



Operational Transport Management Plan

Prepared for:

Sydney Zoo Pty Ltd

8 February 2019

The Transport Planning Partnership

Operational Transport Management Plan

Client: Sydney Zoo Pty Ltd

Version: Final 02

Date: 8 February 2019

TTPP Reference: 18313

Quality Record

Version	Date	Prepared by	Reviewed by	Approved by	Signature
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Final 02	08/02/19	Santi Botross	Michael Lee	Michael Lee	

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APPENDICES

- A. CONSULTATION WITH AUTHORITIES
- B. WIDER WESTERN SYDNEY BUS NETWORK
- C. VARIABLE MESSAGE SIGN (VMS) PLAN
- D. 14.5M LONG RIGID BUS (COACH) SWEEP PATH ANALYSIS PREPARED BY NORTHROP
- E. OVERALL SITE PLAN
- F. STATIC DIRECTIONAL SIGNAGE PLAN

1 Introduction

1.1 Background

Sydney Zoo Pty Ltd has commissioned The Transport Planning Partnership Pty Ltd (TPPP) to prepare an Operational Transport Management Plan (OTMP) for the operation phase of a zoological facility within the Western Sydney Parklands. The proposal has been classified by Department of Planning and Environment as a State Significant Development (SSD 7228).

The initial opening phase (first three months) and subsequent months are expected to attract high visitor demand than typical operation. For this reason, an OTMP for the initial year of opening to the public is required to be prepared. The purpose of the OTMP is to mitigate the traffic, transport and parking impacts during the initial year of operation for the proposed development.

The OTMP has been prepared in-line with the Development Consent Conditions for the proposal dated 8 September 2017. The consent conditions to which this OTMP applies are shown in Table 1.1.

Table 1.1: Development Consent Conditions

Condition C5	Addressed In
<p>The Applicant shall prepare an Operational Traffic management Plan for Development which will form part of the OEMP in Condition D4. The plan shall:</p> <p>(a) Be prepared by a suitably qualified and experienced person in consultation with TfNSW, RMS and Council;</p>	Throughout this OTMP
<p>(b) Include the detail of specific management measures to be implemented during the initial year of operations to address potentially higher than anticipated visitation;</p>	Section 7
<p>(c) Include detail of management measures for parking, traffic and transport during high visitation periods (particularly under any operating times considered under the 'peak' scenario in the EIS including allocated arrival times, off-peak ticketing and the promotion of public transport;</p>	Sections 7 and 8
<p>(d) Include details and analysis of how the largest vehicle can enter and exit the site access, site carpark and loading areas; and</p>	Section 7.2.1
<p>(e) Include detail of management measures to be implemented to minimise impacts offsite, including impacts upon the local road network, public transport services and pedestrian access.</p>	Section 8

1.2 Referenced Documents

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

- Sydney Zoo Bungaribee Precinct, Eastern Creek Transport Impact Assessment by GTA Consultants (GTA) dated 7 December 2015.
- Sydney Zoo Development, Response to Request for Information by GTA Consultants dated 14 April 2016.
- Sydney Zoo Public Domain Development Application Landscape Plan by Aspect Studios dated December 2017.
- SSD 7228 Development Consent Conditions dated 8 September 2017
- 14.5m long rigid bus (coach) swept path analysis by Northrop dated 21 December 2018.

2 Consultation with Authorities

Blacktown City Council, Roads and Maritime Services and Transport for NSW have been consulted as required by Consent Condition C5 (a) and have been provided the opportunity to comment on this operational traffic management plan. Following their review, Blacktown City Council did not raise any objection to the OTMP. Comments from the remaining authorities are detailed below.

Comments provided by Roads and Maritime Services are as follows:

- *What are the arrangements for the overflow car park? What signage? How much advance notification is given to motorists to redirect to another car park? How much notification is required for the shuttle service to operate?*
- *The internal circulation within the car park will make it difficult for motorists to find a space when the car park is near full as it requires motorists to complete a new full lap again when the row they have selected is full*
- *What occurs when there are concurrent events at Sydney Motorsport Park and peak periods at the Zoo? What are the contingency plans?*
- *Initial opening phase - Any traffic marshals or traffic control proposed within 100m of the traffic lights on the great western highway will need ROL approval through TMC*
- *VMS plan appendix C – details of location of VMS are required – need to meet guidelines – they appear too close to existing intersections and may be difficult for motorists across all 3 lanes to view and respond.*
- *There is no current agreement for the implementation of static directional signage for Sydney Zoo. Due to the timeframes, if Sydney Zoo decides to proceed with this work, there is a real risk that it will not be implemented prior to the opening of Sydney Zoo.*
- *It is unclear if the mitigation proposals will be installed or not. There is no confirmation that these measures will be*
- *Consultation with the TMC is required. If overflow car parking is utilised, how will this messaging be relayed to motorists?*
- *Who is the contact who is managing internal traffic that we can provide to follow up on steps/actions? – there appears to be no clear command and control arrangement nor clear escalation process.*

Comments by Transport for NSW are as follows:

- *Sunday services on the route 729 (Blacktown Station – Mt Druitt Station) only operates at an hourly frequency with services ending around 8pm (whereas the park will remain open during summer months until 10pm).*
- *Should the Zoo proceed with seeking to use a shuttle service from the site to Blacktown interchange; discussion and agreement must be undertaken with Sydney Trains prior to operation. Ample lead time will be required to undertake this time prior to commencement of shuttle services/ Zoo opening.*

Correspondence with authorities is provided in Appendix A.

3 Existing Conditions

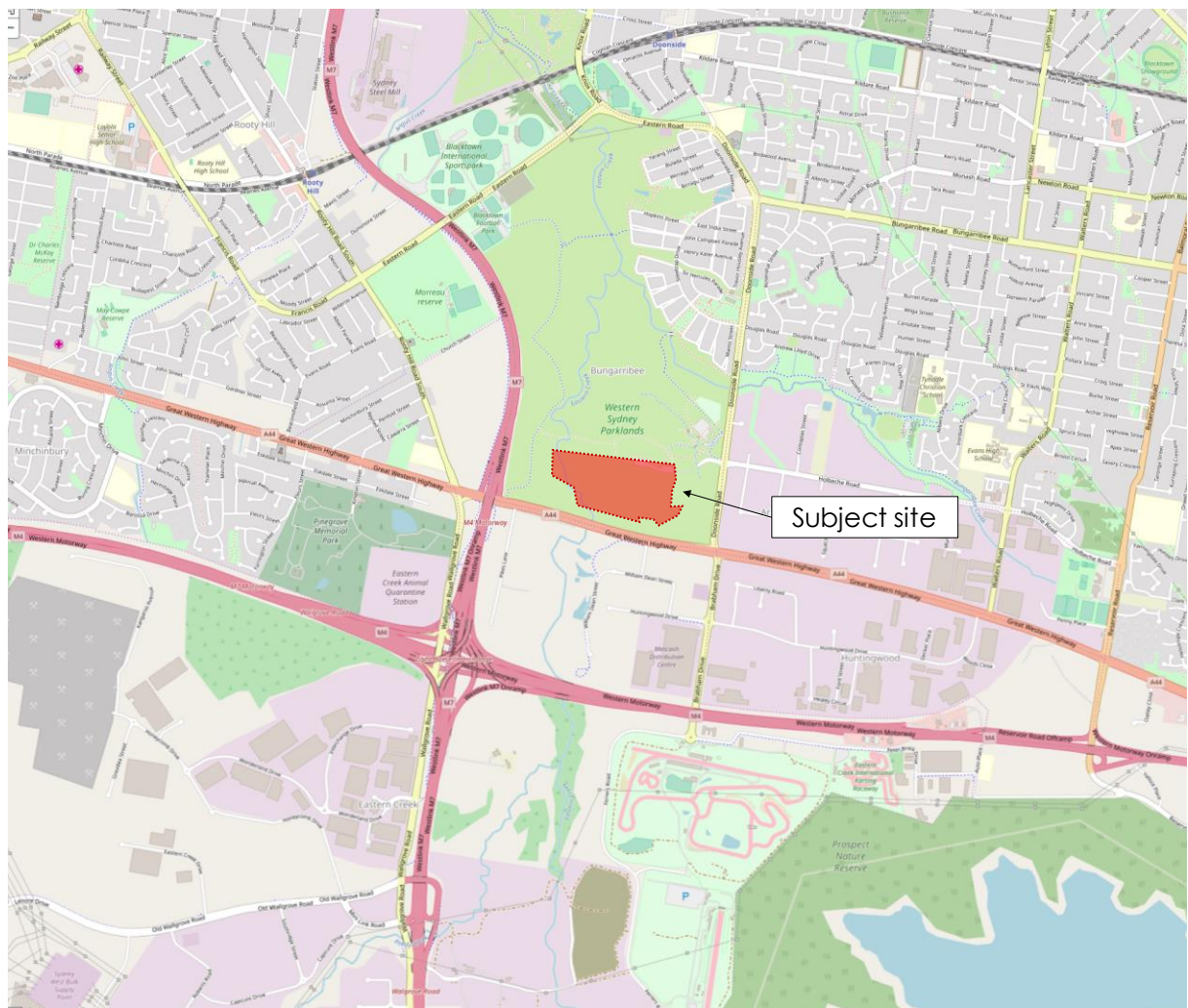
3.1 Subject Site

The subject site is located in the Western Sydney region approximately 6 km south-west of Blacktown CBD within the local government area of Blacktown City Council. The site comprises an area of approximately 16.5 ha within the Bungaribee Precinct in the Western Sydney Parklands.

The site is bound by Doonside Road to the east and Great Western Highway to the south. William Dean Street forms the access road into the subject site from Great Western Highway. Surrounding land uses consist of Western Sydney Parklands to the north, low-density residential dwellings to the north-east and Huntingwood industrial precinct to the east and south-east.

The location of the subject site and its surrounding environs are presented in Figure 3.1.

Figure 3.1: Site Locality



Basemap Source: ArcGIS, viewed online 22/10/2018

3.2 Surrounding Road Network

Great Western Highway (GWH) is a State Road that runs in an east-west direction through Sydney which carries traffic volume in the order of 31,000 two-way vehicles daily. GWH connects to Sydney's key motorways including Westlink M7 and M4 Western Motorway (via Westlink M7). It is an eight-lane highway which is intersected by Rudders Lane and William Dean Street at a signalised junction. It has a speed limit of 80 km/h and there is no on-street parking permitted surrounding the subject site.

William Dean Street is local street which provides access to the subject site off GWH. It is currently under construction, and is proposed to be constructed as a two-lane two-way street with a central median. A roundabout on William Dean Street is proposed at the entry/exit to Sydney Zoo.

Rudders Lane is a two-way local street that forms the southern leg of the signalised intersection used to access the subject site. It runs through the Huntingwood industrial precinct located on the southside of GWH. It will be configured as a four-lane two-way road with posted speed limit of 50 km/h. Parking on Rudder Lane is not permitted at all times.

Doonside Road is a Regional Road with a four-lane two-way carriageway aligned in the north-south direction which can be used to access the Western Sydney Parklands. Parking is not permitted on Doonside Road in vicinity of the site. Doonside Road has a posted speed limit of 70 km/h.

3.3 Public Transport

Doonside Railway Station is the nearest station to the subject site which is located approximately 4 km north of the site. The closest major station is Blacktown Railway Station which is around 6 km north-east of the site. Both stations are served by Sydney Trains T1 Western Line services which connects to other major centres including Penrith, Parramatta and Sydney City. Blacktown Railway Station also interchanges with the T5 Cumberland Line and Intercity Blue Mountains Line (BML).

Transport interchanges exist at Blacktown Station and the nearby Westpoint Shopping Centre. The bus interchange at Westpoint is located a few minutes' walk from Blacktown Station. Bus Route 729 (which is shown in

Figure 3.2) operates between the bus interchanges and the subject site during weekdays and weekends. Bus stops for Bus Route 729 serving the subject site are located on GWH near William Dean Street as shown in Figure 3.3. These bus stops are located within a 400m-walk of Sydney Zoo which is equivalent to a five-minute walk.

Bus Route 723 services the Huntingwood industrial precinct on weekdays only. The service runs from the transport interchanges to bus stops on Rudders Lane which are located approximately 200m walking distance from Sydney Zoo.

