PRIVATE ROAD TO 120 MONA VALE ROAD; WARRIEWOOD

Traffic Report

For:
ROY MUSTACA

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TABLE OF CONTENTS

Chapter 1

INTRODUCTION

TAR Technologies Pty Ltd (TAR) has been commissioned by Roy Mustaca to assess the layout of a proposed private road to provide alternative access to 120 Mona Vale Road, Warriewood.

Access to 120 Mona Vale Road, Warriewood land is currently available via an existing roadway which also services Treetops Preschool, Pittwater Uniting Church and a sport and recreational centre. This study examines a proposal to provide an alternative access road around the church to the subject site.

The assessment has considered the potential traffic generation of 120 Mona Vale Road which is currently vacant.

The traffic report has been prepared with reference to generations contained within the Roads and Traffic Authority's (RTA) *Guide to Traffic Generating Developments*.

Chapter 2

SITE LOCATION

The site is triangular in shape and bounded to the north by Mona Vale Road, to the east by Boundary Street and to the west by Narrabeen Creek bushland. The site area is comprised of approximately 11.33 hectares and falls steeply to the east toward Boundary Street. Boundary Street is currently closed at Mona Vale Road with vehicular access to the property is currently available from Jubilee Avenue and then Jubilee Lane which is a common access lane way also used by Pittwater Uniting Church.

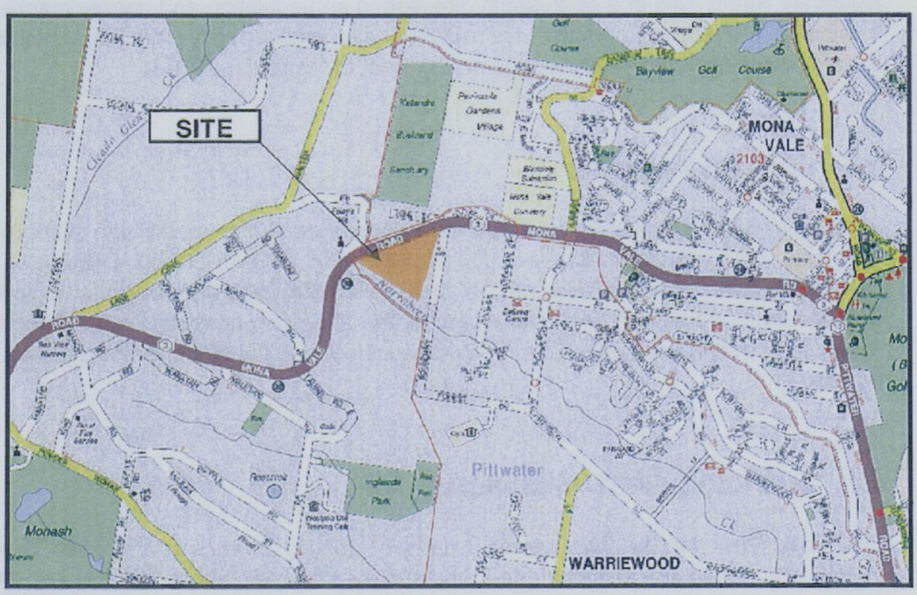

Figure 2.1 Site location

The site in relation to the surrounding area is shown in *Figure 2.1*. The site is approximately 500 metres from Mona Vale Road which provides a major link to the city and westwards to Parramatta. Jubilee Avenue itself connects to Ponderosa Parade linking Mona Vale Road and Pittwater Road via Vineyard Street and MacPherson Street.

Chapter 3

PRIVATE ROAD PROPOSAL

A new private road is proposed from Jubilee Lane, at Jubilee Avenue extending west for 200 metres until it meets Boundary Road. The proposed road would have a 17 metre road reserve with a pavement measuring 9 metres wide.

Jubilee Lane, which connects to Boundary Street, is a six metre wide road that services the Pittwater Uniting Church, a preschool and a sport and recreation centre.

