GTAconsultants

Taronga Zoo
Proposed Sumatran Tiger Adventure
Transport Impact Assessment

Client //	Taronga Conservation Society Australia
Office //	NSW
Reference //	15S1404000
Date //	22/05/15

Taronga Zoo

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Transport Impact Assessment

Issue: D 22/05/15

Client: Taronga Conservation Society Australia
Reference: 15S1404000
GTA Consultants Office: NSW

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
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1. Introduction

1.1 Background

The "Sumatran Tiger Adventure" project involves the renovation of the existing carnivore precinct into a new exhibit for visitors.

It is understood that a traffic and transport report is required to accompany an Environmental Impact Statement.

GTA Consultants was commissioned by Taronga Conservation Society Australia to undertake a transport impact assessment for the proposed development.

1.2 Purpose of this Report

This report sets out an assessment of the anticipated transport implications of the proposed development during operation and construction stages, including consideration of the following:

i existing traffic and parking conditions at the site
ii suitability of the proposed parking in terms of supply (quantum)
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
vi construction traffic impact during the construction stages.

1.3 Secretary's Environmental Assessment Requirements

GTA has reviewed the Secretary's Environmental Assessment Requirements (SEARs) in regards to traffic, parking and access. As per the requirements, the following items are evaluated in the chapters specified below.

Table 1.1: SEARs on Traffic, Parking and Access

SEARs	Addressed in Chapter(s)
daily and peak traffic movements likely to be generated by the project during construction and operation (including during the opening period of the new exhibit) and provide details of any impacts to the road network surrounding Taronga Zoo and details of any proposed mitigation measures	Chapters 5, 6.6
demonstrate the provision of sufficient car parking during construction and operation in accordance with the relevant guidelines/standards and/or justification for any inconsistencies	Chapters 4.3, 6.7
detail access arrangements for workers to/from the site during construction and operation, including access for emergency vehicles	Chapters 6.4, 6.8
provide details of the proposed transportation of materials to/from the site during construction including haulage routes, type of vehicles accessing the site and proposed locations for handling materials	Chapter 6

1.4 References

In preparing this report, the following documents have been reviewed and where appropriate reference has been made to the following:

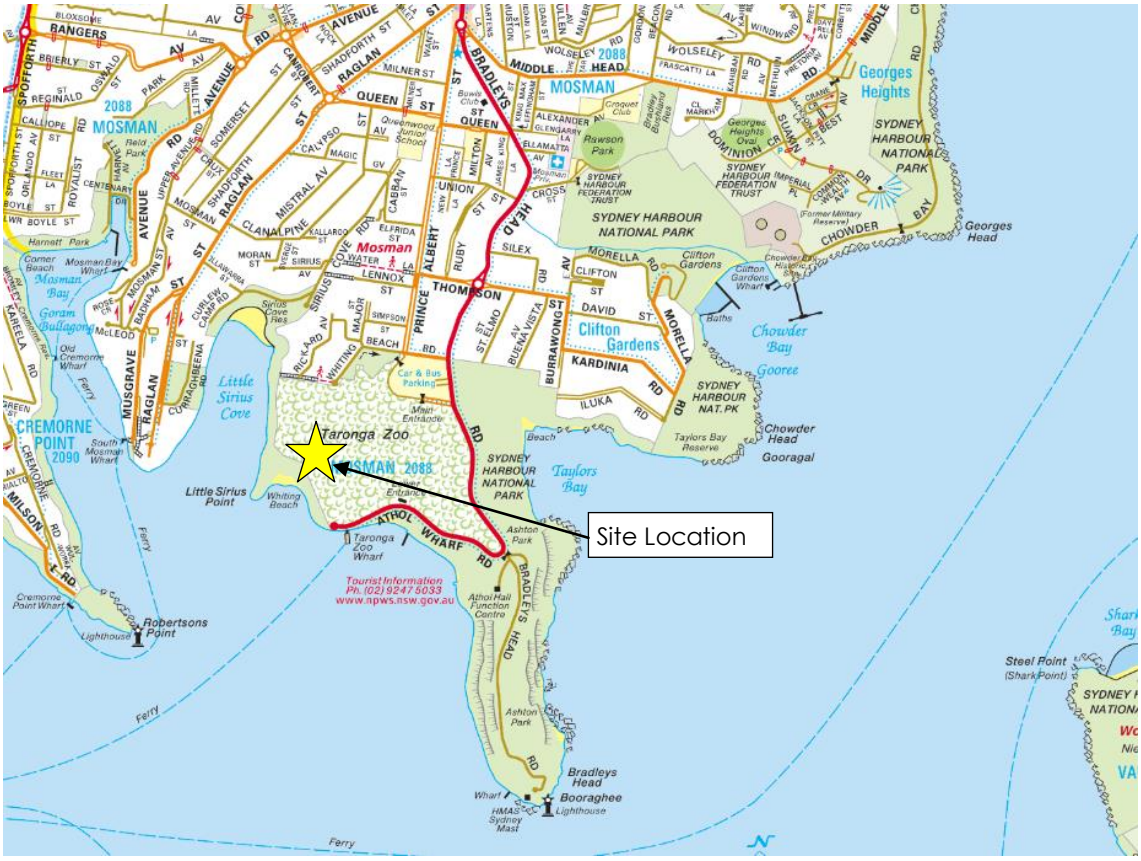
- an inspection of the site and its surrounds
- Mosman Municipal Council Transport Development Control Plan (DCP) 2005
- Mosman Municipal Council Local Environmental Plan (LEP) 2012
- Guide to Traffic Generating Development (RMS)
- EIS Guidelines – Road and Related Facilities (DoPI)
- Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development
- NSW Planning Guidelines for Walking & Cycling
- NSW Long Term Master Plan 2012
- Sydney's Cycling Future 2013
- Sydney's Walking Future 2013
- 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 with the subject development located at the western side. The location of the subject site and its surrounding environs is shown in Figure 2.1. The site is zoned as SP1, Special Activities under the Mosman Local Environmental Plan 2012.

