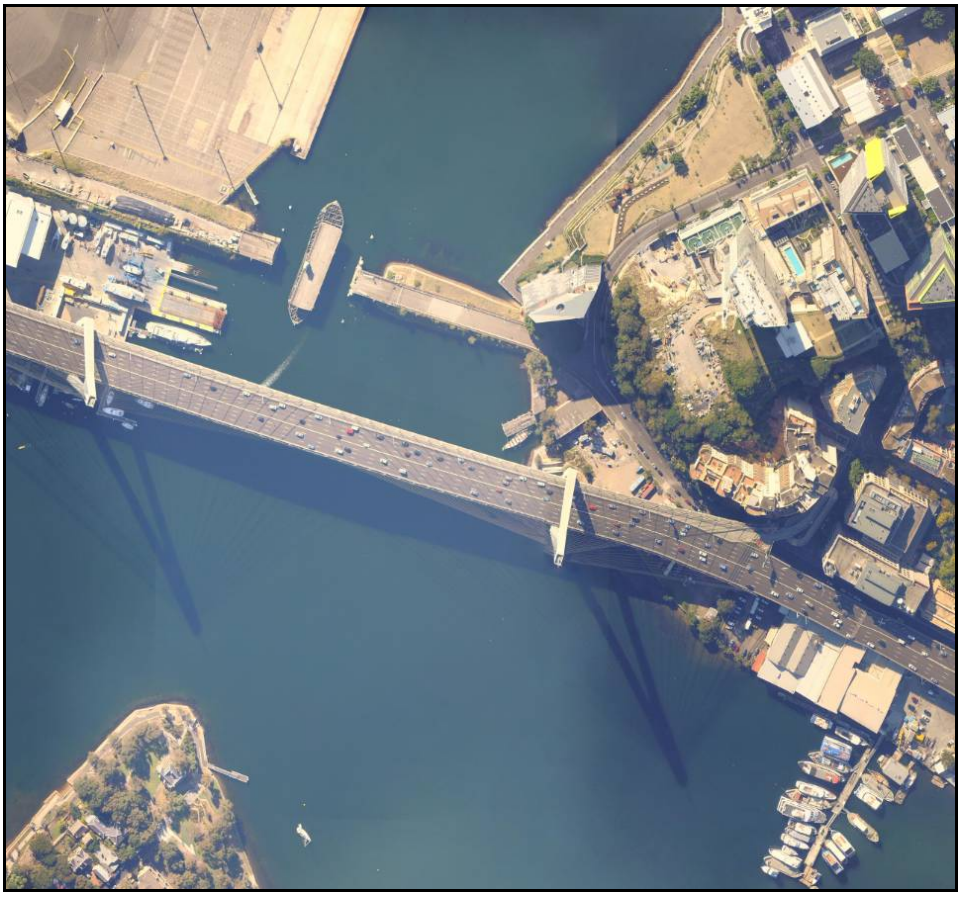
Sydney Heritage Fleet

January 2012



TRAFFIC MANAGEMENT AND ACCESSIBILITY PLAN (INCORPORATING TRAFFIC AND PARKING STUDY)

M^{C}LAREN TRAFFIC ENGINEERING
LEVEL 1, 29 KIORA ROAD, MIRANDA, NSW 2228
PH (02) 8543-3811 FAX (02) 8543-3849
Email: mclarenc@ozemail.com.au
Web: www.mclarentraffic.com.au

2010/130

EXECUTIVE SUMMARY

This Traffic Management and Accessibility Plan (TMAP) has been prepared for the proposed Sydney Heritage Fleet (SHF) museum that is planned to be constructed under the southern pylon of the ANZAC bridge fronting Banks Street, Pyrmont. The TMAP assesses the proposed development with due consideration to its public transport accessibility and anticipated visitation levels.

A restrictive approach to car parking provision is adopted in order to encourage public transport usage. A number of additional public transport facilities are identified in the report as well as expected usage of known visitation travel modes.

The proponent of the development is focussed on delivering a quality museum that will be an asset to New South Wales in the future. In order to achieve this quality development it is highly desirable to restrict car parking within the grounds of the site and to encourage public transport options (existing and new services) to the fullest extent possible. Bus, light rail and ferry services either exist or can be embellished to provide an adequate level of access by visitors and staff to and from the museum. The proponent will work closely with State Government and Local Government agencies in order to achieve the desired outcome and vision for this museum.

This report outlines the locality of the site within the existing public transport network context of Pyrmont as well as considering options / additional embellishments that enhance the operation of the development and improve connectivity to the local precinct and surrounding suburbs / city environs. Car parking is assessed together with bicycle provision, notwithstanding the restrictive parking vision for the site.

The TMAP concludes that the proposed museum development is supportable in terms of transport, traffic, servicing and parking considerations. The museum will draw upon established and potentially upgraded public transport initiatives including ferry connections from the National Maritime Museum, existing bus / light rail / train services to the Ultimo / Pyrmont precinct. School and organised tours of the museum will be encouraged utilising bus / coach and ferry service options.

Shuttle bus services from nearby public car parking areas may also be investigated for pre-arranged visits for specific groups.

Given the public transport accessibility and potential investment in developing alternate transport arrangements (outlined in this report) for visitors it is requested that Council waive the on-site visitor car parking requirements. SHF will investigate the provision of 1 on-site staff car parking space and 7 bicycle spaces.

TABLE OF CONTENTS

1 INTRODUCTION

M^CLaren Traffic Engineering was commissioned in August 2011 to undertake a transport assessment incorporating a traffic and parking impact assessment in support of a development application for the Sydney Heritage Fleet (SHF).

The proposed development (refer to **Annexure A**) on Bank Street under the Anzac Bridge with a water frontage to Blackwattle Bay is a land and water based component for Sydney Heritage Fleet which is a not for profit public museum and aims to represent Australia's maritime heritage and traditions.

The proposal for the developed site includes:

- Sydney Heritage Fleet museum with which will operate and store small vessels owned by the SHF.
- Store Dragon Boats which are operated by Dragon Boats NSW which will have direct access to a new concrete boat ramp.
- The museum will have public viewing areas for visitors and also have maintenance and work bays included on the site.

2 DIRECTOR GENERAL REQUIREMENTS

The Director General's Requirements (DGR's) for the Transport and Accessibility Impacts are as follows:

- *Justification of proposed quantum of on-site car parking for the proposal, RTA guidelines, relevant Australian Standards and impacts likely to be caused by surrounding street network.*

- *RTA's in principle endorsement of use of Old Glebe Island Bridge for car parking to support the proposed development as well as justification for the use of public land for the purpose of private car parking, including rates and details of how the car parking would be managed and operated.*

- *Transport Management and Accessibility Plan with particular regard to:*
  - *Transport and traffic management;*
  - *Pedestrian and cycle access/circulation to meet the likely future demand within the precinct and connections to the external networks;*
  - *Measures to promote public transport usage and pedestrian and bicycle provisions and linkages.*

- Daily and peak traffic movements likely to be generated by the proposed development, including modelling and assessment of the performance of key intersections providing access to the site and any upgrades (road/intersections) required as a consequence of the proposal.

- Identification of Travel Demand Management (TMD) measures that will optimise the opportunity provided by the project site's proximity to public transport, including the preparation of a Work Place Travel Plan.

- In relation to construction traffic:
  - Cumulative impacts associated with other construction activities on the site;
  - Details of anticipated truck movements to and from the site;

- Details of access arrangements for workers to/from the site, emergency vehicles and services vehicle movements.

- Details of any proposed transportation of waste materials via the Harbour and proposed locations for handling materials.

This TMAP addresses the above listed DGR's.

3 THE SITE & SURROUNDING ENVIRONS

The site is located on Bank Street, Pyrmont. The location of the site is shown in **Figure 1** and in the image below.

The site is located under the eastern pylon of the ANZAC Bridge with a water frontage to Blackwattle Bay and a street frontage to Bank Street. Approximately half the site adjacent to the bridge pylon (west) will be occupied by the SHF and the other half (East) will become a community park. The land based component of the project comprises two storage areas at water level. The first is to store dragon boats, operated by Dragon Boats NSW with direct access to a new concrete boat ramp. The second is to store and operate small vessels owned by the SHF, which will also make use of the boat ramp.

Located west of the bridge pylon is a freestanding exhibition pavilion with an attached kiosk and amenities also at water level. Directly above the boat storage areas are exhibition spaces, meeting rooms, amenities, entry lobby and reception areas. Across from the entry courtyard fronting Bank Street is a single storey building with some mezzanine spaces over which are the fleet's maintenance workshops and storage areas needed to service the fleet vessels. The roof of the maintenance areas will be 'green', to provide sound

insulation for the workshop operations and a pleasant outlook for adjacent buildings.

3.1 Surrounding Roads

Nearby roads are described below.

Bank Street:

- Local road classification, operating as a 2 lane carriageway immediately adjacent to the site. Functions with Bowman Street as a circulation roadway, akin to a COLLECTOR type road.
- Kerbside 2P ticket parking is generally permitted along either side of the road adjacent to the site during the times 8am-7pm (Permit Holders Excepted Area 20). Further south along bank street, parking changes to 6P ticket parking 8am-7pm.
- Shared paths are located on both sides of the road adjacent to the site for both pedestrian and cyclist use.
- 50km/h speed limit applies out the front of the site and surrounding streets.

Bowman Street:

- Local road classification, operating as a 2 lane carriageway immediately south of the site. Functions with Bank Street as a circulation roadway, akin to a COLLECTOR type road.
- No Stopping and No Parking signs are displayed on both sides of the road.
- Shared paths are located on both sides of the road adjacent to the site for both pedestrian and cyclist use.
- 50km/h speed limit applies out the front of the site and surrounding streets.
- Bowman Street runs along Cadi Park. The councils bicycle path enters Bowman at the corner of Bank Street and Bowman Street at our site location

Quarry Master Drive:

- Local road classification, operating as a 2 lane carriageway immediately adjacent to the site.
- 1P Ticket Parking signs are displayed on both sides of the road.
- Shared paths are located on both sides of the road adjacent to the site for both pedestrian and cyclist use.
- 50km/h speed limit applies out the front of the site and surrounding streets.
- Vehicles over 3t are not allowed access to Quarry Master Drive.