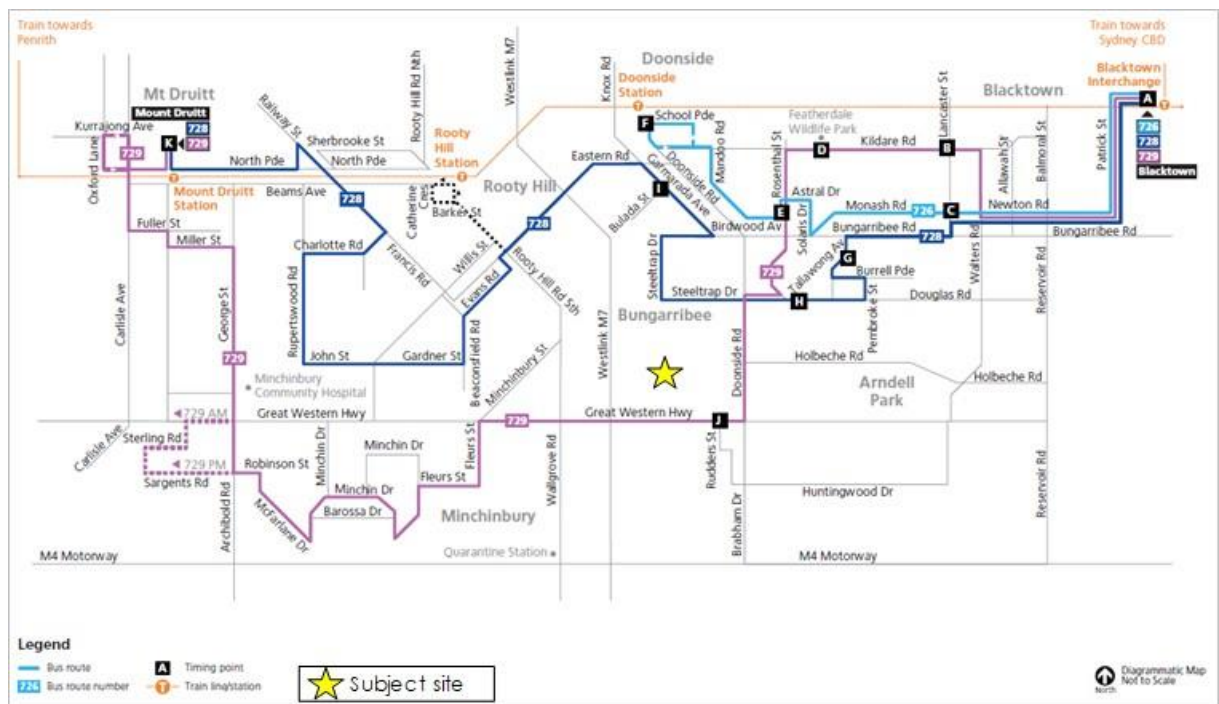
Bus routes departing Blacktown Transport Interchange and Westpoint Interchange provide links to surrounding suburbs including Mt Druitt, St Marys, Doonside, Rouse Hill, Prospect, Eastern Creek, Glenwood and Castle Hill. A snapshot of bus services at the interchanges is given in Figure 3.4. A map of the wider Western Sydney bus network is given in Appendix B.

A summary of the public transport provisions surrounding the subject site is given in Table 3.1.

Table 3.1: Public Transport Services

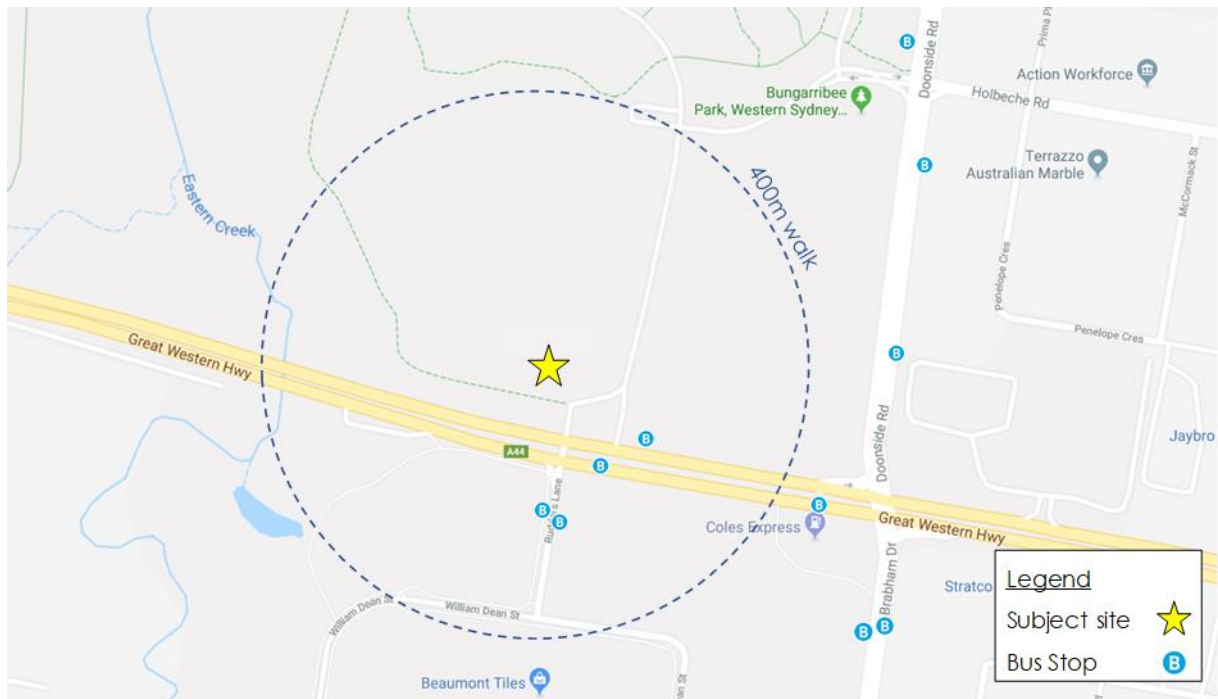
Service	Route	Route Description	Location of Stop	Frequency	
				Weekday Peak/Off-peak	Weekend
Train	T1	Penrith to Epping and Hornsby	Doonside	10-15 mins	15 mins
	T5	Schofields to Campbelltown	Blacktown	30 mins	30 mins
	BML	Katoomba/Lithgow to Central		30mins/ 60 mins	30 mins (average)
Bus	729	Blacktown, Minchinbury and Mt Druitt	GWH opposite Rudders Lane	30 mins	25-30 mins
	723	Mt Druitt to Blacktown via Huntingwood & Eastern Creek *Weekday service	Rudders Lane before GWH	20mins/ 60mins	None

Figure 3.2: Local Bus Network



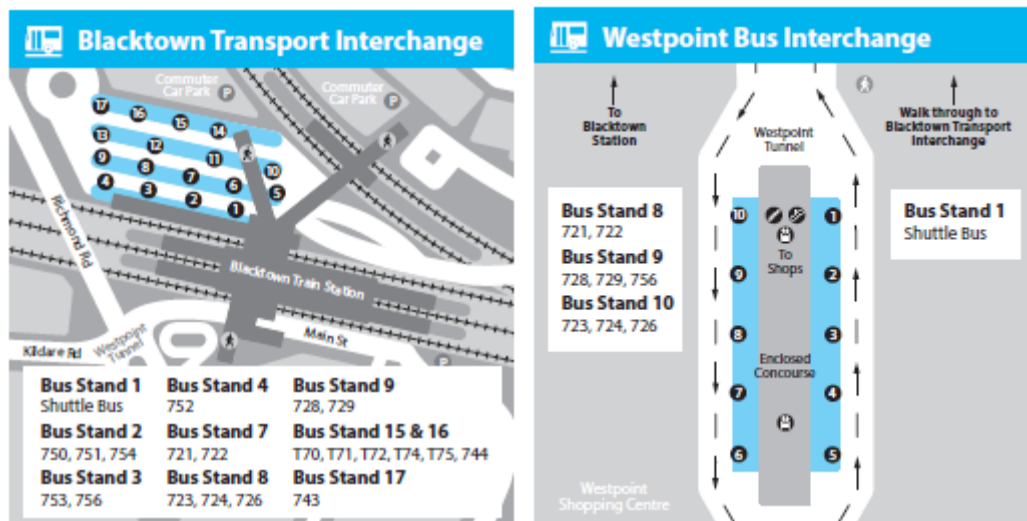
Source: Busways, viewed online 27/10/2018

Figure 3.3: Nearby Bus Stops



Basemap Source: Google Maps, viewed online 27/10/2018

Figure 3.4: Interchange Bus Services



Source: Busways, viewed online 27/10/2018

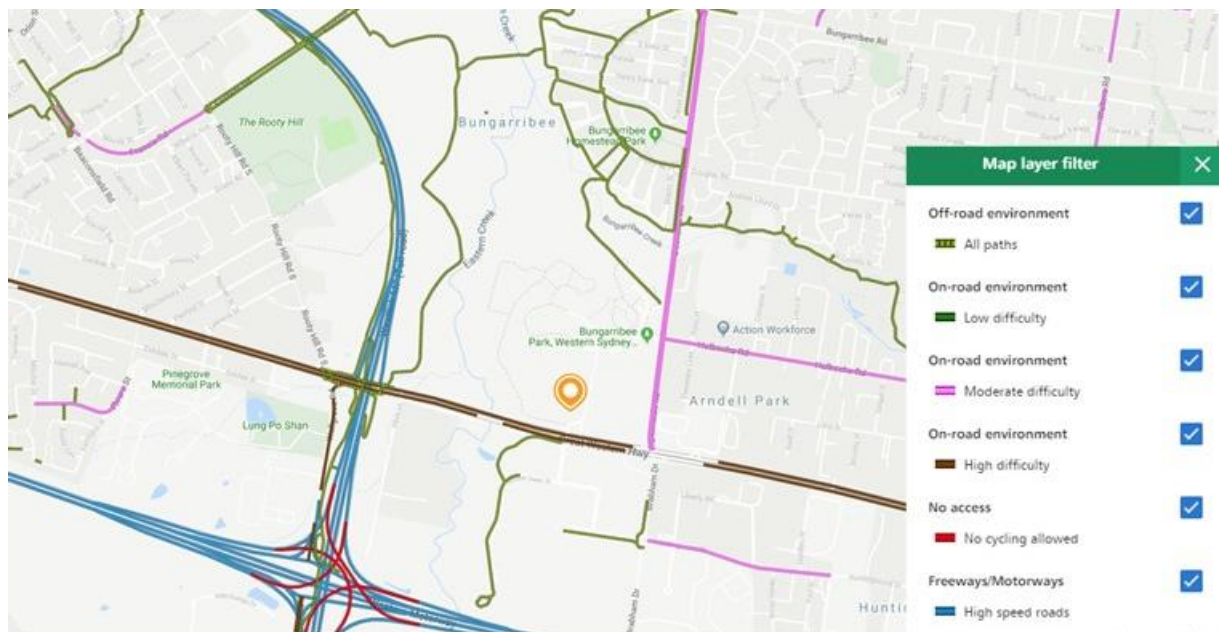
3.4 Pedestrian and Cycling

Pedestrian and cycling infrastructures are available in the vicinity of the subject site. Pedestrian footpaths are provided on both sides of Rudders Lane and are between 1.2m-2.2m wide. Marked pedestrian crossings are provided on the north, east and south legs of the nearby intersection of Rudders Lane/ William Dean Street/ Great Western Highway. Construction is being undertaken by Western Sydney Parklands Trust.

The construction of William Dean Street is currently underway. It is anticipated that pedestrian footpaths will be provided on William Dean Street, between the site and GWH as part of the roadway construction. Thus, providing pedestrian connectivity between Sydney Zoo and nearby bus stops.

The Roads and Maritime Services cycleway map indicates shared paths are available within the Western Sydney Parklands and along the Westlink M7. Cycling on Great Western Highway is classified as high difficulty as shown on the map in Figure 3.5.

Figure 3.5: Cycleway Map



Source: Roads and Maritime Services, last updated 08/06/18

4 Proposed Development

4.1 Sydney Zoo

The proposed Zoo will include following features:

- animal exhibits within a variety of enclosures housing native and exotic species
- back-of-house buildings containing exhibits
- main entrance building with access and gift shop
- restaurant and café for Zoo visitors only
- kiosks and amenities for Zoo visitors only
- show arena
- picnic areas and gardens
- wetlands and waterways
- service building comprising:
 - › administration spaces
 - › curatorial and food preparation areas
 - › veterinary area, and
- service yard with maintenance shelter.

A formal car park will be located on-site which will contain approximately 476 spaces, a layover area for five coaches and six minibus parking spaces as shown in Figure 4.3. The car park and coach parking areas can be accessed via William Dean Street off Great Western Highway. There is also an on-site overflow car park which is located immediately adjacent to the main formal car park. The on-site overflow car park is located on an unmarked gravel area which can be made to accommodate up to 550 car parking spaces.

In addition, an off-site overflow car park is also proposed. The off-site overflow car park is proposed to be located within the car parking areas at the Sydney Motorsport Park. Sydney Zoo is currently negotiating with Sydney Motorsport Park to use their car park as an off-site overflow car park for Sydney Zoo during the initial opening period (see Section 4.3 for details).

4.2 Vehicle Access

Vehicle access to Sydney Zoo is proposed via William Dean Street off Great Western Highway. These roads intersect at a signalised junction where there is an exclusive left-turn lane (from GWH to William Dean Street) and exclusive right-turn lane (from GWH to William Dean Street) in the direction towards Sydney Zoo. These lanes are 65m and 75m in length, respectively.

The layout of the signalised intersection of Great Western Highway and William Dean Street is presented in Figure 4.1.

