Infrastructure New South Wales
12 November 2012

Glebe Island Interim Facility

Transport Management Strategy

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Prepared for

Infrastructure New South Wales

Prepared by

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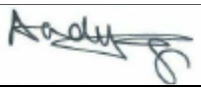
0	12-Nov-2012	Final	Andy Yung Principal Consultant	

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Executive Summary

The project

Infrastructure NSW (INSW) is intending to commence the redevelopment of the Sydney Convention and Exhibition Centre (SCEC) at the end of 2013. To expedite the redevelopment it is proposed that the venue will cease all operations, with regular events re-homed elsewhere in Sydney. To compensate for the loss of exhibiting space INSW is proposing an Interim Facility at Glebe Island. This facility will provide 15,000sqm of exhibition space, with an expansion area of 10,000sqm to take the total floor space to approximately 25,000sqm.

AECOM has been appointed by INSW to develop a Transport Management Strategy which demonstrates how exhibitors, staff and visitors will access the site and what impact the event operations will have on the surrounding road network and existing port operations.

Event patronage

INSW has forecast that there will be in the order of 120 days of exhibition activity at the Interim Facility during 2014. The majority of events are expected to attract an attendance of between 1,000 and 9,000 attendees per day, and will only use the 15,000sqm of space. The forecast also suggests that there will be approximately 12 days where the attendance would be approximately 10,000 visitors or more, for events such as the Sydney International Boat Show, Sexpo and Good Food and Wine which require the use of the expansion area.

The strategy

The transport access strategy for the venue is driven by the need to minimise the impact of the venue operations on the local network, whilst also providing a transport solution that does not detract from the customer experience of the event.

It is proposed that the primary means of access to the Interim Facility will be via charter ferry and charter bus, and that the facility will also provide approximately 1,000 parking spaces for attendees. A ferry wharf is to be constructed at Glebe Island for the sole use of the Interim Facility, and bus services will be accommodated on the internal access road.

The analysis documented in this strategy considered the likely modal split for a peak and typical event for a weekday and weekend.

Table 1 Mode share estimate

Mode	Weekday		Weekend	
	Typical Event	Peak Event	Typical Event	Peak Event
Car	44%	17%	25%	9%
Bus	32%	46%	44%	51%
Ferry	24%	37%	31%	40%

The mode share estimates for events at the Interim Facility were based on existing travel behaviour for the SCEC and assumptions regarding where bus and ferry services could collect passengers.

The demand for services was estimated by considering the duration of stay of attendees and a per service capacity.

Table 2 Charter bus and ferry demand (per hour)

Mode	Weekday		Weekend	
	Typical	Peak	Typical	Peak
Bus	5	18	8	24
Ferry	1	4	2	6

It is estimated that there will be a peak one hour bus demand for 24 services. The crowds of attendees arriving at the transport hubs served by the charter buses will need to be actively managed, with sufficient space for attendees to wait. This situation is only likely to occur on 3 or 4 of the event days per year.

Cumulative traffic impact

The impact of the traffic generated by the Interim Facility was considered alongside the estimated traffic generation for the Cruise Passenger Terminal and the proposed additional port operations around Glebe Island. The Interim Facility and surrounding development is predicted to have the greatest impact in the midday peak period (1:00pm – 2:00pm), where the greatest traffic volumes are entering or leaving the Glebe Island precinct. The TRANSYT modelling suggests that this additional traffic could be accommodated on the local road network and would not require any additional traffic management measures apart from the internal circulation works.

Transport Management Plans

All events will need to be supported by a Transport Management Plan that sets out as a minimum the number of bus and ferry services which are to be provided and where these services will collect passengers from. It is proposed that there will be two formats for the Travel Management Plans, with different levels of detail required depending on the forecast number of attendees. The threshold for the two formats is proposed as 10,000 attendees per day – which equates to a typical event (<10,000 attendees) or a peak event (>10,000 attendees).

The typical event plan will require:

- Evidence of ticket sales origins to inform charter service hub locations
- Road and maritime requirements (bus stands, ferry wharves)
- A plan of charter services to be provided

The peak event plan will require:

- Evidence of ticket sales origins to inform charter service hub locations
- Road and maritime requirements (bus stands, ferry wharves)
- A plan of charter services to be provided
- Crowd management plan
- Consideration of impact on public transport capacity

1.0 Introduction

1.1 The proposed development

At the end of 2013 it is proposed that the existing Sydney Convention and Exhibition Centre at Darling Harbour will cease operations to allow for the redevelopment of what is now known as the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP). With this closure Sydney will lose its primary exhibition and function centre, and the ability to host major events such as the Sydney International Boat Show. To counter this temporary loss of space and until the new SICEEP is in operation, it is proposed that an Interim Facility will be constructed at Glebe Island, Rozelle, legally described as part Lot 10 in DP 1065973. This site is owned by Sydney Ports Corporation, with the land being leased by Infrastructure New South Wales (INSW).

1.2 Site location

To ensure the growing exhibition industry in Sydney stays strong during the redevelopment of the existing Sydney Convention and Exhibition Centre at Darling Harbour, an Interim facility is proposed to be located on Glebe Island, approximately 6km from the Sydney CBD.

The site is comprised of three parts: the larger of the three is located within Glebe Island, the second is an area to the south-west of the Robert Street and Sommerville Road intersection, adjacent to the White Bay Power Station and the third is comprised of land at White Bay Wharves 4 and 5.

The site is currently accessible via James Craig Road which is connected to several key strategic roads including Victoria Road, the Western Distributor and The Crescent.

Surrounded by water, Glebe Island plays an important role in terms of commercial shipping in Sydney Harbour and being part of a working port.

1.3 Report purpose

AECOM has been appointed by INSW to develop a transport access strategy and document the transport implications for the proposed Glebe Island Interim Facility. The facility is to be designed, built, and operated by a third party who will ultimately be responsible for the management of venue access, however it is intended that this strategy document will demonstrate that the Interim Facility can function without significantly impacting on the surrounding road network by providing charter bus and ferry services to and from the site .

INSW requested Director General's Requirements (DGR's) for a Development Application (DA) from the Department of Planning and Infrastructure.

The DA seeks approval for:

- construction and use of a new purpose-built temporary exhibition facility comprising:
  - 25,000sqm of exhibition space (part of which may only be used intermittently);
  - formal entrance and foyer area;
  - registration / reception area;
  - pre-function space; and
  - public facilities including food and beverage outlets and bathroom amenities;
- use of the site as an exhibition centre, 'function centre' and 'food and drink premises;
- hours of operation;
- building signage and advertising structures;
- design and construction of a new link road onto Robert Street and roundabout on Sommerville Road;
- vehicular access from James Craig Road to the south-west and exit onto Sommerville Road and Robert Street to the north-west;
- internal access roads;

- car parking for 1,000 vehicles; and
- construction of a temporary private wharf within the waterway adjacent to the north-east corner of the site; and dismantling and removal of structures.

The DA also seeks development consent for the use of the short-stay car park at White Bay 5 as detailed in the approved White Bay Cruise Passenger Terminal Part 3A project (MD 10_0069) when the Cruise Passenger Terminal is not in use and land at White Bay 4 for overflow car parking. Development consent is sought for a period of four (4) years.

This report responds to the DGR's related to transport, which were:

Prepare a Traffic Impact Assessment (TIA) that:

- Evaluates daily and peak traffic movements likely to be generated by the development (construction & operation), including peak traffic movements during special events.
- Evaluates the cumulative impacts and potential conflict with traffic movements generated by existing port uses and the proposed White Bay Cruise Passenger terminal.
- Provides network modelling that captures dynamic and co-ordinated traffic light operations to assess the impact on the surrounding road network. This modelling should take into account the cumulative impacts of surrounding development on the road network. This modelling should include the interaction between pedestrian and vehicular traffic.
- Identifies upgrades to roads/intersections required to facilitate the proposal including with specific regard to:
    - Roberts Street intersection with Mullens Street, Victoria Road and Buchanan Street; and James Craig Road intersection with the Crescent and Victoria Road.
- Identifies pedestrian/cycle connections required to service the precinct, taking into consideration connections to external networks.
- Details access arrangements for workers to/from the site, emergency vehicles and service vehicle movements.
- Details how visitors and the public (as relevant) will access and leave the site.
- Demonstrates how staff and visitors to the site will be able to make travel choices in order to minimise adverse traffic impacts.
- Include details on parking provision. An adequate level of parking for the proposed development must be provided having regard to the level of accessibility to the site via alternative forms of transport. This should include an assessment of parking demand (including for special events/major exhibitions); measures to discourage/provide alternatives to private car use; and management measures.

The report has been prepared with regard to Sydney Ports Corporation Traffic Management Plan Guidelines, 2007.

1.4 Report content

This document details the recommended access strategy for the Interim Facility and demonstrates the cumulative impact of the venue and adjacent activity at the White Bay Cruise Passenger Terminal and the Glebe Island bulk storage operations.

The document structure is as follows:

- **Section 2** provides the strategic context within which the assessment has taken place. This section provides a literature review of relevant state, regional, local and other documents that given context to the proposed development.
- **Section 3** establishes the existing transport conditions in the vicinity of the development site.
- **Section 4** provides an overview of the proposed development including an indication of likely travel behaviour, patronage estimates and servicing requirements related to the Interim facility
- **Section 5** introduces the proposed access strategy that would assist in meeting the target mode share.
- **Section 6** presents the traffic impact assessment for the forecasted peak event likely to occur at the interim facility (the worst case scenario).
- **Section 7** provides measures as part of the Travel Demand Management.
- **Section 8** summarises the conclusions and recommendations of the report.

2.0 Strategic Context

2.1 Introduction

The strategic context of the study area is governed by three frameworks, being:

- State and regional strategic planning policies;
- Regional transport planning policies; and
- Local transport planning context.

This section provides an overview of the main aspects of these frameworks and their relevance to the study area.

2.1.1 Sydney Regional Environmental Plan No.26 – City West (SREP 26)

Document	Sydney Regional Environmental Plan No.26 – City West (SREP 26)
Organisation	NSW Government
Date	9 July 2010
Purpose	The aims of this plan are: - to establish planning principles of regional significance for City West as a whole with which development in City West should be consistent, and - to establish planning principles and development controls of regional significance for development in each Precinct created within City West by this plan and by subsequent amendment of this plan, and - to promote the orderly and economic use and development of land within City West
Relevance to Glebe Island	The site is zoned Port and Employment zone under Sydney Regional Environmental Plan No. 26 – City West (SREP 26). SREP 26 is now a deemed State Environmental Planning Policy (SEPP) for the purpose of statutory consideration. In accordance with clause 20C of SREP 26, only uses which the consent authority is satisfied are generally consistent with one or more of the zone objectives are permissible within this zone. The objectives of the Port and Employment zone are: - to facilitate the continuation of commercial port uses, and - to allow a range of commercial port facilities (such as buildings, structures, activities or operations and uses ancillary to these, associated with carrying goods from one port to another and associated with storage and handling and access to the port), and - to encourage development on Glebe Island and land adjoining White Bay which requires close proximity to the port, and - to encourage a mix of land uses which generate employment opportunities, particularly in relation to port and maritime uses, and - to allow a mix of uses which generate employment opportunities in the White Bay Power Station site, and - to provide for the ongoing rail access to the port and related activities, and - to provide pedestrian and cyclist links with surrounding public access networks, and - to encourage port-related uses which optimise use of existing rail facilities, and - to provide road and rail access to port activities. For temporary and interim uses Clause 22 states while land is not being used for a purpose for which it is zoned, the consent authority may consent to its use for any other purpose if it is satisfied that: - the use will not prejudice the eventual development of the land in accordance with the rest of this plan, and - appropriate arrangements have been made for reinstatement of the site so that it may be used in accordance with the rest of this plan, and - the use will not adversely affect residential amenity and permissible development in accordance with this plan on other sites in the locality.

2.1.2 State Environment Planning Policy (Sydney Harbour Catchment)

Document	State Environment Planning Policy (Sydney Harbour Catchment)
Organisation	NSW Government
Date	2005
Purpose	The Sydney Harbour Catchment SREP 2005 is now a deemed SEPP for the purposes of statutory consideration.
Relevance to Glebe Island	It is proposed to construct a temporary wharf / pontoon structure within the waterway adjacent to the Glebe Island site under Sydney Harbour Catchment SREP 2005. Under the Sydney Harbour Catchment SREP 2005, the waterway is zoned W1- Maritime Waters within which a charter and tourism boating facility is a permissible activity. The proposed temporary wharf / pontoon structure connected to the north-east portion of the site is a permissible use within the water way. As discussed above, the Minister administering the Ports and Administration Act 1995 is the consent authority for this application. A separate application for a temporary wharf to Maritime Services will be prepared and lodged concurrently with this application.

2.1.3 Glebe Island and White Bay Master Plan

Document	Glebe Island and White Bay Master Plan
Organisation	Sydney Ports
Date	2000
Purpose	In May 2000 the Glebe Island and White Bay Master Plan was adopted by the then Minister for Urban Affairs and Planning. The Master Plan, a requirement of SREP 26, controls and directs port development at Glebe Island and White Bay. The Master Plan provides for the continued use of Glebe Island and White Bay as a significant commercial port facility in Sydney Harbour.
Relevance to Glebe Island	The Master Plan sets out the vision for the future development of Glebe Island and White Bay and a series of principles and actions in relation to land uses, road and rail infrastructure, views, building heights and building zones, built quality, environmental controls, landscaping, pedestrian and cycle links and heritage conservation

3.0 Existing conditions

3.1 Existing land uses

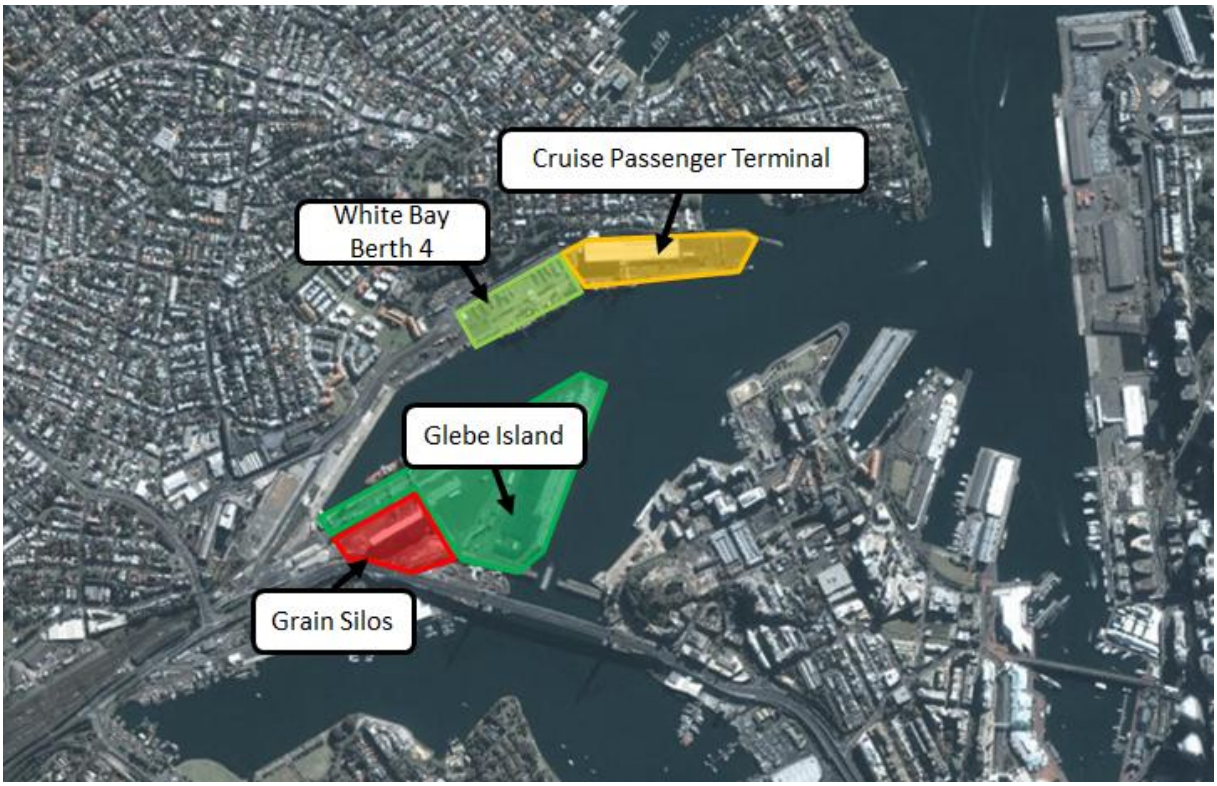
Glebe Island contains several bulk good facilities which store refined sugar, gypsum and cement. These facilities currently use the Glebe Island berths to ship their goods to their storage facilities and use the internal road network of Glebe Island via James Craig Road and Sommerville Road to distribute these good by trucks.