Boundary Street runs in a north-south direction in an undulating and narrow manner. It will meet the proposed private road at right angles and currently provides access to a single dwelling to the south. It does not connect to Mona Vale Road.

3.1 EXISTING TRAFFIC

Intersection turning movement surveys were undertaken at the intersection of Jubilee Lane and Jubilee Avenue between 8:00 - 9:30am and 2:30 - 5:30pm on Thursday 1 December 2005. Survey results indicate that the highest peak hour volumes occur in the mornings between 8:15 - 9:15am and in the afternoon between 3:00 - 4:00pm. These time periods are referred to in the assessment as the AM and PM peak hour periods.

3.2 MID BLOCK PERFORMANCE

Mid block flows for the four approach legs of Jubilee Avenue and Jubilee Lane intersection have been calculated from the survey data collected for the AM and PM peak hour periods.

The existing mid block performance of the Jubilee Avenue and Jubilee Lane traffic routes on the direct approach to the development site, have been assessed by comparing existing traffic volumes with the environmental capacity of the road carriageway. Environmental capacity (EC) has been adopted by both the RTA (1993) and DUAP (1992) for density and land use planning on minor roads. It is not related to the physical capacity of the road network, but is a measure of the volume of traffic that a local or collector road can carry before residential amenity and pedestrian safety start to be significantly reduced.

The EC of a street is a function of its road geometry, speed, frontage land use, road surface, and building setbacks. The RTA provides general guidelines for appropriate traffic volumes (Guide to Traffic Generating Developments, 1993), and these are widely used in the analysis of traffic impacts. More specific values of EC can be determined when the individual characteristics of a road are known. The parameters to calculate environmental capacity are listed in the RTA's Guide to Traffic Generating Developments under:

- Traffic characteristics
- Road characteristics
- Locality characteristics

The work of Song (1993) can be used to assess the environmental capacity of an individual road. Song's method considers variations in road width, pedestrian safety and delay, and traffic noise. It incorporates the factors affecting environmental capacity described in the RTA guidelines.

Once the EC of a street has been calculated, it is possible to assess the level of traffic overload which may exist, expressed as an Environmental Deficiency Index (EDI), by consideration of the actual traffic flow on the street. The EDI is the ratio of actual traffic volume to EC.

Where the EDI value is less than 1.0, it may be considered that no environmental detriment due to traffic volume exists. Where the EDI equals or exceeds 1.0, environmental degradation is occurring.

Roads near the site that provide direct access to local properties include Jubilee Avenue and Jubilee Lane. The peak hour flows recorded in December 2005, the environmental capacities and their ratios, are summarised in *Table 3.1*. The results show that the existing volumes are well below the roads' environmental capacities and below the level where community dissatisfaction might to develop.

Chapter 4

IMPACTS OF NEW ROAD

4.1 GENERAL

120 Mona Vale Road is triangular in shape covering approximately 11.33 hectares. Vehicular access to the property is currently only available from Jubilee Lane. At present the site is zoned Non-Urban 1(a) under the Pittwater Local Environmental Plan 1993.

Assuming 104 single dwelling allotments could be accommodated on this land, a proposed private road has been designed to accommodate potential traffic generations. This road would prevent future traffic to 120 Mona Vale Road interfering with traffic movements and other activities in Jubilee Lane as it will be exclusively for residential vehicles. Jubilee Lane would remain clear for other traffic.

As seen in the detailed site plan in Appendix A, the proposed road will join Jubilee Lane near Jubilee Avenue on the easterly side, and run approximately 233 metres west connecting with 2 Boundary Street. It is envisaged that the proposed road would be controlled by a STOP or Give WAY sign.

4.2 TRIP GENERATION AND DISTRIBUTION

Based on the RTA Guide to Traffic Generating Developments (1993) the potential traffic generation of the proposed development at 120 Mona Vale Road is estimated at 89 trips per weekday peak hour, based on 0.85 trips per dwelling for 104 lots.