Figure 4.1: Great Western Highway and William Dean Street Intersection



Basemap Source: Nearmap, aerial photo taken 29/12/2018

A roundabout will be located at the end of the new section of William Deans Road as shown in Figure 4.1. The main entry to the car park will be from this roundabout on William Dean Street. A sketch showing the alignment of William Dean Street and the overall layout of Sydney Zoo is given in Figure 4.2.

Figure 4.2: Development Site Layout



KEY

- 1. Entrance Building
- 2. Restaurant/Café
- 3. Administration and Curatorial Building
- 4. Nocturnal Habitat
- 5. Reptile Habitat
- 6. Aquarium
- 7. Farm Experience
- 8. Picnic and Play Area
- 9. The Boulevard
- 10. Main Pedestrian Path
- 11. Kiosk
- 12. Elevated boardwalk
- 13. Water Storage
- 14. Zoo Services Facilities
- 15. Perimeter Service Road
- 16. Main carpark
- 17. Overflow carpark
- 18. Site Pond
- 19. Exhibit Water Moat

- 20. Exhibit Dry Moats
- 21. Show area

**African Grassland
(Zebra, Giraffe, Lion, Cheetah, Rhino, African Wild Dog etc)**

- 22. Back of House Buildings (open pens areas shown as outline).
- 23. African Open grasslands

**South Eastern Tropical
(Primates, Tiger, Sun Bear, Elephants)**

- 24. Back of House Buildings (open pens areas shown as outline).
- 25. South Eastern Tropical Landscape

Cumberland Plains Woodlands/Australiana

- 26. Back of House Buildings
- 27. Australiana Animals (Dingos, Koalas Kangaroos Platypus etc)

Basemap Source: Nearmap, aerial photo taken 29 December 2017

Plan Source: Aspect Studios, Sydney Zoo Public Domain Development Application, Rev. F, dated December 2017

4.3 Car Park and Circulation

A car park with 476 formal car parking spaces and some 550 unmarked spaces with six coach parking spaces is proposed at the site. Vehicle circulation throughout the car park is proposed as one-way throughout the formal car park. The formal car park and area containing unmarked parking spaces will be connected by a two-way circulation road as shown in Figure 4.3.

Figure 4.3: Car Park Circulation



Basemap Source: Aspect Studios

An interim off-site parking facility at the nearby Sydney Motorsport Park is proposed to be utilised to accommodate overflow parking demand in the initial opening phase. Sydney Motorsport Park is located approximately 2 km south of Sydney Zoo or three-minute drive. The site has a site area of approximately 3 ha with approximately 1,000 car parking spaces. Historically, Sydney Motorsport Park have been used to accommodate car parking on-site during large special events and therefore is a suitable option for an overflow car park.

Consultation between Sydney Zoo and Sydney Motorsport Park has been undertaken to coordinate the overflow parking arrangement and avoid conflicts due to major events at Sydney Motorsport Park during the initial opening phase of Sydney Zoo.

A shuttle bus service is proposed to operate between Sydney Zoo and the off-site overflow car park at Sydney Motorsport Park to transport visitors and staff. The shuttle service will operate during the Zoo's opening times. In addition, to accommodate early arrival and late departures by staff and visitors, the shuttle service would also operate one hour before and after Sydney Zoo opening times.

The shuttle bus service between Sydney Zoo and Sydney Motorsport Park will require approximately three-minutes to travel the 2 km between the destinations. The following route will be adhered to:

- From Sydney Motorsport Park to Sydney Zoo: shuttle bus will exit the car park and turn right onto Ferrers Road, left onto Brabham Drive, turn left onto Great Western Highway, right onto William Dean Street, left into Sydney Zoo car park towards the on-site shuttle bus stop.
- From Sydney Zoo to Sydney Motorsport Park: shuttle bus will exit the car park and turn right onto William Dean Street, turn left onto Great Western Highway, turn right onto Brabham Drive, right onto Ferrers Road and left into Sydney Motorsport Park.

The location of the overflow parking at Sydney Motorsport Park with respect to Sydney Zoo is illustrated in Figure 4.4 as well as the proposed shuttle bus route.

Figure 4.4: Location of Sydney Zoo and Sydney Motorsport Park



Basemap Source: Nearmap, aerial photo taken 29/12/2018

5 Pre-Opening Phase

5.1 Description

In this OTMP, the pre-opening phase refers specifically to the fortnight before the opening of Sydney Zoo to the general public. In this phase, site set-up will have been completed and systems will be in-place. The site will operate in a limited capacity, allowing select patrons to visit the Zoo to test the operating systems.

Patrons will be welcomed on an invitation-only basis and will include members of the local community residing within a 3 km radius, and special guests such as emergency services staff, commercial partners and potential foundation members.

There will be a maximum of 1,000 visitors per day which is expected to occur 2-3 times per week in the pre-opening phase.

In the pre-opening phase, the site will operate Monday to Sunday between 9:00am and 6:00pm as per normal operating hours.

5.2 Traffic Generation

5.2.1 Visitors

Generally, special guests will be arriving for a scheduled event such as private zoo experience/ small group tours. The majority of special guests will be as part of organised tours and events, and will be transported to/from Sydney Zoo by private buses and mini-buses.

Members of the local community will visit the Zoo and be permitted to partake in the general activities which the general public will experience during normal operation. These visitors are expected to make their own way to the Zoo using public transport, car share, private car or walking.

There will be minimal overlap of special guests with members of the local community as they are likely to have left or be leaving the Zoo when general admission commences.

On the busiest days in the pre-opening phase visitation is expected to generate in the order of 10-15 buses/ mini-buses and 200 private cars per day. Buses will arrive in the late morning (past 9:00am) whilst locals will arrive from around midday onwards.

On average, this equates to around 5-8 buses arriving every hour between 9.00am-11.00am (with special guest events wrapping-up at 12.00pm) and up to 60 cars arriving every hour between 12.00pm-3.00pm (with closure of Sydney Zoo at 6.00pm).

Overall, traffic generation in the pre-opening phase is not considered to have an impact on the surrounding road network given that traffic movements will typically occur outside of road

network peak periods and traffic generation is low. Further mitigation works therefore will not be required during this period.

5.2.2 Staff

Up to 50 staff are required for regular daily operation of Sydney Zoo. Assuming a worst-case scenario, that is all staff drive to work, the site will generate up to 50 vehicle trips between 7:00am-8:30am. Notwithstanding, staff will be encouraged to car-pool and use public transport when travelling to and from the site.

This level of expected staff traffic is also not expected to have any impacts on the surrounding road network.

5.3 Parking and Access Arrangements

Parking demand generated by patrons and staff in the pre-opening phase will be accommodated within the on-site car park which is not expected to exceed the available number of parking spaces within the formal car park (and if required, the on-site overflow car park). It is assumed that all works within the formal car park and the on-site overflow car park have been completed by this stage.

Where additional bus/ mini-bus parking will be required on-site, buses will be able to park across multiple car parking spaces which are not being utilised. Temporarily converted bus parking areas will most likely comprise car parking bays furthest away from the main entrance gate so as not to conflict with private cars.

6 Initial Opening Phase

6.1 Description

The initial opening phase represents the first three months of operation and considers projected visitor numbers as reported in GTA's Transport Impact Assessment (TIA).

Sydney Zoo is anticipated to open to the public on 31 March 2019. Throughout the year, Sydney Zoo's operating times will differ to meet school holiday and seasonal demands. These times will be as follows:

- Winter months (regular period): between 9:00am and 6:00pm.
- Summer months (school holiday/ summer season): between 9:00am and 10:00pm.

Admission into the site will end one hour before closing time.

6.2 Traffic Generation

6.2.1 Visitors

The peak arrival time for domestic visitors is expected to be 11:00am which is outside of the commuter peak periods. Based on GTA's TIA, the site is anticipated to generate 236 vehicle trips per peak hour. Sydney Zoo anticipates international visitors will arrive by coach which will generate, on average, five large coaches and up to 15 small coaches twice per day at 9:00am (set-down) and 3:00pm (pick-up).

Visitors will be able to use the on-site car park at Sydney Zoo. When the car park reaches capacity overflow parking will be accommodated at the nearby Sydney Motorsport Park. Shuttle bus services will operate on demand as often as every 5-10 minutes.

6.2.2 Staff

Staff will be employed across multiple shifts within the working day. A breakdown of the various staff tasks and shifts for full-time, part-time and casual staff is provided in Table 6.1.

Table 6.1: Staff Work Times

Task Description	Staff Work Times
Maintenance activities of the Development including cleaning, animal curation, feeding, and general maintenance activities	5.30am-11.00pm
Emergency activities (animal medical events etc)	24 hours, 7 days a week
Temporary and community events	February to November: 7.00am – 8.00pm December and January: 7.00am – 11.00pm
Accepting delivery of goods, waste collection and specimen related services including animal and food delivery	7.00am – 6.00pm on any day
Private zoo experiences/small group tours	7.30am – 9.00am

It is noted that staff may be on-site from 5.30am until 11.00pm. However, the majority of staff will commence work between 7.00am and 8.30am. Therefore, the staff arrival peak period will occur outside of visitor peak periods.

Up to 50 staff are required for regular daily operation of Sydney Zoo which will increase to 80-110 in peak periods. Assuming a worst-case scenario, that is all staff drive to work, the site will generate up to 110 vehicle trips between 7.00am-8.30am. Notwithstanding, staff will be encouraged to car-pool and use public transport when travelling to and from the site.

6.2.3 Delivery Vehicles

The servicing and delivery requirements for the site include the following activities:

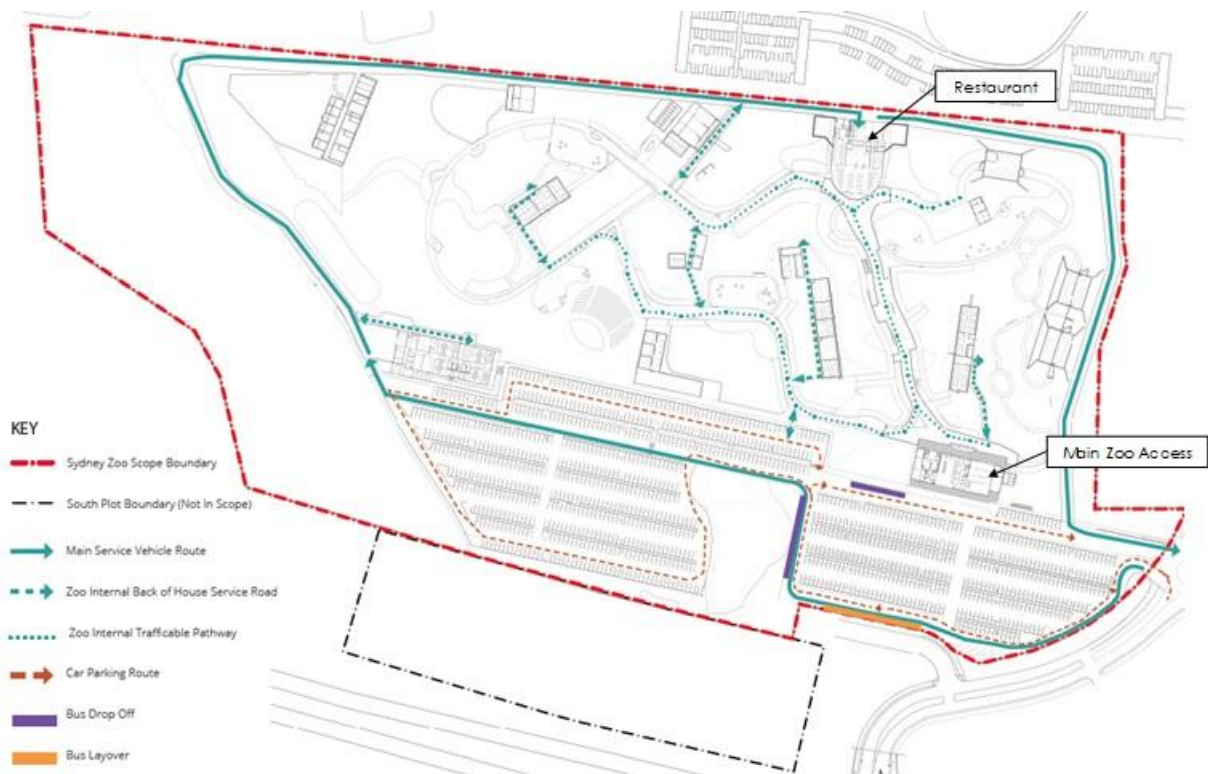
- servicing and deliveries for kiosks and restaurants
- delivery of animals
- delivery of zoo amenities, food and equipment
- collection of waste and garbage, and
- maintenance.

Up to 10 vehicles per day are expected for delivery purposes. As mentioned in GTA TIA, these will occur in off-peak periods that will not coincide with peak visitor arrival and departure times and road network peak periods.