In addition to the dry bulk storage there are several boat yards accessed from James Craig Road, the Maritime office of the Roads and Maritime Services and the Superyacht marina, which is to be redeveloped in the coming years.

At White Bay, to the north of the development site, Sydney Ports Corporation (SPC) is currently constructing a new Cruise Passenger Terminal (CPT). This terminal will accommodate the growth in cruise ship arrivals and is expected to be operational by mid-2013. At White Bay Berth 6, Bailey's Marine Fuels currently provides a marine refuelling and supply facility.

Glebe Island and White Bay play an important role in NSW's transport and logistics network providing efficient transfer of cargo between land and sea. Glebe Island and its proximity to surrounding land uses are shown in **Figure 1**.

Figure 1 Site location and surrounding land uses



Source: AECOM 2012

3.2 Road network

The key strategic roads in the vicinity of Glebe Island are Victoria Road, City West Link/The Crescent and the Western Distributor. Other key roads in the study area include James Craig Road, Robert Street and Sommerville Road. The major road network surrounding Glebe Island is shown in **Figure 2**.

Figure 2 Road Network

Source: AECOM, 2012

Victoria Road

Victoria Road is a major arterial road providing connection between Parramatta and the Sydney CBD. The road is generally a 6 lane road with a narrow median (3 lanes in each direction) and a speed limit ranging from 60km/h to 70km/h.

Victoria Road currently plays a major role in the metropolitan transport system, acting as a major bus corridor for buses travelling to and from the Sydney CBD. Serving both local and regional travel demands it is one of Sydney's busiest transport corridors.

The Crescent

The Crescent provides a connection between Victoria Road, the Western Distributor and City West Link and links these major roads to the inner suburbs of Sydney such as Forest Lodge, Glebe and Annandale.

The Crescent has a speed limit of 70km/h and is partially grade separated at the intersection of The Crescent and Victoria Road.

Western Distributor

The Western Distributor is a major arterial road linking Bradfield Highway (Sydney Harbour Bridge) and the Cross City Tunnel to Victoria Road and The Crescent, the main roads to the Western Suburbs.

The Western Distributor is also one of Sydney's busiest transport corridors connecting a network of motorways and providing links between the Sydney CBD and the main roads to the Western Suburbs.

James Craig Road

James Craig Road is a local road serving as the main truck access route to the existing grain silo operations at Glebe Island and providing access to other land uses of Glebe Island. The road is a two lane undivided road connecting with The Crescent at a signalised intersection. The road has a speed limit of 50km/h and also connects to Sommerville Road.

Sommerville Road

Sommerville Road is a one way loop road which provides access to Glebe Island and the storage facilities currently used by Gypsum Australia, Sugar Australia and Cement Australia.

Robert Street

Robert Street is generally a two way undivided road providing access to the White Bay area and the future CPT. Robert Street intersects with Mullens Street and Buchanan Street, both intersections are priority controlled T-intersections which provide access to the residential areas of Rozelle and Balmain.

The westbound right turn movement at signalised intersection of Robert Street / Victoria Road is banned during the weekday morning peak period (6:30am to 9:30am).

3.3 Existing intersection operation

The local road network surrounding the site has 4 major intersections:

- Victoria Road/Robert Street – TCS 652;
- Victoria Road/The Crescent – TCS 651;
- The Crescent/James Craig Road – TCS 3033; and
- The Crescent/City West Link – TCS 1208.

Intersection counts were recorded for the AM, midday and PM peak periods on Thursday 20 September 2012 to represent a typical weekday scenario. In addition weekend intersection counts were recorded on Saturday 20 October 2012 during the midday peak period. These intersection counts were used to develop a TRANSYT network model. The survey video files were used to verify traffic behaviour on the network and calibrate the model.

Analysis of the data showed the following peak hour periods:

- Weekday AM peak hour occurred between 7:15am to 8:15am;
- Weekday midday peak hour occurred between 1:00pm and 2:00pm;
- Weekday PM peak hour occurred between 4:00pm and 5:00pm;
- Saturday midday peak hour occurred between 12:00pm and 1:00pm.

Using details of the geometry of the key intersections and the traffic data provided, existing intersection performance was assessed using TRANSYT14. TRANSYT output data used in this study includes:

- Degree of Saturation (DoS) – a measure of the ratio between traffic volumes and capacity of the intersection. As DoS approaches 1.0, both queue length and delays increase rapidly. Satisfactory operations usually occur with a DoS range between 0.7-0.8 or below;
- Average Delay – duration, in seconds, of the average vehicle waiting at an intersection; and
- Level of Service (LoS) – a measure of the overall performance of the intersection (refer to **Table 3**).

Table 3 Level of Service criteria for intersections

Level of Service	Ave. Delay (secs/veh)	Traffic Signals and Roundabouts	Give Way and Stop Signs
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays	At capacity; requires other control mode
F	>70	Roundabouts require other control mode	At capacity; requires other control mode

Source: Guide to Trip Generating Development, RTA 2002

Table 4: Existing Weekday AM peak TRANSYT results

AM Peak Period	Average Delay (Sec)	Level of Service (LoS)
TCS 1208 - The Crescent	35.7	C
TCS 3033 - James Craig Rd	12.6	A
TCS 651 - Victoria Rd	42.2	C
TCS 652 - Roberts Street	30.4	C

Table 5: Existing Weekday midday peak TRANSYT results

Midday Peak Period	Average Delay (Sec)	Level of Service (LoS)
TCS 1208 - The Crescent	17.4	B
TCS 3033 - James Craig Rd	9.3	A
TCS 651 - Victoria Rd	24.5	B
TCS 652 - Roberts Street	27.0	B

Table 6: Existing Weekday PM TRANSYT results

PM Peak Period	Average Delay (Sec)	Level of Service (LoS)
TCS 1208 - The Crescent	26.5	B
TCS 3033 - James Craig Rd	12.3	A
TCS 651 - Victoria Rd	36.6	C
TCS 652 - Roberts Street	32.4	C

Table 7: Existing Saturday peak TRANSYT results

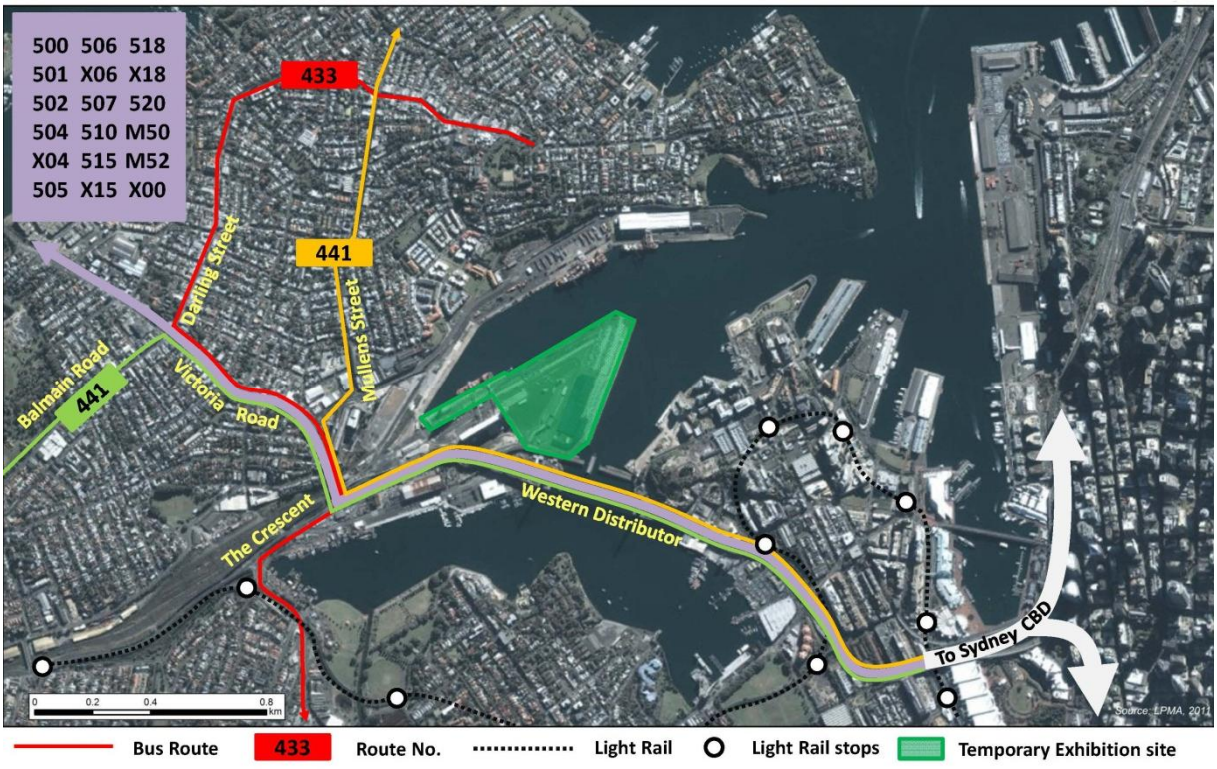
Saturday Peak Period	Average Delay (Sec)	Level of Service (LoS)
TCS 1208 - The Crescent	24.5	B
TCS 3033 - James Craig Rd	4.4	A
TCS 651 - Victoria Rd	30.3	C
TCS 652 - Roberts Street	24.8	B

The modelling results indicate that the road network in this area is near capacity during the peak periods. The dominant movements receive a majority of the green time resulting in a low average delay for the high volume movements resulting in an acceptable level of service for the intersections. Between intersections the internal links experience exit-blocking on occasion, which limits the utilisation of green time and subsequently reduces the traffic throughput. To model the exit blocking effects the Cell Transmission Model (CTM) module within TRANSYT 14 was used.

3.4 Public transport

Glebe Island is surrounded by an extensive network of public transport links including bus and light rail services, however does not have any direct public transport links to the site, as shown in **Figure 3**.

Figure 3 Public transport within the vicinity of Glebe Island



Source: AECOM, 2012

Victoria Road and the Western Distributor both act as a major bus corridor for buses travelling to and from the Sydney CBD. Sydney Buses provides a number of bus routes along Victoria Road and the Western Distributor; however the nearest bus stop is approximately 1km from the site, approximately 70m north of the signalised intersection of Victoria Road / The Crescent.

There is also a light rail stop at Rozelle Bay, approximately a 1.5km walk from the site. Whilst the light rail route is to be extended from Lilyfield to Dulwich Hill, the extension is not expected to be in operation until 2014 at the earliest.

There are no existing ferry services that stop at Glebe Island. The closest existing Sydney Ferries service stop is located at Balmain East.

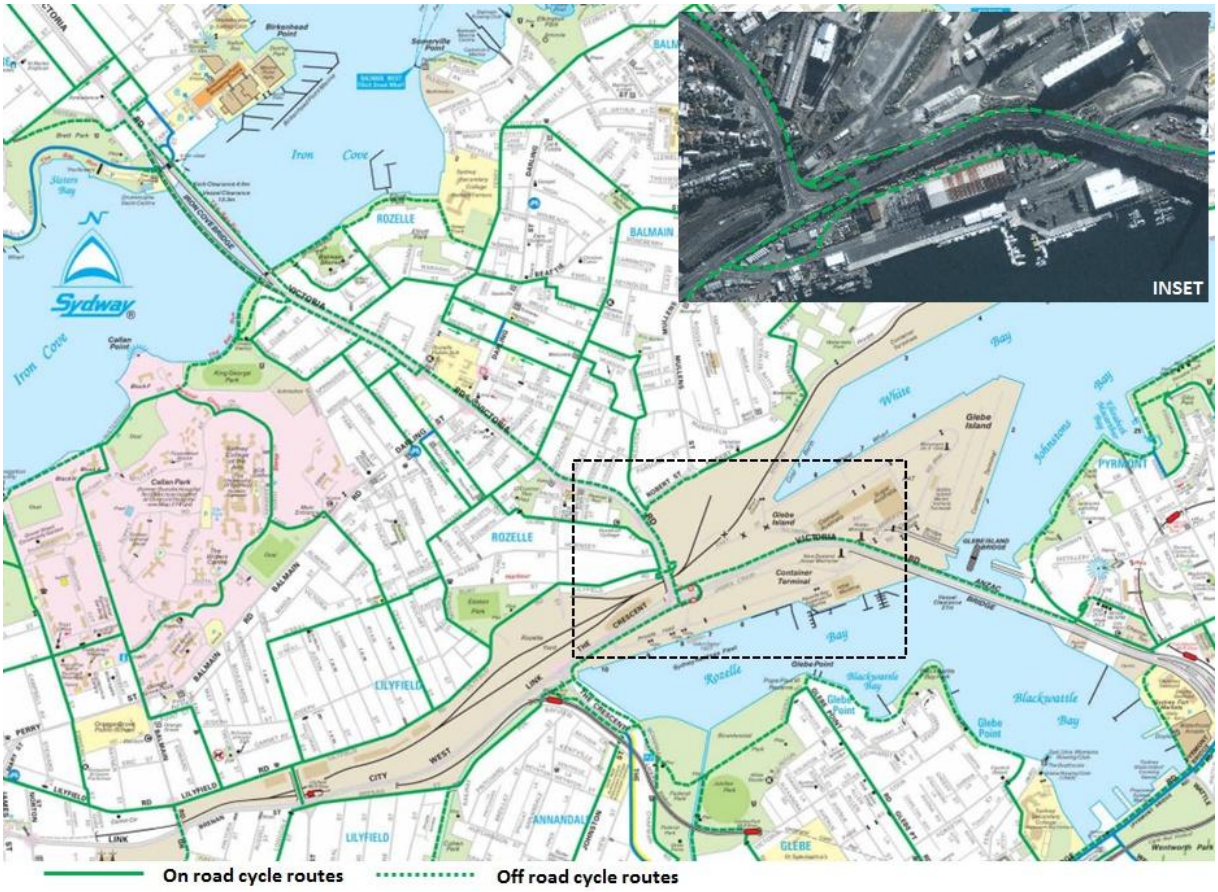
3.5 Pedestrian and cycle access

Glebe Island is surrounded by an extensive network of on-road and off-road cycleway and pedestrian facilities, which connects and provides accessibility between surrounding suburbs and the Sydney CBD. On road and off road bicycle routes are shown in **Figure 4**.

An off-road shared path is provided along the northern section of Anzac Bridge (Western Distributor), Victoria Road, between Anzac Bridge and Iron Cove Bridge, and The Crescent connecting the Leichardt LGA bicycle routes to Pyrmont and the Sydney CBD.

In addition an off-road shared path is provided along James Craig Road which connects to The Crescent and the Anzac Bridge providing cyclists and pedestrians connectivity to the site. These existing pedestrian and cycling facilities are currently used to access the ANZAC bridge cycle path and the ANZAC memorials located on the western end of the Anzac Bridge, approximately 200m south-east of the site.

Figure 4 Bicycle routes



Source: AECOM, adapted from City of Sydney, 2012

4.0 The Interim facility

4.1 Existing convention centre operations

The existing Sydney Convention & Exhibition Centre at Darling Harbour is primarily used as a conference, convention and exhibition venue offering over 30 meeting rooms, an auditorium and six exhibition halls. It is one of Australia's leading business events venue due to its close proximity to the Sydney CBD.