4 SITE HISTORY

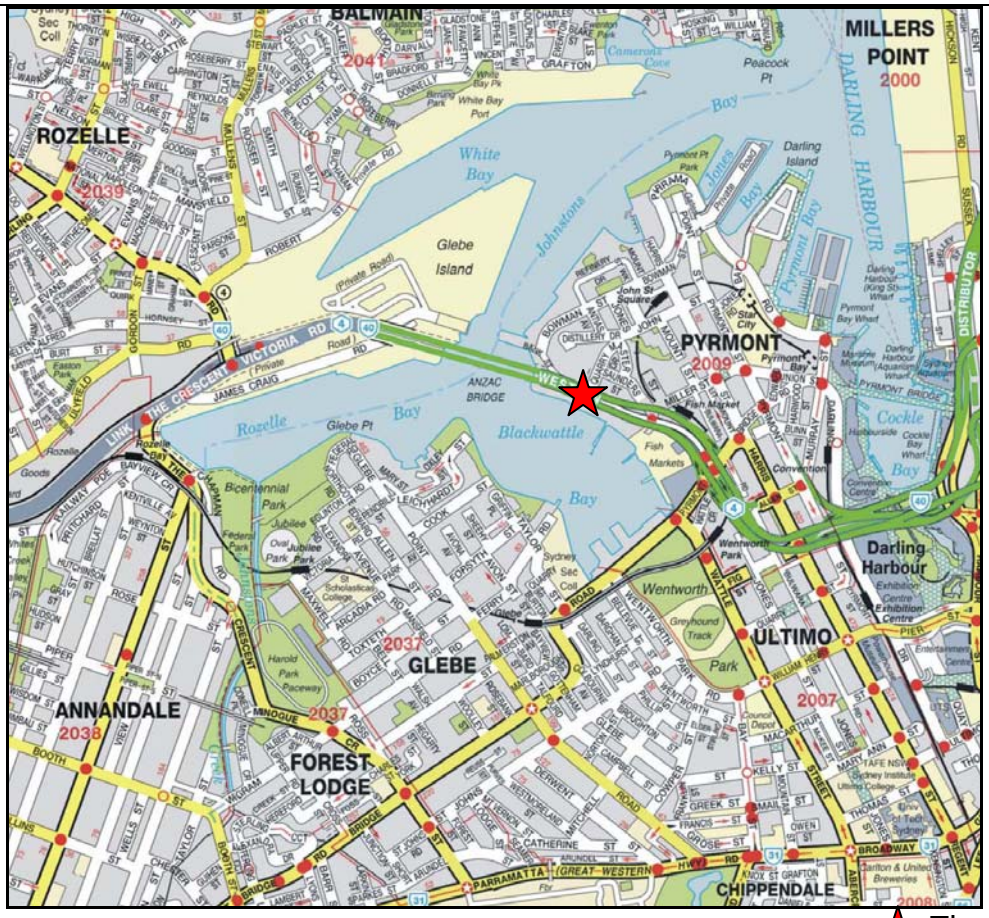
Much of the site, if not all, is reclaimed land fronting what was Abattoir Rd (now Bank Street) which in the 1860's connected the Pyrmont Peninsular with the relocated abattoirs on Glebe Island. Land resumed from the Harris Estate to build the road was reclaimed into Blackwattle Bay. The East pylon of ANZAC Bridge is built on further land reclaimed in the mid 1990's. Development of the waterfront did not really take off until the 1880's and in time the site was used by a large number of timber mills which occupied the sites for up to 80 years and was a home of industrial Sydney well into the 1950's and 1960's. The site was used and occupied by DMR which is now RTA during the building of the ANZAC bridge and will be further partly occupied by the RTA over the next 2 years while remedial work is undertaken on the bridge. There are some RTA easements surrounding the Eastern pylon to provide permanent access for future bridge maintenance and the proposed fleet workshops are to be constructed over an Energy Australia "Joint Bay". Future access to the Joint Bay will be provided within the building.

4.1 Road Network

Bank Street connects with the arterial road network via two signalised intersections. Signals provide access to/from the Western Distributor westbound on ramp/eastbound off-ramp, connecting to Anzac Bridge; while a second set of signals provide access to/from Pyrmont Bridge Road (east and west) and to/from the Western Distributor to the east. Vehicular access also occurs at the signalised intersection of Bank Street/Miller Street, and connections with Quarry Master Drive and Bowman Street.

RTA works completed in late 2005 on Bank Street include additional security structures on the Anzac Bridge pylons. These works should not affect the permanent vehicle operation of Bank Street.

The road network around Blackwattle Bay is characterised by high levels of traffic. Major routes such as the Western Distributor and Pyrmont Bridge Road provide arterial functions for the Sydney network. Pyrmont Bridge Road provides local access to Bank Street and Harris Street, and to Miller Street, Bowman Street and Quarry Master Drive. Wattle Street has a significant impact on traffic in the area, providing access between Pyrmont Bridge Road / Western Distributor and Broadway, Parramatta Road and Cleveland Street. Bank Street provides vehicular access to the fish market and other local land uses. North of Miller Street, volumes are low although likely to increase with the development of Jackson's Landing and the connection of Bank Street and Bowman Street. The UBD map below indicates the surrounding street network.



4.2 Traffic Management

The following prevailing traffic management facilities exist within the immediate vicinity of the site:

- T- intersection at the frontage of the site of Banks Street and Bowman Street.
- Bicycle lanes on both sides of both Banks Street and Bowman Street along the front of the property.

4.3 Traffic Volumes

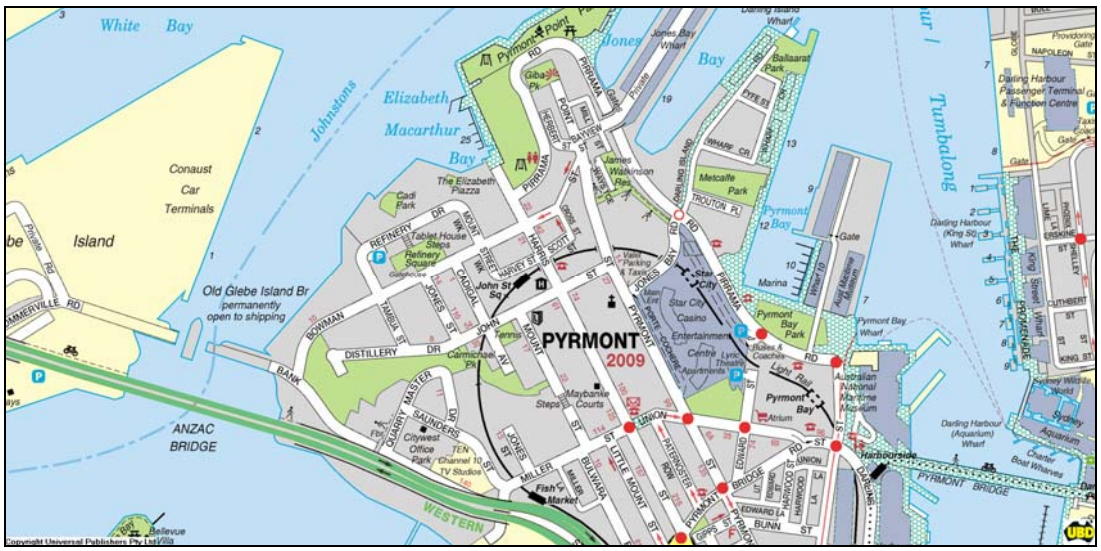
The following is an extract from "*Bank Street, Pyrmont Master Plan Appendix B: Traffic and Transport"* December 2005, which is sourced from the *Maunsell (2003) "Sydney Fish Market Master Plan Traffic and Transport Analysis*" report.

> *Traffic volumes at the southern end of Bank Street are 9,005 vehicles per day (vpd) according to data sourced from the RTA's Signal Co-ordinated Adaptive Traffic System (SCATS). To the north of the fish market/Miller Street intersection, traffic levels are significantly lower at 4,486 vehicles per day … RTA Annual Average Daily Traffic (AADT) counts indicate that in 2002 the Western Distributor (on Anzac Bridge) carried around 129,0003 vpd, up from 120,000 vpd in 1999. The historical traffic growth rate is 3.7% per annum, based on RTA published traffic data.*

4.4 Intersection Performances

The intersection of Bank Street / Miller Street / fish market is a four-way cross intersection. Signal phasing is split with each approach operating individually with conditional left-turn phasing.

Further north and in the immediate vicinity of the subject Sydney Heritage Fleet site, Banks Street joins Bowman Street to the north of the site and effectively operates as a continual road carriageway. The RTA's Old Glebe Island abutment with Bank Street - Bowman Street is effectively closed to the general public by a gate. Refer to map below.



4.5 Banks Street - Bowman Street Performance

The Banks Street - Bowman Street route currently carries some 4,800 vehicles per day (two way) along the subject site frontage, if we apply 1%p.a growth over 8 years since the 2003 traffic count.

During peak hours the estimated flows along the Banks Street - Bowman Street route would be in the order of 480 to 500 vehicles per hour (two way) by applying the usual 10% factor to daily flows.

This traffic volume is consistent with a COLLECTOR road function if due regard is given to environmental capacity thresholds that would not strictly apply to the local environs given the high intensity residential and commercial uses in the local precinct.

The theoretical volume to capacity ratio of the route is in the order of 0.40 (i.e. 500 / 1,200) if we adopt the lower through lane capacity of 600 vehicles per lane (each way) due to kerbside parking activity.

Hence, in real terms the carrying capacity of the Banks Street - Bowman Street route has capacity to absorb additional traffic at the present time.

4.6 Local Issues

The main traffic, parking and access issue identified during the preliminary planning phase for incorporation in any future development schemes for the site was the impact of displacing or accommodating the existing Dragon Boat Club members that use the existing site (RTA compound) for on site parking.

This matter is discussed in the following sections of this report.

4.7 Existing Parking Supply

From parking surveys conducted on Saturday 15th October (refer to **Annexure B**) it is shown that the capacity of the nearby road network is in the order of 43 available parking spaces.

The peak Saturday AM period between 7:00 to 8:00am saw 90% of available on-street parking occupied at any given time. It should be noted that the Dragon Boat training times vary depending on season. For the period between April to August peak parking will begin at 8.45 to 11am during the Saturday peak and during the regular season from September to March the peak parking occurs at 7.45 to 10am.

Off site parking comprises of **5 (five)** different zones making up **43 spaces** in total. At peak demand only **38 spaces** on-street are occupied by the surrounding neighbourhood thus leaving 5 available on-street parking spaces.

4.8 Required Car Parking

Prior to assessing car and bicycle parking requirements it is instructive to note that a restrictive approach to car parking provision is adopted in order to encourage public transport usage. A number of additional public transport facilities are identified in the report as well as expected usage of known visitation travel modes.

The proponent of the development is focussed on delivering a quality museum that will be an asset to New South Wales in the future. In order to achieve this quality development it is highly desirable to restrict car parking within the grounds of the site and to encourage public transport options (existing and new services) to the fullest extent possible. Bus, light rail and ferry services either exist or can be embellished to provide an adequate level of access by visitors and staff to and from the museum. The proponent will work closely with State Government and Local Government agencies in order to achieve the desired outcome and vision for this museum.

Draft Sydney Development Control Plan (DCP) 2010 Section 2 states the following :

- *Where the development comprises a land use not specified in the LEP, the proposed rate of car parking provision is to be justified via a Parking and Access Report*

Draft Sydney Local Environmental Plan 2011 does not state parking rate for gallery/museum. In view of this, it is considered that staff and visitors be

encouraged to use prevailing and future embellishments to public transport services provided within the region of Bank Street. This traffic and parking assessment considers improvements to public transport services for SHF site on Bank Street.

