HARBOURSIDE PEDESTRIAN STUDY

AMENDED CONCEPT RESPONSE TO SUBMISSIONS



CONTENTS

Executive Summary	_3
Introduction	_7
1. Proposed Development	
2. Current and Future Attractors	_26
3. Review of Survey Data	33
4. Transport Modes and Pedestrian Paths	40
5. Bridge Case Studies	45
6. Impact of Changes to Pedestrian Bridges	.49
7. Pedestrian Catchment Assessment	_53

EXECUTIVE SUMMARY

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Urbis has been engaged by Mirvac to assess current and proposed pedestrian routes in and out of Harbourside and an expanded (proposed) Star Casino, and provide advice on the suitability of a proposed new connection from Bunn Street and the overall benefits of this new connection. This report provides a response to submissions (as relevant) and assessment of the proposed amended Concept Proposal in relation to the State Significant Development (SSD) Development Application (DA) for the redevelopment of the Harbourside Shopping Centre (Harbourside) (SSD 7874).

As Darling Harbour is undergoing significant development and repositioning, new connections in and out of Darling Harbour from all key directions should align with the vision for seamless pedestrian connections, which includes Harbourside.

The new Harbourside development will provide residents and visitors with a quality retail and leisure experience. A new connection can provide branding and identity opportunities for Harbourside and help create a sense of arrival.

In addition to the development occurring in Darling Harbour there is also significant development occurring in Barangaroo and Darling Square and adjacent completed Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP) development. Other urban renewal precincts identified including the Bays Market Precinct and the Central to Eveleigh Corridor are in planning stages. Harbourside is centrally located to all, and as such can play an important linking role between the precincts.

In 2016, Harbourside had approximately 60,000 customers residing and working within walking distance of the centre, which is forecast to increase to approximately 71,000 in 2031. The main segments are affluent 30-35 year old singles and couples, most likely with high disposable incomes. These characteristics point towards strong demand for a quality retail, café, bar and restaurant offer, aspirations that Harbourside can most likely meet.

The visitor market is also an important segment for Harbourside, accounting for 49% of customers, and thus ease of access from nearby hotels and business visitors to the International Convention Centre (ICC) should be considered in the design. Customers visiting Harbourside also visit other attractions in Darling Harbour (35%).

As part of the proposed development, Mirvac is proposing to remove the bridge from the carpark at the rear of the Novotel, though will retain the bridge at the northern end adjacent to the monorail station. To supplement the removal of the carpark bridge, Mirvac proposes to build a new improved pedestrian connection from Bunn Street. So, while initially there is a loss in connections resulting from removal of the bridge from the Novotel carpark, long term the proposed new bridge combined with retention of the bridge at the northern end will provide better public access than the current pedestrian bridge arrangements.

EXECUTIVE SUMMARY CONT.

The proposed bridge connection from Bunn Street to Harbourside will provide the following benefits to those living, working or staying in the Bunn Street walking catchment:

- Access to quality publicly accessible landscaped space within Harbourside, and the public domain at the waterfront
- Access to retail amenity
- Improved access for residents to key employment hubs to the south including the International Convention Centre (ICC), Darling Quarter, Darling Square, Haymarket and University of Technology Sydney (UTS)
- Provides a better entry into Darling Harbour for lbis and Novotel hotel guests.

A new through site link is proposed to link the waterfront at ground level to the Bunn Street Bridget (level 3). This link provides a more direct connection to the waterfront and an improvement on the previous concept. A substantially stronger public connection for those coming from the waterfront and Pyrmont will be provided by the Bunn Street connection.

The Bunn Street walking catchment has 8,700 residents and workers, forecast to increase to 10,300 in 2031. The catchment is an urban environment characterised by high density residential development. A lack of open space means that residents and workers have limited opportunities within their neighbourhood to enjoy quality urban space. The Darling Harbour foreshore can provide an extension to this

neighbourhood, provided access is simple.

The Bunn Street connection has direct benefits for residents and workers in the immediate catchment as well as addressing key design principles around connectivity and permeability, specifically:

- Provides direct and straight link down to the waterfront
- A new view corridor from street level
- Creation of a new east-west connection to help knit neighbourhoods and the precinct together
- Integration and linkages with the site with surrounding modes of public transport
- Creates new an improved pedestrian connections with the surrounding pedestrian network

EXECUTIVE SUMMARY CONT.

- Integrates upper levels with the lower floor/waterfront
- Complete public access compared with current access which forces pedestrians through the privately owned Novotel carpark
- Provides a safe point of entry into and out of Harbourside and Darling Harbour to replace difficult navigation through carpark dealing with vehicle traffic and poorly illuminated areas.

The proposed replacement connection is a better outcome than the current bridge from the carpark below the Novotel because it:

- Provides at-grade access from the street
- Provides a direct sight line between the street and the waterfront
- Links publicly accessible spaces and not carparks.

The performance of upper levels at Harbourside is contingent on an attractive offer and a critical mass of retail on the upper levels. The strength of street connections, bridge connections and vertical integration can have implications for the performance of upper level retail at Harbourside. An entry and connection point direct from Bunn Street provides a simple access for pedestrian in this catchment and carpark users. Multiple entry points to the upper levels at Harbourside will result in a more even distribution of traffic in the centre and

support an appealing or drawcard tenant. It will also allow Harbourside to position more of its retail floorspace towards meeting the day to day needs of local residents.

The proposed Bunn Street connection has positive implications for the performance of Harbourside, provides ease of access for pedestrians in the Bunn Street catchment and has broader connectivity benefits for Darling Harbour and other Sydney foreshore precincts. Harbourside is centrally located between several key urban renewal precincts including Bays Market Precinct and SICEEP, and thus an important link in connecting these new precincts.

Another site through link is proposed to connect the waterfront with the porte cochere where vehicles will be allowed to drop and pick up passengers, regardless of whether they are residents, or visitors to the commercial, retail or broader Darling Harbour precinct.

INTRODUCTION

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This report provides a response to submissions (as relevant) and assessment of the proposed amended Concept Proposal in relation to the State Significant Development (SSD) Development Application (DA) for the redevelopment of the Harbourside Shopping Centre (Harbourside) (SSD 7874).

The SSD DA was publicly exhibited for a period of 62 days from 15 December 2016 to 14 February 2017. During this time, ten (10) submissions were received from government agencies and City of Sydney Council and over 140 submissions were received from the general public.

This report should be read in conjunction with the original assessment prepared by Urbis dated 7th October 2016 to support the Harbourside Concept Proposal Square (SSD 7874).

As part of the proposed demolition and redevelopment of the Harbourside Shopping Centre Urbis has prepared this pedestrian study to define and assess the existing and proposed pedestrian routes.

As part of the planning, connections between Harbourside and the broader area are being considered particularly in light of existing connections being removed. Harbourside can act as a new link in the future between Darling Harbour and the Bays Precinct.

One potential pedestrian route investigated in this report is a bridge connection from Bunn Street to Harbourside. This report provides an assessment of how a potential Bunn Street link would operate and to consider its overall benefit to the community and other users.

Other pedestrian pathways considered in this report are:

- Flow and movement along the foreshore, from the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP) and beyond
- Flow and access from the northern part of Pyrmont to Darling Harbour.

REPORT SECTIONS

This report includes the following sections.