Delivery vehicles would originate from areas throughout the Greater Sydney Metropolitan area. Specific locations of suppliers are yet to be determined but will be focussed within the Western Sydney region where possible. Service providers will be advised that the primary routes will be via Wallgrove Road and M4 Western Motorway or Westlink M7 and Great Western Highway, and they are to adhere to these routes as much as possible.

Access for service vehicle will be via the main vehicular entry to the site off William Dean Street. Service vehicles will use the internal car park route and restricted back of house service roads to reach restricted areas of the zoo. These routes are illustrated in Figure 6.1.

Figure 6.1: Internal Service Route



Source: Aspect Studios, Sydney Zoo Public Domain Development Application, Rev. B, dated April 2016

6.3 Parking Generation

6.3.1 Visitors

An analysis of the parking demand associated with the proposed development has been reported in the TIA. Based on the anticipated arrival and departure profile, daily visitor parking demand is given in Table 6.2.

Table 6.2: Visitor Parking Demand

Period	Estimated Daily Parking Demand	
	Weekday	Weekend
Peak	950	1,350
Shoulder	450	650
Off-peak	300	400

Source: GTA Consultants, Sydney Zoo Bungaribee Precinct, Eastern Creek Transport Impact Assessment, dated 7 December 2015

In Table 6.2, parking demand in the peak period will represent parking demand in the initial opening period (i.e. first three months of operation), while shoulder and off-peak period represent the remaining months in the initial opening year.

As indicated in Table 6.2 the development will require up to 1,350 parking spaces to accommodate the maximum parking demand on the weekend. The on-site formal and overflow car parks will contain 476 and up to 550 car parking spaces respectively. In this regard, there will be a shortfall of approximately 300 car parking spaces during the weekend peak period.

It is appreciated that the parking assessment is conservative since it considers the maximum visitation in each period of the year. On this basis, the average parking demand is unlikely to surpass the proposed parking provision. Notwithstanding, contingency measures will be implemented to manage parking demand generated in times of typical operation and peak operation at Sydney Zoo as discussed in the following chapter.

6.4 Access and Transport Arrangements

As mentioned previously, 50 staff are required for the daily operation of the proposed development with up to 110 staff present during peak periods. Staff will park within the on-site car park. Notwithstanding this, staff will be encouraged to carpool and use public transport particularly on weekends to reduce parking demand.

A Work Place Travel Plan has been prepared to reduce the environmental, traffic and economic impact of journeys associated with the operation of the Sydney Zoo. It encourages the reduced use of private vehicles and strategies aimed at promoting sustainable transport in combination with public transport and car-pooling by staff.

The Workplace Travel Plan will inform staff of sustainable travel choices through staff inductions and during staff briefings.

7 Traffic and Pedestrian Management

7.1 Initial Opening Phase

7.1.1 Marshals

Additional staff to be deployed as marshals to manage and direct vehicle traffic at the main entry and within the car park to ensure continual circulation in a safe and efficient manner. Marshals will be dressed in uniform and personal protective gear, including a high-visibility jacket. Staff will be equipped with light-up traffic batons to direct motorists and hand-held radios to stay in communication with other staff at all times. The latter will be vital for staff in the car park to communicate with staff at the main site entry when the car park reaches full capacity.

When the on-site car park reaches full capacity, traffic will be directed towards the over-flow parking area at Sydney Motorsport Park. Motorists will use the roundabout at the site access to turn-around or be diverted by variable message signs prior to turning into William Dean Street. Coaches and buses will be permitted access to drop-off and pick-up visitors.

In the event that the on-site car park reaches capacity and that visitors are directed to use the overflow car park at Sydney Motorsport Park, temporary variable message signs (VMS) along the routes to Sydney Zoo and the off-site overflow car park will be switched on to direct visitors to the off-site overflow car park. See below for further details.

Marshals will also be stationed at nearby bus stops to direct pedestrians towards the site who will be travelling by public transport. Visitors will be provided with a pamphlet containing a map with walking directions to the site and details of departing public transport services.

7.1.2 Parking Arrangements

When Sydney Zoo is opened to the public, staff will be required to park at the off-site overflow parking facility. This will allow the maximum number of visitors to park within the on-site car park. Staff will be informed of the parking arrangement throughout earlier training and reminders will be given to staff during pre-opening employee briefings.

In some extreme peak periods, visitors may require to park at off-site overflow car park at Sydney Motorsport Park. This will follow the same procedure as that for staff.

Marshals will be stationed at the overflow parking facility to provide parking directions to staff and visitors, and guidance for using the shuttle bus service to/from the site.

7.1.3 Variable Message Signs (VMS)

Variable message signs (VMS) will be located on key traffic routes towards Sydney Zoo and the offsite overflow car park. VMS will be used to project important information to motorists,

such as when the on-site car park has reached full capacity and directions to the overflow parking facility.

VMS will be provided on GWH, Doonside Road, Brabham Drive and Ferrers Road to inform visitors arriving by car from all directions travelling to Sydney Zoo. Placement of VMS on approach to the site is indicated on VMS plan in Appendix C.

The VMS plan will be in place during the initial opening period and will be removed as the volume of visitors regulates throughout the year.

7.1.4 Pedestrian Arrangements

The car park is well connected to Sydney Zoo entry through footpaths and pedestrian crossings. This high level of pedestrian accessibility will be supplemented through the proposed footpaths and/or shared paths towards Great Western Highway bus stops.

Site personnel will be stationed within the car park to provide transport information and direct pedestrians to designated set-down and pick-up areas.

7.2 All Operational Phases

7.2.1 Coaches and Buses

Coaches and buses will access the car park via the main site access and will be directed by marshals to dedicated zones. These vehicles will only be permitted to drop-off and pick-up visitors in the dedicated zones to minimise disruptions to car park circulation.

Northrop has undertaken a swept path analysis for a 14.5m long rigid bus (coach) which shows that the vehicle would be able to adequately enter and exit the site, and circulate internal to the car park. The swept path plans have been included in Appendix D.

7.2.2 Static Directional Signage

It is assumed that on-going negotiations with RMS are currently in place seeking approval for the installation of the static signage along the key routes to direct traffic towards Sydney Zoo. A plan of the proposed static signage is shown in Appendix F.

This will be supported by variable message signs located on roadways within the local road network during the initial opening period.

7.2.3 Advertising

During the initial opening phase and peak periods, advertisements for Sydney Zoo will promote travel by public transport. Car parking will be advertised as limited. Information on Sydney Zoo's website will advise visitors of public transport services to/ from the site and will feature a link to Transport for NSW's online Trip Planner tool.

8 Mitigation Measures

Whilst there will be measures in place to manage traffic and pedestrian movements, additional actions can be taken to further alleviate traffic, parking and pedestrian impacts particularly during the peak opening period. These mitigation measures may include:

- Implementation of time ticketing.
 - When purchasing an entry ticket to Sydney Zoo, patrons may be required to select the hour which they choose to visit. If a preferred time slot becomes 'booked out', patrons will be able to select from the remaining available periods. The purpose of this system is to allocate visitors a time slot so to spread out their arrivals time, however, they will not be restricted to enter at this time as this will a method of guiding and encouraging visitors to enter at their nominated time.

Time ticketing is a measure that can be used to smooth critical parking periods. It will provide Sydney Zoo operators better information on anticipated patron arrivals, associated parking demand and parking turnover across the day.

- Incentives to visitors who arrive outside of peak periods.
 - Incentives can be offered to patrons who nominate an arrival time slot in off-peak periods. Such incentives can include discounts on merchandise and food purchases at Sydney Zoo, or discounted entry on future visits. Other examples may include reserved seating or priority entry to animal exhibitions and shows. The incentive will be detailed in the booking confirmation upon ticket purchase.
- Implementation of a parking control system for car parking availability.
 - Vehicle detection loops (or counters) can be installed at the access to the on-site car park which will inform Sydney Zoo operators when the car park is almost at full capacity. At this point, the site operators will be able to update the variable message signs placed en route to the Zoo which will direct patrons travelling by car to park at Sydney Motorsport Park. This will ensure patrons avoid travelling to the on-site car park unnecessarily which reduces the likelihood of congestion and traffic implications at the site access.
- Integrated public transport ticketing
 - Sydney Zoo tickets which are purchased online may incorporate both the entry price to the venue and transport costs on Sydney's public transport system. This permits Sydney Zoo patrons to use their entry ticket to access public transport to and from the venue.

Integrated transport ticketing can encourage access via public transport which in turn will reduce parking demand at the Zoo as well as traffic generation to and from the Zoo. Benefits include reduced traffic congestion at the venue and the surrounding road network, and increase online ticket sales for Sydney Zoo.

Examples where this measure is currently used include the Sydney Royal Easter Show at Sydney Olympic Park, and major concert and sporting events at Sydney Cricket Ground and Sydney Football Stadium in Moore Park.

- Provide free shuttle bus service between Sydney Zoo and Blacktown Station.
 - A shuttle bus service will encourage patrons to use public transport to access the venue thus reducing parking demand and traffic generation. Implementation of this measure requires further consultation with TfNSW to negotiate stopping locations for the Zoo's shuttle buses at Blacktown Station. The shuttle bus may utilise the dedicated coach/bus stop at the main entrance to the Zoo. It is recommended that clear signage and line marking be implemented to access routes to/from shuttle bus stops and pick-up and drop-off areas.
- Weekday tourist packages that permit access to multiple attractions in Western Sydney.
 - Tourist packages that include entry into Sydney Zoo and other attractions located in Western Sydney (for example, Wet'n'Wild, Featherdale Wildlife Park or day-trips to the Blue Mountains) on weekdays can be offered. This restricts visitation to off-peak days such as Monday to Thursday.
- Promotion of educational tours in off-peak periods.
 - Educational tours during off-peak periods may include special activities such as 'up-close access' to animal shows and exhibits which are off-limits to the general public.
- A Work Place Travel Plan has been prepared to encourage staff travel through non-private car usage.
 - Clear details on non-private car use travel options and benefits of sustainable travel will be included in the staff pre-employment package. Commitment to the Work Place Travel Plan may be rewarded through incentives such as staff vouchers for meals/ drinks and public transport to work.
- Consider end-of-trip facilities including storage rooms, lockers, showers and change rooms for staff.
 - Provision of these facilities encourages a culture of health and active behaviour and reduces staff parking demand. Details on these will be included in the pre-employment package, if implemented.

- Promotion of car-pooling.
 - This could be included as part of the staff pre-employment package. A dedicated parking area for those car-pooling can be designated to save time for drivers when parking.
- Preparation of a Transport Access Guide for visitors.
 - This will detail sustainable transport options for travel to Sydney Zoo to encourage non-private car use. The Transport Access Guide will be available to download at the time of booking and on the Sydney Zoo website.

Appendix A

Consultation with Authorities

From: [Holly Palmer](#)
To: [Christopher Curtis](#)
Subject: MC-15-1942 SSD 7228 Sydney Zoo - Operational Traffic Management Plan - Council response
Date: Tuesday, 29 January 2019 11:13:43 AM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image011.png](#)
[image012.png](#)
[image013.png](#)
[image007.png](#)
[Appendix G - Operational Traffic Management Plan.pdf](#)

Hi Chris,

With regard to your attached Operational Traffic Management Plan (OTMP dated 15 Jan 2019), please be advised that our Traffic section has completed their review and advise that they do not raise any objection to the proposal as there would be minimal impact on the local road network.

The Operational Environmental Management Plan provided on the 10 Dec 2018 is still being reviewed by our Environmental Health section. I will advise their response shortly.

Regards,



Holly Palmer
Senior Project Planner

9839 6927

MC-15-1942 SSD 7228 Sydney Zoo, Bungarribee Park

From: Christopher Curtis [<mailto:CCurtis@ethosurban.com>]
Sent: Tuesday, 15 January 2019 1:33 PM
To: Holly Palmer
Subject: HPE CM: RE: Sydney Zoo - Operational Environmental Management Plan - Consultation with Council

Hi Holly,

Happy New Year! Hope that you had a relaxing break.

See attached the final OTMP for your review.

If you are able to provide any comments on the OEMP and OTMP by 31 January 2019 at the latest, it would be appreciated and allow us enough time to submit to the Department for approval, prior to opening late Q1/early Q2.

Kind regards,

Chris

**Christopher
Curtis**

Senior Urbanist
Planning



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D. +61 2 9409 4977
W. ethosurban.com

173 Sussex Street
Sydney NSW 2000

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From: Christopher Curtis [<mailto:CCurtis@ethosurban.com>]

Sent: Monday, 10 December 2018 9:49 AM

To: Judith Portelli; Holly Palmer

Cc: Blacktown Council; Tim Ward

Subject: Sydney Zoo - Operational Environmental Management Plan - Consultation with Council

Good morning Judith and Holly,

Please find attached the Sydney Zoo Operational Environmental Management Plan (OEMP) for Council review and comment, in accordance with Condition D4 of the SSD 7228 Consent (see relevant conditions of consent attached) which required that the OEMP be prepared in consultation with Blacktown Council. Upon receipt of comments from Council we will finalise and submit to the Department of Planning and Environment for approval.

