

Transport
for NSW

Western Distributor Network Improvements

Review of Environmental Factors
Submissions Report
July 2023



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Acknowledgement of Country

Transport for NSW acknowledges the Gadigal and Wangal Peoples of the Eora Nation, the traditional custodians of the land on which the Western Distributor Network Improvements project is proposed.

We pay our respects to Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas and their rich contribution to society.



Prepared by Aurecon Australasia and Transport for NSW.

Executive summary

The proposal

The key features of the proposal, as per *Western Distributor Network Improvements Review of Environmental Factors* (Transport for NSW, August 2022) would include:

- Three new gantries with variable speed signage to be installed on Anzac Bridge and its western approach to facilitate traffic management. All gantries would span the full width of the corridor. The new or modified gantries include:
 - Two new gantries close to the midspan between the A-frames of Anzac Bridge to safely manage traffic movements across the crest of the bridge
 - New gantry on the western approach
- Modifications to Harris Street and Allen Street intersection to better manage exit-ramp congestion and traffic flow through Pyrmont. This includes:
 - conversion of Allen Street eastbound to Harris Street from two to three lanes
 - removal of parking on Allen Street westbound and Harris Street northbound
 - removal of existing pedestrian crossing on the southern leg of Harris Street.
- Modifications to Pyrmont Bridge Road off-ramp to increase storage capacity and introduce new incident response vehicle bay. This includes:
 - Modifying the Pyrmont Bridge Road off-ramp from one to two lanes
 - Closing the U-turn movement from the off ramp onto Bank Street (off-ramp would be left turn only onto Pyrmont Bridge Road north). Access onto Bank Street restricted to emergency vehicles only. This would be delivered after the existing Sydney Fish Market ceases operations at its current location.
 - Pedestrian crossing at the base of the Pyrmont Bridge Road off-ramp would change to a signalised crossing.
- Refurbishment of Anzac digger memorial sculptures and enhanced visitor amenity providing respectful opportunities for people to remember and commemorate our service men and women and encouraging people to learn about Australian and NSW military history.
- Introduction of the Darling Harbour weave ramp; a new elevated weave ramp structure from the intersection of Harris Street and Fig Street to the Western Distributor viaduct over Darling Harbour. The ramp would split off from the existing on-ramp and provide an alternate on-ramp to the Western Distributor viaduct to join a fourth travel lane and avoid the need for traffic to merge across multiple lanes. This includes around 6 new piers, 4 modified piers and a new abutment
- Utility adjustments throughout the proposal area.

Since the REF was displayed, the design of the proposal has been revised (refer to Chapter 4 for more details).

Please note, the proposal is referred to as the Western Distributor Network Improvements project in this submissions report to ensure consistency with the REF. In all public communications and collateral released supporting publication of the REF and submissions report, the proposal is referred to as the Western Distributor Road Network Improvements project.

Display of the Review of Environmental Factors (REF)

Transport for NSW prepared a REF for the Western Distributor Network Improvement project. The REF was publicly displayed for 37 days between 21 September 2022 and 28 October 2022 at four locations. The REF was placed on the Transport for NSW project website and made available for download.

The display locations and website link were advertised on Facebook. During this time, Transport for NSW invited the public to provide feedback on the proposal. An invitation to comment and copy of the review of environmental factors was sent directly to several identified stakeholders and government agencies and key stakeholders

Community consultation during the REF display involved door knocking local residents and businesses who would potentially be impacted by the proposal and letterbox drops to 27,343 properties in Pyrmont, Ultimo, Darling Harbour, Sydney Central Business District, Glebe, Annandale, Rozelle and Balmain. Eleven community drop-in sessions were held in Pyrmont, Ultimo and Darling Harbour and a community livestream event on 13 October 2022. A recording of the livestream event was made publicly available on the project portal.

Summary of issues and responses

Public display of the REF and the supporting consultation resulted in a total of 264 submissions, of which 260 were from the general community, two were from City of Sydney Council and Inner West Council, one was from Heritage NSW and one from the Member for Balmain.

The following provides a general summary of the key themes represented in submissions to the REF. Itemised summaries of comments and issues raised are responded to in Section 2 and Section 3 of this report.

Gantry installation on the Anzac Bridge

Opposition to the installation of the three gantries on Anzac Bridge, due to visual, pedestrian and cyclist and cultural heritage impacts. Comments reflected a belief that these gantries would not result in reducing speeding incidents, road safety or traffic flow and would be a distraction for drivers and surrounding receivers.

Due to the strong feedback in opposition to the gantries proposed and assessed in the REF, Transport would re-assess all aspects of the gantries in this proposal in terms of need, location, visual impact and heritage impact. The three gantries proposed as part of this proposal have been removed from the scope.

While the three gantries identified within the REF have been removed from this proposal, Transport acknowledges the benefits to road safety and congestion issues that the introduction of real time traffic management technology has had in other areas of the network, such as the M4 Smart Motorway upgrades, and Transport are revisiting traffic management measures on the Anzac Bridge.

Removal of pedestrian crossing at Allen and Harris Street

Some concerns were raised about the removal of the existing pedestrian crossing on the southern leg of the Allen Street/ Harris Street intersection on the basis it would potentially reduce pedestrian amenity and safety, doesn't prioritise cyclists and does not align with Transport's Movement and Place policy, Department of Planning and Environment (DPE)'s Pyrmont Peninsula Place Strategy and the Road Safety Plan 2021-Towards Zero.

Transport recognises there would be an impact to pedestrians and cyclists crossing Harris Street at the southern side of the intersection.

The removal of the pedestrian crossing on the southern leg of the Harris Street and Allen Street intersection aims to reduce queueing back onto the Western Distributor, improve safety and reliability of the corridor. Future traffic volumes are expected to grow at this intersection, with the majority of traffic turning right from Allen Street onto Harris Street southbound heading towards Central and southern Sydney. Without intervention, the right turning queues would extend from the intersection to the Western Distributor, compromising safety and increasing travel time delay and corridor unreliability. Increased congestion on the Allen Street off-ramp is likely to change the behaviour on the Western Distributor and encourage weaving. Congestion and extended delays for traffic on Allen Street bound for Harris Street southbound may also encourage late turning into the turning phase cycle, pressuring pedestrians and cyclists to cross quickly and raising the risk of vehicle-pedestrian incidents.

As part of the REF traffic assessment, traffic modelling was conducted on this intersection considering future year traffic demands using the modelling software SIDRA. Results indicate the performance of the intersection would improve from Level of Service (LoS) D to C in 2033 AM peak by implementing changes proposed at this intersection. Additional traffic modelling was undertaken in operational traffic modelling software VISSIM to address submissions relating to forecasted queue lengths, travel time increases and traffic volume increases throughout the network as a result of the proposal.

VISSIM results indicate that without intervention, queues are expected to extend onto the Western Distributor from the Allen Street and Harris Street intersection in the 2023 and 2033 peaks. Congestion from the Allen Street off-ramp onto the motorway would likely cause traffic to weave around stationary vehicles. With the proposal, queues are expected to be reduced between 50 metres and 190 metres on the off-ramp and be

contained within the length of the off-ramp for the majority of peak hours in 2023 and 2033. On occasion, congestion reached Western Distributor as observed in the traffic models, however it would occur substantially less often and for shorter durations than without intervention.

Transport recognises the removal of the southern pedestrian crossing would add time to pedestrian journeys between western and eastern sides of Harris Street, particularly for those bound for the bus stop on the western side of Harris Street northbound. To reduce impacts to pedestrians accessing bus services, Transport has investigated moving the existing bus stop on the southern end of the Harris Street and Allen Street intersection to the northern end of the intersection northbound to align with the three remaining pedestrian crossings (refer to Section 4.3). Transport would engage with the local community on the option to relocate the bus stop.

Transport has committed to improving active transport amenity within Pyrmont and a plan is being developed through the Pyrmont Ultimo Transport Plan that would align with the long-term vision for the Precinct, including those explored within DPE's Pyrmont Peninsula Place Strategy.

Removal of turning movements from Pyrmont Bridge Road off-ramp to Bank Street

Opposition to the removal of turning movements onto Bank Street from Pyrmont Bridge Road off-ramp centred around reducing access to local businesses, residential properties and public transport, increased travel time and increased traffic through Harris Street and Miller Street.

The Pyrmont Bridge Road and Bank Street intersection provides the main access into and egress out of Pyrmont. The efficiency, safety and resilience of this intersection is critical to make sure movements in and out of Pyrmont are reliable and sustainable, particularly as demand for the precinct grows.

Results of the SIDRA traffic modelling conducted on this intersection as part of the REF indicate the performance would improve from LoS F to E in 2033 AM peak by implementing changes proposed at this intersection. Results of the additional traffic modelling undertaken in VISSIM indicate that queues on the Pyrmont Bridge Road eastbound off-ramp are expected to exceed 250 metres in the 2033 AM peak and over 300 metres in the 2033 PM peak. This congestion is expected to cause traffic to weave on Anzac Bridge earlier to avoid stationary traffic waiting to access the off ramp. A queue extending this far on a single lane off-ramp with a steep decline, constrained on either side by Sydney Light Rail and Western Distributor viaduct piers, is a hazard and incidents would be difficult to manage. With residential and commercial development expected near Blackwattle Bay and the surrounds, it is critical that Transport maintains the safety and resilience of this off-ramp as demand grows. As such, these intersection changes are considered necessary.

By removing the turning movements from the off-ramp to Bank Street, queues are expected to reduce by up to 120 metres in peak hours. The queue is still expected to exceed 250 metres at times with the changes, however it occurs later in the peak and for a shorter duration.

The removal of the turning movements from Pyrmont Bridge Road off-ramp onto Bank Street was proposed in the REF to be implemented after the current Sydney Fish Market moves to the new location on Bridge Road. This was to make sure travellers including commercial vehicles and business operators bound for the current Sydney Fish Market are not impacted by the change. Prior to construction, further traffic assessment would be conducted to confirm the removal of the turning movements from Pyrmont Bridge Road exit-ramp eastbound onto Bank Street is required. Several factors would be considered including future development in the precinct, intersection resilience, current traffic volumes and queueing.

The majority of other commercial businesses are located on Bank Street near Quarry Master Drive and Miller Street. The impact of removing the turning movements from Pyrmont Bridge Road off-ramp onto Bank Street would generally extend the journey of vehicles accessing these businesses by 400m when rerouted via Harris Street and Miller Street (such as those wanting to access Northern Pyrmont). This extended journey is expected to increase travel time by around two minutes. Additional traffic modelling conducted using VISSIM modelling software indicates up to 88 more vehicles would use Harris Street northbound between Pyrmont Bridge Road and Miller Street in the 2033 PM peak hour. An additional 58 vehicles during the AM peak, and 36 vehicles during the PM peak in 2023 would travel along Miller Street southbound as well as an additional 109 vehicles and 131 vehicles in the 2033 AM and PM peaks.

For trips bound for destinations towards Glebe and Broadway, the impact of removing the left turn from the Pyrmont Bridge Road off-ramp onto Bank Street would generally extend the journey of vehicles by 600 metres when rerouted via Allen Street and Harris Street northbound and add around three minutes to the journey in peak hours. Traffic modelling indicates an additional 245 vehicles in the AM peak and 23 vehicles in the PM

peak would travel along Harris Street northbound between Allen Street and Pyrmont Bridge Road in 2033 as a result of the proposal. An additional 279 vehicles in the AM peak and up to 336 vehicles in the PM peak would travel along Pyrmont Bridge Road westbound between Harris Street and Bank Street as a result of the proposal.

The proposed alternative route towards Glebe/Broadway would generally extend the journey of vehicles by 600 metres when rerouted via Allen Street and Harris Street. With intersection efficiency improvements and reductions in traffic delays, the alternative route is expected to increase existing travel time by an average of 3 minutes in peak hours.

Changes to the proposal

There are three design changes of the following exhibition of the REF. The design changes in the revised design include:

- removal of the three gantries identified in the REF
- refinements made to the structure type, pier locations and construction techniques of the Darling Harbour weave ramp to avoid major utilities and improve ramp alignment
- relocation of the northbound Harris Street at Allen Street bus stop (Stop ID 200926).

In addition, two clarifications have been made from the REF.

Additional assessment

Further assessment has been undertaken to address potential changes in the extent and magnitude of impacts identified in the REF as a result of the design refinements. The design refinements resulted in changed impacts to visual impact, traffic and parking, noise and vibration, arboriculture and socio-economic impacts. The assessment undertaken identified a number of new management measures which have been included in Chapter 6, that consolidates all management measures applicable to the proposal as a result of the REF and the submissions report.

Additional traffic modelling was undertaken in response to community and stakeholder feedback received to assess forecasted queues and travel time impacts in the wider road network. Results of this additional modelling has been captured as part of response to submissions in Chapter 2 and 3 of this report.

Next steps

Transport for NSW as the determining authority would consider the information in the REF and this submissions report and make a decision whether or not to proceed with the proposal.

This submissions report summarizes and responds to the issues raised during public display of the REF. All potential impacts have been assessed with additional mitigation measures identified. Implementation of these mitigation measures would sufficiently manage potential impacts.

Transport for NSW would inform the community and stakeholders of this decision and where a decision is made to proceed would continue to consult with the community and stakeholders prior to and during the construction phase.

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1. Introduction and background

1.1 The proposal

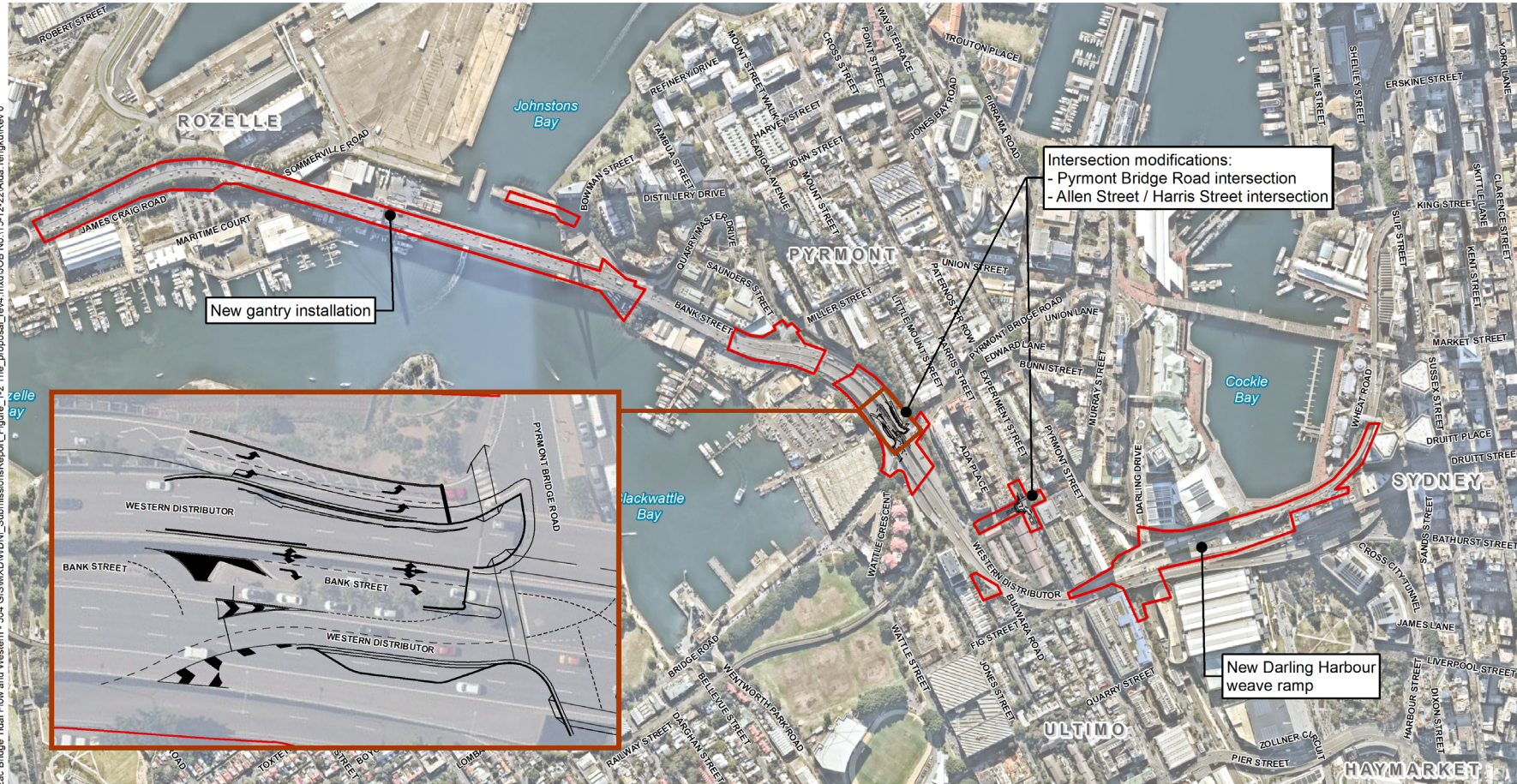
Transport for NSW (Transport) proposes network improvement works on the Western Distributor over Darling Harbour, Anzac Bridge, and Pyrmont intersections, Pyrmont (the proposal). The Anzac Bridge and Western Distributor provide a key connecting link between the Inner West, Warringah Freeway, Sydney Harbour Bridge, the Central Business District (CBD) and eastern suburbs. These improvements are required to make it easier for the growing number of road users to move safely through the network. The proposal would deliver on a commitment by the NSW Government to address road congestion, delivering safer, more efficient, and reliable road journeys.

The proposal area is located in both the Inner West and City of Sydney local government areas (LGAs) (Figure 1-1). The Anzac Bridge and Western Distributor currently provide a key link to the surrounding road network, connecting the Inner West, the Warringah Freeway, Sydney Harbour Bridge, the Central Business District (CBD) and eastern suburbs. Currently peak demand on the Anzac Bridge and Western Distributor is higher than available lane capacity, causing frequent traffic congestion, particularly between Pyrmont and Darling Harbour, worsening merging and weaving issues on the Western Distributor and traffic banking up on off ramps. The Anzac Bridge and Western Distributor would need to be made more resilient to cater for predicted additional traffic inflows as Sydney's West continue to grow. This includes increased traffic from a number of projects including Rozelle Interchange, redevelopment of the Fish Market and the continuing transformation of the Pyrmont and Blackwattle Bay precincts.

The key features of the proposal, as per the *Western Distributor Network Improvements REF* (Transport, August 2022) would include:

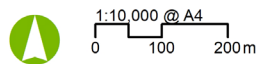
- Three new gantries with variable speed signage to be installed on Anzac Bridge and its western approach to facilitate traffic management. All gantries would span the full width of the corridor. The new or modified gantries include:
 - Two new gantries close to the midspan between the A-frames of Anzac Bridge to safely manage traffic movements across the crest of the bridge
 - New gantry on the western approach
- Modifications to Harris Street and Allen Street intersection to better manage off-ramp congestion and traffic flow through Pyrmont. This includes:
 - conversion of Allen Street eastbound to Harris Street from two to three lanes
 - removal of parking on Allen Street westbound and Harris Street northbound
 - removal of existing pedestrian crossing on the southern leg of Harris Street.
- Modifications to Pyrmont Bridge Road off-ramp to increase storage capacity and introduce new incident response vehicle bay. This includes:
 - modifying the Pyrmont Bridge Road off-ramp from one to two lanes
 - removing the turning movements from the off ramp onto Bank Street (off-ramp would be left turn only onto Pyrmont Bridge Road north). Access onto Bank Street restricted to emergency vehicles only. This would be delivered after the existing Sydney Fish Market ceases operations at its current location.
 - pedestrian crossing at the base of the Pyrmont Bridge Road off-ramp would change to a signalised crossing.
- Refurbishment of Anzac digger memorial sculptures and enhanced visitor amenity providing respectful opportunities for people to remember and commemorate our service men and women and encouraging people to learn about Australian and NSW military history.
- Introduction of the Darling Harbour weave ramp; a new elevated weave ramp structure from the intersection of Harris Street and Fig Street to the Western Distributor viaduct over Darling Harbour. The ramp would split off from the existing on-ramp and provide an alternate on-ramp to the Western Distributor viaduct to join a fourth travel lane and avoid the need for traffic to merge across multiple lanes. This includes around six new piers, four modified piers and a new abutment
- Utility adjustments throughout the proposal area.

C:\Users\Aida.TengkuAurecon\Group\507040 - Anzac Bridge Tidal Flow and Western - 504 GIS\MXD\WDNI_SubmissionsReport_Figure_1-2_The_proposal_rev4.mxd\JOB No.115-12-22\Aida.Tengku\ref 0



- Proposal area
- Proposed design

Source: Aurecon, TfNSW, NSW Spatial Services, Nearmap



Projection: GDA 1994 MGA Zone 56

Figure 1-1: The REF proposal.

REF submissions report

Since the REF was displayed, the design of the proposal has been refined (refer to Chapter 4 for more details).