The Centre hosts an average of 600 events a year, which attract approximately 900,000 visitors. The biggest events held each year are the Australian International Motor Show and Sydney International Boat Show which attract approximately 140,000 and 70,000 visitors respectively.

4.2 The Interim facility

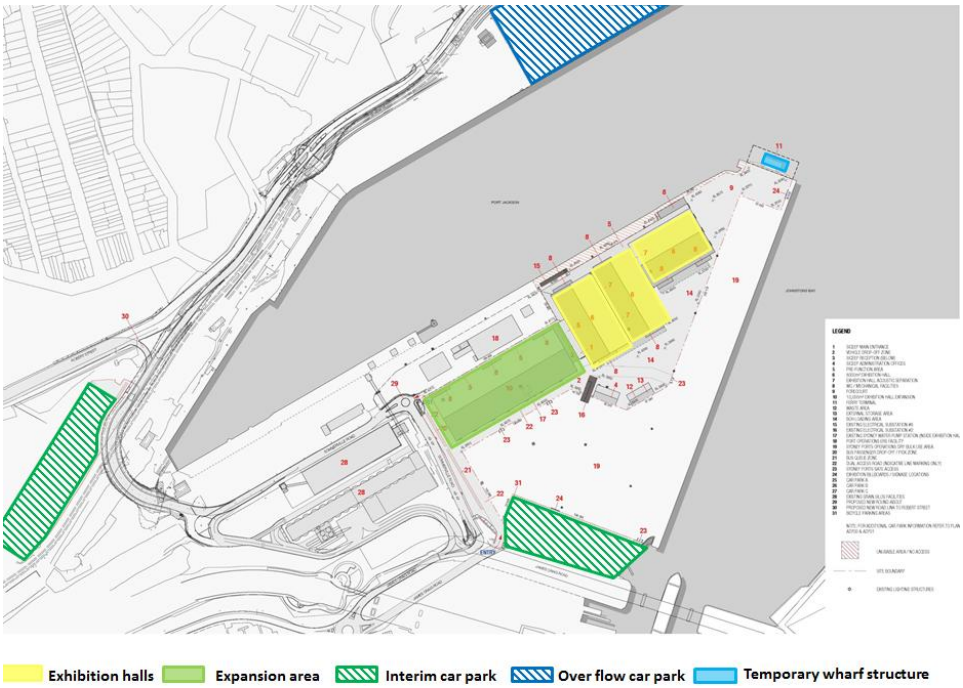
The indicative layout plan (ILP) for the Interim Facility at Glebe Island is proposed to have a total of 15,000sqm constant exhibition space compromising of the construction of 3 exhibition halls (approximately 5,000sqm each) and an expansion area (temporary structure), of approximately 10,000sqm to accommodate larger exhibitions. The ILP is shown in **Figure 5**.

To accommodate potential ferry services to the Interim facility, construction of a temporary wharf/pontoon structure is proposed to the north-east corner of the site. The site also has provisions for approximately 1,000 car parking spaces, in the following areas:

- White Bay Cruise Passenger Terminal (WB-5) Car parking Area. New White Bay Cruise Passenger Terminal parking when no Cruise ship is docked in port.
- White Bay (WB-4) Car parking area (area approximately 17,000m2)- White Bay (WB4)
- Exhibition Hall Expansion Area Car parking- (area approximately 10,000m2). Facility expansion space used for parking when facility is in 15,000m2 event mode (ie for the majority of the events planned to be held at the Interim Facility).
- Glebe Island 1 (GI-1) Area Car Parking- (minimum area 8000m2)- Parking area adjacent to Old Glebe Island Bridge and site entry.

It is proposed construction of the Interim facility would commence in July 2013 and be removed by April 2017.

Figure 5 Indicative layout plan of Glebe Island



Source: Woods Bagot, 2012

4.3 Events

4.3.1 Event profile – Sydney Boat Show

To gain an understanding of the travel behaviour for the forecasted events likely to be hosted at the Interim facility, the 2011 Sydney International Boat Show (SIBS) attendance survey[1] results were analysed. **Table 8** provides the daily attendance of the 2011 SIBS.

A total of 68,724 visitors attended the 2011 SIBS with majority of the visitors attending the event during the weekend. A peak attendance of 21,896 occurred on a Sunday. The peak attendance during the weekday occurred on a Friday with 18% of the total visitors attending.

Table 8 2011 SIBS daily attendance

Day	Attendance	Percentage
Thursday	7,200	10%
Friday	12,200	18%
Saturday	21,000	31%
Sunday	21,900	32%
Monday	6,400	9%
Total	**68,700**	**100%**

Source: SIBS, 2011

Table 9 provides a breakdown of where visitors originated from and shows that 89% of visitors originated from NSW, 9% from Interstate and 2% originated from overseas. Of the 89%, approximately 65% of visitors originated from Sydney

Table 9 2011 SIBS Origin of visitors

Origin	Attendance	Percentage
Sydney	44,930	65%
Country NSW	16,320	24%
ACT	1,650	2%
Interstate	4,580	7%
Overseas	1,250	2%
Total	**68,730**	**100%**

Source: SIBS, 2011

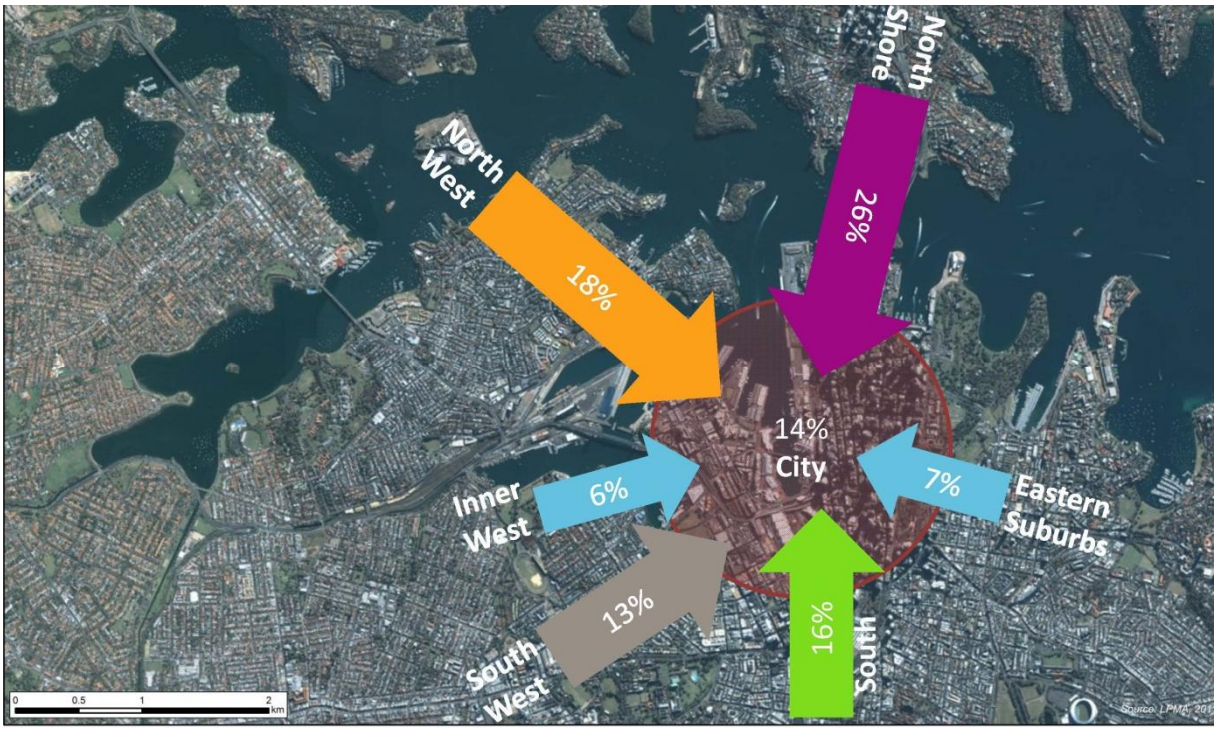
With the majority of visitors originating locally within the Sydney metropolitan, the data was broken down into different regions within the Sydney metropolitan area as shown **Figure 6**.

Almost half of the local Sydney visitors, approximately 44% originated from the North West and the North Shore. Another 27% come from the CBD, Inner West and the Eastern Suburbs – all areas which have excellent public transport links to the existing SCEC.

The remainder of visitors from the Sydney region come from the South or South West. Both of these regions have good rail services into the CBD.

[1] Sydney International Boat Show 2011 Visitor report, Boating Industry Association

Figure 6 Origin of Sydney visitors

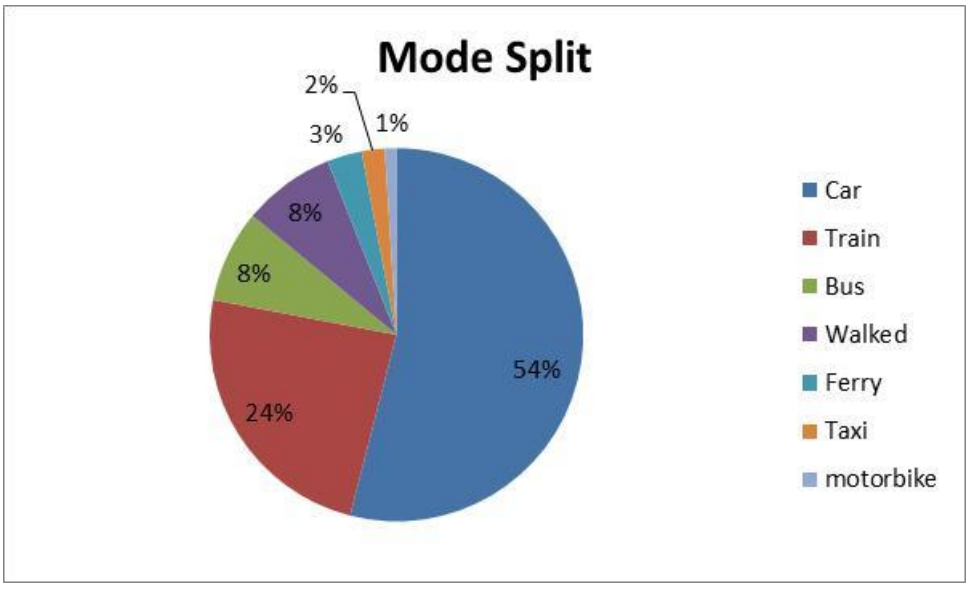


Source: AECOM, 2012

In addition, a survey of 600 people conducted by Micromex Research during the 2011 SIBS showed that visitors to the boat show heavily relied on private vehicle travel, approximately 54%. With the existing SCEC at close proximity to public transport links, 35% of visitors travelled by train, bus and ferry.

It should be noted that different events will have a varying modal split depending on the demographics of the visitors, as part of the assessment in **Section 4.4** the 2011 SIBS modal split have been assumed for all events. **Figure 7** presents the modal split of visitors attending the boat show.

Figure 7 Mode split of boat show visitors



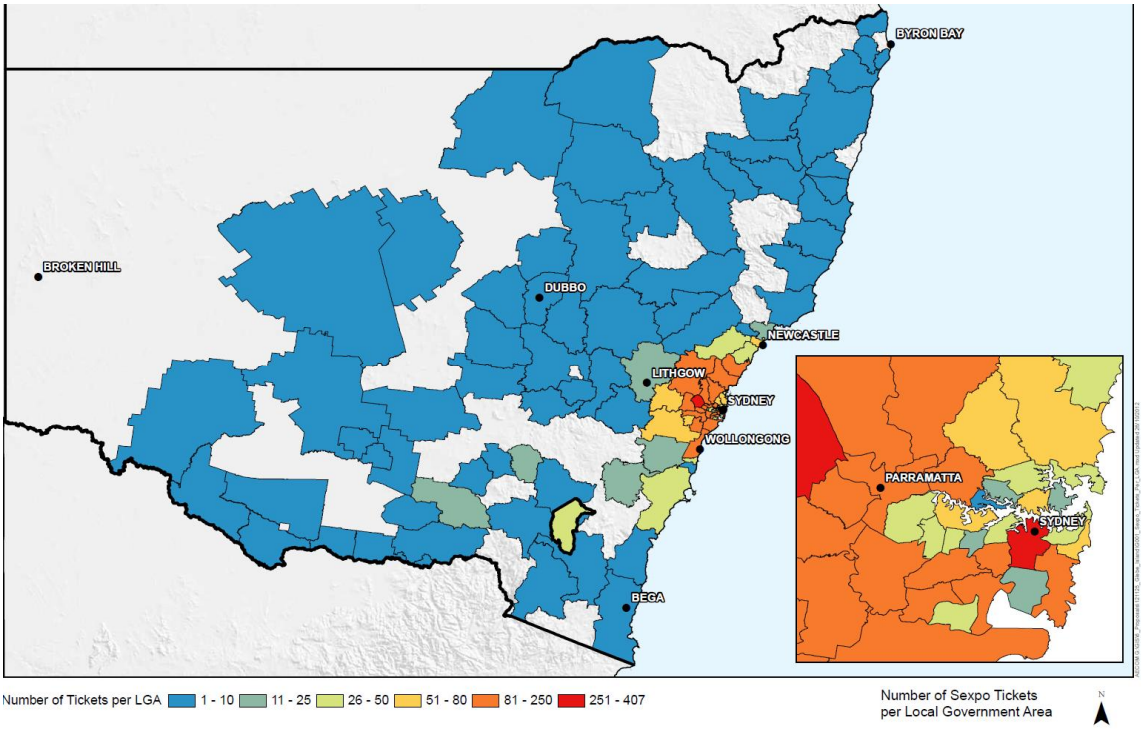
Source: AECOM, 2012

4.3.2 Event Profile - Sexpo 2012

Ticket sale data for the 2012 Sexpo event was also used to determine the origins of event patrons. The data provided was a record of sales against postcode origins.

The data was filtered to show the origins of NSW ticket sales, as can be seen in **Figure 8** below.

Figure 8 Sexpo 2012 patron origin map



The majority of NSW visitors to this event come from the LGAs in Greater Sydney, with a similar trend in origin distribution to the boat show patron origins seen in **Figure 6**.

4.3.3 Forecasted events

The Interim facility is expected to host trade and public exhibitions during the redevelopment of the Sydney Convention and Exhibition Centre from 2014 to 2016. The events likely to be held at the Interim facility are forecasted to attract between 350 and 70,000 visitors, the biggest event being the Sydney International Boat Show. The forecast attendance for events held in the Interim facility is shown in **Table 10**.

Table 10 Forecasted attendance

Daily Attendance	Type of events	Operational days 2014
Less than 5,000	e.g. Home Buyer Show, ADMA Forum, Snow Travel Expo	91
5,000 to 7,500	e.g. Sydney Home Show, The Baby & Toddler Show	6
7,500 to 10,000	e.g. CEBIT, Reef Gift Fair, Grand Designs Live	11
More than 10,000	e.g. Sydney International Boat Show	12
Total		120

Source: INSW, 2012

As shown in **Table 10**, a total of 120 trade and public exhibition days are expected to take place at the Interim facility in 2014, based on the current bookings provided by INSW. The majority of events to be held at the Interim facility are forecasted to attract less than 10,000 attendees per day. A large scale event which is forecasted to have more than 50,000 attendees is expected to occur twice a year.

It is expected that all standard events will open their doors to patrons at 10am and close their doors at 6pm. Occasional evening functions and events may follow day time conferences/exhibitions.

4.4 Patronage estimates and servicing requirements

As part of the patronage estimates and servicing requirements, a typical event scenario and a peak event scenario was assessed. To estimate the potential number of visitors to the Interim facility data provided by INSW as well as the 2011 SIBS attendance were used.

Data provided by INSW forecasted daily attendance for exhibitions that are to be held during 2014, these numbers were analysed to provide patronage estimates for a typical event scenario. Analysis showed a typical event is forecasted to expect approximately 4,500 and 8,000 during the weekday and weekend respectively. These estimates took into account events that occurred during the same week which represents the typical use of the 15,000sqm exhibition space. For example the ARBS Expo and Food Service Australia Expo both take place on Tuesday, 13th May 2014 with 4,500 patrons forecasted to attend.