The full package including appendices is available at the link below, excluding the Operational Traffic Management Plan (OTMP) which is being finalised at the moment:

<https://www.dropbox.com/sh/2p40lzi7xnlgjka/AAAgvZysXj1KRxGoY5Ednd6ya?dl=0>

I will upload the OTMP to this folder when received as well as email through.

If possible, we would appreciate any comments from Council by 21 December 2018 – we do realise this is a busy time of year in the lead up to Christmas and apologise for the late sending of this package. If comments cannot be provided by 21 December 2018, early January 2019 will be suitable to enable us to submit the final version to the Department of Planning and Environment for approval.

Kind regards,

Chris

Christopher

Senior Urbanist
Planning



Curtis



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D. +61 2 9409 4977
W. ethosurban.com

Description: Ethos Urban



[173 Sussex St.](#)
[Sydney NSW 2000](#)

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From: [Ho, Ken](#)
To: [Santi Botross](#)
Subject: RE: Operational Traffic Management Plan for Sydney Zoo
Date: Friday, 1 February 2019 9:49:44 AM

Hi Santi,

Thank you for providing the OTMP report for review as part of the consultation process.

Comments:

- Sunday services on the route 729 (Blacktown Station – Mt DrUITt Station) only operates at an hourly frequency with services ending around 8pm (whereas the park will remain open during summer months until 10pm).
- Should the Zoo proceed with seeking to use a shuttle service from the site to Blacktown interchange; discussion and agreement must be undertaken with Sydney Trains prior to operation. Ample lead time will be required to undertake this time prior to commencement of shuttle services/ Zoo opening.

Regards,

Ken

From: Santi Botross [mailto:Santi.Botross@tpp.net.au]
Sent: Tuesday, 15 January 2019 1:46 PM
To: Ho, Ken
Cc: Christopher Curtis; TWard@ethosurban.com; Michael Lee
Subject: RE: Operational Traffic Management Plan for Sydney Zoo

Hi Ken,

It's been a little while. We now have an OTMP report for TfNSW's review. Please refer to the attached.

For your reference, I have also attached the Work Place Travel Plan for the Sydney Zoo development.

Can you please advise if TfNSW has any feedback the OTMP report? If no comments, please simply state as so via reply email.

Kind regards,

Santi Botross

Senior Traffic Engineer

p: +61 2 8437 7828 m: +61 400 777 170

a: Suite 402, 22 Atchison Street, St Leonards NSW 2065

w: www.tpp.net.au e: Santi.Botross@tpp.net.au



From: Ho, Ken <Ken.Ho@transport.nsw.gov.au>
Sent: Thursday, 1 November 2018 3:08 PM
To: Santi Botross <Santi.Botross@tpp.net.au>
Cc: Michael Lee <Michael.Lee@tpp.net.au>
Subject: RE: Operational Traffic Management Plan for Sydney Zoo

Hi Santi,

The requirements/condition set out by DPE is fairly clear.

You should submit the draft plan to TfNSW for review and comment as part of the consultation requirements in the preparation of the OTMP.

Regards,

Ken Ho
Transport Planner
Freight, Strategy & Planning
Transport for NSW

L4 241 O'Riordan Street, Mascot NSW 2020



Use public transport... plan your trip at transportnsw.info
Get on board with Opal at opal.com.au

From: Santi Botross [<mailto:Santi.Botross@tpp.net.au>]
Sent: Friday, 26 October 2018 2:15 PM
To: Ho, Ken
Cc: Michael Lee
Subject: Operational Traffic Management Plan for Sydney Zoo

Hi Ken,

As mentioned in my earlier email to Mark, TPPP has been commissioned by Ethos Urban to prepare an Operational Transport Management Plan (OTMP) for the proposed Sydney Zoo within the Bungaribee Precinct in the Western Sydney Parklands. The OTMP is a requirement of the SSD Consent Conditions (SSD 7228) issued by the Minister for Planning.

As per Consent Condition C5 (a), we are required to consult with TfNSW on any additional transport related issues. A screenshot of Condition C5 (a) is given below while the full set of Conditions are attached to this email (for your reference).

Operational Traffic Management Plan

C5. The Applicant shall prepare an Operational Traffic Management Plan for the Development which will form part of the OEMP in Condition D4. The plan shall:

- (a) be prepared by a suitably qualified and experienced person, in consultation with TfNSW, RMS and Council;
- (b) include detail of specific management measures to be implemented during the initial year of operations to address potentially higher than anticipated visitation;
- (c) include detail of management measures for parking, traffic and transport during high visitation periods (particularly under any operating times considered under the 'peak' scenario in the EIS) including allocated arrival times, off-peak ticketing and the promotion of public transport);
- (d) include details and analysis of how the largest vehicle can enter and exit the site access, site carpark and loading areas; and
- (e) include detail of management measures to be implemented to minimise impacts offsite, including impacts upon the local road network, public transport services and pedestrian access.

NSW Government
*Department of Planning and Environment*4*Sydney Zoo*
SSD 7228

Preparation of the OTMP is underway, and will address the following aspects:

- Assessment of existing site conditions having regard to the surrounding road network, public transport network, and pedestrian and cyclist facilities
- Details of the proposed development, including the uses on the site, vehicular and pedestrian access, parking and circulation arrangements, and servicing and delivery arrangements.
- Assessment of traffic, transport and parking during key operational phases including:
 - pre-opening phase (one week prior to opening to public)
 - initial opening phase (first three months of operation)
 - regular operation (post initial three months)
- Analysis of site-generated traffic movements (visitors and staff), pedestrian volumes, and public transport demands in typical and peak periods.
- Swept path analysis of largest vehicle to access the site (ie. 14.5m tourist coach).
- Details of traffic, transport, parking, and pedestrian management measures to minimise impacts to the local road network, public transport network and pedestrian access in the abovementioned phases.

In regard of the above, can you please advise if TfNSW has any additional comments at your earliest convenience?

If TfNSW has no further comments, please simply state as so via reply email.

Please do not hesitate to contact me if you have any queries.

Kind regards,

Santi Botross

Senior Traffic Engineer

p: +61 2 8437 7800 m: +61 400 777 170

a: Suite 402, 22 Atchison Street, St Leonards NSW 2065

w: www.tpp.net.au e: Santi.Botross@tpp.net.au



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From: [SMITH Peta A](#)
To: [Santi Botross](#)
Subject: RE: URGENT SEND TO NSS AS ATTACHMENT AND ADD EMAIL TO FILE Operational Traffic Management Plan for Sydney Zoo
Date: Friday, 8 February 2019 1:30:15 PM

Hi Santi

Please find Roads and Maritime comments on the current draft operational traffic management plan for Sydney Zoo:

- What are the arrangements for the overflow car park? What signage? How much advance notification is given to motorists to redirect to another car park? How much notification is required for the shuttle service to operate?
- The internal circulation within the car park will make it difficult for motorists to find a space when the car park is near full as it requires motorists to complete a new full lap again when the row they have selected is full
- What occurs when there are concurrent events at Sydney Motorsport Park and peak periods at the Zoo? What are the contingency plans?
- Initial opening phase - Any traffic marshals or traffic control proposed within 100m of the traffic lights on the great western highway will need ROL approval through TMC
- VMS plan appendix C – details of location of VMS are required – need to meet guidelines – they appear too close to existing intersections and may be difficult for motorists across all 3 lanes to view and respond.
- There is no current agreement for the implementation of static directional signage for Sydney Zoo. Due to the timeframes, if Sydney Zoo decides to proceed with this work, there is a real risk that it will not be implemented prior to the opening of Sydney Zoo.
- It is unclear if the mitigation proposals will be installed or not. There is no confirmation that these measures will be
- Consultation with the TMC is required. If overflow car parking is utilised, how will this messaging be relayed to motorists?
- Who is the contact who is managing internal traffic that we can provide to follow up on steps/actions? – there appears to be no clear command and control arrangement nor clear escalation process.

Regards

Peta

Peta Smith
Senior Manager Network Safety Services
North West Precinct
Sydney Division
T 0439190680
www.rms.nsw.gov.au
Every journey matters

Roads and Maritime Services
Level 5 27 Argyle Street Parramatta NSW 2150

From: Santi Botross [mailto:Santi.Botross@tpp.net.au]
Sent: Monday, 21 January 2019 10:16 AM
To: SMITH Peta A
Cc: Christopher Curtis; TWard@ethosurban.com; Michael Lee
Subject: RE: URGENT SEND TO NSS AS ATTACHMENT AND ADD EMAIL TO FILE Operational Traffic Management Plan for Sydney Zoo

Great. Thanks for confirming, Peta.

Regards,

[Santi Botross](#)

Senior Traffic Engineer
p: +61 2 8437 7828 m: +61 400 777 170
a: Suite 402, 22 Atchison Street, St Leonards NSW 2065
w: www.tpp.net.au e: Santi.Botross@tpp.net.au



From: SMITH Peta A <Peta.A.Smith@rms.nsw.gov.au>

Sent: Monday, 21 January 2019 9:57 AM

To: Santi Botross <Santi.Botross@tpp.net.au>

Subject: RE: URGENT SEND TO NSS AS ATTACHMENT AND ADD EMAIL TO FILE Operational Traffic Management Plan for Sydney Zoo

Hi Santi

I can confirm we have received your draft TMP and are currently reviewing to provide comments.

Regards

Peta

Peta Smith
Senior Manager Network Safety Services
North West Precinct
Sydney Division
T 0439190680
www.rms.nsw.gov.au
Every journey matters

Roads and Maritime Services
Level 5 27 Argyle Street Parramatta NSW 2150

From: Santi Botross [<mailto:Santi.Botross@tpp.net.au>]

Sent: Monday, 21 January 2019 9:54 AM

To: SMITH Peta A

Cc: Christopher Curtis; TWard@ethosurban.com; Michael Lee

Subject: RE: URGENT SEND TO NSS AS ATTACHMENT AND ADD EMAIL TO FILE Operational Traffic Management Plan for Sydney Zoo

Morning Peta,

Are you able to advise on the below?

Also, can you please confirm receipt of my emails?

Kind regards,

Santi Botross

Senior Traffic Engineer
p: +61 2 8437 7828 m: +61 400 777 170
a: Suite 402, 22 Atchison Street, St Leonards NSW 2065
w: www.tpp.net.au e: Santi.Botross@tpp.net.au



From: Santi Botross

Sent: Tuesday, 15 January 2019 1:50 PM

To: 'Peta.A.Smith@rms.nsw.gov.au' <Peta.A.Smith@rms.nsw.gov.au>

Cc: 'Christopher Curtis' <CCurtis@ethosurban.com>; 'TWard@ethosurban.com' <TWard@ethosurban.com>; Michael Lee <Michael.Lee@tpp.net.au>

Subject: FW: URGENT SEND TO NSS AS ATTACHMENT AND ADD EMAIL TO FILE Operational Traffic Management Plan for Sydney Zoo [Filed 15 Jan 2019 13:48]

Hi Peta,

I have received a bounce-back email from both Cameron and Tina containing your contact details.

Are you able to assist with the below request?

Kind regards,

Santi Botross

Senior Traffic Engineer
p: +61 2 8437 7828 m: +61 400 777 170
a: Suite 402, 22 Atchison Street, St Leonards NSW 2065
w: www.tpp.net.au e: Santi.Botross@tpp.net.au



From: Santi Botross
Sent: Tuesday, 15 January 2019 1:36 PM
To: MCINTYRE Cameron A <Cameron.MCINTYRE@rms.nsw.gov.au>
Cc: KAUR Tina <Tina.KAUR@rms.nsw.gov.au>; Christopher Curtis <CCurtis@ethosurban.com>; TWard@ethosurban.com; Michael Lee <Michael.Lee@tpp.net.au>
Subject: RE: URGENT SEND TO NSS AS ATTACHMENT AND ADD EMAIL TO FILE Operational Traffic Management Plan for Sydney Zoo [Filed 15 Jan 2019 13:35]

Hi Cameron,

It's been a little while. We now have an OTMP report for RMS' review. Please refer to the attached.

For your reference, I have also attached the Work Place Travel Plan for the Sydney Zoo development.

Can you please advise if RMS has any feedback the OTMP report? If no comments, please simply state as so via reply email.

Kind regards,

Santi Botross

Senior Traffic Engineer

p: +61 2 8437 7828 m: +61 400 777 170

a: Suite 402, 22 Atchison Street, St Leonards NSW 2065

w: www.tpp.net.au e: Santi.Botross@tpp.net.au



From: Santi Botross
Sent: Wednesday, 31 October 2018 3:34 PM
To: 'MCINTYRE Cameron A' <Cameron.MCINTYRE@rms.nsw.gov.au>; KAUR Tina <Tina.KAUR@rms.nsw.gov.au>
Cc: Michael Lee <Michael.Lee@tpp.net.au>
Subject: RE: URGENT SEND TO NSS AS ATTACHMENT AND ADD EMAIL TO FILE Operational Traffic Management Plan for Sydney Zoo

Hi Cameron, Tina,

We are simply seeking any aspects in addition to the list below which RMS requires us to assess as part of the OTMP.