1.2 REF display

Transport for NSW prepared a review of environmental factors (REF) to assess the potential environmental impacts of the proposed works. The REF was on public display for 37 days between 21 September 2022 and 28 October 2022. The REF was placed on the Transport for NSW project website and interactive project portal and made available for download. Details of Community information sessions in the local area (Table 1-1) were advertised on the project portal at caportal.com.au/tfnsw/western-distributor-road-network-improvements and the website link was advertised on Facebook.

In addition to the above public display, an invitation to comment and copy of the review of environmental factors was sent directly to several identified stakeholders and government agencies and key stakeholders were directly consulted as per the Transport and Infrastructure SEPP requirements. These included:

- City of Sydney Council as per the requirements of clause 2.10 (Council infrastructure) and 2.11 (Local heritage items)
- State Emergency Service (SES) as per the requirements of clause 2.13 (consultation with SES on flood liable land).

Other key stakeholders that were consulted include:

- Placemaking NSW, Darling Harbour Live and International Convention Centre Sydney operators
- Inner West Council
- Sydney Fish Market
- NSW RSL and Office of Veterans' Affairs
- Pyrmont Action Inc
- Metropolitan Local Aboriginal Land Council
- Bays Water Safety Group
- Pyrmont Ultimo Network Services
- Maritime safety groups and Dragon Boat clubs
- 2GB radio

Community consultation during the REF display involved doorknocking local residents and businesses who would potentially be impacted by the proposal and letterbox drops to 27,343 properties in Pyrmont, Ultimo, Darling Harbour, Sydney Central Business District, Glebe, Annandale, Rozelle and Balmain. 11 community drop-in sessions were also held in Pyrmont, Ultimo and Darling Harbour and a community livestream event was held on 13 October 2022.

Table 1-1: Display locations

Location	Address
Pirrama Park, Pyrmont	Corner of Harris Street and Pirrama Road, Pyrmont
Ultimo Community Centre	40 William Henry Street corner, Bulwara Road, Ultimo
Pier Street Underpass, Darling Harbour	35 Harbour Street, Haymarket
Sydney Streets on Harris Street	Union Square (Corner of Harris Street and Union Street), Pyrmont

1.3 Purpose of this report

This submissions report relates to the REF prepared for the Western Distributor Network Improvements, and should be read in conjunction with that document.

The REF was placed on public display and submissions relating to the proposal and the REF were received by Transport for NSW. This submissions report summarises the issues raised by individuals and community groups (Chapter 2) and government agencies (Chapter 3) and provides responses to each issue. Chapter 4 describes and assesses the environmental impact of changes to the proposal and identifies new or revised environmental management measures (Chapter 5).

No proposal changes are proposed that would require the preparation of a preferred infrastructure report.

2. Response to community issues

Transport for NSW received 260 submissions from individuals and community groups, accepted up until the 28 October 2022. Appendix A lists the respondents and each respondent's allocated submission number. The appendix also indicates where the issues from each submission have been addressed in Chapter 2 of this report.

2.1 Overview of issues raised

Each submission has been examined individually to understand the issues being raised. The issues raised in each submission have been extracted and collated, and corresponding responses to the issues have been provided. Where similar issues have been raised in different submissions, only one response has been provided. The issues raised and Transport for NSW response to these issues forms the basis of this chapter.

Of the submissions received, the most common issues raised by the public included installation of the gantries on Anzac Bridge, removal of the pedestrian crossing on the Allen Street and Harris Street intersection, and the removal of the turning movement from Pyrmont Bridge Road off-ramp onto Bank Street.

The main issue raised by the public regarding the installation of the gantry infrastructure on Anzac Bridge related to impacts on visual appeal and architectural design of the bridge. Many comments also identified that the structures would be inefficient in reducing speeding incidents, suggesting the benefit of the structures would not justify the visual impacts.

Removal of the pedestrian crossing from the Allen Street and Harris Street intersection was commonly raised as an issue of concern by the public, due to the impacts on pedestrian safety and amenity. It was commonly identified that this intersection is regularly utilised by residents and visitors, accessing residential properties and local businesses. It was also identified that this intersection, would see an increase in traffic, further impacting pedestrian safety within the area, suggesting the need to retain the pedestrian crossing.

Removal of the turning movement from Pyrmont Bridge Road off-ramp onto Bank Street was also a common issue with the public. Concerns about this change in configuration of the road related to restricted access to residential properties, local businesses and public transport -mainly the 501 bus route. It was commonly identified that the closure of the right turn would increase the traffic flow onto the surrounding streets, such as Pyrmont Bridge Road, Harris Street and Miller Street, with the potential to cause congestion issues throughout Pyrmont. It was also identified that the impact of this closure would be exacerbated with the opening of the New Sydney Fish Market and the expected influx of traffic.

2.2 Allen and Harris Street

2.2.1 Active transport

Submission number(s)

5, 13, 16, 20, 24, 30, 31, 32, 33, 34, 36, 37, 38, 39, 41, 42, 44, 45, 47, 48, 49, 50, 51, 52, 53, 54, 56, 57, 58, 62, 65, 66, 70, 71, 72, 73, 75, 83, 89, 106, 115, 116, 117, 123, 125, 126, 129, 130, 131, 135, 136, 137, 142, 149, 158, 160, 168, 169, 173, 174, 179, 181, 184, 185, 186, 191, 192, 194, 199, 200, 211, 218, 220, 222, 229, 230, 253, 259.

Issue description

1. Concern about the removal of the existing pedestrian crossing on the southern leg of the Allen Street/Harris Street intersection. Concern centred around:
 - Reduction in pedestrian amenity and safety and inconveniencing people trying to cross the street
 - Does not prioritise the need of pedestrians and cyclists in the local growing community
 - Reduces liveability of Pyrmont and pedestrian access to residences, public transport and businesses
 - The change would not meet Transport's Movement and Place policy, the DPE's Pyrmont Peninsula Place Strategy and the Road Safety Plan 2021- Towards Zero

A number of suggestions were proposed instead:

- Installation of pedestrian crossing
 - Pedestrian crossing to be operational only outside of AM peak hour or through a manual push button activation
 - Making the right turn signal a flashing orange light that would allow traffic to turn if there are no pedestrians.
 - Suggestion to keep crossing as push activation.
2. Concern about the volume of cyclists that utilise the intersection and the capacity to manage traffic movements and avoiding collisions.
 3. Query if an exemption from the Traffic Signal Design Manual's requirement to provide a signalised marked foot crossing on all legs has been obtained and how it justified that at future do-nothing intersection LoS of D (and a delay of only 53 seconds), is 'an unacceptable increase in delay and degree of saturation' as required under Clause 2.4 (b) (i) of the Manual?

Response

1. Transport recognises there would be an impact to pedestrians and cyclists crossing Harris Street at the southern side of the Allen and Harris Street intersection.

The removal of the pedestrian crossing on the southern leg of the Harris Street and Allen Street intersection aims to reduce queueing back onto the Western Distributor and improve traffic efficiency. Future traffic volumes are expected to grow at this intersection, with majority of traffic turning right from Allen Street onto Harris Street southbound heading towards Central and southern Sydney. Without intervention, the right turning queues would extend from the intersection to the Western Distributor compromising safety and resilience of the corridor. Increased delays due to queues on the Allen Street off-ramp could change the behaviour of motorists to turn late into the turning phase cycle to avoid further delays, pressuring pedestrians and cyclists to cross quickly and raising the risk of vehicle-pedestrian incidents. Removing the pedestrian crossing reduces the risk of these incidents.

The proposal would retain the three other legs of the Allen Street and Harris Street pedestrian crossings to allow access to shops and buildings on the south-western side and south-eastern side of Harris Street respectively. In addition, the northbound Harris Street at Allen Street bus stop (Stop ID: 200926) would be relocated from the southern side of the Allen Street and Harris Street intersection to the northern side of the intersection as part of the revised proposal (refer to Section 4.3). This is to align the northern pedestrian crossing with the bus stop and reduce impacts to pedestrians accessing it.

A push-activated pedestrian crossing would only marginally improve efficiency of the intersection and would not reduce congestion on the Allen Street off-ramp in peak hours due to the number of times it would be expected to be activated.

Pedestrian crossings that operate only in off-peak times are considered unsafe due to the risk of pedestrians still attempting to use the crossing when not in operation. It is safer to remove the crossing than allow it to operate during off-peak hours.

Transport recognises the need for both movement and place within the Pyrmont Precinct. Harris Street supports local community living, tourism to key destinations from all over Sydney and movement to Central, Ultimo and South Sydney. The Pyrmont Peninsula Place Strategy recognises Harris Street as a 'high street', which can be described as a lively street that supports high place intensity and a high level of multi-modal movement as per the NSW Government Movement and Place framework. As Pyrmont and Sydney grows, so too does the demand for Harris Street to maintain its movement function for all road users. This proposal focuses on the movement of Western Distributor corridor and its interaction with Harris Street, however Transport has committed to improving all other modes of transport in Pyrmont by investing substantially in public transport with the delivery of Sydney Metro West and is developing a plan to improve active transport and road-based amenity through the Pyrmont to Ultimo Transport Plan. This Plan would align with the long-term vision for the Precinct, including those explored within DPE's Pyrmont Peninsula Place Strategy.

2. Due to the growing traffic congestion and delays at the Allen Street off-ramp, vehicles at the Allen Street / Harris Street intersection turn onto Harris Street late into the traffic signal phase. This behaviour can cause conflict between vehicles and pedestrians crossing at the southern leg of the intersection. To minimise this conflict point, it was necessary to remove the southern pedestrian crossing leg.

As per Sydney Cycling Map, cycleway connections between Pyrmont and Darling Harbour extend across the Allen Street and Harris Street intersection between Bulwara Road and Pyrmont Street. With the implementation of the proposal, the pedestrian crossing on the northern end of the intersection would remain and aligns with the only pedestrian crossing at the Pyrmont Street and Allen Street intersection serving the cycling route to and from Darling Harbour. Cyclist movements between Pyrmont and Darling Harbour are not expected to be impacted. Cyclists travelling northbound and southbound on Harris Street through the Allen Street and Harris Street intersection also would not be impacted. The pedestrian crossings at the Harris Street and Fig Street intersection would also remain unchanged, thus cyclists originating from south Harris Street can cross at this intersection rather than Harris Street and Allen Street intersection with no impact to their journeys.

Cyclists originating from the buildings on the south-eastern end or south-western end of the intersection may need to cross up to three pedestrian crossings to reach the opposite side of the intersection, however this represents a low percentage of cyclist movements.

3. All relevant deviations from standards have been sought through the standards design process for the removal of the pedestrian crossing from the intersection.

Level of Service (LoS) and delays are useful indicators for the performance of an intersection. Some intersections can function with worse performance and not impact critical connections in the network. In the case of Allen Street and Harris Street intersection, the future intersection performance is expected to cause queuing onto the Western Distributor, disturbing one of Sydney's busiest and most critical road corridors that services over 100,000 trips per day, including into Pyrmont and Ultimo. Additional traffic modelling undertaken further reinforces the findings in the REF, with results indicating queues at this off-ramp would extend onto Western Distributor for the majority of the morning peaks in 2023 and 2033.

The efficient function of the motorway off-ramps is critical to the safety and operation of the motorway and surrounding road network. Inefficient intersections at off-ramps such as this, reduces the ability of the network to adapt, manage and recover from incidences. With low resiliency on the motorway and off-ramps, a single incident can cause extensive congestion, delays and safety issues far beyond the incident itself. It also restricts emergency vehicles tending to incidents quickly. It is critical that Transport maintains the resilience and efficient functioning of the Western Distributor to support a growing Sydney. Traffic modelling indicates changes proposed to the Allen Street and Harris Street intersection would improve its efficiency and reduce congestion on the Allen Street off-ramp.

2.2.2 Proposal design and construction

Submission number(s)

20, 187, 189, 197, 252

Issue description

1. Need clarification on the arrangement of lanes and the movement of traffic with the changes on Allen Street and Harris Street.
2. Concern that the proposed elimination of the pedestrian crossing at Allen Street would reduce traffic issues on the freeway by increasing traffic flow and potential blockages in the intersection.
3. Concern changes to Allen Street and Harris Street would reduce access to residential properties and make it difficult to enter traffic. Would also reduce street parking access to local businesses, impacting on business operation.

Response

1. At Allen Street eastbound towards Harris Street, there would be a total of three lanes; two right turn lanes (the central and right-hand lane) and the left (kerbside lane) would be both a left turn and a through lane.
2. The removal of the pedestrian crossing on the southern leg of the Harris Street and Allen Street intersection aims to reduce queueing back onto the Western Distributor, improve intersection efficiency and improve resilience of the corridor. Traffic modelling conducted as part of the REF indicated the proposed changes would improve the level of service in 2023 from level C to level B and from D to C in 2033. Additional traffic modelling conducted supported these results and indicated the changes would reduce off-ramp queues extending onto the Western Distributor during all peak hours during 2023 and 2033.

3. Access to the residential property driveway on Allen Street would be retained by the proposal.

As detailed in Section 6.2 of the REF, there would be 8 parking spaces and 1 loading zone that would be permanently removed. In addition, there would also be two parking spots on Harris Street removed. The parking assessment in the REF (refer to Section 6.2) identified that there would be sufficient parking spaces in the surrounding streets to accommodate the loss in public parking. The parking assessment identified that there is sufficient capacity in the loading zones on Harris Street on the northern side of the Harris Street and Allen Street intersection to cater for the loss of the loading zone space on Allen Street.

In addition to the parking changes detailed in Section 6.2 of the REF, additional changes to the proposal have been identified following the exhibition of the REF. The proposal would relocate the northbound Harris Street at Allen Street bus stop (Stop ID: 200926) from the southern side of the Allen Street /Harris Street intersection to the northern side of the intersection to align with remaining pedestrian crossings and reduce impacts to pedestrians accessing bus transportation.

On Harris Street northbound between Allen Street and Pyrmont Bridge Road, the existing loading zone would be retained and shifted further north on Harris Street northbound. To accommodate the loading zone and bus stop, there would be a loss of six '2P' parking spaces with parking exemptions for residents in the City of Sydney Pyrmont and Ultimo parking area (reduction from 19 to 13 spaces).

Where the existing bus stop would be removed south of Allen Street, five new '1/2P' parking spaces would be created. The seven existing parking spaces between Fig Street and Allen Street would be retained. The bus stop relocation is further detailed in Section 4.3.1 of this report.

2.2.3 Traffic and transport

Submission number(s)

20, 72, 137, 146, 149, 166, 179, 183, 187, 188, 253, 255

Issue description

1. Concern changes to Allen Street would increase potential collision rates due to quick lane changes across more traffic.
2. Concern changes to Allen Street would not improve road safety for local residents on Bulwara Road, due to lane changing to Harris Street.
3. Concern expanding the off-ramp at Allen Street would not address congestion issues- especially during peak hours and would increase traffic through the intersection and into Pyrmont. Suggestion to prioritise Allen Street exit for local residents or lengthening the off-ramp to Allen Street.
4. Support for the additional lanes to reduce traffic congestion on Harris Street.
5. Concern traffic issues would not be effectively managed with the additional lanes as the Allen Street exit is the last exit for drivers accessing Pyrmont, Ultimo and South Sydney areas.

Response

1. The proposal would improve efficiency at the intersection but is not expected to increase the risk of lane changing collisions.
2. Traffic originating from Bulwara Road accessing Harris Street northbound accounts for a small percentage using the Harris Street and Allen Street intersection. Traffic from Bulwara Road bound for Harris Street northbound can use an alternative route by turning left onto Harris Street northbound near Fig Street to reach their destination. This alternative route adds less than one minute to the travel time of this journey. For traffic from Bulwara Road turning right onto Harris Street southbound, this turning movement would be made more accessible and easier for these vehicles due to the outermost right turning lane at the Harris Street and Allen Street intersection developing directly off of Bulwara Road.
3. Traffic modelling was conducted on the Allen Street and Harris Street intersection considering future year traffic demands up to 2033. Results from traffic modelling software SIDRA indicate the changes proposed would improve the intersection performance from Level of Service D to C in 2033 AM peaks and reduce length of queuing onto Western Distributor into these future years. Additional traffic modelling conducted supported these results and indicated the changes would reduce off-ramp queues extending onto the Western Distributor and improve efficiency of the intersection during all peak hours in 2023 and 2033.
Restricting Allen Street off-ramp to local residents only would cause significant rerouting of traffic through Pyrmont via Pyrmont Bridge Road and is not considered feasible.
Lengthening the Allen Street off-ramp would support the storage of queues off the motorway, however would require structural widening of the Western Distributor and is outside the scope of this proposal.
4. Support is noted. At the Allen Street and Harris Street intersection, there are limited opportunities to turn onto Harris Street southbound when there is congestion along Harris Street.
5. Future traffic volumes are expected to grow at this intersection, with majority of traffic turning right from Allen Street onto Harris Street southbound heading towards Central and southern Sydney. As part of the REF traffic assessment, traffic modelling was conducted on this intersection considering future year traffic demands using the modelling software SIDRA. Results indicate the performance of the intersection would improve from Level of Service (LoS) D to C in 2033 AM peak by implementing changes proposed at this intersection. Additional traffic modelling was undertaken in operational traffic modelling software VISSIM to address submissions relating to forecasted queue lengths, travel time increases and traffic volume increases throughout the network as a result of the proposal. VISSIM results supported the findings of the REF, and indicated that without intervention, queues are expected to extend onto the Western Distributor from the Allen Street and Harris Street intersection in the 2023 and 2033 peaks.
With the proposal, VISSIM modelling indicates queues are expected to be reduced between 50 metres and 190 metres on the off-ramp and be contained within the length of the off-ramp for the majority of peak hours in 2023 and 2033. On occasion, congestion reached Western Distributor as observed in the traffic models, however it would occur substantially less often and for shorter durations than without intervention.
VISSIM modelling results also concluded an extra 322 vehicles would be expected to travel through the intersection in 2033 AM peak than without the proposal, indicating an improvement in intersection performance and efficiency.

2.2.4 Parking

Submission number(s)

72, 135, 137, 143, 155, 192, 228, 229, 251, 255

Issue description

1. Oppose the removal of parking spaces from Allen Street. Concern centred around:
 - Impacts on local business operation
 - Impacts on local residents of Pyrmont
 - Removal of safety buffer between the pedestrian walkway and traffic
 - Concern that no alternative disability parking has been allocated.

Response

As detailed in Section 6.2 of the REF, there would be eight parking spaces and one loading zone that would be permanently removed on Allen Street. In addition, there would also be two parking spots on Harris Street removed. The parking assessment in the REF (refer to Section 6.2) identified that there would be sufficient parking spaces in the surrounding streets to accommodate the loss in public parking. In addition, the parking assessment identified that there is sufficient capacity in the loading zone on Harris Street on the northern side of the Harris Street/Allen Street intersection to cater for the loss of one loading zone space on the southern approach to Allen Street intersection.

In addition to the parking changes detailed in Section 6.2 of the REF, additional changes to the proposal have been identified following the exhibition of the REF. The proposal would relocate the northbound Harris Street at Allen Street bus stop (Stop ID: 200926) from the southern side of the Allen Street /Harris Street intersection to the northern side of the intersection to align with remaining pedestrian crossings and reduce impacts to pedestrians accessing bus transportation.

On Harris Street northbound between Allen Street and Pyrmont Bridge Road, the existing loading zone would be retained and shifted further north on Harris Street northbound. To accommodate the loading zone and bus stop, there would be a loss of six '2P' parking spaces with parking exemptions for residents in the City of Sydney Pyrmont and Ultimo parking area (reduction from 19 to 13 spaces).

Where the existing bus stop would be removed south of Allen Street, five new '1/2P' parking spaces would be created. The seven existing parking spaces between Fig Street and Allen Street would be retained. The bus stop relocation is further detailed in Section 4.3.1 of this report.

2.2.5 Construction

Submission number(s)

150, 236

Issue description

1. Oppose the removal of multiple mature trees during construction on the carriage way on Allen Street.
2. Concern construction would increase traffic noise within the area.

Response

1. Transport acknowledge that the proposal would have impact to street trees and the amenity value that they provide. Transport sought advice from both internal and external arboricultural specialists in the development of the REF. The assessment identified 69 trees as potentially impacted and requiring removal and some identified for pruning (as well as two dead trees recommended for removal). This includes impact to trees on Allen Street for its reconfiguration and associated utility works, Palm trees in medians, and potential trimming to Fig Trees on Glebe Island Bridge approach. In addition, changes to the weave ramp and associate construction activities (refer to Chapter 4 of this report) identified an additional 10 trees requiring removal as part of the proposal. This brings the cumulative impact to 79 trees. Safeguards to further avoid and reduce vegetation impacts during detailed design and if

approved, during pre-construction are included within the REF. The proposal includes landscaping plan and review of opportunities including translocations and advanced tree stock to mitigate amenity impact. Additionally, the proposal has committed to offset the impact of trees removed in accordance with the Transport Biodiversity Offset Policy. Since the display of the REF, additional tree impacts have been identified and are detailed in Chapter 5 of this submissions report. Safeguards from the REF would apply to these new impacts.