Whilst the objective is to limit on-site car parking to encourage public transport usage, Section 8 of this report provides information about visitation & employee levels, with the conclusion that some 30 visiting persons per day may arrive by private car and spend an average of 2 hours at the museum. Assuming a 6 hour (10am to 4pm) peak visitation period, then this equates to some 10 visiting persons or up to 20 persons at one time that may seek to park near the site. With a typical car occupancy rate of 3 persons per car this equates to some **7** cars on average.

An alternate calculation involves an assessment of publicly accessible floor space and applying a car parking rate of 1 space per 232.2m^2 that Sydney City Council has previously applied to similar uses. The publicly accessible floor space has been calculated as following:

- Level 0 - excluding lift shaft, stair, first aid, staff room, staff amenities, workshops and dragon boat facilities - 97.m^2
- Level 1 - including exhibition space, meeting space, lobby (entry), amenities and shop - excluding voids, workshops, kitchen, managers office, reception, lift shaft and stair - 960.m^2
- Level 2 - being just the landing, corridor and viewing gallery - 66.m^2

Based on the floor space total of 1,123m^2 the SHF museum would require **5** visitor parking spaces.

4.9 Required Bicycle Parking

Draft Sydney Development Control Plan (DCP) 2010 Section 2 states the following bicycle parking requirements for the proposed development:

- *Art Gallery or Museum*
    - 1 per 1,000m^2 GFA for staff
    - 1 per 200m^2 for visitors

The following additional extracts from Council's *Bike Parking and Associated Facilities* controls (Draft Sydney Development Control Plan 2010 Section 2 – General Provisions) are relevant:

(1) New developments are to provide on-site bike parking. Refer to relevant Australian Standards for design criteria for bike parking facilities.

(2) Bike parking facilities are additional to other parking requirements.

(3) The minimum amount of bike parking spaces to be provided is as set out in Table 2.6: On-site bike parking rates, except:

(a) where an apartment in a residential building has a basement storage area on title that is large enough to accommodate a bike and is no smaller than a Class 1 bike locker, then additional bike parking for that apartment is not required; and

(b) where a proposed use is not included in Table 2.6, an applicant is to provide bike facilities to accommodate Council's mode share target for trips by bike as described in the Bike Strategy and Action Plan 2007-2017.

(4) The minimum number of bike parking spaces is to be rounded up to the nearest whole number if it is not a whole number.

(5) Secure bike parking facilities are to be provided in accordance with the following:

(a) Class 1 bike lockers for occupants of residential buildings;
(b) Class 2 bike facilities for staff/employees of any land use; and
(c) Class 3 bike rails for visitors of any land use.

(6) Where bike parking for tenants is provided in a basement, it is to be located:

(a) on the uppermost level of the basement;
(b) close to entry/exit points; and
(c) subject to security camera surveillance where such security systems exist.

(7) A safe path of travel from bike parking areas to entry/exit points is to be marked.

(8) Access to bike parking areas are to be:

(a) a minimum of 1.8m wide to allow a pedestrian and a person on a bike to pass each other (access ways can be shared with vehicles within buildings and at entries to buildings);
(b) accessible via a ramp;
(c) clearly identified by signage; and
(d) accessible via appropriate security / intercom systems.

(9) Bike parking for visitors is to be provided in an accessible on-grade location near a major public entrance to the development and is to be signposted.

(10) For non-residential uses, the following facilities for bike parking are to be provided at the following rates:

(a) 1 personal locker for each bike parking space;
(b) 1 shower/change cubicle for up to 10 bike parking spaces;

(c) 2 shower/change cubicles for 11 to 20 or more bike parking spaces are provided;
(d) 2 additional showers/cubicles for each additional 20 bike parking spaces or part thereof.

(11) Showers and change facilities may be provided in the form of shower/change cubicles in a unisex area or showers in both female and male change rooms.

(12) Locker, change room and shower facilities are to be located close to the bike parking area, entry/exit points, and within an area of security camera surveillance where there are such building security systems.

Based on the above, some **6** visitor bicycle parking and **1** staff bicycle parking spaces are required.

4.10 Potential Future Parking Layout

Improved parking supply can possibly be achieved by introducing a new parking layout on the Glebe Island Bridge abutment as shown in the figure below.

It should be noted that ongoing discussions between SHF and the RTA are continuing and no course of action has been suggested or approved in terms of applying this parking layout to the Glebe Island Bridge. Currently the RTA does not endorse parking along the Glebe Island Bridge abutment.

The layout below is provided as a possible future solution should the RTA endorse its provision at some time in the future.

Whilst not relied upon for the proposed development application, the layout of parking shown above creates a possible additional **65 spaces** to the surrounding area for both patrons of the Sydney Heritage Fleet, users of Jackson's Landing Park and nearby residents; located to the north of the site. Refer also to **Annexure D** for layout.

With the construction of the car park on the southern abutment parking supply will remain constant for all users in the area. Additionally, with the construction of the car park shown above, spaces will be created for users of the Sydney Heritage Fleet.

As noted previously, there is currently "No Stopping" located on Bowman Street adjacent to the north of the Bowman Street and Bank Street bend. Converting this to the normal permit parking found on Bank Street will provide a possible extra 10 parking bays that can be utilised.

4.11 Servicing

Central Sydney DCP 1996 has provisions for land uses other than a gallery/ museum. In the case of a museum, the following states:

- *Other uses, 1 space for 1,750 sqm FSA or part*

As the floor space is 1,123m^2, the required servicing vehicle space is less than 1. However, refer to **Annexure F** which clearly shows the servicing vehicle to be an 8.8m Medium Rigid Vehicle (MRV) which is able to access the site and circulate through to the exit which more than satisfies the requirement as per the DCP.

5 ACCESS CONSTRAINTS & OPPORTUNITIES FOR FUTURE DEVELOPMENT

5.1 Public Transport Services

Pyrmont contains a variety of public transport modes with a high level of connectivity to the Sydney public transport network. Public transport modes include buses, light rail and ferry.

5.1.1 Sydney Buses

Sydney Buses service the surrounding area, including the following key routes (and shown in **Figure 5.1** below):

- Route 443: Pyrmont/ Star City- City; loop service between Circular Quay and Pyrmont, via the QVB;
- Route 501: City- West Ryde; connections to circular Quay, Town Hall and Railway Square.

The nearest Sydney Buses bus stops to the site are at the following locations:

- Corner of Harris Street and Bowman Street- Route 443; and
- Corner of Jones Street and Miller Street- Route 501

