



Proposed Brazilian Jiu-Jitsu Studio
374-378 Sydney Road, Balgowlah
Development Application

Parking & Traffic Impact Assessment Report

P1921

Prepared for
BJJ Northern Beaches

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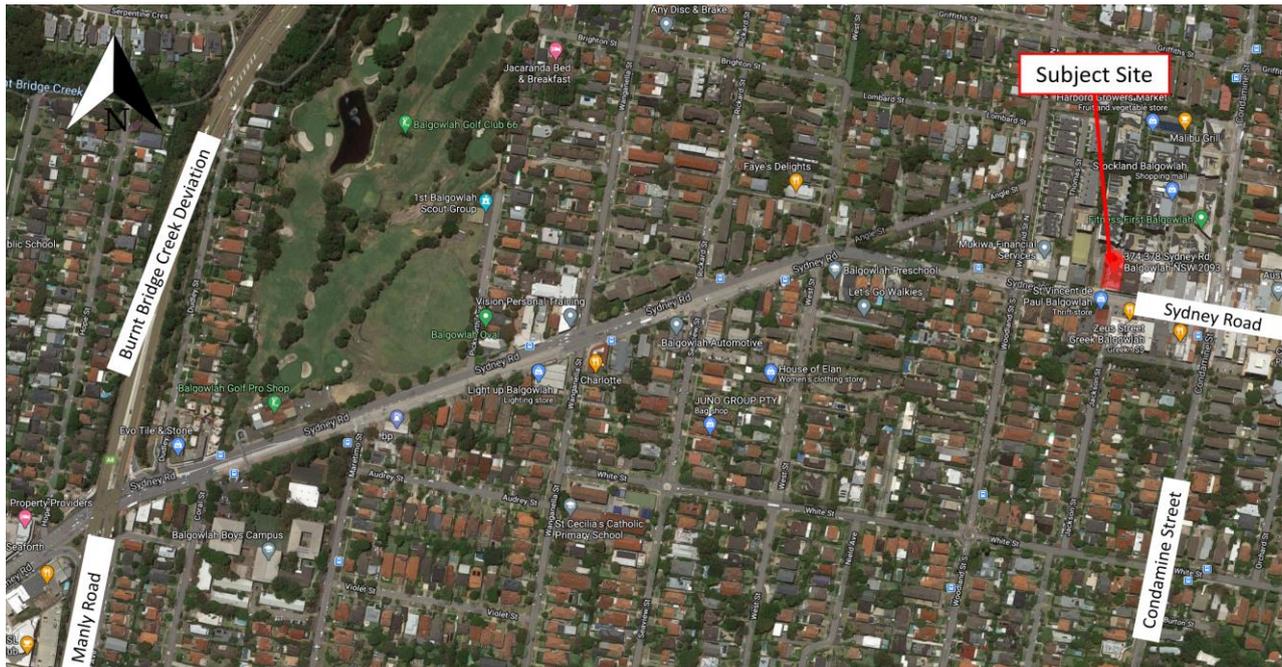
1 Introduction

1.1 Introduction

Greys Consulting has been engaged by BJJ Northern Beaches to prepare a Traffic and Parking Impact Assessment (TIA) report to support developer's application for a Brazilian Jiu-Jitsu Studio at Balgowlah.

The proposed gym is located Shop 2/374-378 Sydney Road, Balgowlah NSW 2093. The subject site used to operate as a Brazilian Jiu-Jitsu.

Figure 1-1 Subject Site Area



1.2 Scope of Work

The following works have been undertaken as part of this study:

- summary of the site's traffic generation and any impacts on the surrounding intersections;
- assessment of the site access location and form in accordance with Northern Beaches Council DCP (Manly DCP 2013) and AS2890.1 requirements;
- assessment of the car parking provisions in accordance with Northern Beaches Council DCP (Manly DCP 2013) and RTA Guide to Traffic Generating Developments requirements;
- assessment of the internal road and parking layout in accordance with Northern Beaches Council DCP (Manly DCP 2013) and AS2890.1 requirement;
- a review of public transport accessibility and facilities within proximity to the site.
- assess on-site statutory car parking requirements based on parking rates stipulated in the RTA Guide to Traffic Generating Developments (2002) and Council's DCP; and
- provide a traffic impact assessment report for submission to Northern Beaches Council in accordance with the outcomes of the above tasks to support the proposed DA.

