



# Taronga Zoo Proposed Australia Habitat & Taronga Wildlife Retreat Transport Impact Assessment

**Client //** Taronga Conservation Society  
Australia

**Office //** NSW

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Taronga Zoo


Proposed Australia Habitat &  
Taronga Wildlife Retreat

Transport Impact Assessment

Issue: D 07/03/16

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# 1. Introduction

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## 1.1 Background

The SSD DA seeks approval for the development of a new animal exhibit and eco-tourist facility to be known as the "Australia Habitat & Taronga Wildlife Retreat" within the grounds of Taronga Zoo. The proposed works are to be delivered over two stages as follows:

### Stage 1

- o Construction of a series of two to four storey accommodation pods comprising a total of 62 rooms (including four suites).
- o Construction of a new four storey kitchen and dining facility to service the existing Taronga Centre and proposed eco-tourist facility.
- o Construction of a guest lounge to accommodate reception, bar, guest interaction facilities with adjacent platypus exhibit and animal encounter facilities.
- o Demolition of existing Harbourview Garden Court and replacement by the construction of a new Terrace.
- o Realignment of existing turning circle at the entrance to existing Function Centre.
- o Construction of various wildlife exhibits.

### Stage 2

- o Upgrade to the Taronga Centre entry which seeks to improve accessibility for guests by introduction of foyers and lift access within existing buildings.

It is noted that while the upgraded entry will form part of the planning process its associated proposed works will not be completed at the same time as the Taronga Wildlife Retreat (Stage 1).

GTA Consultants was commissioned by Taronga Conservation Society Australia to undertake a transport impact assessment to accompany an Environmental Impact Statement/Development Application.

## 1.2 Purpose of this Report

This report sets out an assessment of the anticipated transport implications of the proposed development, including consideration of the following:

- i existing traffic and parking conditions at the site
- ii suitability of the proposed parking in terms of supply and demand
- iii pedestrian and bicycle requirements
- iv the traffic generating characteristics of the proposed development
- v the transport impact of the development proposal on the surrounding road network.

## 1.3 References

In preparing this report, reference has been made to the following:

- o an inspection of the site and its surrounds
- o Mosman Municipal Council Transport Development Control Plan (DCP) 2005
- o other documents and data as referenced in this report.

## 2. Existing Conditions

Taronga Zoo is located at Bradleys Head Road, Mosman. The Zoo encompasses a large area and the subject development is located at the western side. The location of the subject site and its surrounding environs are shown in Figure 2.1. The site is zoned as SP1, Special Activities under the Mosman Local Environmental Plan 2012.

Figure 2.1: Subject Site and Its Environs



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### 2.1 Road Network

#### 2.1.1 Adjoining Roads

##### Bradleys Head Road

Bradleys Head Road functions as a local collector road and is aligned in a north-south direction. At the entrance of the Zoo, it is a two-way road configured with a 3-lane, 9 metre wide carriageway, including a right turn lane allowing access into Taronga Zoo car parking.

Kerbside parking is permitted north of the site entrance and angled parking spaces are marked south of entrance.

## Whiting Beach Road

Whiting Beach Road is a local road and in the vicinity of the site is aligned in an east-west direction. It is a two-way road configured with a 2-lane, 8 metre wide carriageway. Whiting Beach Road provides staff and delivery access to Taronga Zoo car park and site in general via the northern access.

Unrestricted kerbside parking is permitted on the northern side of the road.

## 2.2 Car Parking

A review of on-site parking for the Taronga Zoo indicated there are a total of 846 parking spaces available. Table 2.1 shows the breakdown of the location and type of parking spaces currently provided.