The site is bounded by Bradleys Head Road to the east, Athol Wharf Road and Sydney Harbour to the south, Little Sirius Cove to the west and Whiting Beach Road to the north.

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 that in total of 846 parking spaces are provided. 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

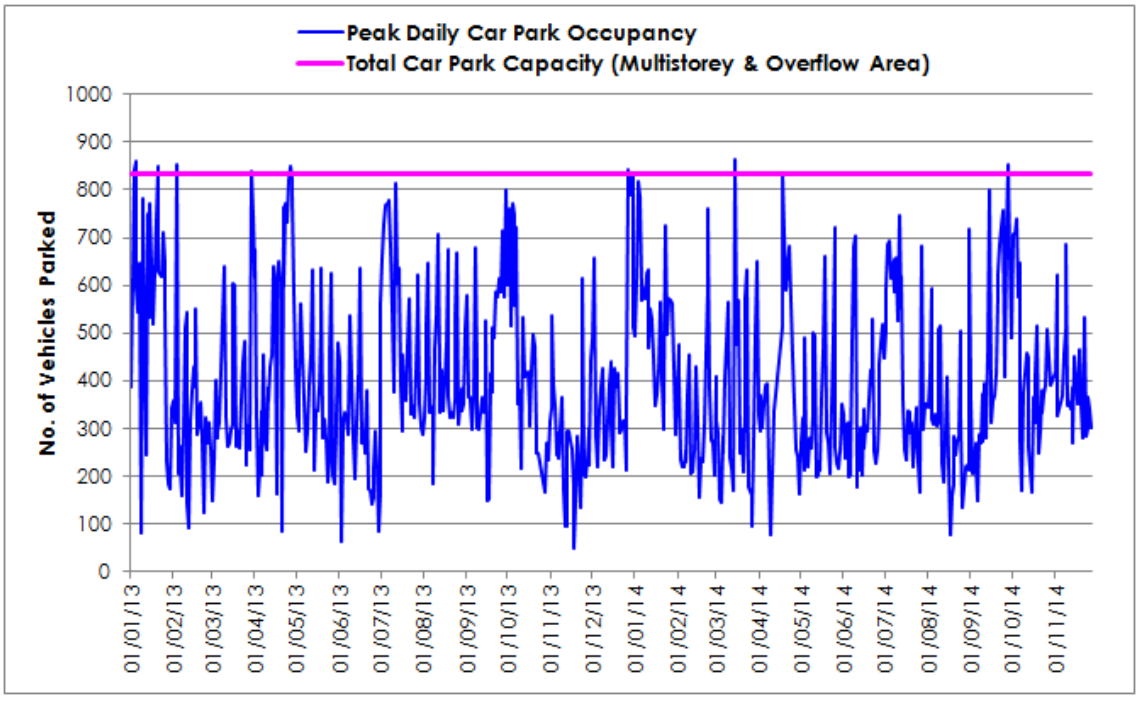
Location	General Car Spaces	Accessible Car Spaces	Motorcycle Spaces	Total
Multistorey	639	14	12	665
Overflow area	176	5	-	181
Total	**815**	**19**	**12**	**846**

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. The total car park capacity including the multistorey car park and overflow area is 834 spaces, which does not include the 12 motorcycle 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:

- Parking data has been collected for a total of 653 days.
- Over the duration of 653 days, parking occupancy exceeded the total car park capacity for only 10 days.
- On average, the parking demand exceeds the total car park capacity 5 to 6 days per year.
- The 85th percentile peak parking occupancy is 618 spaces. In simple terms, for 85% of the times, the parking demand is less than 618 spaces. This equates to a minimum of 216 available car parking spaces.

Figure 2.3 below also presents the hourly parking occupancy profile over the first two weeks in January 2014.