1.3 Reference Documents

The following documents have been reviewed and referenced in this report:

- > Northern Beaches Council DCP (Manly DCP 2013);
- > Guide to Traffic Generating Developments (RTA, 2002);
- > AS_NZS2890.1-2004 Parking Facilities-Off Street Car Parking;

2 Existing Development Operation

2.1 Existing Site and Conditions

Proposed development is located at the ground floor of a mixed-use building situated at 374-378 Sydney Road, Balgowlah. The proposed premise has direct pedestrian access from Sydney Road and the only off-street parking space is accessible via Totem Lane. The development is located within the Local Centre (B2) Land Use Zoning of Northern Beaches LGA based on Manly Local Environmental Plan 2013 Maps.

One off-street parking spaces have been provided at basement level according to the existing layout. A pdf layout of the site was provided by the applicant for the purpose of this assessment.

2.2 Operating Hours

The following operating hours are proposed:

Monday: 12.00pm-1.00pm & 3.00pm-8.00pm

Tuesday: 6.00am-7.00am, 12.00pm-1.00pm & 3.00pm-8.00pm

Wednesday: 12.00pm-1.00pm & 3.00pm-8.00pm

Thursday: 6.00am-7.00am, 12.00pm-1.00pm & 3.00pm-8.00pm

Friday: 12.00pm-1.00pm & 3.00pm-8.00pm

Saturday: 8.00am-12.00pm

Sunday: CLOSED

3 Vehicle Access and Parking

3.1 Surrounding Road Network

Details of the immediate road network surrounding the proposed development site is shown in Table 2.1. The existing road network surrounding the development 374-378 Sydney Road, Balgowlah consists of:

- Sydney Road (Collector Road)
- Condamine Street (Collector Road)
- Woodland Street (Collector Road)

Table 3-1 Surrounding Road Network

Road Name	Jurisdiction	Hierarchy	No. Lanes	Divided	Speed Limit	Comments
Sydney Road	TfNSW	Collector Road	4	No	60km/h	
Condamine Street	Northern Beaches Council	Regional Collector Road	2	No	50km/h	
Woodland Road	Northern Beaches Council	Local Collector Road	2	Yes	50km/h	

The main traffic corridor in the vicinity of the subject site is Sydney Road which is Collector Road. This Road is under the authority of the NSW Roads and Maritime Services.

3.1.2 Sydney Road

Sydney Road is a State Controlled Road under jurisdiction of TfNSW is extended between The Corso, Manly and Frenchs Forest Road at Seaforth. Sydney Road has mostly two lanes at each direction with partially restricted on-street parking on the northern and southern sides respectively.

Sydney Road is a collector road which is primarily used to provide vehicular and pedestrian access to frontage of residential, commercial and parkland land uses within. The majority of Sydney Road has two lanes in each direction with permitted kerbside parking on both sides of the road.

3.1.3 Condamine Street

Condamine Street is a regional collector road under jurisdiction of Northern Beaches Council and is extended between Ernest Street to the Burnt Bridge Creek Deviation where it becomes a State Controlled Road and extends to the north to Pittwater Road. Condamine Street (in the vicinity of the site) is a two-lane two-way carriageway and provides access to commercial and residential premises along the road.

Connected footpath is provided on both sides of the road. parking restriction applies to several sections of Condamine Street due to high commercial parking demand to manage parking supply and demand along this commercial area.

3.1.4 Woodland Street

Woodland Street is a local collector road under jurisdiction of Northern Beaches Council and is extended between Abbott Street to the Balgowlah Road. Woodland Street (in the vicinity of the site) is a one-lane two-way carriageway and provides access to residential premises along the road. Connected footpath is provided on both sides of the road. There is limited parking restriction at some sections of Woodland Street due to high residential parking demand to manage parking supply and demand along this residential area.

Figure 3-1 Study Area Land Use Plan

Source: Manly Council LEP 2013 Maps

3.2 Existing Traffic Controls

Key features of the existing traffic controls which apply to the road network in the vicinity of the site are:

- a 60 km/h SPEED LIMIT along Sydney Road;
- The intersection of Condamine Street/Sydney Road and Woodland Street/Sydney Road are controlled with Traffic Lights.

4 Public Transport Access

4.1 Bus Routes

There are several bus routes currently providing public transport services from the site to different destinations in Sydney. Important bus routes and their frequencies are summarised in **Table 4-1**.