The 2011 SIBS data was used to present a peak event scenario, which was deemed appropriate since attendance data has shown there has been a decline in attendance since the 2010 SIBS. **Table 11** presents the patronage estimates used as part of the weekday and weekend analysis.

Table 11 Weekday and weekend attendance

Event	Exhibition space	Attendance	
		Weekday	Weekend
Typical	Upto 15,000m^2	4,500	8,000
Peak	27,000m^2	12,200	21,500

To estimate the number of visitors likely to use the bus and ferry services to gain access to and from the site, the 2011 Sydney International Boat Show and Micromex Research data (**Section 4.3.1**) were used. Based on existing behaviour and anecdotal evidence of exhibition operations, assumptions were made regarding travel behaviour. **Table 12** provides a summary of the assumptions and data used.

Table 12 Patronage and servicing assumptions

Component	Assumptions
Patronage estimates	
Origin of visitors	Typical Event: - Visitors for a typical event have been assumed to originate from the greater Sydney area. Peak Event - Visitors for a peak event have been assumed to originate from Sydney, intrastate, interstate and overseas. - The 2011 SIBS Origin of Visitors data (**Table 9**) was applied.
Mode choice - Car - Train - Bus - Ferry - Other (incl. walk and taxi)	For visitors originating from Sydney, the 2011 Micromex Research data (**Figure 7**) was applied to determine the main method of travelling to Glebe Island (i.e. car/train/bus/ferry/other). For visitors originating from intrastate, interstate and overseas it has been assumed they'll be located within the Sydney CBD and have the option of catching a charter bus/ferry service without interchanging. It is also assumed that some people will choose to drive to the CBD and park in existing parking stations such as the Darling Quarter.
Car parking facilities	It has been proposed there will be 1,000 parking space provided for the Interim facility, with an assumption of 1,000 vehicles using these facilities throughout the day. An occupancy rate of 2 persons per vehicle for a special event has been applied for each car trip. (*Murthy & Mohle, Transport Engineering Basics, 2001*)
Interchange to charter services	Assumptions were made to estimate the likely diversion from the main method of travelling to Glebe Island (i.e. train/bus/ferry) to the charter bus and ferry services. Due to the limited amount of parking facilities, the remaining car trips have also been included as part of the interchange assessment.
Servicing Requirements	
Arrival and departure profile	An arrival and departure profile was assumed based on data collected by Micromex Research in regards to length of time spent at the 2011 boat show. Respondents to the survey indicated the following: - 41% intend to spend all day at the show - 40% intend to spend half a day - 12% intend to spend 1-2 hours Based on the information above, it was assumed majority of the arrivals would occur during 11:00am – 12:00pm (30%) and departures between 4:00pm – 5:00pm (35%).
Charter bus and ferry capacity	Charter bus services: - articulated bus with a capacity of 115 passengers Charter ferry services: - MV Captain Cook III with a capacity of 400 passengers

Table 13 provides a summary of the patronage estimates by origin and mode.

Table 13 Patronage estimate by origin and mode

	Typical Event		Peak event	
	Weekday	Weekend	Weekday	Weekend
Origin				
Sydney trips	4,500	8,000	8,000	14,000
Interstate, intrastate and overseas trips	-	-	4,200	7,500
Total trips	**4,500**	**8,000**	**12,200**	**21,500**
Mode split				
Car patronage	2,000	2,000	2,000	2,000
Bus patronage	1,450	3,550	5,650	10,900
Ferry patronage	1,050	2,450	4,550	8,600
Total patronage	**4,500**	**8,000**	**12,200**	**21,500**

Source: AECOM, 2012

Based on the patronage estimate assumptions made in **Table 12**, bus patronage is expected to be higher than the ferry patronage.

A typical event is expected to generate 1,450 and 3,350 bus passengers during the weekday and weekend respectively. A peak event is expected to generate 5,650 and 10,900 bus passengers during the weekday and weekend respectively.

1,050 and 2,450 ferry passengers are expected during the weekday and weekend respectively for a typical event. Ferry passengers are expected to increase to 4,550 and 8,600 during the weekday and weekend when a peak event takes place.

To determine the number of bus and ferry services required throughout the day, assumptions were made in **Table 12** in regards to the arrival and departure profile as well as the bus and ferry capacities.

Table 14 and **Table 16** provide the number of bus passengers and services required during the weekday and weekend respectively.

Table 15 and **Table 17** provide the number of ferry passengers and services required during the weekday and weekend respectively.

4.4.1 Weekday patronage and servicing requirements

Table 14 Weekday bus requirements

Time period	% Arr/dep	Typical event		Peak event	
		Bus passengers	No. of bus services	Bus passengers	No. of bus services
Arrival					
10:00 - 11:00	20%	290	3	1,130	10
11:00 - 12:00	30%	**435**	**4**	**1,695**	**15**
12:00 - 13:00	15%	220	2	850	8
13:00 - 14:00	10%	145	2	565	5
14:00 - 15:00	10%	145	2	565	5
15:00 - 16:00	10%	145	2	565	5
16:00 - 17:00	5%	70	1	280	3
17:00 - 18:00	0%	0	0	0	0
Departure					
10:00 - 11:00	0%	0	0	0	0
11:00 - 12:00	0%	0	0	0	0
12:00 - 13:00	5%	70	1	280	3
13:00 - 14:00	10%	145	2	565	5
14:00 - 15:00	15%	220	2	850	8
15:00 - 16:00	25%	360	4	1410	13
16:00 - 17:00	35%	**510**	**5**	**1980**	**18**
17:00 - 18:00	10%	145	2	565	5

Source: AECOM, 2012

During the weekday, the largest number of buses required for a one hour period is 4 for arrivals and 5 for departures for a typical event. The peak event increases the services required to 15 and 18 for arrivals and departures respectively.

For a typical event, the midday peak is expected to have 2 bus services for arrivals and departures. Bus services required increase to 5 for a peak event during the midday peak.

The PM peak requires 2 departure services for a typical event and increases to 5 for a peak event.

Table 15 Weekday ferry requirements

Time period	% Arr/dep	Typical event		Peak event	
		Ferry passengers	No. of ferry services	Ferry passengers	No. of ferry services
Arrival					
10:00 - 11:00	20%	210	1	910	3
11:00 - 12:00	30%	**315**	**1**	**1,365**	**4**
12:00 - 13:00	15%	155	1	680	2
13:00 - 14:00	10%	105	1	455	2
14:00 - 15:00	10%	105	1	455	2
15:00 - 16:00	10%	105	1	455	2
16:00 - 17:00	5%	55	1	230	1
17:00 - 18:00	0%	0	0	0	0
Departure					
10:00 - 11:00	0%	0	0	0	0
11:00 - 12:00	0%	0	0	0	0
12:00 - 13:00	5%	50	1	230	1
13:00 - 14:00	10%	105	1	455	2
14:00 - 15:00	15%	160	1	680	2
15:00 - 16:00	25%	260	1	1,140	3
16:00 - 17:00	35%	**370**	**1**	**1,590**	**4**
17:00 - 18:00	10%	105	1	455	2

Source: AECOM, 2012

During the weekday, a typical event requires 1 ferry service per hour throughout the day. For a peak event the largest number of ferry services required for a one hour period is 4 for arrivals and departures.

For a typical event, the midday peak is expected to have 1 ferry service for arrivals and departures. These services required increase to 2 for a peak event during the midday peak.

The PM peak requires 1 departure services for a typical event and increases to 2 for a peak event.

4.4.2 Weekend patronage and servicing requirements

Table 16 Weekend bus requirements

Time period	% Arr/dep	Typical event		Peak event	
		Bus passengers	No. of bus services	Bus passengers	No. of bus services
Arrival					
10:00 - 11:00	25%	**875**	**8**	**2725**	**24**
11:00 - 12:00	20%	700	7	2180	19
12:00 - 13:00	15%	525	5	1635	15
13:00 - 14:00	10%	350	4	1090	10
14:00 - 15:00	10%	350	4	1090	10
15:00 - 16:00	10%	350	4	1090	10
16:00 - 17:00	5%	175	2	545	5
17:00 - 18:00	5%	175	2	545	5
Departure					
10:00 - 11:00	0%	0	0	0	0
11:00 - 12:00	0%	0	0	0	0
12:00 - 13:00	5%	175	2	545	5
13:00 - 14:00	25%	**875**	**8**	**2725**	**24**
14:00 - 15:00	25%	**875**	**8**	**2725**	**24**
15:00 - 16:00	20%	700	7	2180	19
16:00 - 17:00	15%	525	5	1635	15
17:00 - 18:00	10%	350	4	1090	10

Source: AECOM, 2012

During the weekend, the largest number of buses required for a one hour period is 8 for arrivals and 8 for departures for a typical event. The peak event increases the services required to 24 for arrivals and 24 for departures.

For a typical event, the Saturday peak is expected to have 5 bus services for arrivals and 2 bus services for departures. Bus services required increase to 15 for arrivals and 5 for departures for a peak event during the Saturday peak.

Table 17 Weekend ferry requirements

Time period	% Arr/dep	Typical event		Peak event	
		Ferry passengers	No. of ferry services	Ferry passengers	No. of ferry services
Arrival					
10:00 - 11:00	25%	**613**	**2**	**2150**	**6**
11:00 - 12:00	20%	490	2	1720	5
12:00 - 13:00	15%	368	1	1290	4
13:00 - 14:00	10%	245	1	860	3
14:00 - 15:00	10%	245	1	860	3
15:00 - 16:00	10%	245	1	860	3
16:00 - 17:00	5%	123	1	430	2
17:00 - 18:00	5%	123	1	430	2
Departure					
10:00 - 11:00	0%	0	0	0	0
11:00 - 12:00	0%	0	0	0	0
12:00 - 13:00	5%	123	1	430	2
13:00 - 14:00	25%	**613**	**2**	**2150**	**6**
14:00 - 15:00	25%	**613**	**2**	**2150**	**6**
15:00 - 16:00	20%	490	2	1720	5
16:00 - 17:00	15%	368	1	1290	4
17:00 - 18:00	10%	245	1	860	3

Source: AECOM, 2012

During the weekend, the largest number of ferries required for a one hour period is 2 for arrivals and departures for a typical event. The peak event increases the services required to 6 for arrivals and 6 for departures.

For a typical event, the Saturday peak is expected to have 1 ferry services for arrivals and departures. 4 ferry services are required for arrivals and 2 for departures for a peak event during the Saturday peak.

4.4.3 Summary

Typical Event

The proposed charter bus services for the Interim facility are expected to have a minimal impact on the surrounding road network for a typical event during a weekday and weekend. The peak number of services required for a one hour period is 5 bus services for a weekday, which occur outside the three weekday peak periods. During the weekend, the peak number of bus services is 8 which also occur outside the Saturday peak.

Ferry services are also expected to have a minimal impact on the existing ferry network with 1 service every hour during a weekday and services peaking to 2 during a weekend respectively.

Peak Event

A peak event is expected to have more of an impact on the road network with three times the amount of bus services required when compared to a typical event. The number of bus services required increase from 5 to 18 and from 8 to 24 for a weekday and weekend respectively.

The number of ferry services required for a peak event is predicted to be a maximum of 4 and 6 services during the weekday and weekend respectively. Ferry services will be co-ordinated with existing movements in the harbour under the authority of the harbourmaster.

Table 18 provides a summary of service requirements for a typical and peak event.

Table 18 Peak service requirement summary

Peak period	Event	Service Demand	
		Bus	Ferry
Arrival			
Weekday Peak (11:00 – 12:00)	Typical	4	1
	Peak	15	4
Weekend Peak (10:00 – 11:00)	Typical	8	2
	Peak	18	4
Departure			
Weekday Peak (16:00 – 17:00)	Typical	5	1
	Peak	24	6
Weekend Peak (13:00 – 14:00 & 14:00 – 15:00)	Typical	8	2
	Peak	24	6

Source: AECOM, 2012

The peak bus and ferry requirements estimated will inform the spatial requirements for the bus and ferry stops at Glebe Island. The approximate spatial requirements for these services are outlined in **Section 5.0**.

4.5 Mode share target

One of the overriding principles for the Interim facility is to operate the facility with the least impact on the surrounding road network given its location and the capacity constraints of the surrounding road network. It is proposed that the site will provide a maximum of 1,000 parking spaces within the Glebe Island precinct.

With a car occupancy rate of 2 persons per vehicle, it is expected 2,000 patrons will be arriving by car and that the remainder of patrons will have to arrive at the Interim facility by alternative modes. **Table 19** provides the target modal split required based on the patronage estimates in Section **4.4**.

Table 19 Target modal split

Mode	Weekday		Weekend	
	No. of visitors	%	No. of visitors	%
Typical Event				
Car	2,000	44%	2,000	25%
Bus	1,450	32%	3,550	44%
Ferry	1,050	24%	2,450	31%
Peak Event				
Car	2,000	17%	2,000	9%
Bus	5,650	46%	11,900	51%
Ferry	4,550	37%	8,600	40%

Source: AECOM, 2012

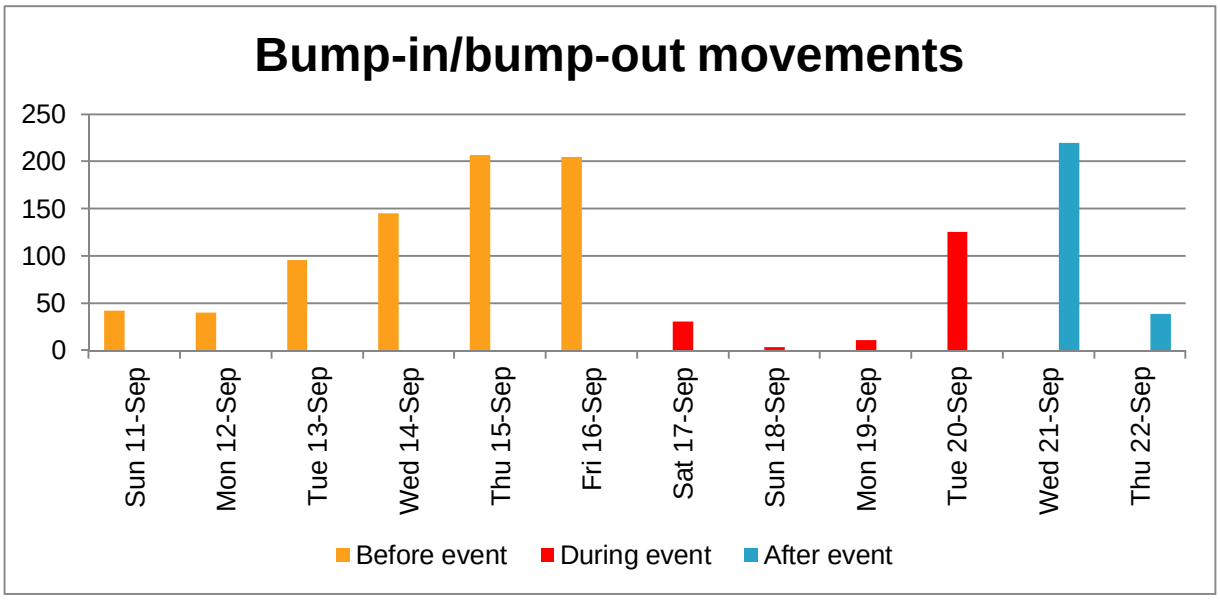
Based on the patronage estimates a typical event is expected to have a mode share of 44% for car trips, 32% for charter bus trips and 24% for charter ferry trips during a weekday. In the weekend, the proportion of charter bus and ferry trips increases to 44% and 31% respectively.

For a peak event, due to the limited amount of car parking facilities the proportion of car trips significantly decreases. 83% and 91% of patrons are expected to arrive by the charter bus and ferry services during a weekday and weekend respectively.

4.6 Logistics requirements

The servicing and logistics requirements for both a typical and peak event at the Interim facility were based on the available evidence recorded during the Reed Gift Fairs September 2011. The record of arrivals and departures during the bump-in and bump-out period can be seen in **Figure 9**.