2. Section 3.2 of the REF outlines the construction traffic, both heavy and light vehicles, movements and timings expected during construction of the proposal. These estimates are considered minor and would be dispersed throughout the proposal area and would have negligible impacts given the level of existing traffic noise of the area. However, further validation of construction noise impacts would be considered during construction.

2.2.6 Operational

Submission number(s)

152, 185

Issue description

1. Concern for increase noise pollution on Allen Street and Harris Street as a result of the proposal.

Response

As detailed in section 6.4 of the REF, works at the Allen Street and Harris Street intersection would adjust the configuration of traffic lanes, however it would not bring traffic closer to receivers. As such, the modification of traffic lanes at this intersection would not result in a noticeable increase to road traffic noise for receivers, and additional noise mitigation measures would not be required.

2.3 Anzac Bridge

2.3.1 Public transport

Submission number(s)

10

Issue description

1. Suggests addition of a bus lane on the Anzac Bridge to improve traffic impacts and journey times travelling towards Ryde.

Response

1. This proposal focuses on safety and efficiency of the Western Distributor corridor to make sure the millions of trips, including bus trips, that rely on this corridor each year reach their destinations safely and reliably. There are approximately 100 buses per hour in the morning peak travelling eastbound towards the CBD. The majority of these bus services would benefit from the changes identified in the proposal due to the improvements in efficiency and resilience of the corridor. Introducing a bus lane on Anzac Bridge has not been included as part of this proposal, however there are several other Transport initiatives investigating bus priority along and around this corridor. Supporting public transport is also a key outcome and commitment identified in the *Future Transport Strategy (2022)*.

2.3.2 Gantry installation

Submission number(s)

2, 3, 5, 6, 7, 11, 12, 14, 21, 22,23, 26, 27, 29, 35, 40, 43, 60, 63, 65, 78, 79, 80, 83, 84, 86, 87, 88, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 107, 108, 109, 110, 111, 112, 114, 137, 140, 149, 159, 161, 162, 164, 170, 193, 196, 205, 206, 208, 228, 243, 248, 256, 262, 263

Issue description

1. Oppose the installation of the gantries on Anzac Bridge. Concern centred around:
 - Impacts on architectural design and visual appeal
 - The efficiency in reducing speeding incidents, improving road safety and supporting traffic flow
 - Unnecessary infrastructure and would be a distraction for drivers
 - Impacts on the pedestrian/cyclist walkway
 - Impacts on cultural heritage
 - Construction and lighting impacts on surrounding areas
 - Potential access point for protestors to Anzac Bridge.

A number of less visually intrusive suggestions were proposed instead:

- Painting the speed limit on the road
 - Roadside electronic signs
2. Support of gantries to display relevant traffic information.
 3. Suggestion to postpone construction of gantries to see if other road changes of the proposal would be sufficient in improving traffic flow, or to move gantry location to better aid traffic movement.

Response

Transport acknowledges the benefits to road safety and congestion issues that the introduction of real time traffic management technology has had in other areas of the network, such as the M4 Smart Motorway upgrades, and Transport are revisiting traffic management measures on the Anzac Bridge.

Due to the strong feedback in opposition to the gantries proposed and assessed in the REF, Transport would re-assess all aspects of the gantries in this proposal in terms of need, location, visual impact and heritage impact. All three gantries have been removed from the scope of this proposal.

2.3.3 Not part of the proposal

Submission number(s)

157, 202

Issue description

1. Concern there is no signage on Anzac Bridge to direct traffic towards the City West Link or Victoria Road cause traffic issues.
2. Suggestion to update the shared path near the western approach to the Anzac Bridge including removing the lamp post in the middle of the path and the concrete planter box, renew the path in front of the Anzac Digger memorial statue, relocating the path from underneath the bridge and capping the spikes on the guard fence.

Response

1. Signs along Anzac Bridge to identify lanes for City West Link and Victoria Road bound traffic are not part of this proposal. Transport is considering the most appropriate way-finding and signage options through other initiatives in the precinct.

2. Changes to the shared user path to the west of the Anzac Bridge are not part of this proposal, however Transport has passed this feedback onto our active transport and asset maintenance teams.

2.4 Anzac digger memorial sculpture refurbishment

2.4.1 Proposal design and construction

Submission number(s)

23, 24, 181

Issue description

1. Comments in support of the refurbishment of the Anzac digger memorial sculpture.
2. Request for the refurbishment work to be a stand-alone proposal.

Response

As part of the proposal, Transport would refurbish the Anzac digger memorial sculptures and enhance visitor amenity in the area around them in consultation with key stakeholders. Once the scope has been confirmed in consultation with RSL NSW, NSW Office of Veterans Affairs and other key stakeholders, further details would be provided to the community.

2.4.2 Other impacts

Submission number(s)

82

Issue description

1. Concern about the changes to the memorial sculpture to make more inclusive of all Anzacs.

Response

1. Transport has and would continue to engage with the NSW RSL and NSW Office of Veterans Affairs regarding the options to refurbish the Anzac sculptures. The feedback has been noted and would be considered along with all other feedback during development of options.

2.5 Miller and Bank Street

2.5.1 Traffic and transport

Submission number(s)

167, 188

Issue description

1. Proposed changes to Miller Street and Bank Street will increase the volume of traffic entering the area.
2. Traffic light phasing at the Bank Street and Miller Street intersection needs to be improved with the addition of another southbound lane, located south of the intersection.

Response

1. The works at Miller Street and Bank Street involve utilities adjustments. No physical changes to traffic movements or the operation of the road at this location are proposed as part of this proposal.

Changes to the Pyrmont Bridge Road eastbound off-ramp of removing turning movements onto Bank Street would require vehicles to use Pyrmont Bridge Road, Harris Street northbound and Miller Street

southbound to access northern Pyrmont. Additional traffic modelling conducted using modelling software VISSIM concluded this traffic rerouting is expected to result in an additional 58 vehicles during the AM peak, and 36 vehicles during the PM peak in 2023 travelling along Miller Street southbound as well as an additional 109 vehicles and 131 vehicles in the 2033 AM and PM peaks. No changes to the Bank Street turn movement from the Pyrmont Bridge Road intersection would be made until the Sydney Fish Market moves to the new location on Bridge Road and another traffic assessment is conducted to confirm the need for removal.

2. This proposal focuses on safety and efficiency of the Pyrmont Bridge Road and Bank Street intersection due to its interaction with the Western Distributor. Changing the configuration and traffic light phasing of the Bank Street and Miller Street intersection is outside the scope of this proposal, however Transport has processes to optimise phasing at intersections as part of road network management. We have passed this feedback onto our network operations team.

2.6 Darling Harbour weave ramp

2.6.1 Proposal design and construction

Submission number(s)

11, 20, 55, 123, 179, 185, 186, 199, 248, 260, 261

Issue description

1. Suggestion to change the design of the Darling Harbour weave ramp from one lane eastbound, to two lanes on the Fig Street ramp eastbound and one lane from the Pyrmont Road on-ramp to improve traffic efficiency.
2. Need clarification if there would be four lanes between the Darling Harbour weave ramp and King Street or three lanes and how this would be achieved.
3. The proposal design should consider the other measures to guide traffic- such as signage and lane markings before construction of the Darling Harbour weave ramp.
4. Concern the Darling Harbour weave ramp would reduce the amenity of and overshadow the Darling Harbour and Cockle Bay, require the removal of palm trees and impact the operation of the L1 Light Rail.
5. Concern the Darling Harbour weave ramp at Fig Street would further complicate the area and would not reduce traffic incidents by encouraging drivers into the CBD. Concern the signage of the on-ramp would not be seen by drivers.
6. Concern the ramp will reduce the liveability and walkability of Pyrmont.

Response

1. While the suggestion would increase traffic capacity for the Fig Street on-ramp, it would not solve the dangerous weave manoeuvre on the Western Distributor since vehicles from the Fig Street on-ramp bound for the Sydney Harbour Bridge and vehicles from Western Distributor bound for King Street would still have to cross each other to reach their destinations. The Darling Harbour weave ramp as it is designed is to untangle the weaving movements by bringing the Harbour Bridge-bound Fig Street traffic onto the western side of Western Distributor and Western Distributor traffic to a direct lane to King Street.
2. The Western Distributor downstream of the weave ramp merge would be reconfigured to four 3 metre wide lanes which tie into the King Street and Harbour Bridge diverge. To facilitate the change from the existing three lanes, the widths of the lanes would be adjusted to allow a fourth lane. No structural widening of the viaducts would be required (refer section 3.1.3 of the REF).
3. Section 2.4.2 of the REF identified the other options that were considered instead of a Darling Harbour weave ramp. This included line marking changes and ramp metering for the Pyrmont Street on-ramp. Line marking and ramp metering was found to have limited safety and functionality benefits and would not eliminate the weaving manoeuvre as the new on-ramp would. As such, the new on-ramp was selected as the preferred option.

4. The new on-ramp requires construction of new piers at street level in Darling Harbour, which would impact vegetation on Tumbalong Boulevard, including 21 trees. The REF (and further in this submissions report) notes that a number of these trees are listed on the City of Sydney Council significant tree register and contribute to local amenity. Transport would be continuing consultation with Council on the preferred landscape treatment at this location, including Palm Tree translocation options to mitigate amenity impacts of their removal. Additionally, Transport would be offsetting tree impacts of the proposal in accordance with the Transport Biodiversity Offset Policy (2022). Refer to Section 4.2 for changes to tree impacts within this area of the proposal.

Overshadowing of the Darling Harbour weave ramp was also considered in the development of the proposal. Overshadowing was considered at the June and December solstice and the September/March equinox. Three different times a day are considered, 9:00am, 12:00pm and 3:00pm. Due to the existing built forms in the area and the east-west nature of the ramp, in most scenarios viewed impacts were limited or negligible. Impacts would be limited to Tumbalong Boulevard and the ICC forecourt. In June, where the sun is at its lowest point on the horizon, and therefore casts longer shadows, at 9am and 3pm overshadowing would be limited due to the surrounding buildings and infrastructure. However at 12pm, there would be increased overshadowing along Tumbalong Boulevard and public areas as well as the ICC forecourt. It is noted that existing structures also currently create overshadowing in the area.

As mentioned in the REF, as construction works would be undertaken over the Light Rail corridor, there may be the potential for some short-term disruptions of services on the L1 line. However, where possible, this would be done during possession dates or at night when there are limited services. Timing and duration of track possessions are at the discretion of the Light Rail Operators and Transport would continue to consult with them during detailed design and construction. Once the new weave ramp is operational, except for routine maintenance needs (consistent with the existing overhead infrastructure), it should not generate an impact to the light rail corridor operation.

5. The new ramp at Fig Street would substantially reduce the existing safety issue at Darling Harbour. Currently, traffic from the Fig Street and Pyrmont Street on-ramp cross two lanes of traffic to reach Sydney Harbour Bridge bound lanes. Simultaneously, traffic from Western Distributor crosses up to two lanes of traffic to reach the King Street off-ramp into the CBD. This weaving issue has caused on average 100 crashes and near misses per year between 2016 and 2020. The new on-ramp from Fig Street would allow traffic that is travelling to the Harbour Bridge to minimise the weave manoeuvre at Darling Harbour by allowing entry onto the Western Distributor on the right side (i.e. into the lane that goes to the Harbour Bridge). The Darling Harbour weave ramp would include adequate signage to inform drivers of the correct ramp to take depending on their destinations. Design of the signage would be further developed during detailed design.
6. The Darling Harbour weave ramp would start at the existing on-ramp at Fig Street and would connect to the southern side of the Western Distributor (eastbound). There is no existing pedestrian access on either the on-ramp nor on the side of the Western Distributor where the Darling Harbour weave ramp would connect. Walkability of areas under the new ramp is also not expected to be impacted.

The existing pedestrian access on the northern side of the Western Distributor would not be impacted. Pedestrian access along Harris Street at the entry to the ramp would not be impacted.

However it is noted that the Darling Harbour weave ramp would result in construction impacts as detailed in the REF and would include temporary disruptions to traffic, light rail, amenity impacts such as lighting and noise.

2.6.2 Traffic and transport

Submission number(s)

1, 9, 15, 17, 23, 33, 51, 65, 80, 83, 105, 119, 132, 135, 137, 145, 148, 149, 165, 166, 183, 214, 223, 234, 251.

Issue description

1. Concern the new on ramp would not improve road safety or congestion issues, rather move collision points elsewhere on the road corridor.
2. Comments supporting the safety improvements of the Darling Harbour weave ramp.

3. Concern the Darling Harbour weave ramp would increase traffic and congestion throughout Pyrmont and Ultimo, impacting on pedestrian services and wellbeing. Suggestion to wait for other major developments to be operational as may resolve issues.
4. Suggest use of filter traffic lights as used in the United States and Europe aid ramp filtering or use of a concrete median to address lane changing and merging issues.
5. Concern impacts of the Darling Harbour weave ramp on the operation of Fig Street.
6. Clarification of the lane markings on the Western Distributor from Pyrmont Street on-ramp towards the city – is there a solid line preventing travellers merging into the Harbour Bridge lane?
7. Signage design needs to be clear and placement well in advance of exits to guide drivers into correct lanes.
8. Concern the design of merging two entry points, having a small distance to cross over and two exit points. Suggests the configuration of the carriageway southbound should continue onto the ramps or have two lanes continue each way.
9. Suggestion to start the ramp earlier to by-pass Harris Street traffic lights and to reintroduce access to the carriageway for local residents/traffic.

Response

1. Currently, traffic from the Fig Street and Pyrmont Street on-ramp cross two lanes of traffic to reach Sydney Harbour Bridge bound lanes. Simultaneously, traffic from Western Distributor crosses up to two lanes of traffic to reach the King Street off-ramp into the CBD. This weaving issue has caused on average 100 crashes and near misses per year between 2016 and 2020. The new on-ramp from Fig Street would bring Harbour Bridge bound traffic to the right side of Western Distributor onto a lane bound for the Harbour Bridge. Similarly, Western Distributor traffic bound for King Street would have access to a King Street bound lane and would avoid the need to cross several lanes of traffic. Since the weaving issue is largely eliminated, moving weaving issues and collision points elsewhere on the corridor is not expected.
2. Support is noted. The proposal aims to provide a safer, more efficient and reliable road network.
3. The Darling Harbour weave ramp includes the restriction of Pyrmont Street access to the Harbour Bridge lanes. Further information on this is included in Chapter 4 and 5 of this submissions report. Pyrmont Street traffic bound for the Harbour Bridge would travel southbound on Harris Street to access the new weave ramp. Traffic modelling using VISSIM software indicates there would be an additional 161 vehicles in 2023 AM peak hour, 150 vehicles in 2023 PM peak hour, 113 vehicles in 2033 AM peak hour and 145 vehicles in 2033 PM peak hour travelling on Harris Street southbound to reach the new ramp.

No pedestrian amenity is impacted as a result of the new weave ramp. There is no existing pedestrian access on either the on-ramp or on the side of the Western Distributor where the Darling Harbour weave ramp would connect. The existing pedestrian access on the northern side of the Western Distributor would not be impacted. Pedestrian access along Harris Street at the entry to the ramp may be temporarily disrupted during construction but would be reinstated during operation.

The Anzac Bridge and Western Distributor is currently at or over capacity and experiences safety and resilience issues requiring intervention. Some reduction of traffic demand is expected on the road corridor when the Western Harbour Tunnel becomes operational which would attract a small portion of traffic bound for northern Sydney to use the tunnel rather than the Harbour Bridge. However, increases in traffic expected by the introduction of WestConnex as well as major development in Pyrmont including Blackwattle Bay redevelopment and New Sydney Fish Market upgrade would result in greater traffic demand for Anzac Bridge and Western Distributor that outweigh traffic volume relief gained from the opening of Western Harbour Tunnel.

Further, strategic traffic modelling conducted with and without Sydney Metro West indicates there would be minimal change in traffic volumes or travel demand into and out of this corridor in future years. The safety and resilience issues on the road network warrant intervention and should not await the completion of other projects such as Western Harbour Tunnel and Sydney Metro West.

4. Section 2.4.2 of the REF identified the other options that were considered instead of a new weave ramp. This included line marking changes and ramp metering for the Pyrmont Street on-ramp. Line marking and ramp metering was found to have limited safety and functionality benefits and would not largely

eliminate the weaving manoeuvre as the new on-ramp would. As such, the new on-ramp was selected as the preferred option.

5. The Darling Harbour weave ramp would start at the existing on-ramp at Fig Street and there would not be any direct impacts to Fig Street during operation. During construction, there may be changed traffic conditions to accommodate construction, however, works that would affect traffic flow may be required to be undertaken at night when there are lower levels of traffic to minimise impacts to the surrounding road network.
6. A solid line between Fig Street/Pymont Street on-ramp and King Street exit-ramp would be implemented as part of the proposal. The alternative route for Pymont Street traffic bound for Sydney Harbour Bridge is to use the new on-ramp at Fig Street and Harris Street. Traffic modelling using VISSIM software indicates there would be an additional 161 vehicles in 2023 AM peak hour, 150 vehicles in 2023 PM peak hour, 113 vehicles in 2033 AM peak hour and 145 vehicles in 2033 PM peak hour travelling on Harris Street southbound to reach the new ramp as a result of this change. Further information on this is included in Chapter 4 and 5 of this submissions report.
7. The Darling Harbour weave ramp would include adequate signage to inform drivers of the correct ramp to take depending on their destinations. Design of the signage would be further developed during detailed design.
8. The merging of the Fig Street and Pymont Street traffic with Western Distributor traffic into lane two of Western Distributor would be removed as a result of the new on-ramp at Fig Street and Harris Street intersection (Weave Ramp). The future configuration would be four lanes at the current merge point rather than the existing three lanes. This means the Fig Street and Pymont Street on-ramp would have one dedicated lane (that would direct drivers to the King Street exit- refer to Chapter 4 of this submissions report), Western Distributor would have two dedicated lanes and the new on-ramp would have one dedicated lane (to the Harbour Bridge exit). Although the merge contributes to crashes in this section of network, the behaviour of traffic bound for opposing destinations to cross multiple lanes has been recorded and observed to be main cause of incidents. As this proposal focuses on Western Distributor eastbound movements, upgrades to the Western Distributor carriageway southbound and westbound are not part of this proposal.
9. Beginning the new on-ramp earlier was not considered due to the significant reconfiguration that would be required to Fig Street and the surrounding roads including Wattle Street and Bulwara Road. The weaving issue is largely eliminated by introducing the ramp at Fig Street and Harris Street.

2.6.3 Proposal needs and options

Submission number(s)

5, 24, 194, 218

Issue description

1. Comment in support of the Darling Harbour weave ramp.
2. The proposed Darling Harbour weave ramp contradicts the *Future Transport 2061 Strategy*.
3. Concern analysis of the crash data to support the Darling Harbour weave ramp is not an accurate representation.

Response

1. Support is noted. The proposal aims to provide a safer, more efficient and reliable road network.
2. The new weave ramp would substantially reduce the dangerous weaving and merging issue that occurs on Western Distributor at Darling Harbour that has caused on average 100 crashes and near misses per year between 2016 and 2020. The new weave ramp is consistent with the Future Transport strategy in that it would improve transport connectivity for NSW's growing population and support a '30-minute city' (C1) and supports freight networks, ensuring supply chains are efficient and reliable (E1) by facilitating a reliable, safe and resilient Western Distributor which is one of Sydney's busiest and most critical road corridors that services over 100,000 trips per day, including freight movements and buses. The weave ramp also aligns with Future Transport strategy C4 which aims to make sure our transport networks are safe by resolving a critical safety weaving issue attributable to over 100 crashes and near misses per year on average (crash data between 2016 and 2020).

3. Crash data reported in the REF has been collected and reviewed over the five-year period from 2016 to 2020. This included data from a number of sources including NSW Police reports, Incident Response Unit records, Transport Management Centre CCTV camera observations and community reports made to the Road Incident and Hazard Reporting Line. In addition, specific camera surveys throughout October 2019 to observe traffic patterns on the Western Distributor corridor between Anzac Bridge and Sydney Harbour Bridge. As part of these surveys, crashes and near misses were observed on a regular basis, averaging more than twice per week. This correlates with the reported number of crashes and near misses on average per year in the REF.

2.6.4 Construction

Submission number(s)

141, 146, 230

Issue description

1. Construction of the Darling Harbour weave ramp would have significant impacts on the International Convention Centre Sydney.
2. Oppose the expected impacts of construction of the Darling Harbour weave ramp, including the removal of palm trees and visual impacts. Would impact the local residents for two years.

Response

1. Transport is consulting with ICC and Placemaking NSW around the proposal. As discussed in Chapter 4 and Chapter 5 of this submissions report, the design has been refined to minimise impacts on the ICC building structure and operations. However, it is noted that during construction, there would also be temporary disruptions to areas outside of the ICC. Transport would continue to consult with the stakeholders about construction of the ramp and the implications to ICC operations.
2. The new weave ramp would result in construction impacts as detailed in the REF and would include temporary disruptions to traffic, light rail, amenity impacts such as lighting and noise and impacts to trees. Since the REF display, there has been some changes to the design that result in some changes to the design and the construction methodology (refer to Chapter 4.4 for design refinements and further assessment). As detailed in the REF and further in this submissions report, Transport are committed to further management measures to minimise construction impacts.