The bus stops are conveniently located on Sydney Road within less than 100m walking distance from the site. The Bus Stops are serviced by the following routes:

Table 4-1 Bus Services Near Proposed Development

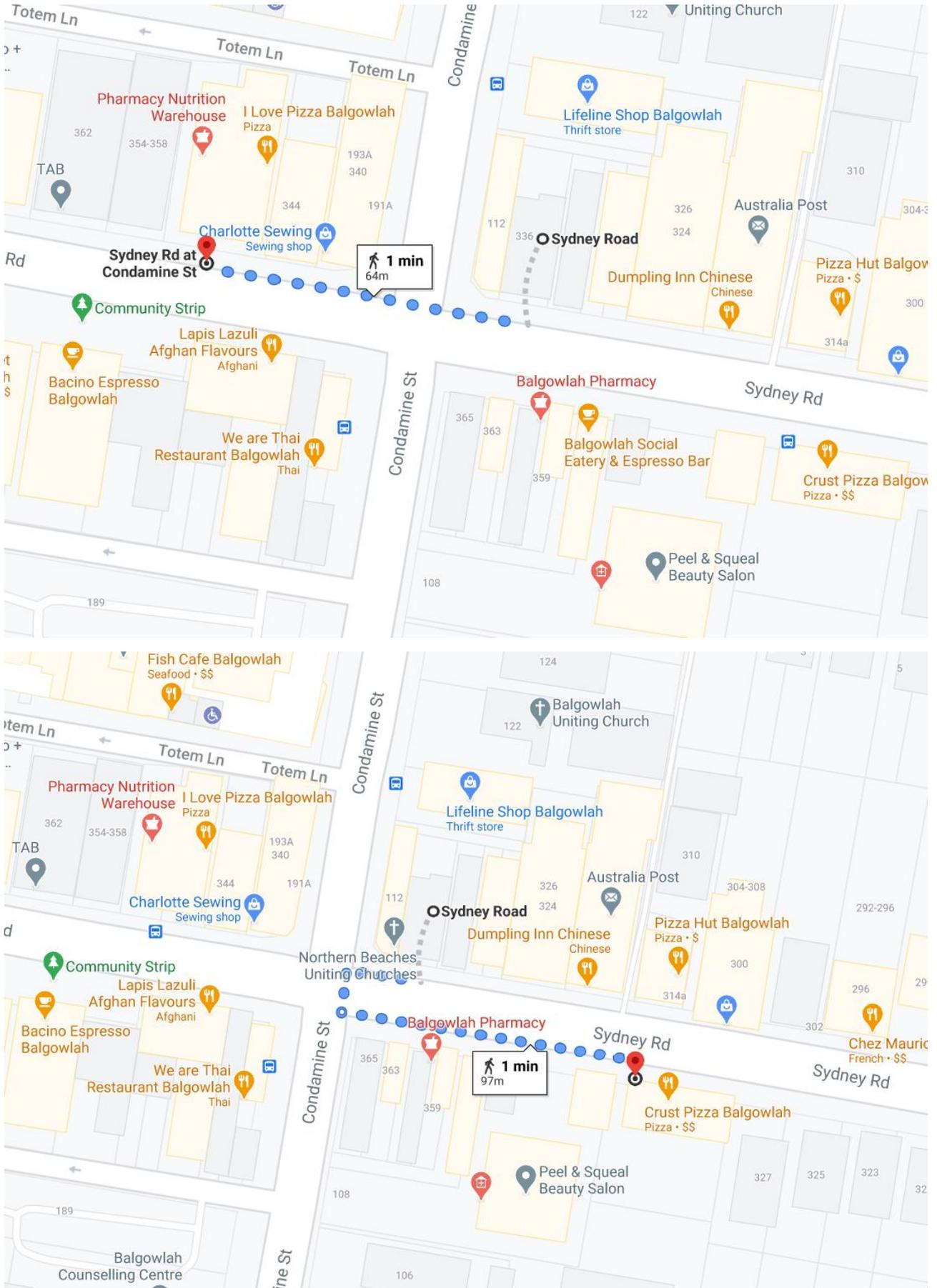
Route	Description	Operator	Frequency	
			Weekday Peak	Weekday Off-Peak
141	Manly via Frenchs Forest & Seaforth	Sydney Buses	Every 60 Minutes	Every 30-60 Minutes
145	Warringah Mall to Seaforth	Sydney Buses	Every 120 Minutes	No Services on Sundays
144	Manly to Chatswood via St Leonards	Sydney Buses	Every 10 Minutes	Every 10 Minutes
144N	Manly to North Sydney (Night Service)	Sydney Buses	NA	Every 30 Minutes
150X	Manly to Milsons Point (Express Service)	Sydney Buses	Every 20 Minutes	NA
170X	Manly to City Wynyard (Express Service)	Sydney Buses	Every 10 Minutes	NA
173X	Warringah Mall to City Wynyard via Balgowlah Shops (Express Service)	Sydney Buses	Every 20 Minutes	Every 30 Minutes

Source: <http://www.transport.nsw.gov.au/>

Both bus stops are located within short walking distance (less than 1-minute walk) at approaches to Condamine Street.