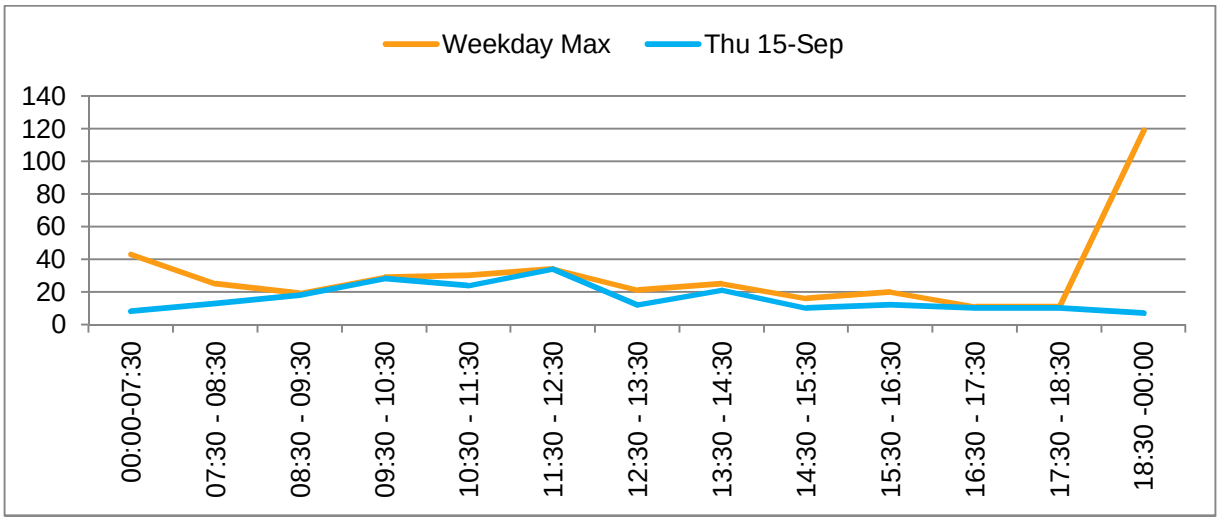
Figure 9 Bump-in/bump-out movements



Source: AECOM, 2012

The records for the bump-in/bump-out movements for the Reeds Gift Fair event indicate that the majority of activity occurred before and after an event. Evidence shows that bump out activity begins soon after the event closes on the last day, with approximately 100 vehicles arriving between 6:30pm and 12:00am. .

Figure 10 Peak weekday bump-in/bump-out movements



Source: AECOM, 2012

Figure 10 shows the maximum arrival or departure volume during the bump-in and bump-out process (Weekday Max), as well as the profile for the busiest day, which was the Thursday before the event opening.

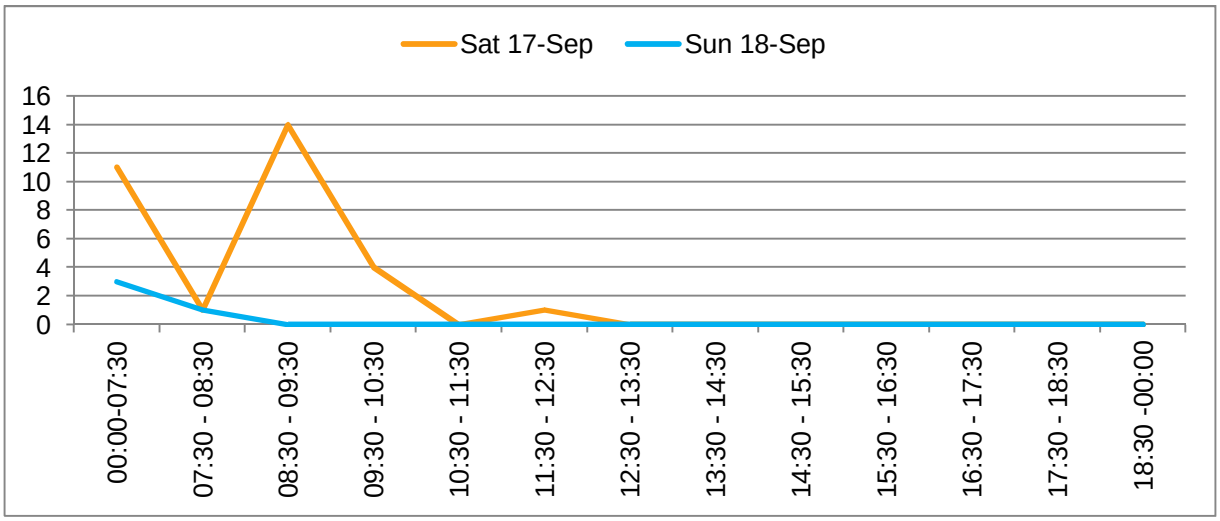
The peak vehicle volume arriving or departing the site during operational hours was 34 vehicles which occur just before the Midday peak hour, between 11:30am and 12:30pm.

It is assumed that a similar level of activity will occur when the Interim facility is in use during the weekday. This presents a worst case scenario should mid-week and weekend events occur during the same week.

The mix of vehicle types used is not known, however it is assumed that majority of these are heavy vehicles (i.e Class 2 - two axle trucks).

For a weekend event it has been assumed no bump-in/bump-out movements will occur during the Saturday peak period. **Figure 11** shows minimal logistic activity occurs during the weekend.

Figure 11 Weekend bump-in/bump-out movements



Source: AECOM, 2012

5.0 Exhibition transport access strategy

5.1 Road access and parking

Vehicular access to the Interim facility will be provided from the existing road network with primary access via James Craig Road.

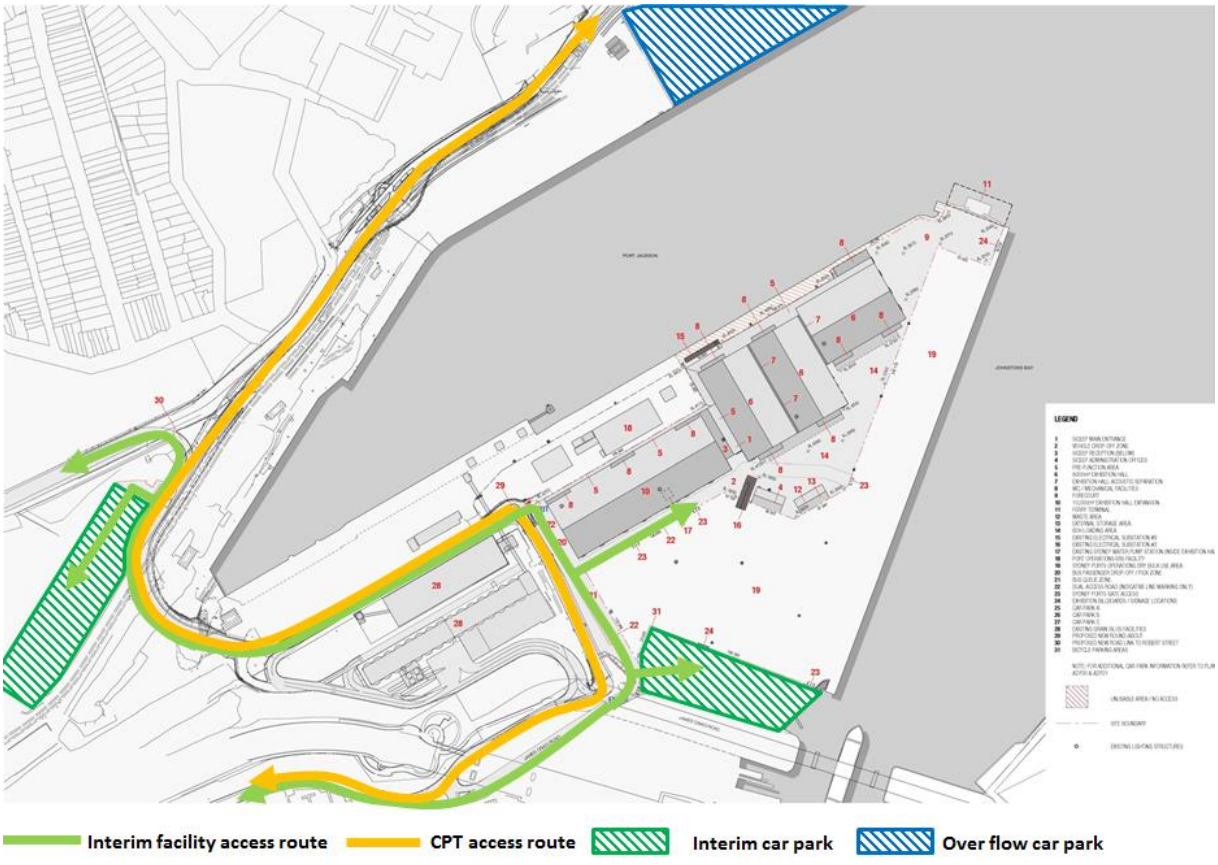
It is proposed that a new link will be constructed from Sommerville Road onto Robert Street, as shown at Appendix A. This left-turn link will provide a secondary egress route for vehicles from the precinct, but will be controlled to avoid use by CPT traffic and private vehicles during event operation.The concept layout of this link road has been designed so that it accesses Robert Street in place of existing gates, which have a “no parking” restriction in front of them. This will minimise the potential impact on existing parking along Robert Street and may result in the loss of approximately 4 on street parking spaces along Robert Street.

Temporary signage to the venue will guide visitors to use James Craig Road from all approaches. When vehicles leave the venue, signage will guide vehicles to either James Craig Road or Robert Street depending on their destination.

Two permanent parking facilities will be provided for the Interim facility. The main car park is to be situated southeast of the site and a secondary car park area located west of the site. When smaller events are hosted the expansion area will be used as a car-park and drop-off area. For large events when the additional expansion area is being used, an overflow car park will be provided at White Bay Berth 4.

As stated in the previously in **Section 4.4**, it is proposed up to 1,000 parking spaces will be provided. **Figure 12** provides vehicular circulation route and parking facilities for the site

Figure 12 Vehicular access and parking facility



Source: AECOM, 2012 and Woods Bagot, 2012

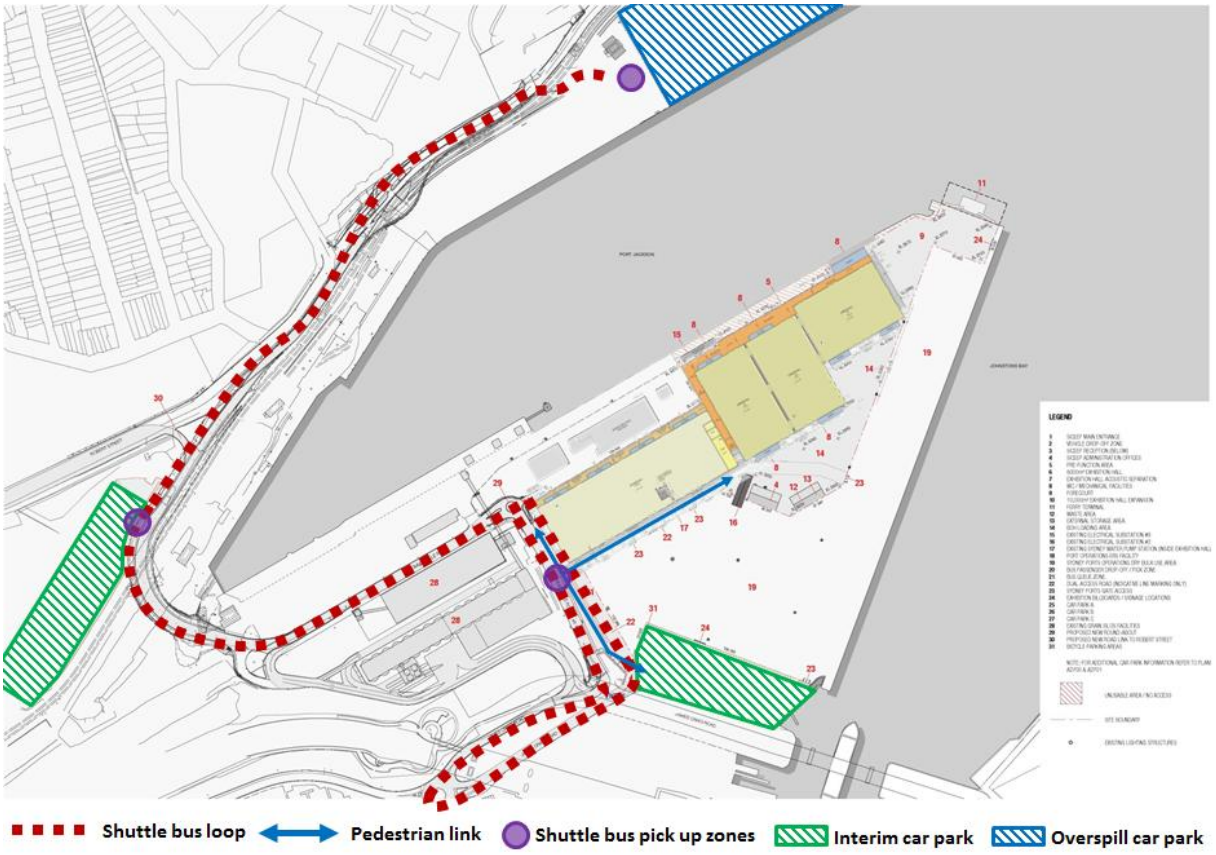
5.2 Shuttle buses

For peak events, shuttle buses will bring patrons from the remote car parks to the venue entrance, with a dedicated set-down and pick-up area to avoid pedestrians mixing with heavy vehicles associated with the port uses. It is proposed that this service will run every 3-5 minutes to transport people to the venue, with the frequency of buses determined by the venue size and parking demand.

A shuttle bus will also be provided from the remote car park to provide pedestrians and cyclists access to the interim facility. Refer to **Section 5.6**.

A shuttle bus loop is proposed along Sommerville Road and James Craig Road as shown in **Figure 13**.

Figure 13 Shuttle bus loop and pedestrian link



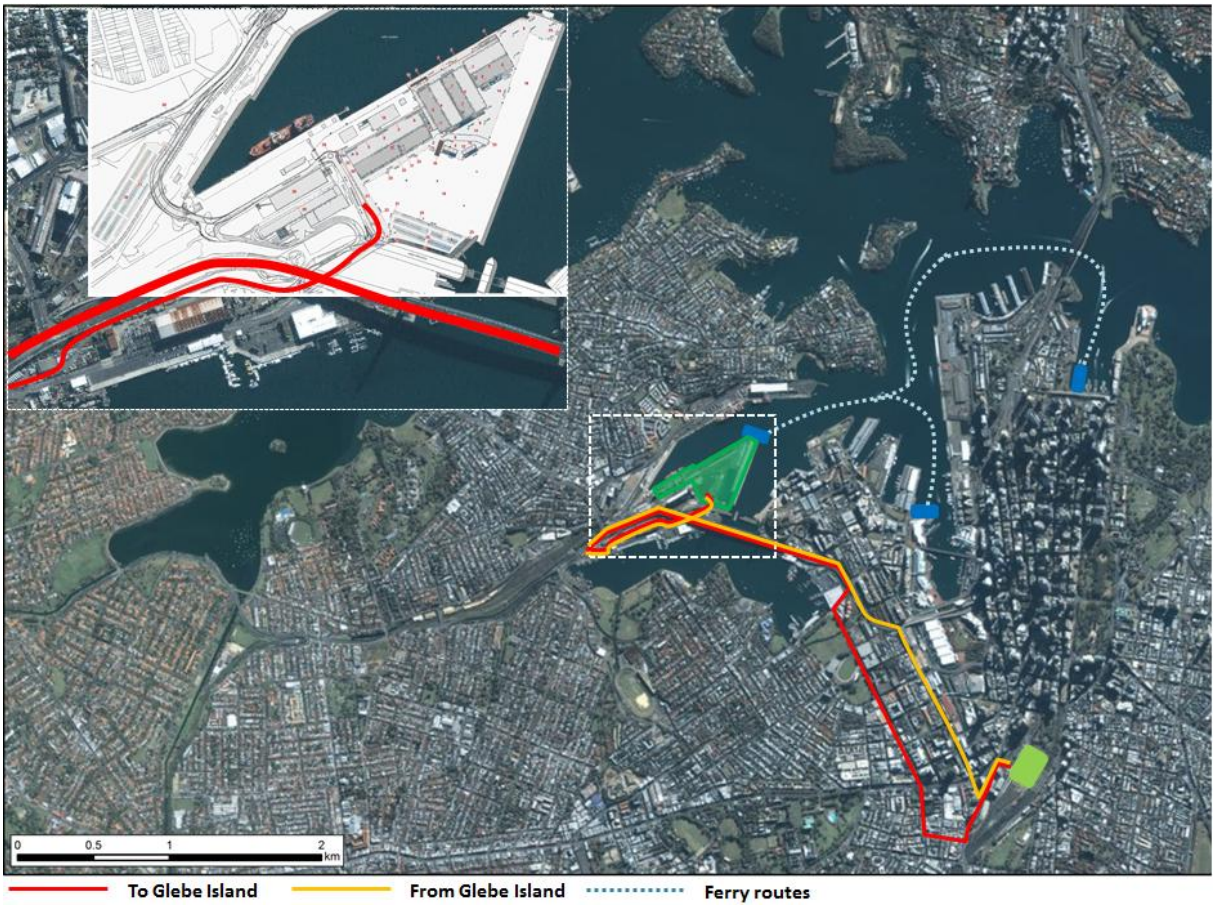
Source: AECOM, 2012 and Woods Bagot, 2012

5.3 Charter buses

Charter buses are proposed as the primary mode of transport for the venue. This strategy has used the 2011 SIBS data as a worst case event to inform the likely number of buses that will be needed to service the venue, as described in **Section 4.0**. The pick-up points and the number of buses required for each event will be informed by analysis of prior events and data recorded from ticket sales.