**Table 2.1: Summary of On-Site Parking Supply**

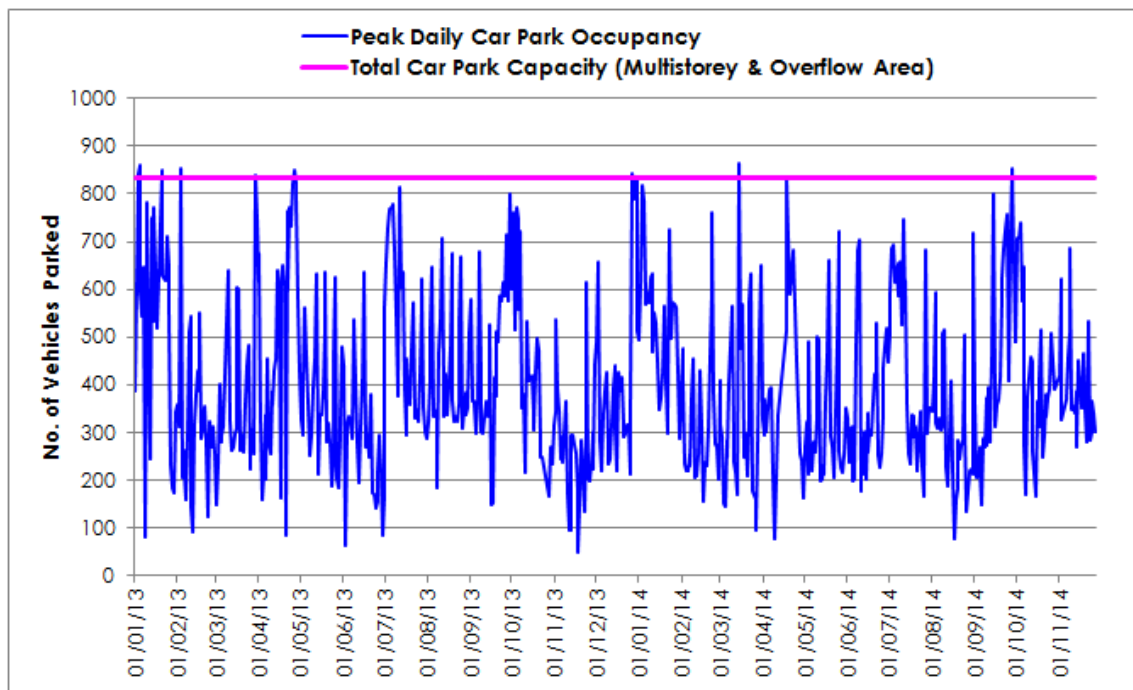
Location	General Car Spaces	Accessible Car Spaces	Motorcycle Spaces	Total
Multistorey	639	14	12	665
Overflow area	176	5	-	181
<b>Total</b>	<b>815</b>	<b>19</b>	<b>12</b>	<b>846</b>

It is noted that the overflow parking area is only made available once the multistorey parking area reaches its capacity.

The peak daily car park occupancy data between 1 January 2013 and 27 November 2014 has been provided by Taronga Zoo. Excluding the 12 motorcycle spaces, the total car park capacity including the multistorey car park and overflow area is 834 spaces.

Figure 2.2 presents the peak daily parking occupancy profile over almost 2 year period.