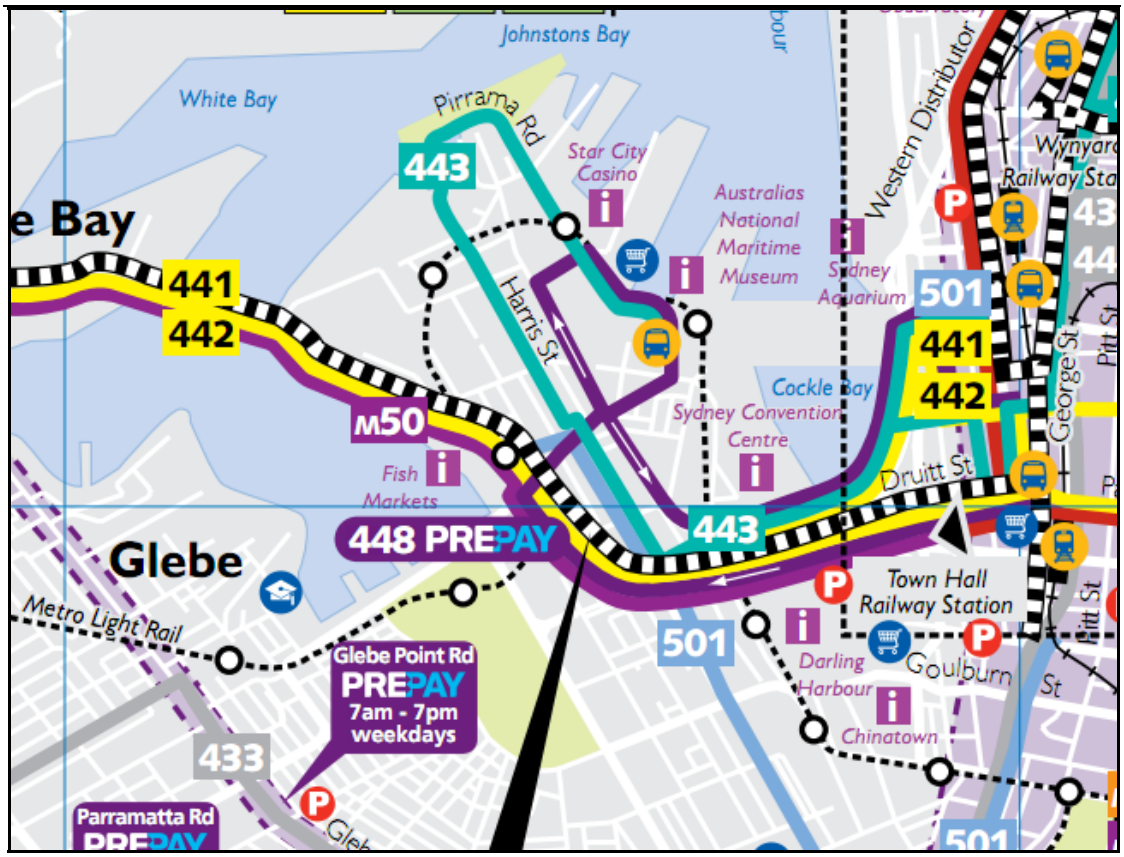
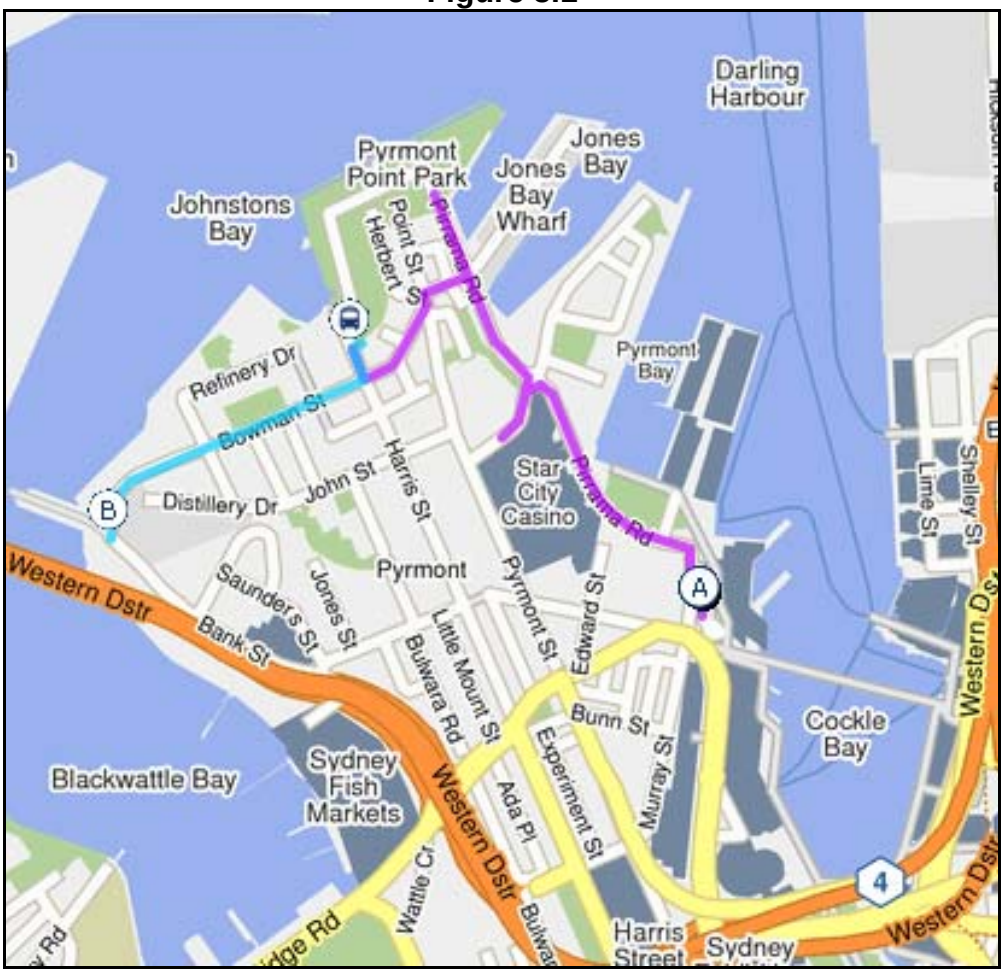
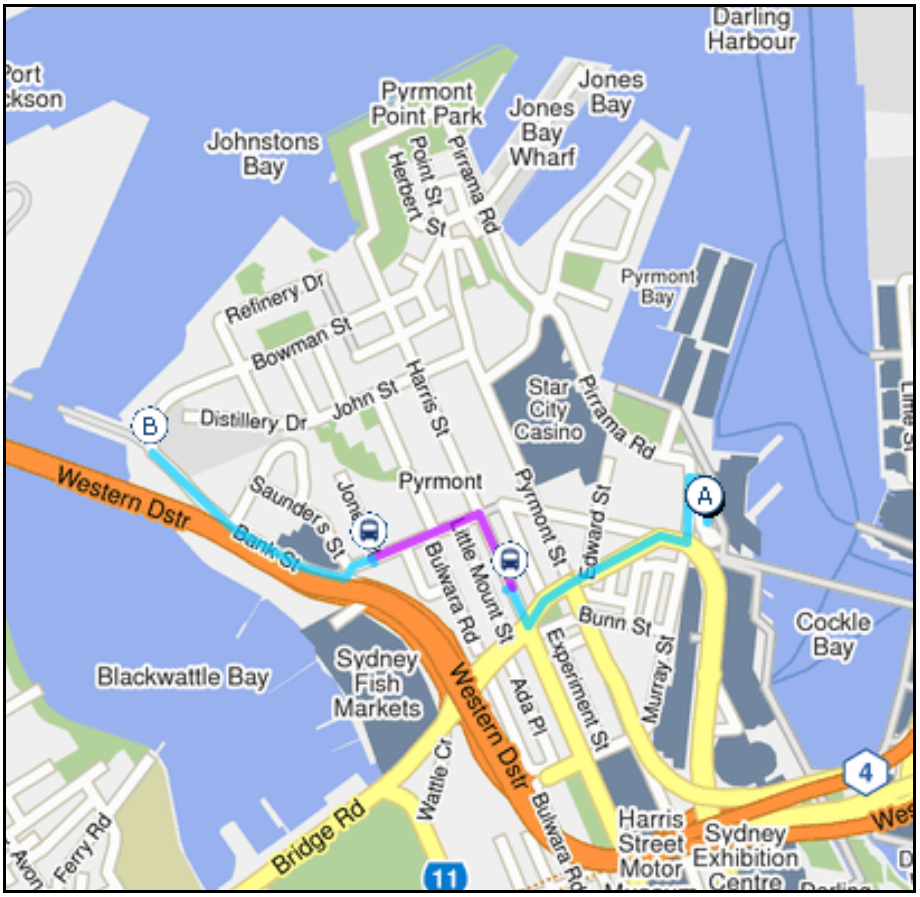

Johnstons Bay
White Bay
Pirrama Rd
443
Star City Casino
Australias National Maritime Museum
Western Distributor
Sydney Aquarium
501
441
442
Harris St
M50
Cockle Bay
Sydney Convention Centre
Fish Markets
448 PREPAY
443
Druitt St
George St
Glebe
Metro Light Rail
Glebe Point Rd
PREPAY
7am - 7pm
weekdays
Town Hall Railway Station
501
Darling Harbour
Goulburn St
Chinatown
433
Parramatta Rd

Figure 5.1


Darling Harbour
Pyrmont Point Park
Jones Bay
Jones Bay Wharf
Johnstons Bay
Point St
Herbert St
Pirrama Rd
Refinery Dr
Bowman St
Pyrmont Bay
Distillery Dr
John St
Harris St
Star City Casino
Pyrmont
Saunders St
Jones St
Bank St
Western Dstr
Little Mount St
Bulwara Rd
Pyrmont St
Edward St
Bunn St
Experiment St
Murray St
Cockle Bay
Blackwattle Bay
Sydney Fish Markets
Ada Pl
Wattle Cr
Harris Street
Sydney
Lime St
Shelley St

The map above shows the 443 bus route from the Sydney Maritime Museum to Bank Street (site).

Pink- Bus Route 443
Blue- Walking (563m from bus stop to site)
Estimated trip time 13 minutes



The map above shows the 501 bus route from the Sydney Maritime Museum to Bank Street (site).

Pink- Bus Route 501
Blue- Walking (601m to bus stop; 467m from bus stop to site. Total 1068m)
Estimated trip time 17 minutes

Service frequencies on routes 443 and 501 are typically 5-10 mins in the morning and afternoon peaks, 5-10 mins during the day and 5-10 mins at night. On Saturdays, services operate at 5-10 mins intervals.

5.1.2 Light Rail

Metro Light Rail operates a service between Central Station and Lilyfield (see **Figure 5.1**). The closest stations to the master plan area are 'John Street Square' located on the corner of John Street/ Harris Street, and 'Fish Markets', located close to the corner of Bank Street and Miller Street.

Pedestrian access from the stations to Blackwattle Bay is considered to average 5 to 10 minutes.

Light rail services operate every 10-15 mins, seven days a week, starting at 6am from Central Station and Lilyfield, with the last service at 12.10am from Central Station and 12.33am from Lilyfield. A 24 hour service runs between Star City (approximately 15 min walk from Blackwattle Bay) and Central Station.

Internodal connections on the Metro Light Rail include:

- Central Station- Sydney Buses, CityRail and CountryLink network;
- Convention centre and Hay market- Monorail;
- Lilyfield- Sydney Buses (Route 445); and
- Pyrmont Bay- Sydney Ferries

5.1.3 Ferry

The nearest ferry connection currently in use is in Pyrmont Bay, off Pirrama Road. The ferry service accesses Circular Quay, Milsons Point, Balmain and Darling Harbour. The Sydney Fish Market Masterplan presents an option to incorporate a commuter ferry service to the central wharf on the site.

5.1.4 Shuttle Services from Other Locations

Shuttle services could also be considered for pre-arranged visits linked to nearby car parking areas for specific groups.

5.2 Pedestrians

Generally, pedestrian footpath linkages in Pyrmont are of a high standard, resulting from the areas recent residential and tourist development, eg Jacksons Landing, Sydney Casino and Darling Harbour. The pedestrian/ cycle ramp providing access between Miller Street and ANZAC Bridge is shown in **Figure 5.2.**

Figure 5.2

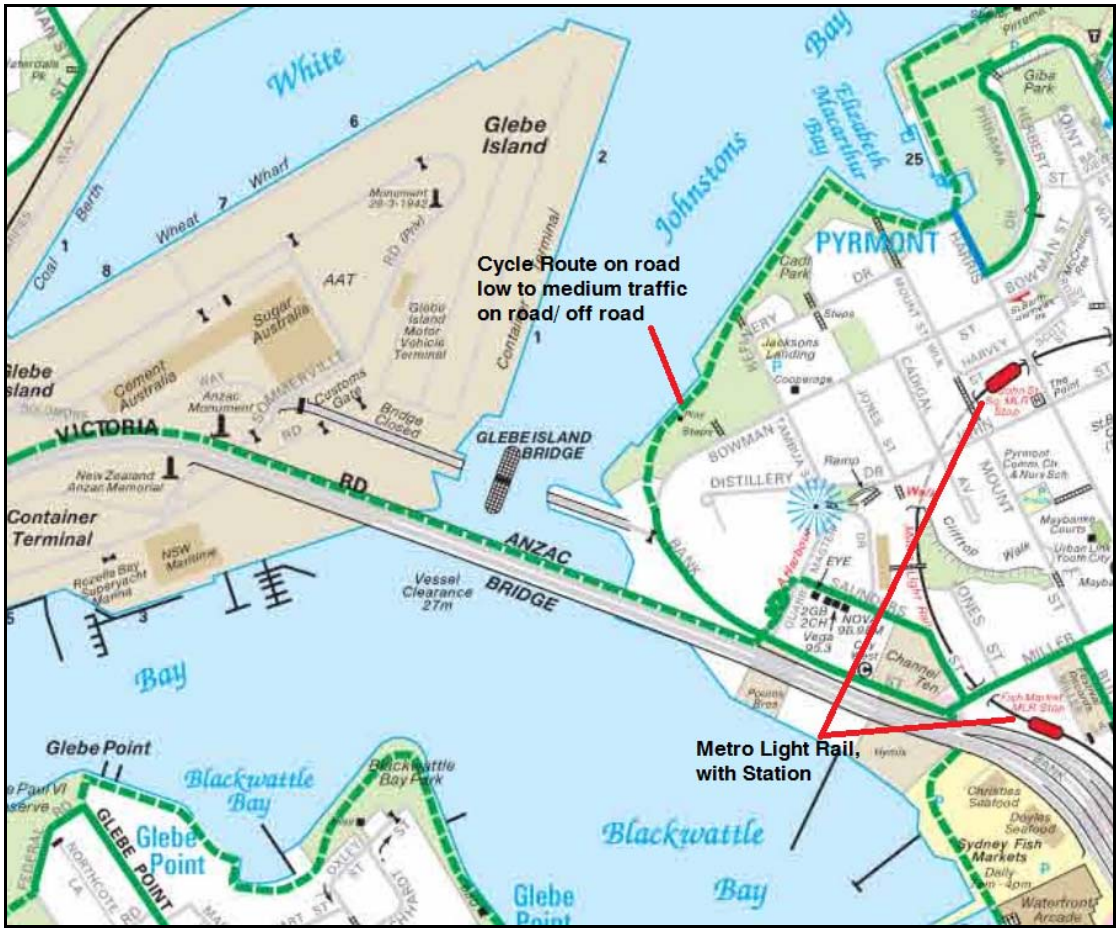
However, pedestrian accessibility along the foreshore between Jackson's Landing and the fish market is poor. This is mainly a result of the mixed land use characteristics of the area, being a mix of undeveloped residential areas and established/ commercial land. The pedestrian environment along Bank Street is dominated by a number of busy intersections and experiences high traffic noise, pollution and the visual dominance of the Western Distributor. Recent works by the RTA has resulted in bollards being incorporated into the design of the footpath around the ANZAC bridge pylons.

