plan below.

Figure 3.1 – Concept Masterplan (Source: Hatch, in collaboration with Roberts Day)

In summary, the concept plans which are provided in Appendix A envisage the following:

- a total of 800 new dwellings located throughout the site, comprising a mix of 2-5 bedroom dwellings
- creation of multiple hamlet types which focus on providing accommodation for families (35%), downsizers/over 55s (50%) and key workers/affordable housing (15%)
- significant open space, environmental and landscape elements

- new internal public and private road network, along with extensive pedestrian & cycle paths
- a "village hub", providing a central location for community, business support, wellness & learning facilities, a café/restaurant, and a discovery/interpretive centre

It is pertinent to note that the village hub does not include any retail floor space, and the residents of the proposed community will be encouraged to utilise existing retail facilities in Broulee, thereby improving the viability and range of service of Broulee's existing retail facilities.

Housing is intended to comprise a mixture of 2 to 5 bedroom dwellings, generally of one or two storeys. Open space and parkland throughout the site is intended to interweave between dwelling clusters and provide a maximum of community usage opportunities. These linkages are intended to encourage non-car based movement, supporting greater walking, cycling and e-bikes.

3.2 Parking Arrangements

Off-street parking will be provided for each dwelling and all ancillary uses in accordance with Eurobodalla Council's Parking & Access Code. At this stage, the bedroom mix is not yet known, however, the parking requirement will be assessed at the Development Application (DA) stage in any event, should the PP gain approval.

With a focus on walking and cycling through the open space linkages, accommodation of access and parking is primarily through the use of laneways and rear-garages, with visitor parking strategically accommodated in the laneway design.

3.3 Internal Movement

The Masterplan proposes the establishment of a framework of public and private streets as well as pedestrian and cycle pathways which:

- provide two access points to Broulee Road
- provide a boundary and public interface to wetland and bushfire buffer areas
- provide a conservative balance delivering emergency access whilst maximising the amount of intimate, community-title cluster streets and laneways to achieve a genuine agricultural and environmental response
- enable the internal traffic distribution of traffic, discouraging the creation of congestion points
- generally comprise a road reservation width of 18m and a road carriageway width of 7m for public roads, with footpaths and street tree planting in verge areas
- includes a "main street" road profile for the short section of street fronting the village hub, envisaged to:
    - accommodate on-street parking both sides with a 10m road carriageway (inclusive of indented parking bays)
    - include defined pedestrian crossing points
    - accommodate wide footpaths both sides, enabling direct frontage by activated uses
    - include tree planting and street furniture
- includes a network of community title streets within respective housing clusters, with a typical carriageway width of 7m, and accompanied by footpaths, as appropriate
- includes approximately 15km of footpaths, shared paths and walking trails

Figure 3.2 – Proposed internal public road network (Source: Hatch, in collaboration with Roberts Day)

Figure 3.3 – Proposed “main street” (Source: Hatch, in collaboration with Roberts Day)

Figure 3.4 – Proposed private road network (Source: Hatch, in collaboration with Roberts Day)

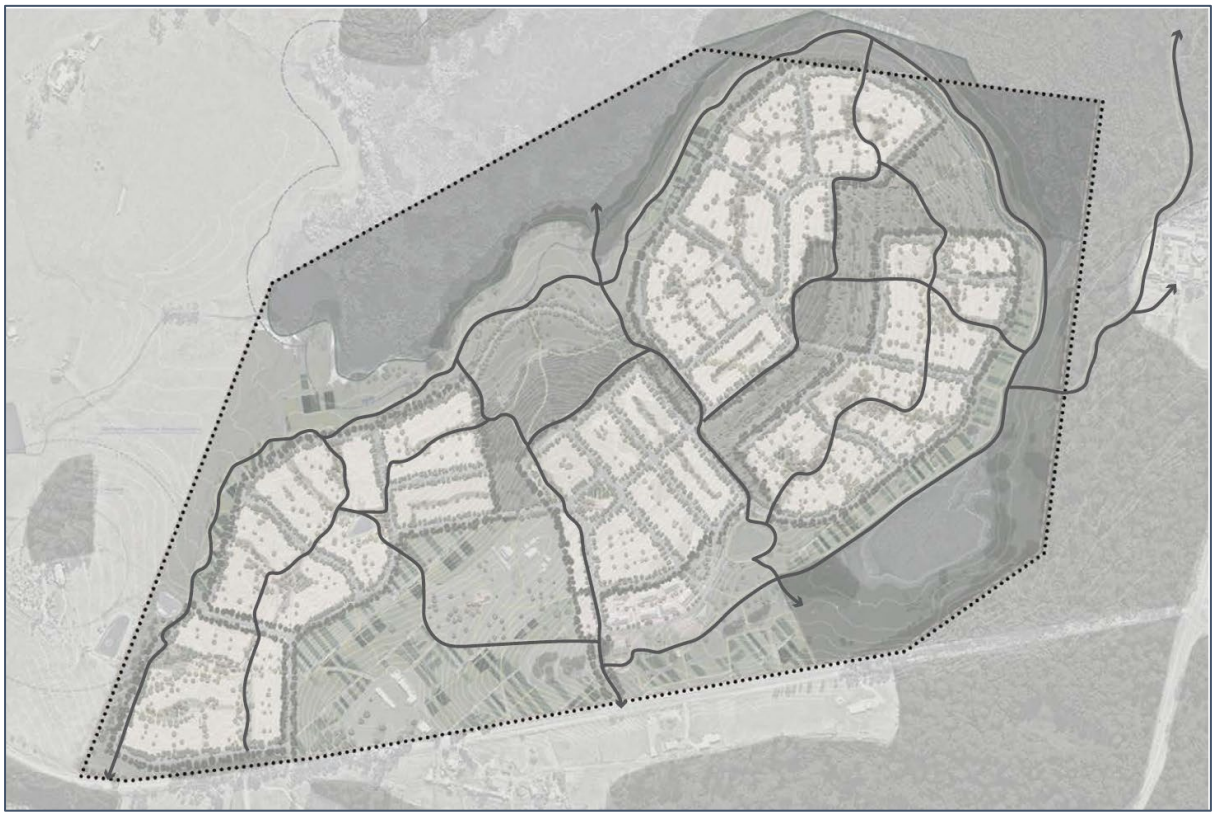

Figure 3.5 – Proposed pedestrian and cycle pathway network (Source: Hatch, in collaboration with Roberts Day)

3.4 Loading & Servicing

The proposed development will be serviced by light commercial vehicles such as vans, utilities etc, up to small and medium rigid trucks. These may include online order deliveries, tradesmen, removalists and the like, all typical of a residential subdivision.

Waste collection for the proposed development will be undertaken by Council's contractor from outside the respective dwellings. General waste will be collected once per week whilst recycling and green waste collected once per fortnight.

3.5 Vehicular Access

Vehicular access to the site is to be provided via two separate locations. The primary vehicular access point is to be located somewhat centrally along the Broulee Road site frontage, connecting into the village hub before linking with the internal road network and onto the various residential hamlets.

A secondary vehicular access point is to be located towards the western end of the Broulee Road site frontage, providing easy access to the key worker/affordable housing hamlets as well as the downsizer hamlets.

Both of the proposed new access points will be designed with a CHR/AUL treatment in accordance with Austroads requirements.

Figure 3.6 – Location of proposed main access driveway off Broulee Road, looking west (Source: Google Maps)

Figure 3.7 – Location of proposed main access driveway off Broulee Road, looking east (Source: Google Maps)

Figure 3.8 – Location of proposed secondary access driveway off Broulee Road, looking west (Source: Google Maps)

Figure 3.9 – Location of proposed secondary access driveway off Broulee Road, looking east (Source: Google Maps)

4. Traffic Impact Assessment

4.1 Traffic Generation Guidelines

The traffic implications of development proposals primarily concern the traffic generation potential of a site and its impact on the operational performance of the surrounding road network, particularly during the weekday morning and afternoon road network peak periods.

An indication of the traffic generation potential of the proposed uses on the site is provided by reference to the following documents:

- RMS Guide to Traffic Generating Developments 2002 (RMS Guide)
- RMS Technical Direction 2013/04a (TDT)

In this regard, the TDT provides trip generation rates for low density residential dwellings in regional areas, as follows:

- Weekday AM road network peak: average 0.71 trips/dwelling
  maximum 0.85 trips/dwelling
- Weekday PM road network peak: average 0.78 trips/dwelling
  maximum 0.9 trips/dwelling

4.2 Proposed Concept Development Traffic Generation

The proposed concept design envisages the subdivision of the site into 800 new residential lots, each ultimately consisting of a dwelling each, along with a variety of largely ancillary uses.

For the purposes of this assessment, and in the interest of sensitivity testing, the abovementioned maximum trip rates have been adopted. Accordingly, based on the above maximum trip rates for regional areas, the proposed residential subdivision has a traffic generation potential of 680 vehicle trips during the weekday morning peak period and 720 vehicle trips during the weekday afternoon peak period, as set out in the table below.

Table 4.1 – Envisaged Weekday Peak Trip Rates & Traffic Generation Potential

Proposed Land Use	Period	Trip rate	Total trips	Trip split
Residential (800 lots)	AM	0.85/dwelling	680 trips	136 in/544 out
	PM	0.90/dwelling	720 trips	576 in/144 out

4.3 Traffic Distribution

Key points of interest in the surrounding area that the proposed development's traffic may be drawn to include:

- The Princes Highway (A1) to the west of the site that future residents of the development may use to commute to/from work
- Batemans Bay to the north of the site being the closest largest regional town where future residents of the development may work, shop etc

- Moruya to the south of the site being the next closest largest regional town where future residents of the development may also work, shop etc

- Broulee and Mossy Point townships to the east and north-east, respectively, where future residents of the development may visit a café for breakfast or the general store for light groceries

In light of the above, it is estimated that the proposed development's traffic will be distributed, as follows:

- 30% to/from the north via the Princes Highway
- 20% to/from the north via George Bass Drive
- 20% to/from the south via the Princes Highway
- 15% to/from the south via George Bass Drive
- 15% to/from the east via Broulee Road

4.4 Future Background Traffic Growth & Seasonal Variations

As noted in the foregoing, Eurobodalla Shire has a current population of almost 40,000 people and is expected to grow by approximately 6,000 people by 2036, representing an annual growth rate of 0.9%. Over the summer holiday period, the population is reported to swell to 130,000.

Reference is also made to the AADT Converter, which was provided by Council, in order to factor up the November 2022 baseline traffic volumes undertaken as part of this PP, to the absolute peak period. Unsurprisingly, the absolute peak period occurs over New Years Eve and into the first week of January on any given year. Analysing the seasonal fluctuations indicates that the absolute peak period is 1.74% higher than the November period the traffic surveys were undertaken.

Accordingly, the November 2022 baseline traffic volumes have been factored up by 1.74%, which were then used as the new "adjusted baseline".

Furthermore, traffic impact assessments, particularly planning proposals, often include a +10 year scenario, and therefore the "adjusted baseline" volumes were also factored up 1% p.a. in order to assess the impact of the proposed development in 2032.

4.5 Road Network Capacity & Traffic Impact – Completed Development

An important consideration in determining the impact of a development proposal on the road network is to assess the effect on traffic efficiency, the objective of which is to maintain the existing level of service. Adverse effects must be identified and corrective measures designed. The level of service is used as the performance standard and is broken down into six ratings. This is a qualitative assessment of the quantitative effect of factors such as speed, volume of traffic, geometric features, traffic interruptions, delays and freedom of manoeuvres.

The traffic implications of development proposals primarily concern the effects that any *additional* traffic flows may have on the operational performance of the nearby road network. Those effects can be assessed using the SIDRA 9 program which is widely used by TfNSW and most LGAs for this purpose. TfNSW's criteria for evaluating the results of SIDRA analysis are summarised in the table on the following page.

Table 4.2 – Level of Service Criteria for Intersections (Table 4.2 of RMS Guide)			
Level of Service	**Average Delay per Vehicle (secs/veh)**	**Traffic Signals, Roundabouts**	**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
F	>70	Unsatisfactory, requires additional capacity	Unsatisfactory, requires other control mode or major treatment

For the purposes of this assessment, the following scenarios have been modelled using the SIDRA 9 program:

- Existing 2022 Adjusted Peak Summer Base Case (without development, no upgrades)
- Existing 2022 Adjusted Peak Summer Base Case (without development, with upgrades)
- Proposed 2022 Adjusted Peak Summer (with development, no upgrades)
- Proposed 2022 Adjusted Peak Summer (with development, with upgrades)
- Future 2032 Adjusted Peak Summer (with development, with upgrades)

The individual movements summaries of each intersection are reproduced in Appendix D and summarised in Table 4.3 below.

Table 4.3 – Summary of SIDRA analysis of surrounding road network										
	Existing 2022 Adjusted Peak Summer Base Case (without development & no upgrades)		**Existing 2022 Adjusted Peak Summer Base Case (without development & with RAB upgrade only)**		**Proposed 2022 Adjusted Peak Summer (with development & no upgrades)**		**Proposed 2022 Adjusted Peak Summer (with development & with RAB & seagull upgrades)**		**Future 2032 Adjusted Peak Summer (with development & with RAB & seagull upgrades)**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Pacific Hwy & Broulee Rd LOS DOS AVD (sec/veh)	A (C) 0.369 4.4 (29.4)	A (D) 0.450 3.9 (52.0)	No upgrade required	No upgrade required	C (F) 1.246 42.6(273.9)	B (F) 1.159 17.8(270.1)	A (B) 0.445 7.1 (15.1)	A (B) 0.477 6.6 (22.9)	A (B) 0.545 7.9 (18.0)	A (C) 0.609 7.9 (29.8)
Broulee Rd & Secondary Site Access Driveway LOS DOS AVD (sec/veh)					A (A) 0.300 2.2 (11.9)	A (A) 0.191 2.6 (10.9)			A (A) 0.328 2.3 (13.7)	A (A) 0.211 2.5 (12.0)
Broulee Rd & Main Site Access Driveway LOS DOS AVD (sec/veh)					A (A) 0.552 4.7 (13.7)	A (A) 0.198 4.4 (11.4)			A (B) 0.659 5.7 (17.2)	A (A) 0.229 4.5 (13.0)
George Bass Dr & Broulee Rd LOS DOS AVD (sec/veh)	B (F) 1.077 23.2(184.0)	A (B) 0.295 6.9 (24.2)	A 0.438 8.4	A 0.266 7.6	F (F) 1.667 145.5(671.9)	A (D) 0.740 12.2 (48.7)	A 0.563 9.8 (14.9)	A 0.393 8.7 (14.2)	A 0.644 11.6	A 0.449 9.0

LOS – Level of Service; DOS – Degree of Saturation; AVD – Average Vehicle Delays

Worst turning movements and respective delays indicated in brackets (sign-controlled intersections only)

4.6 Recommended Road Upgrades

Again, an important consideration in determining the impact of a development proposal on the road network is to assess the effect on traffic efficiency, the objective of which is to maintain the existing level of service. Adverse effects must be identified and corrective measures designed.

Based on the results of the SIDRA analysis, the following observations are made:

- the Pacific Highway & Broulee Road intersection is operating efficiently during the Existing 2022 Adjusted Peak Summer Base Case scenario and no upgrades are required

- under the Proposed 2022 Adjusted Peak Summer (with development) scenario, the Princes Highway & Broulee Road intersection experiences average delays of approximately 270 seconds for vehicles turning right onto the Highway, with 95% back-of-queue lengths of 260m & 99m during the weekday AM and PM peak periods, respectively

- upgrading the Pacific Highway & Broulee Road intersection to a "seagull" design with a central holding area of 20m (or approximately 3 car lengths) reduces average delays down to approximately 15-23 seconds for vehicles turning right onto the Highway, with 95% back-of-queue lengths reduced to 10m-18m

- during the Future 2032 Adjusted Peak Summer (with development) scenario, the abovementioned "seagull" design will continue to function efficiently, with average delays of approximately 18-30 seconds for vehicles turning right onto the Highway, with 95% back-of-queue lengths reduced to 15m-25m

- the George Bass Drive & Broulee Road intersection experiences 95% back-of-queue lengths of approximately 110m on the eastern leg and average delays of 184 seconds for through and right-turn movements during the Existing 2022 Adjusted Peak Summer Base Case scenario

- upgrading the George Bass Drive & Broulee Road intersection to a roundabout reduces the 95% back-of-queue length and average delays on the eastern leg during the Existing 2022 Adjusted Peak Summer Base Case scenario to just 19m and 13 seconds, respectively

- during the Proposed 2022 Adjusted Peak Summer (with development) scenario, maintaining the existing priority-controlled George Bass Drive & Broulee Road intersection will result in extensive delays and queue lengths on the eastern and western approaches for vehicles heading straight/turning right during the weekday AM peak periods

- upgrading the George Bass Drive & Broulee Road intersection to a roundabout reduces the 95% back-of-queue length and average delays on the eastern leg during the Proposed 2022 Adjusted Peak Summer (with development) scenario to just 13m-38m (approximately 2-5 car lengths) and 8-15 seconds on all approaches

- during the Future 2032 Adjusted Peak Summer (with development) scenario, the abovementioned George Bass Drive & Broulee Road roundabout design will continue to function efficiently and operate at an overall level of service A

- during the Proposed 2022 Adjusted Peak Summer (with development) scenario, the two proposed site access driveways with CHR/AUL turning lanes will operate with level of service A on all movements

- during the Future 2032 Adjusted Peak Summer (with development) scenario, the two proposed site access driveways with CHR/AUL turning lanes will continue to operate with level of service A on all movements

It is also pertinent to note that the traffic assessment has included a number of "worst case" scenarios in order to provide the most rigorous assessment, including modelling the absolute peak period of the calendar year, being New Years Eve and the first week of January, as well as adopting the maximum regional trip generation rates rather than the averages.

Accordingly, with the proposed "seagull" upgrade of the Pacific Highway & Broulee Road intersection as well as the roundabout upgrade of the George Bass Drive & Broulee Road intersection, the proposed development is not expected to result in any unacceptable traffic implications, now and into the future.

5. Parking & Servicing Assessment

5.1 Applicable Car Parking Rates

The off-street car parking rates applicable to accommodation lane uses within the Eurobodalla LGA are specified in Council's Parking & Access Code, as set out below.

3.2.1 Table 1 - Car Parking Guidelines

ACCOMMODATION LAND USES	
Land Use Type	**Parking Requirement**
Dwelling House, Dual Occupancy, Attached Dwelling and Multi-dwelling Housing	2 spaces per dwelling
Secondary Dwelling	Nil
Residential Flat Building	1 bedroom 1 space per unit 2 or more bedrooms 2 spaces per unit
Seniors Housing	As per the requirements of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004.
Boarding House/Hostel	1 space per 3 beds or 2 per room or unit (whichever the greater) plus 1 per manager/owner plus 1 per 2 employees.
Group Home	1 space per full-time equivalent employee with minimum of 2 spaces 1 space per 5 residence
Shop Top Housing Residential use in association with other permitted uses (including Shop top housing in commercial precincts)	1 bedroom 1.0 car park 2 or more bedrooms 2.0 car park in addition to parking required for commercial use
Tourist and Visitor Accommodation	1 space per each accommodation unit or similar,

Notwithstanding, subject to any future development application that may be lodged for the site on the basis the PP gains approval, the parking rates applicable to the downsizer/over 55s and the key worker/affordable housing components may be subject to the parking rates specified in the State Environmental Planning Policy (Housing) 2021.

In any event, a full and thorough parking assessment will be undertaken at DA stage.

5.2 Loading & Servicing

The proposed development will be serviced by light commercial vehicles such as vans, utilities etc, up to small and medium rigid trucks. These may include online order deliveries, tradesmen, removalists and the like, all typical of a residential subdivision.

Waste collection for the proposed development will be undertaken by Council's contractor from outside the respective dwellings. General waste will be collected once per week whilst recycling and green waste collected once per fortnight.

6. Design Assessment

6.1 Applicable Design Standards

The following design standards will ultimately be used as the basis for compliance with respect to the vehicular access, parking and loading requirements:

- Australian Standards 2890.1:2004 – Off-Street Car Parking (AS2890.1)
- Australian Standards 2890.2:2018 – Off-Street Commercial Vehicle Facilities (AS2890.2)
- Australian Standards 2890.3:2015 – Bicycle Parking (AS2890.3)
- Australian Standards 2890.6:2009 – Off-Street Parking for People with Disabilities (AS2890.6)

Whilst the vehicular access, parking and loading areas are conceptual at this stage, they will be designed in accordance with the above Australian Standards at DA stage. Furthermore, it is expected that a condition of consent would be imposed requiring reconfirmation of compliance at the Construction Certificate stage (CC). Any minor amendments required to the DA design can therefore be addressed at the CC stage.

6.2 Vehicular Access & Circulation Design

The following key compliances are noted with respect to the future vehicular access design and circulation system:

- two entry/exit driveways located off the Broulee Road site frontage, both configured with CHR/AL turning lanes
- public roads throughout the site will comprise a carriageway width of 7m, allowing two-way traffic flow
- the “main street” through the village hub will comprise a carriageway width of 10m, including indented parking bays
- private community title roads will also comprise a carriageway width of 7m, allowing two-way traffic flow

Further to the above, the vehicular access arrangements will ultimately be designed to accommodate the swept turning path requirements of the largest vehicle expected to service the site, as specified in *AS2890.1* and *AS2890.2,* ensuring they will be able to circulate through the site without difficulty, and to enter and exit the site in a forward direction at all times.

