



Belmont 88 Pty Ltd

# Traffic Impact Assessment Report

Planning Proposal for 2A Maude Street, Belmont

8 January 2020

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# 1 Introduction

This Traffic Impact Assessment report has been prepared on behalf of Belmont 88 Pty Ltd in accordance with the requirements of Lake Macquarie City Council and the Roads and Maritime Services (RMS) 'Guide to Traffic Generating Developments' to accompany a planning proposal for Lot 202 DP 1236307, 2A Maude Street, Belmont.

An additional permitted use is included within Schedule 1 of Lake Macquarie Local Environmental Plan which facilitates seniors living development over adjoining Lot 201 DP 1236307. The planning proposal seeks to amend the Lake Macquarie LEP 2014 to extend the additional permitted use for seniors living development over Lot 202 DP 1236307.

It is also proposed to amend the Maximum Height of Buildings Map from 8.5m to 10m.

Previous proposals for these two sites indicate that they could potentially support development with a maximum yield of a 90-bed aged care facility and 120 - 130 Independent Living Units.

The purpose of this report is to assess and address the traffic and access impacts that would be generated by such development, if proposed in the future. This can be briefly outlined as follows:

- The expected traffic generation to/from the proposed development.
- The traffic impacts of the proposed development on the surrounding road network.

This Assessment concludes that the full development of these two sites will have acceptable impacts on the operation of the Pacific highway and Maude Street with the additional traffic generated by the development. The surrounding road network will thus not require any upgrade works as a result of the proposed development.



## 2 Existing Conditions

### 2.1 Site Location

The subject land is located north of the Belmont town centre, between Maude Street and Glover Street within the Lake Macquarie City Council local government area. The site incorporates Lot 202 DP 1236307 at 2A Maude Street, Belmont.

The area of the subject site is approximately 9,793m<sup>2</sup> and is shown in Figure 2.1 below.



**Figure 2.1:** Site Location (NSW Land & Property Information SIX Maps 2013)

### 2.2 Existing Development

Located on the site is the former Belmont Sporties club which includes a two storey club building, part of one bowling green, car park and associated landscaping. Various small scale business uses are being conducted within the premises at present.

Vehicle and pedestrian access are available via Maude Street, Glover Street and additional access from Sullivan Lane.

### 2.3 Existing Road Network

Pacific Highway

The major arterial route through Belmont is the Pacific Highway, located 160 metres west of the site. The Highway provides the main north / south connection between Gosford and Newcastle along the eastern side of Lake Macquarie. Through the Belmont town centre it has a four-lane, divided carriageway with auxiliary lanes at major intersections to facilitate right turns from the Highway into side streets.

The intersection of the Pacific Highway and Maude Street has traffic signal control with right turn lanes in both directions on the Highway and pedestrian cross walks on all approaches.

#### Maude Street

Maude Street is a local street providing a generally east / west connection between the Pacific Highway and the subject site. It has a 13 metre wide pavement with kerb and gutter on both sides and a concrete footpath along the northern side. Unrestricted parking is available along both sides except for the statutory 10 metre setback at Ernest Street and for 50 metres back from the Pacific Highway. Maude Street provides the main vehicular access to and from the site.

#### Glover Street

Glover Street is a local street providing a generally east / west connection between the Pacific Highway and the residential area on the southern side of the subject site. It provides a vehicular connection to the site via Sullivan Lane and at its eastern end provided access to the carpark of the former Belmont Sporties Club. The posted speed limit is 50km/h. It has an 11 metre wide pavement with kerb and gutter on both sides and a concrete footpath along the northern side. Unrestricted parking is available along both sides except for the statutory 10 metre setback at Ernest Street, Church Street and the Pacific Highway. Turning movements at the Pacific Highway are restricted to left in and left out due to a central median on the Highway.

## **2.4 Existing Traffic Volumes**

#### Pacific Highway

Traffic count data obtained from Roads and Maritime Services show that the Pacific Highway carries up to 3,000 vehicles per hour (two-way) in peak periods. The priority movements are northbound in the AM peak (60%) and southbound in the PM peak (60%) indicating a typical commuter traffic pattern of travel between residential areas and the locations of employment and education.

The highest one-way volume is south bound in the PM peak (1,800 vehicles per hour).

#### Maude Street

Traffic volumes in Maude Street are estimated to be 170 vehicles per hour (two-way) during peak periods. The highest one-way volume is estimated to be 120 vehicles per hour during the AM peak.