Overall, Pyrmont is a relatively contained area with good pedestrian links to public transport network and the city. Potential to improve any immediate

shortfalls in pedestrian activities can be facilitated via further consultation with Council and other stakeholders in concert with other development within the surrounding area.

5.3 Cyclists

Pyrmont contains a network of on-road cyclist routes identified by directional signage. Cyclists are generally encouraged on low volume streets. Pyrmont Bridge Road and ANZAC Bridge have been recognised as common bicycle routes for cyclists to access the city and the Harbour bridge from the inner western suburbs. Pyrmont Bridge carries a relatively high number of cyclist movements. Cyclists can travel between Miller Street and ANZAC Bridge (which has existing off road cyclist facilities) via the pedestrian/cycle ramp.



5.3.1 State Environmental Planning Policy No. 66

The SEPP 66: Integrating Land Use and Transport policy has since been withdrawn. However it included a set of guidelines incorporating Accessible Development Principles which still remain applicable.

The Accessible Development Principles are:

1. Develop concentrated centres of housing, employment, services and public facilities with an acceptable walking distance (400 to 1,000m) of major public transport nodes, such as railway stations and high frequency bus routes with at least a 15 minute frequency at peak times;

2. Encourage a mix of housing, employment, services, public facilities and other compatible land uses, in accessible centres;
3. Concentrate high density, mixed use, accessible centres along major public transport corridors with urban areas;
4. Plan and implement public transport infrastructure and services in conjunction with land use strategies to maximise access along corridors, and to and from centres;
5. Provide street networks with multiple and direct connections to public transport services and efficient access for buses;
6. Provide walkable environments and give priority to access for pedestrians, including access for people with disabilities;
7. Maximise cyclists' accessibility to centres, services, facilities and employment locations;
8. Use the location, supply and availability of parking to discourage car use;
9. Improve transport choice and propose an integrated transport approach by management road traffic flow and priority of transport modes; and
10. Design with an emphasis on the needs of pedestrians, cyclists and public transport users.

Applying principles that reduce private car travel to and from the SHF site will be a primary focus of the management of the SHF museum. Methods to reduce private travel are discussed in the following Sections (6 & 7) as well as in the preceding Section 5.

6 OBJECTIVES OF THE TMAP

6.1 Objectives

This TMAP will guide further sustainable development of the Pyrmont Foreshore Area. The TMAP is intended to provide a plan which would:

- Minimise car based trips;
- Support and promote sustainable travel to and from the site;
- Maintain satisfactory operation on the local road network; and
- Manage delivery movements generated by the site.

6.2 Environmental Transport Measures

The primary targets for site access will be:

- Car parking to be appropriate for needs but limited to the minimum necessary;
- Suitable bicycle and motorcycle parking and facilities to be provided;
- Good paths to transport modes to be provided;
- Cycle connections to be provided to existing and future cycle routes;

- Safety- access by road and by public transport, walking and cycling will be as safe and efficient as possible;
- Transport Access Guide- preparation and maintenance guides for staff and for patrons will be a priority; and
- Deliveries will be well managed, entirely within the site.

7 PROPOSED PUBLIC TRANSPORT IMPROVEMENTS

The proposed addition of this site to Pyrmont has led to investigations into public transport improvements have been considered. The DA proposal includes upgrading public transport services to the site, including adding several new indented bus bays along Bank Street. Ultimately, it is desirable that either kerbside or indented bus bays be located along the front of the Sydney Heritage Fleet site (1 x 12.5m bus and a kerbside or indented bus bay on the southern side of Bank Street and for at least 1 x 12.5m bus opposite the site).

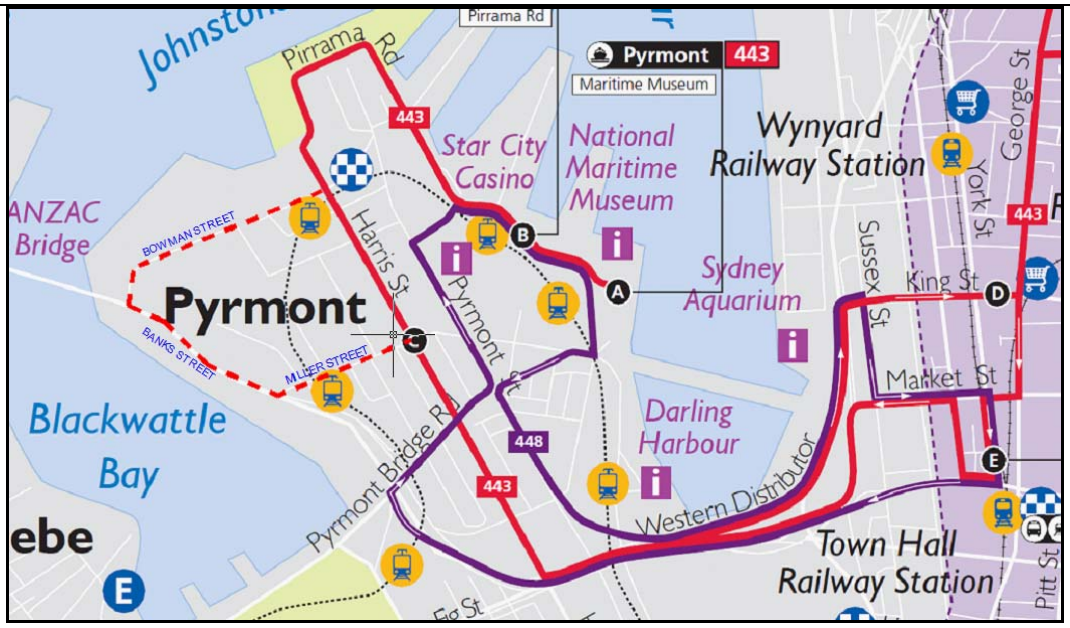
It should be noted that according to Draft Sydney Local Environmental Plan 2011 (**Annexure B**), the region of Pyrmont ranks for Public Transport Accessibility Level at best category E with Bank Street and Bowman Street rating category F which is the lowest category. It is in the interest of Pyrmont region to upgrade public transport networks and enhance existing services with recommended changes and improvements to existing services and possible new services that are outlined in this section.

7.1 Consultation with NSW Department of Transport

The following various options of bus transport initiatives have yet to be discussed with the NSW Department of Transport. The options to be discussed are as follows.

Divert Route 443 Sydney Heritage Fleet Site

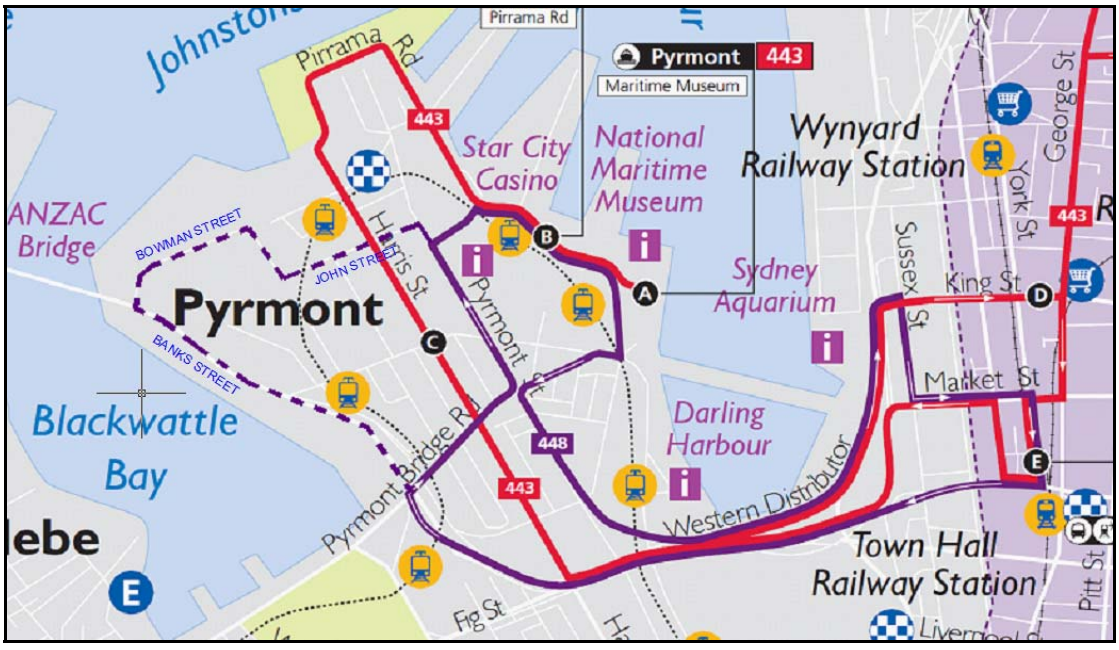
Under this option the existing Route 443 will divert from Harris Street down Bowman Street onto Bank Street and past the Sydney Heritage Fleet site. The route will turn left at the signalised intersection of Bank St/ Miller Street where it will follow up Miller Street until it intersects with Harris Street. See the image below for the possible new route (dotted path (**RED**) indicates proposed route 443 modification).



This option is deemed desirable as it will only miss 400m of Harris Street. Users of this bus service with the alteration will be have to walk a maximum distance of 200m to locate a bus stop with these changes. The alterations will serve another 1172m of roadway and will allow patrons to be dropped directly in front of the site in indented bus bays. With this alteration the light rail station of 'Fish markets' will also benefit with the bus route passing the station.