2.7 Pyrmont Bridge Road

2.7.1 Traffic and transport

Submission number(s)

4, 8, 17, 18, 19, 20, 25, 28, 33, 35, 59, 61, 63, 65, 66, 68, 69, 73, 74, 76, 77, 81, 83, 85, 113, 114, 118, 127, 132, 144, 145, 149, 167, 169, 170, 171, 180, 188, 195, 200, 209, 210, 212, 228, 237, 238, 239

Issue description

1. Oppose the removal of the turning movement from Pyrmont Bridge Road onto Bank Street. Concerns centred around:
 - Reducing access to local businesses, residential properties and public transport.
 - Increasing traffic including heavy vehicles onto surrounding streets in Pyrmont, such as Pyrmont Bridge Road, Harris Street and Miller Street.
 - Would not improve traffic flow or road safety.
 - Would complicate driving routes.
 - Would impact operation of the intersection especially during peak hour traffic.

- Would increase travel times and distances to the New Sydney Fish Market, Glebe, Wentworth Park, Blackwattle Bay and Broadway.
- 2. Change to signalised pedestrian crossing is a reduction in level of service for pedestrians and additional left turn lane would not improve pedestrian safety. Suggestion to change to a raised pedestrian and cyclist crossing to better support the public.
- 3. Opposes changes to the 501 bus route.
- 4. Concern access to westbound movement along Pyrmont Bridge Road will be restricted.
- 5. Support update of 501 bus route as it would improve efficiency for the public transport option.
- 6. Support change to signalised pedestrian crossing.
- 7. Suggestion to keep right turn onto Bank Street with addition of convex mirror or electronic signage to improve traffic flow.
- 8. Pyrmont Bridge Road and Bank Street should not be retained as a multi-lane signalised intersection- especially with the relocation of the Fish Market and carpark.
- 9. Query how proposed residential buildings, the New Fish Market and Broadway shopping centre would be accessed?
- 10. Concern additional lanes would not improve traffic flow, especially with only one entry point.
- 11. Suggestion of lane dedicated to traffic travelling towards the Cross City Tunnel and right-turn onto Pyrmont Bridge Road should be the right lane only, to ease congestion.
- 12. Supports removal of left turn from Pyrmont Bridge Road onto Bank Street off ramp as this can be a point of congestion particularly in peak traffic hours.
- 13. Merging left onto the Harbour Bridge from Bank Street is difficult and should be addressed.
- 14. Pyrmont Bridge Road exit should be an access route for the Star Casino, International Convention Centre (ICC) and Darling Harbour.
- 15. Opposes changes to Pyrmont Bridge Road intersection as identified crash rate is low and not reason enough to justify change.

Response

1. The Pyrmont Bridge Road and Bank Street intersection provides the main access into and out of Pyrmont for visitors, residents, commercial vehicles and emergency services and currently operates inefficiently. The intersection provides access to key destinations like the Sydney Fish Markets and is the only intersection providing access from Pyrmont to the Western suburbs. Congestion is currently experienced on all legs of the intersection including off-ramps. As Pyrmont undergoes significant transformation with the delivery of the New Sydney Fish Market, Blackwattle Bay redevelopment and Sydney Metro, demand for the precinct is expected to grow and so too does the reliance on Pyrmont Bridge Road and Bank Street intersection to be operating efficiently and safely. The storage for the turning movements from the Pyrmont Bridge Road off-ramp onto Bank Street is less than six vehicles, too low to cater for future demand bound for key destinations. Once queues propagate at the intersection, collisions become more likely, delays for intersection users increase and it becomes difficult for emergency service vehicles to enter and exit Pyrmont. The removal of the turning movements onto Bank Street is expected to reduce delays and queues at the intersection. It is critical the intersection operates reliably and sustainably to support the growth of Pyrmont into the future and make sure the network is resilient enough to adequately adapt, manage and recover from incidents.

As part of the REF traffic impact assessment, traffic modelling was conducted on this intersection considering future year traffic demands using the modelling software SIDRA. Results indicate the performance of the intersection would improve from Level of Service (LoS) F to E in 2033 AM peak by implementing changes proposed at this intersection. Additional traffic modelling was undertaken in operational traffic modelling software VISSIM to address submissions relating to forecasted queue lengths, travel time increases and traffic volume increases throughout the network as a result of the proposal. Results conclude that without intervention, queues on the Pyrmont Bridge Road eastbound exit ramp would extend over 250 metres in the 2033 AM peak and 300 metres in the 2033 PM peak and disrupt Anzac Bridge movements. With the proposal, the efficiency of the intersection improves with up to 600 more vehicles travelling through the intersection in the 2033 peak hours. Queues are also expected to reduce by up to 120 metres in peak hours. The resilience of the intersection is expected to

improve substantially with a much more manageable queue. Collisions are expected to decline with less stop-start traffic and less weaving to avoid stationary traffic.

An incident vehicle bay is proposed to be installed in place of the turning movements onto Bank Street from the Pymont Bridge Road off-ramp to allow quicker access to both Pymont and the Western Distributor in the event of an incident.

After the current Sydney Fish Market moves to the new location on Bridge Road, a traffic assessment would be conducted to confirm the removal of the turning movements from Pymont Bridge Road exit-ramp eastbound onto Bank Street is required. Several factors would be considered including future development in the precinct, intersection resilience, current traffic volumes and queueing. Until the Sydney Fish Market moves to the new location on Bridge Road and another traffic assessment is conducted, there would be no change to this intersection. As such, travellers including commercial vehicles and business operators bound for the current Sydney Fish Market would not be impacted.

For trips bound for Bank Street near Quarry Master Drive and Miller Street, the impact of removing the right turn from the Pymont Bridge Road off-ramp onto Bank Street would generally extend the journey to these destinations by 400 metres via Harris Street and Miller Street and extend the travel time by around two minutes in peak hours. Additional traffic modelling conducted using VISSIM modelling software indicates up to 88 more vehicles would use Harris Street northbound between Pymont Bridge Road and Miller Street in the 2033 PM peak hour. An additional 58 vehicles during the AM peak, and 36 vehicles during the PM peak in 2023 would travel along Miller Street southbound as well as an additional 109 vehicles and 131 vehicles in the 2033 AM and PM peaks. Observations in the model concluded almost half the amount of additional vehicles using Miller Street southbound was originating in Pymont and bound for the more efficient Pymont Bridge Road intersection as a result of the proposal.

For trips bound for destinations towards Glebe and Broadway, the impact of removing the left turn from the Pymont Bridge Road off-ramp onto Bank Street would generally extend the journey of vehicles by 600 metres when rerouted via Allen Street and Harris Street northbound and add around three minutes to the journey in peak hours. Traffic modelling indicates an additional 245 vehicles in the AM peak and 23 vehicles in the PM peak would travel along Harris Street northbound between Allen Street and Pymont Bridge Road in 2033 as a result of the proposal. An additional 279 vehicles in the AM peak and up to 336 vehicles in the PM peak would travel along Pymont Bridge Road westbound between Harris Street and Bank Street as a result of the proposal.

Based on future traffic modelling for the year 2023 (post opening of Rozelle Interchange and without the proposal), 4.2 per cent of all vehicles using Harris Street northbound are expected to be heavy vehicles (daily). With the banning of the right turn onto Pymont Bridge Road, the percentage of heavy vehicles using Harris Street is expected to increase to 6.4 per cent of all vehicles. In 2033, heavy vehicles are expected to increase from 2.9 per cent (without the proposal) to 5.1 per cent (with the proposal). Overall, despite a marginal increase (2.2 per cent) in heavy vehicles travelling along Harris Street northbound due to the proposal, the frequency of heavy vehicles compared to light vehicles remains low.

2. The signalised crossing to replace the zebra crossing at the Pymont Bridge Road and Bank Street intersection would improve the safety for pedestrians as it gives pedestrians a dedicated time to cross the road, reinforced by stop lights for off-ramp traffic. A raised shared path is outside of the scope of this proposal however Transport has committed to improving active transport amenity within Pymont and a plan is being developed through the Pymont to Ulitmo Transport Plan.
3. Currently the inbound 501 bus route uses the right turn off Pymont Bridge Road off-ramp onto Bank Street when travelling to bus stops on Miller Street and Harris Street. This movement would be removed as part of modifications to the Pymont Bridge Road and Bank Street intersection resulting in a permanent change to the 501 bus route. Transport has engaged with the community through the REF public engagement sessions to gain feedback into alternative routes and bus stops as a result of this proposal, including gathering feedback on potential changes to bus stops on Miller Street. Transport would continue to engage with the community, bus route planners and operators on proposed alternate bus routes and corresponding bus stops locations for Pymont passengers prior to the turn ban.
4. There are no changes to the access of Pymont Bridge Road westbound as part of this proposal.
5. Support for changes to 501 bus route are noted.
6. Support for signalling the Pymont Bridge Road off ramp pedestrian crossing is noted.

7. The suggested alternate traffic management solutions would not resolve queuing, delay and resilience issue of this off-ramp. The storage for the turning movements from the Pyrmont Bridge Road off-ramp onto Bank Street is less than six vehicles, too low to cater for future demand bound for key destinations and queues are expected to extend over 250 metres in the 2033 peaks. Further, the intersection is currently inefficient due to the number of movements that can be undertaken. Banning the turning movements onto Bank Street from the off-ramp would substantially reduce queues and reduce a phase in the traffic light cycle, improving the efficiency of the intersection as a whole.
8. The Pyrmont Bridge Road and Bank Street intersection provides the main access into and out of Pyrmont for visitors, residents, commercial vehicles and emergency. The intersection provides access to key destinations like the Sydney Fish Markets and is the only intersection providing access from Pyrmont to the Western suburbs. As Pyrmont undergoes significant transformation with the delivery of the New Sydney Fish Market, Blackwattle Bay redevelopment and Sydney Metro, demand for the precinct is expected to grow and so too does the reliance on Pyrmont Bridge Road and Bank Street intersection to be operating efficiently and safely. In addition, the efficient function of motorway off-ramps is critical to the safety and operation of the motorway and surrounding road network. Inefficient intersections at off-ramps reduces the ability for the network operations to adapt, manage and recover from incidents. With low resilience on the motorway and off-ramps, a single incident can cause extensive congestion, delays and safety issues far beyond the incident itself. It also restricts emergency vehicles access to incidents quickly. Reducing the capacity of the intersection by reducing lanes would substantially reduce the efficiency of the intersection, queues would propagate onto Anzac Bridge and large volumes of traffic would reroute to other parts of Pyrmont, introducing other safety and congestion issues. As such, reducing lanes at this intersection is not considered feasible.
9. The alternative route to reach the future Blackwattle Bay development would be to use the Allen Street off-ramp and travel northbound on Harris Street to reach Pyrmont Bridge Road. The impact of removing the right turn from Pyrmont Bridge Road off-ramp onto Bank Street would generally extend the journey of vehicles accessing destinations towards the New Fish Markets, Glebe and Broadway by 600 metres and an increase travel time by around three minutes in peak hours.
10. The proposed change from single to dual lanes on Pyrmont Bridge Road off ramp, along with removing the right turn from Pyrmont Bridge Road off-ramp onto Bank Street would allow more vehicles to move through the intersection with each green phase of the lights, improving efficiency and reducing queue lengths. Traffic modelling conducted using modelling software VISSIM concluded an extra 668 vehicles travel through the intersection in 2033 AM with the proposal as opposed to without.
11. Traffic surveys and network observations have not identified a dedicated lane on the Bank Street on-ramp or on the Western Distributor (eastbound) towards Cross City Tunnel as an issue requiring further investigation. Traffic modelling conducted for 2023 and 2033 future years also did not indicate there would be an issue requiring this approach. The storage for the turning movements from the Pyrmont Bridge Road off-ramp onto Bank Street is less than six vehicles, too low to cater for future demand bound for key destinations and causes the intersection to be susceptible to deterioration. As such, the suggestion has not been adopted.
12. Support for the future turning movement ban from Pyrmont Bridge Road onto Bank Street is noted.
13. The merge into the Harbour Bridge lanes on the Western Distributor from the Bank Street eastbound on-ramp has been reviewed. While Transport recognises the merging exists, it currently does not cause significant safety issues including collisions or queues throughout the network large enough to intervene. No changes are proposed for the merging issue as part of this proposal.
14. Users of the intersection of Pyrmont Bridge Road and Bank Street currently experience congestion and extended delays when accessing key destinations like the Star Casino and Darling Harbour. With traffic expected to grow in the Precinct in future years, operational and safety issues are expected to exacerbate with no intervention. This proposal aims to improve the intersection to serve the safe operation of the precinct into the future. Access to Star Casino, International Convention Centre (ICC) and Darling Harbour would not be altered as part of this proposal.
15. The focus for upgrading the Pyrmont Bridge Road and Bank Street intersection is to improve the efficiency, resilience and safety of the intersection. The efficient function of motorway off-ramps is critical to the safety and operation of the motorway and surrounding road network. Inefficient intersections at off-ramps reduces the ability for the network operations to adapt, manage and recover from incidents. With low resiliency on the motorway and off-ramps, a single incident can cause extensive congestion, delays and safety issues far beyond the incident itself. It also restricts emergency

vehicles accessing incidents quickly. It is critical that Transport improves the resiliency and efficient functioning of the Western Distributor to support a growing Sydney and Pyrmont precinct.

2.7.2 Proposal design and construction

Submission number(s)

106, 195, 201, 248

Issue description

1. Oppose changes to Pyrmont Bridge Road as would impact on pedestrian amenity in Pyrmont.
2. Oppose closure of the turning movements from Pyrmont Bridge Road off ramp onto Bank Street. Concern this would cause traffic issues with influx of customers to the Sydney Fish Market, need to keep the right turn lane onto Bridge Road.
3. Concern changes to Bank Street for the construction compound would impact Dragon Boat carpark.

Response

1. Active transport amenity is not impacted by the proposal at the Pyrmont Bridge Road and Bank Street intersection. The proposal would improve wait times for pedestrians crossing Pyrmont Bridge Road intersection by reducing the amount of traffic movement phases during the traffic light cycle times.

On a broader scale, the Pyrmont Peninsula precinct is undergoing major transformation and requires a multi-agency approach to coordinate the scope and delivery of local active transport provisions, place-based revitalisation and social outcomes. Active transport amenity upgrades and revitalisation of underused spaces within the study area require wider network planning and land use consideration than is possible for this proposal. Transport is also investigating a range of improvements throughout the precinct that would align with the long-term vision for the Precinct, including those explored within DPE's Pyrmont Peninsula Place Strategy and the Pyrmont Ultimo Transport strategy. This approach has been taken to meet the requirements of the Providing for Walking and Cycling in Transport Projects Policy, but also to make sure that this is considered at a precinct level to provide a holistic strategy for the area, not just those areas impacted by the proposal.

2. After the current Sydney Fish Market moves to the new location on Bridge Road, a traffic assessment would be conducted to confirm the removal of the turning movements from Pyrmont Bridge Road exit-ramp eastbound onto Bank Street is required. Several factors would be considered including future development in the precinct, intersection resilience, current traffic volumes and queueing. Until the Sydney Fish Market moves to the new location on Bridge Road and another traffic assessment is conducted, there would be no change to this intersection. As such, travellers including commercial vehicles and business operators bound for the current Sydney Fish Market would not be impacted.

Traffic generated by the Bays Precinct development including new Sydney Fish Market has been captured within the Strategic Travel Model (STM) land use assumptions and included in the traffic modelling conducted for this assessment. Results of the traffic modelling conclude the intersection improves in efficiency with the proposed changes.

The alternative route to reach destinations towards the new Sydney Fish Market is to use the Allen Street off-ramp and travel northbound on Harris Street to reach Pyrmont Bridge Road. The alternative route for trips towards northern Bank Street would be to turn left on Pyrmont Bridge Road off-ramp and left on Harris Street.

Access and traffic requirements for development of the existing Fish Markets site beyond what was considered in STM would be considered through the standard Transport processes for any large development. Transport and INSW are working closely to achieve appropriate network solutions to support all trips into and out of Pyrmont, now and in the future.

3. Transport has engaged with stakeholders operating the Dragon Boat racing events and activities as part of the REF consultation processes. Transport has committed to co-locate with the Dragon Boats activities during construction to ensure events and activities can still occur in the same location (5-19 Bank Street, Pyrmont). Transport would continue to engage with the operators of the Dragon Boats during construction to minimise impacts as best possible.

2.7.3 Active transport

Submission number(s)

24, 65, 74, 130, 131, 135, 138, 139, 154, 163

Issue description

1. Does not support changing the existing pedestrian crossing to a signalised crossing as it prioritises traffic over pedestrians and cyclists, impacts pedestrian safety and access to the area and increases wait times. Query modelling of pedestrian movements. Suggest pedestrian overpass or east-west pedestrian access could be routed under the Western Distributor to improve pedestrian access to Wentworth Park Rail without impacting traffic travelling west.
2. Support the change to a signalised pedestrian crossing.

Response

1. Currently, pedestrians and cyclists experience long wait times at the intersection of Pymont Bridge Road and Bank Street. When crossing between the current Fish Markets and northern Pymont Bridge Road, people wait at two sets of signals and a zebra crossing. Changing the zebra crossing to a signalised pedestrian crossing and removing the turning movements onto Bank Street from the the off-ramp, would allow the pedestrian wait times to reduce due to faster signal changes as a result of a more efficient intersection. This also allows pedestrians and cyclists to cross the entire intersection in one movement, rather than waiting at two sets of lights. A signalised crossing is also safer for pedestrians and cyclists, particularly at the base of a dual lane off-ramp with low visibility to the crossing. The installation of a shared path is outside of the scope of this proposal, however Transport has committed to improving active transport amenity within Pymont and a plan is being developed through the Pymont Ultimo Transport Plan.
2. Support for the change to a signalised pedestrian crossing at Pymont Bridge Road off ramp is noted.

2.7.4 Public transport

Submission number(s)

210, 221, 228, 252

Issue description

1. Oppose changes to 501 and 389 bus routes and removal of bus stops. Would impact access for school children.

Response

1. Transport has engaged with the community through the REF public engagement sessions to gain feedback into alternative routes and bus stops as a result of this proposal, including gathering feedback on potential changes to bus stops on Miller Street. Transport would continue to consult with the community, bus route planners and operators on proposed alternate bus routes and corresponding bus stops locations prior to the planned turn ban (proposed to be implemented once Sydney Fish Market relocates to its new location on Bridge Road). The proposal would not affect the 389 bus route.

2.7.5 Not part of the proposal

Submission number(s)

149, 170, 181

Issue description

1. Concern for flooding that occurs on the bridge near the Pyrmont Bridge off-ramp.
2. The on ramp from Pyrmont Bridge Road onto the Anzac Bridge westbound needs to be fixed due to congestion during peak hours.
3. Suggestion for signs on Pyrmont Bridge Road indicating parking availability at the Star Casino and Harbourside, to prevent drivers entering Pyrmont for parking and congesting streets.

Response

1. Improving the drainage infrastructure on the Western Distributor falls within Transport's maintenance and operation projects and initiatives and is not part of this proposal. Transport has passed on this concern to the relevant team within Transport.
2. Traffic modelling conducted as part of the REF indicates the Pyrmont Bridge Road and Bank Street intersection improves in efficiency as a whole. The westbound on-ramp to Anzac Bridge, included in this intersection, also improves as a result of the proposal.
3. Transport recognises there are times when irregular congestion occurs such as during events at the Star Casino or during New Year's Eve celebrations, however the proposal has been developed to address operational issues particularly during peak hours. Consideration of parking availability signage in Pyrmont is not part of this proposal.

2.8 Traffic and transport

Submission number(s)

2, 11, 18, 24, 45, 46, 48, 64, 74, 112, 120, 121, 133, 134, 135, 140, 143, 147, 148, 153, 159, 161, 162, 166, 168, 169, 179, 188, 193, 194, 195, 196, 203, 209, 211, 214, 215, 219, 224, 225, 229, 230, 231, 232, 235, 240, 243, 245, 247, 250, 251, 254, 258, 259

Issue description

1. Support safety improvements, smart motorway design, road network upgrades and traffic flow improvements of the proposal.
2. Concern of construction traffic impacts during peak hours.
3. Query how the changes will interface with the new roads of the Blackwattle Bay redevelopment.
4. Query the long-term plan for the Western Distributor with the completion of the Western Harbour Tunnel. The proposal also does not consider the impacts of the new metro station on traffic flow.
5. Oppose the overall proposal. Concern centred around:
 - Would increase traffic, congestion and queuing on the off ramp
 - Would not improve road safety or speeding incidents
 - Would reduce pedestrian safety
 - Does not align with the NSW Pyrmont Peninsula Place Strategy or Transport's own policies
 - Would actively contribute to an increased VKT by increasing the capacity and reliability of the motorway
6. Concern removal of parking spaces from the Sydney Fish Market during construction for the nominated compound would impact operation of the business.
7. Concern the removal of parking on Jones Lane would impact residents. Concern about the availability of disability parking during and after construction of the proposal.