Section 1 provides renders of the proposed development and summary of current market segments

Section 2 provides an overview of the role of Darling Harbour and mapping of key attractors within Darling Harbour and other foreshore precinct

Section 3 summarises the existing research on Harbourside and Darling Harbour

Section 4 illustrates the main transport modes servicing Darling Harbour and pedestrian routes from each mode

Section 5 summarises the success factors associated with upper level bridge connections

Section 6 outlines the changes to existing pedestrian bridge connections, the proposed new Bunn Street connection and impacts of the changes on pedestrians

Section 7 profiles the catchment who will benefit from a new connection at Bunn Street

1. PROPOSED DEVELOPMENT

PROPOSED HARBOURSIDE DEVELOPMENT

Since exhibition of the proposal and given the nature and range of submissions made from agencies and the pubic, Mirvac has been reviewing the overall approach and elements of the Concept Proposal. This has accordingly led to developing an Amended Concept Proposal. The final Concept Proposal therefore includes substantial amendments made my Mirvac pursuant to Clause 55 of the Environmental Planning & Assessment Regulation, in the main to address matters raised in the submissions and deliver an overall significantly improved outcome on the site and for the broader Darling Harbour precinct.

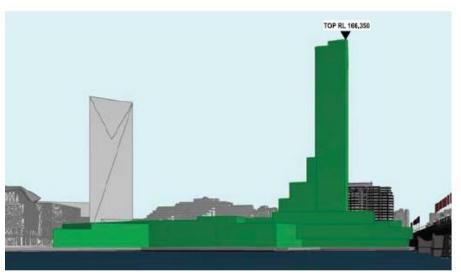
The following key amendments have been made to the proposal:

Relocation of the Tower

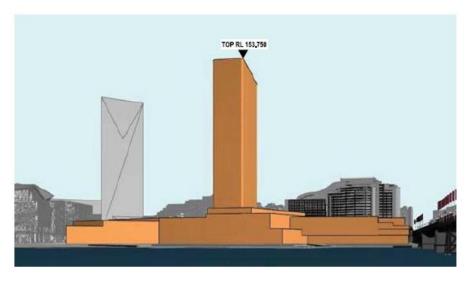
The tower element of the Concept Proposal has been relocated from the north of the site to the centre of the site (the widest part of the site) to allow for an increased setback from the heritage listed Pyrmont Bridge, improved relationship to the waterfront and ICC Hotel, to minimise view impacts from 50 Murray Street, together with reducing overshadowing impacts on the public domain and improved solar amenity to the northern end of the retail centre.

Reduction in Height of the Tower

The height of the tower has also been reduced from RL 166.35 to RL 153.75. The reduction in the height will minimise overshadowing impacts to the public domain as well better relate to the height of the ICC Hotel.



Original Proposal



Amended Concept Proposal

PROPOSED HARBOURSIDE DEVELOPMENT CONT.

Reduction in Height of the Podium

A portion of the podium height at its northern extent has been partly reduced from 30.5 RL to RL 25. The reduction in height provides for improved view sharing from 50 Murray Street.

Removal of Tower 'Tail' element

As part of the relocation of the tower and refinement of the podium, the stepped form of the lower tower element has now been removed. This design move has been made in order to again improve views from adjacent buildings from the west.

Building Footprint of the Tower

The building footprint of the tower has increased in width, to accommodate the floorspace from the reduction in height of the tower and removal of the 'tail'.

Gross Floor Area / Land Use Mix

The amended proposal retains the same overall 87,000sqm of GFA, however there is a minor adjustment in the split between non-residential and residential:

- Non-residential uses floor space 49,000sqm; and
- Residential uses floor space 38,000sqm.

In response to market demand and the focus of local and regional strategic planning policies, it is proposed for the podium to include both retail and commercial land uses. Indicatively, comprising ~23,000sqm net lettable area of commercial and ~15,000sqm gross lettable area of retail.

The podium enables large campus sized commercial floor plates that are favoured by large multinational tech, finance and professional services companies.

Apartment numbers

As a result of a review of the mix and sizing of apartments, there is a minor reduction in the indicative number of apartments, from 364 to 357. Note, this yield is on the 'Indicative Design' only and will be subject to future design development and a Stage 2 DA. This Stage 1 DA only seeks approval for land uses and the building envelope comprising a total of 87,000sqm GFA.

Car Parking Spaces

The extent of the basement will remain the same, but there has been a minor increase of 11 car parking spaces from 295 spaces to 306 spaces. As above, this is based on the 'Indicative Design' only.

The image on page 14 illustrates the central role of Harbourside as a connector with other areas in the broader precinct including Pyrmont, which the widened boulevard, stairs and new Bunn Street Bridge facilitate.

PEDESTRIAN CONNECTIVITY IN ALL DIRECTIONS IS STRENGTHENED

Images on pages 14-17 provide an indicative illustration of the role of new public domain in facilitating movement through the Darling Harbour and surrounding precinct, notably the pedestrian connectivity both north to south, and east to west.

Links radiating to the broader precinct

The widened boulevard facilitates easy north south pedestrian access, new site through links create east west connection and the new Ribbon Stairs provide better access for pedestrians moving between the CBD and the waterfront, or between the waterfront and Pyrmont.

New site through links creating east west connections

- There are two new site through links proposed since the last DA. One link connects the waterfront with a street entry where visitors arriving by car will enter via a port cochere
- The other link connects the waterfront level with the proposed Bunn Street bridge. Pedestrians will benefit from easy access between the waterfront, residential tower and the Pyrmont village neighbourhood. This link benefits all users, Pyrmont based residents and workers, and Darling Harbour based residents, workers and visitors using the light rail and bus routes from Pyrmont.

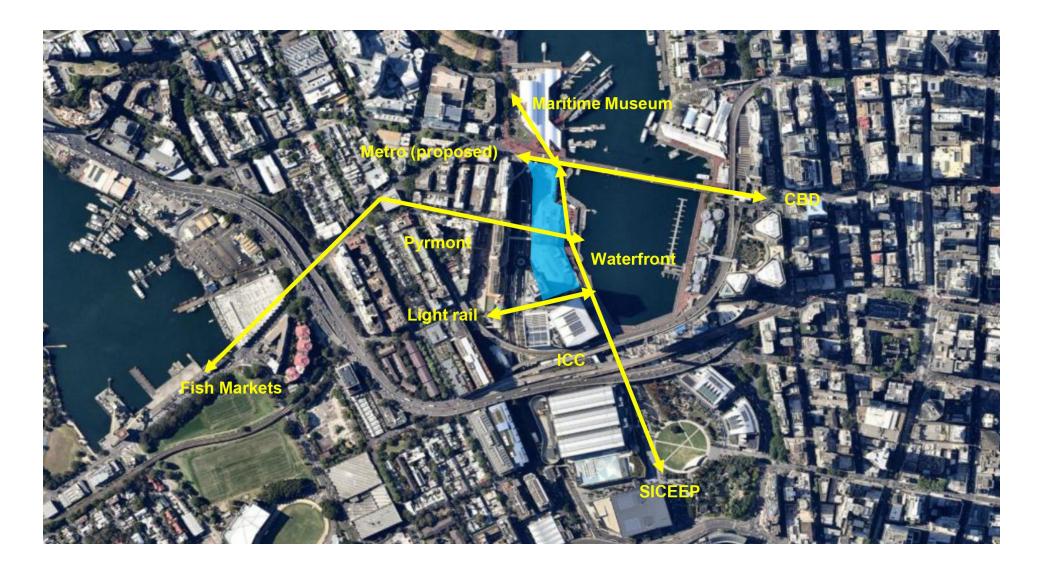
Strengthened vertical connection from the waterfront to Pyrmont

• The Bunn Street link provides an accessible for all users between Murray Street and the waterfront via the bridge and the centre's vertical transport.