### **2.4.1 Existing Road Service Level**

The RMS 'Guide to Traffic Generating Developments' provides an indication of the level of service for urban roads for a range of one-way, mid-block volumes (Table 4.4). The traffic count data indicates that the highest one-way volume on the Pacific Highway is 1,800 vehicles per hour (2 lanes), indicating that it is operating at a level of service C with spare capacity of at least 400 vehicles per hour per direction (800 vehicles per hour, two-way).

The RMS 'Guide to Traffic Generating Developments' also provides an indication of environmental capacity performance standards on residential streets (table 4.6) that considers a street's traffic function as well as the safety and amenity of residents. For local streets such as Maude Street, the environmental capacity ranges from 300 vehicles per hour (environmental goal) to a maximum of 500 vehicles per hour.

Maude Street is currently carrying around 170 vehicles per hour indicating that it is operating well within its desirable environmental capacity of 300 vehicles per hour as it has a two-way carriageway with kerbside parking and provides access to the adjacent residential properties.

## **2.5 Public Transport and Pedestrians**

Regular bus services run along the Pacific Highway providing connections between Belmont and major centres to the north and south including Customs House in Newcastle, Charlestown, Glendale, Warners Bay, Swansea and Lake Haven. Hourly services between Belmont, Charlestown and Warners Bay also run along Glover Street with a bus stop immediately adjacent to the subject site.

The concrete footpaths along the northern side of Maude Street and Glover Street provide a high level of connectivity for pedestrians to connect with the local bus services.

## **3 Proposed Development**

### **3.1 Current Planning Proposal**

The subject site has previously been utilised for registered club use trading as the Belmont Sporties Club until 2018. The Belmont Sporties Club was placed in voluntary administration on February 5, 2018 and since then a number of small business ventures have leased a portion of the club premises for trading.

At present, the greater site area is largely underutilised and the subject building is no longer used solely for recreation/ community purposes.

Relevant development consents for the subject site include:

- DA 1662/2013 for 2 lot subdivision dated 17 December 2013; and
- DA 1683/2012 for 42 seniors housing independent Living Units (ILUS) dated 9 April 2013.

The two-lot subdivision approved under DA1662/2013 has been constructed and registered. Lot 201 has been purchased by Arcare Group who specialise in Aged Care living. Preliminary discussions indicate that Arcare will seek to develop Lot 201 for the purposes of an aged care facility.

Preliminary concept plans were prepared for both lots 201 and 202 by Nock Architecture and presented to Lake Macquarie Council in a concept meeting on 27/19/2018. Option 1 incorporated an aged care facility of 90 beds and independent living precinct of 97 units. Option 2 incorporated 141 Independent Living Units.

Whilst this planning proposal does not seek approval or comment for the original concept plans, the concept design incorporated in Option 1 has been utilised to determine a hypothetical yield if both lots 201 and 202 are developed for seniors living. The hypothetical yield has primarily been determined to guide this Traffic Impact Assessment. A review of concept plans and additional building height to 10 metres indicates that the site could potentially support the following:

- 90 bed aged care facility; and
- 120 - 130 Independent Living Units.

Notwithstanding that concept plans are no longer proposed for both lots 201 and 202, the original concept plan for Option 1 is provided in Figure 3.1 below.





**Figure 3.1:** Original Concept Design - Ground Plan



## 4 Traffic Assessment

### 4.1 Trip Generation

#### Proposed Development

The RMS "Guide to Traffic Generating Developments" 2002 and the "Guide to Traffic Generating Developments, Updated traffic surveys" (TDT 2013/04a) provide the following peak hour trip generation rates:

- Aged Care Facility – 0.1 to 0.2 trips per dwelling (the higher of these 2 rates is for "resident funded" developments and has been adopted to ensure a robust assessment).
- Housing for Seniors – 0.4 trips per dwelling.

The Aged Care Facility (90 beds) would thus generate 18 peak hour trips and the Housing for Seniors (130 units) would generate 52 peak hour trips.

Total trip generation would therefore be  $18 + 52 = 70$  peak hour trips.

### 4.2 Trip Assignment and Distribution

For the purposes of assigning and distributing these trips to the network it is assumed that the current traffic patterns recorded at the Pacific Highway / Maude Street intersection will continue into the future.

In summary the assumed assignment and distribution of trips is as follows:

#### AM Peak

- 70% outbound, 30% inbound.
- Outbound trips: 80% to the north and 20% to the south.
- Inbound trips: 70% from the north and 30% from the south.