8. The Western Distributor is not funnelling more traffic into our local (Pyrmont and Ultimo) streets and therefore putting our community at risk.
9. The REF states that there are a number of crashes however there is no analysis on how this would be mitigated.
10. Concern for changes and impacts of the proposal on public transport options, including bus 501 and light rail.
11. Does not support the overall proposal as it will encourage traffic back into the area WestConnex was designed to reduce traffic.
12. Concern the intersection (SIDRA) modelling has not been done properly and does not take into account additional traffic demand created by the proposal. There is no modelling of impacts on pedestrian level of service/delay.
13. Concern the proposal would not improve safety in a meaningful way.
14. Concern that inappropriate and selective traffic modelling has been applied to justify the proposal. The anticipated lengths of the future queue lengths are shorter than the existing ramp length- as such the additional off-ramp is unnecessary.
15. Query the modelling for the proposal has captured how long until the additional capacity on the road network is reached and what the next solution would be?

Response

1. Support for the proposal safety and efficiency benefits are noted.
2. The majority of construction works would occur outside of peak hours to minimise impact to the motorway and wider road network and for road worker safety. Construction programming would also be subject to Road Occupancy Licences (ROL) and light rail possession times which are generally not within peak hours (an ROL may require works at night and light rail possessions may be undertaken on weekends).
3. Transport and INSW are working closely to achieve appropriate network solutions to support all trips into and out of Pyrmont, now and in the future. This includes considering the new configuration of the Blackwattle Bay development.
4. The Anzac Bridge and Western Distributor is currently at or over capacity and experiences safety and resilience issues requiring intervention. Some reduction of traffic demand is expected on the road corridor when the Western Harbour Tunnel becomes operational which would attract a small portion of traffic bound for northern Sydney to use the tunnel rather than the Harbour Bridge. However, increases in traffic expected by the introduction of WestConnex as well as major development in Pyrmont including Blackwattle Bay redevelopment and New Sydney Fish Market upgrade would result in greater traffic demand for Anzac Bridge and Western Distributor that outweigh traffic volume relief gained from the opening of Western Harbour Tunnel.

Strategic traffic modelling conducted with and without Sydney Metro West indicates there would be minimal change in traffic volumes or travel demand into and out of this corridor in future years. The safety and resilience issues on the road network warrant intervention and should not await the completion of other projects such as Western Harbour Tunnel and Sydney Metro West.

5. Traffic modelling conducted as part of the REF using SIDRA software, and subsequently as part of this Submissions Report using VISSIM software, does not indicate traffic would increase as a result of the proposal. Traffic modelling concluded traffic efficiency on the Western Distributor would improve as a result of the proposal and the Pyrmont Bridge Road and Allen Street off-ramps would experience less congestion and queues as a result of the proposal. Less queuing back onto the Western Distributor also brings road safety benefits, limiting weaving and lane changes around stationary traffic.

Road safety is expected to improve as a result of installing the new ramp at Darling Harbour that would reduce the weaving and merging issue attributable to over 100 crashes and near misses per year on average.

Vehicles Kilometres Travelled (VKT) in the network would increase as a result of the proposal. Induced demand was not recorded in the traffic modelling results but is not expected to be created by increasing efficiency of the network.

Transport has committed to improving active transport amenity within Pyrmont and a plan is being developed through the Pyrmont Ultimo Transport Plan that would align with the long-term vision for the Precinct, including those explored within DPE's Pyrmont Peninsula Place Strategy.

Pedestrian safety is not expected to be adversely impacted as a result of the proposal.

6. Traffic flow through Pyrmont plays a key role in the viability of precinct as a connected and vibrant community. Harris Street in particular supports local community living, tourism to key destinations from all over Sydney and movement to Central, Ultimo and South Sydney. The Pyrmont Peninsula Place Strategy recognises Harris Street as a 'high street', which can be described as a lively street that supports high place intensity and a high level of multi-modal movement as per the NSW Government Movement and Place framework. As Pyrmont and Sydney grows, so too does the demand for streets like Harris Street to maintain their movement function for all road users. This proposal focuses on the movement of Western Distributor corridor and its interaction with the Pyrmont road network including Harris Street, however Transport has committed to improving all other modes of transport in Pyrmont by investing substantially in public transport with the delivery of Sydney Metro West and is developing a plan to improve active transport and road-based amenity through the Pyrmont to Ultimo Transport Plan. As part of the development of the REF, a parking assessment indicated that there would be sufficient parking on surrounding local roads to offset 20 parking spaces in the Sydney Fish Market carpark impacted by the proposal during construction. Transport has engaged with the operators of the Sydney Fish Markets as part of the REF consultation process and would continue to engage with Sydney Fish Markets in an effort to minimise impacts where possible during construction.

7. Impacts to Jones Lane would be during construction, where a construction compound is established on Transport land. Depending on the final compound layout, the access configuration may impact two disability parking spaces during its use. If these spaces are not able to be safely maintained in their current arrangement, targeted stakeholder engagement is proposed to evaluate and secure suitable alternative arrangements prior to any impact (refer to management measure P3).

The parking assessment did not identify any other disability provision parking spaces as impacted by construction or operation of the proposal.

8. Noted. The aim of the proposal is to improve Western Distributor efficiency and not to funnel traffic through Pyrmont or Ultimo.
9. The most prominent safety issue being addressed by the proposal is the weaving issue at Darling Harbour. Currently, traffic from the Fig Street and Pyrmont Street on-ramp cross two lanes of traffic to reach Sydney Harbour Bridge bound lanes. Simultaneously, traffic from Western Distributor crosses up to two lanes of traffic to reach the King Street off-ramp into CBD. This weaving issue has caused on average 100 crashes and near misses per year. Crash data is collected from a number of sources including NSW Police reports, crash response units, Transport Management Centre CCTV camera observations and community reports to the 131 700 phone line. The crash data reported in the REF has been collected and averaged over a five-year period from 2016 to 2020. In addition, Transport for NSW undertook some specific camera surveys throughout October 2019 to observe traffic patterns on the Western Distributor corridor. As part of these surveys crashes and near misses were observed on a regular basis, averaging more than twice per week. This correlates with the reported number of 100 crashes and near misses per year in the REF.

The new on-ramp from Fig Street would mitigate the weaving issue by allowing one dedicated lane from Fig Street to the Harbour Bridge exit, Western Distributor would have two dedicated lanes, one to Harbour Bridge and one to King Street and the Fig Street/Pyrmont Street on-ramp would have one dedicated lane to King Street exit. This would eliminate the need for traffic to cross multiple lanes to reach their destinations.

On this basis alone, or any other comparable assessment process, the proposal is considered a suitable road safety investment.

10. Transport has engaged with the community through the REF public engagement sessions to gain feedback into alternative routes and bus stops as a result of this proposal. Transport would continue to engage with the community, bus route planners and operators on proposed alternate bus routes and corresponding bus stops locations prior to the planned turn ban (proposed to be implemented once Sydney Fish Market relocates to its new location on Bridge Road) . Light rail services would be temporarily impacted during construction of the proposal. Transport would work within Light Rail shutdowns where possible to limit impacts to services.

11. The proposal reroutes a portion of traffic already bound for Pyrmont and improves the efficiency and safety for traffic already bound for the CBD and Sydney Harbour Bridge. Induced demand was not recorded in the traffic modelling results but is not expected to be created by increasing efficiency of the network.
12. Additional traffic modelling conducted using modelling software VISSIM has been undertaken to provide assessment of traffic impacts not previously assessed in the REF with SIDRA modelling. As VISSIM is a microsimulation, it takes into account other intersections and the broader network impacts. Results from both modelling software have been used in the development of the Submissions Report. Induced demand was not recorded in the traffic modelling results but is not expected to be created by increasing efficiency of the network.
 Transport recognises there would be an impact to pedestrians and cyclists crossing Harris Street at the southern side of the Allen and Harris Street intersection. The proposal would retain the three other legs of the Allen Street and Harris Street pedestrian crossings to allow access to shops and buildings on the south-western side and south-eastern side of Harris Street. In addition, the northbound Harris Street at Allen Street bus stop (Stop ID: 200926) would be relocated from the southern side of the Allen Street and Harris Street intersection to the northern side of the intersection as part of the revised proposal (refer to Section 4.3). This is to align the northern pedestrian crossing with the bus stop and reduce impacts to pedestrians accessing it.
 On Pyrmont Bridge Road and Bank Street intersection. Changing the zebra crossing to a signalised pedestrian crossing and removing the turning movements onto Bank Street from the off-ramp, would allow the pedestrian wait times to reduce due to faster signal changes as a result of a more efficient intersection. This also allows pedestrians and cyclists to cross the entire intersection in one movement, rather than waiting at two sets of lights. A signalised crossing is also safer for pedestrians and cyclists, particularly at the base of a dual lane off-ramp with low visibility to the crossing. Level of Service (LoS) data for pedestrian movements have not been captured as part of this assessment.
13. The most prominent safety issue being addressed by the proposal is the weaving issue at Darling Harbour. Currently, traffic from the Fig Street and Pyrmont Street on-ramp cross two lanes of traffic to reach Sydney Harbour Bridge bound lanes. Simultaneously, traffic from Western Distributor crosses up to two lanes of traffic to reach the King Street off-ramp into the CBD. This weaving issue has caused on average 100 crashes and near misses per year between 2016 to 2020.
 The new on-ramp from Fig Street would mitigate the weaving issue by allowing one dedicated lane from Fig Street to the Harbour Bridge exit, Western Distributor would have two dedicated lanes, one to Harbour Bridge and one to King Street and the Fig Street/Pyrmont Street on-ramp would have one dedicated lane to King Street exit. This would eliminate the need for traffic to cross multiple lanes to reach their destinations.
 On this basis alone, or any other comparable assessment process, the proposal is considered a suitable road safety investment.
14. Additional traffic modelling was undertaken in operational traffic modelling software VISSIM to address submissions relating to forecasted queue lengths, travel time increases and traffic volume increases throughout the network as a result of the proposal.
 VISSIM results indicate that without the proposal, queues are expected to extend onto the Western Distributor from the Allen Street and Harris Street intersection in the 2023 and 2033 peaks. Congestion from the Allen Street off-ramp onto the motorway would likely cause traffic to weave around stationary vehicles. With the proposal, queues are expected to be reduced between 50 metres and 190 metres on the off-ramp and be contained within the length of the off-ramp for the majority of peak hours in 2023 and 2033. On occasion, congestion reached Western Distributor as observed in the traffic models, however it would occur substantially less often and for shorter durations than without the proposal. Modelling results for the Pyrmont Bridge Road eastbound off-ramp indicate queues are expected to exceed 250 metres in the 2023 AM and 2033 AM peaks and over 300 metres in the 2033 PM peak. This congestion is expected to cause traffic to weave on Anzac Bridge earlier to avoid stationary traffic waiting to access the off ramp. A queue extending this far on a single lane off-ramp with a steep decline, constrained on either side by Sydney Light Rail and Western Distributor viaduct piers, is a hazard and incidents would be difficult to manage. With residential and commercial development expected near Blackwattle Bay and the surrounds, it is critical that Transport maintains the safety and resilience of this off-ramp as demand grows.

By removing the turning movements from the off-ramp to Bank Street, queues are expected to reduce by up to 120 metres in peak hours. The queue is still expected to exceed 250 metres at times with the changes, however it occurs later in the peak and for a shorter duration. For these reasons, the changes are deemed necessary.

There are no new off-ramps being delivered as part of this proposal.

15. Traffic modelling was conducted between 2023 and 2033. The traffic modelling indicates the network would benefit from the safety and efficiency improvements during these years. Modelling beyond 2033 has not been undertaken as part of this assessment.

2.9 Active transport

Submission number(s)

9, 20, 67, 70, 73, 83, 106, 120, 121, 123, 124, 126, 127, 128, 135, 138, 140, 146, 149, 153, 159, 161, 166, 168, 169, 179, 181, 182, 184, 185, 194, 195, 196, 207, 211, 214, 216, 217, 219, 232, 243, 244, 247, 250, 252, 258

Issue description

1. Concern the proposal prioritises cars over people. Concerns centred around:
 - removes pedestrian amenities and safety
 - does not align with Transport's Movement and Place guidelines or DPE's Pyrmont Peninsula Place Strategy
 - should consider optimal future outcomes for placemaking and active transport
 - increasing traffic throughout Pyrmont and Ultimo
 - increasing traffic is not green friendly
 - long term plans to improve pedestrian access between the current Fish Market and the city.
2. Query impact on the pedestrian pathway alongside the Western Distributor and if access to Harbour Bridge from Pyrmont would be maintained in operation. Does not support changes to the walkway or on any active transport on Fig Street and Harris Street intersection.
3. Concern impact of removal of pedestrian crossing on local businesses as would reduce access to Ultimo and Pyrmont.
4. Bicycle NSW would like to be consulted on all detours and changes to pedestrian and cycling facilities so that we can help deliver optimal routes that are accessible to all road users.
5. Concern the proposal does not consider the expected influx of pedestrians with the completion of the new Sydney Fish Market, the proposed apartment complex, the new metro station the new Blackwattle Bay redevelopment and the re-establishment of the Wentworth Park area. Concern for pedestrian safety trying to access these areas.

Response

1. The proposal objectives focus on improving safety and efficiency of the motorway and off ramps to futureproof the Western Distributor and Anzac Bridge as a safe, reliable and accessible motorway connection, supporting broader network resilience in line with Sydney's future growth. The proposal also focuses on ensuring key accesses into and out of Pyrmont are reliable and efficient to cater for future demand. The Pyrmont Peninsula precinct is undergoing major transformation and requires a multi-agency approach to coordinate the scope and delivery of local active transport provisions, place-based revitalisation and social outcomes. Active transport amenity upgrades and revitalisation of underused spaces within the study area require wider network planning and land use consideration than is possible for this proposal. As a separate program of works, Transport is investigating a range of improvements throughout the precinct that would align with the long-term vision for the Precinct, including those explored within DPE's Pyrmont Peninsula Place Strategy and the Pyrmont Ultimo Transport strategy.
2. Induced traffic demand through Pyrmont and Ultimo was not recorded in the traffic modelling results but is not expected to be created by the proposal through improved network efficiency. The proposal

would not impact on the existing pedestrian pathway that runs alongside the Western Distributor from Pyrmont Street to Darling Harbour. The proposal would not affect the existing pedestrian pathway between Ultimo and Darling Harbour from Fig Street. There would also be no changes to the Fig Street / Harris Street intersection.

3. The removal of the pedestrian crossing on the southern leg of the Harris Street and Allen Street intersection aims to improve road traffic efficiency and to avoid potential for road traffic and pedestrian incidents. While pedestrians would be re-routed via the remaining three signalised pedestrian crossings, any delay time incurred from additional crossing movements is expected to be minimal because of improved traffic signal phasing. Access to the bus stops and shops would be maintained by the remaining three signalised pedestrian crossings of the intersection. In addition, the northbound Harris Street at Allen Street bus stop (Stop ID: 200926) would be relocated from the southern side of the Allen Street and Harris Street intersection to the northern side of the intersection as part of the revised design (refer to Section 4.3). This is to align the northern pedestrian crossing with the bus stop and reduce impacts to pedestrians accessing it.
4. The proposal would not result in any substantial pedestrian or cyclist detours during operation; however, it is noted that during construction, there may be some short-term detours or changes to facilities. Transport would continue to consult with Bicycle NSW during construction (refer to new management measure TT9).
5. This proposal focuses on safety, efficiency and resilience of the Western Distributor corridor as well as the accesses into and out of Pyrmont. Changes to be implemented as part of this proposal does not preclude future active transport improvements to service developments including the new Fish Market location or Sydney Metro West. Transport has committed to improving active transport amenity within Pyrmont and a plan is being developed through the Pyrmont Ultimo Transport Plan.

2.10 Biodiversity

Submission number(s)

65, 76, 79, 133, 140, 159, 161, 194, 196, 219, 228, 232, 243, 247, 250

Issue description

1. Concern for the potential environmental impacts of the proposal. Concern centred around:
 - impacts on the plant community throughout the proposal area.
 - the removal of 70 trees/loss of tree canopy, including ones of high value.
 - no guarantee the Biodiversity Offset Policy would secure replacement of the removed trees
2. Suggestion to include replacement of native trees, installation of nest boxes and relocation of existing trees where possible. 243.19 Support Transport's management measures to adopt and enact a fauna management plan with the aid of NSW WIRES.

Response

1. Transport acknowledge that the proposal would have impact to street trees and the amenity value that they provide. Transport sought advice from both internal and external arboricultural specialists in the development of the REF. The assessment identified 69 trees as potentially impacted and requiring removal and some identified for pruning (as well as two dead trees recommended for removal). This includes impact to trees on Allen Street for its reconfiguration and associated utility works, Palm trees in medians, and potential trimming to Fig Trees on Glebe Island Bridge approach. In addition, changes to the weave ramp and associate construction activities (refer to Chapter 4 of this report) identified an additional 10 trees requiring removal as part of the proposal. This brings the cumulative impact to 79 trees. Safeguards to further avoid and reduce vegetation impacts during detailed design and if approved, during pre-construction are included within the REF. The proposal includes landscaping plan and review of opportunities including translocations and advanced tree stock to mitigate amenity impact. Additionally, the proposal has committed to offset the impact of trees removed in accordance with the Transport Biodiversity Offset Policy. This also includes requirements for offset if hollow bearing trees are impacted. Since the display of the REF, additional tree impacts have been identified and are detailed in Chapter 5 of this submissions report. Safeguards from the REF would apply to these new impacts.

2. The proposal includes tailored landscaping to minimise amenity impacts of tree loss. In addition, the proposal has committed to offset the impact of trees removed in accordance with the Transport Biodiversity Offset Policy. Installation of nest boxes are not currently proposed, however the Policy includes provisions for offsetting impact to hollow bearing trees. An opportunity for tree relocation is captured within safeguard (AB2) which requires further assessment of the potential translocation of impacted Cabbage-tree Palms in Darling Harbour.

Support for the mitigation measures are noted. Under management measure GEN3, all personnel on site would receive training prior to working on site regarding environmental requirements including the Biodiversity Management plan and stop work requirements and noise and vibration management measures.

2.11 Public transport

Submission number(s)

18, 132, 144, 149, 151, 156, 159, 161, 171, 172, 175, 179, 180, 181, 185, 186, 196, 212, 228, 243, 244, 250, 258

Issue description

1. Closure of the right turn onto Bank Street would cause more traffic issues. Suggestion that the 501 Bus should be able to turn onto Bank Street from the Anzac Bridge off-ramp.
2. Comment the proposal does not consider public transport. Query if there is a public transport strategy as part of the proposal.
3. Oppose changes to public transport in Pyrmont, including Bus 501 and 389 routes, removal of the bus stop on King Street and Light Rail. Comment changes are unnecessary and concern for operational impacts on the bus service, particularly impacts on school children and local residents accessing the bus. Concern how 501 bus route will continue to service Miller Street.

Response

1. Allowing the 501 bus to turn onto Bank Street is expected to degrade the benefits of removing the turning movements onto Bank Street from Pyrmont Bridge Road off-ramp due to the frequency of the bus service and the additional traffic signal phase and associated delays to accommodate the movement. A bus-only turning movement from Pyrmont Bridge Road off-ramp onto Bank Street is therefore not considered feasible.
2. The proposal objectives focus on improving safety, efficiency and resilience of the Western Distributor and off ramps to make sure there is a safe and reliable motorway connection. There are around 100 buses per hour in the morning peak travelling eastbound towards the CBD. The majority of these bus services would benefit from the changes identified in the proposal.

As a separate program of works, Transport is investigating a range of improvements throughout the precinct that would align with the long-term vision for the Precinct including improvements to public transport through the Pyrmont to Ultimo Transport Plan.

3. Pyrmont Bridge Road currently experiences large traffic volumes travelling to and from Pyrmont. Traffic demand for Pyrmont Bridge Road is expected to grow with the delivery of several developments in the precinct, particularly Blackwattle Bay redevelopment and population growth.

Transport has engaged with the community through the REF public engagement sessions to gain feedback into alternative routes and bus stops as a result of this proposal. Transport would continue to engage with the community, bus route planners and operators to keep bus stops in the same locations where feasible and to agree alternative bus stops where current bus stops have been impacted. Light rail services would only be temporarily impacted during construction of the proposal. Transport would work within Light Rail shutdowns where possible to limit impacts to services. The proposal would not affect the 389 bus route.