6.3 Rural Fire Service Access

The following key compliances are noted with respect to the NSW Rural Fire Service requirements specified in Planning for Bush Fire Protection (November 2019) Appendix 3:

- property access roads are to have two-wheel drive, all-weather roads
- access roads are to have a minimum 4m wide carriageway
- passing opportunities are to be provided along the internal roadway where there is a minimum 20m x 6m of clear space
- a Category 1 fire appliance truck (7.8m in length) must be able to circulate through the site
- there is to be a minimum 4m vertical clearance to any overhanging obstructions, including tree branches
- dead-end locations are to have suitable turning areas

- curves are to have a minimum inner radius of 6m and are minimised in number to allow for rapid access and egress
- the minimum distance between inner and outer curves is to be 6m
- the cross fall is not to be more than 10 degrees (17.6%)
- maximum grades for sealed roads to not exceed 15 degrees (26.8%) and not more than 10 degrees (17.6%) for unsealed roads
- some short constrictions in the access may be accepted where they are not less than 3.5m wide, extend for no more than 30m and where any obstruction cannot be reasonably avoided or removed.

7. Conclusion

The PP seeks to amend the planning controls within the Eurobodalla Local Environmental Plan 2012 which apply to the site, as follows:

- rezone the RU1 Primary Production portion of the site to C4 Environmental Living
- increase the size of the existing C2 Environmental Conservation portion of the site by approximately 5ha
- introduce new "village cluster housing", allowing 8 dwellings per hectare in the C4 zoned land associated with a large common property environmental lot under Cl.4.1AA, and
- add "indoor recreation facilities" (health studios), "restaurants or cafés" and "function centres" as additional permitted uses in Schedule 1 for the site.

In summary, the concept plans which are provided in Appendix A envisage the following:

- a total of 800 new dwellings located throughout the site, comprising a mix of 2-5 bedroom dwellings
- creation of multiple hamlet types which focus on providing accommodation for families (35%), downsizers/over 55s (50%) and key workers/affordable housing (15%)
- significant open space, environmental and landscape elements
- new internal public and private road network, along with extensive pedestrian & cycle paths
- a "village hub", providing a central location for community, business support, wellness & learning facilities, a café/restaurant, and a discovery/interpretive centre
- off-street parking for each dwelling within the respective lots, as well as shared visitor parking located throughout the site

Based on the findings contained within this report, the following conclusions are made:

- based on a number of "worst case" parameters, the proposed development is expected to generate in the order of 680-720 vehicle trips during the weekday morning and afternoon peak periods, respectively, less at other times
- the proposed increase in traffic activity onto the surrounding road network requires the upgrade of the Pacific Highway & Broulee Road priority-controlled intersection to a "seagull" design – i.e. creating/linemarking a central holding bay
- the proposed increase in traffic activity onto the surrounding road network also requires the upgrade of the George Bass Drive & Broulee Road priority-controlled intersection to a roundabout design
- if the abovementioned road upgrades are undertaken, the increase in traffic is not expected to result in any unacceptable traffic implications to the surrounding road network
- the two site access driveways with CHR/AUL turning lanes are also expected to operate efficiently under the future traffic demands of the proposed development
- the proposed vehicular access, parking and loading area design will ultimately be designed to comply with the relevant requirements of the AS2890 series, Austroads and the NSW RFS's Planning for Bush Fire Protection .

In light of the foregoing assessment, it is therefore concluded that the planning proposal is supportable on vehicular access, traffic, parking and servicing grounds and will not result in any unacceptable implications. Notwithstanding, it is expected that a new TPAR will be prepared at DA stage, should the PP be approved, which will further analyse the above as the detail in the project increases.

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Appendix A

Proposed Architectural Concept Plans


N
Legend
1 Blue Green Grid
2 Retained Vegetation / Revegetation
3 Wetland
4 Retained Water Bodies
5 Farming Area
6 Market Gardens
7 Carroll College Agricultural Plot
8 Public Park (Yoga, Meditation, Reflection)
9 Village Centre
10 Communal Gardens
11 Orchards
12 Bushtucker Garden
13 Edible Verge
14 Shared Path / interpretive trail
15 Biodiversity Corridor
16 Cluster Scale Microgrid
The Bower
Event and Festival Space
Restaurant
Day Spa
Yoga Platform
Short Term Accommodation
700m to The Bower
Carroll College
Pathway Connection
Family Hamlets
Downsizer Hamlets
Family Hamlets
Downsizer Hamlets
Key Workers / Affordable Housing
Car & Bike Charging Station
Agrihood Centre
Child Minding/Co-working
Paddock to Plate Cafe
Discovery Centre
Playground
Main Entrance
Secondary Entrance

5.0 Masterplan Design Principles

5.1 General

The The Farm, Broulee Masterplan represents a practical and sustainable settlement expansion of Broulee itself. In particular the Masterplan:

- shifts settlement expansion away from coastal hazard areas,
- helps to consolidate existing urban infrastructure,
- helps to cross the port and strengthen existing land uses such as the College, The Bower, improved trade for existing retail and the rounding of the population profile for Broulee itself.

The innovative master plan offers:

- protection of the existing character of the Broulee settlement by focusing on maximising open space and managing visibility from external viewpoints,
- heightens and introduces a sustainable model for settlement, particularly focusing on urban food production,
- is site responsive, particularly recognising the constraints of topography, landscape, bushfire and drainage,
- reduces the long term management of infrastructure by the Shire through retaining key elements such as private roads and drainage within the ownership, management and responsibility of Community Titled strata bodies.

A brief overview of key master plan elements follows.

5.2 Overview of Masterplan

5.2.1 Open Space

The Masterplan responds and makes positive contribution to a number of open space environmental and landscape elements, including:

- retention of existing wetlands, biodiversity and associated vegetation,
- retention of significant tree copses within the existing farmland,
- creation of a connected network of localised open spaces and biodiversity linkages to accommodate new landscaping and community agricultural uses, and
- to significantly re-establish vegetation with the settlement area generally.

5.2.2 Movement

The Masterplan provides for a highly connected walkable movement network, which:

- Incorporates a framework of public roads which define the boundaries of individual hamlets,
- establishes two principal connection points to Broulee Road,
- is supplemented by private roads and within individual Hamlets, and
- is highly connective, utilising both public and private roads and open space areas to link extensive pedestrian and cycle pathways.

5.2.3 Village Hub

The Masterplan incorporates a village hub which provides a central location for:

- Community, business support, wellness and learning facilities,
- a café/restaurant,
- a discovery/interpretive centre (linked to the surrounding agricultural, wetland and bushland areas), and

The village hub is not proposed to include retail floorspace, and the residents of the proposed community would be encouraged to utilise existing retail facilities in Broulee thereby improving the viability and range of service of Broulee's existing retail facilities.

5.2.4 Transect and Hamlets

The Masterplan reflects a 'reimagined' approach to smart-code transect planning.

It features a handful of traditional village streets associated with the village hub, which are framed by clusters of Hamlets supporting self-contained, community titled groups of dwellings centred on key community and open space facilities within each Hamlet.

The Masterplan enables the creation of multiple hamlet types which focus on providing accommodation for:

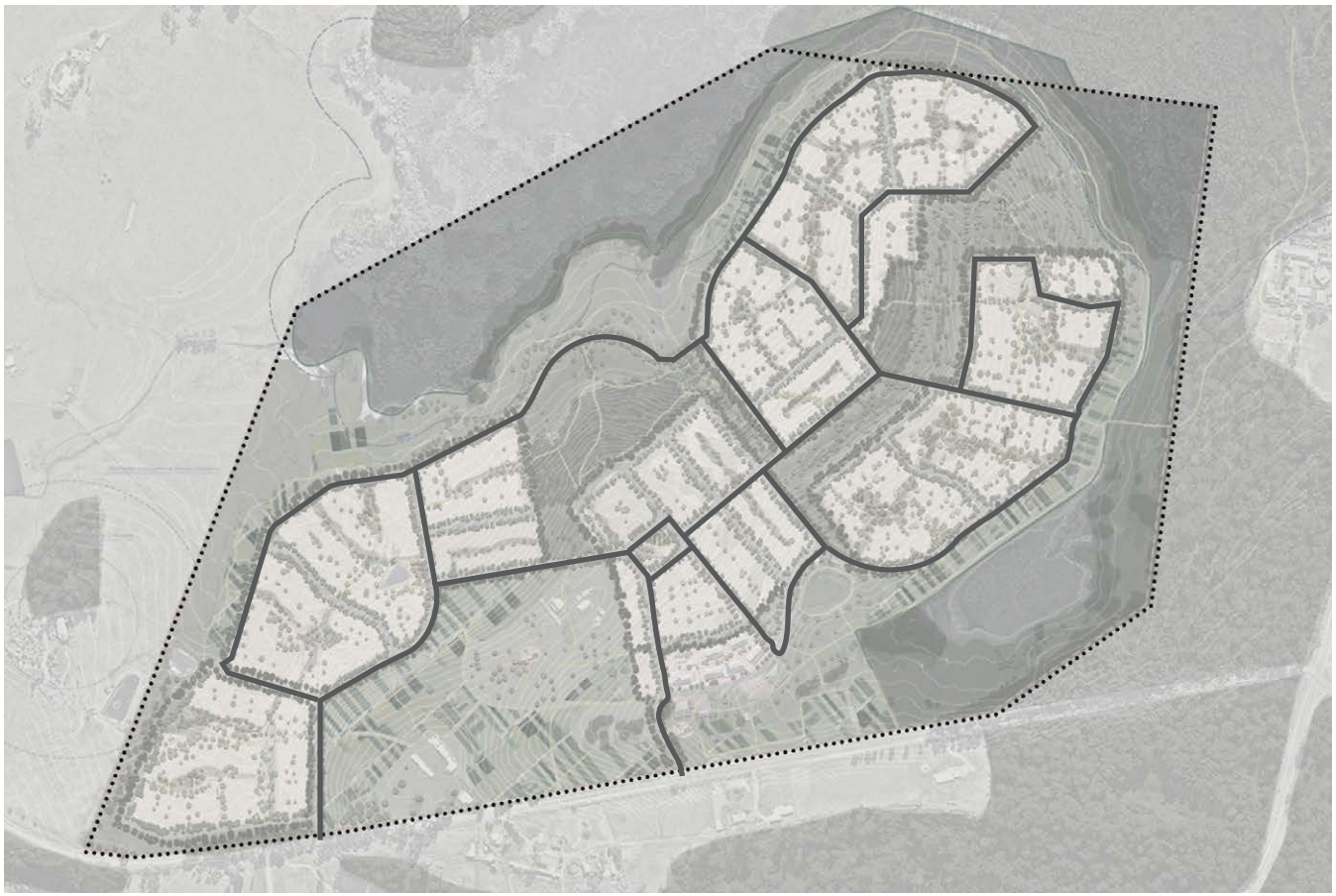
- families
- downsizers (ie, over 55s)
- key workers / affordable housing

The intent of the Hamlet concept is to provide a diverse range of housing and settlement types, each with its own sense of place and identity. These are expanded further in section 6.0.

Although the Agrihood Masterplan is indicative, anticipated dwelling provision by Hamlet is estimated to be as follows:

Housing / Hamlet Typology	Percentage
Family	35%
Downsizer	50%
Key Worker / Affordable Housing	15%
	100%

6.2 Movement



6.2.1 Public Roads

The Masterplan proposes the establishment of a framework of public streets which:

- provide two access points to Broulee Road;
- provide a boundary and public interface to wetland and bushfire buffer areas,
- provide a conservative balance delivering emergency access whilst maximizing the amount of intimate, community title cluster streets and laneways to achieve a genuine agrarian and environmental response,
- enable the internal distribution of traffic discouraging the creation of congestion points.

Public streets are generally proposed to have a reserve dimension of 18 metres containing trafficable carriage ways of 7 metres, footpaths and street tree planting.

6.2.2 'Main Street'

A 'main street' road profile is proposed for the short section of street fronting the village hub.

The 'main street' is envisaged to:

- Accommodate on-street parking both sides with a 10 metre carriageway (inclusive of embayed parking)
- Include defined pedestrian crossing points
- Accommodate wide footpaths both sides enabling direct frontage by activated uses,
- Include tree planting, and
- Accommodate street furniture.

6.2.3 Private Roads

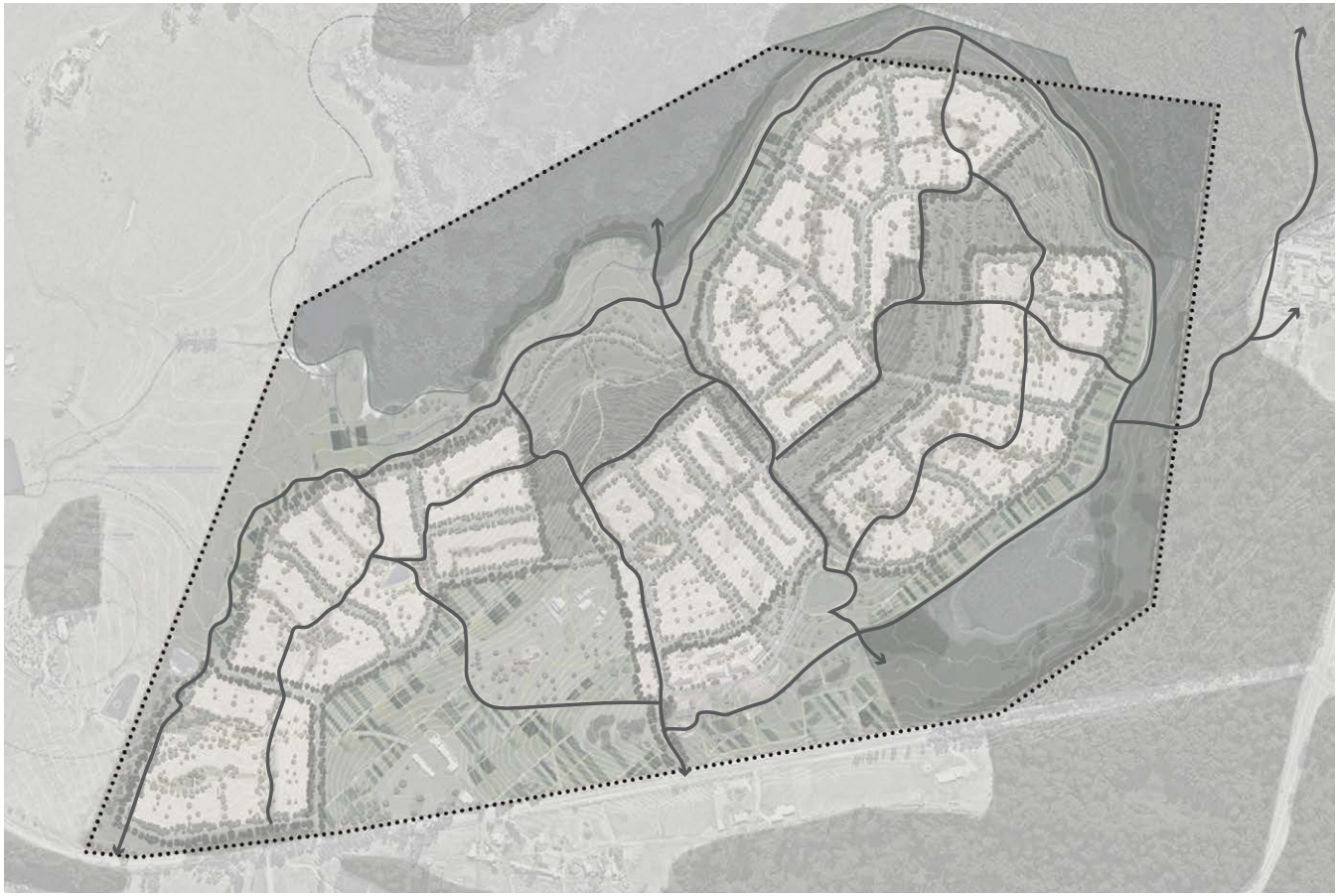
The Masterplan envisages that various Hamlet clusters will incorporate private streets. These are intended to be designed and executed to similar standards as public streets but retained in community title ownership, responsibility and management. The use of private streets will enable the masterplan to address constraints with greater flexibility (eg, topography and drainage), and can be tailored to support the individual character of each cluster.

Carriageway dimensions for private streets is proposed to be generally 7 metres and be accompanied by footpaths as appropriate. Being part of a community title hamlet, street 'reserves' will not necessarily apply and may vary according to the functional character and place-making qualities desired for each street.

6.2.4 Cycling and Walking

In addition to footpaths which form part of public streets, a highly connected network of approximately 15 km of footpaths, shared paths and walking trails permeate the site, traverse the periphery of the settlement, and provide external access to:

- Broulee via Broulee Road
- Caroll College to the east, and
- The Bower to the north



Appendix B

Existing Bus Timetables

700–1 Eden to Bomaderry

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 **transportnsw.info**

Trip planning

You can plan your trip using the Trip Planner or Departures at **transportnsw.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
- 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 **transportnsw.info/apps**

Accessible services

If you are travelling in a wheelchair or have other accessibility requirements, please contact Premier Motor Service in advance to book and discuss your travel needs.

Reservations

All seats on private coach services must be booked in advance.

Contact Premier Motor Service for more information on how to book.

Luggage

All luggage, other than hand luggage must be stowed either under the coach or in the attached trailer.

Restrictions on the size, number and weight of items may apply.

Contact Premier Motor Service for more information.

Meals, drinks and snacks

You can bring water on board, however other food and drinks may not be permitted. Contact Premier Motor Service for further details. Stops for meal breaks are scheduled into longer coach trips.

Drinking alcohol or being in possession of an open container of alcohol is not permitted. This includes on coaches and at coach stops. It is an offence and fines apply.

Explanation of definitions and symbols

Wheelchair Accessible

NSW GOVERNMENT Transport

700–1 Bomaderry to Eden

Valid from: 10 Sept 2022

Creation date: 19 Jan 2023
NOTE: Information is correct on date of download.

Monday to Friday	♿
Bomaderry Station	12:29
Nowra Bus Terminal, Stewart Pl, Nowra	13:15
Bewong Rest Area, Princes Hwy, Bewong	13:40
Princes Hwy opp Wandean Rd, Wandandian	13:42
Sussex Inlet Hwy Interchange, Tullarwalla	13:45
Princes Hwy at Bendalong Rd, Mondayong	13:55
Princes Hwy after Fishermans Paradise Rd, Conjola	14:00
Princes Hwy before Lake Conjola Entrance Rd, Yatte Yattah	14:05
Princes Hwy at Church St, Milton	14:10
Princes Hwy after Wason St, Ulladulla	14:20
Princes Hwy after Princess Ave S, Burrill Lake	14:25
Tabourie Tucker Box, Princes Hwy, Lake Tabourie	14:30
Princes Hwy at Bawley Point Rd, Termeil	14:35
East Lynne Store, Princes Hwy, East Lynne	14:40
Princes Hwy opp 10876, Benandarah	14:50
Promenade Plaza, Orient St, Batemans Bay	15:45
Sydney St after Annett St, Mogo	15:50
Princes Hwy at Broulee Rd, Broulee	16:00
Vulcan St opp Mirrabooka Ave, Moruya	16:10
Princes Hwy at Bingie Rd, Bergalia	16:15
Princes Hwy at Hector McWilliam Dr, Coila	16:20
Princes Hwy opp Sutcliffe St, Bodalla	16:30
Princes Hwy at Mort Ave, Dalmeny	16:35
Wagonga St after Montague St, Narooma	16:45
Princes Hwy at Mystery Bay Rd, Corunna	16:50
Corkhill Dr at The Avenue, Tilba Tilba	17:00
Bermagui Rd at Princes Hwy, Tilba Tilba	17:05
Wallaga Lake Rd opp Beauty Point Rd, Wallaga Lake	17:10
Lamont St opp Dickinson Park, Bermagui	17:20
Cobargo Post Office, Princes Hwy, Cobargo	17:40
Cobargo St before Moruya St, Quaama	17:50
Princes Hwy opp Warrigal Range Rd, Brogo	18:00
Bega Court House, Gipps St, Bega	18:10
Wolumla Recreation Grounds, Princes Hwy, Wolumla	18:30
Merimbula Coach Stop, Merimbula	18:35
Pambula Post Office, Quondola St, Pambula	18:40
Mitchell St before Maling St, Eden	19:00

700–1 Bomaderry to Eden

Saturday	
Bomaderry Station	12:29
Nowra Bus Terminal, Stewart Pl, Nowra	13:15
Bewong Rest Area, Princes Hwy, Bewong	13:40
Princes Hwy opp Wandean Rd, Wandandian	13:42
Sussex Inlet Hwy Interchange, Tullarwalla	13:45
Princes Hwy at Bendalong Rd, Mondayong	13:55
Princes Hwy after Fishermans Paradise Rd, Conjola	14:00
Princes Hwy before Lake Conjola Entrance Rd, Yatte Yattah	14:05
Princes Hwy at Church St, Milton	14:10
Princes Hwy after Wason St, Ulladulla	14:20
Princes Hwy after Princess Ave S, Burrill Lake	14:25
Tabourie Tucker Box, Princes Hwy, Lake Tabourie	14:30
Princes Hwy at Bawley Point Rd, Termeil	14:35
East Lynne Store, Princes Hwy, East Lynne	14:40
Princes Hwy opp 10876, Benandarah	14:50
Promenade Plaza, Orient St, Batemans Bay	15:45
Sydney St after Annett St, Mogo	15:50
Princes Hwy at Broulee Rd, Broulee	16:00
Vulcan St opp Mirrabooka Ave, Moruya	16:10
Princes Hwy at Bingie Rd, Bergalia	16:15
Princes Hwy at Hector McWilliam Dr, Coila	16:20
Princes Hwy opp Sutcliffe St, Bodalla	16:30
Princes Hwy at Mort Ave, Dalmeny	16:35
Wagonga St after Montague St, Narooma	16:45
Princes Hwy at Mystery Bay Rd, Corunna	16:50
Corkhill Dr at The Avenue, Tilba Tilba	17:00
Bermagui Rd at Princes Hwy, Tilba Tilba	17:05
Wallaga Lake Rd opp Beauty Point Rd, Wallaga Lake	17:10
Lamont St opp Dickinson Park, Bermagui	17:20
Cobargo Post Office, Princes Hwy, Cobargo	17:40
Cobargo St before Moruya St, Quaama	17:50
Princes Hwy opp Warrigal Range Rd, Brogo	18:00
Bega Court House, Gipps St, Bega	18:10
Wolumla Recreation Grounds, Princes Hwy, Wolumla	18:30
Merimbula Coach Stop, Merimbula	18:35
Pambula Post Office, Quondola St, Pambula	18:40
Mitchell St before Maling St, Eden	19:00