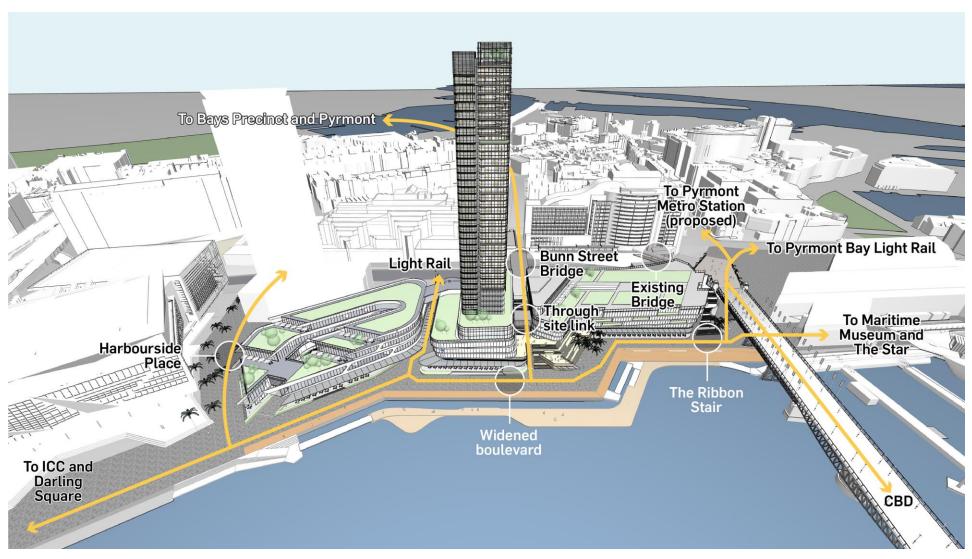
Public domain

- The Event Steps located at the front of the commercial building (north) provide start seating. This area can be used by the public as well as providing amenity for workers and residents on a day to day basis, and for programmed events
- A green rooftop at the retail centre could be publicly accessible (subject to the height of the envelope), and adds view amenity for residents and guests of the hotels
- In the amended concept plan, the boulevard outside Harbourside has been widened which will improve visual wayfinding between the north and south. The increased building setback give a sense of space and will draw pedestrians to the area. Currently the area feels congested
- Widening of the public stairs from the waterfront near Pyrmont Bridge will visually open up another connection from the waterfront to Murray Street and beyond into Pyrmont.