The OTMP itself is still being prepared as we speak. However, it would be good to have RMS' additional requirements (if any) for inclusion in the preparation of the report.

Can you please advise if RMS has any further requirements?

Kind regards,

Santi Botross

Senior Traffic Engineer

p: +61 2 8437 7800 m: +61 400 777 170

a: Suite 402, 22 Atchison Street, St Leonards NSW 2065

w: www.tpp.net.au e: Santi.Botross@tpp.net.au



From: MCINTYRE Cameron A <Cameron.MCINTYRE@rms.nsw.gov.au>
Sent: Monday, 29 October 2018 3:27 PM
To: Santi Botross <Santi.Botross@tpp.net.au>
Cc: KAUR Tina <Tina.KAUR@rms.nsw.gov.au>
Subject: FW: URGENT SEND TO NSS AS ATTACHMENT AND ADD EMAIL TO FILE Operational Traffic Management Plan for Sydney Zoo

Hi Santi,

Thank you for your email regarding the OTMP for the proposed Sydney Zoo. Can you please advise what further advice from RMS is required? Do you have any further information or attachments regarding the OTMP?

For any further works please contact Tina at Tina.KAUR@rms.nsw.gov.au

Kind Regards,

Cameron McIntyre

A/Network & Safety Officer
Network & Safety Services North

M – 0491 222 170

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From: Santi Botross [<mailto:Santi.Botross@tpp.net.au>]

Sent: Friday, 26 October 2018 12:17 PM

To: Development Sydney

Cc: Michael Lee

Subject: URGENT SEND TO NSS AS ATTACHMENT AND ADD EMAIL TO FILE Operational Traffic Management Plan for Sydney Zoo

To whom it may concern,

TTPP has been commissioned by Ethos Urban to prepare an Operational Traffic Management Plan (OTMP) for the proposed Sydney Zoo within the Bungarribee Precinct in the Western Sydney Parklands. The OTMP is a requirement of the SSD Consent Conditions (SSD 7228) issued by the Minister for Planning.

As per Consent Condition C5 (a), we are required to consult with Roads and Maritime on any additional traffic related issues. A screenshot of Condition C5 (a) is given below while the full set of Conditions are attached to this email (for your reference).

Operational Traffic Management Plan		
C5.	The Applicant shall prepare an Operational Traffic Management Plan for the Development which will form part of the OEMP in Condition D4. The plan shall:	
	(a) be prepared by a suitably qualified and experienced person, in consultation with TfNSW, RMS and Council;	
	(b) include detail of specific management measures to be implemented during the initial year of operations to address potentially higher than anticipated visitation;	
	(c) include detail of management measures for parking, traffic and transport during high visitation periods (particularly under any operating times considered under the 'peak' scenario in the EIS) including allocated arrival times, off-peak ticketing and the promotion of public transport);	
	(d) include details and analysis of how the largest vehicle can enter and exit the site access, site carpark and loading areas; and	
	(e) include detail of management measures to be implemented to minimise impacts offsite, including impacts upon the local road network, public transport services and pedestrian access.	
<i>NSW Government</i>	4	<i>Sydney Zoo</i>
<i>Department of Planning and Environment</i>		<i>SSD 7228</i>

Preparation of the OTMP is underway, and will address the following aspects:

- Assessment of existing site conditions having regard to the surrounding road network, public transport network, and pedestrian and cyclist facilities
- Details of the proposed development, including the uses on the site, vehicular and pedestrian access, parking and circulation arrangements, and servicing and delivery arrangements.
- Assessment of traffic and parking during key operational phases including:
 - pre-opening phase (one week prior to opening to public)
 - initial opening phase (first three months of operation)
 - regular operation (post initial three months)
- Analysis of site-generated traffic movements (visitors and staff), pedestrian volumes, and public transport demands in typical and peak periods.
- Swept path analysis of largest vehicle to access the site (ie. 14.5m tourist coach).
- Details of traffic, parking, and pedestrian management measures to minimise impacts to the local road network, public transport network and pedestrian access in the abovementioned phases.

In regard of the above, can you please advise if Roads and Maritime has any additional comments at your earliest convenience?

If Roads and Maritime has no further comments, please simply state as so via reply email.

Please do not hesitate to contact me if you have any queries.

Kind regards,

Santi Botross

Senior Traffic Engineer

p: +61 2 8437 7800 m: +61 400 777 170

a: Suite 402, 22 Atchison Street, St Leonards NSW 2065

w: www.tpp.net.au e: Santi.Botross@tpp.net.au



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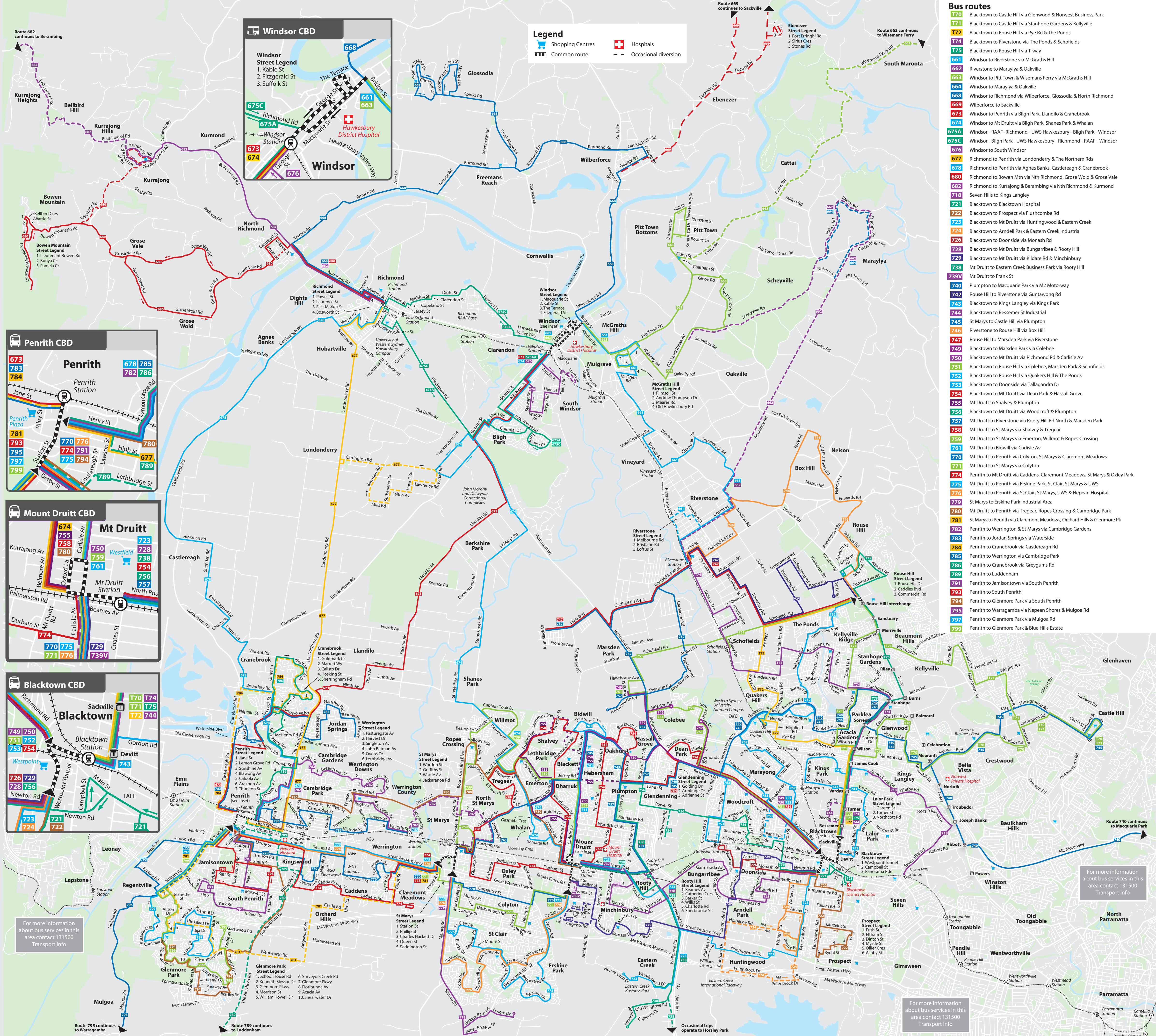


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Appendix B

Wider Western Sydney Bus Network



Bus routes

- 170 Blacktown to Castle Hill via Glenwood & Norwest Business Park
- 171 Blacktown to Castle Hill via Stanhope Gardens & Kellyville
- 172 Blacktown to Rouse Hill via Pye Rd & The Ponds
- 174 Blacktown to Riverstone via The Ponds & Schofields
- 175 Blacktown to Rouse Hill via T-way
- 661 Windsor to Riverstone via McGraths Hill
- 662 Riverstone to Maraylya & Oakville
- 663 Windsor to Pitt Town & Wisemans Ferry via McGraths Hill
- 664 Windsor to Maraylya & Oakville
- 668 Windsor to Richmond via Wilberforce, Glossodia & North Richmond
- 669 Wilberforce to Sackville
- 673 Windsor to Penrith via Bligh Park, Landlillo & Cranebrook
- 674 Windsor to Mt Druitt via Bligh Park, Shanes Park & Whalan
- 675A Windsor - RAAF - Richmond - UWS Hawkesbury - Bligh Park - Windsor
- 675C Windsor - Bligh Park - UWS Hawkesbury - Richmond - RAAF - Windsor
- 677 Richmond to Penrith via Londonderry & The Northern Rds
- 678 Richmond to Penrith via Agnes Banks, Castlereagh & Cranebrook
- 680 Richmond to Bowen Mtn via Nth Richmond, Grose Wold & Grose Vale
- 682 Richmond to Kurrajong & Berambing via Nth Richmond & Kurmond
- 718 Seven Hills to Kings Langley
- 721 Blacktown to Blacktown Hospital
- 722 Blacktown to Prospect via Flushcombe Rd
- 723 Blacktown to Mt Druitt via Huntingwood & Eastern Creek
- 724 Blacktown to Arndell Park & Eastern Creek Industrial
- 726 Blacktown to Doonside via Monash Rd
- 728 Blacktown to Mt Druitt via Bungaribee & Roxy Hill
- 729 Blacktown to Mt Druitt via Kildare Rd & Minchinbury
- 738 Mt Druitt to Eastern Creek Business Park via Roxy Hill
- 739 Mt Druitt to Frank St
- 740 Plumpton to Macquarie Park via M2 Motorway
- 742 Rouse Hill to Riverstone via Guntawang Rd
- 743 Blacktown to Kings Langley via Kings Park
- 744 Blacktown to Bessemer St Industrial
- 745 St Marys to Castle Hill via Plumpton
- 746 Riverstone to Rouse Hill via Box Hill
- 747 Rouse Hill to Marsden Park via Riverstone
- 749 Blacktown to Marsden Park via Colebee
- 750 Blacktown to Mt Druitt via Richmond Rd & Carlisle Av
- 751 Blacktown to Rouse Hill via Colebee, Marsden Park & Schofields
- 752 Blacktown to Rouse Hill via Quakers Hill & The Ponds
- 753 Blacktown to Doonside via Tallanganda Dr
- 754 Blacktown to Mt Druitt via Dean Park & Hassall Grove
- 755 Mt Druitt to Shalvey & Plumpton
- 756 Blacktown to Mt Druitt via Woodcroft & Plumpton
- 757 Mt Druitt to Riverstone via Roxy Hill Rd North & Marsden Park
- 758 Mt Druitt to St Marys via Shalvey & Tregear
- 759 Mt Druitt to St Marys via Emerton, Willmot & Ropes Crossing
- 761 Mt Druitt to Bidwill via Carlisle Av
- 770 Mt Druitt to Penrith via Colyton, St Marys & Claremont Meadows
- 771 Mt Druitt to St Marys via Colyton
- 774 Penrith to Mt Druitt via Caddens, Claremont Meadows, St Marys & Oxley Park
- 775 Mt Druitt to Penrith via Erskine Park, St Clair, St Marys & UWS
- 776 Mt Druitt to Penrith via St Clair, St Marys, UWS & Nepean Hospital
- 779 St Marys to Erskine Park Industrial Area
- 780 Mt Druitt to Penrith via Tregear, Ropes Crossing & Cambridge Park
- 781 St Marys to Penrith via Claremont Meadows, Orchard Hills & Glenmore Pk
- 782 Penrith to Werrington & St Marys via Cambridge Gardens
- 783 Penrith to Jordan Springs via Waterside
- 784 Penrith to Cranebrook via Castlereagh Rd
- 785 Penrith to Werrington via Cambridge Park
- 786 Penrith to Cranebrook via Greysgums Rd
- 789 Penrith to Luddenham
- 791 Penrith to Jamisontown via South Penrith
- 793 Penrith to South Penrith
- 794 Penrith to Glenmore Park via South Penrith
- 795 Penrith to Warragamba via Nepean Shores & Mulgoa Rd
- 797 Penrith to Glenmore Park via Mulgoa Rd
- 799 Penrith to Glenmore Park & Blue Hills Estate