700–1 Bomaderry to Eden

Sunday & Public Holidays	
Bomaderry Station	12:29
Nowra Bus Terminal, Stewart Pl, Nowra	13:15
Bewong Rest Area, Princes Hwy, Bewong	13:40
Princes Hwy opp Wandean Rd, Wandandian	13:42
Sussex Inlet Hwy Interchange, Tullarwalla	13:45
Princes Hwy at Bendalong Rd, Mondayong	13:55
Princes Hwy after Fishermans Paradise Rd, Conjola	14:00
Princes Hwy before Lake Conjola Entrance Rd, Yatte Yattah	14:05
Princes Hwy at Church St, Milton	14:10
Princes Hwy after Wason St, Ulladulla	14:20
Princes Hwy after Princess Ave S, Burrill Lake	14:25
Tabourie Tucker Box, Princes Hwy, Lake Tabourie	14:30
Princes Hwy at Bawley Point Rd, Termeil	14:35
East Lynne Store, Princes Hwy, East Lynne	14:40
Princes Hwy opp 10876, Benandarah	14:50
Promenade Plaza, Orient St, Batemans Bay	15:45
Sydney St after Annett St, Mogo	15:50
Princes Hwy at Broulee Rd, Broulee	16:00
Vulcan St opp Mirrabooka Ave, Moruya	16:10
Princes Hwy at Bingie Rd, Bergalia	16:15
Princes Hwy at Hector McWilliam Dr, Coila	16:20
Princes Hwy opp Sutcliffe St, Bodalla	16:30
Princes Hwy at Mort Ave, Dalmeny	16:35
Wagonga St after Montague St, Narooma	16:45
Princes Hwy at Mystery Bay Rd, Corunna	16:50
Corkhill Dr at The Avenue, Tilba Tilba	17:00
Bermagui Rd at Princes Hwy, Tilba Tilba	17:05
Wallaga Lake Rd opp Beauty Point Rd, Wallaga Lake	17:10
Lamont St opp Dickinson Park, Bermagui	17:20
Cobargo Post Office, Princes Hwy, Cobargo	17:40
Cobargo St before Moruya St, Quaama	17:50
Princes Hwy opp Warrigal Range Rd, Brogo	18:00
Bega Court House, Gipps St, Bega	18:10
Wolumla Recreation Grounds, Princes Hwy, Wolumla	18:30
Merimbula Coach Stop, Merimbula	18:35
Pambula Post Office, Quondola St, Pambula	18:40
Mitchell St before Maling St, Eden	19:00

700–1 Eden to Bomaderry

Monday to Friday	
Mitchell St at Imlay St, Eden	05:55
Quondola St opp Pambula Post Office, Pambula	06:10
Merimbula Coach Stop, Merimbula	06:20
Wolumla Coach Stop, Princes Hwy, Wolumla	06:30
Bega Court House, Gipps St, Bega	06:45
Princes Hwy at Warrigal Range Rd, Brogo	06:55
Cobargo St before Moruya St, Quaama	07:00
Cobargo Post Office, Princes Hwy, Cobargo	07:15
Lamont St opp Dickinson Park, Bermagui	07:35
Wallaga Lake Rd at Beauty Point Rd, Wallaga Lake	07:40
Bermagui Rd at Princes Hwy, Tilba Tilba	07:45
Corkhill Dr at The Avenue, Tilba Tilba	07:50
Corkhill Dr opp Bate St, Central Tilba	07:55
Princes Hwy opp Mystery Bay Rd, Corunna	08:00
Wagonga St at Montague St, Narooma	08:15
Princes Hwy at Mort Ave, Dalmeny	08:20
Princes Hwy at Eurobadalla Rd, Bodalla	08:25
Princes Hwy opp Hector McWilliam Dr, Coila	08:35
Princes Hwy opp Bingie Rd, Bergalia	08:40
Vulcan St at Mirrabooka Ave, Moruya	08:50
Princes Hwy opp Broulee Rd, Bimbimbie	08:55
Sydney St opp Annett St, Mogo	09:00
Promenade Plaza, Orient St, Batemans Bay	10:00
10876 Princes Hwy, Benandarah	10:05
East Lynne Store, Princes Hwy, East Lynne	10:15
Princes Hwy and The Old Hwy, Termeil	10:30
Princes Hwy opp Tabourie Tucker Box, Lake Tabourie	10:35
Princes Hwy before McDonald Pde, Burrill Lake	10:40
Princes Hwy opp Wason St, Ulladulla	10:50
Princes Hwy at Church St, Milton	11:00
Lake Conjola Entrance Rd opp Princes Hwy, Yatte Yattah	11:05
Princes Hwy at Golden Flats Lane, Conjola	11:07
Princes Hwy opp Bendalong Rd, Mondayong	11:10
Sussex Inlet Hwy Interchange, Tullarwalla	11:20
Princes Hwy at Wandean Rd, Wandandian	11:23
Bewong Rest Area, Princes Hwy, Bewong	11:25
Bomaderry Station	12:05
Nowra Bus Terminal, Stewart Pl, Nowra	13:00

700–1 Eden to Bomaderry

Saturday	
Mitchell St at Imlay St, Eden	05:55
Quondola St opp Pambula Post Office, Pambula	06:10
Merimbula Coach Stop, Merimbula	06:20
Wolumla Coach Stop, Princes Hwy, Wolumla	06:30
Bega Court House, Gipps St, Bega	06:45
Princes Hwy at Warrigal Range Rd, Brogo	06:55
Cobargo St before Moruya St, Quaama	07:00
Cobargo Post Office, Princes Hwy, Cobargo	07:15
Lamont St opp Dickinson Park, Bermagui	07:35
Wallaga Lake Rd at Beauty Point Rd, Wallaga Lake	07:40
Bermagui Rd at Princes Hwy, Tilba Tilba	07:45
Corkhill Dr at The Avenue, Tilba Tilba	07:50
Corkhill Dr opp Bate St, Central Tilba	07:55
Princes Hwy opp Mystery Bay Rd, Corunna	08:00
Wagonga St at Montague St, Narooma	08:15
Princes Hwy at Mort Ave, Dalmeny	08:20
Princes Hwy at Eurobadalla Rd, Bodalla	08:25
Princes Hwy opp Hector McWilliam Dr, Coila	08:35
Princes Hwy opp Bingie Rd, Bergalia	08:40
Vulcan St at Mirrabooka Ave, Moruya	08:50
Princes Hwy opp Broulee Rd, Bimbimbie	08:55
Sydney St opp Annett St, Mogo	09:00
Promenade Plaza, Orient St, Batemans Bay	10:00
10876 Princes Hwy, Benandarah	10:05
East Lynne Store, Princes Hwy, East Lynne	10:15
Princes Hwy and The Old Hwy, Termeil	10:30
Princes Hwy opp Tabourie Tucker Box, Lake Tabourie	10:35
Princes Hwy before McDonald Pde, Burrill Lake	10:40
Princes Hwy opp Wason St, Ulladulla	10:50
Princes Hwy at Church St, Milton	11:00
Lake Conjola Entrance Rd opp Princes Hwy, Yatte Yattah	11:05
Princes Hwy at Golden Flats Lane, Conjola	11:07
Princes Hwy opp Bendalong Rd, Mondayong	11:10
Sussex Inlet Hwy Interchange, Tullarwalla	11:20
Princes Hwy at Wandean Rd, Wandandian	11:23
Bewong Rest Area, Princes Hwy, Bewong	11:25
Bomaderry Station	12:05
Nowra Bus Terminal, Stewart Pl, Nowra	13:00

700–1 Eden to Bomaderry

Sunday & Public Holidays	
Mitchell St at Imlay St, Eden	05:55
Quondola St opp Pambula Post Office, Pambula	06:10
Merimbula Coach Stop, Merimbula	06:20
Wolumla Coach Stop, Princes Hwy, Wolumla	06:30
Bega Court House, Gipps St, Bega	06:45
Princes Hwy at Warrigal Range Rd, Brogo	06:55
Cobargo St before Moruya St, Quaama	07:00
Cobargo Post Office, Princes Hwy, Cobargo	07:15
Lamont St opp Dickinson Park, Bermagui	07:35
Wallaga Lake Rd at Beauty Point Rd, Wallaga Lake	07:40
Bermagui Rd at Princes Hwy, Tilba Tilba	07:45
Corkhill Dr at The Avenue, Tilba Tilba	07:50
Corkhill Dr opp Bate St, Central Tilba	07:55
Princes Hwy opp Mystery Bay Rd, Corunna	08:00
Wagonga St at Montague St, Narooma	08:15
Princes Hwy at Mort Ave, Dalmeny	08:20
Princes Hwy at Eurobadalla Rd, Bodalla	08:25
Princes Hwy opp Hector McWilliam Dr, Coila	08:35
Princes Hwy opp Bingie Rd, Bergalia	08:40
Vulcan St at Mirrabooka Ave, Moruya	08:50
Princes Hwy opp Broulee Rd, Bimbimbie	08:55
Sydney St opp Annett St, Mogo	09:00
Promenade Plaza, Orient St, Batemans Bay	10:00
10876 Princes Hwy, Benandarah	10:05
East Lynne Store, Princes Hwy, East Lynne	10:15
Princes Hwy and The Old Hwy, Termeil	10:30
Princes Hwy opp Tabourie Tucker Box, Lake Tabourie	10:35
Princes Hwy before McDonald Pde, Burrill Lake	10:40
Princes Hwy opp Wason St, Ulladulla	10:50
Princes Hwy at Church St, Milton	11:00
Lake Conjola Entrance Rd opp Princes Hwy, Yatte Yattah	11:05
Princes Hwy at Golden Flats Lane, Conjola	11:07
Princes Hwy opp Bendalong Rd, Mondayong	11:10
Sussex Inlet Hwy Interchange, Tullarwalla	11:20
Princes Hwy at Wandean Rd, Wandandian	11:23
Bewong Rest Area, Princes Hwy, Bewong	11:25
Bomaderry Station	12:05
Nowra Bus Terminal, Stewart Pl, Nowra	13:00

Route 860

Moruya to Batemans Bay
via Broulee and Surf Beach

Please Hail Driver

Effective from 1 January 2023

Monday to Friday

map ref	Route Number	860	860	860	860	860	860	860	860	860
		am	am	am	am	am	pm	pm	pm	pm
P	Moruya TAFE	–	–	–	–	–	12.40	–	–	4.45
O	Moruya Hospital	–	8.50	–	–	11.05	12.55	–	3.30	–
N	Moruya (Apex Park)	7.25	9.00	–	–	11.15	1.00	–	3.40	4.50
M	Broulee & Mossy Point	7.40	9.15	9.35	10.15	11.30	1.15	1.34	3.55	5.05
L	Tomakin Bus Shelter	7.45	9.20	9.40	10.20	11.35	1.20	1.39	4.00	5.10
K	Tomakin Loop	7.47	9.22	9.42	10.22	11.37	1.22	1.41	4.02	5.12
J	Rosedale Pde	7.55	9.30	9.50	10.30	11.45	1.30	1.49	4.10	5.20
I	Malua Bay Shops	7.58	9.33	9.53	10.33	11.48	1.33	1.52	4.13	5.23
H	Surf Beach Avenue	8.03	–	9.58	10.38	11.53	–	1.57	4.18	5.28
G	Pacific Road/Eric Fenning Drive	8.04	–	9.59	10.39	11.54	–	1.58	4.19	5.29
F	Surf Beach Shops	8.05	9.38	10.00	10.40	11.55	1.38	1.59	4.20	5.30
E	Batehaven Shops	D8.20	9.43	10.05	10.45	12.00	1.43	2.04	D4.34	5.35
D	South/Pacific Street	–	–	10.08	10.48	12.03	–	2.07	–	–
C	Woolworths & Old Princes Hwy	–	–	10.11	10.51	12.06	–	2.10	–	–
A	Village Centre	8.25	9.48	10.14	10.54	12.09	1.48	2.13	4.42	5.40
B	Promenade Plaza	8.27	9.50	10.16	10.56	12.11	1.50	2.15	4.45	5.42

Saturdays & Public Holidays

map ref	Route Number	860	860	860
		am	pm	pm
P	Moruya TAFE	–	–	–
O	Moruya Hospital	–	12.20	3.15
N	Moruya (Apex Park)	9.00	12.25	3.20
M	Broulee & Mossy Point	9.17	12.40	3.35
L	Tomakin Bus Shelter	9.22	12.45	3.40
K	Tomakin Loop	9.24	12.47	3.42
J	Rosedale Pde	9.32	12.55	3.50
I	Malua Bay Shops	9.35	12.58	3.53
H	Surf Beach Avenue	9.40	1.03	4.01
G	Pacific Road/Eric Fenning Drive	9.43	1.06	4.01
F	Surf Beach Shops	9.44	1.07	4.02
E	Batehaven Shops	9.49	1.12	4.07
D	South/Pacific Street	–	–	–
C	Woolworths & Old Princes Hwy	–	–	–
A	Village Centre	9.54	1.17	4.12
B	Promenade Plaza	9.56	1.19	4.15

Explanations

D Service diverts via John St, Peter Cres, View St, Domonic Dr, Christopher Cres & Edward Rd.

– No Service.

Wheelchair-accessible service.

For comprehensive information about all Priors Bus Services, grab your copy of the **Batemans Bay Bus Guide** by calling (02) **4472 4040** or visit our website **www.priorsbus.com.au**

Service does not operate on Sunday, Christmas Day, and Good Friday.

PRIORS SCENIC EXPRESS

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TG23018

Route 860 — Batemans Bay to Moruya via Surf Beach and Broulee

Please Hail Driver

Effective from 1 January 2023

Monday to Friday

map ref	Route Number	860 ♿	860 ♿	860 ♿	860 ♿	860 ♿	860 ♿	860 ♿	860 ♿	860 ♿
		am	am	am	am	pm	pm	pm	pm	pm
A	Village Centre	7.15	9.05	9.55	11.20	12.30	1.30	2.10	3.30	5.15
B	Promenade Plaza	7.20	9.10	10.00	11.25	12.35	1.35	2.15	3.35	5.20
C	Woolworths & Old Princes Hwy	–	–	–	11.27	–	1.37	–	3.37	5.22
D	South/Pacific Streets	–	–	–	11.29	–	1.39	–	3.39	5.24
E	Batehaven Shops	7.25	9.15	10.05	11.35	12.40	1.45	2.20	V3.45	5.30
F	Surf Beach Shops	7.30	9.20	10.10	11.40	12.45	1.50	2.25	3.53	5.35
G	Pacific Road/Eric Fenning Drive	–	–	–	11.41	–	1.51	–	3.56	5.36
H	Surf Beach Avenue	–	–	–	11.42	–	1.52	–	4.00	5.37
I	Malua Bay Shops	7.40	9.30	10.20	11.50	12.55	2.00	2.35	4.09	5.45
J	Rosedale Pde	7.43	9.33	10.23	11.53	12.58	2.03	2.38	4.12	5.48
K	Tomakin Loop	7.50	9.40	10.30	12.00	1.05	2.10	2.45	4.19	5.55
L	Tomakin Bus Shelter	7.54	9.44	10.34	12.04	1.09	2.14	2.49	4.23	5.59
M	Mossy Point/Broulee	7.58	9.48	10.38	12.08	1.13	2.18	2.53	4.25	6.03
N	Moruya (Apex Park)	8.13	–	10.55	12.23	–	–	3.20	B	M
O	Moruya Hospital	8.18	–	11.05	12.28	–	–	3.30	B	M
P	Moruya TAFE	8.23	–	–	12.40	–	–	–	–	–

Saturdays & Public Holidays

map ref	Route Number	860 ♿	860 ♿	860 ♿
		am	am	pm
A	Village Centre	7.45	10.55	1.25
B	Promenade Plaza	7.50	11.00	H1.30
C	Woolworths & Old Princes Hwy	–	–	1.32
D	South/Pacific Streets	–	–	1.34
E	Batehaven Shops	7.55	11.10	V1.50
F	Surf Beach Shops	8.00	11.15	2.08
G	Pacific Road/Eric Fenning Drive	8.01	–	2.10
H	Surf Beach Avenue	8.12	–	2.10
I	Malua Bay Shops	8.20	11.20	2.17
J	Rosedale Pde	8.23	11.23	2.20
K	Tomakin Loop	8.30	11.30	2.27
L	Tomakin Bus Shelter	8.34	11.34	2.27
M	Mossy Point/Broulee	8.38	11.39	2.32
N	Moruya (Apex Park)	8.55	11.56	2.52
O	Moruya Hospital	–	12.00	2.55
P	Moruya TAFE	–	–	–

Explanations

B Service continues to Moruya during school holidays.
H Service diverts via route 861 through Catalina.
M Service continues to Moruya by request.
V Service diverts via route 861 through Batehaven and Sunshine Bay.
– No Service.
♿ Wheelchair-accessible service.

For comprehensive information about all Priors Bus Services, grab your copy of the **Batemans Bay Bus Guide** by calling (02) **4472 4040** or visit our website **www.priorsbus.com.au**

Service does not operate on Sunday, Christmas Day, and Good Friday.

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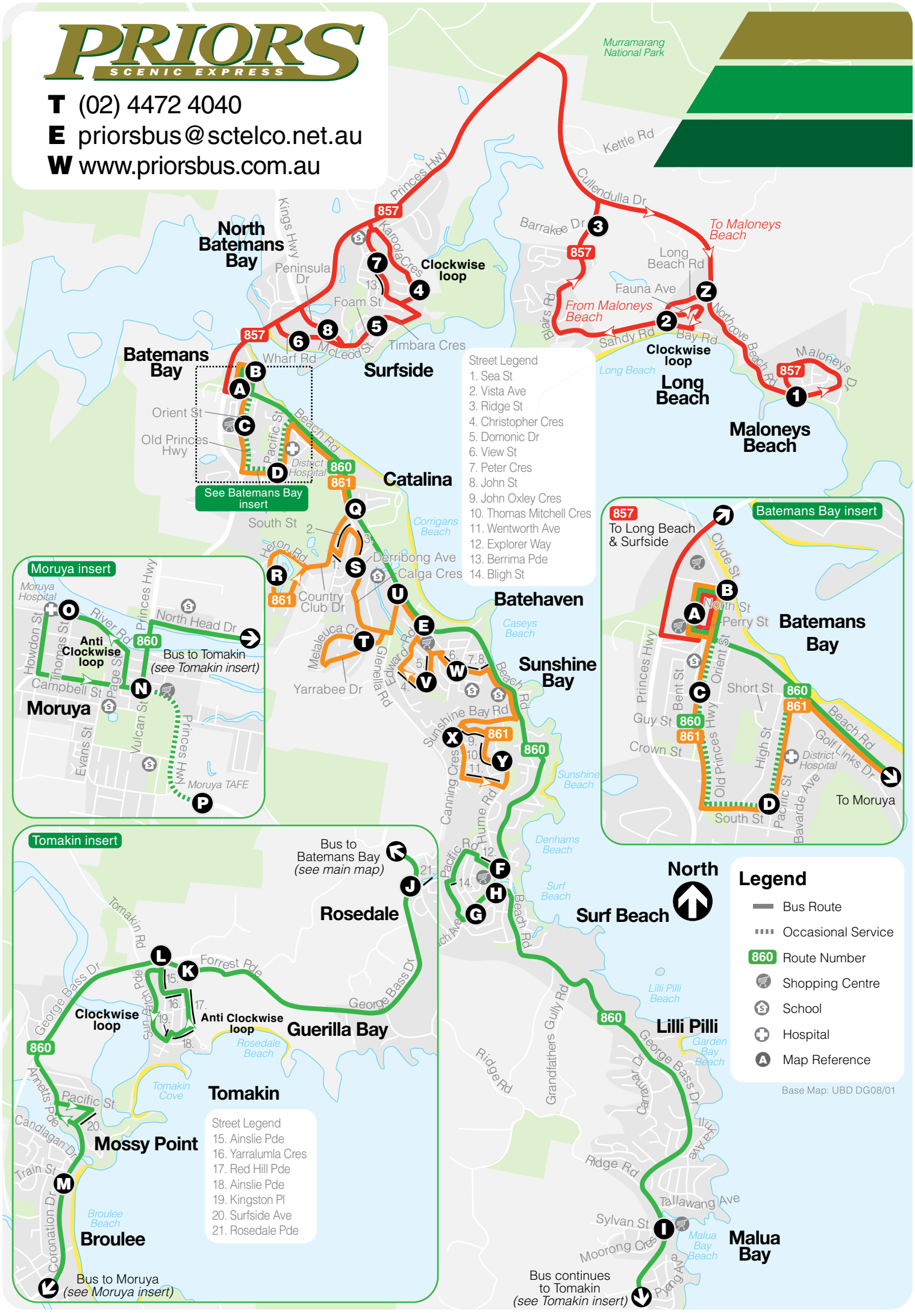
PRIORS
SCENIC EXPRESS
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W www.priorsbus.com.au
Murramarang National Park
Kettle Rd
Princes Hwy
Kings Hwy
Peninsula Dr
Karoola Cres
Foam St
Timbara Cres
McLeod St
Wharf Rd
Orient St
Old Princes Hwy
Pacific St
Beach Rd
District Hospital
South St
Corrigans Beach
Derribong Ave
Calga Cres
Country Club Dr
Yarrabee Dr
Melaleuca Cr
Edward Rd
Granella Rd
Caseys Beach
Sunshine Bay Rd
Canning Cres
Sunshine Beach
Denhams Beach
Surf Beach
Pacific Rd
Hume Rd
Lilli Pilli Beach
Grandfathers Gully Rd
Ridge Rd
Garden Bay Beach
Carramar Dr
George Bass Dr
Tallawang Ave
Sylvan St
Moorong Cres
Malua Bay Beach
Ryans Ave
Barrakee Dr
Cullendulla Dr
To Maloneys Beach
From Maloneys Beach
Long Beach Rd
Fauna Ave
Blairs Rd
Sandy Rd
Bay Rd
Northcove Beach Rd
Maloneys Dr
Long Beach
Maloneys Beach
North Batemans Bay
Batemans Bay
Surfside
Catalina
Batehaven
Sunshine Bay
Long Beach
Maloneys Beach
Clockwise loop
Anti Clockwise loop
Street Legend
1. Sea St
2. Vista Ave
3. Ridge St
4. Christopher Cres
5. Domonic Dr
6. View St
7. Peter Cres
8. John St
9. John Oxley Cres
10. Thomas Mitchell Cres
11. Wentworth Ave
12. Explorer Way
13. Berrima Pde
14. Bligh St
See Batemans Bay insert
Moruya insert
Moruya Hospital
Howdon St
River Rd
Thomas St
Page St
Campbell St
Vulcan St
Evans St
North Head Dr
Bus to Tomakin (see Tomakin insert)
Moruya
Moruya TAFE
Princes Hwy
Batemans Bay insert
857 To Long Beach & Surfside
Clyde St
North St
Perry St
Bent St
Orient St
Short St
Guy St
Crown St
High St
Golf Links Dr
Bavarde Ave
Pacific St
To Moruya
Tomakin insert
Bus to Batemans Bay (see main map)
Rosedale
Tomakin Rd
Forrest Pde
George Bass Dr
Sun Patch Pde
Rosedale Beach
Guerilla Bay
Tomakin
Tomakin Cove
Annetts Pde
Pacific St
Candlagan Dr
Train St
Mossy Point
Broulee Beach
Broulee
Coronation Dr
Bus to Moruya (see Moruya insert)
Bus continues to Tomakin (see Tomakin insert)
Malua Bay
North
Legend
Bus Route
Occasional Service
860 Route Number
Shopping Centre
School
Hospital
Map Reference
Base Map: UBD DG08/01
TG23018