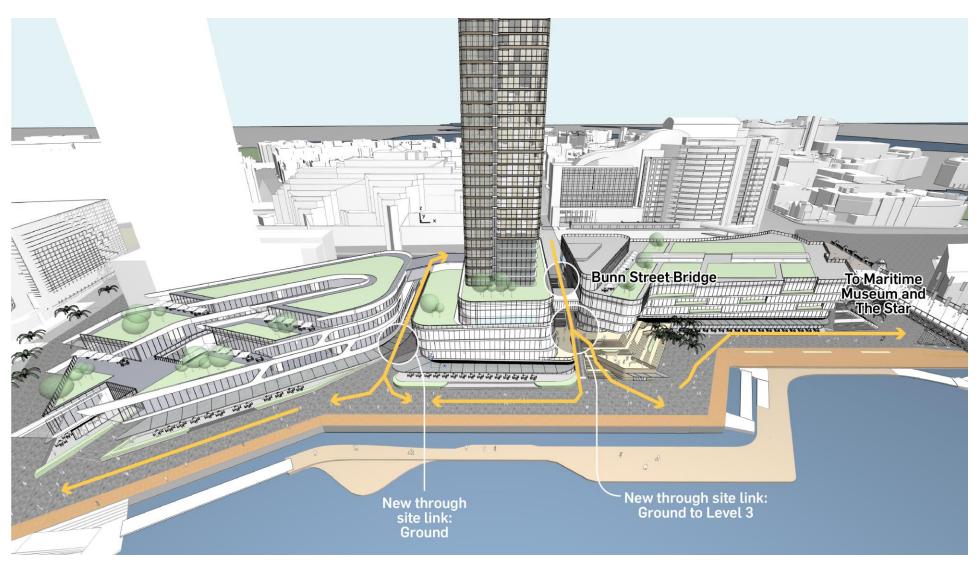
IMPROVED PRECINCT CONNECTIVITY



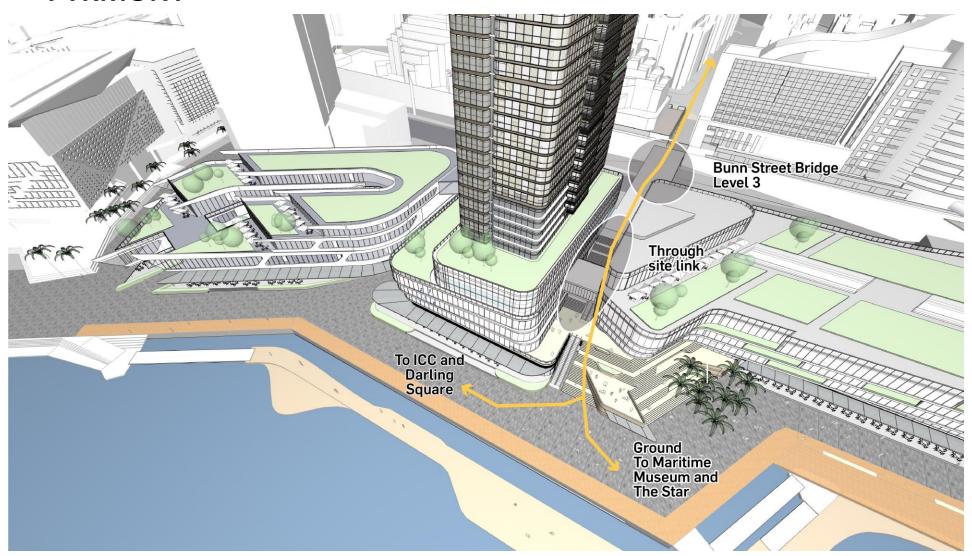
LINKAGES RADIATING FROM HARBOURSIDE TO THE BROADER PRECINCT



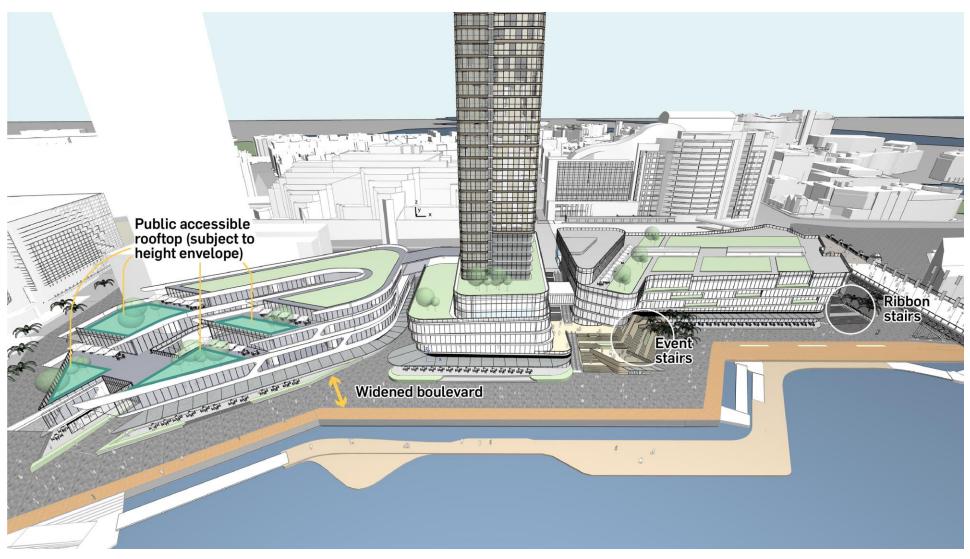
NEW THROUGH SITE LINKS CREATING EAST WEST CONNECTIONS



STRENGTHENED VERTICAL CONNECTION FROM THE WATERFRONT TO PYRMONT



NEW PUBLIC DOMAIN SPACES

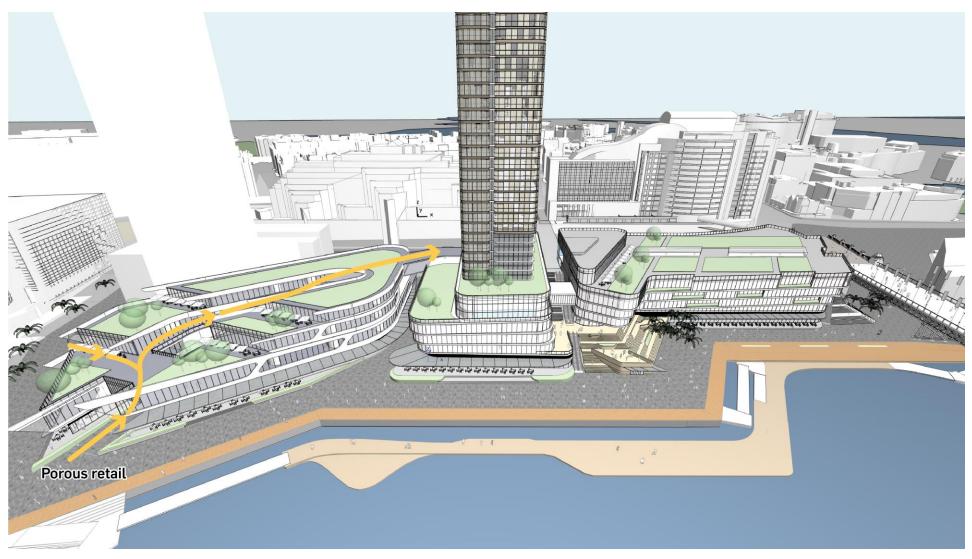


Indicative Illustration, subject to future design excellence process and detailed design development approvals. Stage 1DA is for land uses, GFA and envelope only.

GENERAL FLOW THROUGH THE REDEVELOPED CENTRE

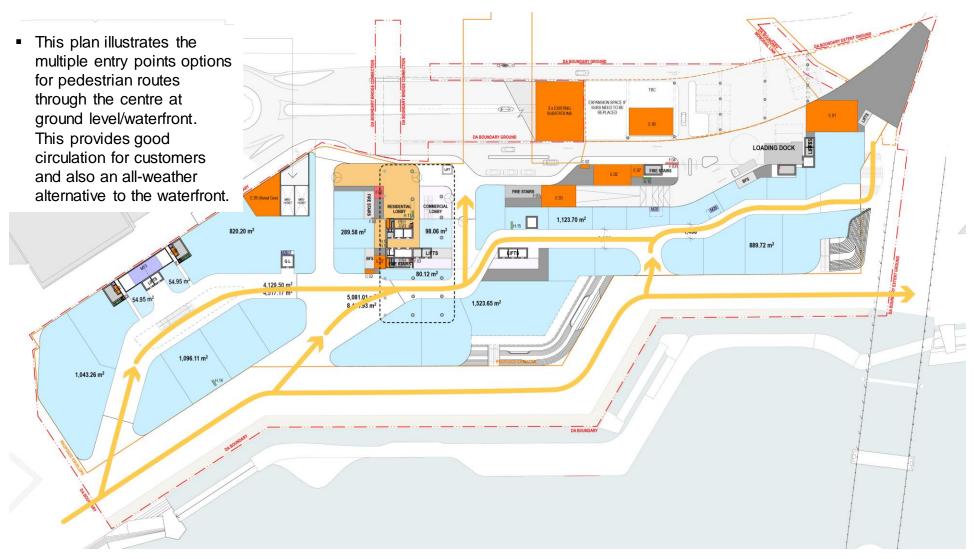
- The seamless linkages and connectivity result in a porous retail and associated benefits of:
 - Large internal circulation
 - Multiple entry and exit points
 - Visual links across multiple floors.
- A path along the water's edge at ground floor level will have footpaths that are flush with entry points to the centre providing accessible grades for all pedestrians
- Central stairs provide a link to the upper retail levels, and several lift locations provide disability compliant access to the upper levels
- Images on pages 19-20 illustrate the pedestrian flows through the centre.

POROUS RETAIL



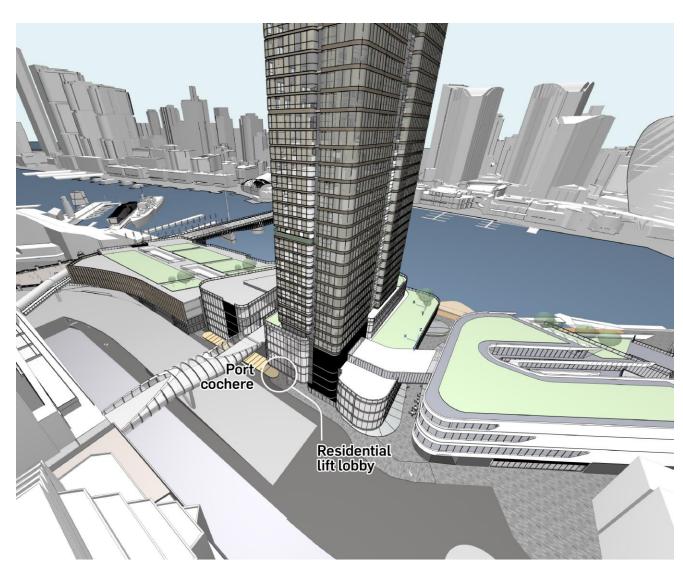
Indicative Illustration, subject to future design excellence process and detailed design development approvals. Stage 1DA is for land uses, GFA and envelope only.

POROUS RETAIL (GROUND FLOOR)



HIGHLY WALKABLE NEIGHBOURHOOD FOR RESIDENTS

- Residents will benefit from easy pedestrian access between the tower and the waterfront, and the Pyrmont village neighbourhood.
- There are 2 key access points for tower residents which are largely separate to the public pathways, these being:
 - Entry from the basement carpark into a private lift lobby
 - Entry from the porte cochere into the residential lift lobby.
- The connections encourage a walkable lifestyle and reduced reliance on cars to access amenity.

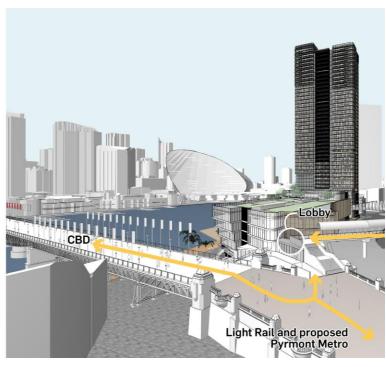


Indicative Illustration, subject to future design excellence process and detailed design development approvals. Stage 1DA is for land uses, GFA and envelope only.

MULTIPLE ENTRANCES INTO THE COMMERCIAL BUILDINGS

- There are three lobby entrances into the commercial buildings being:
 - Sky lobby at level 1 servicing the south building
 - Sky lobby at level 1 servicing the north commercial building
 - Sky lobby at level 2 with direct access from Pyrmont Bridge, that services the north commercial building. This direct access from the Pyrmont Bridge provides a clear path for workers and visitors walking to and from CBD, and to the Pyrmont Bay light rail station without having to go the ground level or go through Harbourside Shopping Centre.





Indicative Illustration, subject to future design excellence process and detailed design development approvals. Stage 1DA is for land uses, GFA and envelope only.

RESPONSE TO AGENCY SUBMISSIONS

• Where relevant to the scope of this report, the table below references exhibition submission responses to the initial concept.