**Figure 2.2: Peak Daily Car Park Occupancy**

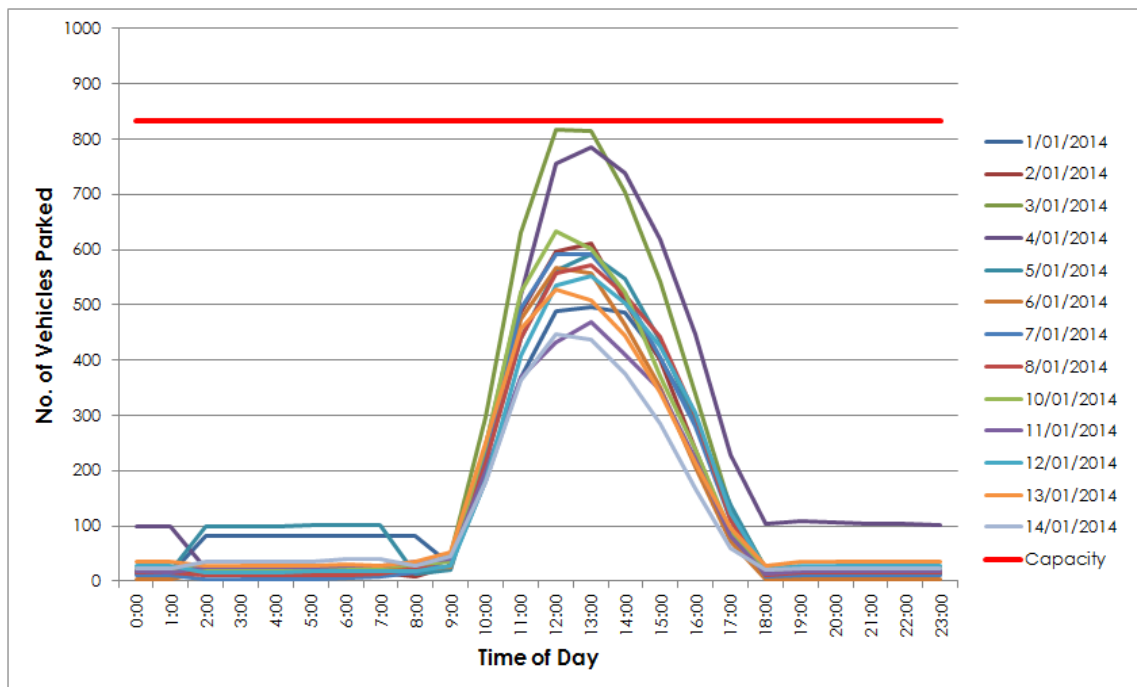


In summary, the parking data results indicate the following:

- o Parking data has been collected for a total of 653 days.
- o Over the duration of 653 days, parking occupancy exceeded the total car park capacity for only 10 days.
- o On average, the parking demand exceeds the total car park capacity 5 to 6 days per year.
- o The 85<sup>th</sup> percentile peak daily parking occupancy is 618 spaces with minimum of 216 car parking spaces vacant.

Whilst the recorded daily peak occupancies are naturally high, the data also identified that typically the car parks are most occupied between 12pm and 1pm and decreases significantly after 2:00pm. This is demonstrated in Figure 2.3 which indicates the hourly parking occupancy profile during the first two weeks in January 2014 (i.e. school holidays peak).

**Figure 2.3: Hourly Parking Occupancy (for the first two weeks during January 2014)**



## 2.3 Public Transport

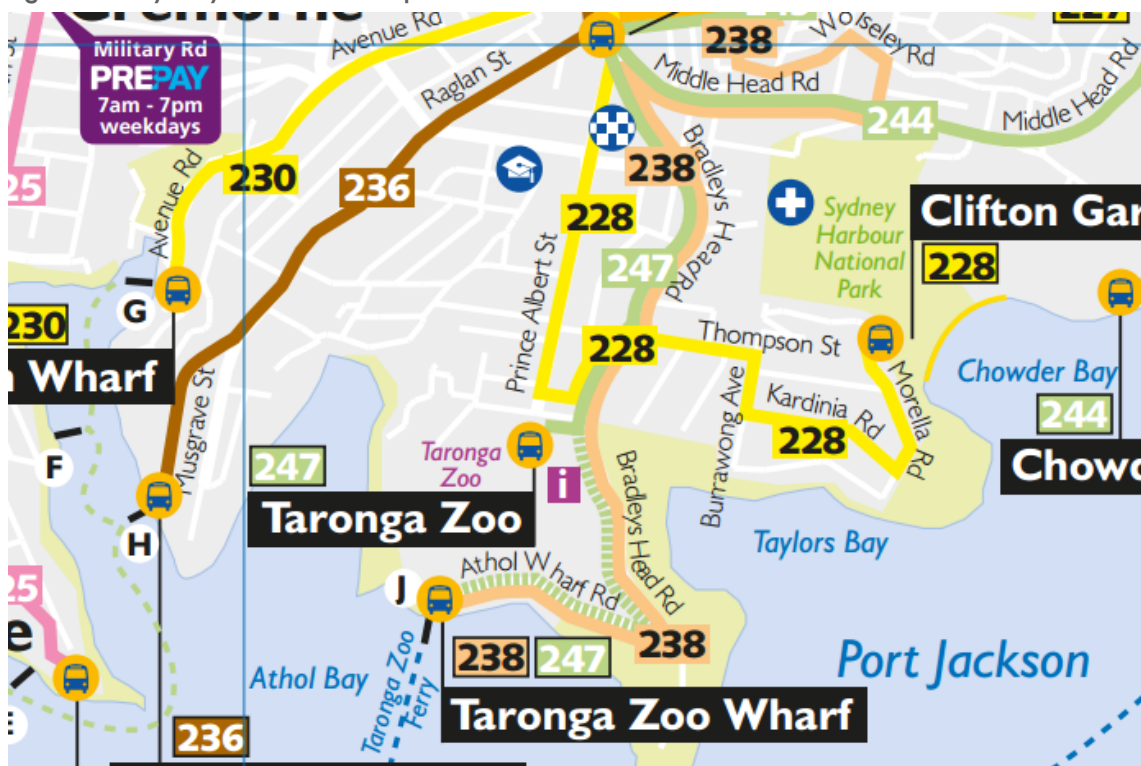
The site is accessible by public transport via bus or ferry. Bus stops are located at the main entrance off Bradleys Head Road and ferry wharf is located at southern entrance of the Zoo.