Windsor CBD

Windsor Street Legend

- Kable St
- Fitzgerald St
- Suffolk St

Penrith CBD

Penrith Street Legend

- Lieutenant Bowen Rd
- Bunya Cr
- Pamela Cr

Mount Druitt CBD

Mt Druitt Street Legend

- Lieutenant Bowen Rd
- Bunya Cr
- Pamela Cr

Blacktown CBD

Blacktown Street Legend

- Lieutenant Bowen Rd
- Bunya Cr
- Pamela Cr

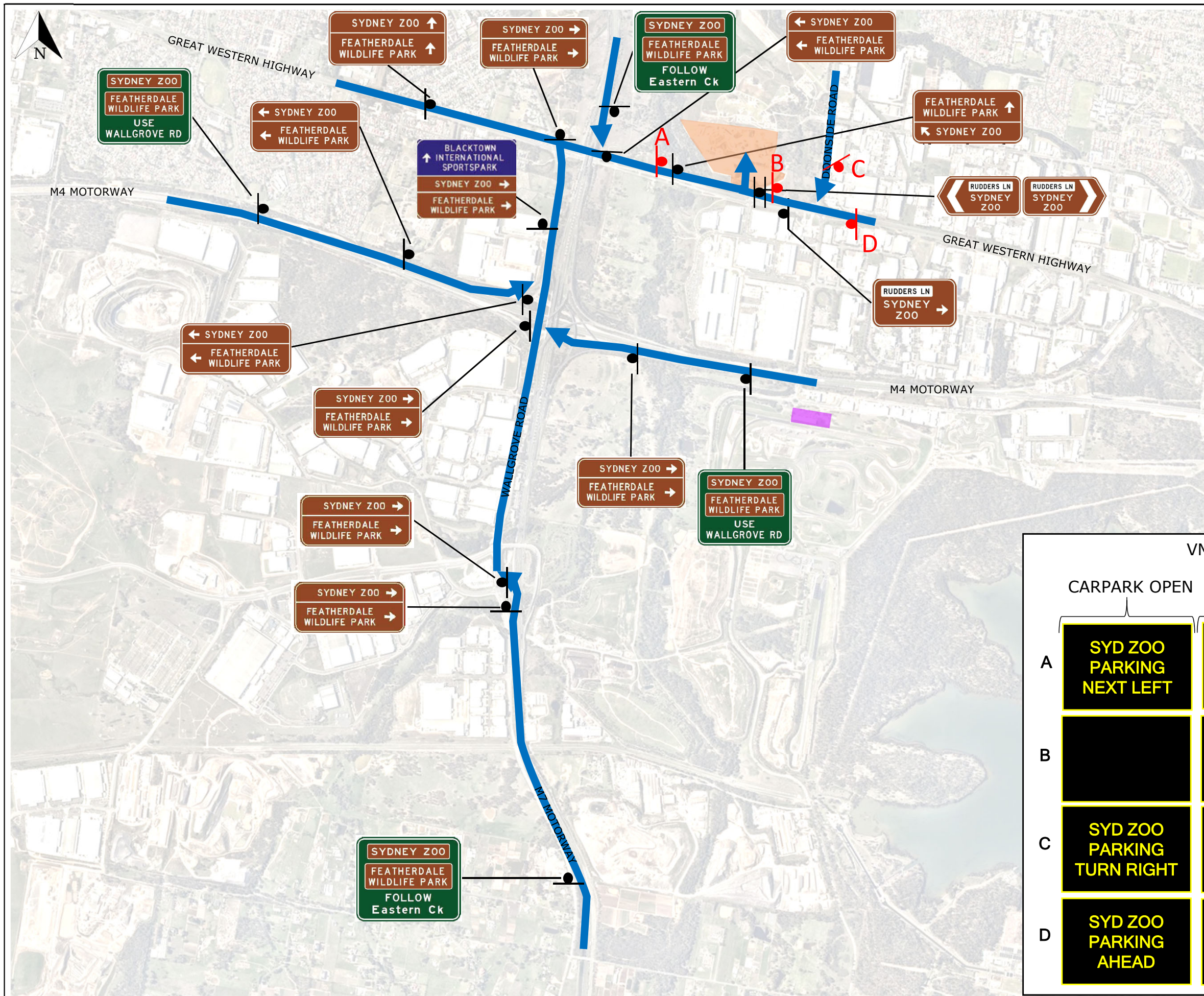
For more information about bus services in this area contact 131500 Transport Info

For more information about bus services in this area contact 131500 Transport Info

For more information about bus services in this area contact 131500 Transport Info

Appendix C

Variable Message Sign (VMS) Plan



- NOTES**
1. LOCATION OF VMS LOCATIONS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY. MODIFICATIONS CAN BE MADE TO SUIT SITE CONDITIONS.
 2. THIS TRAFFIC CONTROL PLAN IS A GUIDE ONLY AND CAN BE ALTERED ON-SITE BUT MUST BE SIGNED BY AN RMS ACCREDITED PERSON.
 3. NEARMAP AERIAL IMAGERY USED AS BASEMAP ONLY. THIS TCP SHOULD BE IMPLEMENTED TO SUIT SITE CONDITIONS.

- LEGEND**
- ➔ INBOUND ROUTE
 - SIGN POST (STATIC SIGNAGE)
 - VARIABLE MESSAGE SIGN (PROPOSED)
 - SYDNEY ZOO SITE
 - OVERFLOW CAR PARK (AT SYDNEY MOTORSPORT PARK)

VMS MESSAGES		
	CARPARK OPEN	CARPARK FULL
A	SYD ZOO PARKING NEXT LEFT	SYD ZOO CARPARK FULL OVERFLOW PARKING NEXT RIGHT
B		SYD ZOO CARPARK FULL
C	SYD ZOO PARKING TURN RIGHT	SYD ZOO CARPARK FULL OVERFLOW PARKING AHEAD
D	SYD ZOO PARKING AHEAD	SYD ZOO CARPARK FULL OVERFLOW PARKING NEXT LEFT

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	ML	ML	ML	07/12/18

The Transport Planning Partnership

Suite 402, 22 Atchison Street
St. Leonards NSW 2065
Tel: 02 9437 7800
Email: info@tpp.net.au

PROJECT: SYDNEY ZOO

TITLE: STATIC SIGNAGE AND VARIABLE MESSAGE SIGN LOCATIONS

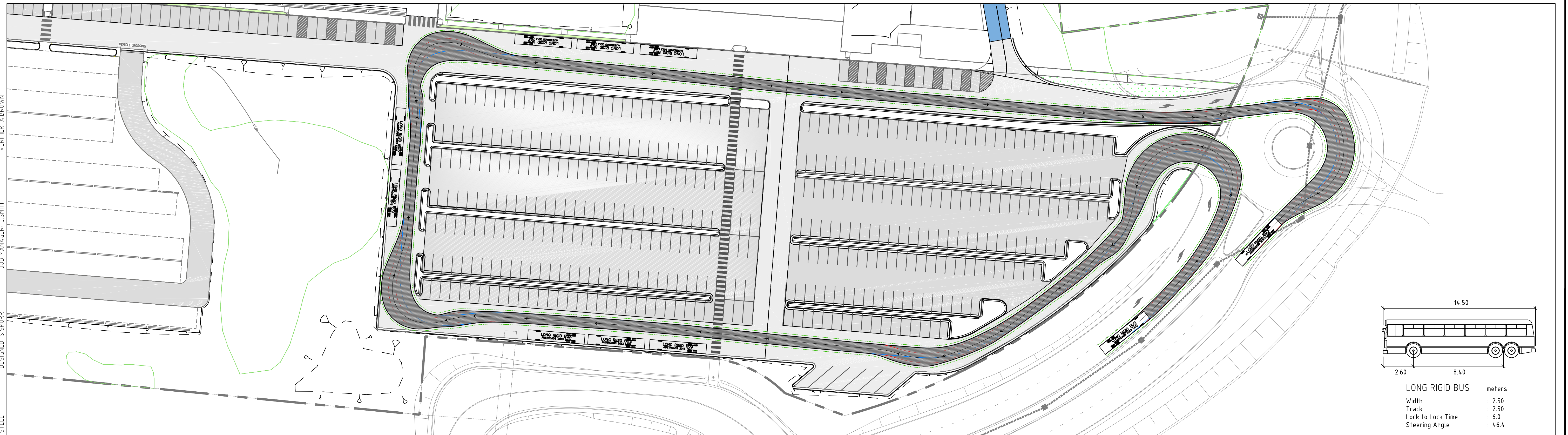
DWG No.	FIGURE 1	
DATE STAMP	7 DECEMBER 2018	
PROJECT No.	SCALE	REV.
18313	NTS	A

Appendix D

14.5m Long Rigid Bus (Coach) Swept Path Analysis
prepared by Northrop



LONG RIGID BUS 15km/h SWEPT PATH



LONG RIGID BUS 15km/h SWEPT PATH WITH ADDITIONAL PARKED BUSES

DRAWN: L. STEEL, DESIGNED: S. SPURR, JOB MANAGER: C. SMITH, VERIFIER: A. BROWN

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
A	ISSUED FOR INFORMATION	WC		CS	21.12.18

CLIENT

DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED

ARCHITECT

ASPECT Studios™
MISHO ASSOCIATES

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Email newcastle@northrop.com.au AIN 81 094 433 100

PROJECT

SYDNEY ZOO
GREAT WESTERN HIGHWAY
BUNGARRIBEE NSW

DRAWING TITLE

LONG RIGID BUS
SWEPT PATH PLAN

JOB NUMBER

NL166192

DRAWING NUMBER	REVISION
CC7.01	1

DRAWING SHEET SIZE = A1

Appendix E

Overall Site Plan

KEY

- 1. Entrance Building
- 2. Restaurant/Café
- 3. Administration and Curatorial Building
- 4. Nocturnal Habitat
- 5. Reptile Habitat
- 6. Aquarium
- 7. Farm Experience
- 8. Picnic and Play Area
- 9. The Boulevard
- 10. Main Pedestrian Path
- 11. Kiosk
- 12. Elevated boardwalk
- 13. Water Storage
- 14. Zoo Services Facilities
- 15. Perimeter Service Road
- 16. Main carpark
- 17. Overflow carpark
- 18. Site Pond
- 19. Exhibit Water Moat
- 20. Exhibit Dry Moats
- 21. Show area

**African Grassland
(Zebra, Giraffe, Lion, Cheetah, Rhino, African Wild Dog etc)**

- 22. Back of House Buildings (open pens areas shown as outline).
- 23. African Open grasslands

**South Eastern Tropical
(Primates, Tiger, Sun Bear, Elephants)**

- 24. Back of House Buildings (open pens areas shown as outline).
- 25. South Eastern Tropical Landscape

Cumberland Plains Woodlands/Australiana

- 26. Back of House Buildings
- 27. Australiana Animals (Dingos, Koalas Kangaroos Platypus etc)

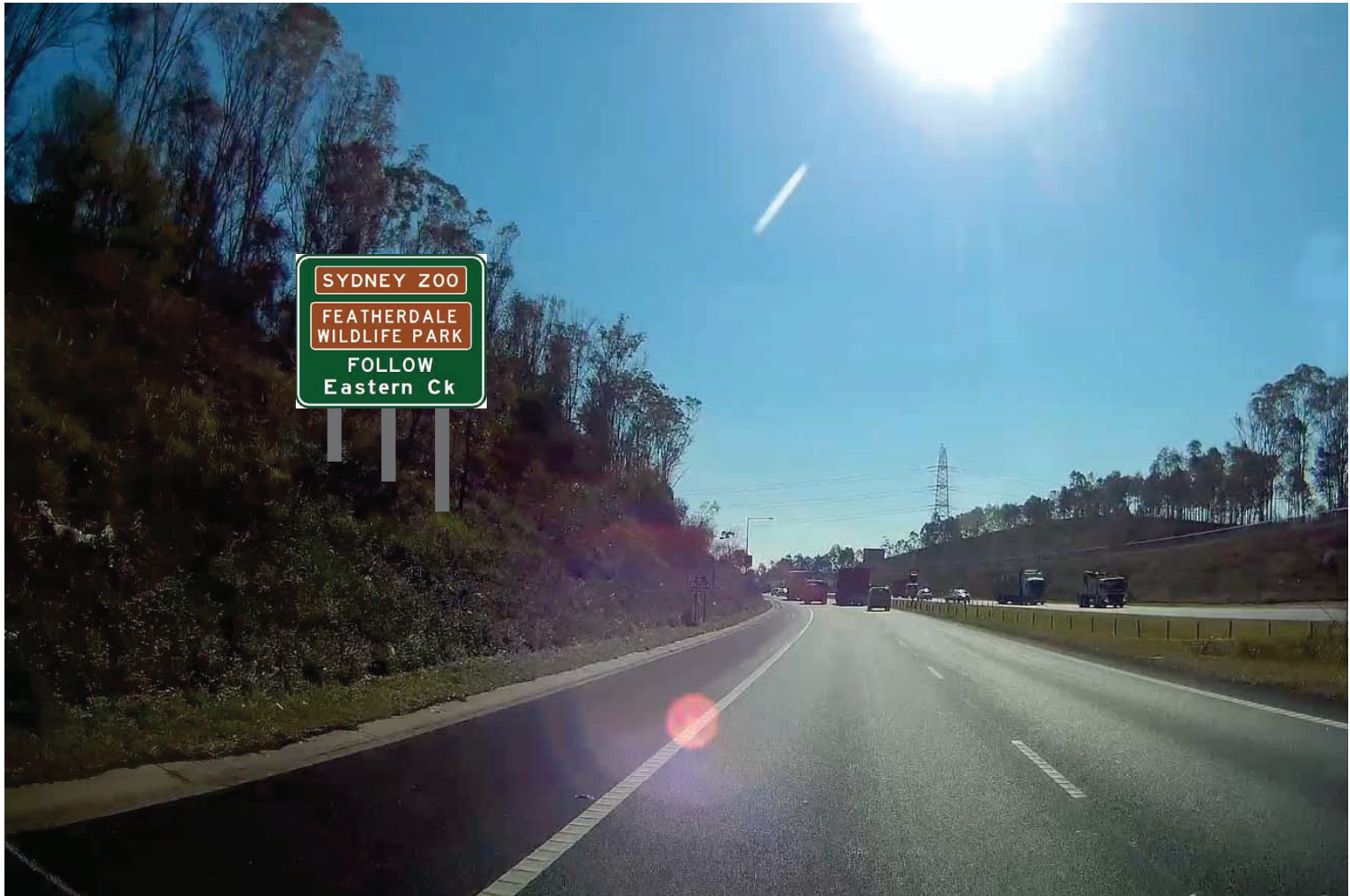


Appendix F

Static Directional Signage Plan

SYDNEY ZOO SIGNPOSTING

Location 1 - M7 Motorway, north bound, approx. 200m north of Chandos Road Overpass, HORSLEY PARK