Item raised	Urbis response
Pyrmont Bridge	 The heritage value of Pyrmont Bridge is not compromised with the proposed bridge link abandoned in the new concept The new Ribbon Stairs results in an increased setback of the redevelopment envelope from Pyrmont bridge, improving views and pedestrian linkages.
Darling Drive	 The proposed Bunn Street bridge addresses the issue with the lack of street-level pedestrian access and at the proposed elevation and partially protected design means that pedestrians would not be affected by traffic noise and pollution The existing bridge at the northern end of the development will be retained.
Harbourfront Shopping Centre	 The appearance of the centre is consistent with circa 1988 design. It is not consistent with new developments such as ICC and Barangaroo In an exit survey in 2014 with customers of Harbourside Shopping Centre, 29% made unprompted suggestions related to design improvements The redevelopment capitalises on the waterfront with a widened boulevard enhancing the visitor opportunity.

RESPONSE TO AGENCY SUBMISSIONS CONT.

Item raised	Urbis response		
Podium and Waterfront	 The new through site link will provide a very strong pedestrian and visual connection through the site The widened boulevard, event steps and ribbon stairs will provide much improved and largened public spaces. 		
Public domain and connectivity	 Increased setbacks and widening of the boulevard supports better ease of north south movement The Bunn Street bridge supports improved connectivity from Pyrmont and future Bays Precinct with Barangaroo and CBD (Further illustration of the connectivity is provided on the following pages). 		
Place Management	 The Bunn Street connection, expanded boulevard and widened public steps support improved ease of movement strengthening east-west and north-south connections. 		

2. CURRENT AND FUTURE ATTRACTORS

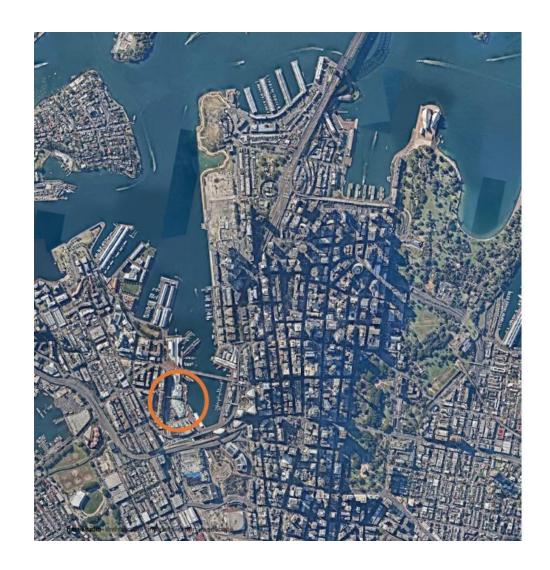
DARLING HARBOUR AT A GLANCE

Darling Harbour is located on the western edge of the Sydney CBD. The precinct has primarily an entertainment role, comprising the following key attractions:

- Sydney Aquarium and Wildlife Zoo
- National Maritime Museum
- International Convention Centre Sydney (ICC)
- Harbourside.

Darling Harbour is bordered to the east by the western corridor of the Sydney CBD and Cockle Bay Wharf, to the south by Darling Quarter and ICC redevelopment precinct and to the west by The Star Sydney casino, Maritime Museum and the commercial precinct along Jones and Pyrmont Bay.

The ICC was completed in 2017 along with a revamped Tumbalong Park. Nearby The Star has proposed redevelopment plans to transform the casino.



DARLING HARBOUR AT A GLANCE CONT.

The revitalisation of Darling Harbour has created memorable public spaces on Sydney's foreshore. In 2015-2016 pedestrian numbers in Darling Harbour were 26,887,320,000 (Property NSW).

Central to the precinct strategy is the principle of creating seamless pedestrian connections throughout Darling Harbour, and with the nearby communities. The precinct is defined around 5 main principles namely:

- The north-south boulevard
- The 3 primary public opens spaces (The Waterfront, Tumbalong Park and a new urban space)
- Harbourside Place and Tumbalong Place
- The ICC buildings
- Terraced landscape over the ICC Exhibition Centre.

Implication: Connections in and out of Darling Harbour from all key directions should align with the vision for seamless pedestrian connections.



THE REPOSITIONING OF DARLING HARBOUR

While Darling Harbour will have a pivotal tourism role, the upgraded precinct provides exceptional amenity for residents on its doorstep, mainly from the suburbs of Ultimo and Pyrmont. This amenity includes Tumbalong Park and Darling Harbour Children's Playground. The City of Sydney's 'Sustainable Sydney 2030' creates a vision for central Sydney to be easy to get around, and with good transit routes connecting the villages and city centre.

The following pages show Darling Harbour attractors and nearby harbour precincts, and the foreshore loop connections of which Harbourside is part of.

Implication: Clear connection routes between Sydney's urban villages and city attractions are central to a 'Sustainable Sydney'.



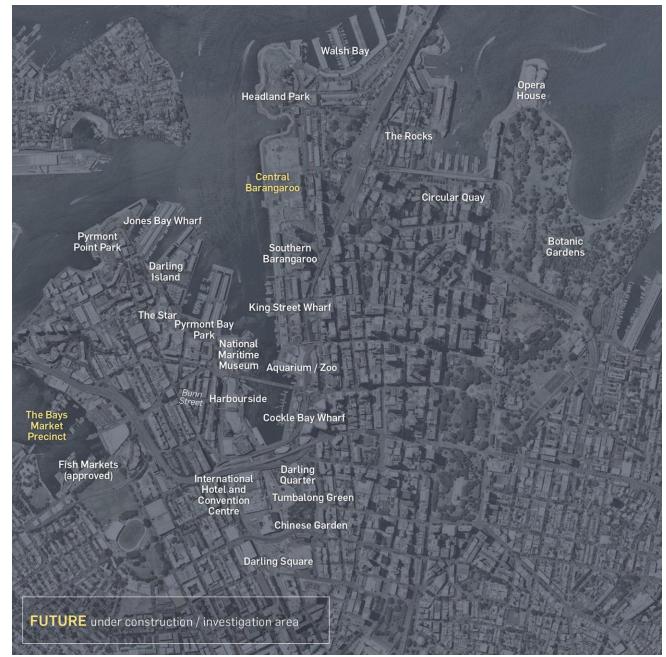






Source: ICC Sydney 2017 Annual Performance Review

SYDNEY AND DARLING HARBOUR ATTRACTORS



SYDNEY FORESHORE PEDESTRIAN ROUTES



SYDNEY ATTRACTORS

Facilitating pedestrian links to attractions with Darling Harbour is important. At a broader level, connections between established and future precincts including the future Bays Market Precinct and Central to Eveleigh Corridor will be important. Strengthening connections in Darling Harbour is therefore important for connectivity more broadly, of which Harbourside is well positioned to be a key link.



Indicative design Sydney Fish Markets (approved)



3. REVIEW OF SURVEY DATA

KEY HARBOURSIDE MARKET SEGMENTS

The map on this page shows a walk-in retail trade area for Harbourside. This is a historical trade area based on the centre's current offer. This trade area is likely to expand to reflect the draw of a different offer, particularly if improved to address the needs of local residents, and as connectivity is improved. Similarly, the trade area could change if there is additional competition in the future. A walking catchment based on a new bridge at Bunn Street is addressed in pages 48-51 in this report, and takes in areas to the west of Harbourside.

The trade area has been defined with regard to distance, topography, and competing retail facilities, particularly major food and beverage precincts.

Harbourside's key market segments can be summarised as workers and residents who work and live within walking distance of Harbourside. The map on this page shows there is a core walk-in catchment and four secondary walk-in areas identified as 'frame' segments in the map.