Central station being a key interchange point between trains, buses, coaches and trams is an ideal location to provide a charter bus to and from the Interim facility. It is proposed that one major bus pick-up point could be provided at Central station as shown in **Figure 14**, either at the Sydney Terminal parking facility or along the coach terminal on Eddy Avenue, both of which are sometimes used as a pick up point for CityRail bus services during track work.

Figure 14 Proposed bus and ferry routes



Source: AECOM, 2012 and Woods Bagot, 2012

A bus route to and from Glebe Island has been identified which utilises 19m B-double routes between Central Station and the Interim facility as well as avoiding congestion along George Street. **Table 20** shows the recommended route to and from Glebe Island. Exact bus routes will be determined by the bus operator, in agreement with the Transport Management Centre and TfNSW/RMS.

Table 20 Charter bus route

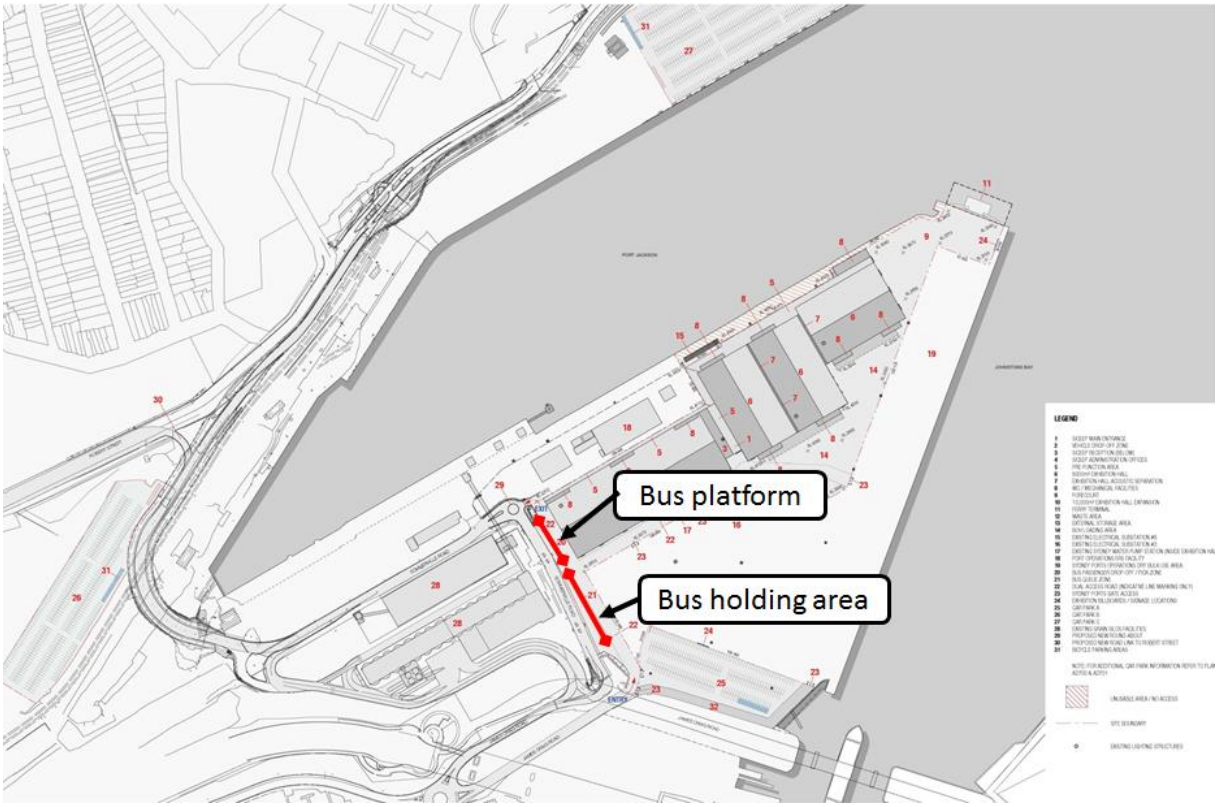
Description	Route	Time (free flow speed)
Central Station to Glebe Island	via Lee St/Pitt St, Meagher St, Abercrombie St, Wattle St, Pyrmont Bridge Rd, Western Distributor, The Crescent and James Craig Rd	Approx. 11mins
Glebe Island to Central Station	via James Craig Rd, The Crescent, Western Distributor, Allen St, Harris St, Regent St and Lee St/Pitt St	Approx. 12mins

Source: AECOM, 2012

As the analysis in **Section 4.0** shows, it is estimated that there could be a peak of up to 29 buses arriving during the peak arrival period and 34 buses during the peak departure period for a weekend event. These buses would need to be able to set down passengers and either leave the precinct again, or park somewhere for the day.

It is proposed that buses will set-down and pick-up along a bus platform adjacent to the auxiliary space, as shown in **Figure 15**. This platform should be approximately 100m long, providing a space for approximately 5 articulated buses end-to-end. It is also proposed that there will be a bus holding area on the access road, with space to hold 3 buses.

Figure 15 Bus set-down/pick-up and holding areas



Source: AECOM, 2012 and Woods Bagot, 2012

The bus platform will allow passengers to board and alight buses onto a circulation area that leads to the main venue entrance. Shuttle buses will also alight and board passengers at this point, with a dedicated area closer to the venue entrance at Hall 1.

5.4 Ferry

Along with buses, ferries are proposed as the main mode of access to the Interim facility. As shown in **Figure 14**, a ferry service could meet visitors on ferry wharves at several locations in the CBD and Milsons Point. An indication of potential catchments and modal interchanges to ferry is shown in **Table 21**.

Table 21 Ferry connections

Ferry Wharf	Interchange	Regional catchment
Darling Harbour	Town Hall, Wynyard, Light Rail	CBD, Eastern Suburbs, wider CityRail network
Circular Quay	Circular Quay rail and ferries	CBD, Sydney Ferries, wider CityRail network

Source: AECOM, 2012

The patronage estimates detailed in **Section 4.4** suggest that a peak hourly demand of 8 ferries could be expected for a weekend event. This is based on a ferry capacity of 400 passengers.

5.5 Light rail

While not seen as a primary mode of access, it is possible for visitors to the Interim facility to access the site via light rail from the Rozelle stop. As shown in **Figure 4**, there is a pedestrian link in the form of a shared path from the light rail stop to James Craig Road, with an approximate walk time of 20 minutes to the venue. It is proposed that any patrons wishing to travel by light rail will be required to catch a shuttle bus service as mentioned in **Section 5.2**.

5.6 Walking and cycling

As shown in **Figure 4**, pedestrian and cycling facilities are provided along James Craig Road. Pedestrian access to the venue itself will be restricted, due to the safety risk caused by industrial traffic circulating on Sommerville Road, particularly along Sommerville Road between the overspill car park and the Interim facility. It is proposed that any visitors wishing to walk to the venue from the surrounding area will have to take a shuttle bus from a car park or other stop on the perimeter of the Glebe Island precinct.

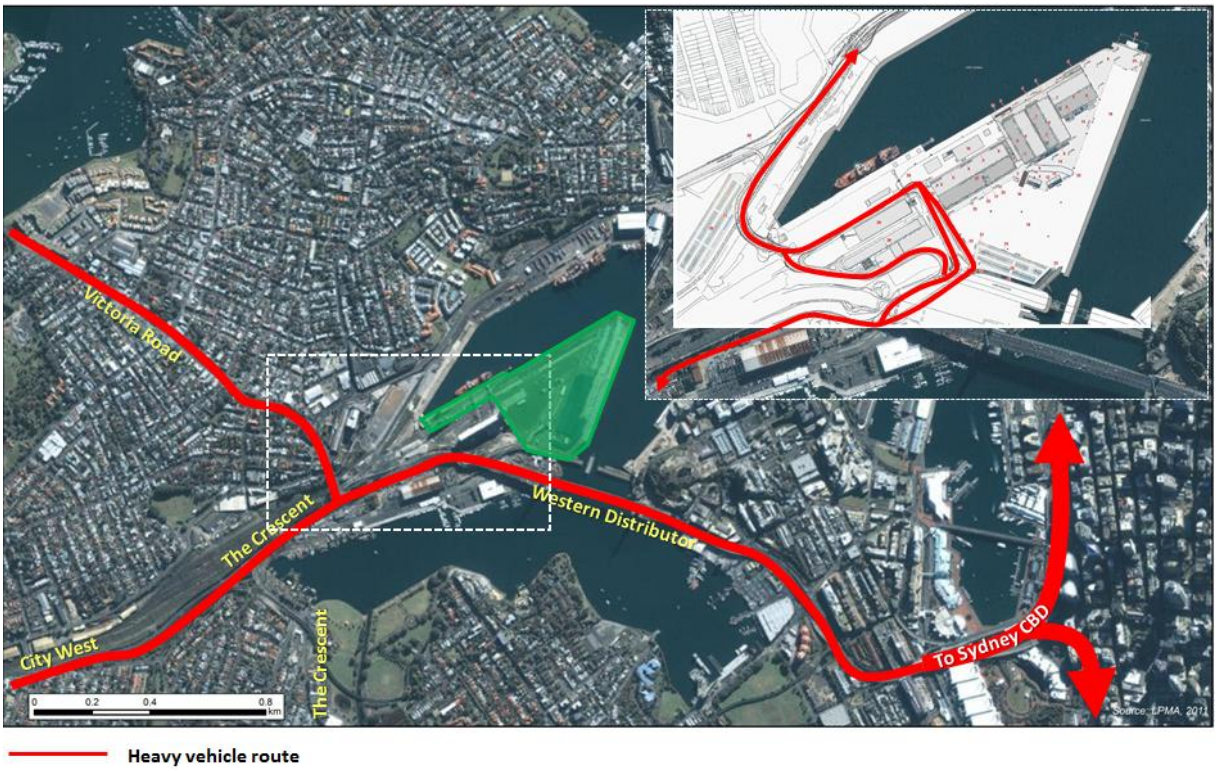
Cyclists will be able to access the interim facility via James Craig Road, however cyclists wishing to access the interim facility via Robert Street will be required to park at the overspill car park as there are no safe cycle routes directly to the venue entrance. Bicycle storage facilities will be provided at the car parks. As mention in **Section 5.2**, shuttle buses will be provided to allow pedestrian and cyclist access to the Interim facility.

The recommended walking and cycling routes will be by the use of the off-road shared paths along the Western Distributor, Victoria Road, The Crescent and Craig James Road. A pedestrian link will be provided between the interim car park and the venue as shown in **Figure 13**.

5.7 Servicing access (bump-in/bump-out)

Servicing access to the site will be managed by the operator, with vehicles directed to James Craig Road as shown in **Figure 16**.

Figure 16 Servicing and construction traffic access



Source: AECOM, 2012

It is expected that the majority of vehicles involved in the bump-in and bump-out process will approach the Interim facility via B double routes along City West/The Crescent, Victoria Road and the Western Distributor and will use James Craig Road to access the precinct along with existing Port traffic.

The Back of House area at the Interim facility will have sufficient space to accommodate the peak vehicle movement without holding vehicles remotely. Swept path analysis has confirmed that the concept layout for the Back of House area can accommodate articulated truck movements to all loading docks.

Vehicles departing the site will be instructed to leave the site via James Craig Road, with a secondary egress route via the proposed Robert Street link. If there are several vehicles departing at the same time it would be possible to hold these vehicles within the compound and control their release rate to avoid impacting the local road network. As mentioned in **Section 4.6**, there are minimal bump-in/bump-out movements during an event, with the majority of bump-in/bump-out vehicle movements occurring before and after an event. It is proposed that any bump-in/bump-out activity during the morning and evening peak periods will be managed by the venue operator.

5.8 Construction Traffic

Construction related traffic during the installation of the facility could follow the same restrictions as defined for the general operation of the venue, with controlled access during peak periods. A Construction Traffic Management Plan will have to be developed by the Interim facility operator once the construction method has been defined.

5.9 Staff access

The Interim facility is expected to have a total of 38 permanent staff, as shown in **Table 22** .

Table 22 Permanent staff numbers

Staff	No. of staff
General Manger	1
Event Coordinators	2
Operations Manager	1
FOH Manager	1
Admin Assistants	3
Floor Supervisors	4
Security	4
FOH Staff	4
Site services	4
Car Park	2
Total	22

All permanent and temporary staff at the venue will be encouraged to use public transport or arranged transport to reach the site. There will be some staff members that will be required to drive to site because of their trade and their need to transport equipment to the site. It is proposed that limited parking for essential activities will be provided in the loading dock area. All other staff will need to access the site by existing public transport modes, or the operator will need to arrange a shuttle bus to collect staff from a central hub.

It is recommended that additional charter bus services, with a frequency of one per hour, are to be provided two hours prior and after an event to bring staff to and from the venue.

Exhibition staff should also be encouraged to utilise the charter services. The frequency of bus services prior and after an event will depend on the total number of exhibition and interim facility staff expected to use the charter bus service.

6.0 Cumulative traffic impact

6.1 Background traffic growth

Due to the short term nature of the development this analysis has not considered background traffic growth.

6.2 The Cruise Passenger Terminal

The Glebe Island/White Bay precinct is expected to generate an increase in traffic volumes on the local road network from sources other than the Interim Facility. The main generator of additional trips will be the CPT at White Bay wharves 4 and 5. The CPT will serve as the berth for smaller cruise vessels that visit Sydney. The predicted vessel berthing schedule for the next 8 years has been provided by Sydney Ports Corporation. The schedule suggests that a cruise vessel will be berthed at the CPT roughly once a week over the course of the year, with some instances where more than one vessel is berthed in a week.

SPC undertook a transport assessment as part of the planning application for the CPT. This report (Proposed White Bay Cruise Passenger Terminal Transport Report, Halcrow, Sept 2010) outlined the predicted traffic generation for the CPT and how the access would be managed. The report stated that there would be a peak of 2,154 two-way vehicle movements over the course of a day, assuming that a vessel berthed and departed in the same day.

Table 23 highlights the traffic generated by the CPT during the peak periods. The busiest period overall is the midday period, with a total of 199 two-way vehicle movements. An additional allowance of 20 % was applied during the peak periods to account for higher private car usage.