A review of the public transport available in the vicinity of the site is summarised in Table 2.2 and a bus route map is provided in Figure 2.4.

**Table 2.2: Public Transport Provision**

Service	Route #	Route Description	Location of Stop	Distance to Nearest Stop	Frequency On/Off peak
Bus	247	City to Taronga Zoo	Taronga Zoo	on site	30 minutes peak and off peak
Bus	238	Balmoral Beach to Taronga Zoo	Taronga Zoo	on site	30 minutes peak and off peak
Bus	228	Milsons Point to Clifton Gardens	Bradleys Head Road	100 m	50 minutes peak/ n/a off peak
Ferry	F2	Circular Quay to Taronga Zoo	Taronga Zoo Wharf	on site	30 minutes peak and off peak

**Figure 2.4: Sydney Bus Network Map**



Source: [http://www.sydneybuses.info/routes/routes/14054\\_STA\\_region\\_web\\_map\\_north.pdf](http://www.sydneybuses.info/routes/routes/14054_STA_region_web_map_north.pdf), accessed 8/01/2015

## 2.4 Pedestrian and Cycle Infrastructure

Formal pedestrian footpaths are provided at the following locations:

- o both sides of Bradley's Head Road, north of the main zoo entrance
- o both sides of Bradley's Head Road, south of the main zoo entrance for approximately 300m
- o northern side of Whiting Beach Road.

A safe pedestrian crossing point is provided across Bradley's Head Road, at the main entrance.

The nearest cycle route in vicinity of the site runs along the Bradleys Head Road-Athol Wharf Road. The cycle network surrounding the subject site is illustrated in Figure 2.5, which shows the site has a good connectivity to on/off bike routes.

Figure 2.5: Mosman Cycle Map



Source: reproduced from [www.mosman.nsw.gov.au/file\\_download/1945/NorthernSydneyCyclingMap.pdf](http://www.mosman.nsw.gov.au/file_download/1945/NorthernSydneyCyclingMap.pdf), accessed 8/01/15

## 3. Development Proposal

### 3.1 Scope

The SSD DA seeks approval for the development of a new animal exhibit and eco-tourist facility which is to be known as the "Australia Habitat & Taronga Wildlife Retreat" within the grounds of Taronga Zoo. The proposed works will be delivered across two stages as follows:

#### Stage 1

- o Construction of a series of two to four storey accommodation pods comprising a total of 62 rooms (including four suites).
- o Construction of a new four storey kitchen and dining facility to service the existing Taronga Centre and proposed eco-tourist facility.
- o Construction of a guest lounge to accommodate reception, bar, guest interaction facilities with adjacent platypus exhibit and animal encounter facilities.
- o Demolition of existing Harbourview Garden Court and replacement by the construction of a new Terrace.
- o Realignment of existing turning circle at the entrance to existing Function Centre.
- o Construction of various wildlife exhibits.