#### PM Peak

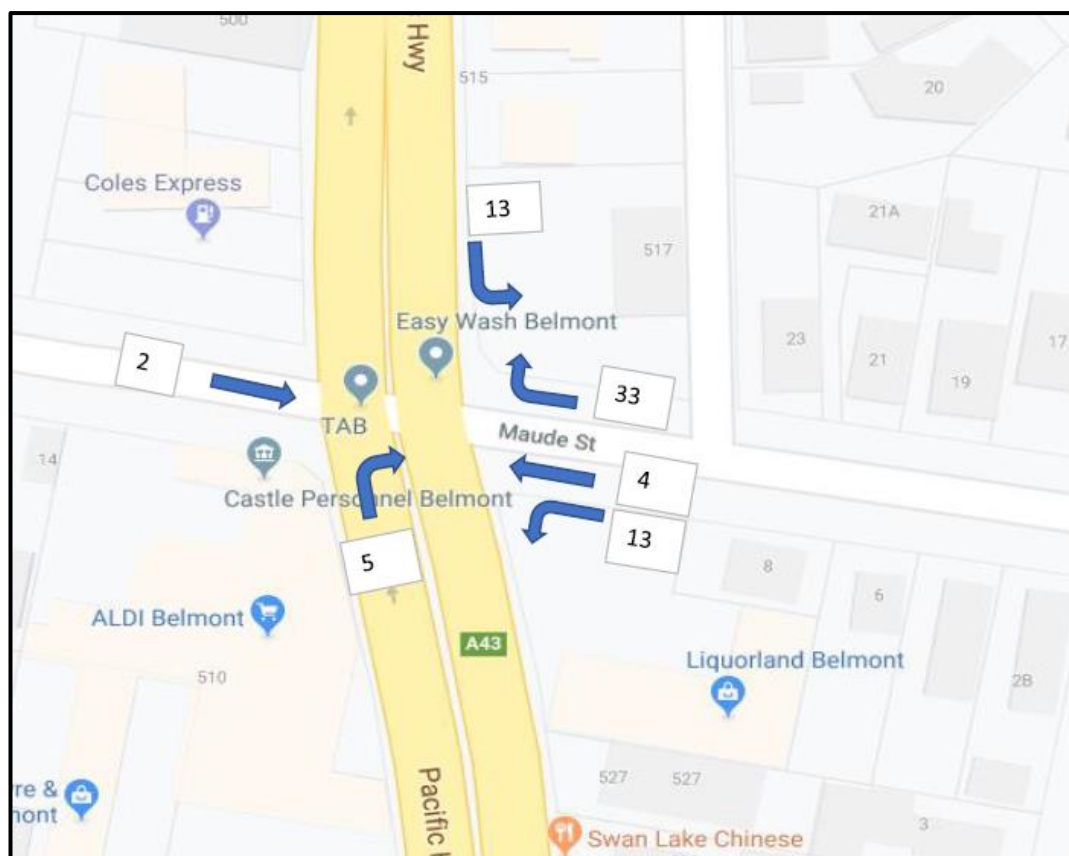
- 33% outbound and 67% inbound.
- Outbound trips 70% to the north and 30% to the south.
- Inbound trips 65% from the north and 35% from the south.