2.12 Proposal design and construction

Submission number(s)

122, 149, 177, 178, 179, 182, 184, 185, 194, 196, 207, 214, 216, 217, 218, 219, 229, 231, 232, 235, 243, 244, 247, 248, 252, 256, 257, 259, 260

Issue description

1. Concern the proposal contradicts the Pyrmont Peninsula Precinct Strategy, Future Transport 2061, the Pyrmont Ultimo Transport Plan and Movement and Place. Concern removal of pedestrian crossings would not improve road safety. Suggestion to utilise Glebe Island Bridge as an alternative pedestrian route.
2. Oppose network changes to the Western Distributor.
3. Support the overall proposal.
4. Concern the proposal reduces amenities in the Pyrmont and Ultimo areas.
5. The REF does not disclose the overall cost of the proposal. Query if overall benefits justify the cost of the proposal.
6. Query the consideration of alternative options to address road congestion, including reducing road capacity, and/or use congestion/road pricing. These options would cost significantly less than the proposed works; road/congestion pricing would provide income for the state government.
7. Query the efficiency of WestConnex to reduce local traffic, instead bringing more traffic towards the CBD. Are the changes to the Pyrmont off-ramps an attempt to send the pinch point further east so Rozelle performs well for a little longer?
8. Construction zones on Glebe Island Bridge shoulder is a concern. Please check strength as water subsidence is evident.
9. Concern proposal shows potential to introduce road pricing system.
10. Comment money spent on road expansion could be used elsewhere.
11. Concern proposal would just shift traffic congestion issue into the future when the temporary improvements induce demand for additional vehicle trips.

Response

1. The proposal objectives focus on improving safety and efficiency of the motorway and off ramps to futureproof the Western Distributor and Anzac Bridge as a safe, reliable and accessible motorway connection, supporting broader network resilience in line with Sydney's future growth and in line with Future Transport strategy. The Pyrmont Peninsula precinct is undergoing major transformation and requires a multi-agency approach to coordinate the scope and delivery of local active transport provisions, place-based revitalisation and social outcomes. Active transport amenity upgrades and revitalisation of underused spaces within the study area require wider network planning and land use consideration than is possible for this proposal. As a separate program, Transport is investigating a range of improvements throughout the precinct that would align with the long-term vision for the Precinct, including those explored within DPE's Pyrmont Peninsula Place Strategy and the Pyrmont Ultimo Transport Plan. The Pyrmont Peninsula Place Strategy recognises the critical movement function of all modes of transport in the Pyrmont. This proposal does not preclude the future vision for Pyrmont as outlined in the Strategy.

The removal of the southern pedestrian crossing on Harris Street and Allen Street intersection would change the way pedestrians move across the intersection, however is not expected to reduce safety. The northbound Harris Street at Allen Street bus stop (Stop ID: 200926) would be relocated from the southern side of the Allen Street and Harris Street intersection to the northern side of the intersection as part of the revised design (refer to Section 4.3). This is to align the northern pedestrian crossing with the bus stop and reduce impacts to pedestrian accessing it.

The use of Glebe Island Bridge as an alternative pedestrian route is outside the scope of this proposal.

2. Opposition is noted.
3. Support is noted.

4. The socio-economic chapter assessed the proposal's impact to Community, Liveability and Amenity values based on the findings of the noise and vibration, biodiversity, visual impact and traffic and transport assessments. The socio-economic assessment concluded the proposal would have impact on local amenity in the form of noise, visual and accessibility impacts during construction, which can be mitigated through implementation of the recommended safeguards. Specific mitigation measures have also been developed as part of the Urban Design process to mitigate the visual amenity changes associated with new built features and tree loss. This includes safeguards to incorporate mature tree stock into the landscape design. Additionally, Transport have committed to offset impacts of vegetation removal through the implementation of the Biodiversity Offset Policy (2022). Once operational, the proposal would result in greater network resilience and improvements to road safety.

With regard to pedestrian amenity at the Harris Street and Allen Street intersection, Transport recognises the removal of the southern pedestrian crossing would change the way pedestrians move across the intersection. The northbound Harris Street at Allen Street bus stop (Stop ID: 200926) would be relocated from the southern side of the Allen Street and Harris Street intersection to the northern side of the intersection as part of the revised design (refer to Section 4.3) to align the northern pedestrian crossing with the bus stop and reduce impacts to pedestrian accessing it.

5. The primary purpose of the REF is to assess impacts of the proposal as it relates to environmental factors and proposal cost is not disclosed by the REF. However as a core requirement of proposal development is cost-benefit analysis and securing funding, it should be noted the cost of the proposal was given proper consideration.
6. Reducing road capacity creates a dispersion of traffic through surrounding local streets or 'rat running'. Many vehicles accessing Pyrmont and Ultimo do so by road as its usually the most appropriate option such as commercial vehicles. Introducing a congestion charge is not part of this proposal.
7. Efficiency and safety issues along Western Distributor are current and occur today. Traffic modelling indicates the issues are expected to worsen in future years, particularly with the opening of substantial infrastructure within the Pyrmont Precinct.
8. The proposal has identified the bridge approaches of the Glebe Island Bridge may be suitable for use as a construction compound site. Prior to construction, the contractor would further assess the suitability of the site for use.
9. Introduction of road network charges are not part of the scope of this proposal.
10. This proposal focuses on the movement of Western Distributor corridor however, Transport has committed to improving all other modes of transport in Pyrmont by investing substantially in public transport with the delivery of Sydney Metro West and is developing a plan to improve active transport and road-based amenity through the Pyrmont Ultimo Transport Plan.
11. Traffic modelling was conducted up to 2033. The traffic modelling indicates the proposal would contribute to safety and efficiency benefits during these years. Modelling beyond 2033 has not been undertaken as part of this assessment.

2.13 Proposal need and options

Submission number(s)

123, 149, 191, 196, 198, 207, 219, 228, 232, 236, 243, 256, 257, 258, 261

Issue description

1. Query if Western Harbour Tunnel and WestConnex would reduce traffic on the Western Distributor, are upgrades are needed? Query if road network upgrades would be incorporated with the Western Harbour Tunnel works? Suggestion to postpone the proposal until the Metro station and other developments are completed.
2. Opposes the expansion of the Western Distributor in the Ultimo and Pyrmont area as it is not an improvement.
3. Concern the proposal does not support the local community and would not alleviate traffic congestion.
4. Concern the proposal is not sustainable as it would result in increased emissions, congestion costs, loss of street commerce and exclusion of those who can't drive.

5. Comment the proposal is inconsistent with Transport's policies, including the Future Transport Strategy which aims to reduce private vehicle in urban areas and provide space for sustainable mobility.
6. Concern the proposal conflicts with the NSW Government's Pyrmont Peninsula Place Strategy, which proposes reduced traffic lanes, slower traffic speeds and increased tree plantings.

Response

1. Both strategic and operational traffic modelling have been undertaken on this corridor considering the impact of Western Harbour Tunnel. The Anzac Bridge and Western Distributor is currently at or over capacity and experiences safety and resilience issues requiring intervention. Some reduction of traffic demand is expected on the road corridor when the Western Harbour Tunnel becomes operational which would attract a small portion of traffic bound for northern Sydney to use the tunnel rather than the Harbour Bridge. However, increases in traffic expected by the introduction of WestConnex as well as major development in Pyrmont including Blackwattle Bay redevelopment and New Sydney Fish Market upgrade would result in greater traffic demand for Anzac Bridge and Western Distributor that outweigh traffic volume relief gained from the opening of Western Harbour Tunnel. Further, strategic traffic modelling conducted with and without Sydney Metro West indicates there would be minimal change in traffic volumes or travel demand into and out of this corridor in future years. The safety and resilience issues on the road network warrant intervention and should not await the completion of other projects such as Western Harbour Tunnel and Sydney Metro West.

2. Opposition is noted.

3. The proposal objectives focus on improving safety and efficiency of the motorway and off ramps to futureproof the Western Distributor and Anzac Bridge as a safe, reliable and accessible motorway connection, supporting broader network resilience in line with Sydney's future growth. The proposal also focuses on ensuring key accesses into and out of Pyrmont are reliable and efficient to cater for future demand.

Additional traffic modelling to that in the REF was undertaken in operational traffic modelling software VISSIM to address submissions relating to forecasted queue lengths, travel time increases and traffic volume increases throughout the network as a result of the proposal.

Results indicate that without the proposal, queues are expected to extend onto the Western Distributor from the Allen Street and Harris Street intersection in the 2023 and 2033 peaks. Congestion from the Allen Street off-ramp onto the motorway would likely cause traffic to weave around stationary vehicles. For this reason, changes to this intersection are deemed necessary.

Due to the proposal, queues are expected to be reduced between 50 metres and 190 metres on the Allen Street off-ramp and be contained within the length of the off-ramp for the majority of peak hours in 2023 and 2033. On occasion, congestion reached Western Distributor as observed in the traffic models, however it would occur substantially less often and for shorter durations than without intervention.

Results also indicate that queues on the Pyrmont Bridge Road eastbound off-ramp are expected to exceed 250 metres in the 2023 AM and 2033 AM peaks and over 300 metres in the 2033 PM peak without intervention. This congestion is expected to cause traffic to weave on Anzac Bridge earlier to avoid stationary traffic waiting to access the off ramp. A queue extending this far on a single lane off-ramp with a steep decline, constrained on either side by Sydney Light Rail and Western Distributor viaduct piers, is a hazard and incidents would be difficult to manage. With residential and commercial development expected near Blackwattle Bay and the surrounds, it is critical that Transport maintains the safety and resilience of this off-ramp as demand grows. As such, these intersection changes are considered necessary.

By removing the turning movements from the off-ramp to Bank Street, queues are expected to reduce by up to 120 metres in peak hours. The queue is still expected to exceed 250 metres at times with the changes, however it occurs later in the peak and for a shorter duration.

4. This proposal focuses on safety and efficiency of the Western Distributor corridor to ensure the millions of trips that rely on this corridor each year reach their destinations safely and reliably. Transport has committed to improving active transport and place-based amenity through the Pyrmont precinct and a plan is being developed through the Pyrmont Ultimo Transport Plan. Increased congestion cost and emissions are not expected as a result of the proposal.
5. The proposal is consistent with the Future Transport strategy (2022) in that it would improve transport connectivity for NSW's growing population and support a '30-minute city' (C1) and supports freight

networks, ensuring supply chains are efficient and reliable (E1) by facilitating a reliable, safe and resilient Western Distributor which is one of Sydney's busiest and most critical road corridors that services over 100,000 trips per day, including freight movements and buses. The weave ramp also aligns with Future Transport strategy C4 which aims to make sure our transport networks are safe by resolving a critical safety weaving issue attributable to over 100 crashes and near misses per year on average (crash data between 2016 and 2020).

6. The Pyrmont Peninsula Place Strategy recognises Harris Street as a 'high street', which can be described as a lively street that supports high place intensity and a high level of multi-modal movement as per NSW Government Movement and Place framework. Harris Street plays an important movement function due to the connection to the Western Distributor, one of Sydney's busiest road corridors and critical to Sydney's future growth. While this proposal supports the efficiency of the Western Distributor and off-ramps into Pyrmont, it does not preclude the future vision for Pyrmont as outlined in the Strategy.

As a separate program, Transport are investigating improvements to the precinct that align with the long-term vision for the Pyrmont Precinct including those explored within the Pyrmont Peninsula Place Strategy.

2.14 Construction

Submission number(s)

23, 65, 76, 138, 140, 147, 159, 161, 167, 179, 185, 186, 196, 219, 226, 227, 228, 232, 241, 242, 243, 246, 249, 250, 258

Issue description

1. Concern about overall impacts of construction including noise, vibration and environmental- especially in areas that have previously been exposed to construction such as Balmain and Rozelle.
2. Concern about noise, vibration, stockpiling, waste and amenity impacts on the Glebe Island Bridge and the Pyrmont area as a result of construction.
3. Oppose two years of construction impacts to residents, visitors and to public/active transport methods expected with the proposal. Concern for resident health and wellbeing.
4. Oppose the establishment of the compound site on Jones Lane and Glebe Island Bridge due to removal of trees and the impacts on nearby residents during construction.
5. Oppose the use of the Dragon Boat carpark for parking of construction site as it would restrict access for club members that utilise the space regularly to attend training sessions.
6. Concern cumulative traffic impacts of multiple large-scale projects occurring at the same time. Suggests a management plan could be developed to consider the other projects.
7. Comment in support of construction lighting control and encourage that lighting does not provide light spill to adjacent mature trees or adjoining neighbours.

Response

1. Section 6.4 of the REF details the construction noise assessment for all construction activities. Areas of Balmain and Rozelle were included in that assessment. The assessment identified that predicted construction noise impacts are below the identified construction noise management levels. This is mostly due to the distance of the works to these areas.
2. As discussed in Section 3.3.2 of the REF, the use of a site compound on the Glebe Island Bridge east abutment for the proposal would be confined to material laydown and stockpiling of material. This means that there would be temporary delivery and storage of steel or other precast elements and short-term storage of materials to be removed from site. This would be removed on a regular basis and would be kept in a tidy and orderly fashion. Upon completion, all materials or equipment and plant would be removed from the site and the site returned to existing conditions. Transport has discussed this proposal with Heritage NSW and can confirm this would not trigger the need for a heritage approval. In addition, the Statement of Heritage Impact identified that only minor temporary adverse impact would result from the use of the site as no ground disturbance or fabric changes are required and the site

setup would be restored to existing condition on completion. The site is currently fenced and is not publicly accessible.

3. The proposal would have impact to surrounding receivers including traffic and amenity impacts (such as noise and visual) for the duration of construction. Chapter 6 of the REF details the impacts that would be expected during the construction of the proposal. A range of management measures are also detailed to manage those environmental impacts. While the proposal would be under construction for two years, impacts would be variable as construction activities and locations change over the duration of works.

Transport has engaged with the community through the REF public engagement sessions to gain feedback into alternative routes and bus stops as a result of this proposal. Transport would continue to engage with the community, bus route planners and operators to keep bus stops in the same locations where feasible and to agree alternative bus stops where current bus stops have been impacted.

Impacts to the light rail corridor would be as a result of works being undertaken over the light rail corridor. These works, where practicable would be undertaken during possession dates or at night when there are limited services. Transport would continue to consult with the light rail operators during detailed design and construction. In addition, Transport is aware that this construction would come after much construction in the surrounding area and note that other major projects would also be in construction at the same time as this proposal. As such the REF identified a management measure for the ongoing coordination and consultation with contractors of other major projects in the area to assess and mitigate cumulative impacts including noise and respite, coordinated detours, and traffic impacts.

There would be some disruption to pedestrians and cyclists during construction, including localised closures and detours of footpaths at Pyrmont Bridge Road, Allen Street and Harris Street intersection and at Harris Street where the new ramp would be constructed. This would not impact the pedestrian pathway from Harris Street and Fig Street to Darling Harbour. Safe detour arrangements would be subject to approved Traffic Management Plan arrangements which would be developed in coordination with adjacent construction activities to consider cumulative travel impacts. The use of construction compound sites would impact surrounding receivers including traffic, parking and amenity impacts (such as noise and visual) during the construction period. The REF has identified a range of management measures to manage impacts of the construction phase to the surrounding receivers.

4. Transport investigated several options for compound sites before deciding on the four proposed in the REF. It is considered we would require the use of all nominated compound sites to support construction, including Jones Lane and Glebe Island Bridge eastern approach. The proposed use of Transport land at Jones Lane would impact some trees but there are safeguards included in the REF to protect larger, higher retention value trees around the edge of the site. The proposal includes a landscape plan to mitigate amenity impacts of the proposal. Additionally, trees that are impacted by the proposal are to be offset in accordance with Transport Biodiversity Offset Policy (2022). The REF includes mitigation measures including specialist arborist engagement to minimise potential impacts to the two Fig trees at the Glebe Island Bridge site. Trees to be retained are to be protected in accordance with Australian Standards for tree protection on construction sites.
5. Transport has engaged with stakeholders operating the Dragon Boat racing events and activities as part of the REF consultation processes. Transport has committed to co-locate with the Dragon Boats activities during construction to ensure events and activities can still occur in the same location (5-19 Bank Street, Pyrmont). Transport would continue to engage with the operators of the Dragon Boats during construction to minimise impacts as best possible.
6. Transport is aware that this construction would come after much construction in the surrounding area and note that other major projects would also be in construction at the same time as this proposal. As such the REF identified a management measure (CUL1) for the ongoing coordination and consultation with contractors of other major projects in the area to assess and mitigate cumulative impacts particularly traffic and noise impacts.
7. During construction, some works may need to be undertaken at night where lighting would need to be used at both construction sites and compound sites. Where possible, lights would be angled or shielded to avoid light spill into neighbouring properties or areas not in the construction footprint. A new management measure (UDL2) has been incorporated for the proposal for the consideration of appropriate lighting and appropriate shielding of lights during construction.

2.15 Noise and vibration

Submission number(s)

196, 228, 243

Issue description

1. Concern vibration impacts on the Goldsbrough Mort and Global Switch buildings, requesting dilapidation inspections and reports before, during and after work completion, ensuring all damages are fixed by qualified operators.
2. Suggestion Transport could provide an allowance for residents and workers to be accommodated elsewhere for the duration of the works.

Response

1. Section 6.4.2 of the REF details the potential for construction vibration. In particular it is noted that the Goldsbrough Mort building may be within the minimum distance for cosmetic damage, depending on what plant and equipment is selected by the contractor. A construction vibration management plan would be prepared and implemented by the contractor that would include identification of properties requiring building condition survey and coordinate the appropriate surveys. The plan also outlines management measures to minimise vibration impacts, including vibration testing during construction to assess compliance with the relevant Office of Environment and Heritage (OEH) guidelines and best practice.
2. Transport recognise that construction noise impacts would be a key construction issue and would implement standard noise mitigation measures in accordance with an approved Noise and Vibration Management Plan. Additionally, because of the high density of receivers, Transport have developed detailed 3D construction noise modelling software for the proposal to be able to make accurate construction noise predictions. This modelling software would be used to inform assessments of eligibility for offer of alternate accommodation for each main construction scenario.

2.16 Socio-economic

Submission number(s)

123, 128, 176, 182, 184, 190, 212, 218, 247, 254, 258, 260

Issue description

1. Concern the proposal would reduce urban amenity of Pymont and Ultimo by increasing traffic volume in the area. Concern the proposal would impact on wellbeing and safety of residents and operation of local businesses.
2. Concern the proposal would impact the local residents due to reduced pedestrian access, parking loading zones, rubbish collection and traffic flow.
3. Concern increasing traffic flows and speeds on urban streets will not improve safety.
4. Query commitment to re-establishing amenity once work is complete.

Response

1. The socio-economic chapter assessed the proposal's impact to Community, Liveability and Amenity values based on the findings of the noise and vibration, biodiversity, visual impact and traffic and transport assessments. The socio-economic assessment concluded the proposal would have impact on local amenity in the form of noise, visual and accessibility impacts during construction, which can be mitigated through implementation of the recommended safeguards. Specific mitigation measures have also been developed as part of the Urban Design process to mitigate the visual amenity changes associated with new built features and tree loss. This includes safeguards to incorporate mature tree stock into the landscape design. Additionally, Transport have committed to offset impacts of vegetation removal through the implementation of the Biodiversity Offset Policy (2022). Once operational, the proposal would result in greater network resilience and improvements to road safety.

2. As detailed in Section 6.2 of the REF, there would be eight parking spaces and one loading zone that would be permanently removed. In addition, there would be two parking spots on Harris Street removed. The parking assessment in the REF (refer to Section 6.2) identified that there would be sufficient parking spaces in the surrounding streets to accommodate the loss in public parking. There is a loading zone on Allen Street to the east of Harris Street that can be used by businesses. Pedestrian access would not be restricted by the proposal. Access at Pymont Bridge Road would be retained but safety improved by signalling the pedestrian crossing, forcing vehicles to stop to allow pedestrians sufficient time to cross. At Harris Street and Allen Street intersection, while the southern pedestrian crossing would be removed, access to south west and south east Harris Street would be maintained through the remaining three signalised crossings and any delay time incurred from additional crossing movements is expected to be minimal due to improved traffic signal phasing as a result of the proposal. In addition, the northbound Harris Street at Allen Street bus stop (Stop ID: 200926) would be relocated from the southern side of the Allen Street and Harris Street intersection to the northern side of the intersection as part of the revised design (refer to Section 4.3). This is to align the northern pedestrian crossing with the bus stop and reduce impacts to pedestrians accessing it. The proposal would not obstruct rubbish collection as this service can still occur with the new intersection layouts. Traffic flow is expected to improve as a result of the proposal.
3. The proposal would not change speed limits or the speed of traffic on streets surrounding the Western Distributor. The proposal would improve the efficiency of the Pymont Bridge Road and Bank Street intersection as well as the Harris Street and Allen Street intersection, resulting in less queuing on the Pymont Bridge Road eastbound and Allen Street off-ramps. The proposal would not increase the number of vehicles using the off-ramps and connecting streets, rather improve the efficiency in which they move through the network.
4. The key amenity impacts would be the loss of vegetation. Through the design of the proposal, where possible, tree removal has been minimised and management measures developed to further identify opportunities to mitigate impacts during construction. However, this proposal would result in the removal and trimming of existing street trees (refer to section 6.3 of the REF). Trees removed by the proposal would be offset in accordance with Transport's Biodiversity Offset Policy (see management measures AB1).