The bus stops near the site are presented on Figure 4-1.

Figure 4-1 Walking Distance to Public Transport from the proposed Development



4.2 Pedestrian Infrastructure

Connected footpaths with proper access and connectivity are provided from the development to public transport services.

5 Parking Provision and Layout

This section investigates the proposed parking provisions against the statutory requirements applicable for the subject development. A car park design review has also been undertaken to ensure compliance of the proposed design against the minimum standards stipulated in the Council's DCP, RTA Guidelines, Data and Analysis Report "Trip Generation and Parking Demand Surveys of Gymnasium" and the Australian Standards.

Additionally, an hour-by-hour analysis of parking demand has been undertaken to determine a realistic parking demand based on projected real-time operation of the proposed development.

5.1 Proposed Car Parking Supply

One off-street parking spaces are provided inside the building which are accessible via Totem Lane.

5.2 Parking Demand Analysis (Based on Gymnasiums Parking Surveys)

A trip generation and parking demand survey and analysis was commissioned by Roads and Maritime in 2014 to determine trip generation and parking demand of gymnasiums in Sydney Metro Area. The survey and analysis were undertaken by People Trans. Eight sites were selected within Sydney Metro and their trip generation and parking demands were surveyed and analysed. The following results were summarised as a conclusion of this study. Results were reported per 100m².

Table 5.3: Summary of Site Transport Survey Results per 100m² GFA

Site	GFA	Public Transport Accessibility Score	% Car Driver (average of all periods)	Peak Hourly Person Trips per 100m ² GFA	Peak Vehicle Accumulation per 100m ² GFA	Peak Vehicle Trips per 100m ² GFA [1]
Bondi Gym	970	0.9	40%	8.7	2.8	3.4
Oatley	905	0.2	73%	7.1	3.5	5.6
Kings Cross	2,600	0.75	14%	14.5	1.4	1.8
Willoughby	3,700	0.9	74%	6.8	4.3	4.0
MIISC	3,200	0.2	62%	5.3	2.0	3.2
Average of all Sites				8.5	2.8	3.6

[1] Where car parking is not 100% on-site this is determined by comparing the peak hourly person trips to average car driver percentage.

According to the study, average length of stay varies between 60 to 70 minutes. The GFA of the proposed gym is 121 m². Therefore, total trip numbers within an hour should not exceed 4 trips and peak vehicle accumulation should be around 3 vehicles. It should be noted that sites with a very low public transport score have been considered in the study. This site has a Public Transport Accessibility score (53) given its proximity to several bus services. Therefore, Stockland Shopping Centre parking spaces should be able to sufficiently accommodate the parking demand. In addition, ample on-street parking spaces are available along Sydney Road that can address likely extra parking demand overflow which is not expected to be many.

5.3 Parking Demand – Realtime Demand Projection

The business will employ two staff and maximum of two staff working at one time. Morning and midday classes will have one coach teaching only who will walk or use public transport to the site.

A maximum of 25 people per class, with classes in the afternoon running for 45-50 minutes so there is a 10 to 15 minute change over period for members to depart and arrive.

The morning classes at 6.00am-7.00am will likely attract 10 participants and the 12.00pm-1.00pm class likely to attract between 10 and 20 students.

The final class of the day is 1.5 hours in length from 6.30pm to 8.00pm.

The afternoon classes from 3.00pm to 5.00pm are for children and teens. The gym is located in two catchment areas, Balgowlah Boys High and Manly West primary school. These schools are within walking distance to the gym and parents are expected to drop their children off and take the opportunity to undertake grocery shopping at the Stockland, visit the medical centres or specialised services all within walking distance to the gym including post office, retail precinct, eateries and news agency.

After 5.00pm adults' classes will take place. Due to vibrant nature of this shopping strip and as the supermarkets and restaurants are open till late, students will dine in the direct vicinity after class or undertake grocery shopping (multipurpose trip)

5.4 Comparative Study and Precedents

Three similar businesses in the surrounding area were assessed for parking provision:

- A F45 Gym at Shop 366 Sydney Road: This gym is being operated by F45 with a larger GFA. This development provides only one off-street parking space;
- Square One Pilates and Physio Studio: This is a larger Physio and Pilates Studio located at Shop 1/374-378 Sydney Road, Balgowlah and provides 2 off-street basement parking in the same building; and
- Danceexcel Performance Studio: Located at Ground 360/364 Sydney Rd, Balgowlah and is a Dance Academy with similar number of students and offers no off-street parking to customers.