KEY HARBOURSIDE MARKET SEGMENTS CONT.

The residents and worker forecast numbers for Harbourside's walk-in trade catchment are shown in the table below, which shows growth in both segments though more notably among workers. The growth in workers is driven by a number of developments that includes the completed developments of the ICC and Hyatt Regency Hotel and The Ribbon (under construction).

Resident and workers Harbourside Walk-In Trade Area					
	2016	2021	2026	2031	
Residents	12,900	13,000	13,200	14,000	
Workers	48,000	51,100	54,200	57,000	

Source: NSW BTS Travel Zone Data 2016



KEY HARBOURSIDE MARKET SEGMENTS

Other core market segments to consider are:

- Hotel guests staying in Darling Harbour hotels (lbis, Novotel and Sofitel)
- Conference delegates attending events at the International Convention Centre (ICC) Sydney
- Future residents and workers in the Bays Precinct redevelopment, and these numbers are included in the walking catchment population table on page 48.

In addition, Harbourside also attracts Sydney residents from beyond the catchment, and tourists not based in Darling Harbour.

Annual hotel visitors				
	2016			
Novotel guests	12,900			
lbis guests	48,000			

Source: ABS, Urbis, Accor Hotels

RESEARCH OVERVIEW

The next three pages provide a summary of existing research into visitation of Harbourside and Darling Harbour. The SHFA research information is limited to the number of recorded people movements annually, which was 25,887,320 in 2015-2016 comprising a mix of:

- Sydney residents
- Domestic tourists
- International tourists.

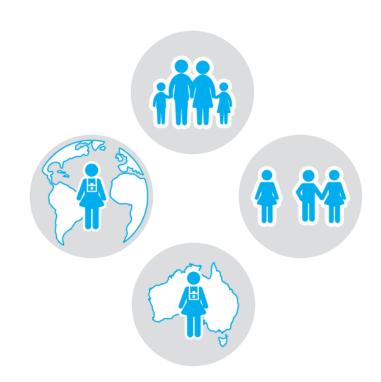
The above number does not show unique visitors.

A Customer Exit Survey at Harbourside in 2014 shows the main customer groups as:

- 49% are visitors (intrastate, interstate, overseas)
- 39% are Sydney residents
- 12% are CBD workers.

While the SHFA research does not a provide a breakdown of the main segments, it is clear from the Harbourside Exit Survey that Darling Harbour is an important tourism precinct.

Implication: Ease of access into Darling Harbour for tourists is an important consideration. This is an expectation for visitors staying in Darling Harbour hotels.



HARBOURSIDE KEY CUSTOMER SEGMENTS

The survey results below are from an exit survey conducted among (n=1,000) customers for Harbourside in February 2014. The purpose of the survey was to provide a profile of the centre's customers, their shopping behaviour, usage patterns and perceptions of the centre.

Harbourside customer segments: Demographic profile				
	Darling Harbour workers	Pyrmont residents		
Age	34 years	33 years		
Lifecycle	54% are singles/couples < 35 years	61% are singles/couples < 35 years		
Occupation	44% upper white collar	42% upper white collar		
Average household income	\$105,500	\$86,100		

Source: Customer Exit Survey 2014

Implication: These customers account for 18% of total Harbourside customers. They most likely have high disposable incomes, and as such are key customers for cafes, restaurants and bars and thus important segments.

HARBOURSIDE KEY CUSTOMER SEGMENTS CONT.

The survey results below are from an exit survey conducted among (n=1,000) customers for Harbourside in February 2014. The purpose of the survey was to provide a profile of the centre's customers, their shopping behaviour, usage patterns and perceptions of the centre.

Harbourside customer segments: Behaviour					
	Darling Harbour workers	Pyrmont residents			
Frequency of visiting Harbourside	55% visit at least weekly	71% visit at least weekly			
Average time spent at Harbourside	32 minutes	50 minutes			
Main purpose for visiting Harbourside	51% visit for food and beverage	47% visit for food and beverage			

Source: Customer Exit Survey 2014

Implication: These customers (18% of total Harbourside customers) are frequent visitors. There is a relationship between ease of access and frequency, hence the need for strong pedestrian access for the walk-in catchment.

4. TRANSPORT MODES AND PEDESTRIAN PATHS

ACCESS TO DARLING HARBOUR

Darling Harbour can be accessed via public transport, car and on foot. The most relevant train station is Town Hall, which provides access to the southern end of Darling Harbour. Central Station is also connected to Darling Harbour via the Devonshire Street pedestrian tunnel and Ultimo pedestrian network. There are Light Rail Stations at:

- Exhibition Centre
- International Convention Centre
- Pyrmont Bay
- The Star.

Bus services can be accessed in the following locations:

- Harris Street and Pirama Road
- CBD locations (mainly Clarence Street, QVB, Town Hall House/Druitt Street)

Ferry services operate into Darling Harbour, Pyrmont Bay and King Street Wharf.

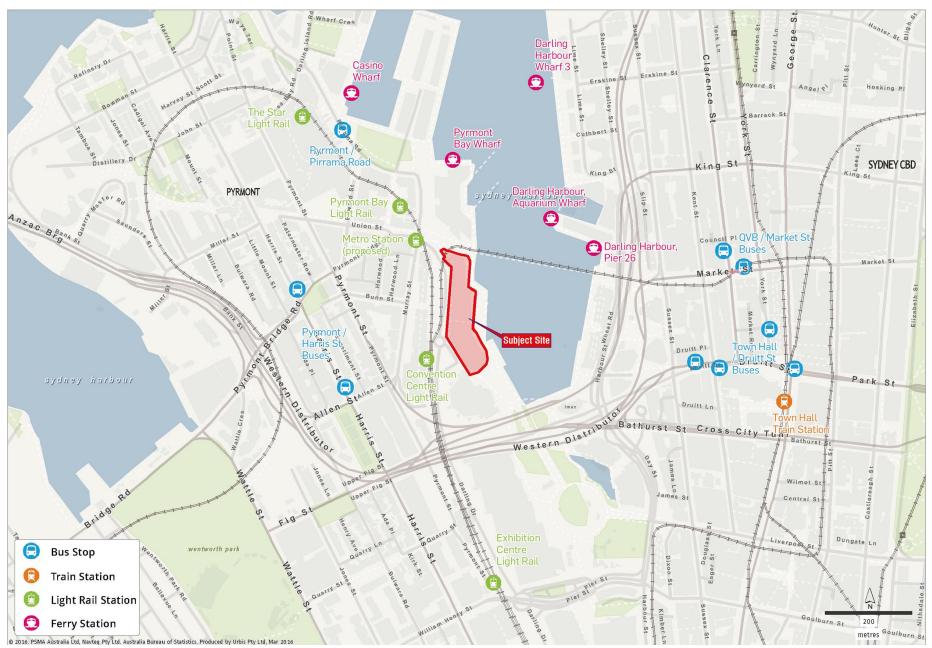
Metro Station (under consideration)

 Metro station is located in close proximity to commercial (north end of site) and walking distance to the retail. Car access points are Murray Street primarily for the Wilson Habourside Carpark, and limited passenger set down opportunities on Pyrmont Bridge Road.