Divert Route 448 Sydney Heritage Fleet

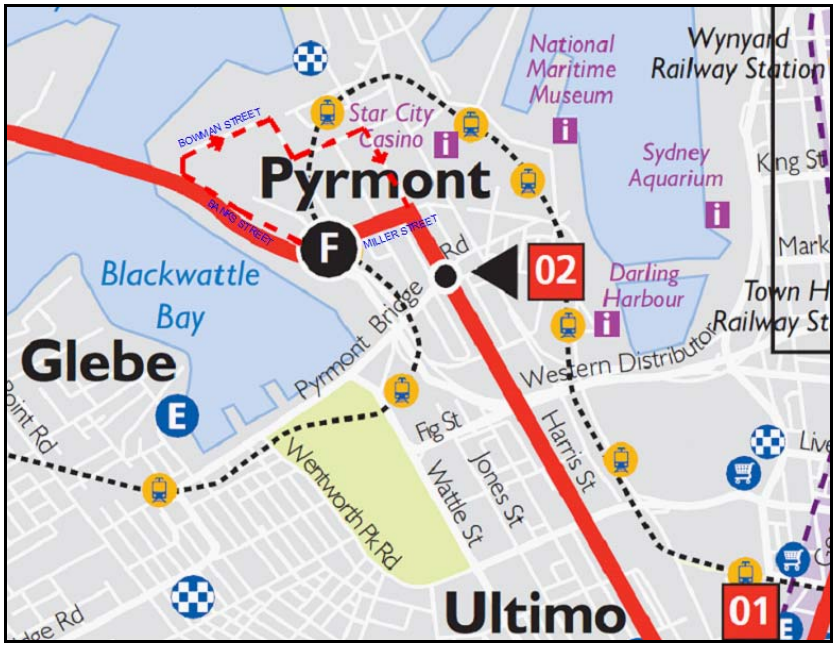
Under this option the existing Route 448 will continue along Bank Street past Miller Street and along past Sydney Heritage Fleet frontage onto Bowman Street. It will then turn right and link back up to Pyrmont Street. See the image below for the possible new route (dotted path (**PURPLE**) indicates proposed route 448 modification).



This option does not service Miller Street and a large majority of Harris Street. The existing route services 600m of Harris and Miller Street. With the proposed alterations 1567m of Bank Street and will be serviced and the alterations will allow patrons to be dropped to out the front of the development in indented bays. This route is not as desirable as this bus is at the moment pre-payed and not readily able to be used by tourists.

Divert Route 501 Sydney Heritage Fleet

Under this option the bus will turn right into Banks Street instead of left onto Miller Street. It will follow along Banks Street past Sydney Heritage Fleet to allow the drop off of patrons. It will then follow onto Bowman Street and turn right onto Harris Street. See the image below for the possible new route (dotted path (**RED**) indicates proposed route 501 modification).

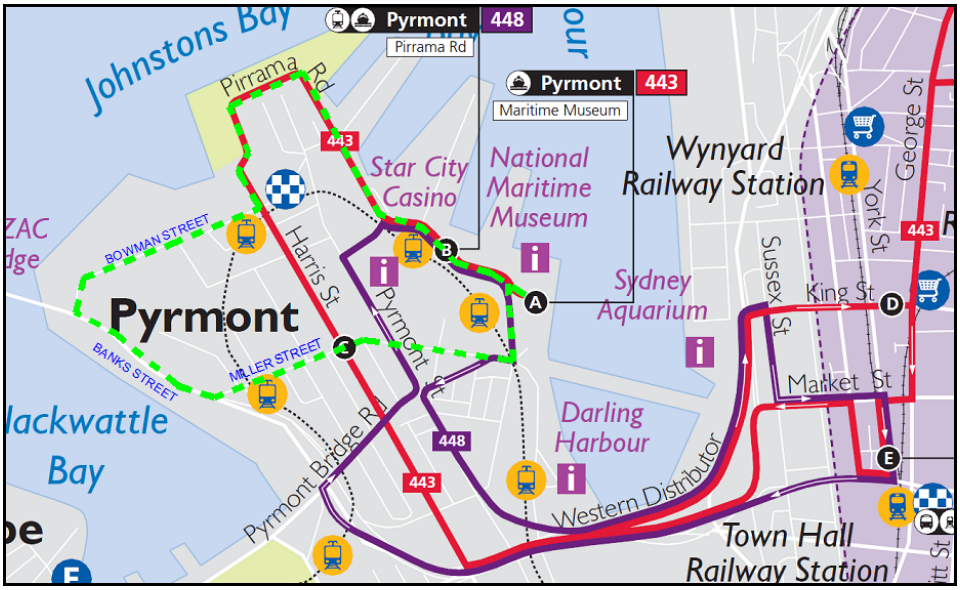


This route is undesirable because it can only function as a trip from the western side of the ANZAC bridge. There is no easy way to enter the ANZAC bridge from Banks Street.

Create New Bus Route

Further the area of Pyrmont has recently and still is today going through an large transformation from industrial land to residential and commercial. There has been an increase in resident population around the area in high density housing. Due to this transformation there has been an increase in employment opportunities from the fish markets and new commercial premises. Local council of the area is actively trying to reduce parking by restricting spaces and enforcing time limits on parking. A new altered bus route could provide an additional service to the new developments in Pyrmont and will also service the Sydney Heritage Fleet site.

A possible route for this new service is shown in the diagram below (**GREEN** Route). This route incorporates 4 (four) light rail stations within close walking distance. It also will allow patrons to travel between the Maritime Museum and the Sydney Heritage Fleet site.



The best option would be to alter existing bus routes such as route 443 and 448. There would be minimal impact to existing users with the need to only walk an extra 200m in most cases as a maximum. Indented bus bays will be provided along the northern and southern side of Banks Street out the front of the site.

8 ESTIMATED VISITATION & TRAFFIC GENERATION

Annexure E presents estimated visitation levels. In summary the following estimates are provided:

Bank Street visitors (to view vessels and exhibitions):

i) Group visits. Assume average of one 45-seater coach per day, say, 350 days per year = 12,250 (No car parking requirement).
ii) Group visits combining ANMM/Wharf7 and Bank Street, by boat from Darling Harbour. Assume average three groups per week, 50 weeks per year x 40 people per group = 6,000 (No car parking requirement).
iii) Casual public visitation. Assume average of 30 per day x 350 days per year = 10,500 (Transport methods will vary)

Heritage vessel charter passengers: Assume average 2,500 passengers per year, say, 50 per week over 50 weeks. (SHF will encourage use of public transport and parking using existing local car parks.)

Volunteers on site: Assume average of 150 per week spread over at least 5 days, say, 50 weeks per year = 7,500. (SHF will encourage use of public

transport and parking using existing local car parks. Volunteers already have discounted parking rates at some local area parking stations).

Hourly traffic (bus and car) generation would be in the order of 5 visits per hour or less during any particular peak hour, generally occurring between 9am to 4pm. This level of traffic is very low and will have a minimal impact on the surrounding road network.

9 CONSTRUCTION TRAFFIC MANAGEMENT

A construction traffic management plan will be prepared for the proposed development identifying:

- Construction period, including stages of construction.
- The daily volume of construction traffic generated (trucks, plant & equipment vehicles, materials delivery and construction staff vehicles) for demolition and construction phases.
- Truck routes and times in order to protect amenity of nearby residents.
- Site Access for trucks & construction staff. Control of soil / mud from being dropped from the wheels of construction vehicles onto adjacent public streets when those vehicles leave the construction site.
- Construction staff parking zones.

The site has access opportunities from Bank Street and a staged construction sequence can be implemented if necessary.

10 WORK TRAVEL PLAN

In order to facilitate reduced dependence upon private car travel and to encourage other transport / travel modes, the following measures / initiatives will be introduced as part of the development proposal:

- Travel Access Guide.

  The proposed museum management team will be proactive in providing up to date public transport information for staff and patrons / visitors. A Travel Access Guide (TAG) will be prepared in accordance with RTA Guidelines for both employees and visitors. In particular the following measures will be introduced:

  - The Centre will provide public transport access information in the form of tenant information kits in order to encourage staff to use public transport / cycling / walking transport options.
  - Travel information will be displayed in staff lunch / rest / amenity areas.
  - Museum management will provide transport options and public transport timetable information on its website.
  - An information desk will be provided within the Museum that will provide directions to bus stops, bus routes, nearest train / light rail stations, ferry services, taxi ranks, bicycle paths / links, pedestrian paths / crossing points and nearest car parking areas.
  - Notice boards will be displayed within the museum to provide information on transport options (bus stops / bus routes & timetables / ferry services / taxi rank / bicycle paths / pedestrian paths).

- Restricted Car Parking Supply

  Parking provision will be kept to a restricted level to encourage other travel modes.

- Bicycle Parking & Shower Provision.

  On-site bicycle parking will be provided with shower / amenities for employees to utilise.

11 CONCLUSIONS

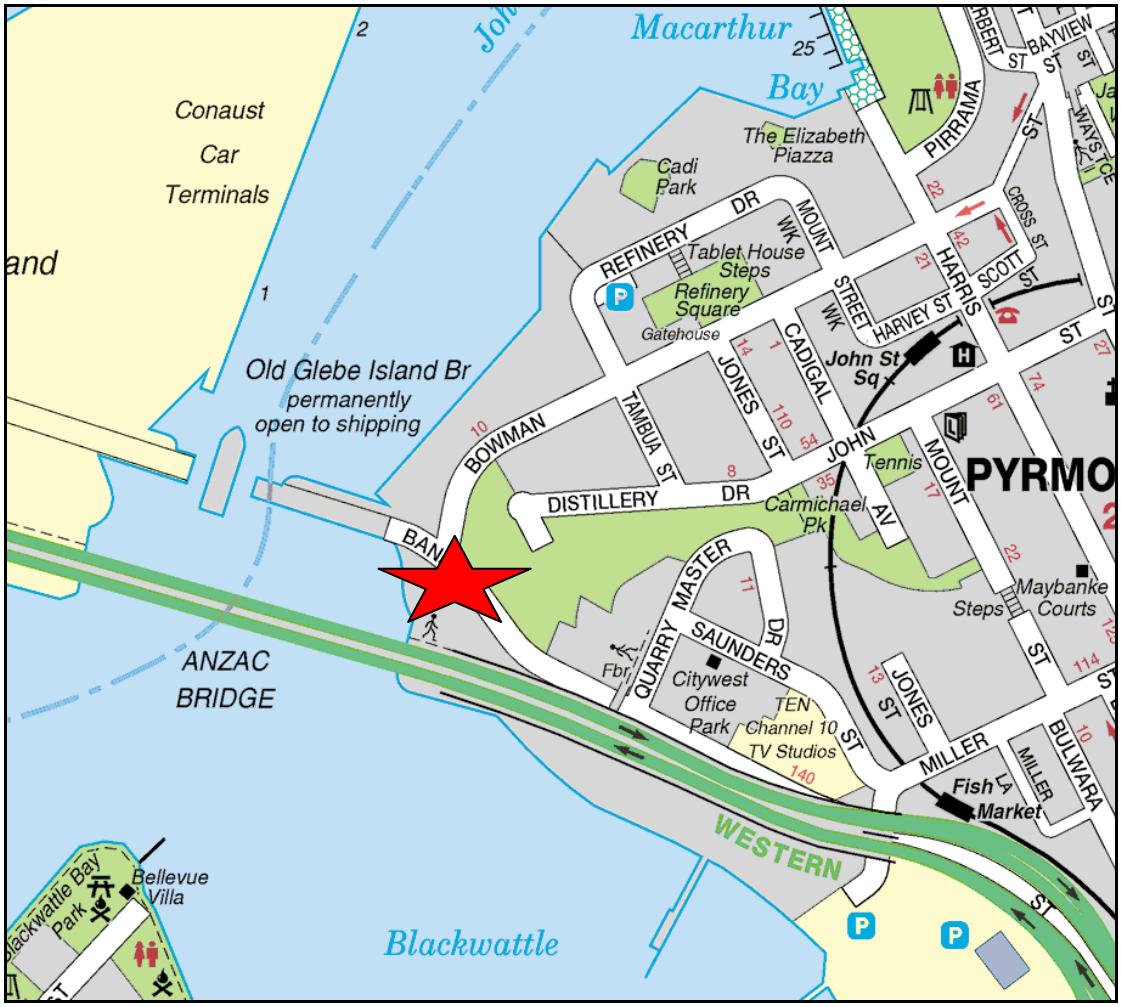
A restrictive approach to car parking provision is adopted in order to encourage public transport usage. A number of additional public transport facilities are identified in the report as well as expected usage of known visitation travel modes.