The Pymont Peninsula precinct is undergoing major transformation and requires a multi-agency approach to coordinate the scope and delivery of local active transport provisions, place-based revitalisation and social outcomes. Active transport amenity upgrades and revitalisation of underused spaces within the study area require wider network planning and land use consideration than is possible for this proposal. As a separate program, Transport is investigating a range of improvements throughout the precinct that would align with the long-term vision for the Precinct, including those explored within DPE's Pymont Peninsula Place Strategy and the Pymont Ultimo Transport strategy. This approach has been taken to meet the requirements of the Providing for Walking and Cycling in Transport Projects Policy, but also to make sure that this is considered at a precinct level to provide a wholistic strategy for the area, not just those areas impacted by the proposal.

2.17 Consultation

Submission number(s)

194, 207, 231, 232, 235, 256

Issue description

1. Consultation period was not convenient for community as it ran over the school holidays, and feedback mechanism was not adequate- seemed to discourage responses.
2. Concern consultation with the community, and stakeholders regarding the proposal was inadequate.

Response

Transport recognised the REF consultation period would extend over the school holiday period. To account for this, Transport extended the consultation period to five weeks as opposed to the standard four-week consultation period. City of Sydney Council was also granted an extra one-week extension to provide their submission. In addition to an extended consultation period, Transport held 11 face-to-face community sessions and an online live stream on 13th October to gather feedback from the community which was recorded and added to the project portal.

The consultation effort also included over 27,000 letterbox drops, and doorknocking to residents and businesses within key parts of the proposal area. In addition, the project team held targeted briefings with key stakeholders including Council, other government agencies, and community groups during the display period.

2.18 Urban design

Submission number(s)

196, 243

Issue description

1. Suggestion to include sculptural art trees under the Western Distributor to improve visual amenity.

Response

1. This proposal focuses on safety and efficiency of the Western Distributor corridor to ensure the millions of trips that rely on this corridor each year reach their destinations safely and reliably. Transport is developing a plan to improve place amenity through Pyrmont and Ultimo through the Pyrmont Ultimo Transport Plan. Your feedback has been noted and the community would be consulted on potential options for the precinct when the plan has been developed.

2.19 Not part of the proposal

Submission number(s)

5, 14, 20, 30, 31, 43, 64, 76, 91, 122, 138, 162, 228, 234, 248, 255, 257

Issue description

1. Many suggestions for the proposal including:
 - to build connection from Anzac Bridge to Wattle Street that was part of the original design
 - for additional connections from the Darling Harbour weave ramp to Druitt Street to increase accessibility from Pyrmont to the City.
 - to build a train line.
 - to open Glebe Island Bridge to local Balmain traffic.
 - to add lighting and CCTV under the Western Distributor to encourage use of active transport
 - to utilise Glebe Island Bridge for pedestrian and cyclist access
 - for the addition of a pedestrian link along Harris Street from Central to the foreshore.
2. Query how smart motorway upgrades would reduce 'stop-start' driving over the Anzac Bridge.
3. Suggestion to include a bus lane in both directions on the Anzac Bridge and connecting roads to help reduce traffic.
4. Query whether improvements to access Balmain from Glebe have been considered.
5. The proposal design ignores weaving movements on Anzac Bridge as people avoid exiting at Pyrmont Bridge Road.
6. Query quality of the road surface has been considered as part of the proposal, as impacts road safety.
7. Comment regarding the reinstatement of the Fig Street Walkway- the 'missing link' between Darling Harbour and the CBD.
8. Concern crossover design would not address traffic issues.
9. Comment that the current road network in Pyrmont is not particularly unsafe and does not justify the network upgrades. Suggestion to lower speed limits throughout Pyrmont instead.

Response

1. The suggestions are not part of the scope for this proposal.
2. Transport for NSW is revisiting the traffic management proposal on the Anzac Bridge and as such would be removing the gantries from this proposal. Due to the strong feedback in opposition to the gantries proposed and assessed in the REF, Transport would re-assess all aspects of the gantries in this proposal in terms of need, location, visual impact, and heritage impact. All three gantries have been removed from the scope of this proposal.
3. This proposal focuses on safety and efficiency of the Western Distributor corridor to ensure the millions of trips, including bus trips, that rely on this corridor each year reach their destinations safely and reliably. There are approximately 100 buses per hour in the morning peak travelling eastbound towards the CBD. The majority of these bus services would benefit from the changes identified in the proposal. Introducing a bus lane on Anzac Bridge is not part of this proposal, however there are several other Transport initiatives investigating bus priority along and around this corridor. Supporting public transport is also a key outcome and commitment identified in the *Future Transport Strategy (2022)*.
4. Access to Balmain from Glebe is not part of the scope for this proposal.
5. Weaving on Anzac Bridge to avoid the Pymont Bridge Road exit is outside the scope of this proposal.
6. Pavement quality is addressed within the Asset and Maintenance branch within Transport. Pavement quality is not part of the scope for this proposal.
7. The Fig Street Walkway is outside the scope of the proposal.
8. Traffic modelling results indicate that without intervention, key intersections particularly Pymont Bridge Road and Bank Street and Allen Street and Harris Street would become more congested and fail to service key destinations. With these intersections being the main access into and out of Pymont, it is critical they operate efficiently and reliably, including for emergency service vehicles. As part of the REF, SIDRA traffic modelling was conducted on this intersection considering future year traffic demands. Results indicate the performance of the intersection would improve from Level of Service (LoS) D to C in 2033 AM peak. Additional traffic modelling undertaken in VISSIM shows a reduction in queues extending onto the Western Distributor and more vehicles moving through the intersection as a result of the changes. This indicates the proposal is improving the intersection efficiency. Without intervention, poor performance at this intersection is expected to result in queues extending onto the Western Distributor and causing traffic to weave around stationary traffic queued beyond off-ramp storage bays.

The new ramp at Fig Street would reduce the existing safety issue at Darling Harbour. Currently, traffic from the Fig Street and Pymont Street on-ramp cross two lanes of traffic to reach Sydney Harbour Bridge bound lanes. Simultaneously, traffic from Western Distributor crosses up to two lanes of traffic to reach the King Street off-ramp into the CBD. This weaving issue has caused on average 100 crashes and near misses per year between 2016 and 2020. The new on-ramp from Fig Street would allow traffic that is travelling to the Harbour Bridge to minimise the weave manoeuvre at Darling Harbour by allowing entry onto the Western Distributor on the right side (ie into the lane that goes to the Harbour Bridge).
9. Lowering speed limits through Pymont is outside the scope of this proposal.

3. Response to government agency submissions

3.1 Overview of submissions received

A total of four formal submissions were received from government agencies in response to the display of the REF, which have been responded to in this section. Submissions were received from:

1. City of Sydney Council
2. Heritage NSW
3. Inner West Council
4. Member for Balmain

Transport has and would continue to consider any informal feedback provided by government agencies during detailed design and the construction of the proposal.

Key issues mentioned in the submissions included:

- wanting further clarification on how the traffic modelling was undertaken and assumptions used
- the justification for the proposal, particularly in light of other developments such as WestConnex and the Sydney Metro West project
- improving safety and efficiency for all road users, not just vehicles
- concerns around changes in traffic movement in Pyrmont
- concern around tree removal.

3.2 City of Sydney Council

3.2.1 Active transport

Issue description

1. The proposal could compromise the ability for Metro to deliver additional space for people walking on Pyrmont Bridge Road. A surface road plan should be developed for the Pyrmont peninsula that reallocated road space to people walking and cycling
2. Removing of signalised pedestrian crossing on Harris Street and introducing an additional traffic lane on Allen Street should be assessed to identify impacts to people walking, particularly in terms of increased delay and reduced accessibility.
3. Converting the Pyrmont Bridge Road off-ramp zebra crossing to a signalised intersection should be assessed for impacts on people walking, particularly in terms of increased delay and reduced accessibility.

Response

1. Pyrmont Bridge Road currently experiences large traffic volumes travelling to and from Pyrmont. Traffic demand for Pyrmont Bridge Road is expected to grow with the delivery of several developments in the precinct, particularly Blackwattle Bay redevelopment and population growth. Changes to be implemented as part of this proposal does not preclude future active transport options on Pyrmont Bridge Road.

This proposal focuses on safety, efficiency and resilience of the Western Distributor corridor as well as the accesses into and out of Pyrmont. Transport has committed to improving active transport and place-based amenity through the Pyrmont precinct and a plan is being developed through the Pyrmont Ultimo Transport Plan.

2. Pedestrians would be re-routed via the remaining three signalised crossings and any delay time incurred from additional crossing movements is expected to be minimal due to improved traffic signal phasing as a result of the proposal. Access to the bus stops and shops are maintained by the remaining three signalised crossings of the intersection. In addition, the northbound Harris Street at Allen Street bus stop (Stop ID: 200926) would be relocated from the southern side of the Allen Street and Harris Street intersection to the northern side of the intersection as part of the revised design (refer to Section 4.3). This is to align the northern pedestrian crossing with the bus stop and reduce impacts to pedestrians accessing it.

Future traffic volumes are expected to grow at this intersection, with majority of traffic turning right from Allen Street onto Harris Street southbound heading towards Central and southern Sydney. Without intervention, the right turning queues would extend from the intersection to the Western Distributor and delays would increase. Increased delays and queues could change the behaviour of motorists to turn late into the turning phase cycle, pressuring pedestrians and cyclists to cross quickly and raising the risk of vehicle-pedestrian incidents.

3. Currently, pedestrians and cyclists experience long wait times at the intersection of Pyrmont Bridge Road and Bank Street. When crossing between the current Fish Markets and northern Pyrmont Bridge Road, people wait at two sets of signals and a zebra crossing. Changing the zebra crossing to a signalised pedestrian crossing and removing the turning movements onto Bank Street from the off-ramp, would allow the pedestrian wait times to reduce due to faster signal changes as a result of a more efficient intersection. This also allows pedestrians and cyclists to cross the entire intersection in one movement, rather than waiting at two sets of lights. A signalised crossing is also safer for pedestrians and cyclists, particularly at the base of a dual lane off-ramp with low visibility to the crossing.

3.2.2 Biodiversity

Issue description

1. The Arboricultural Impact Assessment (AIA) should guide the design of the proposal in a way that preserves trees and meaningfully informs the REF, rather than being based on Transport advice that results in the removal of 71 trees.
2. The AIA needs to provide greater detail on Tree Protection Zones (TPZ) to support any tree removal.
3. The AIA is not based on survey plans, concept plans or detailed plans. The report refers to several plans, but these are not included in the report as a cross reference to the claimed Tree Protection Zone (TPZ) encroachments or to support various tree removals.
4. The controls in Section 3.5 of the Sydney DCP 2012 relating to urban canopy and tree management should be adopted for the proposal.
5. The proposal should reduce the extent of tree and vegetation removal. Where removal is justified, trees and vegetation must be replaced and improved by the proponent.
6. The AIA should address perceived inaccuracies in the report including that the recommendations are based on "client advice" and are therefore not based on an actual arboricultural impact assessment of the proposed plans and that TPZ major encroachment is 20% (AS4970 indicates that it is 10%).
7. There must be an assessment of all trees in Zone C (Miller and Bank Street) and impacts on all trees.
8. Further information should be provided to show:
 - removal of trees has considered only when all other alternatives have been exhausted.
 - impacts to trees have been minimised and develop a plan to locate construction sites and undertake utilities work in such a way as to avoid all tree removal.
 - given their high amenity value, the AIA recommendation regarding the eight Cabbage Palm Trees (Trees 387 to 394) will be translocation given their high amenity value if all other alternatives have been exhausted
 - why 24 trees in Zone E require removal.
9. The REF should clarify if any additional trees in the location of the Glebe Island Bridge construction site compound will be pruned or removed.

Response

1. The purpose of the Arborist Impact Assessment was:
 - to identify and assess tree impacts from proposed works along the Anzac Bridge and Western Distributor road corridor at Blackwattle Bay to inform the REF
 - undertake a visual tree assessment of the subject trees
 - assess the current overall health and condition of the subject trees
 - evaluate the retention value of the subject trees
 - assess potential impacts to subject trees.

Transport informed arboricultural specialists on design and construction risks of the proposal to capture in the scope of the assessment. After initial assessment, further refinements were made to avoid and minimise vegetation impacts as a result of the works. This included modifications to Jones Lane construction area to protect and retain high retention value trees around the perimeter of the site.

2. Tree Protection Zones for each tree in the proposal area are defined in the table found in Appendix D of the arboricultural impact assessment in the REF. Additionally, construction would comply with Australian Standard (AS4970-2009) for Tree Protection on Development sites and high-risk activities would require the presence of a suitably qualified arborist. Chapter 5 of the Arborist impact assessment provides a range of management measures to be implemented during further design and construction work. This includes a Tree Protection Plan (refer to management measure AB4), which includes the requirement for the protection of TPZ of trees.
3. The Arborist Impact Assessment assessed the 'proposal boundary' of the proposal. This encompasses the operational footprint (i.e. the proposal design) as well as areas required for construction. As such this is a conservative approach to assess tree impacts. In addition, site investigations by the arborist and Transport have identified those trees that are within the construction boundary that can be retained. The Arboricultural assessment includes all relevant information to provide a standalone assessment.

The scope of the arboricultural assessment provides a conservative assessment of potential vegetation impacts across both the construction and operation phases of the proposal. It identifies all trees in the study area, and assesses all trees identified as potentially impacted.

4. Landscape Plans for Transport projects are designed in accordance with Transport Urban Design polices and landscape guidelines (Transport Centre for Urban Design), not those of local authorities, and plant selection must meet Transport's safety, performance and maintenance objectives.
5. Transport collaborated with internal and external arboricultural specialists in the development of the proposal to reduce the extent of tree impacts. After initial assessment, further refinements were made to the proposal to avoid and minimise vegetation impacts as a result of the works. This included modifications to Jones Lane construction area to protect and retain high retention value trees around the perimeter of the site. Where tree impacts cannot be avoided, the REF includes a commitment for offset in accordance with the Transport Biodiversity Offset Policy.
6. Section 3.5 of the Arborist Impact Assessment (Appendix C of the REF) and Section 6.3.1 of the REF indicates that Major encroachment of the TPZ is if encroachment is greater than 10% of the TPZ or inside the SRZ. This is consistent with Australian Standard AS 4970-2009 Protection of trees on development sites. The reference to the 'Major Encroachment greater than 20%' is in chapter 5 of the Arborist Impact Assessment and identifies that should there be impacts to trees with a major encroachment of over 20% additional management measures would be required.
7. The AIA assessed all trees within Zone C and a number that fell outside the zone but were nearby. The works at Miller Street and Bank Street involve utilities adjustments under road pavement away from tree protection zones and no potential tree impacts were identified. Standard management measures would apply to protect trees to be retained within the surrounding area as per Australian Standard (AS4970-2009) for tree protection on development sites.

Transport collaborated with internal and external arboricultural specialists in the development of the proposal to reduce the extent of tree impacts. After initial assessment, further refinements were made to the proposal to avoid and minimise vegetation impacts as a result of the works. Where tree impacts cannot be avoided, the REF includes a commitment for offset in accordance with the Transport Biodiversity Offset Policy. Further management measures are also proposed during construction to identify opportunities such as non-destructive excavation techniques which may be able to further reduce tree impacts.

8. Within the arboricultural assessment, 'Zone E' corresponds to the southern leg of Pyrmont Bridge Road intersection. 24 trees were identified in the proposal area and captured in the scope of the assessment. Of the 24 assessed trees, four Cabbage Tree Palms located within the centre median were identified as impacted and requiring removal associated with intersection adjustment works.

Transport collaborated with internal and external arboricultural specialists in the development of the proposal to reduce the extent of tree impacts. After initial assessment, further refinements were made to the proposal to avoid and minimise vegetation impacts as a result of the works. This included modifications to Jones Lane construction area to protect and retain high retention value trees around the perimeter of the site. Where tree impacts cannot be avoided, the REF includes a commitment for offset in accordance with the Transport Biodiversity Offset Policy. Further management measures are also proposed during construction to identify opportunities such as non-destructive excavation techniques which may be able to further reduce tree impacts.

Transport investigated several options for compound sites before deciding on the four proposed in the REF. It is considered Transport would require the use of all nominated compound sites to support construction, including Jones Lane and Glebe Island Bridge eastern approach. The proposed construction compound use of the Transport for NSW owned land at Jones Lane would impact trees. There are 42 trees on this site and the proposed compound use would impact seven trees (and one additional tree identified as dead and proposed for removal on safety basis). To minimise vegetation impacts in this area, the project team worked with an arborist to assess the proposal area (refer to the Review of Environmental Factors – Appendix C Arboricultural assessment) and identified specific safeguards included in the Review of Environmental Factors to protect mature trees with higher retention value located around the edge of this site. Tree protection would comply with AS4970-2009 Protection of trees on development sites.

The proposal includes a landscaping plan and review of opportunities including translocations and advanced tree stock to mitigate amenity impact of tree removal.

9. The REF includes mitigation measures including specialist arborist engagement to minimise potential impacts to the two Fig trees at the Glebe Island Bridge site. Trees to be retained are to be protected in accordance with Australian Standards for tree protection on construction sites.

3.2.3 Consultation

Issue description

1. Transport did not engage with Council prior to the REF display of the proposal.
2. Transport constrained stakeholder input by limiting feedback to construction impacts
3. Transport should release the Strategic Business Case and associated assurance reviews to provide transparency to the Council and the Community for the justification and assumptions behind the proposal.
4. REF display period should have been extended two weeks due to the overlap of the public display period with school holidays.

Response

1. Transport held a briefing with City of Sydney Council at the commencement of the REF consultation period and provided an extension to Council of a further week to provide their submission. The REF was placed on public exhibition for a period of five weeks as opposed to the standard four-week consultation period to gather community and stakeholder feedback on the proposal.
2. As part of the REF consultation, community and stakeholder feedback was gathered through online submissions, in person via the 11 face-to-face information sessions, through a livestream event and through targeted online and in person stakeholder briefings. All feedback provided by the community and stakeholders, including those beyond construction impacts, has been captured, reviewed, considered and responded to as documented in this submissions report.
3. Details of the Strategic Business Case would not be provided beyond what is detailed in the REF.

4. Transport recognised the REF consultation period would extend over the school holiday period. To account for this, Transport extended the consultation period to five weeks as opposed to the standard four-week consultation period. City of Sydney Council was also granted an extra one-week extension to provide their submission. In addition to an extended consultation period, Transport held 11 face-to-face community sessions and an online livestream event to inform the community and invite feedback.

3.2.4 Economic

Issue description

1. The strategic business case should be reviewed and reassessed in regard to the Smart Motorway Gantries and provide information to the community about the economic merit of the proposal with and without the gantries.
2. Query why the Fig Street on-ramp is being considered rather than lower cost safety options such as reduced speed or improved signage.
3. How has the investment case been compared transparently and fairly for safety improvements in this proposal with other proposals competing for constrained funding within NSW.

Response

1. Transport is revisiting the traffic management proposal on the Anzac Bridge and as such would be removing the gantries from this proposal. Due to the strong feedback in opposition to the gantries proposed and assessed in the REF, Transport would re-assess all aspects of the gantries in this proposal in terms of need, location, visual impact and heritage impact. All three gantries have been removed from the scope of this proposal.
2. Section 2.4.2 of the REF identified the other options that were considered instead of a new weave ramp. This included line marking changes and ramp metering for the Pyrmont Street on-ramp. Line marking and ramp metering was found to have limited safety and functionality benefits and would not largely eliminate the weaving manoeuvre as the new on-ramp would. As such, the new on-ramp was selected as the preferred option.
3. The primary purpose of the REF is to assess impacts of the proposal as it relates to environmental factors. Proposal funding is not an appropriate assessment to be conducted as part of the REF. However as a core requirement of proposal development is cost-benefit analysis and securing funding, it should be noted the cost of the proposal was given proper consideration.

3.2.5 Heritage

Issue description

1. The impacts on the setting and character of Pyrmont and Ultimo in the context of proposed traffic network improvements and must comply with recommendations and mitigations on page 6 of the SHI.

Response

1. Mitigation measures as outlined in the Non-Aboriginal Statement of Heritage Impact report would be implemented as necessary during construction.

3.2.6 Proposal design and construction

Issue description

1. The need for additional off-ramp lanes off Pyrmont Bridge Road is unfounded - traffic modelling undertaken shows that while the queue lengths with the proposal would reduce, it is still far less than the length of the off-ramp.
2. Traffic modelling for the proposal should include committed projects such as Metro West and have a 'vision and validate' approach as per the Movement and Place Framework not a 'predict and provide' approach.