CJP | CONSULTING ENGINEERS

Appendix C

Traffic Survey Data

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Princes Hwy and Broulee Rd, Broulee

GPS *-35.848921, 150.132467*

Date:	Wed 09/11/22
Weather:	Fine
Suburban:	Broulee
Customer:	N/A

North:	Princes Hwy
East:	Broulee Rd
South:	Princes Hwy
West:	N/A

Survey Period	AM:	6:30 AM-9:30 AM
	PM:	3:30 PM-6:30 PM
Traffic Peak	AM:	8:15 AM-9:15 AM
	PM:	3:30 PM-4:30 PM

All Vehicles

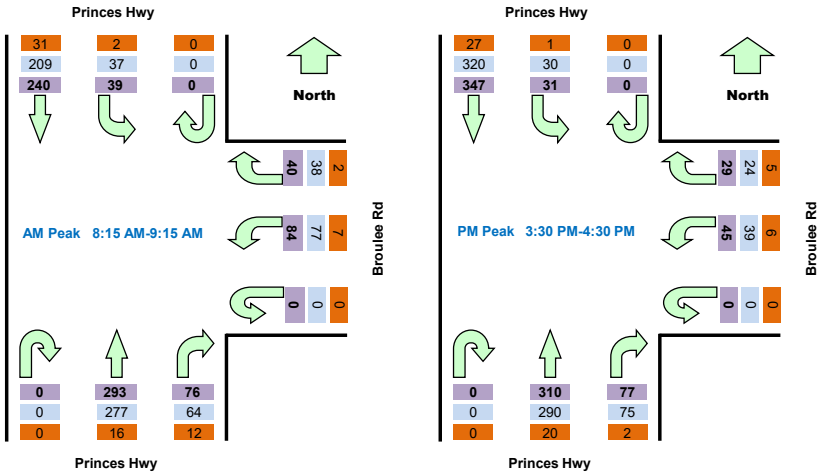
Time		North Approach Princes Hwy			East Approach Broulee Rd			South Approach Princes Hwy			Hourly Total	
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Hour	Peak
6:30	6:45	0	30	6	0	4	6	0	15	42	459	
6:45	7:00	0	40	5	0	7	9	0	11	47	508	
7:00	7:15	0	33	5	0	4	2	0	17	53	553	
7:15	7:30	0	28	8	0	9	11	0	12	55	622	
7:30	7:45	0	62	1	0	4	13	0	10	62	701	
7:45	8:00	0	65	6	0	8	16	0	13	56	745	
8:00	8:15	0	56	15	0	11	14	0	17	70	762	
8:15	8:30	0	52	14	0	10	23	0	18	85	772	Peak
8:30	8:45	0	59	16	0	12	16	0	25	68	725	
8:45	9:00	0	54	5	0	11	26	0	18	67		
9:00	9:15	0	75	4	0	7	19	0	15	73		
9:15	9:30	0	54	1	0	5	7	0	6	82		
15:30	15:45	0	76	7	0	8	11	0	16	83	839	Peak
15:45	16:00	0	76	11	0	9	15	0	16	70	822	
16:00	16:15	0	86	4	0	7	11	0	23	91	797	
16:15	16:30	0	109	9	0	5	8	0	22	66	726	
16:30	16:45	0	67	9	0	9	8	0	16	75	685	
16:45	17:00	0	75	3	0	6	6	0	13	69	655	
17:00	17:15	0	56	6	0	4	7	0	16	62	598	
17:15	17:30	0	81	6	0	2	7	0	10	72	544	
17:30	17:45	0	82	6	0	2	9	0	14	41	450	
17:45	18:00	0	46	6	0	3	4	0	12	44		
18:00	18:15	0	45	2	0	3	8	0	10	29		
18:15	18:30	0	36	5	0	0	6	0	4	33		

Peak Time		North Approach Princes Hwy			East Approach Broulee Rd			South Approach Princes Hwy			Peak total
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	
8:15	9:15	0	240	39	0	40	84	0	76	293	772
15:30	16:30	0	347	31	0	29	45	0	77	310	839

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



Light Vehicles

Time		North Approach Princes Hwy			East Approach Broulee Rd			South Approach Princes Hwy		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
6:30	6:45	0	26	5	0	4	6	0	7	40
6:45	7:00	0	33	5	0	7	9	0	8	36
7:00	7:15	0	26	5	0	4	2	0	14	42
7:15	7:30	0	24	7	0	9	11	0	9	47
7:30	7:45	0	53	1	0	3	12	0	5	55
7:45	8:00	0	61	5	0	6	15	0	10	48
8:00	8:15	0	50	15	0	11	12	0	17	61
8:15	8:30	0	46	12	0	10	19	0	17	81
8:30	8:45	0	54	16	0	11	15	0	19	64
8:45	9:00	0	48	5	0	10	26	0	13	66
9:00	9:15	0	61	4	0	7	17	0	15	66
9:15	9:30	0	48	1	0	5	6	0	5	79
15:30	15:45	0	70	7	0	5	9	0	15	74
15:45	16:00	0	71	11	0	7	13	0	16	68
16:00	16:15	0	78	4	0	7	9	0	22	88
16:15	16:30	0	101	8	0	5	8	0	22	60
16:30	16:45	0	63	8	0	8	8	0	16	74
16:45	17:00	0	69	3	0	6	5	0	13	62
17:00	17:15	0	51	5	0	4	6	0	16	60
17:15	17:30	0	79	6	0	2	7	0	10	68
17:30	17:45	0	80	6	0	2	9	0	13	39
17:45	18:00	0	43	5	0	3	4	0	12	43
18:00	18:15	0	43	2	0	3	8	0	10	26
18:15	18:30	0	36	5	0	0	6	0	4	29

Peak Time		North Approach Princes Hwy			East Approach Broulee Rd			South Approach Princes Hwy			Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
8:15	9:15	0	209	37	0	38	77	0	64	277	702
15:30	16:30	0	320	30	0	24	39	0	75	290	778

Heavy Vehicles

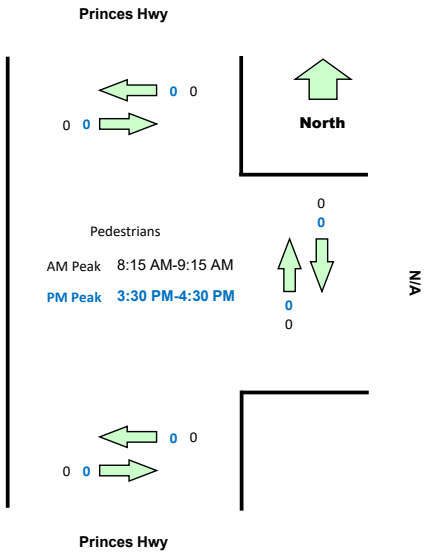
Time		North Approach Princes Hwy			East Approach Broulee Rd			South Approach Princes Hwy		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
6:30	6:45	0	4	1	0	0	0	0	8	2
6:45	7:00	0	7	0	0	0	0	0	3	11
7:00	7:15	0	7	0	0	0	0	0	3	11
7:15	7:30	0	4	1	0	0	0	0	3	8
7:30	7:45	0	9	0	0	1	1	0	5	7
7:45	8:00	0	4	1	0	2	1	0	3	8
8:00	8:15	0	6	0	0	0	2	0	0	9
8:15	8:30	0	6	2	0	0	4	0	1	4
8:30	8:45	0	5	0	0	1	1	0	6	4
8:45	9:00	0	6	0	0	1	0	0	5	1
9:00	9:15	0	14	0	0	0	2	0	0	7
9:15	9:30	0	6	0	0	0	1	0	1	3
15:30	15:45	0	6	0	0	3	2	0	1	9
15:45	16:00	0	5	0	0	2	2	0	0	2
16:00	16:15	0	8	0	0	0	2	0	1	3
16:15	16:30	0	8	1	0	0	0	0	0	6
16:30	16:45	0	4	1	0	1	0	0	0	1
16:45	17:00	0	6	0	0	0	1	0	0	7
17:00	17:15	0	5	1	0	0	1	0	0	2
17:15	17:30	0	2	0	0	0	0	0	0	4
17:30	17:45	0	2	0	0	0	0	0	1	2
17:45	18:00	0	3	1	0	0	0	0	0	1
18:00	18:15	0	2	0	0	0	0	0	0	3
18:15	18:30	0	0	0	0	0	0	0	0	4

Peak Time		North Approach Princes Hwy			East Approach Broulee Rd			South Approach Princes Hwy			Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
8:15	9:15	0	31	2	0	2	7	0	12	16	70
15:30	16:30	0	27	1	0	5	6	0	2	20	61

Pedestrians Crossing

Time		North Approach Princes Hwy		East Approach Broulee Rd		South Approach Princes Hwy		Hourly Total
Period Start	Period End	Westbound	Eastbound	Northbound	Southbound	Westbound	Eastbound	
6:30	6:45	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0
8:00	8:15	0	0	0	0	0	0	0
8:15	8:30	0	0	0	0	0	0	0
8:30	8:45	0	0	0	0	0	0	0
8:45	9:00	0	0	0	0	0	0	
9:00	9:15	0	0	0	0	0	0	
9:15	9:30	0	0	0	0	0	0	
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	
18:00	18:15	0	0	0	0	0	0	
18:15	18:30	0	0	0	0	0	0	

Peak Time		North Approach Princes Hwy		East Approach Broulee Rd		South Approach Princes Hwy		Peak total
Period Start	Period End	Westbound	Eastbound	Northbound	Southbound	Westbound	Eastbound	
8:15	9:15	0	0	0	0	0	0	0
15:30	16:30	0	0	0	0	0	0	0



TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Broulee Rd and George Bass Dr, Broulee

GPS	-35.855895, 150.163212
Date:	Wed 09/11/22
Weather:	Fine
Suburban:	Broulee
Customer:	N/A

North:	George Bass Dr
East:	Broulee Rd
South:	George Bass Dr
West:	Broulee Rd

Survey Period	AM:	6:30 AM-9:30 AM
	PM:	3:30 PM-6:30 PM
Traffic Peak	AM:	8:00 AM-9:00 AM
	PM:	3:30 PM-4:30 PM

All Vehicles

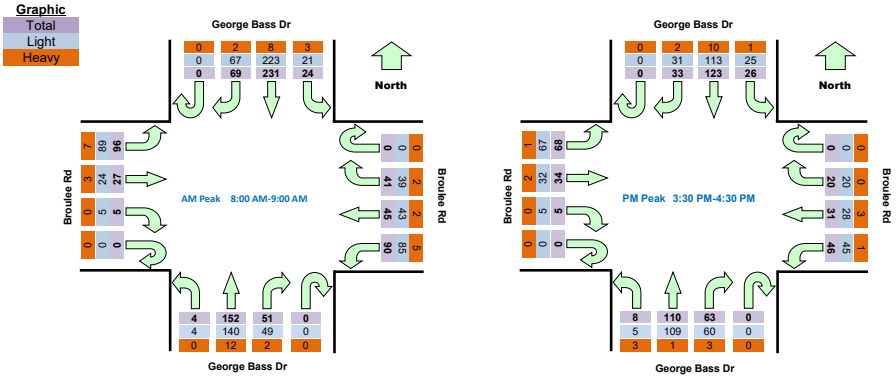
Time		North Approach George Bass Dr				East Approach Broulee Rd				South Approach George Bass Dr				West Approach Broulee Rd				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
6:30	6:45	0	5	10	3	0	2	6	10	0	1	10	0	0	1	5	5	316	
6:45	7:00	0	8	18	2	0	2	7	7	0	5	11	0	0	2	2	9	395	
7:00	7:15	0	7	23	2	0	5	2	3	0	6	6	1	0	3	4	11	463	
7:15	7:30	0	10	29	2	0	7	4	15	0	5	16	4	0	2	6	12	563	
7:30	7:45	0	8	30	4	0	6	11	22	0	11	26	1	0	0	5	13	669	
7:45	8:00	0	15	47	4	0	8	7	20	0	5	18	1	0	0	2	14	784	
8:00	8:15	0	13	47	3	0	11	10	23	0	11	22	1	0	2	9	21	835	Peak
8:15	8:30	0	17	61	6	0	7	11	20	0	15	44	0	0	0	6	31	782	
8:30	8:45	0	16	65	7	0	14	14	24	0	15	59	0	0	0	7	31	677	
8:45	9:00	0	23	58	8	0	9	10	23	0	10	27	3	0	3	5	13		
9:00	9:15	0	11	32	5	0	2	7	8	0	12	23	1	0	1	5	13		
9:15	9:30	0	7	30	5	0	6	5	11	0	8	30	0	0	2	2	7		
15:30	15:45	0	7	30	11	0	7	8	16	0	17	21	4	0	1	5	20	567	Peak
15:45	16:00	0	9	45	0	0	4	10	12	0	23	24	3	0	2	12	15	553	
16:00	16:15	0	7	29	10	0	6	10	11	0	8	38	0	0	1	5	18	517	
16:15	16:30	0	10	19	5	0	3	3	7	0	15	27	1	0	1	12	15	502	
16:30	16:45	0	5	31	7	0	3	7	14	0	11	27	0	0	0	13	15	497	
16:45	17:00	0	4	25	10	0	7	4	8	0	20	25	1	0	0	8	11	471	
17:00	17:15	0	4	13	7	0	5	3	13	0	22	37	0	0	2	6	16	439	
17:15	17:30	0	8	15	5	0	4	5	7	0	19	34	0	0	0	5	11	402	
17:30	17:45	0	4	18	3	0	9	5	13	0	11	28	0	0	0	7	9	346	
17:45	18:00	0	5	17	2	0	8	3	10	0	7	22	0	0	0	8	9		
18:00	18:15	0	10	18	6	0	5	1	10	0	8	15	1	0	0	6	11		
18:15	18:30	0	5	18	3	0	0	3	6	0	5	12	0	0	0	2	3		

Peak Time		North Approach George Bass Dr				East Approach Broulee Rd				South Approach George Bass Dr				West Approach Broulee Rd				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
8:00	9:00	0	69	231	24	0	41	45	90	0	51	152	4	0	5	27	96	835
15:30	16:30	0	33	123	26	0	20	31	46	0	63	110	8	0	5	34	68	567

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



Light Vehicles

Time		North Approach George Bass Dr				East Approach Broulee Rd				South Approach George Bass Dr				West Approach Broulee Rd			
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
6:30	6:45	0	5	9	3	0	2	6	10	0	1	7	0	0	1	5	4
6:45	7:00	0	8	17	2	0	2	7	7	0	5	10	0	0	1	2	7
7:00	7:15	0	7	23	2	0	4	2	3	0	6	6	1	0	3	4	11
7:15	7:30	0	10	28	2	0	7	4	15	0	5	16	3	0	2	6	9
7:30	7:45	0	7	29	4	0	5	11	22	0	9	25	1	0	0	3	10
7:45	8:00	0	13	47	3	0	7	7	20	0	5	17	1	0	0	2	10
8:00	8:15	0	13	45	3	0	11	9	22	0	10	20	1	0	2	8	21
8:15	8:30	0	16	60	5	0	7	11	19	0	14	40	0	0	0	5	30
8:30	8:45	0	16	61	7	0	13	13	22	0	15	54	0	0	0	7	26
8:45	9:00	0	22	57	6	0	8	10	22	0	10	26	3	0	3	4	12
9:00	9:15	0	9	31	5	0	2	7	8	0	10	22	1	0	1	5	13
9:15	9:30	0	7	29	4	0	6	5	10	0	8	30	0	0	2	2	6
15:30	15:45	0	7	28	10	0	7	6	16	0	16	21	1	0	1	5	19
15:45	16:00	0	7	39	0	0	4	9	12	0	21	24	3	0	2	12	15
16:00	16:15	0	7	28	10	0	6	10	10	0	8	37	0	0	1	5	18
16:15	16:30	0	10	18	5	0	3	3	7	0	15	27	1	0	1	10	15
16:30	16:45	0	5	31	7	0	2	6	14	0	11	27	0	0	0	13	15
16:45	17:00	0	4	24	10	0	7	4	8	0	20	25	1	0	0	8	11
17:00	17:15	0	3	12	6	0	5	3	12	0	21	37	0	0	1	6	16
17:15	17:30	0	8	15	5	0	4	5	7	0	19	34	0	0	0	5	11
17:30	17:45	0	4	18	3	0	9	5	13	0	11	28	0	0	0	7	8
17:45	18:00	0	5	17	2	0	8	3	9	0	7	22	0	0	0	7	9
18:00	18:15	0	10	18	6	0	5	1	10	0	8	15	1	0	0	6	11
18:15	18:30	0	5	18	3	0	0	3	6	0	5	12	0	0	0	2	3

Peak Time		North Approach George Bass Dr				East Approach Broulee Rd				South Approach George Bass Dr				West Approach Broulee Rd				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
8:00	9:00	0	67	223	21	0	39	43	85	0	49	140	4	0	5	24	89	789
15:30	16:30	0	31	113	25	0	20	28	45	0	60	109	5	0	5	32	67	540

Heavy Vehicles

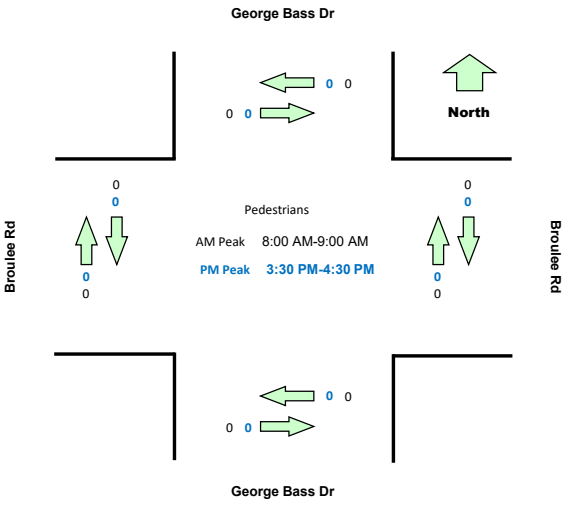
Time		North Approach George Bass Dr				East Approach Broulee Rd				South Approach George Bass Dr				West Approach Broulee Rd			
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
6:30	6:45	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	1
6:45	7:00	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	2
7:00	7:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	3
7:30	7:45	0	1	1	0	0	1	0	0	0	2	1	0	0	0	2	3
7:45	8:00	0	2	0	1	0	1	0	0	0	0	1	0	0	0	0	4
8:00	8:15	0	0	2	0	0	0	1	1	0	1	2	0	0	0	1	0
8:15	8:30	0	1	1	1	0	0	0	1	0	1	4	0	0	0	1	1
8:30	8:45	0	0	4	0	0	1	1	2	0	0	5	0	0	0	0	5
8:45	9:00	0	1	1	2	0	1	0	1	0	0	1	0	0	0	1	1
9:00	9:15	0	2	1	0	0	0	0	0	0	2	1	0	0	0	0	0
9:15	9:30	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	1
15:30	15:45	0	0	2	1	0	0	2	0	0	1	0	3	0	0	0	1
15:45	16:00	0	2	6	0	0	0	1	0	0	2	0	0	0	0	0	0
16:00	16:15	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0
16:15	16:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0
16:30	16:45	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
16:45	17:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	17:15	0	1	1	1	0	0	0	1	0	1	0	0	0	1	0	0
17:15	17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17:45	18:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
18:00	18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Time		North Approach George Bass Dr				East Approach Broulee Rd				South Approach George Bass Dr				West Approach Broulee Rd				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
8:00	9:00	0	2	8	3	0	2	2	5	0	2	12	0	0	0	3	7	46
15:30	16:30	0	2	10	1	0	0	3	1	0	3	1	3	0	0	2	1	27