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

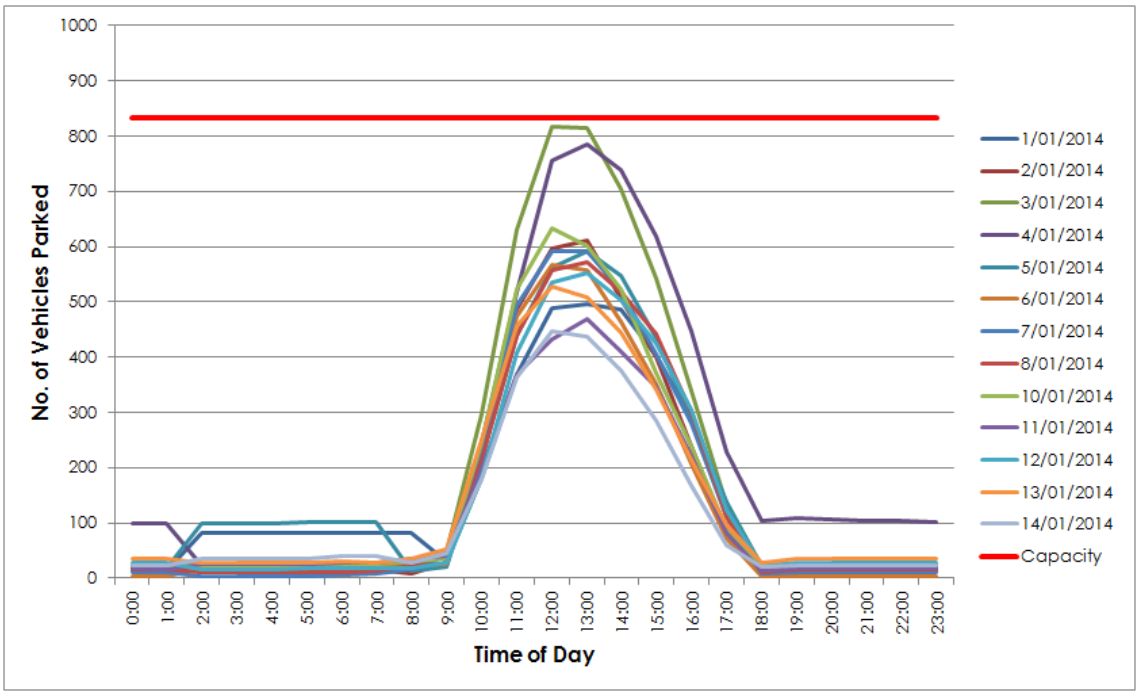


Figure 2.3 indicates that peak parking occupancy generally occurred between 12:00pm and 1:00pm and the parking occupancy decreases significantly after 2:00pm.

2.3 Traffic Generation

The traffic generation of the Taronga Zoo can be estimated from the number of vehicles entering and exiting the multistorey car park. Figure 2.4 below presents the hourly traffic generation (i.e. sum of total vehicles entering and exiting the car park) profile over the first two weeks in January 2014.

Figure 2.4: Hourly Traffic Generation (for the first two weeks during January 2014)

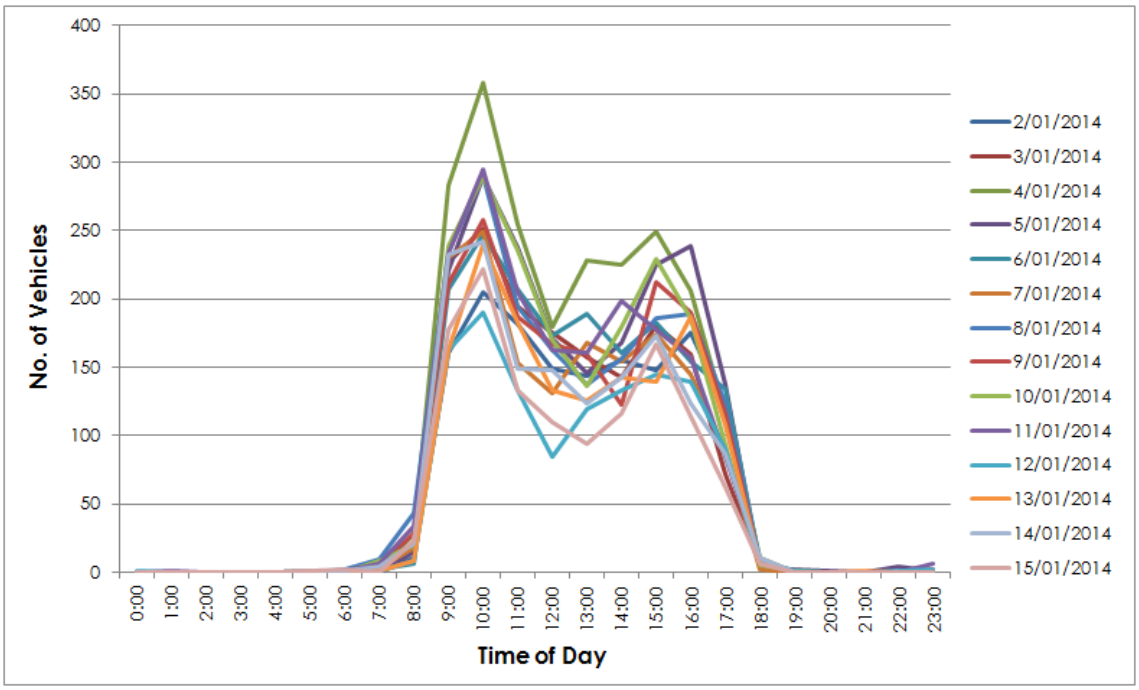


Figure 2.4 indicates the following:

- Weekday peak hour traffic generation of the Zoo was 290 vehicles per hour, which occurred at 10am to 11 am.
- Weekend peak hour traffic generation was 358 vehicles per hour, which occurred at 10am to 11am.
- Majority of vehicles entered the car park between 9am and 12pm.
- Profile of vehicles exiting the car park was more spread out i.e. between 1pm and 6pm.
- During the network peak hour, the Zoo generates in average of 20 vehicles (between 8am to 9am) and 100 vehicles (between 5pm to 6pm).
- Average daily traffic generation is approximately 1,550 and 1,910 vehicles during the weekdays and weekends, respectively.