Therefore, it can be readily concluded that the proposed development provides sufficient off-street parking given its proximity to public transport and precedents of similar facilities in the surround area.

5.5 Car Park Dimensions

The minimum dimensions required for the car park are shown in **Table 5-1**:

Table 5-1 Car Parking Dimensions

Parking Space Width	Parking Space Length	Parking Aisle Width (two-way)
2.5	5.5m	6.2m

The existing parking dimensions provided to Greys have been confirmed to be in accordance to AS 2890.1-2004.

5.6 Conclusion

Clause 4.2.4.1 of Manly DCP permits exceptions to be considered for properties within business zones and states:

a) The Council may be prepared to allow exceptions to the parking rate/requirements required in this DCP in the following circumstances:

- where it can be demonstrated that particular activities in mixed use developments have car parking demands which peak at different times; (applies)
- where visitors are likely to use more than one facility per trip;(applies: several shops at Stockland)
- considering available car parking in the surrounding area, except in relation to Manly Town Centre where more particular exceptions are provided at paragraph 4.2.5.4 of this plan; (Several parking Spaces available at Stockland)

6 Traffic Generation

6.1 Development Traffic Generation

An indication of the traffic generation potential of the development proposal is provided by reference to the Roads & Maritime Services Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002). Gymnasium Trip Generation and Parking Surveys was also used to determine potential trip generation attributed to the proposed development.

Application of the above traffic generation rates to the various components outlined in the development proposal yields a traffic generation potential of approximately 4 peak hour vehicle trips as set out in the table below:

Table 6-1 Peak Hour Development Traffic Generation

Land Use	Generation Rate	GFA/No. Units	Total Trips
Gymnasium	3.6 per 100sqm	121sqm	4
Total Trips Generated (rounded)			4

The projected future level of traffic activity should however, be offset or discounted by the level of traffic activity which could reasonably be expected to have been generated by the previous uses of the site, in order to determine the net increase in the traffic generation potential of the site as a consequence of the development proposal.

The site is currently vacant and does not generate any trips; however, the previous approval has been provided for a retail shop by council.

Accordingly, it is likely that the proposed development will result in an increase in the traffic generation potential the site of approximately 4 vph as set out below:

Table 6-2 Projected Net Increase in Peak Hour Traffic Generation Potential

Land Use	Generation Rate
Projected Future Traffic Generation Potential	4 vph
Existing Traffic Generation Potential (Estimated)	0 vph
Total Trips Generated	4 vph

Projected increase in traffic activity as a consequence of the development proposal is minimal and will clearly not have any unacceptable traffic implications in terms of negatively impacting surrounding road network capacity.

7 Summary and Conclusions

Greys Consulting was engaged by BJJ Northern beaches to prepare a traffic impact and parking assessment in support of a development application for a development consent for a Brazilian Jiu-Jitsu Studio. The proposed development was assessed in accordance with the Northern Beaches Council DCP, RMS Guidelines to Trip Generating Development and the AS 2890.1 Series and Trip Generation and Parking Demand Surveys of Gymnasiums. The assessment outcomes are as follows:

- > An investigation of the public transport available was undertaken revealing several bus routes frequently passing through the subject site providing excellent access to important destinations in the vicinity and other metropolitan areas.
- > No SIDRA intersection assessment was required due to trivial number of projected trip generation from the subject development which does not warrant SIDRA modelling at this stage.
- > The proposed parking layout is designed in accordance to AS 2890.1-2004.
- > As part of this report, a parking assessment was also undertaken. The proposed development provides a total of 1 compliant car parking space on the provided plans. The parking provision satisfies parking requirements stipulated in the Trip Generation and Parking Demand Surveys of Gymnasiums. It is considered that the proposed provision of 1 parking spaces will satisfy the actual parking demands likely to be generated by the development proposal and in the circumstances, it is concluded that the proposed development will not have any unacceptable parking implications and DCP exceptions to off-street parking provision would be applicable to the proposed development due to proximity to Stockland with available parking spaces and being located with a town centre shopping and dining strip.
- > A maximum trip generation of 1 vehicle per 15 minutes is estimated for the site (4 per hour). This trip generation rate will not have any detrimental impacts on the surrounding road network.
- > Given these factors, and the results of the high-level intersection and mid-block analysis, it is clear that this development is sustainable in transport terms, with acceptable impacts on the local transport network.