It is advised that the proposed guest lounge and dining facility will be entirely ancillary to the facility and will have capacity to accommodate up to 100 guests. The proposed terrace will be primarily associated with the retreat's guests although it will also be used occasionally to hold separate functions, as with the existing Harbourview Garden Court.

#### Stage 2

- o Upgrade to the Taronga Centre entry which seeks to improve accessibility for guests by introduction of foyers and lift access within existing buildings.

It is noted that while the upgraded entry will form part of the planning process, the proposed works will not be completed at the same time as the Taronga Wildlife Retreat.

It is noted that the proposed retreat will supplement the existing Roar and Snore overnight experience which currently comprises 17 tents with 39 beds and capacity for up to 44 guests. It is however anticipated that guests associated with the new retreat will be permitted to 'check in' from 3pm.

### 3.2 Operating Schedule

With the exception of increased flexibility in check in times it is proposed that the retreat is operated in a similar manner to the existing Roar and Snore. Table 3.1 shows the itinerary for the existing Roar and Snore program, which indicates that it starts after 6:00pm and finishes at 9:30am.

**Table 3.1: Itinerary for Existing Roar and Snore**

Time	Activity
6.15pm	Arrival (walk down to the campsite)
6.45pm	Snack and nibbles
7.00pm	Get up-close and personal with some of the Zoos friendliest creatures – a great photo opportunity
7:45pm	Buffet dinner served
9.00pm	Zoo night safari, enjoy the animals and the amazing harbour views
10.00pm	Dessert and tea and coffee
11.00pm	Camp lights out ... you have an early start!
6.15am	Rise and shine
6:30am	Continental breakfast
7.30am	Behind the scenes tour number 1
8.00am	Behind the scenes tour number 2
9-9.30am	Program finishes. You are welcome to spend the rest of the day exploring the Zoo

As with the existing Roar and Snore operation, activities would be subject to minor variation to suit the number of guests with two separate dinner sittings proposed.

It is proposed that car parking spaces for the retreat guests would be allocated within the multi deck car park on Whiting Beach Road. The number of allocated parking spaces for retreat guests will vary from day to day based on the number of guests booked for each night. This will be managed by Taronga Zoo as part of the facilities operations plan. The staff will have flexibility to utilise the existing Taronga Zoo staff car park or the multideck car park.

It is proposed that four spaces will be designated for short term drop off spaces at the uncovered parking adjacent to the Taronga Centre.

The existing loading dock for the Taronga Centre will be reconfigured to facilitate the movement of goods to and from the proposed ground floor back of house area. Service vehicle access will be via the existing loading dock plus a secondary access via the existing service entrance off Bradleys Head Road.

Figure 3.1 shows a swept path of a 6.4m small rigid vehicle circulating through the realigned turning circle at the entrance to the existing Function Centre. The swept path indicates there would be adequate area for a service vehicle to store at the gate to access the existing back of house loading dock.

Figure 3.1: Turning Circle Swept Path



Source: Taylor Thomson Whitting Consulting Engineers Drawing No. 131814 C103 P1 dated 01 March 2016

## 4. Car Parking

### 4.1 Car Parking Requirements

The car parking provision requirements for different development types are set out in Mosman Municipal Council's 'Transport Development Control Plan' 2005. Table 4.1 summaries the DCP requirements for hotel (i.e. a comparable use to that proposed).

**Table 4.1: Car Parking Requirements (Transport DCP 2005)**

Uses	Size	Parking Rates	Parking Spaces (Required)
Hotel	62 rooms	1 space/room plus 1 space per 4 employees	62 + 9 (assuming 38 staff)
<b>Total</b>			<b>71</b>

As indicated in Table 4.1 above, the car parking requirement for the proposed development is 71 spaces.

It is understood that the guest lounge and dining hall components would not generate additional parking demand as they would only serve the retreat guests, while demand associated with the occasional use of the terrace (to hold external functions) will be entirely offset by the existing (to be demolished) Harbourview Garden Court.