2.4 Transport Plans and Studies

NSW Planning Guidelines for Walking & Cycling

The Planning Guidelines for Walking and Cycling provide guidance to land-use planners within local councils, consultancies and State agencies in ensuring walking and cycling improvements are taken into consideration in planning policy and practice. The guidelines provide a walking and cycling focus to the NSW Government's *Integrating Land Use & Transport Planning Policy Package*.

The guideline suggests that "when making planning instruments, councils are encouraged to integrate relevant state and local policies related to walking and cycling". This includes development policies in the DCPs and LEPs that encourage walking and/ or cycling that would be considered during the development assessment stage, thereby encourage improvements to walking and cycling facilities.

NSW Long Term Transport Master Plan 2012

The NSW Long Term Transport Master Plan 2012 (LTTMP) presents a 20 year vision for transport planning through to 2031. The LTTMP provides integrated advice with regards to transport policy; identifying solutions to develop and manage the NSW's transport system with short to long term strategies. Forming part of the LTTMP is Sydney's Rail Future, a long-term plan to increase the capacity of Sydney's rail network and update existing infrastructure.

Sydney's Cycling Future 2013

Sydney's Cycling Future was released in December 2013 following the release of the NSW Long Term Transport Master Plan to provide a mode specific cycling strategy. It presents a new direction for bicycle infrastructure planning in metropolitan Sydney by focusing on people who would like to ride more often if cycling was made a safer and more convenient option. It aims to make cycling a feasible transport option for these people by:

- investing in separated cycleways and providing connected bicycle networks to major centres and transport interchanges
- promoting better use of existing infrastructure
- engaging with partners across government, councils, developers and bicycle users.

The strategy aims to prioritise investment on projects that have the greatest potential to get the most people to shift their short transport trips to bicycle. In order to achieve this, it aims to invest in connected routes within 5 kilometres of major centres and public transport interchanges.

The strategy outlines a "Connecting Centres Program" to assist councils to complete local bicycle networks to major centres in metropolitan Sydney.

Sydney's Walking Future 2013

Sydney's Walking Future was released in December 2013 following the release of the NSW Long Term Transport Master Plan to provide a mode specific walking strategy for Sydney. The strategy recognises that walking is a fundamental component of an integrated transport system with most public transport trips starting and ending with walking.

The key aim of Sydney's Walking Future includes:

- promoting walking for transport
- connecting people to places through safe walking networks around centres and public transport interchanges
- engaging with partners across government, councils, non-government organisations and the private sector.

The strategy seeks to create a culture of walking for transport by promoting walking as a viable and attractive transport choice, particularly for travelling to and from work and school. The strategy aims to focus infrastructure investment on completing connections within two kilometres of centres and public transport interchanges. In addition to this, the strategy aims to link walking to urban growth and to prioritise the needs of pedestrians in the planning, design and construction of new transport and urban development projects.

2.5 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 2.5.

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/ na off peak
Ferry	F2	Circular Quay to Taronga Zoo	Taronga Zoo Wharf	on site	30 minutes peak and off peak

Figure 2.5: Sydney Bus Network Map

Source: http://www.sydneybuses.info/routes/routes/14054_STA_region_web_map_north.pdf, accessed 8/01/2015

2.6 Pedestrian and Cycle Infrastructure

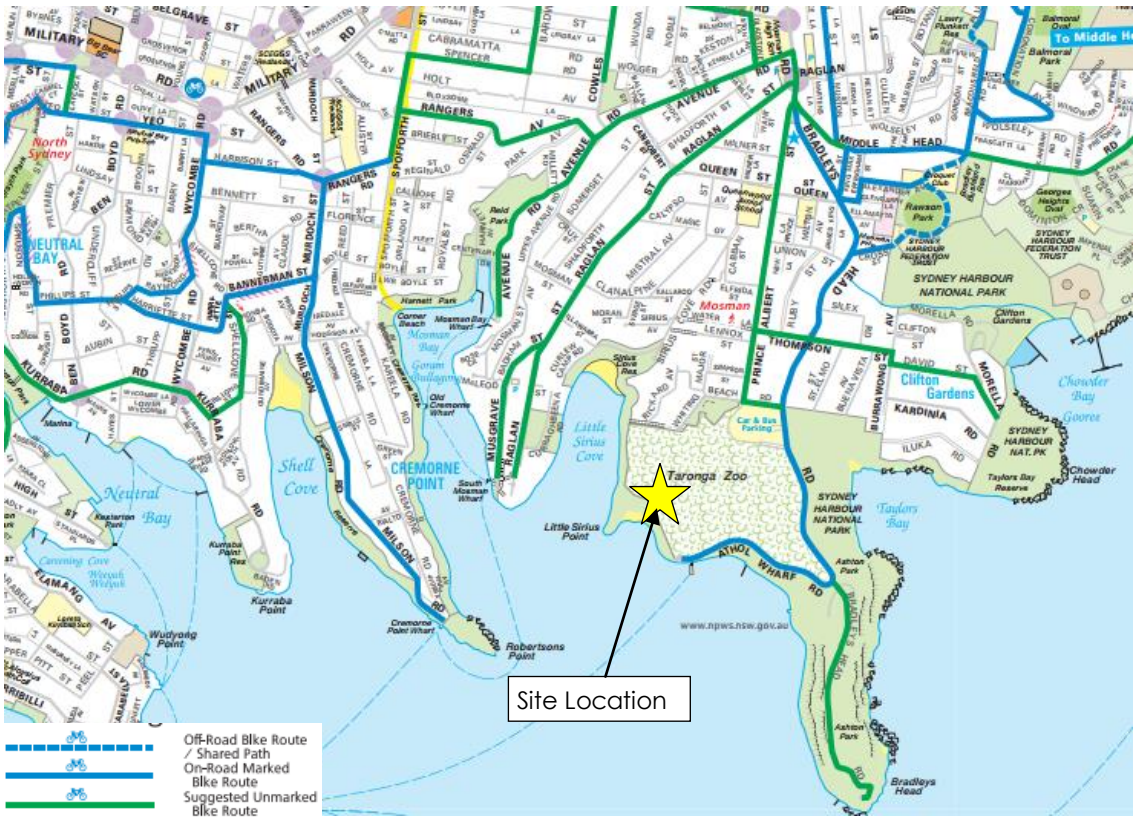
Formal pedestrian footpaths are provided at the following locations:

- both sides of Bradleys Head Road, north of the main Zoo entrance
- both sides of Bradleys Head Road, south of the main Zoo entrance for approximately 300m
- northern side of Whiting Beach Road.

A safe pedestrian crossing point is provided across the Bradleys 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 2.6, which shows the site has a good connectivity to on/off bike routes.

Figure 2.6: Mosman Cycle Map



Source: reproduced from www.mosman.nsw.gov.au/file_download/1945/NorthernSydneyCyclingMap.pdf, accessed 8/01/15

3. Development Proposal

The project involves the renovation of the existing carnivore precinct into a new exhibit for visitors. The development will include:

- Demolition of the existing carnivore exhibit
- Construction of a new carnivore exhibit for large cats (tiger, lions, leopards, etc.). The new exhibit will include:
  - 3 exhibit areas
  - interpretative Sumatran Village to facilitate learning about humans living with tigers
  - holding dens
  - containment fences
  - landscaping, including new tropical vegetation
  - generous milling and seating areas
  - interpretative and directional signage
  - two new exhibit pedestrian pathways
  - keeper safe corridors
  - exhibit enrichment devices and visitor viewing areas
  - ranger outpost
  - food cart
  - office and staff amenities
  - animal food preparation area / equipment store.
- It is also proposed to rebuild and re-orientate the end of the existing accessible ramp (as it meets ground level) to align with the two new exhibit pathways. Services will be relocated, upgraded and augmented, where required.

The site area for the Zoo will not be increased as part of this proposal. The proposed development will include demolition of the existing carnivore exhibit and construction of new carnivore exhibits in its place.

It is proposed that all deliveries to and from the new exhibit will be provided via Whiting Beach Road access through the security portal.

No additional car parking will be provided as part of this proposal. The visitors to the Zoo will utilise the existing multistorey car park.

Figure 3.1 shows the location plan of the proposed Sumatran Tiger Adventure. A detailed proposed site plan is also shown in Appendix A.

Figure 3.1: Location Plan of Sumatran Tiger Adventure

4. Car Parking

4.1 Car Parking Requirement

Mosman Municipal Council's 'Transport Development Control Plan' 2005 does not specify a car parking rate for zoo or similar uses. Similarly, car parking rates for zoo are not specified in RMS' Guide to Traffic Generating Developments.

The site area for the Zoo will not be increased as part of this proposal. The proposed development will include demolition of the existing carnivore exhibit and construction of new carnivore exhibits in its place. The proposal would not intensify the use of the existing site.

Therefore the proposed development will not be required to provide any additional car parking on-site.

4.2 Taronga Zoo On-Site Car Park

As presented in Section 2.2, Taronga Zoo currently provides in 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 85th percentile peak parking occupancy was 618 spaces with minimum of 216 available car parking spaces. The number of days which the parking demand exceeded the capacity was in average of 5.6 days over a year.

4.3 Adequacy of Parking Supply

Based on the above, the current parking supply is considered appropriate for the existing parking demand for the Zoo. As the proposed Sumatran Tiger Adventure will not generate any increase in statutory car parking requirement, the current parking supply is also considered appropriate to cater for the proposed development.

However, it is acknowledged that during the first few months after the opening of the new exhibit, there may be some increase in additional parking demand. The results of the parking analysis indicated that the 85th percentile peak parking occupancy was 618 spaces with minimum of 216 available car parking spaces. Therefore the existing multistorey car park would have some capacity to accommodate increase in existing parking demand during the opening period except for the very busy 5 to 6 days within a year. It is also considered excessive to accommodate the car parking demand during the first few month of the opening period.

Long term visitation levels are expected to remain as is and hence, additional parking is not required.

5. Traffic Impact Assessment

In the long term, the proposed Sumatran Tiger Adventure is not expected to generate additional traffic to the Taronga Zoo. Generally, visitors and members would visit the centre to experience the overall zoo, not just the Tiger Adventure.