Traffic generation associated with the rezoning to allow 104 lots is based on the assumption that one hundred percent of trips leaving the site in the morning would travel along the proposed road to Jubilee Avenue in an easterly direction and one hundred percent of trips in the afternoon would travel in a westerly direction.

There may be occasions where a small proportion of trips would travel against the peak direction however, for the purposes of the assessment, the worst case scenario has been assumed, i.e. one hundred percent.

It is expected that traffic leaving and entering the site would generally occur in the morning peak of 7:00 - 8:00am to allow commuters sufficient time to arrive at their

destination before 9:00am. Similarly the afternoon arrival time to the site would occur between 6:00 - 7:00pm.

Consequently these times are generally outside the operating hours of the preschool (open from 9:00am - 3:00pm, Monday – Friday), and the activities of the sport and recreation centre and the church.

The addition of the proposed private road will separate any of the new traffic to the site, thereby maintaining the existing road environment.

4.3 IMPACTS OF THE DEVELOPMENT ON THE EXISTING ROAD NETWORK

To assess the environmental capacity of the nearby local street network, the additional traffic generated by the site has been added to the existing traffic volumes. The results of the assessment are contained in *Table 4.1*

Table 4.1 ENVIRONMENTAL CAPACITY - FUTURE SITUATION

Street	Peak traffic flow (vehicles per hour)	Environmental capacity (vehicles per hour)	EC ratio
Jubilee Avenue (west)	372	409	0.91
Jubilee Avenue (east)	309	367	0.84
Jubilee Lane	103	320	0.32
Proposed road	89	223	0.40

The table indicates additional traffic from the proposed redevelopment of the site would not be detrimental to road safety and amenity in Jubilee Avenue or the proposed road. The forecast volumes remain below the environmental capacity of the roads.

4.4 INTERSECTION PERFORMANCE

To assess the future operation of the proposed road and Jubilee Avenue/Jubilee Lane/proposed road, the SIDRA model has been rerun incorporating the additional traffic generated by the development. The results of the analysis are contained in *Table 4.2*

Table 4.2 JUBILEE AVENUE/JUBILEE LANE/PROPOSED ROAD - FUTURE SITUATION

Approach	AM		PM	
	Average delay (sec/veh)	LOS	Average delay (sec/veh)	LOS
Jubilee Avenue (east)	8.7	A	5.9	A
Jubilee Lane	7.9	A	8.2	A
Proposed road	7.2	A	9.2	A
Jubilee Avenue (south)	10.0	A	10.5	A

Chapter 5

CONCLUSIONS

This traffic study assessed the impacts of providing a new private road servicing 120 Mona Vale Road. The assessment was carried out in accordance with generations contained within the RTA's Guide to Traffic Generating Developments. The findings of the study are summarised below.

- Jubilee Lane is currently the only road available to access vacant land at 120 Mona Vale Road. It also provides access to a Church, preschool and a single dwelling.

- The proposal includes the construction of a private road used exclusively by future residents of 120 Mona Vale Road. The road will allow residents' vehicles to drive to Boundary Road without needing to access Jubilee Lane.

- For the purposes of assessing the adequacy of the proposed road, it was assumed that the site area could accommodate a minimum of 104 single dwellings which would generate 89 trips per hour during the morning and afternoon commuter peak periods.

- The impact of this traffic on the proposed junction of the new road and Jubilee Lane has been assessed for the AM and PM peak hour periods. The results indicate the additional traffic will have a negligible impact on the existing operation of Jubilee Lane and that the site has the potential to accommodate more than 104 dwellings.

- The proposed road ensures that any development of 120 Mona Vale Road would not impact on Pittwater Uniting Church, Treetops Preschool and other nearby amenities off Jubilee Lane.

- The environmental capacity, which is a measure of road safety and amenity, has been considered in the study for the proposed road, Jubilee Lane and Jubilee Avenue. The results show that future traffic volumes are within the roads' environmental capacity, which is acceptable.

In summary, with the addition of the new road to service the development, there are no significant traffic issues that could preclude the construction of the proposed road.