Pedestrians Crossing

Time		North Approach George Bass D		East Approach Broulee Rd		South Approach George Bass D		West Approach Broulee Rd		Hourly Total
Period Start	Period End	Westbound	Eastbound	Southbound	Northbound	Westbound	Eastbound	Southbound	Northbound	
6:30	6:45	0	0	0	0	0	0	0	0	4
6:45	7:00	2	0	0	0	0	0	2	0	4
7:00	7:15	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0
8:00	8:15	0	0	0	0	0	0	0	0	0
8:15	8:30	0	0	0	0	0	0	0	0	0
8:30	8:45	0	0	0	0	0	0	0	0	0
8:45	9:00	0	0	0	0	0	0	0	0	
9:00	9:15	0	0	0	0	0	0	0	0	
9:15	9:30	0	0	0	0	0	0	0	0	
15:30	15:45	0	0	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0	0	
18:00	18:15	0	0	0	0	0	0	0	0	
18:15	18:30	0	0	0	0	0	0	0	0	

Peak Time		North Approach George Bass D		East Approach Broulee Rd		South Approach George Bass D		West Approach Broulee Rd		Peak hour total
Period Start	Period End	Westbound	Eastbound	Southbound	Northbound	Westbound	Eastbound	Southbound	Northbound	
8:00	9:00	0	0	0	0	0	0	0	0	0
15:30	16:30	0	0	0	0	0	0	0	0	0



CfeIT bob.white@cfeit.com (02) 9740 8600

Traffic Count Summary Report

Count Number 1963 Ref : **CJP**

Street **BROULEE ROAD, BROULEE : Between PRINCES HIGHWAY & GEORGE BASS DRIVE (bidirectional) :**

Location At stand of Trees west of House 207 Driveway on ELP 20378 *Carriageway*

TOTAL COUNT MATRIX

Start Date	05-NOV-22
Start Time	2300
Duration	7 DAYS
Interval	1 HOUR

Weekly 50th Percentile Speed	83
Weekly 85th Percentile Speed	95
Five Day AADT	1890
Seven Day AADT	1676

	MON *7TH*	TUE *8TH*	WED *9TH*	THU *10TH*	FRI *11TH*	SAT *12TH / 5TH*	SUN *6TH*	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	0	2	0	2	2	5	4	**6**	**1**	**15**	**2**
1am - 2am	1	1	2	0	3	3	0	**7**	**1**	**10**	**1**
2am - 3am	0	3	1	1	0	1	1	**5**	**1**	**7**	**1**
3am - 4am	9	8	3	4	2	2	2	**26**	**5**	**30**	**4**
4am - 5am	7	2	7	5	8	3	6	**29**	**6**	**38**	**5**
5am - 6am	18	19	20	20	21	9	8	**98**	**20**	**115**	**16**
6am - 7am	83	79	79	78	71	22	16	**390**	**78**	**428**	**61**
7am - 8am	148	107	141	154	152	37	35	**702**	**140**	**774**	**111**
8am - 9am	**244**	**230**	**242**	**242**	**218**	58	49	**1176**	**235**	**1283**	**183**
9am - 10am	97	116	131	120	140	108	89	**604**	**121**	**801**	**114**
10am - 11am	112	129	116	140	107	**125**	115	**604**	**121**	**844**	**121**
11am - Midday	98	140	123	126	132	113	**123**	**619**	**124**	**855**	**122**
Midday - 1pm	116	125	130	133	200	88	113	**704**	**141**	**905**	**129**
1pm - 2pm	108	112	106	118	117	104	**119**	**561**	**112**	**784**	**112**
2pm - 3pm	125	140	171	157	**222**	**121**	107	**815**	**163**	**1043**	**149**
3pm - 4pm	**177**	**167**	**197**	**186**	172	84	94	**899**	**180**	**1077**	**154**
4pm - 5pm	142	166	150	181	153	70	68	**792**	**158**	**930**	**133**
5pm - 6pm	99	112	114	127	116	76	66	**568**	**114**	**710**	**101**
6pm - 7pm	55	82	69	54	63	36	46	**323**	**65**	**405**	**58**
7pm - 8pm	38	48	35	48	42	26	21	**211**	**42**	**258**	**37**
8pm - 9pm	20	28	29	32	43	29	17	**152**	**30**	**198**	**28**
9pm - 10pm	12	27	16	15	18	17	14	**88**	**18**	**119**	**17**
10pm - 11pm	8	7	5	8	20	11	9	**48**	**10**	**68**	**10**
11pm - Midnight	3	1	2	4	11	9	3	**21**	**4**	**33**	**5**
Total	**1720**	**1851**	**1889**	**1955**	**2033**	**1157**	**1125**	**9448**	**1889**	**11730**	**1675**

 CFE Information Technologies

Data displayed has been compiled from pneumatic traffic count processes and is subject to the documented limitations

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Traffic Count Summary Report

Count Number 1963 Ref : **CJP**

Street **BROULEE ROAD, BROULEE : From PRINCES HIGHWAY to GEORGE BASS DRIVE : EAST BOUND**

Location At stand of Trees west of House 207 Driveway on ELP 20378 *Carriageway*

TOTAL COUNT MATRIX

Start Date	05-NOV-22
Start Time	2300
Duration	7 DAYS
Interval	1 HOUR

Weekly 50th Percentile Speed	84
Weekly 85th Percentile Speed	96
Five Day AADT	1045
Seven Day AADT	930

	MON 7TH	TUE 8TH	WED 9TH	THU 10TH	FRI 11TH	SAT 12TH / 5TH	SUN 6TH	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	0	2	0	0	2	3	2	**4**	**1**	**9**	**1**
1am - 2am	0	1	1	0	2	2	0	**4**	**1**	**6**	**1**
2am - 3am	0	1	1	1	0	1	1	**3**	**1**	**5**	**1**
3am - 4am	2	2	0	2	0	1	1	**6**	**1**	**8**	**1**
4am - 5am	3	1	2	0	1	2	3	**7**	**1**	**12**	**2**
5am - 6am	1	2	4	2	2	4	5	**11**	**2**	**20**	**3**
6am - 7am	34	37	40	32	35	12	8	**178**	**36**	**198**	**28**
7am - 8am	68	57	72	73	76	17	21	**346**	**69**	**384**	**55**
8am - 9am	**122**	**113**	**126**	**119**	**112**	27	32	**592**	**118**	**651**	**93**
9am - 10am	43	62	54	63	68	60	41	**290**	**58**	**391**	**56**
10am - 11am	65	69	60	75	54	**76**	71	**323**	**65**	**470**	**67**
11am - Midday	50	85	73	66	69	75	**75**	**343**	**69**	**493**	**70**
Midday - 1pm	69	80	78	78	77	51	55	**382**	**76**	**488**	**70**
1pm - 2pm	76	59	63	58	62	**67**	**64**	**318**	**64**	**449**	**64**
2pm - 3pm	74	88	**107**	89	**169**	63	41	**527**	**105**	**631**	**90**
3pm - 4pm	83	98	99	109	95	46	51	**484**	**97**	**581**	**83**
4pm - 5pm	**94**	**108**	97	**125**	89	39	37	**513**	**103**	**589**	**84**
5pm - 6pm	62	77	73	89	77	43	45	**378**	**76**	**466**	**67**
6pm - 7pm	40	52	41	36	41	22	24	**210**	**42**	**256**	**37**
7pm - 8pm	18	20	22	23	30	13	11	**113**	**23**	**137**	**20**
8pm - 9pm	14	15	20	17	26	20	10	**92**	**18**	**122**	**17**
9pm - 10pm	8	13	12	10	13	14	9	**56**	**11**	**79**	**11**
10pm - 11pm	4	5	4	6	14	3	5	**33**	**7**	**41**	**6**
11pm - Midnight	1	0	1	3	9	6	1	**14**	**3**	**21**	**3**
Total	**931**	**1047**	**1050**	**1076**	**1123**	**667**	**613**	**5227**	**1045**	**6507**	**929**

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Traffic Count Summary Report

Count Number 1963 Ref : **CJP**

Street **BROULEE ROAD, BROULEE : From GEORGE BASS DRIVE to PRINCES HIGHWAY : WEST BOUND**

Location At stand of Trees west of House 207 Driveway on ELP 20378 *Carriageway*

TOTAL COUNT MATRIX

Start Date	05-NOV-22
Start Time	2300
Duration	7 DAYS
Interval	1 HOUR

Weekly 50th Percentile Speed	83
Weekly 85th Percentile Speed	95
Five Day AADT	844
Seven Day AADT	746

	MON *7TH*	TUE *8TH*	WED *9TH*	THU *10TH*	FRI *11TH*	SAT *12TH / 5TH*	SUN *6TH*	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	0	0	0	2	0	2	2	**2**	**0**	**6**	**1**
1am - 2am	1	0	1	0	1	1	0	**3**	**1**	**4**	**1**
2am - 3am	0	2	0	0	0	0	0	**2**	**0**	**2**	**0**
3am - 4am	7	6	3	2	2	1	1	**20**	**4**	**22**	**3**
4am - 5am	4	1	5	5	7	1	3	**22**	**4**	**26**	**4**
5am - 6am	17	17	16	18	19	5	3	**87**	**17**	**95**	**14**
6am - 7am	49	42	39	46	36	10	8	**212**	**42**	**230**	**33**
7am - 8am	80	50	69	81	76	20	14	**356**	**71**	**390**	**56**
8am - 9am	**122**	**117**	**116**	**123**	**106**	31	17	**584**	**117**	**632**	**90**
9am - 10am	54	54	77	57	72	48	**48**	**314**	**63**	**410**	**59**
10am - 11am	47	60	56	65	53	**49**	44	**281**	**56**	**374**	**53**
11am - Midday	48	55	50	60	63	38	**48**	**276**	**55**	**362**	**52**
Midday - 1pm	47	45	52	55	**123**	37	58	**322**	**64**	**417**	**60**
1pm - 2pm	32	53	43	60	55	37	55	**243**	**49**	**335**	**48**
2pm - 3pm	51	52	64	68	53	**58**	**66**	**288**	**58**	**412**	**59**
3pm - 4pm	**94**	**69**	**98**	**77**	77	38	43	**415**	**83**	**496**	**71**
4pm - 5pm	48	58	53	56	64	31	31	**279**	**56**	**341**	**49**
5pm - 6pm	37	35	41	38	39	33	21	**190**	**38**	**244**	**35**
6pm - 7pm	15	30	28	18	22	14	22	**113**	**23**	**149**	**21**
7pm - 8pm	20	28	13	25	12	13	10	**98**	**20**	**121**	**17**
8pm - 9pm	6	13	9	15	17	9	7	**60**	**12**	**76**	**11**
9pm - 10pm	4	14	4	5	5	3	5	**32**	**6**	**40**	**6**
10pm - 11pm	4	2	1	2	6	8	4	**15**	**3**	**27**	**4**
11pm - Midnight	2	1	1	1	2	3	2	**7**	**1**	**12**	**2**
Total	**789**	**804**	**839**	**879**	**910**	**490**	**512**	**4221**	**844**	**5223**	**746**

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Traffic Count Summary Report

Count Number 1964 Ref : **CJP**

Street **BROULEE ROAD, BROULEE : Between PRINCES HIGHWAY & GEORGE BASS DRIVE (bidirectional) :**

Location At stand of Trees east of House 207 Driveway on end of Guard Rail *Carriageway*

TOTAL COUNT MATRIX

Start Date	05-NOV-22
Start Time	2300
Duration	7 DAYS
Interval	1 HOUR

Weekly 50th Percentile Speed	85
Weekly 85th Percentile Speed	97
Five Day AADT	1908
Seven Day AADT	1690

	MON *7TH*	TUE *8TH*	WED *9TH*	THU *10TH*	FRI *11TH*	SAT *12TH / 5TH*	SUN *6TH*	5 Dav Total	5 Dav Average	7 Dav Total	7 Dav Average
Midnight - 1am	0	2	0	2	2	5	4	**6**	**1**	**15**	**2**
1am - 2am	1	1	2	0	3	3	0	**7**	**1**	**10**	**1**
2am - 3am	0	3	1	1	0	1	1	**5**	**1**	**7**	**1**
3am - 4am	9	8	3	4	2	2	1	**26**	**5**	**29**	**4**
4am - 5am	8	2	7	6	8	3	7	**31**	**6**	**41**	**6**
5am - 6am	18	18	19	18	21	9	8	**94**	**19**	**111**	**16**
6am - 7am	82	77	78	79	70	21	15	**386**	**77**	**422**	**60**
7am - 8am	145	115	144	154	154	35	36	**712**	**142**	**783**	**112**
8am - 9am	**245**	**235**	**243**	**243**	**223**	65	52	**1189**	**238**	**1306**	**187**
9am - 10am	95	118	132	119	140	106	90	**604**	**121**	**800**	**114**
10am - 11am	115	135	116	143	110	**129**	114	**619**	**124**	**862**	**123**
11am - Midday	100	136	129	125	138	113	**120**	**628**	**126**	**861**	**123**
Midday - 1pm	117	125	134	134	201	85	114	**711**	**142**	**910**	**130**
1pm - 2pm	115	118	108	119	118	106	**121**	**578**	**116**	**805**	**115**
2pm - 3pm	129	140	176	142	**222**	**119**	107	**809**	**162**	**1035**	**148**
3pm - 4pm	**181**	**170**	**199**	**188**	177	83	93	**915**	**183**	**1091**	**156**
4pm - 5pm	141	168	150	180	154	73	69	**793**	**159**	**935**	**134**
5pm - 6pm	103	110	111	126	116	77	67	**566**	**113**	**710**	**101**
6pm - 7pm	55	87	73	56	63	36	45	**334**	**67**	**415**	**59**
7pm - 8pm	38	51	34	51	43	28	23	**217**	**43**	**268**	**38**
8pm - 9pm	19	27	30	33	42	28	17	**151**	**30**	**196**	**28**
9pm - 10pm	13	27	16	15	17	17	14	**88**	**18**	**119**	**17**
10pm - 11pm	8	8	4	8	21	9	9	**49**	**10**	**67**	**10**
11pm - Midnight	3	0	2	5	11	7	3	**21**	**4**	**31**	**4**
Total	**1740**	**1881**	**1911**	**1951**	**2056**	**1160**	**1130**	**9539**	**1907**	**11829**	**1689**

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Traffic Count Summary Report

Count Number 1964 Ref : **CJP**

Street **BROULEE ROAD, BROULEE : From PRINCES HIGHWAY to GEORGE BASS DRIVE : EAST BOUND**

Location At stand of Trees east of House 207 Driveway on end of Guard Rail *Carriageway*

TOTAL COUNT MATRIX

Start Date	05-NOV-22
Start Time	2300
Duration	7 DAYS
Interval	1 HOUR

Weekly 50th Percentile Speed	89
Weekly 85th Percentile Speed	99
Five Day AADT	1055
Seven Day AADT	938

	MON *7TH*	TUE *8TH*	WED *9TH*	THU *10TH*	FRI *11TH*	SAT *12TH / 5TH*	SUN *6TH*	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	0	2	0	0	2	3	2	**4**	**1**	**9**	**1**
1am - 2am	0	1	1	0	2	2	0	**4**	**1**	**6**	**1**
2am - 3am	0	1	1	1	0	1	1	**3**	**1**	**5**	**1**
3am - 4am	2	2	0	2	0	1	0	**6**	**1**	**7**	**1**
4am - 5am	4	1	2	1	1	2	4	**9**	**2**	**15**	**2**
5am - 6am	1	2	4	2	2	4	5	**11**	**2**	**20**	**3**
6am - 7am	33	35	39	32	33	11	8	**172**	**34**	**191**	**27**
7am - 8am	67	62	73	73	78	17	22	**353**	**71**	**392**	**56**
8am - 9am	**122**	**117**	**126**	**119**	**115**	31	33	**599**	**120**	**663**	**95**
9am - 10am	44	63	57	63	68	60	42	**295**	**59**	**397**	**57**
10am - 11am	67	73	59	77	58	**80**	72	**334**	**67**	**486**	**69**
11am - Midday	48	84	75	68	74	74	**74**	**349**	**70**	**497**	**71**
Midday - 1pm	71	77	81	79	77	48	55	**385**	**77**	**488**	**70**
1pm - 2pm	79	64	63	56	63	**70**	**62**	**325**	**65**	**457**	**65**
2pm - 3pm	75	89	**110**	80	**167**	62	43	**521**	**104**	**626**	**89**
3pm - 4pm	82	96	99	110	99	46	52	**486**	**97**	**584**	**83**
4pm - 5pm	**94**	**109**	99	**126**	91	40	36	**519**	**104**	**595**	**85**
5pm - 6pm	65	77	74	89	76	44	45	**381**	**76**	**470**	**67**
6pm - 7pm	41	55	40	37	41	21	24	**214**	**43**	**259**	**37**
7pm - 8pm	17	22	20	24	30	14	12	**113**	**23**	**139**	**20**
8pm - 9pm	14	14	21	17	26	20	10	**92**	**18**	**122**	**17**
9pm - 10pm	8	13	12	10	12	14	9	**55**	**11**	**78**	**11**
10pm - 11pm	4	5	4	6	14	1	5	**33**	**7**	**39**	**6**
11pm - Midnight	1	0	1	3	9	5	1	**14**	**3**	**20**	**3**
Total	**939**	**1064**	**1061**	**1075**	**1138**	**671**	**617**	**5277**	**1055**	**6565**	**937**

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Traffic Count Summary Report

Count Number 1964 Ref : **CJP**

Street **BROULEE ROAD, BROULEE : From GEORGE BASS DRIVE to PRINCES HIGHWAY : WEST BOUND**

Location At stand of Trees east of House 207 Driveway on end of Guard Rail *Carriageway*

TOTAL COUNT MATRIX

Start Date	05-NOV-22
Start Time	2300
Duration	7 DAYS
Interval	1 HOUR

Weekly 50th Percentile Speed	85
Weekly 85th Percentile Speed	97
Five Day AADT	852
Seven Day AADT	752

	MON *7TH*	TUE *8TH*	WED *9TH*	THU *10TH*	FRI *11TH*	SAT *12TH / 5TH*	SUN *6TH*	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	0	0	0	2	0	2	2	**2**	**0**	**6**	**1**
1am - 2am	1	0	1	0	1	1	0	**3**	**1**	**4**	**1**
2am - 3am	0	2	0	0	0	0	0	**2**	**0**	**2**	**0**
3am - 4am	7	6	3	2	2	1	1	**20**	**4**	**22**	**3**
4am - 5am	4	1	5	5	7	1	3	**22**	**4**	**26**	**4**
5am - 6am	17	16	15	16	19	5	3	**83**	**17**	**91**	**13**
6am - 7am	49	42	39	47	37	10	7	**214**	**43**	**231**	**33**
7am - 8am	78	53	71	81	76	18	14	**359**	**72**	**391**	**56**
8am - 9am	**123**	**118**	**117**	**124**	**108**	34	19	**590**	**118**	**643**	**92**
9am - 10am	51	55	75	56	72	46	**48**	**309**	**62**	**403**	**58**
10am - 11am	48	62	57	66	52	**49**	42	**285**	**57**	**376**	**54**
11am - Midday	52	52	54	57	64	39	46	**279**	**56**	**364**	**52**
Midday - 1pm	46	48	53	55	**124**	37	59	**326**	**65**	**422**	**60**
1pm - 2pm	36	54	45	63	55	36	59	**253**	**51**	**348**	**50**
2pm - 3pm	54	51	66	62	55	**57**	**64**	**288**	**58**	**409**	**58**
3pm - 4pm	**99**	**74**	**100**	**78**	78	37	41	**429**	**86**	**507**	**72**
4pm - 5pm	47	59	51	54	63	33	33	**274**	**55**	**340**	**49**
5pm - 6pm	38	33	37	37	40	33	22	**185**	**37**	**240**	**34**
6pm - 7pm	14	32	33	19	22	15	21	**120**	**24**	**156**	**22**
7pm - 8pm	21	29	14	27	13	14	11	**104**	**21**	**129**	**18**
8pm - 9pm	5	13	9	16	16	8	7	**59**	**12**	**74**	**11**
9pm - 10pm	5	14	4	5	5	3	5	**33**	**7**	**41**	**6**
10pm - 11pm	4	3	0	2	7	8	4	**16**	**3**	**28**	**4**
11pm - Midnight	2	0	1	2	2	2	2	**7**	**1**	**11**	**2**
Total	**801**	**817**	**850**	**876**	**918**	**489**	**513**	**4262**	**852**	**5264**	**752**

