
Access and Internal Layout

- 3.6 Vehicular access is proposed to be provided from George Evans Road, which would be realigned and extended north. The realigned part of George Evans Road will commence just south of the site. A new roundabout is proposed to be provided in this location, near the entrance to the proposed subdivision.
- 3.7 It is proposed that the new roundabout also provide access to the university to the west and other properties to the north west. To the east, the proposed roundabout could provide access to the future school site, as well as to West Nowra.
- 3.8 With traffic from the proposed residential development, the proposed new roundabout would operate with average delays of less than 15 seconds per vehicle during peak periods. This represents level of service A/B, a good level of service.
- 3.9 Internal circulation roads within the proposed residential subdivision will be designed in accordance with the principles in Council's Subdivision Code (DCP 100). The collector road through the subdivision will have a 20 metre reserve, with a nine metre carriageway (to accommodate buses) and 5.5 metre verges on both sides. Local streets (as identified in the subdivision code) will be provided with 18 metre reserves, 4.5 metre verges and nine metre carriageways. Access streets will have 16 metre reserves with four metre verges and eight metre carriageways. Access places will have 13 metre reserves with four metre verges on both sides.
- 3.10 Roundabouts are proposed at a number of the four-way junctions within the site. Other intersections would be priority controlled.
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- 3.11 The principles in the subdivision code have been developed from AMCORDER. Within residential precincts, the subdivision code/AMCORDER distinguishes two levels of streets, local streets and collector streets.
- 3.12 On local streets the residential environment dominates. Traffic speeds and volumes are low and pedestrian/cycle movements encouraged. Vehicle speeds should, as far as possible, be controlled by street length, parked cars, landscaping design, built form and activity along the frontage. Bicycles are generally provided for on-street.
- 3.13 Collector streets collect traffic from access streets and generally carry higher traffic flows. A good level of residential amenity and safety is maintained by restricting traffic volumes and vehicle speeds. Vehicle speeds on collector streets should be controlled by street alignment, parked cars, street length, intersection design and built form.
- 3.14 The adoption of the subdivision code/AMCORDER guidelines provides an appropriate framework for the promotion of alternative travel modes to the private car, in particular, improved pedestrian and cyclist facilities.

Traffic Generation and Effects

- 3.15 Traffic generated by the proposed development will have its greatest effects during the morning and afternoon peak periods. Surveys undertaken by the RTA indicate that residential subdivisions generate 0.85 vehicles per hour per lot two-way during peak hours. Council's subdivision code indicates a traffic generation of 10 vehicles per day two-way which is equivalent to one vehicle per hour during peak hours and is higher than the RTA's rate. We have adopted Council's rate in assessing the traffic effects of the proposed development.
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- 3.16 A number of the lots in the subdivision would have the potential to accommodate medium density development (21 lots with 45 dwellings) or dual occupancies (seven lots with 14 dwellings). The RTA guidelines indicate a traffic generation rate of 0.4 to 0.65 vehicles per hour per dwelling (two-way) at peak times for medium density development.
- 3.17 The proposed development will therefore generate some 310 to 330 vehicles per hour two-way during the morning and afternoon peak periods.
- 3.18 During the morning peak hour, some 70 per cent of residential traffic would be outbound. The reverse would apply in the afternoon.
- 3.19 The additional traffic has been assigned to the existing road network. Existing traffic flows plus the additional traffic from the proposed development are shown in Figures 3 and 4. A summary is provided in Table 3.1.

Table 3.1: Existing two-way peak hour traffic flows plus development traffic					
Road	Location	AM peak hour		PM peak hour	
		Existing	Plus development	Existing	Plus development
Albatross Road	North of Yalwal Road	1,050	+245	1,130	+245
	South of Yalwal Road	595	+45	710	+45
Yalwal Road	West of Albatross Road	605	+290	630	+290
	East of George Evans Road	275	+290	280	+290
	West of George Evans Road	175	+15	155	+15
George Evans Road	North of Yalwal Road	120	+305	145	+305
	North of university access	15	+330	15	+330
University access	West of George Evans Road	105	+25	130	+25

- 3.20 Table 3.1 shows that traffic increases on Albatross Road (north of Yalwal Road), Yalwal Road (east of George Evans Road) and George Evans Road would be some 245 to 330 vehicles per hour two-way during peak hours. Increases on Albatross Road (south of Yalwal Road), Yalwal Road (west of George Evans Road) and the university access would be lower at less than 50 vehicles per hour two-way.
- 3.21 With the exception of the collector road, roads within the subdivision would generally carry traffic flows less than 100 vehicles per hour two-way. This level of traffic would not be unexpected for these roads.
- 3.22 The intersections previously analysed in Chapter 2 have been reanalysed with SIDRA for the additional development traffic flows shown in Figures 3 and 4. The analysis found that the unsignalised intersections of Yalwal Road with Albatross Road and George Evans Road, and the roundabout controlled intersection of George Evans Road with the university access, would operate with average delays for all movements of less than 20 seconds per vehicle during morning and afternoon peak periods. This represents level of service B, a reasonable or better level of service.
- 3.23 Therefore, the existing road network will be able to cater for the additional traffic from the proposed development.
- 3.24 We have also considered 10 year future traffic flows as requested by the Department of Planning. We have assessed a 10 year growth scenario for traffic flows at the intersection of Albatross Road and Yalwal Road. The analysis we have undertaken is considered conservative because the proposed development would be a proportion of the growth over the next 10 years. Nevertheless, we have increased traffic at this intersection by two per cent compound for 10 years and added the proposed development traffic on top of this growth.
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- 3.25 We have also considered holiday traffic as requested by DoP. Based on traffic counts commissioned by ourselves on Princes Highway south of Nowra over a four week period (including the Easter long weekend), two-way traffic flows during weekday afternoon peak hours are up to some 30 per cent higher than non-holiday periods. During morning peak hours, holiday flows are lower than non-holiday periods and therefore we have not considered this scenario further.
- 3.26 Existing peak hour traffic flows plus 10 years growth plus development traffic at the intersection of Albatross Road and Yalwal Road are shown in Figures 6 and 7 for the morning and afternoon peak hours respectively. Existing afternoon peak hour traffic flows increased by 30 per cent (to reflect afternoon peak hours during holiday periods), plus development traffic, are shown in Figure 8.
- 3.27 The intersection of Albatross Road with Yalwal Road has been re-analysed with SIDRA for the traffic flows shown in Figures 6 to 8. The analysis found that with future traffic growth, the intersection would benefit from the provision of separate left and right turn lanes marked from Yalwal Road into Albatross Road.
- 3.28 With this treatment, the analysis found that with future 10 year flows and the additional development traffic (Figures 6 and 7), the intersection of Albatross Road with Yalwal Road would operate with average delays of less than 25 seconds per vehicle during morning and afternoon peak periods. This represents levels of service B, a reasonable level of service.
- 3.29 With holiday traffic volumes and the additional development traffic (Figure 8), the intersection of Albatross Road with Yalwal Road would operate with average delays of some 28 seconds per vehicle or less during afternoon peak periods. This represents levels of service B, a reasonable level of service.
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