Table 23 CPT peak period traffic generation

	Arrival			Departure		
Peak Period	Light Vehicle	Heavy Vehicle	Total	Light Vehicle	Heavy Vehicle	Total
AM Peak (7:15 - 8:15)	59	20	79	31	8	39
Midday Peak (13:00 - 14:00)	97	5	102	107	4	111
PM Peak (17:00 - 18:00)	0	0	0	0	0	0
Saturday Peak (12:00 – 13:00)	154	24	178	178	21	199

Source: AECOM, 2012 from Halcrow, 2010

6.3 Glebe Island bulk storage and other ongoing activities

The bulk storage facilities at Glebe Island generate a steady volume of heavy vehicle movements over the course of a day. There are also a number of trips associated with the marine activities on James Craig Road. A schedule of proposed uses and estimated daily vehicle movements was provided to AECOM by SPC. This schedule can be seen at Appendix B. The schedule indicates that there are 652 vehicle movements per day, assuming that all proposed facilities are in operation.

The distribution of these trips over the course of a day assumed that two thirds of all trips would occur between the hours of 18:00 and 07:00. The remaining third was assumed to occur during the middle of the day, between 10:00 and 14:00. A summary of vehicles arriving and departing Glebe Island is shown in **Table 24**.

Table 24 Assumed daily distribution for Glebe Island industrial uses

	Arrival	Departure
Peak Period	Heavy Vehicle	Heavy Vehicle
AM Peak (7:15 - 8:15)	0	0
Midday Peak (13:00 - 14:00)	20	20
PM Peak (17:00 - 18:00)	0	0
Saturday Peak (12:00 – 13:00)	17	17

Source: AECOM, 2012

The peak heavy vehicle movement, with all the proposed developments in operation, which include the bulk storage facilities and marine activities, is estimated to be 20 and 17 two-way vehicle movements during the Midday and Saturday peak periods respectively.

6.4 Interim Facility

The traffic generation for the Interim facility was considered for the bump-in/bump-out period, and during the days when the event is in operation. Given that the available parking will be limited to 1,000 spaces; it was assumed that the vehicle traffic generated by the site would have the greatest impact on a weekday, when the background traffic volumes are highest.

As mentioned earlier in this report, for the purposes of this assessment it was assumed that there were only 3 primary modes of travel to the Interim facility:

- Private car
- Charter Bus
- Charter Ferry

The number of car and bus trips over the course of a day was estimated according to the arrival/departure profiles discussed in **Section 4.0**. The peak two-way vehicle movement can be seen in **Table 25**.

Table 25 Private vehicle arrivals and departures

	Private vehicle (LV)		Bus (HV)		Bump-in/Bump-out (HV)	
Peak Period	Arrival	Departure	Arrival	Departure	Arrival	Departure
AM Peak (7:15 - 8:15)	0	0	0	0	25	25
Midday Peak (13:00 - 14:00)	100	100	5	5	25	25
PM Peak (17:00 - 18:00)	0	100	0	5	11	11
Saturday Peak (12:00 – 13:00)	150	50	15	5	0	0

Source: AECOM, 2012

Of the four recorded traffic peaks over the course of a day, it is predicted that the midday peak is likely to carry the highest volume of event-related traffic.

6.5 Road network impact

The cumulative traffic generation was distributed across the local road network based on the assumed origins and destinations of the development related traffic. Traffic distribution diagrams can be found at Appendix C.

The cumulative traffic generated in each of the four peak periods is shown in **Table 26**.

Table 26 Cumulative traffic generation

	Arrival			Departure		
Peak Period	Light Vehicle	Heavy Vehicle	Total	Light Vehicle	Heavy Vehicle	Total
AM Peak (7:15 - 8:15)	59	45	104	31	33	64
Midday Peak (13:00 - 14:00)	197	55	252	207	54	261
PM Peak (17:00 - 18:00)	0	11	11	100	16	116
Saturday Peak (12:00 – 13:00)	304	56	360	228	43	271

6.6 Development Road Network Impact

The cumulative impacts of the Interim Facility and the surrounding land uses were added to the base network models, as well as the addition of the new intersection configuration at James Craig Road/The Crescent. A comparison of intersection performance to the existing is provided in **Table 27** to **Table 30**.

Table 27: Weekday AM peak TRANSYT results

	Existing Intersection Analysis		Development Intersection Analysis	
Intersection	Average Delay (Sec)	Level of Service (LoS)	Average Delay (Sec)	Level of Service (LoS)
TCS 1208 - The Crescent	35.7	C	36.6	C
TCS 3033 - James Craig Rd	12.6	A	12.1	A
TCS 651 - Victoria Rd	42.2	C	51.7	D
TCS 652 - Roberts Street	30.4	C	30.6	C

Table 28: Weekday midday peak TRANSYT results

	Existing Intersection Analysis		Development Intersection Analysis	
Intersection	Average Delay (Sec)	Level of Service (LoS)	Average Delay (Sec)	Level of Service (LoS)
TCS 1208 - The Crescent	17.4	B	23.0	B
TCS 3033 - James Craig Rd	9.3	A	17.8	B
TCS 651 - Victoria Rd	24.5	B	31.6	C
TCS 652 - Roberts Street	27.0	B	29.6	C

Table 29: Weekday PM peak TRANSYT results

	Existing Intersection Analysis		Development Intersection Analysis	
Intersection	Average Delay (Sec)	Level of Service (LoS)	Average Delay (Sec)	Level of Service (LoS)
TCS 1208 - The Crescent	26.5	B	26.6	B
TCS 3033 - James Craig Rd	12.3	A	9.5	A
TCS 651 - Victoria Rd	36.6	C	36.4	C
TCS 652 - Roberts Street	32.4	C	32.4	C

Table 30: Saturday peak TRANSYT results

	Existing Intersection Analysis		Development Intersection Analysis	
Intersection	Average Delay (Sec)	Level of Service (LoS)	Average Delay (Sec)	Level of Service (LoS)
TCS 1208 - The Crescent	24.5	B	25.5	B
TCS 3033 - James Craig Rd	4.4	A	8.8	A
TCS 651 - Victoria Rd	30.3	C	36.2	C
TCS 652 - Roberts Street	24.8	B	37.0	C

The key intersections observe an increase in average delay as a result of the additional development traffic; however these are minimal due to the scale of the additional trips when compared to the existing network volumes. The 168 AM peak development trips represent approximately 1% of the approximately 13,000 vehicles using the Victoria Road | Western Distributor intersection. Similarly in the PM peak, the 127 development trips equate to less than 1% of the approximately 14, 000 vehicles using the same intersection.

During the AM peak, the greatest impacts are limited to a reduction in Level of Service LoS C to LoS D at Victoria Road | The Crescent.

The PM peak results indicated the development trips will have minimal impact to the existing network performance. The TRANSYT results suggest the additional trips exiting the site via James Craig Road will be mitigated by the provision of a second right turn lane, which is currently being constructed as part of the SPC's access road upgrades for the CPT. It is assumed that this road upgrade will be complete prior to the opening of the Interim facility and is not related to this DA.

The midday and Saturday peak periods would see the greatest increase in traffic generated by the Glebe Island precinct, and a corresponding worsening in intersection performance. At worst the results suggest the additional development trips may reduce the level of service from B to C due to the increased green time provided to the side roads.

7.0 Travel demand management

The Interim Facility operators will have to undertake active travel demand management to influence the travel behaviour of venue patrons. Unlike the existing SCEC, the Interim Facility does not have an abundance of parking in close proximity, so the decision to drive to the venue must be managed before a journey is taken. As well as providing the alternative means of travel, the venue operator must also actively promote these alternative means and reassure patrons that travelling by public transport will be a convenient and comfortable mode of transport.

7.1 Improved public transport services

As mentioned in **Section 3.4**, there are currently no direct public transport services to the Glebe Island due to existing land uses. The proposed charter bus and ferry services will provide commuters an alternative mode of travel to the venue, which will reduce car dependency and encourage public transport usage to the Interim facility.

The proposed bus route provides a direct link to the Interim facility, avoiding congestion along George Street. Frequency and operational hours of these services will depend on the number and type of events held at the facility. Based on the servicing requirements in **Section 4.4**, **Table 31** provides an indication on the peak number of services required for the peak one hour period.

Table 31 Indicative peak number of charter services

No. of patrons per day	Bus		Ferry	
	Arrival	Departure	Arrival	Departure
Less than 5,000	4	5	1	1
5,000 to 8,000	4 – 8	5 – 8	1 – 2	1 – 2
8,000 to 12,000	8 – 15	8 – 18	2 – 4	2 – 4
12,000 to 21,500	15 – 24	18 – 24	4 – 6	4 – 6

It is unlikely that a large number of bus or ferry services could be cost-effectively chartered during peak events, particularly when 12,000 to 21,500 patrons are expected to visit the Interim facility in one day. This will require patrons to wait for bus services at the pick-up location, where management plans should be in place to ensure the safety of patrons whilst queuing for bus services and that they have minimal impacts to pedestrian movements.

7.2 Ticketing

It is proposed that the ticketing system adopted by the venue operator will include a travel component, whereby the event ticket also includes a return trip to the venue from the nearest major transport hub. The ticketing system that is adopted will need to record the patron's address or likely address on the day of the event. This will be used to determine which travel mode and transport hub is suitable for that person.

7.3 Parking pricing

Parking will be available at the venue, but it is proposed that the parking be offered as an add-on with spaces limited to the capacity available for that event. It is recommended that parking will have to be purchased at the time of booking.

7.4 Travel planning

The Interim facility operators will provide transport connections to the venue from key locations around the CBD. This will allow patrons to access the site via modes other than private vehicles. To ensure that patrons are aware of these alternatives and know how to access the venue, the operator will also need to provide a comprehensive suite of travel planning material.

It is recommended that travel planning material is presented to patrons at the ticketing stage. Most tickets for events are now booked online, with the website providing the ideal opportunity to inform patrons of their travel options. The booking website should include the option to choose your travel mode and potentially also indicate the time of day that the patron is likely to arrive at the venue. Refer to **Section 7.5**.

Given the high volume of people wishing to reach the venue it will be necessary to prepare more detailed Transport Management Plans for each of the events that are to be held at the Interim Facility. The Transport Management Plan for each event will be agreed with the Transport Management Centre at TfNSW. It is proposed that the level of detail and planning that is required for each event will be determined by its forecast attendance. A two-tier approach is suggested, with the anticipated attendance used as the threshold for the type of transport management strategy that is required. Based on the analysis undertaken in this assessment it is recommended that the threshold should be a daily attendance of 10,000 patrons, as follows.

Any event under 10,000 patrons would need to:

- Provide evidence of patron origins and allocation to transport modes
- Identify ferry and bus services per day

Any event with over 10,000 patrons per day will also need to:

- Demonstrate that the increased PT demand can be accommodated on the TfNSW network
- Identify crowd management requirements around charter service connections

7.5 Multi-modal access guide and navigation tools

It is recommended that multi-modal access guides and navigation tools are to be made available to patrons, providing them with information on travel options to the Interim Facility. This can be in the form of signs, maps, printed material, websites and mobile applications which:

- Provide information on how to reach the Interim facility from major transport interchanges
- Allow patrons to easily locate charter bus and ferry pick up points,
- Provide guidance/signs to navigate between modes (i.e train to charter bus/ferry),
- Inform patrons that James Craig Road is the only access point to the Interim facility.
- Plan a route to the interim facility from a particular origin,
- Read route maps, bus and ferry schedules and contact information,
- Provide information about charter service schedules and frequency,
- Availability of bicycle and walking facilities, and
- Parking availability.

The navigation tools and access guides should be designed for various types of users which may include staff, visitors, logistic services and people with disabilities.

7.6 Traffic management

To ensure there is minimal impact on the road network when a large number of vehicles are departing the Interim facility there may be a need to hold these vehicles within the compound and control their release rate. Patrons will have to wait for sustained periods, but this will avoid impacting on general traffic flow, especially at the intersection of James Craig Road and the Crescent.

7.7 Bicycle facilities

To maximise cycle usage, the provision of sufficient end of trip facilities, such as bicycle parking at key locations is essential. Secure bicycle parking is proposed to be provided at the car park facilities.

7.8 Employee programs

Programs should be developed which provide encouragement, incentives and support for employees to use of more efficient transport options. Possible programs which the Interim facility may use include:

- Shuttle bus/charter services,
- Parking preference for carpooling,
- Financial incentives for the use of public transport,

To encourage the use of public transport by permanent and temporary staff there is a possibility of subsiding transport costs for employees who commute by using alternative modes. This is recommended since staff will be required to access the site by the either a charter service or shuttle bus from a major transport interchange (Central being the proposed pick up location).

8.0 Conclusion

This report documents the transport management strategy that is proposed for the Glebe Island Interim Exhibition Facility, and supports the Environmental Impact Statement submitted as part of the Development Application for the Interim Facility.

The general principles of access and the trip generation for an assumed peak and typical capacity event were developed to demonstrate how patrons would access the site by different modes and what impact the venue would have on the surrounding road network.

8.1 Summary of access strategy

The primary objective of the transport strategy was to minimise the impact of the Interim Facility on the local road network by providing a suitable alternative to private vehicle travel. The strategy also seeks to demonstrate that the access to the site does not compromise the attractiveness of the venue to exhibition organisers. Analysis of travel behaviour from previous events suggests that this could be achieved by providing ferry and bus services that transport patrons from major transport hubs to the venue.

The strategy assumes that all patrons will arrive at the venue by one of three modes:

- Private vehicle
- Charter Bus
- Charter Ferry

Based on behavioural patterns from the 2011 SIBS, patronage estimates were applied for a typical and peak event for both the weekday and weekend. Analysis of the patronage estimates suggest the mode share targets shown in **Table 32**.

Table 32 Mode share summary

Mode	Weekday		Weekend	
	Typical Event	Peak Event	Typical Event	Peak Event
Car	44%	16%	25%	9%
Bus	32%	46%	44%	51%
Ferry	24%	37%	31%	40%

Based on this mode share and an assumed arrival and departure profile for patrons it is estimated that the Weekday peak demand for bus and ferry would be 18 and 4 services respectively. The number of services required for the weekend increases to 24 bus and 6 ferry services. These peak demand services are based on a bus capacity of 115 passengers and a ferry capacity of 400 passengers.

Table 33 Peak bus and ferry demand

Mode	Weekday		Weekend	
	Typical	Peak	Typical	Peak
Bus	5	18	8	24
Ferry	1	4	2	6

8.2 Impact on road network

The increase in traffic from the Interim Facility and the surrounding developments results in a slight worsening of intersection performance during the peak periods. The additional traffic volumes on the network due to the development are insignificant in comparison to the existing peak hour volumes. The network performance impacts are due to the minor movements experiencing increased volumes. The peak that experiences the most significant change in performance is during the midday period where the development trips increase the frequency of the minor phases resulting in reduced available green time for the dominant movements. The performance impacts are limited to a reduction from LoS B to LoS C at Robert Street and Victoria Road and LoS A to LoS B at James Craig Road.

8.3 Travel Demand Management

The provision of charter bus and ferry services to the Interim facility will provide patrons and staff an alternative means of travel and reduce car dependency to the venue.

To influence the travel behaviour of venue patrons to the Interim facility and reduce the impact on the local road network it is proposed that a ticketing system is to be adopted by the venue operator which will include a travel component to the event ticket giving the patrons the option of a return trip to the venue. This type of ticketing system will encourage patrons to use alternative modes of travel to the venue. It is also proposed that on-site parking be offered as a charged ticket addition, with spaces limited to the capacity available for that event. It is recommended that parking will have to be purchased at the time of booking.

To ensure that patrons are aware of how to access the venue via chartered bus and ferry services, the operator will also need to provide a comprehensive suite of travel planning material. It is recommended that travel planning material is presented to patrons at the ticketing stage and as a reminder closer to the event date.

In addition, employee programs should be developed to encourage and support employees to use public transport, such programs can include providing charter services from a major transport hub, parking preference for carpooling and financial incentives.