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CJP | CONSULTING ENGINEERS

Appendix D

SIDRA Movement Summaries

MOVEMENT SUMMARY

Site: 101 [Princes Hwy & Broulee Rd 2022 (summer holiday adjusted) AM base case (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hwy (S)														
2	T1	504	18	504	3.6	0.267	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
3	R2	135	12	135	8.9	0.168	10.7	LOS A	0.7	5.1	0.53	0.79	0.53	67.5
Approach		639	30	639	4.7	0.267	2.3	NA	0.7	5.1	0.11	0.17	0.11	90.7
East: RoadName														
4	L2	137	7	137	5.1	0.161	10.1	LOS A	0.6	4.3	0.46	0.75	0.46	69.6
6	R2	76	1	76	1.3	0.369	29.4	LOS C	1.4	10.0	0.87	0.99	1.09	51.4
Approach		213	8	213	3.8	0.369	17.0	LOS B	1.4	10.0	0.60	0.84	0.68	61.8
North: Princes Hwy (N)														
7	L2	87	2	87	2.3	0.048	7.9	LOS A	0.0	0.0	0.00	0.66	0.00	73.6
8	T1	384	23	384	6.0	0.205	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
Approach		471	25	471	5.3	0.205	1.5	NA	0.0	0.0	0.00	0.12	0.00	93.7
All Vehicles		1323	63	1323	4.8	0.369	4.4	NA	1.4	10.0	0.15	0.26	0.16	85.2

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 [Princes Hwy & Broulee Rd 2022 (summer holiday adjusted) PM base case (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hwy (S)														
2	T1	539	20	539	3.7	0.285	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
3	R2	134	2	134	1.5	0.206	12.1	LOS A	0.8	5.6	0.61	0.87	0.61	67.9
Approach		673	22	673	3.3	0.285	2.4	NA	0.8	5.6	0.12	0.17	0.12	91.3
East: RoadName														
4	L2	78	6	78	7.7	0.128	12.2	LOS A	0.4	3.3	0.56	0.85	0.56	66.3
6	R2	50	5	50	10.0	0.450	52.0	LOS D	1.6	12.0	0.94	1.02	1.19	38.2
Approach		128	11	128	8.6	0.450	27.7	LOS B	1.6	12.0	0.71	0.92	0.81	51.5
North: Princes Hwy (N)														
7	L2	54	1	54	1.9	0.029	7.9	LOS A	0.0	0.0	0.00	0.66	0.00	73.8
8	T1	603	27	603	4.5	0.318	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
Approach		657	28	657	4.3	0.318	0.7	NA	0.0	0.0	0.00	0.05	0.00	97.0
All Vehicles		1458	61	1458	4.2	0.450	3.9	NA	1.6	12.0	0.12	0.18	0.13	87.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [George Bass Dr & Broulee Rd 2022 (summer holiday adjusted) AM base case (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: George Bass Dr (S)														
1	L2	7	0	7	0.0	0.041	7.0	LOS A	0.0	0.0	0.00	0.06	0.00	73.6
2	T1	264	21	264	8.0	0.206	1.3	LOS A	1.0	7.2	0.28	0.19	0.28	74.7
3	R2	89	3	89	3.4	0.206	9.7	LOS A	1.0	7.2	0.37	0.23	0.37	61.7
Approach		360	24	360	6.7	0.206	3.4	NA	1.0	7.2	0.29	0.20	0.29	71.0
East: Broulee Rd (E)														
4	L2	157	9	157	5.7	0.145	9.4	LOS A	0.6	4.2	0.20	0.90	0.20	55.0
5	T1	78	3	78	3.8	1.077	163.2	LOS F	15.2	110.3	1.00	2.06	5.11	15.5
6	R2	71	3	71	4.2	1.077	184.0	LOS F	15.2	110.3	1.00	2.06	5.11	15.8
Approach		306	15	306	4.9	1.077	89.1	LOS F	15.2	110.3	0.59	1.46	2.59	24.7
North: George Bass Dr (SN														
7	L2	42	5	42	11.9	0.067	7.2	LOS A	0.0	0.0	0.00	0.22	0.00	66.8
8	T1	402	14	402	3.5	0.282	0.7	LOS A	1.2	8.7	0.22	0.19	0.22	75.1
9	R2	120	3	120	2.5	0.282	8.6	LOS A	1.2	8.7	0.27	0.19	0.27	62.8
Approach		564	22	564	3.9	0.282	2.9	NA	1.2	8.7	0.21	0.19	0.21	71.4
West: Broulee Rd (W														
10	L2	167	12	167	7.2	0.154	9.3	LOS A	0.6	4.6	0.19	0.91	0.19	54.7
11	T1	47	5	47	10.6	0.339	33.1	LOS C	1.3	9.7	0.88	1.05	1.06	37.9
12	R2	9	0	9	0.0	0.339	47.3	LOS D	1.3	9.7	0.88	1.05	1.06	40.6
Approach		223	17	223	7.6	0.339	15.8	LOS B	1.3	9.7	0.36	0.94	0.41	49.4
All Vehicles		1453	78	1453	5.4	1.077	23.2	NA	15.2	110.3	0.34	0.58	0.76	48.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [George Bass Dr & Broulee Rd 2022 (summer holiday adjusted) PM base case (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: George Bass Dr (S)														
1	L2	14	5	14	35.7	0.035	7.6	LOS A	0.0	0.0	0.00	0.14	0.00	60.3
2	T1	191	2	191	1.0	0.177	0.8	LOS A	0.9	6.1	0.25	0.25	0.25	74.2
3	R2	110	5	110	4.5	0.177	8.4	LOS A	0.9	6.1	0.33	0.29	0.33	61.3
Approach		315	12	315	3.8	0.177	3.7	NA	0.9	6.1	0.27	0.26	0.27	68.4
East: Broulee Rd (E)														
4	L2	80	2	80	2.5	0.069	8.6	LOS A	0.3	1.8	0.09	0.94	0.09	55.9
5	T1	54	5	54	9.3	0.295	19.1	LOS B	1.2	9.1	0.75	1.04	0.88	44.3
6	R2	35	0	35	0.0	0.295	24.2	LOS B	1.2	9.1	0.75	1.04	0.88	47.9
Approach		169	7	169	4.1	0.295	15.2	LOS B	1.2	9.1	0.43	0.99	0.50	50.0
North: George Bass Dr (SN														
7	L2	45	2	45	4.4	0.037	7.0	LOS A	0.0	0.0	0.00	0.44	0.00	66.4
8	T1	214	17	214	7.9	0.154	0.4	LOS A	0.5	3.6	0.16	0.18	0.16	75.6
9	R2	57	3	57	5.3	0.154	8.0	LOS A	0.5	3.6	0.18	0.15	0.18	63.4
Approach		316	22	316	7.0	0.154	2.7	NA	0.5	3.6	0.14	0.21	0.14	71.7
West: Broulee Rd (W														
10	L2	118	2	118	1.7	0.103	8.6	LOS A	0.4	2.8	0.14	0.91	0.14	56.1
11	T1	59	3	59	5.1	0.195	17.2	LOS B	0.7	5.4	0.69	1.00	0.69	46.3
12	R2	9	0	9	0.0	0.195	20.6	LOS B	0.7	5.4	0.69	1.00	0.69	50.1
Approach		186	5	186	2.7	0.195	11.9	LOS A	0.7	5.4	0.34	0.95	0.34	52.3
All Vehicles		986	46	986	4.7	0.295	6.9	NA	1.2	9.1	0.27	0.50	0.28	61.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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: 101v [George Bass Dr & Broulee Rd 2022 (summer holiday adjusted) AM base case - RAB Conversion (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: George Bass Dr (S)														
1	L2	7	0	7	0.0	0.338	7.2	LOS A	2.4	18.0	0.59	0.65	0.59	57.6
2	T1	264	21	264	8.0	0.338	7.9	LOS A	2.4	18.0	0.59	0.65	0.59	62.9
3	R2	89	3	89	3.4	0.338	13.4	LOS A	2.4	18.0	0.59	0.65	0.59	59.4
Approach		360	24	360	6.7	0.338	9.3	LOS A	2.4	18.0	0.59	0.65	0.59	61.9
East: Broulee Rd (E)														
4	L2	157	9	157	5.7	0.365	7.6	LOS A	2.7	19.4	0.78	0.78	0.78	55.5
5	T1	78	3	78	3.8	0.365	7.6	LOS A	2.7	19.4	0.78	0.78	0.78	53.4
6	R2	71	3	71	4.2	0.365	13.1	LOS A	2.7	19.4	0.78	0.78	0.78	56.8
Approach		306	15	306	4.9	0.365	8.9	LOS A	2.7	19.4	0.78	0.78	0.78	55.2
North: George Bass Dr (SN														
7	L2	42	5	42	11.9	0.438	6.7	LOS A	3.6	26.4	0.49	0.57	0.49	58.0
8	T1	402	14	402	3.5	0.438	7.0	LOS A	3.6	26.4	0.49	0.57	0.49	65.0
9	R2	120	3	120	2.5	0.438	12.6	LOS A	3.6	26.4	0.49	0.57	0.49	60.3
Approach		564	22	564	3.9	0.438	8.2	LOS A	3.6	26.4	0.49	0.57	0.49	63.4
West: Broulee Rd (W														
10	L2	167	12	167	7.2	0.247	6.5	LOS A	1.7	12.4	0.67	0.67	0.67	56.9
11	T1	47	5	47	10.6	0.247	6.6	LOS A	1.7	12.4	0.67	0.67	0.67	54.9
12	R2	9	0	9	0.0	0.247	11.9	LOS A	1.7	12.4	0.67	0.67	0.67	59.8
Approach		223	17	223	7.6	0.247	6.8	LOS A	1.7	12.4	0.67	0.67	0.67	56.6
All Vehicles		1453	78	1453	5.4	0.438	8.4	LOS A	3.6	26.4	0.60	0.65	0.60	60.1

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101v [George Bass Dr & Broulee Rd 2022 (summer holiday adjusted) PM base case - RAB Conversion (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: George Bass Dr (S)														
1	L2	14	5	14	35.7	0.251	7.1	LOS A	1.7	12.3	0.41	0.58	0.41	57.2
2	T1	191	2	191	1.0	0.251	6.7	LOS A	1.7	12.3	0.41	0.58	0.41	65.5
3	R2	110	5	110	4.5	0.251	12.5	LOS A	1.7	12.3	0.41	0.58	0.41	60.0
Approach		315	12	315	3.8	0.251	8.7	LOS A	1.7	12.3	0.41	0.58	0.41	63.1
East: Broulee Rd (E)														
4	L2	80	2	80	2.5	0.158	5.2	LOS A	1.0	7.3	0.53	0.58	0.53	57.8
5	T1	54	5	54	9.3	0.158	5.4	LOS A	1.0	7.3	0.53	0.58	0.53	54.8
6	R2	35	0	35	0.0	0.158	10.7	LOS A	1.0	7.3	0.53	0.58	0.53	59.6
Approach		169	7	169	4.1	0.158	6.4	LOS A	1.0	7.3	0.53	0.58	0.53	57.2
North: George Bass Dr (SN														
7	L2	45	2	45	4.4	0.266	6.6	LOS A	1.8	13.2	0.45	0.58	0.45	58.5
8	T1	214	17	214	7.9	0.266	7.1	LOS A	1.8	13.2	0.45	0.58	0.45	64.3
9	R2	57	3	57	5.3	0.266	12.7	LOS A	1.8	13.2	0.45	0.58	0.45	60.5
Approach		316	22	316	7.0	0.266	8.1	LOS A	1.8	13.2	0.45	0.58	0.45	62.7
West: Broulee Rd (W														
10	L2	118	2	118	1.7	0.180	5.5	LOS A	1.1	8.2	0.56	0.59	0.56	58.5
11	T1	59	3	59	5.1	0.180	5.7	LOS A	1.1	8.2	0.56	0.59	0.56	55.4
12	R2	9	0	9	0.0	0.180	11.1	LOS A	1.1	8.2	0.56	0.59	0.56	60.3
Approach		186	5	186	2.7	0.180	5.8	LOS A	1.1	8.2	0.56	0.59	0.56	57.6
All Vehicles		986	46	986	4.7	0.266	7.6	LOS A	1.8	13.2	0.47	0.58	0.47	60.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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 [Princes Hwy & Broulee Rd 2022 (summer holiday adjusted) AM with development (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hwy (S)														
2	T1	504	18	504	3.6	0.266	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
3	R2	162	12	162	7.4	0.209	11.1	LOS A	0.9	6.3	0.55	0.82	0.55	67.5
Approach		666	30	666	4.5	0.266	2.7	NA	0.9	6.3	0.13	0.20	0.13	89.4
East: Broulee Rd (E)														
4	L2	246	7	246	2.8	0.284	10.3	LOS A	1.2	8.4	0.49	0.78	0.51	70.0
6	R2	239	1	239	0.4	1.246	273.9	LOS F	37.0	259.9	1.00	2.48	9.67	11.4
Approach		485	8	485	1.6	1.246	140.2	LOS F	37.0	259.9	0.74	1.62	5.02	19.8
North: Princes Hwy (N)														
7	L2	128	2	128	1.6	0.070	7.9	LOS A	0.0	0.0	0.00	0.66	0.00	73.9
8	T1	384	23	384	6.0	0.205	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
Approach		512	25	512	4.9	0.205	2.0	NA	0.0	0.0	0.00	0.16	0.00	91.8
All Vehicles		1663	63	1663	3.8	1.246	42.6	NA	37.0	259.9	0.27	0.60	1.52	44.4

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.

MOVEMENT SUMMARY

Site: 101 [Princes Hwy & Broulee Rd 2022 (summer holiday adjusted) PM with development (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hwy (S)														
2	T1	539	20	539	3.7	0.285	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
3	R2	249	2	249	0.8	0.477	16.7	LOS B	2.5	17.7	0.77	1.00	1.14	62.7
Approach		788	22	788	2.8	0.477	5.3	NA	2.5	17.7	0.24	0.31	0.36	84.1
East: Broulee Rd (E)														
4	L2	107	6	107	5.6	0.172	12.1	LOS A	0.6	4.4	0.57	0.85	0.57	66.9
6	R2	93	5	93	5.4	1.159	270.1	LOS F	13.5	98.7	1.00	1.59	4.75	11.4
Approach		200	11	200	5.5	1.159	132.1	LOS F	13.5	98.7	0.77	1.20	2.51	20.5
North: Princes Hwy (N)														
7	L2	227	1	227	0.4	0.123	7.9	LOS A	0.0	0.0	0.00	0.66	0.00	74.3
8	T1	603	27	603	4.5	0.318	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
Approach		830	28	830	3.4	0.318	2.2	NA	0.0	0.0	0.00	0.18	0.00	91.2
All Vehicles		1818	61	1818	3.4	1.159	17.8	NA	13.5	98.7	0.19	0.35	0.43	64.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Princes Hwy & Broulee Rd 2022 (summer holiday adjusted) AM with development - Seagull stage 1 (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hwy (S)														
3	R2	162	12	162	7.4	0.209	7.7	LOS A	0.9	6.3	0.55	0.79	0.55	60.5
Approach		162	12	162	7.4	0.209	7.7	NA	0.9	6.3	0.55	0.79	0.55	60.5
East: Broulee Rd (E)														
4	L2	246	7	246	2.8	0.223	9.6	LOS A	1.0	6.8	0.47	0.73	0.47	70.7
5	T1	239	1	239	0.4	0.445	15.1	LOS B	2.6	18.4	0.71	0.96	1.01	64.5
Approach		485	8	485	1.6	0.445	12.3	LOS A	2.6	18.4	0.59	0.85	0.74	67.5
North: Princes Hwy (N)														
7	L2	128	2	128	1.6	0.070	7.9	LOS A	0.0	0.0	0.00	0.66	0.00	73.9
8	T1	384	23	384	6.0	0.205	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
Approach		512	25	512	4.9	0.205	2.0	NA	0.0	0.0	0.00	0.16	0.00	91.8
All Vehicles		1159	45	1159	3.9	0.445	7.1	NA	2.6	18.4	0.32	0.54	0.39	76.2

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 [Princes Hwy & Broulee Rd 2022 (summer holiday adjusted) AM with development - Seagull stage 2 (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hwy (S)														
2	T1	504	18	504	3.6	0.264	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
Approach		504	18	504	3.6	0.264	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.9
SouthEast: Median storage														
23a	R1	239	1	239	0.4	0.411	7.1	LOS A	2.3	16.0	0.66	0.88	0.90	53.8
Approach		239	1	239	0.4	0.411	7.1	LOS A	2.3	16.0	0.66	0.88	0.90	53.8
All Vehicles		743	19	743	2.6	0.411	2.3	NA	2.3	16.0	0.21	0.28	0.29	85.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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 [Princes Hwy & Broulee Rd 2022 (summer holiday adjusted) PM with development - Seagull stage 1 (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hwy (S)														
3	R2	249	2	249	0.8	0.477	13.6	LOS A	2.5	17.7	0.77	0.99	1.14	54.3
Approach		249	2	249	0.8	0.477	13.6	NA	2.5	17.7	0.77	0.99	1.14	54.3
East: Broulee Rd (E)														
4	L2	107	6	107	5.6	0.131	11.0	LOS A	0.5	3.6	0.55	0.81	0.55	68.3
5	T1	93	5	93	5.4	0.336	22.9	LOS B	1.4	10.3	0.84	0.98	1.03	55.8
Approach		200	11	200	5.5	0.336	16.6	LOS B	1.4	10.3	0.68	0.89	0.77	61.9
North: Princes Hwy (N)														
7	L2	227	1	227	0.4	0.123	7.9	LOS A	0.0	0.0	0.00	0.66	0.00	74.3
8	T1	603	27	603	4.5	0.318	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
Approach		830	28	830	3.4	0.318	2.2	NA	0.0	0.0	0.00	0.18	0.00	91.2
All Vehicles		1279	41	1279	3.2	0.477	6.6	NA	2.5	17.7	0.26	0.45	0.34	78.2

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 [Princes Hwy & Broulee Rd 2022 (summer holiday adjusted) PM with development - Seagull stage 2 (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hwy (S)														
2	T1	539	20	539	3.7	0.283	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
Approach		539	20	539	3.7	0.283	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.8
SouthEast: Median storage														
23a	R1	93	5	93	5.4	0.179	5.9	LOS A	0.7	5.1	0.61	0.64	0.61	53.6
Approach		93	5	93	5.4	0.179	5.9	LOS A	0.7	5.1	0.61	0.64	0.61	53.6
All Vehicles		632	25	632	4.0	0.283	0.9	NA	0.7	5.1	0.09	0.09	0.09	93.2

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 [George Bass Dr & Broulee Rd 2022 (summer holiday adjusted) AM with development (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: George Bass Dr (S)														
1	L2	27	0	27	0.0	0.043	7.0	LOS A	0.0	0.0	0.00	0.22	0.00	71.0
2	T1	264	21	264	8.0	0.215	1.3	LOS A	1.0	7.4	0.29	0.22	0.29	74.1
3	R2	89	3	89	3.4	0.215	9.7	LOS A	1.0	7.4	0.36	0.22	0.36	61.9
Approach		380	24	380	6.3	0.215	3.6	NA	1.0	7.4	0.29	0.22	0.29	70.6
East: Broulee Rd (E)														
4	L2	157	9	157	5.7	0.147	9.6	LOS A	0.6	4.3	0.21	0.90	0.21	55.0
5	T1	98	3	98	3.1	1.661	644.7	LOS F	48.7	351.6	1.00	3.39	10.52	5.0
6	R2	71	3	71	4.2	1.661	671.9	LOS F	48.7	351.6	1.00	3.39	10.52	5.0
Approach		326	15	326	4.6	1.661	344.7	LOS F	48.7	351.6	0.62	2.19	5.56	8.9
North: George Bass Dr (N)														
7	L2	42	5	42	11.9	0.072	7.2	LOS A	0.0	0.0	0.00	0.20	0.00	67.0
8	T1	402	14	402	3.5	0.305	0.9	LOS A	1.5	10.6	0.25	0.22	0.25	74.5
9	R2	148	3	148	2.0	0.305	8.8	LOS A	1.5	10.6	0.33	0.22	0.33	62.2
Approach		592	22	592	3.7	0.305	3.3	NA	1.5	10.6	0.25	0.22	0.25	70.4
West: Broulee Rd (W)														
10	L2	276	12	276	4.3	0.247	9.1	LOS A	1.1	8.0	0.18	0.90	0.18	55.4
11	T1	129	5	129	3.9	1.667	643.6	LOS F	62.3	444.7	1.00	3.91	12.51	5.1
12	R2	91	0	91	0.0	1.667	657.1	LOS F	62.3	444.7	1.00	3.91	12.51	5.1
Approach		496	17	496	3.4	1.667	293.0	LOS F	62.3	444.7	0.54	2.24	5.65	10.3
All Vehicles		1794	78	1794	4.3	1.667	145.5	NA	62.3	444.7	0.41	1.14	2.72	18.1

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.