However, it is acknowledged that during the first few months after the opening of the new exhibit, the visitation to the Zoo may increase up to about 10 percent.

Based on the data obtained from the existing multistorey car park usage during the first two weeks in January 2014, the average daily traffic generation of the Zoo is approximately 1,550 and 1,910 vehicles during the weekdays and weekends, respectively. Therefore, the increase in daily traffic flows during the opening periods is expected to be up to about 160 to 190 additional vehicles per day.

The average peak hour traffic generation of the Zoo is approximately 250 and 310 vehicles during the weekdays and weekends, respectively. The increase in traffic generation after the opening period is expected to be about 25 to 30 additional vehicles per hour, which is equivalent to one additional vehicle every two minutes.

Similarly, the average traffic generated by the Zoo during the road network peak period is approximately 210 and 160 vehicles per hour during the morning and afternoon commuter peak hours, respectively. Hence, the increase in peak hour traffic flows after the opening periods is expected to be up to about 21 additional vehicles during the road network peak hour. This is equivalent to only one additional vehicle every three minutes, which is only expected to occur during the first few months after the opening of the new exhibit.

Therefore, it is expected that the local traffic conditions in vicinity of the site would not have notable impact by this proposal and no mitigation measures are proposed.

6. Construction Traffic Impact

6.1 Proposed Works

It is proposed to carry out the works in three stages:

- Stage 1 – Demolition of the existing carnivore exhibit
- Stage 2 – Construction of a new carnivore exhibit
- Stage 3 – Rebuild and re-orientate the end of the existing accessible ramp. Relocation/upgrade of the existing services.

It is proposed to commence construction during October/November 2015. The demolition and construction works are likely to take about 12 to 15 months to complete (i.e. to be completed by late 2016/early 2017).

6.2 Work Hours

It is proposed that construction works will be carried out between the following hours:

Monday to Friday: 7:00am – 6:00pm
Saturday: 7:00am – 1:00pm if inaudible on adjoining premises, otherwise 8.00am to 1.00pm.

Construction vehicles will only be permitted to enter the Zoo between the hours of 6.00am to 6.00pm Mondays to Fridays inclusive and 7.00am to 1.00pm Saturdays, but excluding public holidays.

Any work outside the proposed construction hours will be subject to specific prior approval from Mosman Council or NSW Department of Planning.

6.3 Construction Traffic Vehicle Type

Construction vehicles likely to be generated by the proposed construction activities include:

- Articulated trucks for the delivery of machinery (including mobile cranes, diggers)
- Trucks to collect demolition and excavated materials
- General vehicles such as concrete trucks, medium rigid trucks, small rigid trucks, tradesmen's utilities and courier vans.

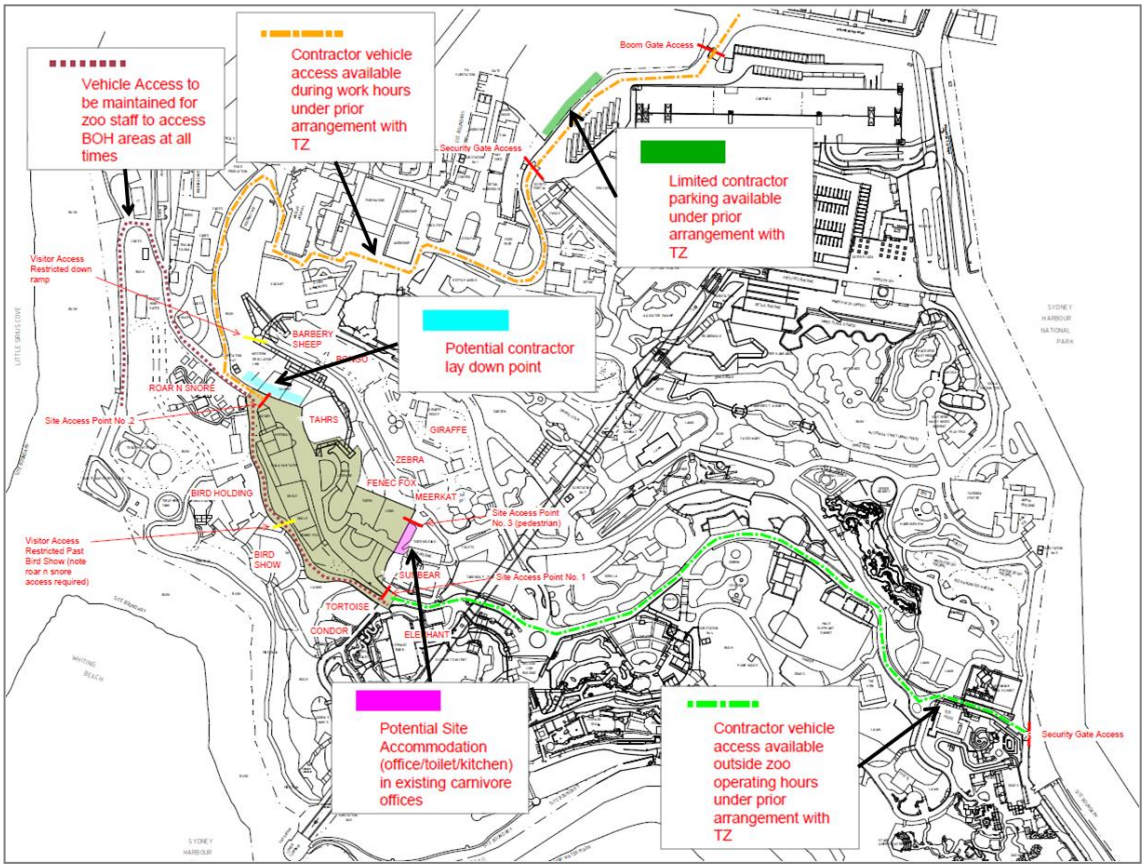
6.4 Construction Vehicle Access

The construction vehicles would use the following accesses:

- Beach Road access via the staff car park (to be used during work hours)
- Bradleys Head Road access (to be used outside of zoo operating hours).

Figure 6.1 presents the access points and routes within the Zoo grounds. Figure 6.1 also shows the potential lay down area for construction materials.

Figure 6.1: Construction Vehicle Access Plan



Taronga Zoo also implements a strict vehicle policy within the Zoo grounds, which is applicable for the proposed construction works. Vehicle policy is listed below.

- *1. Restrict movements of vehicles to the minimum requirements for executing the Works. Do not drive private vehicles into the Zoo grounds.*
- *2. Do not exceed 10 km per hour.*
- *3. Do not drive vehicles including suppliers' delivery vehicles within the public areas of the Zoo between the hours of 9.00am to 5.00pm during school holidays and weekends, and 10.00am to 3.00pm at other times.*
- *4. Between 6.00am and 9.00am and between 5.00pm and 6.00pm during school holidays and between 6.00am and 10.00am and between 3.00pm and 6.00pm at other times, up to ten (10) vehicle movements are permitted per day in the public areas. Escort larger vehicles to the construction Site.*
- *5. Movements of vehicles in other areas of the Zoo are restricted to between the hours of 6.00am to 6.00pm subject to the approval of the RP.*
- *6. Roads within the Zoo may not have a heavy duty pavement. The roads may not be suitable for articulated or long wheel base vehicles. Some of the roads are unsealed and may not be suitable for use in wet weather.*
- *7. Roads within the zoo may have limited width and headroom. Check the access before organising vehicular transport.*
- *8. Use a route as directed by Zoo staff and notified prior to start and use service roads where possible.*
- *9. Limit movement of heavy vehicles to be used in removing spoil or other materials from the Taronga Zoo to between the hours of 7.30am to 4.30pm on Monday to Friday*

and between 7.30am to 1.00pm on Saturday, or as required by Mosman Council, subject to restrictions in item 3 above for vehicle movements within the Zoo.

- *10. Take responsibility for any damage caused by vehicles, including those of subcontractors and suppliers, using the roads and repair any such damage at no cost to the Principal.*
- *11. Keep access roads and adjacent footpaths, gutters and drains clear of construction waste, debris and mud, clean as required and remove waste, debris and mud from the Zoo, all at the Contractor's cost.*
- *12. Comply with the physical limitations on the height of vehicles using Zoo roads.*
- *13. Where it is necessary to remove fences within the Zoo to enable access to be gained to work areas, keep the areas secure at all times and reinstate the fences as soon as practical.*
- *14. Do not ride in/on back of vehicles; and ride in seat with seat belt fastened.*
- *15. Fuelling of vehicle at or near public areas is not permitted.*
- *16. Park vehicles on Site within the site compound or at locations as directed by Zoo staff.*
- *17. The Zoo is a pedestrian park and pedestrians have right of way.*

As listed above, the construction vehicles accessing the Zoo grounds would occur outside of the busy zoo operating period. Vehicle access within the Zoo grounds would generally be limited to 6:00am – 10:00am and 3:00pm – 6:00pm.

6.5 Construction Vehicle Routes

The designated truck routes for construction vehicles are:

- To/from north – via Spit Road/Military Road/Bradleys Head Road
- To/from west – via Military Road/Bradleys Head Road.

These vehicle routes are shown in Figure 6.2.

All construction vehicles accessing the site would do so in full compliance with the required clearway and parking restrictions.

6.6 Estimate of Construction Traffic

It is estimated that the construction stage would generate construction vehicles peaking at 10 to 20 deliveries per day (i.e. 1 to 2 vehicles per hour). At this low volume of construction vehicle flow, it is unlikely to present any road capacity problems in vicinity of the site.

6.7 Parking for Construction Workers

Whilst the number of workers likely to work on the construction site will vary throughout each stage, however, it is anticipated that up to 50 workers may be present at any one time.

Construction vehicles will park along the green section as shown in Figure 6.1, which would be designated parking section for contractors only. This area currently accommodates about 30 to 40 informal (not line marked) spaces.

The provision of about 30 to 40 car parking spaces would be sufficient to accommodate the parking demand of up to 50 construction workers as they would generally travel in groups of 2 to 3 people in each vehicle. Contractors would be required to make prior arrangement with the Taronga Zoo before using this parking area.

Taronga Zoo staff car parking allocation will not be affected by the construction vehicles. Construction vehicles will not be permitted to utilise staff car park or visitor car park.