Given the high volume of people wishing to reach the venue it will be necessary to prepare more detailed Transport Management Plans for each event that is to be held at the Interim Facility. It is proposed that the detail of these plans will be dependent on the scale of the event. The suggested threshold would be under 10,000 anticipated patrons per day. Any event that is forecast to attract under 10,000 patrons will only need to provide evidence of visitor origins and demonstrate that the bus and ferry services will accommodate these patrons.

Any event over 10,000 patrons is likely to require some form of crowd management around the transport hubs and more detailed analysis of public transport demand. This will need to be developed and documented in a comprehensive Transport Management Plan for the 3-4 large scale events that are expected at the Interim Facility.

8.4 Conclusion

This document outlines the proposed Interim Facility and the transport strategy that forms the basis for the venue operator to plan and manage transport access to the area. The detailed analysis in this document considers the peak event scenario in a year, which is likely to be the Sydney International Boat Show, and also provides a comparison against a more typical event. It is evident from the analysis that:

- The majority of public event patrons will only stay for half a day or less
- All events will require a transport management plan to inform the quantum of charter ferries and buses
- Peak events (10,000 attendees plus) will require more detailed planning
- The quantum of parking provided at the venue is similar to the existing SCEC facility
- The parking turnover is relatively low
- The bump-in bump-out traffic does not materially impact on the road network during peak periods
- The event traffic from the car parks may impact on the evening peak if vehicles are allowed to exit freely
- It is proposed that car park release will be controlled to minimise the impact on the road network, especially the intersection of James Craig Road and the Crescent

Appendix A

Sommerville Road link

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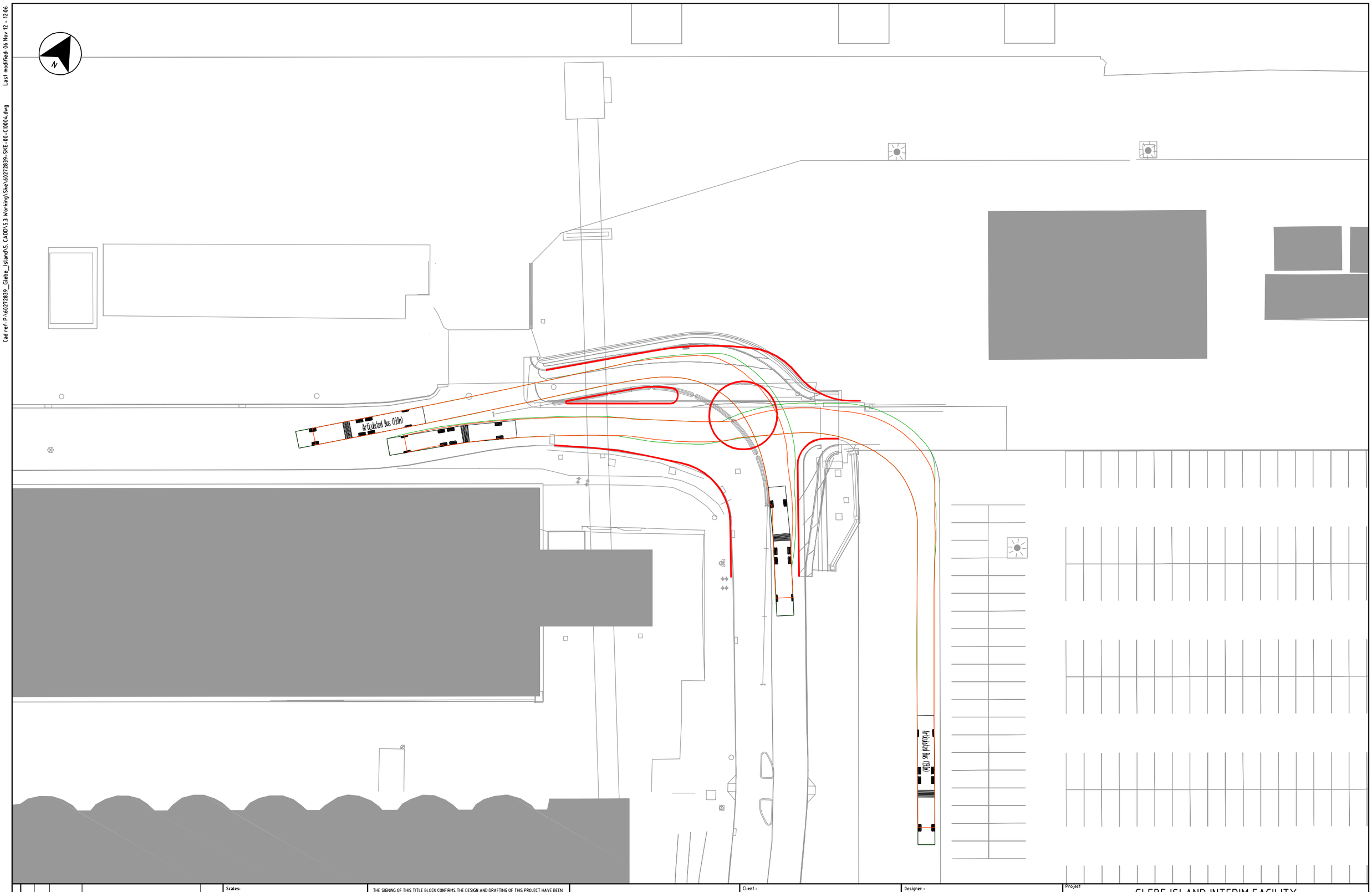

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DRAWN	M.TARRANT	CHECKED	
APPROVED		DATE	

Client :

INFRASTRUCTURE NSW
(INSW)

Designer :

AECOM

AECOM Australia Pty Ltd
A.B.N. 20 093 846 925

Project

GLEBE ISLAND INTERIM FACILITY

Title

CONCEPT INTERSECTION

Status	Drg No.	Rev.
SKETCH	60272839-SKE-00-CI0004	01

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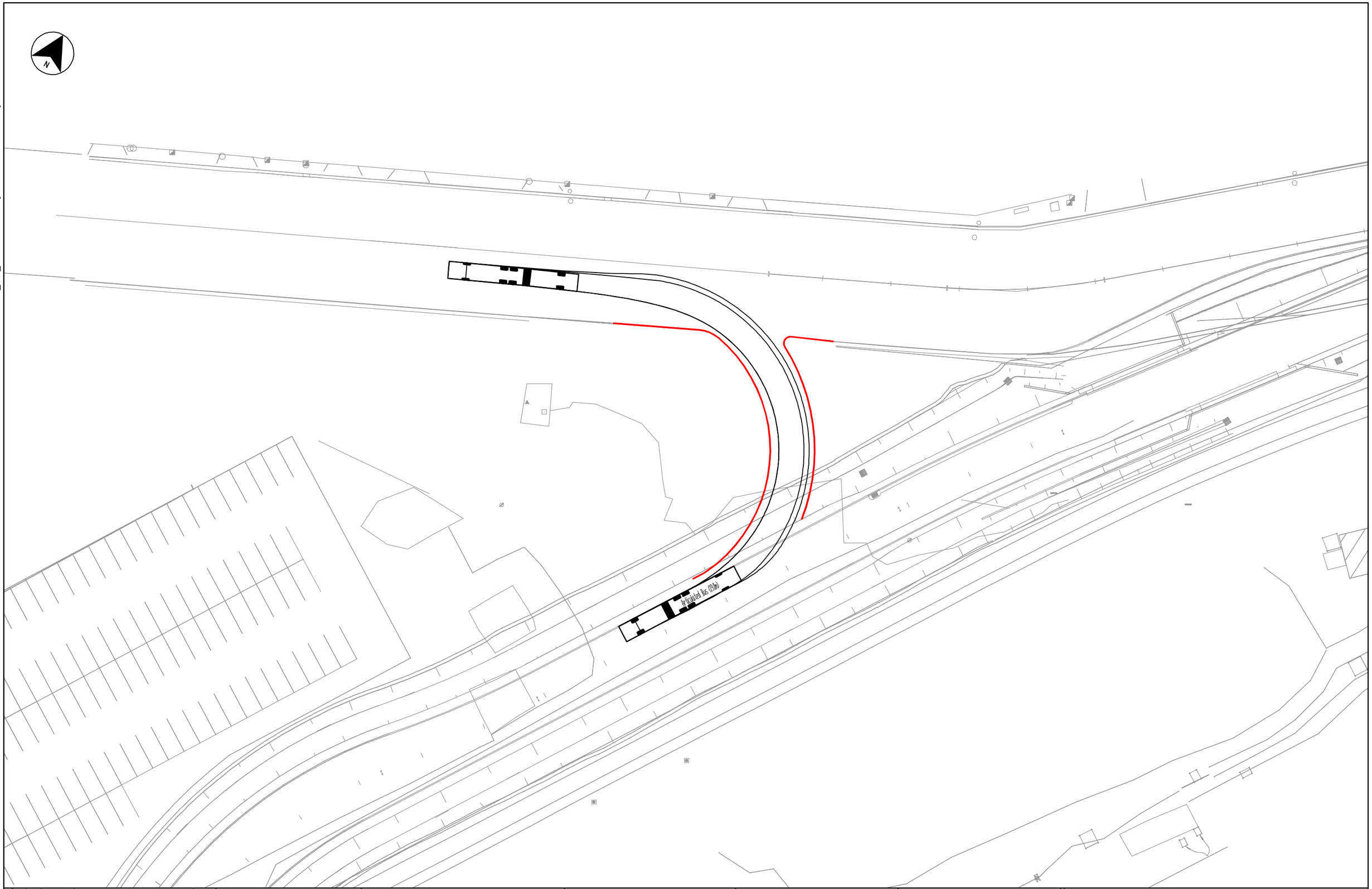

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INFRASTRUCTURE NSW
(INSW)

Designer :

AECOM

AECOM Australia Pty Ltd
A.B.N. 20 093 846 925

Project: GLEBE ISLAND INTERIM FACILITY

Title: ROBERT STREET ACCESS PROPOSAL

Status: SKETCH

Drg No.: 60272839-SKE-00-CI0005

Rev.: 01

Appendix B

Dry bulk operations

No	Proposed Use	Area (m2)	Quay Line (m)	Common User OR Domiciled berth	Vessel Type	Vessels per annum	Throughput (tonnes per annum)	Land infrastructure (proposed)	Hours of operation	Vehicle movements (Daily)
1	Importation of aggregates, ready mix concrete batch plant	20,000	230	Domicilied if GI3 or G16 Common	unknown until location is confirmed	unknown until location is confirmed	400,000	Storage, shed and batching plant	24/7.	100
2	Importation & Storage of Sand & Aggregate	10,000	230	Common	Self unloader onto conveyor	36 - 40	1,900,000	Steel Shed & rubber tired conveyors	24/7.	175
3	Importation of aggregates	22,000	230	Common	Unknown	70	3,000,000	Storage shed	24/7.	300
4	Importation of Gypsum	2,500	230	Common	Self unloader into hopper & Truck	6-7.	150,000	Nil. Mobile Grab and Hop equipment used	24/7 when vessel is berthed	30-50 when vessel is berthed
5	Boat storage	6,000	60	Domiciled	n/a	n/a	n/a	Boat lifting equipment	24/7.	10
6	Marine construction and repair	3,000	100	Domiciled	n/a	n/a	n/a	Site office & storage	en Days7am -5p	12
7	Marine substructure repair base	300	10-15.	Domiciled	n/a	n/a	n/a	Site office & storage	Seven Days 7am -5pm	5

Appendix C

Network diagrams

AM Peak - Base
7:15 - 8:15


Mid Peak - Base
13:00 - 14:00
VICTORIA ROAD
ROBERT STREET
WESTERN DISTRIBUTOR
THE CRESCENT
THE CRESCENT
CITY WEST LINK
Thru Left
73 5
1700 68
43 4 Left
584 39 Right
1582 673
96 36
Thru Right
2387
2342
2396
2400
Right Left
33 81
670 1616
Left 29 573
Thru 125 1830
1628 112 Right
1751 158 Thru
2535 2557
2606 2612
Thru 134 2313
Right 9 31
2352 168 Thru
74 12 Left
2455 2487
27 72
12 16
Left Right
Thru 120 1739
Right 6 123
1688 164 Left
694 19 Thru
2565 2559
133 566
7 30
Left Right


PM Peak - Base
17:00 - 18:00
VICTORIA ROAD
ROBERT STREET
WESTERN DISTRIBUTOR
THE CRESCENT
THE CRESCENT
CITY WEST LINK
Thru Left
82 2
2487 56
32 1 Left
656 24 Right
2563 968
98 22
Thru Right
3651
3731
3249
3259
Right Left
14 93
937 2215
Left 19 792
Thru 74 2196
2811 109 Right
2171 44 Thru
3102 3081
3165 3166
Thru 75 2925
Right 3 11
3081 49 Thru
32 3 Left
3035 3014
47 93
1 9
Left Right
Thru 58 2067
Right 4 193
2064 42 Thru
1075 13 Left
3194 3178
199 887
3 23
Left Right


SAT Peak - Base
12:00 - 13:00
VICTORIA ROAD
ROBERT STREET
WESTERN DISTRIBUTOR
THE CRESCENT
THE CRESCENT
CITY WEST LINK
Thru Left
53 0
2443 52
43 0 Left
813 21 Right
1900 804
63 18
Thru Right
2785
2822
3330
3280
Right Left
24 49
887 2320
Left 20 734
Thru 31 2392
2006 62 Right
1862 51 Thru
3156 3177
2823 2824
Thru 50 3081
Right 0 6
2723 73 Thru
25 2 Left
3149 3137
14 24
2 1
Left Right
Thru 37 2195
Right 5 153
1840 53 Thru
884 19 Left
2796 2812
158 904
5 13
Left Right

AM Peak - Base + Exhibition + CPT + Glebe Island

7:15 - 8:15


Mid Peak - Base + Exhibition + CPT + Glebe Island
13:00 - 14:00
VICTORIA ROAD
ROBERT STREET
Sommerville Road
James Craig Road
WESTERN DISTRIBUTOR
THE CRESCENT
CITY WEST LINK
Thru Left
83 5
1720 92
90 4 Right
664 39 Left
1582 746
106 36
Thru Right
2470
2425
2507
2511
Right Left
43 81
728 1659
Left 39 607
Thru 150 1888
1667 112 Right
1809 184 Thru
2662 2684
2758 2764
Thru 134 2347
Right 28 52
2389 168 Thru
153 48 Left
2530 2562
48 130
31 51
Left Right
Thru 139 1788
Right 6 123
1740 176 Thru
701 26 Left
2643 2637
133 573
7 30
Left Right


PM Peak - Base + Exhibition + CPT + Glebe Island
17:00 - 18:00
VICTORIA ROAD
ROBERT STREET
Sommerville Road
James Craig Road
WESTERN DISTRIBUTOR
THE CRESCENT
CITY WEST LINK
Thru Left
83 2
2487 56
52 1 Right
656 24 Left
2563 968
99 22
Thru Right
3652
3732
3250
3260
Right Left
15 93
937 2215
Left 20 792
Thru 83 2254
2811 109 Right
2171 48 Thru
3171 3150
3171 3172
Thru 75 2925
Right 9 11
3081 49 Thru
32 9 Left
3041 3020
68 151
7 20
Left Right
Thru 64 2067
Right 4 193
2079 48 Thru
1082 13 Left
3221 3205
199 887
3 23
Left Right


SAT Peak - Base + Exhibition + CPT + Glebe Island
12:00 - 13:00
VICTORIA ROAD
ROBERT STREET
Sommerville Road
WESTERN DISTRIBUTOR
James Craig Road
THE CRESCENT
CITY WEST LINK
Thru Left
65 0
2474 90
98 0 Right
946 21 Left
1900 919
74 18
Thru Right
2911
2948
3506
3456
Right Left
36 49
980 2391
Left 31 788
Thru 50 2421
2067 62 Right
1949 81 Thru
3257 3290
3045 3046
Thru 50 3135
Right 14 38
2785 73 Thru
143 44 Left
3249 3237
25 53
15 20
Left Right
Thru 51 2271
Right 5 153
1910 66 Thru
887 19 Left
2882 2898
158 914
5 13
Left Right