MOVEMENT SUMMARY

Site: 101 [George Bass Dr & Broulee Rd 2022 (summer holiday adjusted) PM with development (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: George Bass Dr (S)														
1	L2	100	5	100	5.0	0.056	7.0	LOS A	0.0	0.0	0.00	0.63	0.00	63.7
2	T1	191	2	191	1.0	0.203	0.9	LOS A	0.9	6.7	0.31	0.24	0.31	73.7
3	R2	110	5	110	4.5	0.203	8.4	LOS A	0.9	6.7	0.31	0.24	0.31	61.9
Approach		401	12	401	3.0	0.203	4.5	NA	0.9	6.7	0.23	0.34	0.23	67.5
East: Broulee Rd (E)														
4	L2	80	2	80	2.5	0.071	8.8	LOS A	0.3	1.9	0.16	0.91	0.16	55.9
5	T1	140	5	140	3.6	0.740	39.7	LOS C	4.9	34.8	0.92	1.29	1.98	35.8
6	R2	35	0	35	0.0	0.740	48.7	LOS D	4.9	34.8	0.92	1.29	1.98	38.0
Approach		255	7	255	2.7	0.740	31.2	LOS C	4.9	34.8	0.68	1.17	1.41	40.7
North: George Bass Dr (N)														
7	L2	45	2	45	4.4	0.058	7.0	LOS A	0.0	0.0	0.00	0.28	0.00	68.6
8	T1	214	17	214	7.9	0.244	1.0	LOS A	1.3	9.4	0.29	0.34	0.29	72.4
9	R2	173	3	173	1.7	0.244	8.5	LOS A	1.3	9.4	0.40	0.37	0.40	60.4
Approach		432	22	432	5.1	0.244	4.7	NA	1.3	9.4	0.30	0.35	0.30	66.7
West: Broulee Rd (W)														
10	L2	147	2	147	1.4	0.123	8.5	LOS A	0.0	0.0	0.00	1.00	0.00	56.2
11	T1	81	3	81	3.7	0.485	27.6	LOS B	2.3	16.2	0.86	1.11	1.24	40.0
12	R2	31	0	31	0.0	0.485	38.1	LOS C	2.3	16.2	0.86	1.11	1.24	42.8
Approach		259	5	259	1.9	0.485	18.0	LOS B	2.3	16.2	0.37	1.05	0.54	48.2
All Vehicles		1347	46	1347	3.4	0.740	12.2	NA	4.9	34.8	0.37	0.64	0.54	56.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101v [George Bass Dr & Broulee Rd 2022 (summer holiday adjusted) AM with development - RAB Conversion (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: George Bass Dr (S)														
1	L2	27	0	27	0.0	0.375	7.6	LOS A	2.8	20.5	0.65	0.69	0.65	57.3
2	T1	264	21	264	8.0	0.375	8.4	LOS A	2.8	20.5	0.65	0.69	0.65	62.6
3	R2	89	3	89	3.4	0.375	13.9	LOS A	2.8	20.5	0.65	0.69	0.65	59.2
Approach		380	24	380	6.3	0.375	9.6	LOS A	2.8	20.5	0.65	0.69	0.65	61.4
East: Broulee Rd (E)														
4	L2	157	9	157	5.7	0.451	9.4	LOS A	3.7	27.0	0.89	0.89	0.94	54.3
5	T1	98	3	98	3.1	0.451	9.3	LOS A	3.7	27.0	0.89	0.89	0.94	52.3
6	R2	71	3	71	4.2	0.451	14.9	LOS B	3.7	27.0	0.89	0.89	0.94	55.6
Approach		326	15	326	4.6	0.451	10.6	LOS A	3.7	27.0	0.89	0.89	0.94	54.0
North: George Bass Dr (N)														
7	L2	42	5	42	11.9	0.563	8.6	LOS A	5.2	37.5	0.76	0.73	0.77	56.4
8	T1	402	14	402	3.5	0.563	8.8	LOS A	5.2	37.5	0.76	0.73	0.77	63.0
9	R2	148	3	148	2.0	0.563	14.4	LOS A	5.2	37.5	0.76	0.73	0.77	58.6
Approach		592	22	592	3.7	0.563	10.1	LOS A	5.2	37.5	0.76	0.73	0.77	61.3
West: Broulee Rd (W)														
10	L2	276	12	276	4.3	0.538	8.0	LOS A	4.9	35.4	0.82	0.81	0.89	55.7
11	T1	129	5	129	3.9	0.538	8.0	LOS A	4.9	35.4	0.82	0.81	0.89	53.3
12	R2	91	0	91	0.0	0.538	13.4	LOS A	4.9	35.4	0.82	0.81	0.89	57.8
Approach		496	17	496	3.4	0.538	9.0	LOS A	4.9	35.4	0.82	0.81	0.89	55.4
All Vehicles		1794	78	1794	4.3	0.563	9.8	LOS A	5.2	37.5	0.78	0.77	0.81	58.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101v [George Bass Dr & Broulee Rd 2022 (summer holiday adjusted) PM with development - RAB Conversion (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: George Bass Dr (S)														
1	L2	100	5	100	5.0	0.393	8.1	LOS A	2.9	20.8	0.66	0.71	0.66	57.2
2	T1	191	2	191	1.0	0.393	8.4	LOS A	2.9	20.8	0.66	0.71	0.66	64.4
3	R2	110	5	110	4.5	0.393	14.2	LOS A	2.9	20.8	0.66	0.71	0.66	59.1
Approach		401	12	401	3.0	0.393	9.9	LOS A	2.9	20.8	0.66	0.71	0.66	61.0
East: Broulee Rd (E)														
4	L2	80	2	80	2.5	0.271	6.4	LOS A	1.9	13.4	0.67	0.67	0.67	57.1
5	T1	140	5	140	3.6	0.271	6.4	LOS A	1.9	13.4	0.67	0.67	0.67	54.3
6	R2	35	0	35	0.0	0.271	11.9	LOS A	1.9	13.4	0.67	0.67	0.67	58.9
Approach		255	7	255	2.7	0.271	7.2	LOS A	1.9	13.4	0.67	0.67	0.67	55.8
North: George Bass Dr (N)														
7	L2	45	2	45	4.4	0.374	7.0	LOS A	2.8	20.4	0.55	0.65	0.55	57.3
8	T1	214	17	214	7.9	0.374	7.6	LOS A	2.8	20.4	0.55	0.65	0.55	62.7
9	R2	173	3	173	1.7	0.374	13.1	LOS A	2.8	20.4	0.55	0.65	0.55	59.3
Approach		432	22	432	5.1	0.374	9.7	LOS A	2.8	20.4	0.55	0.65	0.55	60.7
West: Broulee Rd (W)														
10	L2	147	2	147	1.4	0.254	5.7	LOS A	1.8	12.6	0.62	0.62	0.62	58.1
11	T1	81	3	81	3.7	0.254	5.8	LOS A	1.8	12.6	0.62	0.62	0.62	54.9
12	R2	31	0	31	0.0	0.254	11.2	LOS A	1.8	12.6	0.62	0.62	0.62	59.7
Approach		259	5	259	1.9	0.254	6.4	LOS A	1.8	12.6	0.62	0.62	0.62	57.2
All Vehicles		1347	46	1347	3.4	0.393	8.7	LOS A	2.9	20.8	0.62	0.67	0.62	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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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 [Broulee Rd & Proposed Main Site Access 2022 (summer holiday adjusted) AM with development (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Broulee Rd (E)														
5	T1	228	0	228	0.0	0.118	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
6	R2	45	0	45	0.0	0.044	8.9	LOS A	0.2	1.2	0.41	0.67	0.41	50.0
Approach		273	0	273	0.0	0.118	1.5	NA	0.2	1.2	0.07	0.11	0.07	85.8
North: Proposed Main Site Access (N)														
7	L2	181	0	181	0.0	0.552	7.5	LOS A	4.0	28.1	0.63	0.95	1.03	46.2
9	R2	181	0	181	0.0	0.552	13.7	LOS A	4.0	28.1	0.63	0.95	1.03	46.1
Approach		362	0	362	0.0	0.552	10.6	LOS A	4.0	28.1	0.63	0.95	1.03	46.2
West: Broulee Rd (W)														
10	L2	45	0	45	0.0	0.024	7.8	LOS A	0.0	0.0	0.00	0.66	0.00	75.3
11	T1	300	0	300	0.0	0.154	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
Approach		345	0	345	0.0	0.154	1.0	NA	0.0	0.0	0.00	0.09	0.00	95.8
All Vehicles		980	0	980	0.0	0.552	4.7	NA	4.0	28.1	0.25	0.41	0.40	67.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Broulee Rd & Proposed Main Site Access 2022 (summer holiday adjusted) PM with development (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Broulee Rd (E)														
5	T1	245	0	245	0.0	0.126	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
6	R2	192	0	192	0.0	0.198	9.4	LOS A	0.8	5.9	0.48	0.74	0.48	49.7
Approach		437	0	437	0.0	0.198	4.1	NA	0.8	5.9	0.21	0.33	0.21	69.2
North: Proposed Main Site Access (N)														
7	L2	48	0	48	0.0	0.162	4.3	LOS A	0.6	4.2	0.46	0.63	0.46	47.9
9	R2	48	0	48	0.0	0.162	11.4	LOS A	0.6	4.2	0.46	0.63	0.46	47.8
Approach		96	0	96	0.0	0.162	7.8	LOS A	0.6	4.2	0.46	0.63	0.46	47.8
West: Broulee Rd (W)														
10	L2	192	0	192	0.0	0.103	7.8	LOS A	0.0	0.0	0.00	0.66	0.00	75.3
11	T1	205	0	205	0.0	0.105	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach		397	0	397	0.0	0.105	3.8	NA	0.0	0.0	0.00	0.32	0.00	86.2
All Vehicles		930	0	930	0.0	0.198	4.4	NA	0.8	5.9	0.15	0.35	0.15	71.9

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.

MOVEMENT SUMMARY

Site: 101 [Broulee Rd & Proposed Secondary Site Access 2022 (summer holiday adjusted) AM with development (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Broulee Rd (E)														
5	T1	386	0	386	0.0	0.198	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
6	R2	23	0	23	0.0	0.021	8.5	LOS A	0.1	0.6	0.36	0.64	0.36	50.2
Approach		409	0	409	0.0	0.198	0.5	NA	0.1	0.6	0.02	0.04	0.02	94.6
North: Proposed Main Site Access (N)														
7	L2	91	0	91	0.0	0.300	5.0	LOS A	1.3	9.3	0.53	0.71	0.59	47.5
9	R2	91	0	91	0.0	0.300	11.9	LOS A	1.3	9.3	0.53	0.71	0.59	47.4
Approach		182	0	182	0.0	0.300	8.4	LOS A	1.3	9.3	0.53	0.71	0.59	47.5
West: Broulee Rd (W)														
10	L2	23	0	23	0.0	0.012	7.8	LOS A	0.0	0.0	0.00	0.66	0.00	75.3
11	T1	254	0	254	0.0	0.130	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
Approach		277	0	277	0.0	0.130	0.7	NA	0.0	0.0	0.00	0.05	0.00	97.3
All Vehicles		868	0	868	0.0	0.300	2.2	NA	1.3	9.3	0.12	0.18	0.13	78.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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 [Broulee Rd & Proposed Secondary Site Access 2022 (summer holiday adjusted) PM with development (Site Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Broulee Rd (E)														
5	T1	197	0	197	0.0	0.102	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
6	R2	96	0	96	0.0	0.109	9.7	LOS A	0.4	3.0	0.49	0.75	0.49	49.4
Approach		293	0	293	0.0	0.109	3.2	NA	0.4	3.0	0.16	0.25	0.16	74.9
North: Proposed Main Site Access (N)														
7	L2	24	0	24	0.0	0.086	5.1	LOS A	0.3	2.1	0.54	0.69	0.54	47.8
9	R2	24	0	24	0.0	0.086	10.9	LOS A	0.3	2.1	0.54	0.69	0.54	47.7
Approach		48	0	48	0.0	0.086	8.0	LOS A	0.3	2.1	0.54	0.69	0.54	47.7
West: Broulee Rd (W)														
10	L2	96	0	96	0.0	0.052	7.8	LOS A	0.0	0.0	0.00	0.66	0.00	75.3
11	T1	373	0	373	0.0	0.191	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
Approach		469	0	469	0.0	0.191	1.6	NA	0.0	0.0	0.00	0.13	0.00	93.6
All Vehicles		810	0	810	0.0	0.191	2.6	NA	0.4	3.0	0.09	0.21	0.09	81.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Princes Hwy & Broulee Rd 2032 (summer holiday adjusted) AM with development - Seagull stage 1 (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hwy (S)														
3	R2	162	12	179	7.4	0.248	8.4	LOS A	1.0	7.7	0.59	0.84	0.61	59.5
Approach		162	12	179	7.4	0.248	8.4	NA	1.0	7.7	0.59	0.84	0.61	59.5
East: Broulee Rd (E)														
4	L2	246	7	272	2.8	0.258	9.9	LOS A	1.1	8.0	0.50	0.76	0.50	70.5
5	T1	239	1	264	0.4	0.545	18.0	LOS B	3.5	24.8	0.77	1.02	1.28	61.4
Approach		485	8	536	1.6	0.545	13.9	LOS A	3.5	24.8	0.64	0.89	0.88	65.7
North: Princes Hwy (N)														
7	L2	128	2	141	1.6	0.077	7.9	LOS A	0.0	0.0	0.00	0.66	0.00	73.9
8	T1	384	23	424	6.0	0.226	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
Approach		512	25	566	4.9	0.226	2.0	NA	0.0	0.0	0.00	0.16	0.00	91.8
All Vehicles		1159	45	1280	3.9	0.545	7.9	NA	3.5	24.8	0.35	0.56	0.45	75.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Princes Hwy & Broulee Rd 2032 (summer holiday adjusted) AM with development - Seagull stage 2 (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hwy (S)														
2	T1	504	18	557	3.6	0.292	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
Approach		504	18	557	3.6	0.292	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.8
SouthEast: Median storage														
23a	R1	239	1	264	0.4	0.501	9.3	LOS A	3.0	21.2	0.72	1.05	1.11	50.6
Approach		239	1	264	0.4	0.501	9.3	LOS A	3.0	21.2	0.72	1.05	1.11	50.6
All Vehicles		743	19	821	2.6	0.501	3.0	NA	3.0	21.2	0.23	0.34	0.36	83.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Princes Hwy & Broulee Rd 2032 (summer holiday adjusted) PM with development - Seagull stage 1 (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hwy (S)														
3	R2	249	2	275	0.8	0.609	17.5	LOS B	3.5	24.9	0.85	1.06	1.48	49.6
Approach		249	2	275	0.8	0.609	17.5	NA	3.5	24.9	0.85	1.06	1.48	49.6
East: Broulee Rd (E)														
4	L2	107	6	118	5.6	0.159	11.6	LOS A	0.6	4.3	0.58	0.86	0.58	67.6
5	T1	93	5	103	5.4	0.455	29.8	LOS C	2.0	14.5	0.89	1.02	1.22	50.5
Approach		200	11	221	5.5	0.455	20.1	LOS B	2.0	14.5	0.73	0.93	0.88	58.4
North: Princes Hwy (N)														
7	L2	227	1	251	0.4	0.135	7.9	LOS A	0.0	0.0	0.00	0.66	0.00	74.3
8	T1	603	27	666	4.5	0.352	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
Approach		830	28	917	3.4	0.352	2.2	NA	0.0	0.0	0.00	0.18	0.00	91.2
All Vehicles		1279	41	1413	3.2	0.609	7.9	NA	3.5	24.9	0.28	0.47	0.43	75.9

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.

MOVEMENT SUMMARY

Site: 101 [Princes Hwy & Broulee Rd 2032 (summer holiday adjusted) PM with development - Seagull stage 2 (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hwy (S)														
2	T1	539	20	595	3.7	0.313	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
Approach		539	20	595	3.7	0.313	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.8
SouthEast: Median storage														
23a	R1	93	5	103	5.4	0.221	7.2	LOS A	0.9	6.4	0.66	0.71	0.69	51.7
Approach		93	5	103	5.4	0.221	7.2	LOS A	0.9	6.4	0.66	0.71	0.69	51.7
All Vehicles		632	25	698	4.0	0.313	1.1	NA	0.9	6.4	0.10	0.10	0.10	92.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101v [George Bass Dr & Broulee Rd 2032 (summer holiday adjusted) AM with development - RAB Conversion (Site Folder: General)]

New Site
Site Category: (None)
Roundabout
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: George Bass Dr (S)														
1	L2	27	0	30	0.0	0.429	8.0	LOS A	3.3	24.4	0.70	0.72	0.70	57.0
2	T1	264	21	292	8.0	0.429	8.8	LOS A	3.3	24.4	0.70	0.72	0.70	62.3
3	R2	89	3	98	3.4	0.429	14.3	LOS A	3.3	24.4	0.70	0.72	0.70	58.8
Approach		380	24	420	6.3	0.429	10.0	LOS A	3.3	24.4	0.70	0.72	0.70	61.0
East: Broulee Rd (E)														
4	L2	157	9	173	5.7	0.549	12.4	LOS A	5.4	39.3	0.97	1.02	1.17	52.0
5	T1	98	3	108	3.1	0.549	12.3	LOS A	5.4	39.3	0.97	1.02	1.17	50.2
6	R2	71	3	78	4.2	0.549	18.0	LOS B	5.4	39.3	0.97	1.02	1.17	53.2
Approach		326	15	360	4.6	0.549	13.6	LOS A	5.4	39.3	0.97	1.02	1.17	51.7
North: George Bass Dr (N)														
7	L2	42	5	46	11.9	0.644	10.4	LOS A	7.4	53.2	0.85	0.81	0.96	55.6
8	T1	402	14	444	3.5	0.644	10.5	LOS A	7.4	53.2	0.85	0.81	0.96	62.1
9	R2	148	3	163	2.0	0.644	16.1	LOS B	7.4	53.2	0.85	0.81	0.96	57.8
Approach		592	22	654	3.7	0.644	11.9	LOS A	7.4	53.2	0.85	0.81	0.96	60.4
West: Broulee Rd (W)														
10	L2	276	12	305	4.3	0.625	10.2	LOS A	6.9	49.7	0.90	0.93	1.09	54.0
11	T1	129	5	142	3.9	0.625	10.2	LOS A	6.9	49.7	0.90	0.93	1.09	51.8
12	R2	91	0	101	0.0	0.625	15.6	LOS B	6.9	49.7	0.90	0.93	1.09	56.0
Approach		496	17	548	3.4	0.625	11.2	LOS A	6.9	49.7	0.90	0.93	1.09	53.8
All Vehicles		1794	78	1982	4.3	0.644	11.6	LOS A	7.4	53.2	0.86	0.86	0.98	56.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101v [George Bass Dr & Broulee Rd 2032 (summer holiday adjusted) PM with development - RAB Conversion (Site Folder: General)]

New Site
Site Category: (None)
Roundabout
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: George Bass Dr (S)														
1	L2	100	5	110	5.0	0.449	8.5	LOS A	3.5	24.8	0.72	0.74	0.72	56.9
2	T1	191	2	211	1.0	0.449	8.9	LOS A	3.5	24.8	0.72	0.74	0.72	64.0
3	R2	110	5	122	4.5	0.449	14.7	LOS B	3.5	24.8	0.72	0.74	0.72	58.8
Approach		401	12	443	3.0	0.449	10.4	LOS A	3.5	24.8	0.72	0.74	0.72	60.6
East: Broulee Rd (E)														
4	L2	80	2	88	2.5	0.313	6.8	LOS A	2.3	16.2	0.73	0.72	0.73	56.8
5	T1	140	5	155	3.6	0.313	6.9	LOS A	2.3	16.2	0.73	0.72	0.73	54.1
6	R2	35	0	39	0.0	0.313	12.3	LOS A	2.3	16.2	0.73	0.72	0.73	58.6
Approach		255	7	282	2.7	0.313	7.6	LOS A	2.3	16.2	0.73	0.72	0.73	55.5
North: George Bass Dr (N)														
7	L2	45	2	50	4.4	0.423	7.3	LOS A	3.3	24.1	0.60	0.67	0.60	57.0
8	T1	214	17	236	7.9	0.423	7.9	LOS A	3.3	24.1	0.60	0.67	0.60	62.4
9	R2	173	3	191	1.7	0.423	13.4	LOS A	3.3	24.1	0.60	0.67	0.60	59.0
Approach		432	22	477	5.1	0.423	10.0	LOS A	3.3	24.1	0.60	0.67	0.60	60.4
West: Broulee Rd (W)														
10	L2	147	2	162	1.4	0.291	6.0	LOS A	2.1	15.0	0.66	0.66	0.66	57.8
11	T1	81	3	89	3.7	0.291	6.1	LOS A	2.1	15.0	0.66	0.66	0.66	54.7
12	R2	31	0	34	0.0	0.291	11.5	LOS A	2.1	15.0	0.66	0.66	0.66	59.4
Approach		259	5	286	1.9	0.291	6.7	LOS A	2.1	15.0	0.66	0.66	0.66	57.0
All Vehicles		1347	46	1488	3.4	0.449	9.0	LOS A	3.5	24.8	0.67	0.70	0.67	58.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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 [Broulee Rd & Proposed Main Site Access 2032 (summer holiday adjusted) AM with development (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Broulee Rd (E)														
5	T1	228	0	252	0.0	0.130	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
6	R2	45	0	50	0.0	0.051	9.1	LOS A	0.2	1.4	0.43	0.69	0.43	49.9
Approach		273	0	302	0.0	0.130	1.5	NA	0.2	1.4	0.07	0.11	0.07	85.8
North: Proposed Main Site Access (N)														
7	L2	181	0	200	0.0	0.659	9.5	LOS A	5.6	39.5	0.70	1.14	1.38	44.6
9	R2	181	0	200	0.0	0.659	17.2	LOS B	5.6	39.5	0.70	1.14	1.38	44.5
Approach		362	0	400	0.0	0.659	13.4	LOS A	5.6	39.5	0.70	1.14	1.38	44.6
West: Broulee Rd (W)														
10	L2	45	0	50	0.0	0.027	7.8	LOS A	0.0	0.0	0.00	0.66	0.00	75.3
11	T1	300	0	331	0.0	0.170	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
Approach		345	0	381	0.0	0.170	1.0	NA	0.0	0.0	0.00	0.09	0.00	95.8
All Vehicles		980	0	1083	0.0	0.659	5.7	NA	5.6	39.5	0.28	0.48	0.53	65.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Broulee Rd & Proposed Main Site Access 2032 (summer holiday adjusted) PM with development (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Broulee Rd (E)														
5	T1	245	0	271	0.0	0.140	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
6	R2	192	0	212	0.0	0.229	9.7	LOS A	1.0	6.9	0.51	0.77	0.51	49.5
Approach		437	0	483	0.0	0.229	4.3	NA	1.0	6.9	0.22	0.34	0.22	69.0
North: Proposed Main Site Access (N)														
7	L2	48	0	53	0.0	0.197	4.4	LOS A	0.7	5.1	0.50	0.65	0.50	47.3
9	R2	48	0	53	0.0	0.197	13.0	LOS A	0.7	5.1	0.50	0.65	0.50	47.3
Approach		96	0	106	0.0	0.197	8.7	LOS A	0.7	5.1	0.50	0.65	0.50	47.3
West: Broulee Rd (W)														
10	L2	192	0	212	0.0	0.114	7.8	LOS A	0.0	0.0	0.00	0.66	0.00	75.3
11	T1	205	0	226	0.0	0.116	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
Approach		397	0	439	0.0	0.116	3.8	NA	0.0	0.0	0.00	0.32	0.00	86.2
All Vehicles		930	0	1027	0.0	0.229	4.5	NA	1.0	6.9	0.16	0.36	0.16	71.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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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 [Broulee Rd & Proposed Secondary Site Access 2032 (summer holiday adjusted) AM with development (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Broulee Rd (E)														
5	T1	386	0	426	0.0	0.219	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
6	R2	23	0	23	0.0	0.022	8.6	LOS A	0.1	0.6	0.37	0.65	0.37	50.1
Approach		409	0	449	0.0	0.219	0.5	NA	0.1	0.6	0.02	0.03	0.02	95.1
North: Proposed Main Site Access (N)														
7	L2	91	0	91	0.0	0.328	5.5	LOS A	1.5	10.5	0.56	0.76	0.68	46.8
9	R2	91	0	91	0.0	0.328	13.7	LOS A	1.5	10.5	0.56	0.76	0.68	46.7
Approach		182	0	182	0.0	0.328	9.6	LOS A	1.5	10.5	0.56	0.76	0.68	46.8
West: Broulee Rd (W)														
10	L2	23	0	23	0.0	0.012	7.8	LOS A	0.0	0.0	0.00	0.66	0.00	75.3
11	T1	254	0	281	0.0	0.144	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
Approach		277	0	304	0.0	0.144	0.6	NA	0.0	0.0	0.00	0.05	0.00	97.5
All Vehicles		868	0	935	0.0	0.328	2.3	NA	1.5	10.5	0.12	0.18	0.14	79.6