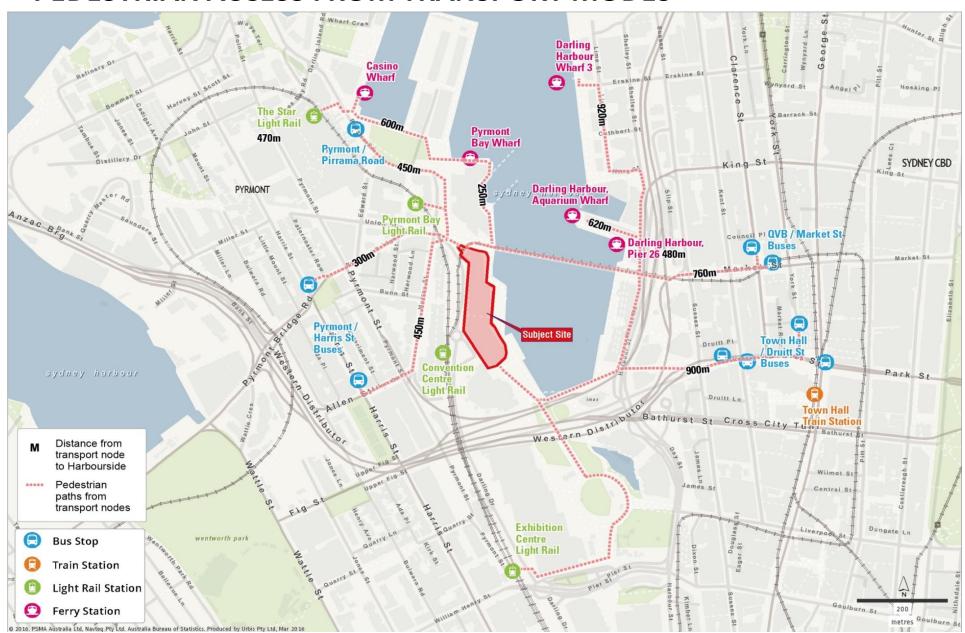
The precinct is accessed on foot via Pyrmont Bridge, Murray Street, Pyrmont Bridge Road and pedestrian paths from the southern part of Darling Harbour and Darling Quarter. The current footbridge linking the Wilson Harbourside Carpark is not strongly visible from Murray Street or Pyrmont Street, and mainly provides access for carpark users.

Implication: Future connections for pedestrian traffic from Bunn Street should be highly visible to maximise usage.

TRANSPORT MODES FOR DARLING HARBOUR



PEDESTRIAN ACCESS FROM TRANSPORT MODES



ACCESS TO DARLING HARBOUR

Based on a customer exit survey undertaken in 2014, the main mode of transport to Harbourside is by foot for 87% of customers, walking from either the Sydney CBD or Pyrmont. This increases for residents from Pyrmont (97%), and resident customers in the CBD and other central suburbs. In addition:

- 5% travel by car
- 3% travel by light rail
- 2% travel by ferry
- 3% travel using 'other' modes.

Source: Customer Exit Survey 2014

Implication: Pedestrian access points into Harbourside should be given important consideration given the vast majority access the centre, and the broader Darling Harbour on foot. Options that increase the appeal of walking and improve accessibility will have a wide benefit.

Harbourside customers also visit other places nearby in conjunction with their visit to Harbourside, both within Darling Harbour, and outside:

- 35% visit other attractions in Darling Harbour
- 17% visit other attractions outside Darling Harbour namely the Star Casino, Chinatown and the Sydney Fish Markets.

With development of the Bays Market precinct, this cross visitation is likely to increase, and thereby strengthening the need to improve pedestrian connections.

Source: Customer Exit Survey 2014

Implication: An improvement in connections to attractions outside of Darling Harbour will drive better cross visitation, allowing visitors to maximise their Sydney experience

5. BRIDGE CASE STUDIES

RETAIL SUCCESS DRIVERS AND IMPLICATIONS FOR UPPER LEVEL RETAIL

The success of multi level shopping centre properties is subject to the following value drivers:

- 1. Location including direct street connections
- 2. Critical mass on upper levels
- 3. Vertical integration
- 4. Bridge and tunnel connections
- 5. Other external connections
- 6. Quality of development.

Each of these drivers are discussed in the following table and examined in the context of the upper levels at Harbourside and on the assumption there is a bridge connection at Bunn Street.

SUCCESS FACTORS AND IMPLICATIONS FOR UPPER LEVEL RETAIL AT HARBOURSIDE

Value drivers of upper level retail	Success factors	Implications for Harbourside	
Location including direct street connections	The location of a centre and further the location of retailers within the centre is a key driver in determining rents.	Harbourside benefits from being located in a key entertainment precinct for residents and tourists.	
Critical mass on upper levels	Critical mass retailing on the upper levels increases shopper attraction, turnover and rents.	Currently only 9% of Harbourside customers enter via Level 3 (the upper level). A connection directly from Bunn Street into the upper level may help direct more shoppers into upper levels.	
Vertical integration	Above ground levels of retail rely on the correct placement of vertical movement infrastructure.	Moving traffic with ease from the Bunn Street level downwards is as important as moving shoppers from the ground levels upwards.	
Bridge and tunnel connections	The purpose of bridge connections is to drive pedestrian traffic from adjoining activity nodes and depends on the strength of the connecting node, type of activity and the length of the bridge.	The strength of the connecting node is based on how much traffic is on the other side, which in the case of Bunn Street moderate to weak. On current observation the volume is consistent throughout the day. The length of the bridge is likely to be short and therefore should encourage usage.	
Other external connections	Upper retail levels can benefit from other adjoining activity generators.	The relevant activity generators are the Novotel and Ibis hotels, the Harbourside Carpark and the workers and residents in the Bunn Street walk-in catchment (refer to 33 for details). Retention of the Murray Street monorail bridge and integration with level 3 of the retail centre will also facilitates better circulation at upper levels.	
Quality of development	A high quality development which is characterised by superior amenities, premium design and high quality finishes attracts more shoppers.	The proposed rooftop and grand stairs in development will enhance the quality of the public domain. Any pedestrian connections into the centre should be activated in a way that is consistent with the overall quality of the new centre.	

RETAIL CENTRES THAT BENEFIT FROM UPPER LEVEL CONNECTIONS

Retail centres that have benefited from bridge or tunnel connections to help circulate customer traffic on upper retail levels are:

- Westfield Sydney the direct upper connections have assisted in providing alternatives to pedestrians looking for convenient movement between upper levels in Myer and the centre, assisting to activate this retail and improve movement options for customers
- David Jones Sydney similarly, the upper level connections and tunnels have helped to link the two David Jones stores and provide a more direct connection from shoppers on Pitt Street through to the department stores. This also provided options for pedestrian with mobility / accessibility requirements to access a broader range of retail stores without having to utilised congested footpaths or busy streets.

Centres where the upper level retail has not been successful include:

 Piccadilly - In the case of Piccadilly, poor quality connections to the old monorail and office tower had a negative impact on the third level retail, which has since been converted to childcare.

6. IMPACT OF CHANGES TO PEDESTRIAN BRIDGES

REMOVAL OF PEDESTRIAN CONNECTIONS -EXISTING CONDITIONS





As part of the future redevelopment of the Harbourside precinct, the current pedestrian bridge between the Harbourside Carpark at Murray Street and Harbourside level 3 will be removed. This link has limited relevance only to those that park in the carpark, and does little to encourage pedestrian movement, or visual connection to the waterfront.

With the removal of this connection, a new replacement connection is important to address access for pedestrians between the Harbourside Carpark, the retail centre and Darling Harbour.

Implication: If there is no replacement bridge, the only access point will be the monorail bridge behind the Ibis Hotel.

REMOVAL OF PEDESTRIAN CONNECTIONS CONT.





The above images illustrate the difficulty for pedestrians in navigating different levels between the street and Harbourside, which includes the light rail tracks and Darling Drive. Removal of the current bridge will have implications for the following groups with regards to future access of Darling Harbour:

- Workers in the Bunn Street Catchment
- Residents in the Bunn Street Catchment
- Harbourside Carpark users
- Ibis and Novotel hotel guests
- Pedestrians using the footbridge between Harris Street, Pyrmont Street and Harbourside Carpark and pedestrians accessing the Bays Market Precinct.