The proponent of the development is focussed on delivering a quality museum that will be an asset to New South Wales in the future. In order to achieve this quality development it is highly desirable to restrict car parking within the grounds of the site and to encourage public transport options (existing and new services) to the fullest extent possible. Bus, light rail and ferry services either exist or can be embellished to provide an adequate level of access by visitors and staff to and from the museum. The proponent will work closely with State Government and Local Government agencies in order to achieve the desired outcome and vision for this museum.

In view of the foregoing, it is evident that the development proposal is supportable in terms of traffic and parking considerations. The museum will draw upon established and potentially upgraded public transport initiatives including ferry connections from the National Maritime Museum, existing bus / light rail / train services to the Ultimo / Pyrmont precinct. School and organised tours of the museum will be encouraged utilising bus / coach and ferry service options.

Shuttle bus services from nearby public car parking areas may also be investigated for pre-arranged visits for specific groups.

Given the public transport accessibility and potential investment in developing alternate transport arrangements (outlined in this report) for visitors it is requested that Council waive the on-site visitor car parking requirements. SHF will investigate the provision of 1 on-site staff car parking space and 7 bicycle spaces.



SITE LOCATION

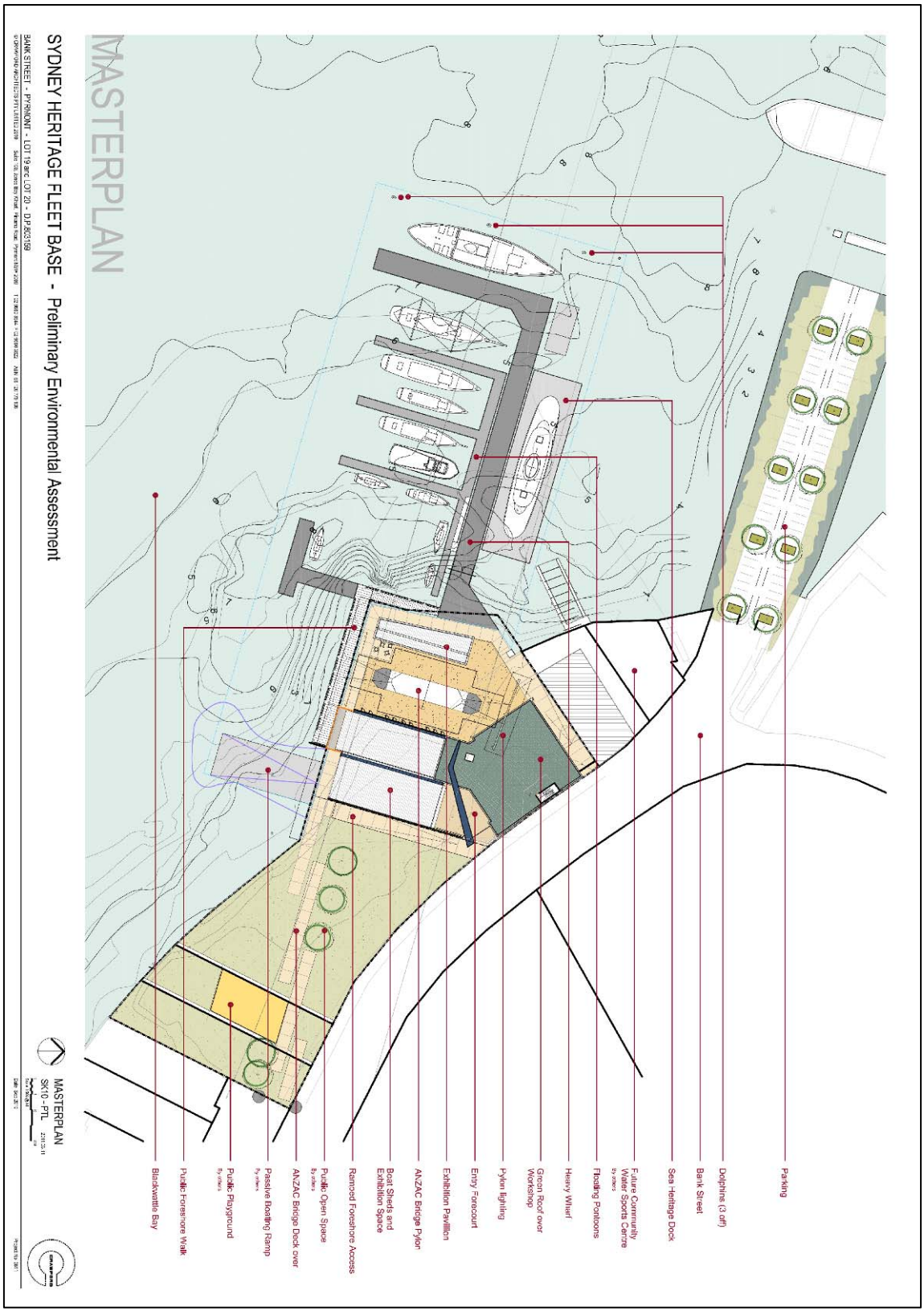
SYDNEY HERITAGE FLEET LOCATION

FIGURE 1:
SITE LOCATION

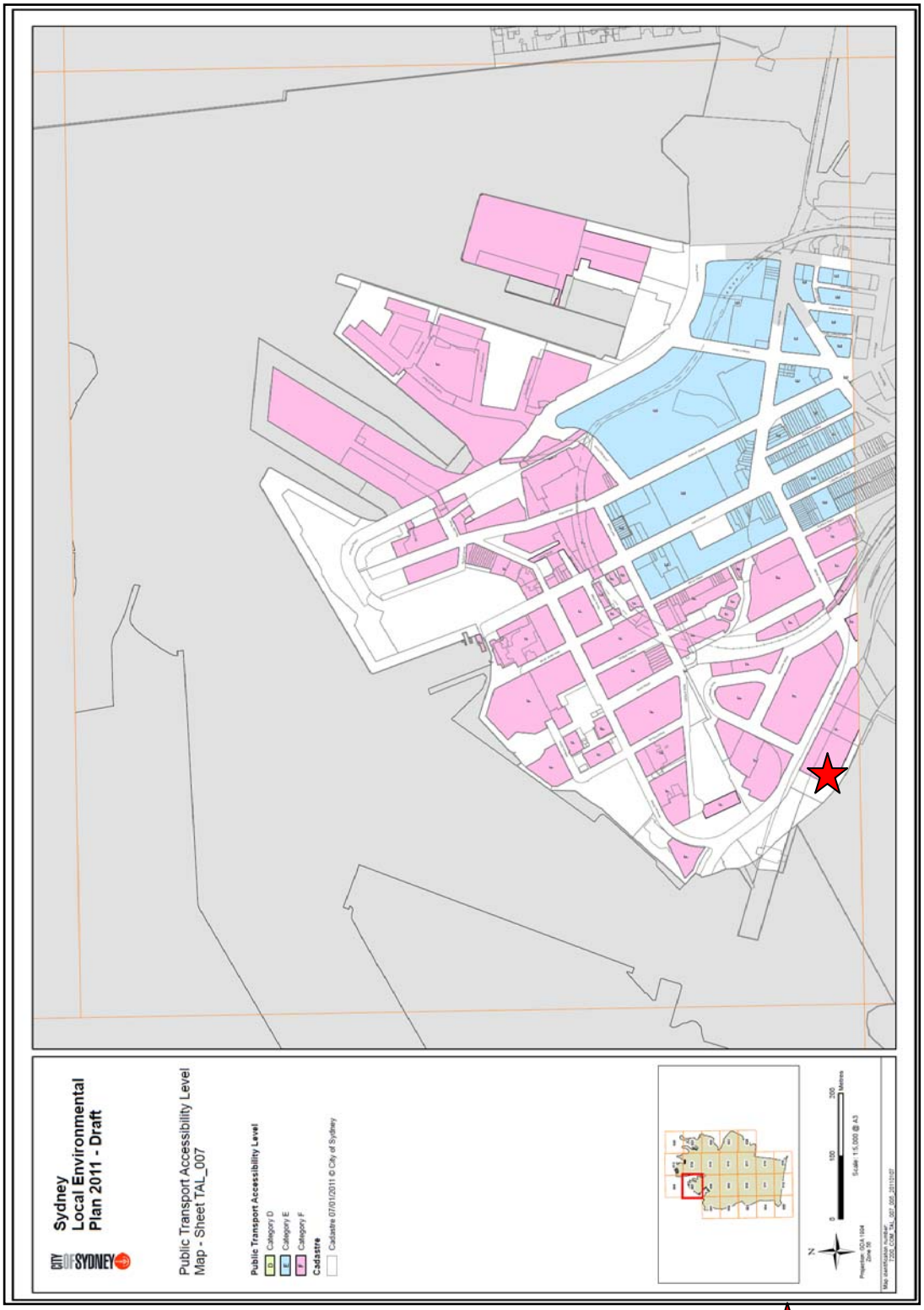