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

Site: 101 [Broulee Rd & Proposed Secondary Site Access 2032 (summer holiday adjusted) PM with development (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Broulee Rd (E)														
5	T1	197	0	218	0.0	0.112	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
6	R2	96	0	96	0.0	0.115	10.0	LOS A	0.4	3.1	0.51	0.77	0.51	49.2
Approach		293	0	314	0.0	0.115	3.1	NA	0.4	3.1	0.16	0.24	0.16	76.0
North: Proposed Main Site Access (N)														
7	L2	24	0	24	0.0	0.093	5.4	LOS A	0.3	2.3	0.56	0.71	0.56	47.3
9	R2	24	0	24	0.0	0.093	12.0	LOS A	0.3	2.3	0.56	0.71	0.56	47.2
Approach		48	0	48	0.0	0.093	8.7	LOS A	0.3	2.3	0.56	0.71	0.56	47.3
West: Broulee Rd (W)														
10	L2	96	0	96	0.0	0.052	7.8	LOS A	0.0	0.0	0.00	0.66	0.00	75.3
11	T1	373	0	412	0.0	0.211	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
Approach		469	0	508	0.0	0.211	1.5	NA	0.0	0.0	0.00	0.12	0.00	94.1
All Vehicles		810	0	870	0.0	0.211	2.5	NA	0.4	3.1	0.09	0.20	0.09	82.5

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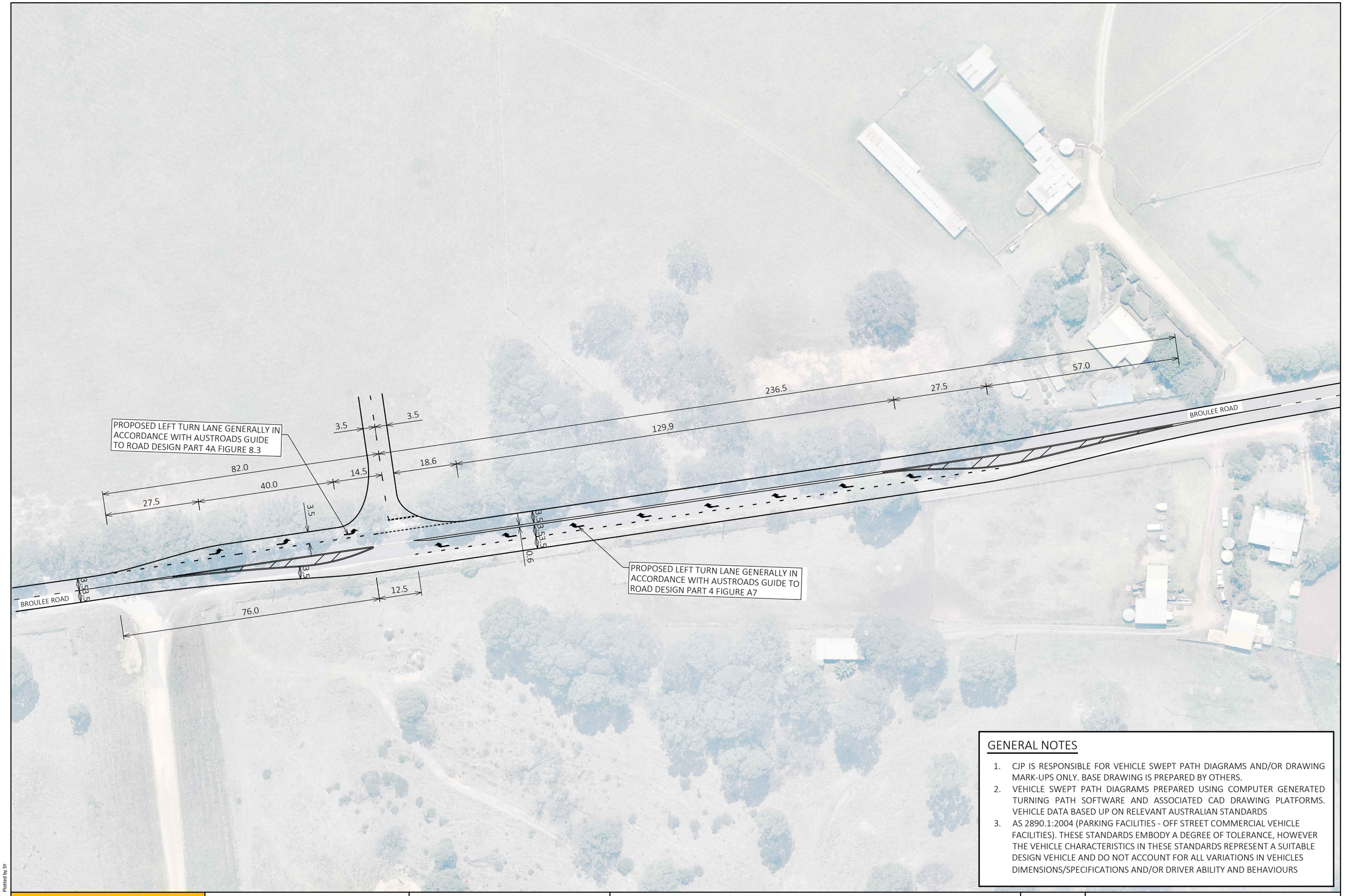
Appendix E

Concept Roundabout & Site Access Driveway Designs



GENERAL NOTES

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Plotted by SY

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PRELIMINARY PLAN
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WARNING
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207 BROULEE ROAD, BROULEE
BROULEE ROAD AND SECONDARY ACCESS ROAD INTERSECTION
PROPOSED CONCEPT LAYOUT

N

SCALE 0 10.0 20.0 1:1000 @ A3

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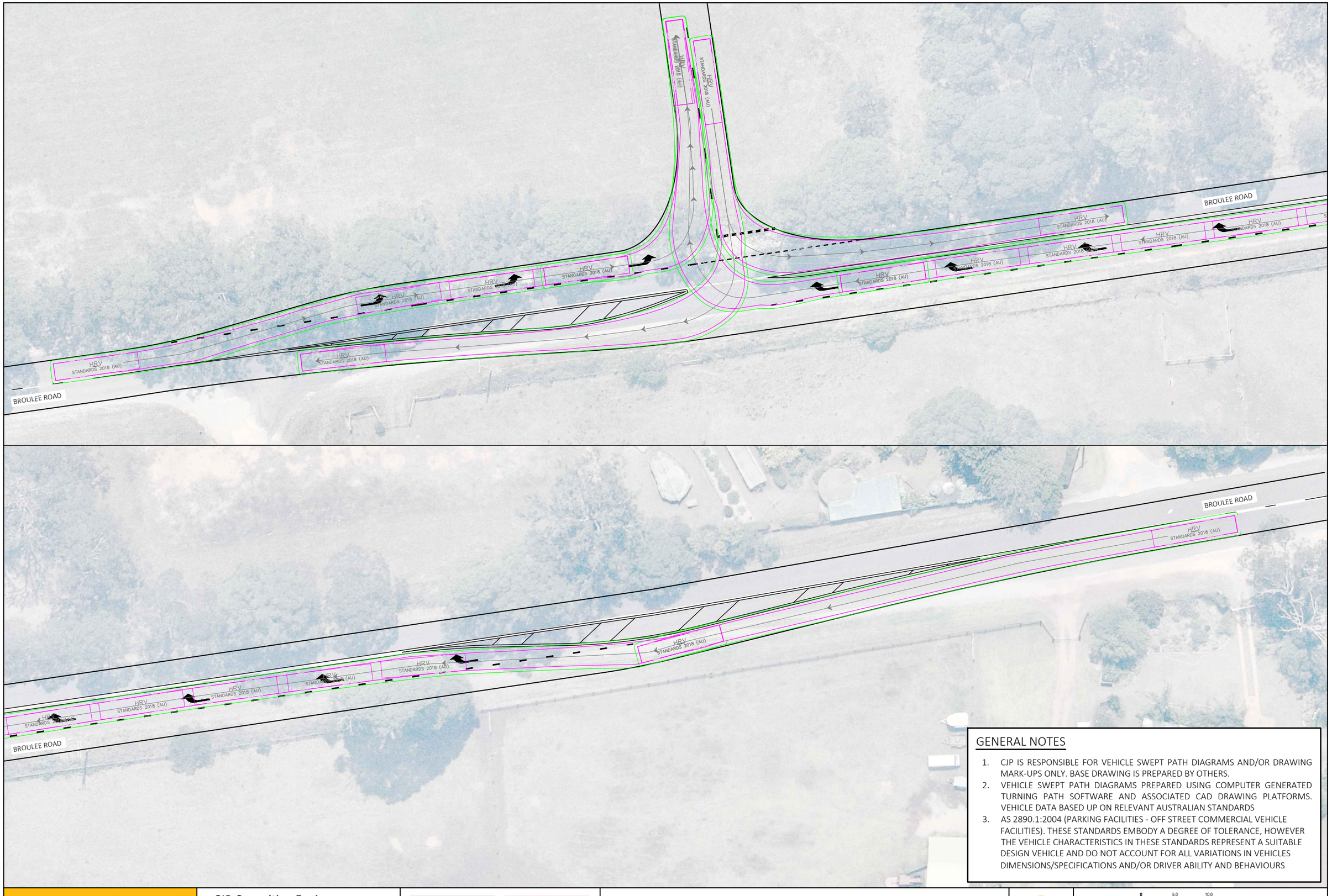

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BROULEE ROAD AND SECONDARY ACCESS ROAD INTERSECTION SWEPT PATH ASSESSMENT

N

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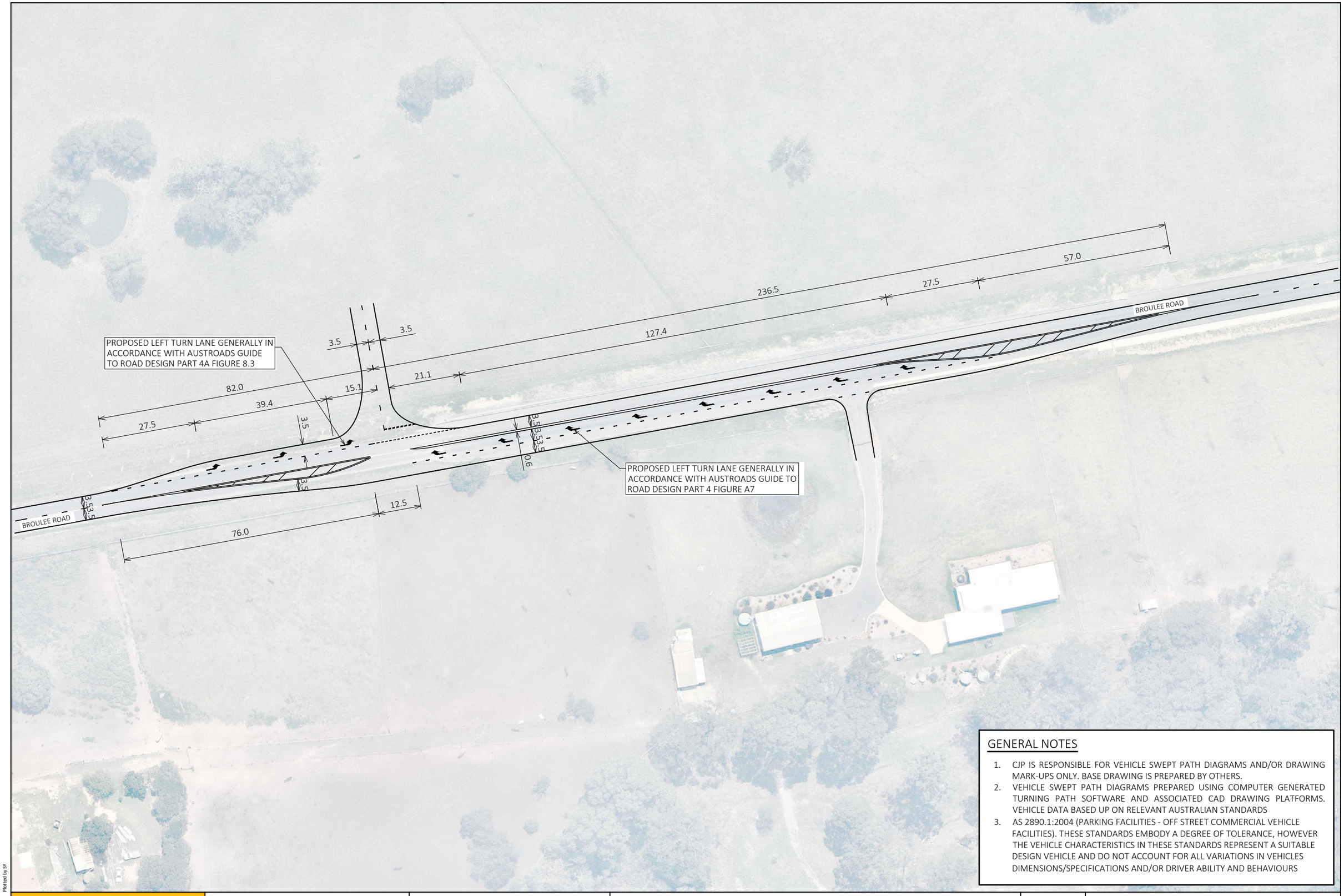

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BROULEE ROAD AND MAIN ACCESS ROAD INTERSECTION
PROPOSED CONCEPT LAYOUT

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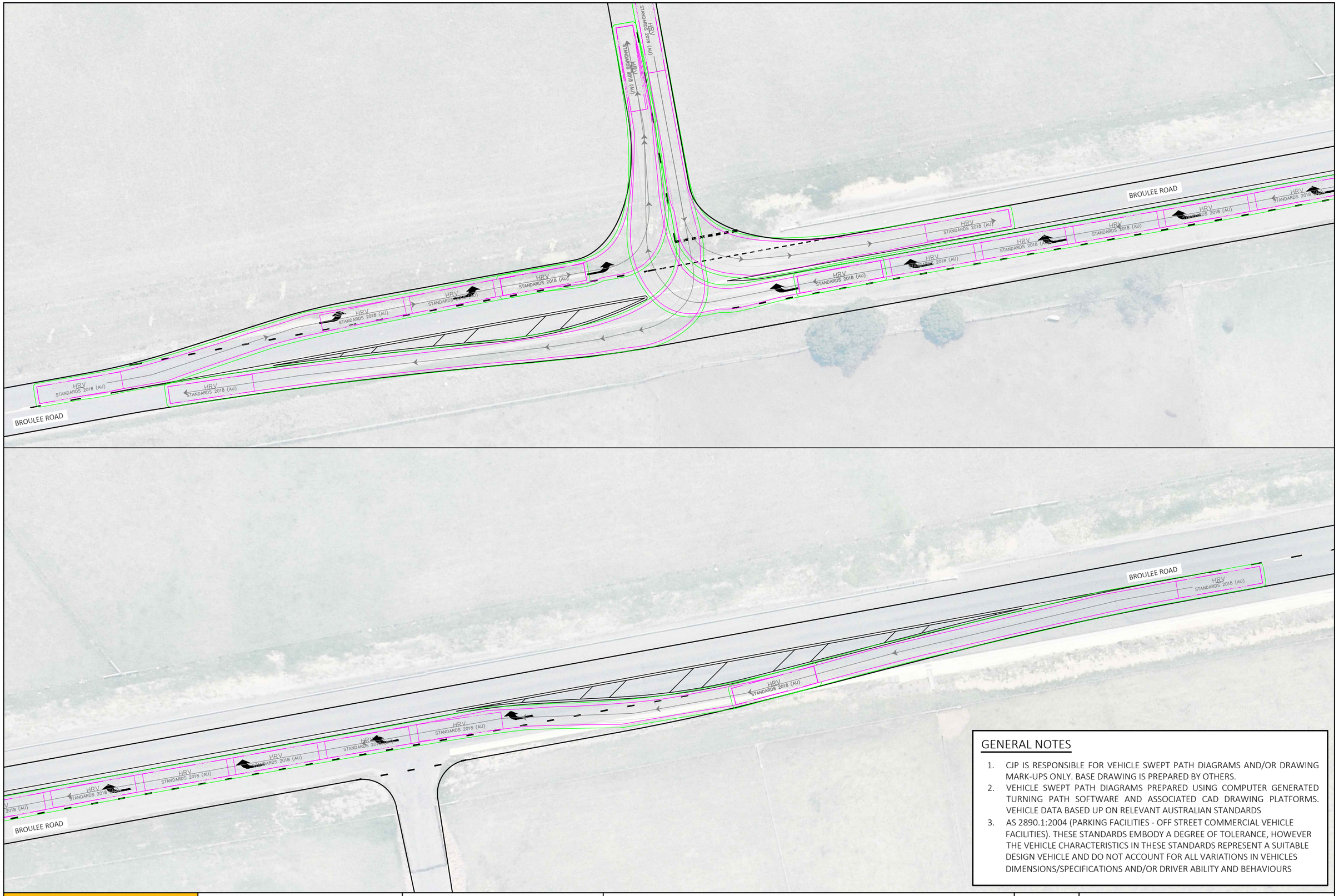

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BROULEE ROAD AND MAIN ACCESS ROAD INTERSECTION
SWEPT PATH ASSESSMENT

N

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PROPOSED FEATURES

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PROPOSED 3.5m TRAVEL LAND AND 1.5m PAVED SHOULDER

PROPOSED 14m RADIUS ROUNDABOUT CENTRAL ISLAND GENERALLY IN ACCORDANCE WITH AUSTROADS GUIDE TO ROAD DESIGN PART 4B TABLE 4.1, BASED ON DESIGN SPEED OF 80km/h

PROPOSED 6.7m SINGLE CARRIAGEWAY AND 1.7m MOUNTABLE CENTRAL ISLAND AREA GENERALLY IN ACCORDANCE WITH AUSTROADS GUIDE TO ROAD DESIGN PART 4B TABLE 4.3, BASED ON HRV AS DESIGN VEHICLE AND 19m AV AS CHECKING VEHICLE

GEORGE BASS DRIVE

BROULEE ROAD

Plotted by SY

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207 BROULEE ROAD, BROULEE
BROULEE ROAD AND GEORGE BASS DRIVE ROUNDABOUT
PROPOSED CONCEPT LAYOUT

N

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PROPOSED FEATURES

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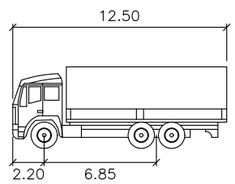
GEORGE BASS DRIVE

BROULEE ROAD

HRV STANDARDS 2018 (AU)



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.7

SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

Plotted by SY

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BROULEE ROAD AND GEORGE BASS DRIVE ROUNDABOUT
SWEPT PATH ASSESSMENT

N

SCALE 0 5.0 10.0 1:500 @ A3

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LEGEND:

EXISTING FEATURES

PROPOSED FEATURES

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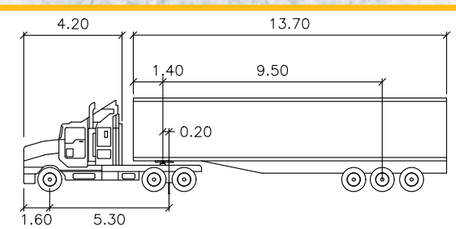
GEORGE BASS DRIVE

BROULEE ROAD

PM S 19M AUSTROADS 2013 (AU)



PM S 19M

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

Plotted by SY

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SWEPT PATH ASSESSMENT

N

SCALE 0 5.0 10.0 1:500 @ A3

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