Figure 6.2: Construction Vehicle Access Routes

6.8 Emergency Access

Access to the construction area by emergency vehicles would be available via the two access points, which are via Bradleys Head Road or Beach Road.

In addition, access to neighbouring sites by emergency vehicles should not be affected by the works as the road and footpath in vicinity of the site would be unaffected.

7. Other Transport Implications

7.1 Pedestrian and Cyclist Implications

It is anticipated that the proposed development may attract some additional walking and cycling trips during the first few months after the opening of the new exhibit. However, the additional trips will not impact on the existing pedestrian and cycling facilities in the area.

The impact of the vehicular traffic arising from the development in the vicinity of the site would have minimal impact on existing walking and cycling facilities on the surrounding road network.

7.2 Public Transport Implications

Similarly, the proposed development would generate some additional trips utilising the existing public transport system. It is expected that these trips would be modest, and is unlikely to result in any additional capacity stress on current public transport systems in the area.

8. Conclusion

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

i The proposed development will not generate any additional statutory parking requirement.

ii The proposal does not include provision of any additional on-site parking as the long term visitation levels are expected to remain as is and hence, additional parking is not required.

iii However, it is acknowledged that during the first few months after the opening of the new exhibit, there would be some increase in additional parking demand. The results of the parking analysis indicated that the 85th percentile peak parking occupancy was 618 spaces. This equates to a minimum of 216 available car parking spaces. Therefore the existing multistorey car park would have some capacity to accommodate increase in existing parking demand during the opening period except for the very busy 5 to 6 days within a year.

iv It is proposed that all deliveries to and from the new exhibit will be provided via Whiting Beach Road access through the security portal.

v During the first few months after the opening of the new exhibit, the increase in peak hour traffic flows is expected to be up to about 25 to 30 additional vehicles during the peak hour. This is equivalent to only one additional vehicle every two minutes. It is anticipated that the existing road network could absorb this minor increase in additional trips, which is only expected to occur during the first few months after the opening.

vi It is estimated that the construction stage would generate construction vehicles peaking at 10 to 20 deliveries per day (i.e. 1 to 2 vehicles per hour). At this low volume of construction vehicle flow, it is unlikely to present any road capacity problems in vicinity of the site.

Appendix A

Proposed Site Plan

NOTES:

1. EXISTING TREES PROPOSED TO BE RETAINED SHOWN ONLY

KEY

00 TO TARONGA FOOD MARKET
01 EXISTING SUN BEAR EXHIBIT
02 ENTRY TO PROPOSED EXHIBITS
03 INTERPRETIVE DISPLAY - INTRODUCTION
04 INTERPRETIVE DISPLAY - 'VILLAGE'
05 EXHIBIT TRAIL - INBOUND PATH
06 EXHIBIT VIEWING AREA
07 EXISTING SANDSTONE ROCK LEDGE
08 WATER COURSE - MAN-MADE
09 MAINTENANCE ACCESS
10 WEST RAMP CONNECTOR - RE-DIVERTED
11 INTERPRETIVE DISPLAY - MIDPOINT VIEWING AREA
12 TAHR MOUNTAIN EXHIBIT
13 TIGER NIGHT DENS
14 EXHIBIT TRAIL - OUTBOUND PATH
15 INTERPRETIVE DISPLAY - EXIT
16 EXIT TO PROPOSED EXHIBITS
17 BIRD SHOW ROAD
18 EXISTING RETAINING WALL
19 EXISTING FOOD AND BEVERAGE STAND
20 EXISTING BIRD SHOW SEATING
21 LOADING / GARBAGE AREA
22 STAFF OFFICE AREA
23 KEEPER ACCESS
24 TIGER DENS
25 SUNBEAR ACCESS
26 ANIMAL FOOD PREPERATION AREA
27 RECONFIGURED ACCESS
28 EXISTING STORE AND COLDROOM

1 CONCEPT SITE PLAN
1:250

REV	DESCRIPTION	DATE
A	ISSUED FOR INFORMATION	05/12/14
B	ISSUED FOR PLANNING REPORT	06/12/14
C	ISSUED FOR CONSULTANT INFORMATION	07/01/15
D	ISSUED FOR CONSULTANT INFORMATION	20/01/15
E	ISSUED FOR INFORMATION	06/02/15

REV	DESCRIPTION	DATE

LANDSCAPE ARCHITECT
Green & Dale Associates
PO Box 351 Warrandyte
Victoria 3113
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MECHANICAL ENGINEER
Shelmerdines
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NSW 2065
tel: 02 9436 3021

ELECTRICAL / COMMS ENGINEER
Shelmerdines
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NSW 2065
tel: 02 9436 3021

ESD CONSULTANT
Surface Design
Suite 11.03, 68 York Street
Sydney, NSW 2000
tel: 02 9249 1400

STRUCTURAL ENGINEER
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CIVIL ENGINEER
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LEGEND

NORTH

CLIENT
TARONGA CONSERVATION SOCIETY AUSTRALIA

PROJECT TITLE
TARONGA ZOO - SUMATRAN TIGER

SCALE CHECK 5 10

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TITLE
PROPOSED SITE PLAN

DRAWN	PLOT DATE	SCALE @A1
HC	6/02/2015	1:250
CHECKED	PROJECT NO.	DRAWING NO. / REV. NO
AN	14/07	A-SD-1400 / E

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