### 4.3 Network Analysis

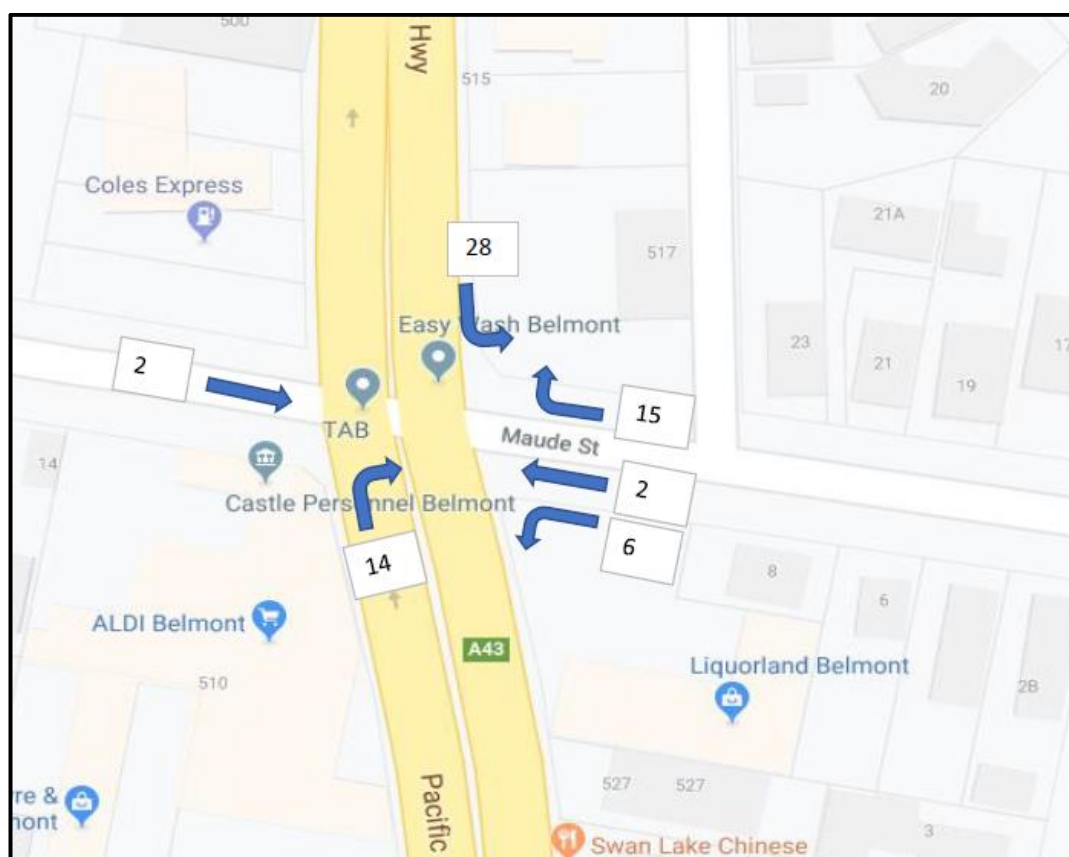
In assessing the potential impacts of the current planning proposal on the surrounding road network it has been assumed that all traffic to and from the site will use Maude Street. This is considered to be the worst-case scenario as it is likely that a high proportion of trips to the south will be via Maude Street, Ernest Street and Glover Street where vehicles will turn left at the Pacific Highway.

In order to quantify the traffic impacts of the current planning proposal it has been assumed that all traffic generated by the proposed development will access the site through the Pacific Highway / Maude street intersection.

The assignment and distribution of trips is shown in Figures 4.1 and 4.2 below.



**Figure 4.1:** AM Trip Distribution



**Figure 4.2:** PM Trip Distribution

## **4.4 Impact of Generated Traffic**

### **4.4.1 Pacific Highway**

Traffic count data obtained from Roads and Maritime Services show that the Pacific Highway carries up to 3,000 vehicles per hour (two-way) in peak periods. The traffic count data also indicate that the highest one-way volume on the Pacific Highway is 1,800 vehicles per hour (2 lanes), indicating that it is operating at a level of service C with spare capacity of at least 400 vehicles per hour per direction (800 vehicles per hour, two-way).

The traffic that will be generated by the proposed development is estimated to be up to 70 peak hour trips. Compared to the existing traffic volumes on the Pacific Highway, the traffic generated by the proposal is insignificant and will not have any impact on the traffic efficiency of the Highway.

### **4.4.2 Maude Street**

Maude Street is currently carrying around 170 vehicles per hour indicating that it is operating well within its desirable environmental capacity of 300 vehicles per hour as it has a two-way carriageway with kerbside parking and provides access to the adjacent residential properties. The 70 additional peak hour trips that will be generated by the proposed development will increase volumes on Maude Street to around 240 vehicles per hour, however, it will still be operating within its desirable environmental capacity.

## **5 Conclusion/Recommendations**

This Traffic Impact Assessment report has been prepared on behalf of Belmont 88 Pty Ltd in accordance with the requirements of Lake Macquarie City Council and the Roads and Maritime Services (RMS) 'Guide to Traffic Generating Developments' to accompany a planning proposal for a 90 bed aged care facility and 120 - 130 Independent Living Units at 2A/ 2B Maude Street, Belmont.

An assessment of the traffic volumes that will be generated by the proposed development has estimated that it will add up to 70 vehicles per hour to the surrounding road network, however, these additional vehicles will not have any impact on the efficiency or capacity of The Pacific Highway or Maude Street which will provide the main access to and from the site.

This Assessment concludes that the development of the subject site will have acceptable impacts on the surrounding road network and will thus not require any upgrade works as a result of the proposed development.



## 6 References

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

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