PREPARED FOR: SYDNEY HERITAGE FLEET

BY: M^CLAREN TRAFFIC ENGINEERING

ANNEXURE A: PLANS DA

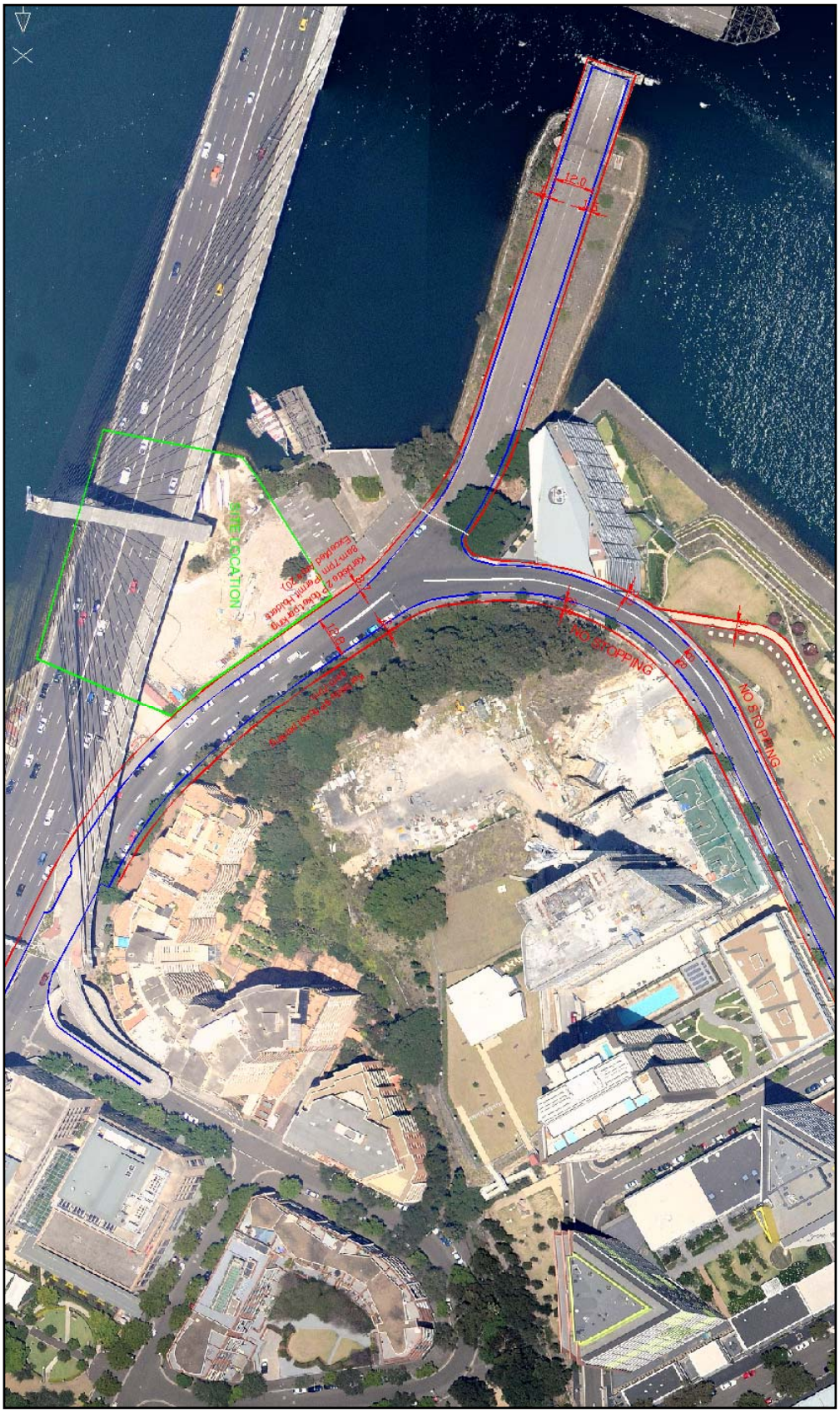


ANNEXURE B: LEP 2011 PUBLIC TRANSPORT ACCESSIBILITY



The Site

ANNEXURE C: KERBSIDE PARKING DETAILS



ANNEXURE D: POSSIBLE ABUTMENT PARKING LAYOUT

ANNEXURE E: VISITATION ESTIMATES

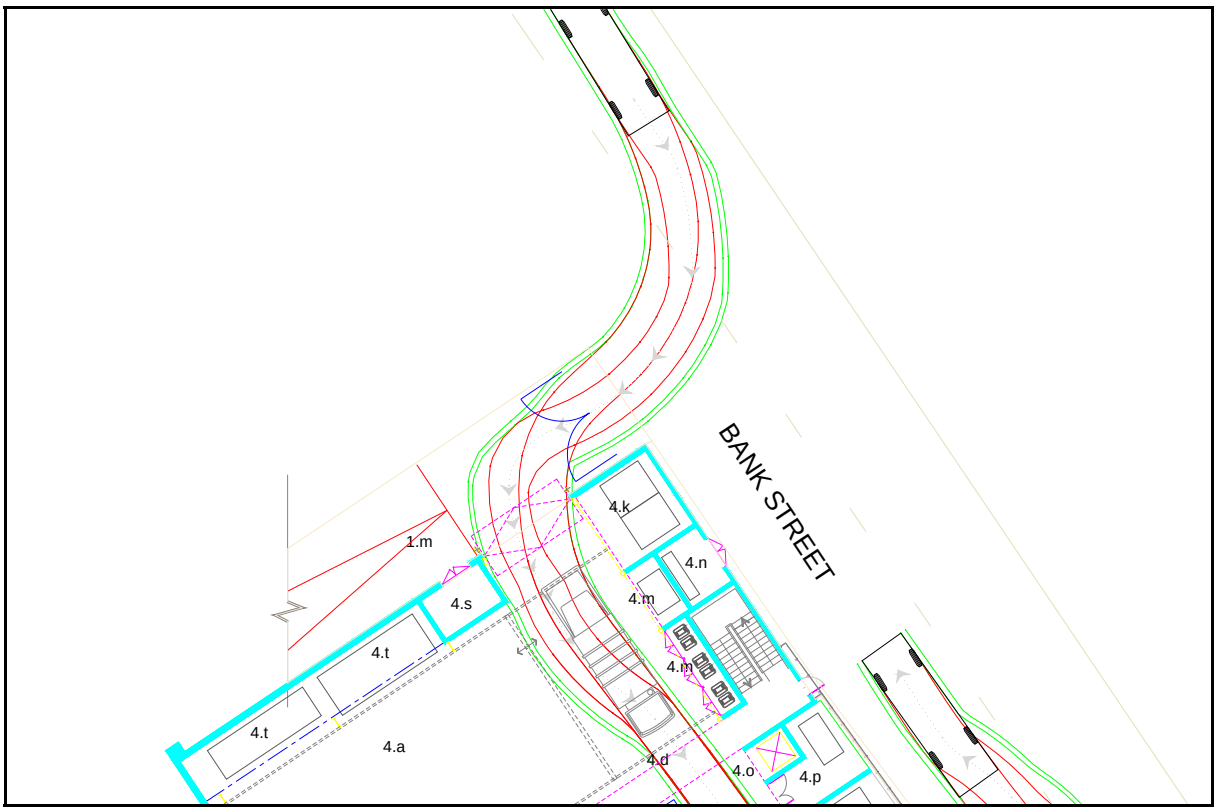
Bank Street visitors (to view vessels and exhibitions):

i) Group visits. Assume average of one 45-seater coach per day, say, 350 days per year = 12,250 (No car parking requirement).
ii) Group visits combining ANMM/Wharf7 and Bank Street, by boat from Darling Harbour. Assume average three groups per week, 50 weeks per year x 40 people per group = 6,000 (No car parking requirement).
iii) Casual public visitation. Assume average of 30 per day x 350 days per year = 10,500 (Transport methods will vary)

Heritage vessel charter passengers: Assume average 2,500 passengers per year, say, 50 per week over 50 weeks. (SHF will encourage use of public transport and parking using existing local car parks.)

Volunteers on site: Assume average of 150 per week spread over at least 5 days, say, 50 weeks per year = 7,500. (SHF will encourage use of public transport and parking using existing local car parks. Volunteers already have discounted parking rates at some local area parking stations)

ANNEXURE F: SERVICE VEHICLE SWEPT PATHS
(Sheet 1 of 2)



MRV (8.8m) into site from Bank St, NW

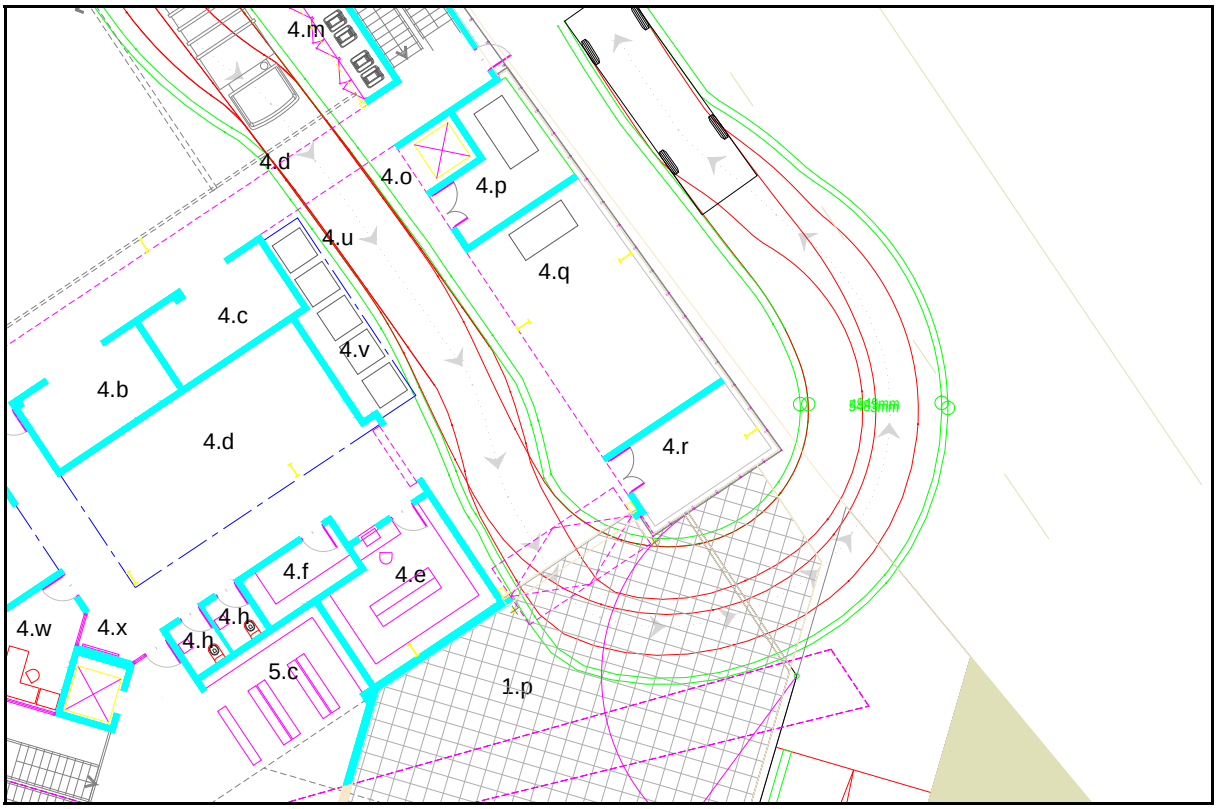
3km/h

Successful – 1 movement

Red = Tyre Paths

Green = Body + Clearance (300mm)

ANNEXURE F: SERVICE VEHICLE SWEPT PATHS
(Sheet 2 of 2)



MRV (8.8m) through and out of site (Bank St, NW)

3km/h

Successful – 1 movement

Red = Tyre Paths

Green = Body + Clearance (300mm)