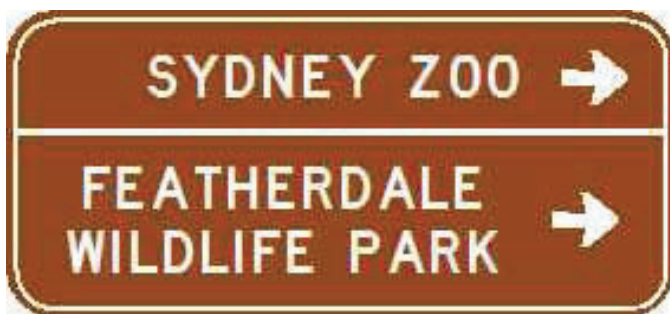


SZ_M7_ADN

ATTACH new sign on new structure, as shown.

SYDNEY ZOO SIGNPOSTING

Location 2 - M7 Motorway, north bound, at Wallgrove Road exit lane,
HORSLEY PARK



SZ_WR_AD1

ATTACH new sign under existing sign, as shown.

SYDNEY ZOO SIGNPOSTING

Location 3 - Wallgrove Road exit lane, north bound, at Mini Link Road, HORSLEY PARK



SYDNEY ZOO

SZ_WR_ID1

FEATHERDALE
WILDLIFE PARK

SZ_WR_ID2

2.5m

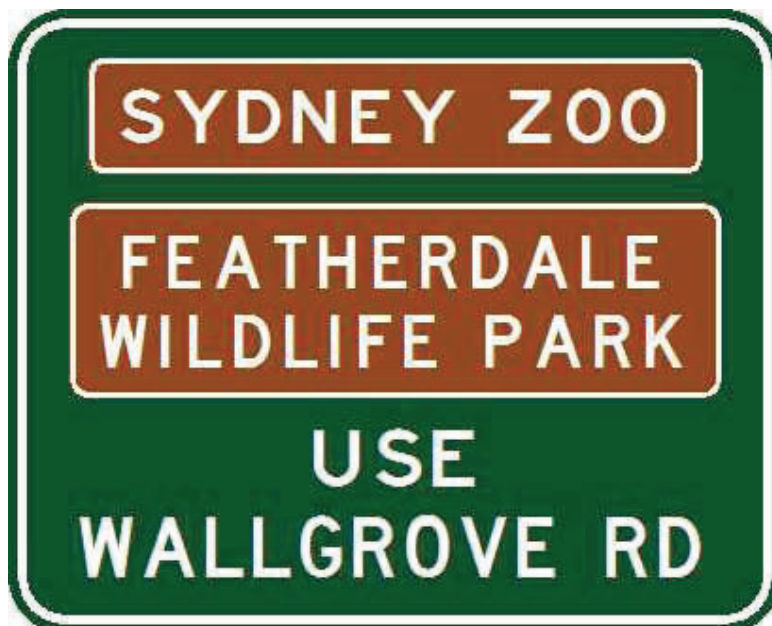
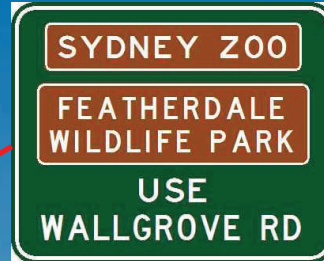
INSTALL new signs on posts.

SYDNEY ZOO SIGNPOSTING

Location 4 - M4 Motorway, west bound, approx. 1km east M7 off ramp,
PROSPECT



Remove



SZ_M4_ADW

REMOVE existing sign.

ATTACH new sign on existing structure, as shown.

SYDNEY ZOO SIGNPOSTING

Location 5 - M4 / Wallgrove Road off ramp, west bound, approx. 200m east, of Wallgrove Road, EASTERN CREEK



SZ_WR_AD2

REMOVE existing brown sign.

ATTACH new sign on existing structure, as shown.

SYDNEY ZOO SIGNPOSTING

Location 6 - M4 / Wallgrove Road off ramp, west bound, at Wallgrove Road, EASTERN CREEK



SZ_WR_ID3



SZ_WR_ID4

REMOVE existing brown sign.
ATTACH new signs on posts, as shown.

SYDNEY ZOO SIGNPOSTING

Location 7 - M4 Motorway, east bound, approx. 1km west M7 off ramp,
EASTERN CREEK



SZ_M4_ADE

REMOVE existing sign.

ATTACH new sign on existing structure, as shown.

SYDNEY ZOO SIGNPOSTING

Location 8 - M4 / Wallgrove Road off ramp, east bound, approx. 200m west, of Wallgrove Road, EASTERN CREEK



SZ_WR_AD3

REMOVE existing brown sign.

ATTACH new sign on existing structure, as shown.

SYDNEY ZOO SIGNPOSTING

Location 9 - M4 / Wallgrove Road off ramp, east bound, at Wallgrove Road, EASTERN CREEK



Remove



SZ_WR_ID5

SZ_WR_ID6

REMOVE existing brown sign.
ATTACH new signs on posts, as shown.

SYDNEY ZOO SIGNPOSTING

Location 10 - Wallgrove Road, north bound, approx. 250m south of Great Western Hwy, EASTERN CREEK



Remove



SZ_WR_AD4

2.5m

REMOVE existing sign.
INSTALL new sign on posts, as shown.

SYDNEY ZOO SIGNPOSTING

Location 11 - Wallgrove Road, north bound, at Great Western Hwy,
EASTERN CREEK



SZ_WR_ID1



SZ_WR_ID2

REMOVE existing brown sign.

ATTACH new signs on posts, as shown.

SYDNEY ZOO SIGNPOSTING

Location 12 - M7 Motorway, south bound, approx. 1.1km north of Great Western Hwy Exit, EASTERN CREEK

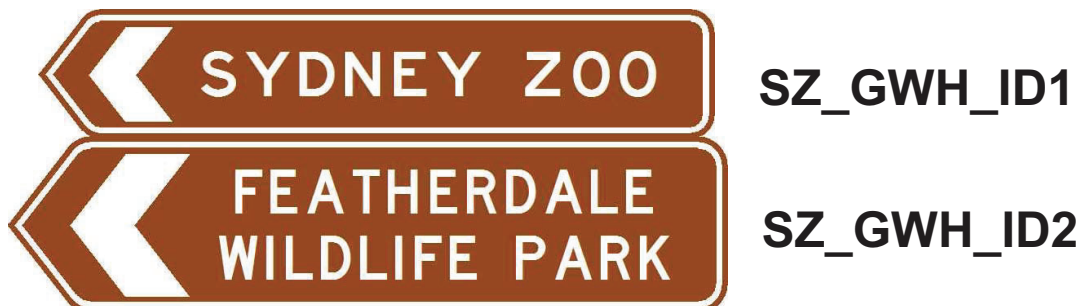


SZ_M7_ADS

ATTACH new sign on new structure, as shown.

SYDNEY ZOO SIGNPOSTING

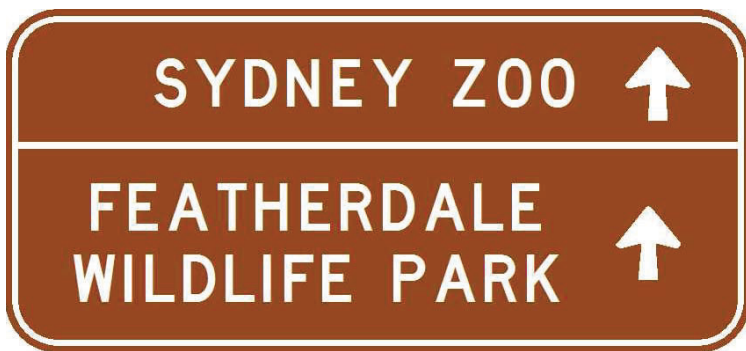
Location 13 - M7 / Great Western Hwy off ramp, south bound, at Great Western Hwy, EASTERN CREEK



ATTACH new signs on Type 10 signal post,
under existing guide sign.

SYDNEY ZOO SIGNPOSTING

Location 14 - Great Western Hwy, east bound, approx. 400m west of Wallgrove Road, EASTERN CREEK



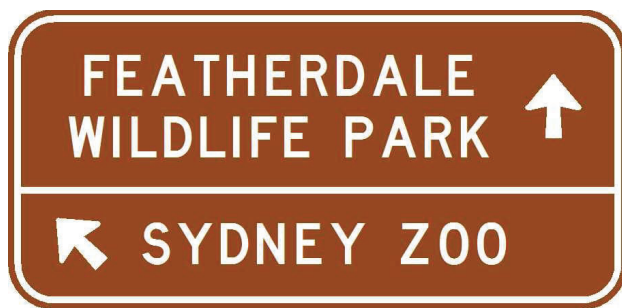
SZ_GWH_AD1

2.5m

INSTALL new sign on posts.

SYDNEY ZOO SIGNPOSTING

Location 15 - Great Western Hwy, east bound, approx. 200m west of Sydney Zoo Entrance, EASTERN CREEK



SZ_GWH_AD2

2.5m

INSTALL new sign on posts, as shown.

SYDNEY ZOO SIGNPOSTING

Location 16 - Great Western Hwy, east bound, at Sydney Zoo Entrance,
Rudders Lane, EASTERN CREEK



DOUBLE SIDED



SZ_GWH_ID4

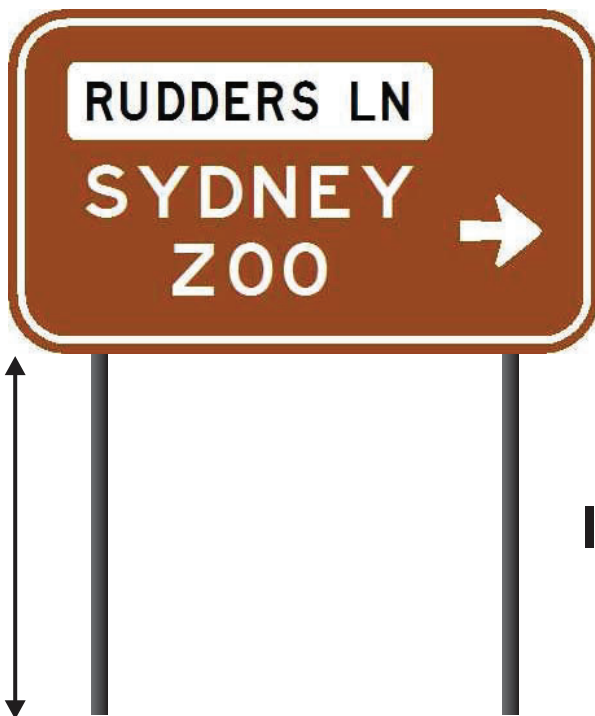
***Road name to
be confirmed.**

SZ_GWH_ID3

ATTACH new signs on Type 10 signal post.

SYDNEY ZOO SIGNPOSTING

Location 17 - Great Western Hwy, west bound, approx. 200m east of Sydney Zoo Entrance, EASTERN CREEK



SZ_GWH_AD3

***Road name to be confirmed.**

INSTALL new sign on posts.

The Transport Planning Partnership
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02 8437 7800

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