As such, access to Darling Harbour for all these groups need to be considered.

Implication: Lack of easy access to amenity can have detrimental impacts on the connectedness and liveability of communities affected.

BUNN STREET BRIDGE LINKS PUBLIC (STREET) AND PUBLIC (WATERFRONT)

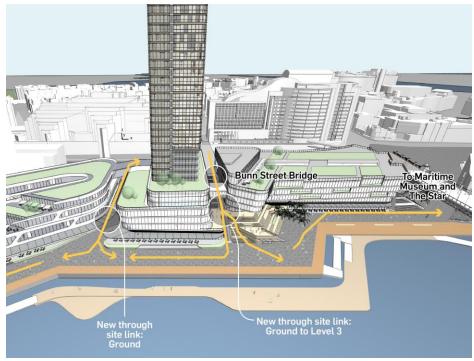
The proposed bridge at Bunn Street will provide an east-west pedestrian a link direct from street level from Bunn and Murray Streets to Harbourside and Darling Harbour. The current bridge connections require pedestrians accessing Harbourside to use stairs. Retention of the monorail bridge and integration with the retail centre at level three will provide better vertical access opportunities. Visitors will be able to use escalators and lifts within the centre to access different levels of Darling Harbour.

The two existing bridges link private spaces with public, i.e. from carpark and hotels, and subsequently there is limited public benefit. By comparison the Bunn Street connection links a public space, i.e. street with a publicly accessible space in the Harbourside rooftop.

The new Bunn Street bridge is a better outcome than the current access because:

- The new bridge will provide on-grade access from the street
- Provides a sight line between the street and the foreshore
- Links publicly accessible spaces.

Changes to the pedestrian network connections will impact on pedestrian flows within the vicinity. An analysis of the pedestrian network within and surrounding the site is required to ensure there is sufficient capacity to accommodation future demands.



7. PEDESTRIAN CATCHMENT ASSESSMENT

BUNN STREET WALKING CATCHMENT

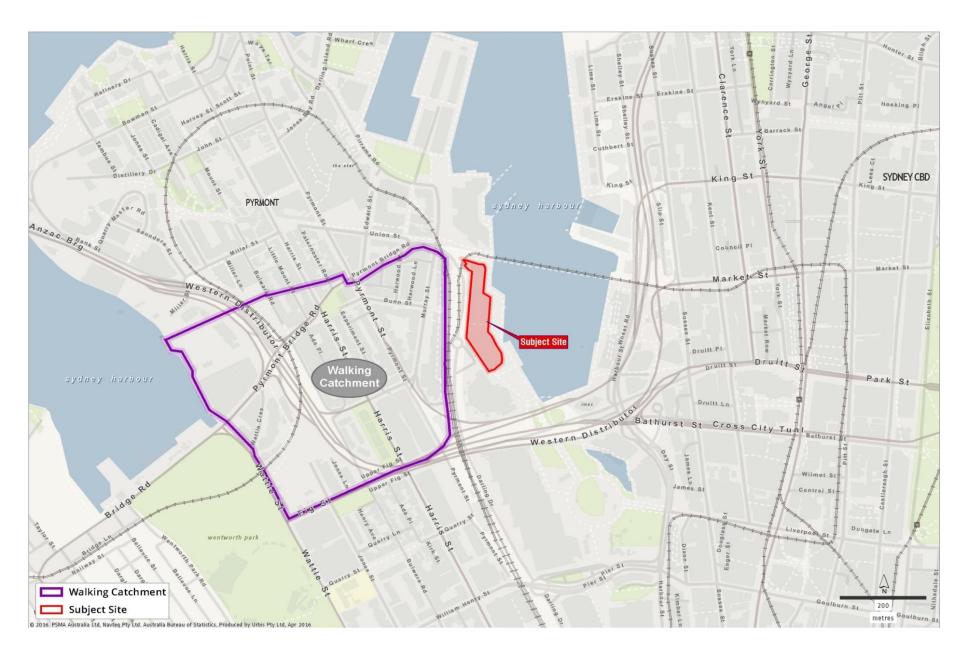
For the purpose of investigating the impact of a bridge connection from Bunn Street directly to Harbourside, a walking catchment has been defined based on which segments would benefit from this future connection. The trade area is defined by:

- Bound by Wattle Street and the Fish Markets to the west
- Bound by Murray Street to the east
- Pyrmont Bridge Road to the north.

Residents and workers in this catchment currently access Darling Harbour and the CBD via one of the following route combinations:

- Pyrmont Bridge Road and Pyrmont Bridge
- Rear of the lbis Hotel and monorail footbridge
- Wilson Harbourside Carpark and Harbourside
- Footbridge from Harris Street to Wilson Harbourside Carpark and Harbourside.

BUNN STREET WALKING CATCHMENT



CHARACTERISTICS OF THE BUNN STREET CATCHMENT

The Bunn Street catchment is largely residential in focus developed with medium rise apartment buildings and some office based employment. Bunn Street itself has some retail activation primarily focussed on locals. Some of the key characteristics of the catchment are:

- Urban with a high density of development
- Limited open space
- Predominately hard spaces / limited green space
- High density residential
- High traffic roads, i.e. Harris Street, Pyrmont Bridge Road, Western Distributor.

The lack of open space means that catchment residents and workers have limited opportunity to enjoy quality urban space. The Darling Harbour waterfront provides enjoyment opportunities for quality urban spaces.









BUNN STREET WALKING CATCHMENT POPULATION







Resident and worker forecast numbers Bunn Street Catchment					
	2016	2021	2026	2031	
Residents	6,100	7,100	7,100	7,100	
Workers	2,600	2,800	3,000	3,200	

Source: NSW BTS Travel Data 2016, based on TZ geography TZs 88, 153, 154, 155, 156.

Resident forecast numbers: 1) Assume 10% of TZ 153 residents. 2) For the Bays Market Precinct area within the walking catchment, assume site area of 45,000 sq.m of which 50% are for residential use, FSR 1.5, average apartment size 80 sq.m, 2.23 household size.

Worker forecast numbers: 1) Assumes wholesale workers in TZ153 2) For the Bays Market Precinct area within the walking catchment, the worker numbers will double due to the redevelopment of the fish market.

Note: The BTS data shows no increase to population from 2016 to 2031.

BUNN STREET WALKING CATCHMENT USERS

In addition to residents and workers in the Bunn Street walking catchment, guests and carpark users also form part of this catchment. The size of these segments is shown in the table by annual visitors.

The tourism element is important for the broader Darling Harbour and Bays Precinct. Improving connections from these hotels is likely to assist in generating additional trips into Darling Harbour, optimising tourism expenditure opportunities.



Annual Visitors Bunn Street Catchment			
Novotel guests	114,130		
lbis guests	55,650		
ICC Hotel guests#	130,430		

Source: ABS, Urbis, Accor Hotels # Under development, due for completion late 2016.

CURRENT AND FUTURE PATRONAGE NUMBERS OF FORESHORE PRECINCTS

The map shows other groups who interact with the foreshore and may benefit from a connection at Bunn Street. All of the locations on the map represent key sites for residents, workers or visitors, or a combination of these groups, which may generate trips to Harbourside and beyond. A proportion of these groups could benefit however it is not possible to quantify. One important factor that will influence the use of the proposed connection is the appeal and drawcard factor of the new Bays Market Precinct.

Nonetheless, these numbers combined indicate increased movement in the foreshore precincts located west of the Sydney CBD.

Irrespective of future developments, there is already existing high visitation of the two main attractions in Pyrmont, i.e. The Star Casino and Sydney Fish Markets.