### 4.2 Taronga Zoo On-Site Car Park

As presented in Section 2.2, Taronga Zoo currently provides a total of 834 car parking and 12 motorcycle spaces in its multistorey and overflow parking area. The peak daily parking occupancy profile is presented in Figure 2.2. The results of the parking analysis indicated that the 85<sup>th</sup> percentile peak parking occupancy was 618 spaces with minimum of 216 available car parking spaces. The daily occupancy profile also identified peak parking demand between 12pm and 1pm during the peak season (Figure 2.3).

### 4.3 Adequacy of Parking Supply

It is anticipated that guests' arrivals for the proposed retreat will occur between 3:30pm and 5:30pm while typical departure times are between 10am and 11am. As indicated in Figure 2.3 parking demand at the zoo is significantly lower outside of the 12-1pm peak period as summarised in Table 4.2 as follows.

**Table 4.2: Car Parking Demand (Peak Season)**

<b>Time</b>	<b>Max. Demand</b>	<b>Spare Capacity</b>
<b>10am<sup>1</sup></b>	<b>298</b>	<b>536</b>
<b>11am<sup>1</sup></b>	<b>630</b>	<b>204</b>
12pm	818	16
1pm	814	20
2pm	738	96
<b>3pm<sup>1</sup></b>	<b>618</b>	<b>216</b>
<b>4pm<sup>1</sup></b>	<b>448</b>	<b>386</b>
<b>5pm<sup>1</sup></b>	<b>229</b>	<b>605</b>

<sup>1</sup> denotes typical arrival and departure times for retreat guests i.e. highest demand for parking during these times.

It is noted that the maximum car parking demands outlined in the above table reflects the highest recorded hourly carpark occupancy during the Zoo's busiest period i.e. first two weeks of the year.

The overall parking requirement of 71 spaces as identified in Section 4.1 consists of nine spaces for staff which are essentially accommodated within the staff carpark. On the basis that only 62 parking spaces would typically be required by the retreat guests and that generous spare capacity is available at the carpark during the arrival and departure times, it is considered that the existing on-site car parking provision will be sufficient to accommodate the additional demands arising from the proposed retreat.

## 5. Traffic Impact Assessment

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The proposal involves an accommodation facility for up to 62 rooms. The RMS Guide to Traffic Generating Developments specifies the following peak hour traffic generation rate:

- o Evening peak hour vehicle trip – 0.4 per unit.

Application of the above criteria would indicate approximately 25 vehicle trips per hour during the busiest peak although available information (i.e. historical knowledge of Roar and Shore) indicates that guest arrivals and departures typically fall outside of the traffic peak periods.

On that basis, it is anticipated that the existing road network would accommodate the minor traffic generation and will have no unacceptable traffic and safety implications.

## 6. Conclusion

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Based on the analysis and discussions presented within this report, the following conclusions are made:

- i The proposed development generates a DCP parking requirement of 71 spaces.
- ii The proposal does not include provision of any additional on-site parking. However, on the basis of the parking assessment in Section 4, the existing on-site car park will have sufficient spare capacity to accommodate the proposed retreat's operation.
- iii It is proposed that up to 62 car parking spaces could be allocated for retreat guests within the multi deck car park on Whiting Beach Road although the number of allocated parking spaces for retreat guests will vary from day to day based on the number of guests booked for each night. This will be managed by Taronga Zoo as part of the facilities operations plan.
- iv The nine additional staff spaces can be accommodated within the existing staff carpark.
- v It is proposed that four spaces will be designated for short term drop off spaces at the uncovered parking adjacent to the Taronga Centre.
- vi The existing loading dock for the Taronga Centre will be reconfigured to facilitate the movement of goods to and from the proposed ground floor back of house area. Service vehicle access will be via the existing loading dock.
- vii The proposed development is expected to generate up to 25 additional vehicle trips. It is anticipated that the existing road network will have sufficient spare capacity to accommodate the minor additional traffic movements.

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