3. The VISSIM simulation model that was developed for the Fish Market / Blackwattle Bay precinct should be used in the proposal. Council questions the validity of SMPM outputs as inputs to SIDRA modelling for the purpose of estimating traffic flows at surface street level (i.e., Fig Street / Harris Street and Pyrmont Bridge Road / Bank Street intersections). Query the inputs used in the SIDRA intersection analysis, including the source of forecasts and the assumption of no induced traffic.
4. Why are there inconsistencies in traffic projections developed for INSW's Blackwattle Bay Transport Study which assumed different growth rates and therefore lower future traffic volumes.
5. What assumptions were used for traffic modelling of existing and future land use in Pyrmont and Ultimo, in particular traffic generation rates assumed for development, and background traffic growth.
6. Why was CCTV footage included in crashes and near misses used to estimate the road safety benefits? This is not supported by the Principles and Guidelines for Economic Appraisal of Transport Investment and Initiatives Transport Economic Appraisal Guidelines 2016.
7. The REF should be updated to be consistent with the Pyrmont Peninsula Place-based Transport Strategy (PBTS).
8. All planning for changes to the Western Distributor and its access to and from Pyrmont should stop until Transport for NSW and the City of Sydney complete the transport planning for Pyrmont (Pyrmont Ultimo Transport Plan). Integration of the two approaches should then be undertaken, if any changes to Western Distributor are required.
9. The proposal explicitly prioritises cars over people walking. People should be prioritised over cars on surface streets in Pyrmont, including Pyrmont Bridge Road and Harris Street, consistent with the approach underpinning the Pyrmont Peninsula Place Strategy.
10. Outcomes of traffic assessment of the proposal should be provided, clearly showing modelled changes to traffic volumes on key streets including Harris Street, Wattle Street, Broadway, Pyrmont Bridge Road, Bank Street. Existing and projected traffic volumes for each leg of the Pyrmont Bridge Road and Harris St intersection, and future forecast volumes should be provided.
11. The proposal doesn't address the fundamental safety issue on the motorway- being too many on and off ramps in proximity to one another.
12. The SIDRA traffic modelling outputs suggest that traffic queues would continue to grow. Drivers will only join a queue if they consider there are benefits. If the travel time is assessed as too long then driver behaviours will change.
13. The REF should be updated with an assessment of the proposal's impacts on place and future development.
14. The proposal is not consistent with the Region Plan, the District Plan, the Pyrmont Peninsula Place Strategy and Pyrmont Peninsula Place-based Transport Strategy.
15. The proposal is contrary to the Pyrmont Ultimo Transport Plan
16. The proposal would 'improve motorway operational efficiency and resilience, particularly in the event of incidents'. Western Harbour tunnel and WestConnex were designed to solve these issues. New motorway projects and the proposal should not proceed until the full benefits of the motorway and Sydney Metro is realised.
17. Increasing traffic volumes will directly put at risk plans for increased development and improvements in place associated with the Blackwattle Bay and New Fish Market developments as well as the future Metro Station on Pyrmont Bridge Road.
18. Construction of the Darling Harbour weave ramp should be delayed until after the benefits of WestConnex have been realised and demonstrate that the investment is required.
19. How will the proposal use the Smart Motorway gantries to improve the efficiency and safety of a motorway, and why it considered this option preferable to the Pyrmont Place-based Transport Study recommendation to rationalise and remove accesses. Transport should make available any assessment of ramp metering options.
20. The SMPM model used for the proposal should be calibrated to assess multi-modal travel patterns (for example, mode shift onto Metro West) and evidence of the validity of SMPM outputs using a "post opening" assessment of SMPM modelling undertaken for previous stages of WestConnex.

21. The findings of the Pyrmont Peninsula Place Strategy (PPPS) about the impacts of traffic coming from Western Distributor off-ramps are having /will have on Harris Street and Pyrmont Bridge Road should be adopted for the proposal. Transport should develop the proposal to address safety of all road users and improving amenity and place quality.

Response

1. The Pyrmont Bridge Road and Bank Street intersection provides the main access into and out of Pyrmont for visitors, residents, commercial vehicles and emergency services and currently operates inefficiently. The intersection provides access to key destinations like the Sydney Fish Markets and is the only intersection providing access from Pyrmont to the Western suburbs. Congestion is currently experienced on all legs of the intersection including off-ramps. As Pyrmont undergoes significant transformation with the delivery of the New Sydney Fish Markets, Blackwattle Bay redevelopment and Sydney Metro, demand for the precinct is expected to grow and so too does the reliance on Pyrmont Bridge Road and Bank Street intersection to be operating efficiently and safely. The storage for the turning movements from the Pyrmont Bridge Road off-ramp onto Bank Street is less than 6 vehicles, too low to cater for future demand bound for key destinations and causes the intersection to be susceptible to deterioration.

Additional traffic modelling was undertaken in operational traffic modelling software VISSIM to address submissions relating to forecasted queue lengths, travel time increases and traffic volume increases throughout the network as a result of the proposal. Results conclude that without intervention, queues on the Pyrmont Bridge Road eastbound exit ramp would extend over 250 metres in the 2033 AM peak and 300 metres in the 2033 PM peak and disrupt Anzac Bridge movements. With the proposal, the efficiency of the intersection improves with up to 600 more vehicles travelling through the intersection in the 2033 peak hours. Queues are also expected to reduce by up to 120 metres in peak hours. The resilience of the intersection is expected to improve significantly with a much more manageable queue. Collisions are expected to decline with less stop-start traffic and less weaving to avoid stationary traffic.

2. During development of traffic modelling for the REF, the Pyrmont Station as part of the Sydney Metro West proposal had not been announced and no information was available to be incorporated into the modelling. After the REF display, strategic traffic modelling was conducted with and without Sydney Metro West. Results indicate there would be minimal change in traffic volumes or travel demand by vehicles into and out of this corridor in future years. The proposal does not preclude the “vision and validate” approach as Transport is still working towards redeveloping the area as part of the Pyrmont Ultimo Transport Plan and would further consider the Movement and Place framework.
3. VISSIM microsimulation traffic modelling has been undertaken to provide assessment of traffic impacts not previously assessed in the REF with SIDRA modelling. Forecasted travel demand using the SMPM strategic models were used as inputs to assess future traffic volumes and travel patterns at intersections within Pyrmont. Other input into traffic modelling included SCATS information and on-site traffic surveys. Induced demand was not recorded in the traffic modelling results and is not expected to be created by increasing efficiency of the network.
4. The Blackwattle Bay Transport Study encompasses a much larger area which would require different inputs such as different population and traffic growth rates. The studies were also conducted at different points in time, as such it is likely inputs and assumptions may have changed or have been superseded.
5. Traffic modelling was conducted on the intersections of Pyrmont Bridge Road and Bank Street and Allen Street for future years 2023 and 2033. All standard network assumptions were included in the 2023 and 2033 scenarios, including all stages of WestConnex, Sydney Gateway, M6 Motorway and Western Harbour Tunnel in future years. Land use assumptions input into the traffic model used Strategic Travel Model (STM) which includes uplift in land use, population growth and employment growth associated with the Bays Precinct infrastructure to be delivered in the Pyrmont Precinct.
6. Crash data is collected from a number of sources including NSW Police reports, crash response units, Transport Management Centre CCTV camera observations and community reports to the 131 700 phone line.

The crash data reported in the REF has been collected and averaged over a five-year period from 2016 to 2020. In addition, Transport for NSW undertook some specific camera surveys throughout October 2019 to observe traffic patterns on the Western Distributor corridor. As part of these surveys crashes and near misses were observed on a regular basis, averaging more than twice per week. This correlates

with the reported number of 100 crashes and near misses per year in the REF. On this basis alone, or any other comparable assessment process, the proposal is considered a suitable road safety investment.

7. The Pyrmont Peninsula Place-based Transport Strategy (2020) recognises Pyrmont Bridge Road as 'primarily a movement corridor'. The Strategy also recognises Harris Street south of Western Distributor as 'primarily a movement corridor that provides access from Western Distributor to Broadway and CBD south'. The efficient movement of these corridors are critical to the safe and efficient operation of the Western Distributor which is one of Sydney's busiest corridors and key to sustainable future growth. Although the proposal focuses on Western Distributor and its interaction with Pyrmont Bridge Road and Harris Street, Transport has committed to improving all other modes of transport in Pyrmont by investing substantially in public transport with the delivery of Sydney Metro West and is developing a plan to improve active transport and road-based amenity through the Pyrmont to Ultimo Transport Plan.
8. Efficiency, resilience and safety issues experienced on the Western Distributor and accesses into and out of Pyrmont are current and expected to worsen with time. It is Transport's responsibility to ensure the millions of trips that rely on the network each year reach their destination reliably and safely. This proposal does not preclude the future vision for Pyrmont. Transport would also continue progress on the Pyrmont Ultimo Transport Plan to move closer towards realising place-based amenity benefits in the precinct.
9. The proposal objectives focus on improving safety and efficiency on the motorway and off ramps to futureproof the Western Distributor and Anzac Bridge as a safe, reliable and accessible motorway connection, supporting broader network resilience in line with Sydney's future growth. The proposal also focuses on ensuring key accesses into and out of Pyrmont are reliable and efficient to cater for future demand.
The Pyrmont Peninsula precinct is undergoing major transformation and requires a multi-agency approach to coordinate the scope and delivery of local active transport provisions, place-based revitalisation and social outcomes. Active transport amenity upgrades and revitalisation of underused spaces within the study area require wider network planning and land use consideration than is possible for this proposal. As a separate program, Transport is investigating a range of improvements throughout the precinct that would align with the long-term vision for the Precinct, including those explored within DPE's Pyrmont Peninsula Place Strategy and the Pyrmont Ultimo Transport strategy. This approach has been taken to meet the requirements of the Providing for Walking and Cycling in Transport Projects Policy, but also to make sure that this is considered at a precinct level to provide a wholistic strategy for the area, not just those areas impacted by the proposal.
10. Traffic modelling undertaken for the REF has included impacts to Harris Street, Pyrmont Bridge Road and Bank Street. Additional VISSIM traffic modelling results indicate movements on Harris Street northbound between Allen Street and Pyrmont Bridge Road is expected to increase by 183 vehicles per AM peak hour and 84 vehicles per PM peak hour in 2023 as a result of the changes. Pyrmont Bridge Road westbound is expected to increase in traffic volumes by 310 vehicles per hour in the AM peak hour and 349 vehicles per hour in the PM Peak in 2023. Wattle Street and Broadway are not expected to be impacted by the proposal.
11. Each motorway on and off-ramp support trips to key destinations. Removing on or off ramps results in large traffic diversions and rerouting through the network and available on and off ramps. Rationalising on and off-ramps has not been considered as a feasible option.
12. The Western Distributor is a critical movement corridor for cars as well as public transport and freight operations to service all parts of Sydney. Several destinations motorists reach using this connection is only or most appropriately accessed by car, whether that be private vehicle or freight vehicle. These destinations still need to be accessed by freight and commercial vehicles.
Additional traffic modelling with VISSIM software has been undertaken to provide assessment of traffic impacts not previously assessed in the REF with SIDRA modelling. As VISSIM is a microsimulation, it takes into account driver behaviours, other intersections and the broader network impacts. Results from both modelling software have been used in the development of the Submissions Report. Results indicate queues would reduce in future years as a result of the proposal.
13. This proposal does not preclude the future vision for Pyrmont. Transport has committed to improving active transport and place-based amenity within Pyrmont and a plan is being developed through the Pyrmont Ultimo Transport Plan.
14. The Pyrmont Peninsula Place Strategy (which considers the Region Plan and the District Plan) and the Pyrmont Peninsula Place-based Transport Strategy recognises the critical movement function of all

modes of transport in the Pyrmont precinct. This proposal focuses specifically on the safety and efficiency of the Western Distributor corridor and the accesses into and out of Pyrmont. Transport has committed to improving active transport and place-based amenity within Pyrmont and a plan is being developed through the Pyrmont Ultimo Transport Plan. This proposal does not preclude the future vision for Pyrmont as described in this Strategy.

15. This proposal does not preclude the future vision for Pyrmont or any place-based amenity outcomes. The Pyrmont Ultimo Transport Plan has not yet been developed and Transport would consult with Council and the community in its preparation.
16. The Anzac Bridge and Western Distributor is currently at or over capacity and experiences safety and resilience issues requiring intervention. Some reduction of traffic demand is expected on the road corridor when the Western Harbour Tunnel becomes operational which would attract a small portion of traffic bound for northern Sydney to use the tunnel rather than the Harbour Bridge. However, increases in traffic expected by the introduction of WestConnex as well as major development in Pyrmont including Blackwattle Bay redevelopment and New Sydney Fish Market upgrade would result in greater traffic demand for Anzac Bridge and Western Distributor that outweigh traffic volume relief gained from the opening of Western Harbour Tunnel.

Further, strategic traffic modelling conducted with and without Sydney Metro West indicates there would be minimal change in traffic volumes or travel demand into and out of this corridor in future years. The safety and resilience issues on the road network warrant intervention and should not await the completion of other projects such as Western Harbour Tunnel and Sydney Metro West. This proposal does not preclude the future vision for Pyrmont or any place-based amenity outcomes.

17. This proposal does not preclude the future vision for Pyrmont or any place-based amenity outcomes.
18. The new ramp at Fig Street would substantially reduce the existing safety issue at Darling Harbour. Currently, traffic from the Fig Street and Pyrmont Street on-ramp cross two lanes of traffic to reach Sydney Harbour Bridge bound lanes. Simultaneously, traffic from Western Distributor crosses up to two lanes of traffic to reach the King Street off-ramp into CBD. This weaving issue has caused on average 100 crashes and near misses per year between 2016 and 2020. Since the demand for these destinations would remain once WestConnex and Western Harbour Tunnel opens, the opening of these motorway projects is not expected to improve the weaving behaviour occurring at this location.
19. Transport for NSW is revisiting the traffic management proposal on the Anzac Bridge and as such would be removing the gantries from this proposal. Due to the strong feedback in opposition to the gantries proposed and assessed in the REF, Transport would re-assess all aspects of the gantries in this proposal in terms of need, location, visual impact and heritage impact. All three gantries have been removed from the scope of this proposal.

Section 2.4.2 of the REF identified the other options that were considered instead of a Darling Harbour weave ramp. This included ramp metering for the Pyrmont Street on-ramp. Ramp metering was found to have limited safety and functionality benefits and would not eliminate the weaving manoeuvre as the new on-ramp would. As such, the new on-ramp was selected as the preferred option.

Each motorway on and off-ramp support trips to key destinations. Removing on or off ramps results in large traffic diversions and rerouting through the network and available on and off ramps. Rationalising on and off-ramps has not been considered as a feasible option.

20. Strategic Motorway Planning Model (SMPM) considers several transport factors including multi-modal travel. Strategic models including SMPM are used in Transport projects as a reliable tool to forecast the operation of future networks as they evolve. Validating WestConnex traffic modelling is not part of this proposal.

Strategic traffic modelling conducted with and without Sydney Metro West indicates there would be minimal change in traffic volumes or travel demand into and out of this corridor in future years.

21. This proposal focuses on the movement of Western Distributor corridor and the accesses into and out of Pyrmont, however Transport has committed to improving all other modes of transport in Pyrmont by investing substantially in public transport with the delivery of Sydney Metro West and is developing a plan to improve active transport and road-based amenity through the Pyrmont to Ultimo Transport Plan.

3.2.7 Public transport

Issue description

1. Concern the proposal does not consider the improvements to public transport access that the development of a Metro station will bring to Pyrmont and Ultimo. The REF should address the impacts of the proposal on Metro West and Pyrmont Station, including direct impacts on patronage (rail vs road mode choice), and indirect impacts (lower patronage from lower growth and/or productivity due to increased traffic).
2. Concern regarding the proposal's potential impact on the 501 bus stop and the L1 light rail services.
3. The proposal should improve local public transport connections to Pyrmont and Ultimo and along Victoria Road to the city.

Response

1. Public transport access to the Sydney Metro West station is outside the scope of this proposal.
Strategic traffic modelling conducted with and without Sydney Metro West indicates there would be minimal change in traffic volumes or travel demand by car into and out of this corridor in future years.
2. Transport has engaged with the community through the REF public engagement sessions to gain feedback into alternative routes and bus stops as a result of this proposal. Transport would continue to engage with the community, bus route planners and operators on proposed alternate bus routes and corresponding bus stops locations prior to the planned turn ban (proposed to be implemented once Sydney Fish Market relocates to its new location on Bridge Road).

Light rail services would be temporarily impacted during construction of the proposal. Transport would work within Light Rail shutdowns where possible to limit impacts to services. These predominantly occur at night to minimise impacts to public transport journeys.
3. This proposal focuses on safety, efficiency and resilience of the Western Distributor corridor as well as the accesses into and out of Pyrmont. Transport has committed to improving public transport in Pyrmont by investing substantially in the new Sydney Metro West. Road-based public transport improvement is being explored through other Transport initiatives. Transport is also developing a plan to improve active transport and place amenity through the Pyrmont Ultimo Transport Plan.

There are approximately 100 buses per hour in the morning peak travelling eastbound towards the CBD. The majority of these bus services would benefit from the changes identified in the proposal. Introducing bus priority from Victoria Road is not part of this proposal, however there are several other Transport initiatives investigating bus priority along and around this corridor. Supporting public transport is also a key outcome and commitment identified in the Future Transport Strategy (2022).

3.2.8 Traffic and transport

Issue description

1. The proposal induces traffic on surface streets, reducing amenity, safety, and bus reliability.
2. Banning existing right turn from off-ramp into Pyrmont Bridge Road risks significant rat-running on Harris Street and Pyrmont Bridge Road.
3. Access for heavy vehicles travelling through Pyrmont and Ultimo should be reviewed.
4. The proposal doesn't provide evidence that the increase in capacity at the Allen Street and the Pyrmont Bridge Road intersections will improve Western Distributor efficiency. Weave merges, lane widths and lack of shoulders will continue to cause disruptions.
5. The additional traffic the proposal will bring into Pyrmont and Ultimo will impact on the ability for the NSW Government to achieve its Vision and growth aspirations outlined in the Pyrmont Peninsula Place Strategy ('the Place Strategy').
6. The proposal is being designed to accommodate access for 19 metre and 26 metre B-double on off ramps.
7. The proposal will funnel additional traffic onto surface streets and assess the impacts.

8. People should be prioritised over cars on surface streets in Pyrmont, notably Pyrmont Bridge Road and Harris Street. This should include measures to protect people crossing Allen Street from vehicles exiting the Motorway, such as a 40km/hr speed limit (across the peninsula), speed bump, red light/speed camera.
9. The proposed new Fig Street on-ramp would only address weaving traffic from Fig Street / Harris Street. It is unclear how it will help reduce the safety risk associated with traffic coming from the Pyrmont Street on-ramp. This traffic would still need to cross multiple lanes to be able to access the Harbour Bridge.

Response

1. Results of traffic modelling conducted using VISSIM modelling software indicates the proposal does not induce new traffic demand in the precinct. The removal of the turning movements from Pyrmont Bridge Road off-ramp to Bank Street reroutes a portion of traffic already bound for Pyrmont/Ultimo and the general precinct.
2. The alternative route to reach destinations towards the new Sydney Fish Market is to use the Allen Street off-ramp and travel northbound on Harris Street to reach Pyrmont Bridge Road. The alternative route for trips towards northern Bank Street would be turning left on Pyrmont Bridge Road off-ramp and left on Harris Street.

Traffic modelling was conducted on the intersections of Pyrmont Bridge Road and Bank Street and Allen Street for future years 2023 and 2033. Additional VISSIM traffic modelling results indicate movements on Harris Street northbound between Allen Street and Pyrmont Bridge Road are expected to increase by 183 vehicles per AM peak hour and 84 vehicles per PM peak hour in 2023 and Pyrmont Bridge Road westbound is expected to increase in traffic volumes by 310 vehicles per hour in the AM peak hour and 349 vehicles per hour in the PM Peak in 2023 as a result of the turn bans on Pyrmont Bridge Road off-ramp onto Bank Street. Traffic modelling results indicate that without intervention, key intersections particularly Pyrmont Bridge Road and Bank Street and Allen Street and Harris Street would become more congested and fail to service key destinations within Sydney. The impacts to Harris Street and Pyrmont Bridge Road are not deemed significant, given the function of these connector roads to key destinations.

After the current Sydney Fish Market moves to the new location on Bridge Road, a traffic assessment would be conducted to confirm the removal of the turning movements from Pyrmont Bridge Road exit-ramp eastbound onto Bank Street is required. Several factors would be considered including future development in the precinct, intersection resilience, current traffic volumes and queueing. Until the Sydney Fish Market moves to the new location on Bridge Road and another traffic assessment is conducted, there would be no change to the Pyrmont Bridge Road and Banks Street intersection.

3. Heavy vehicles would need to travel to Pyrmont and Ultimo to support commercial functions in the precinct. Standard heavy vehicles can and do currently access Pyrmont and Ultimo as all streets in Pyrmont are designed to cater for these vehicles (such as rubbish trucks). Larger heavy vehicles (such as 19m B-doubles and above) are restricted from accessing parts of the precinct and must use approved Restricted Access Vehicle (RAV) routes. These routes would not change as result of this proposal.
4. Additional traffic modelling was undertaken in operational traffic modelling software VISSIM to address submissions relating to forecasted queue lengths, travel time increases and traffic volume increases throughout the network as a result of the proposal. VISSIM traffic modelling results indicate the proposal would reduce off-ramp queues that currently exceed and would continue to exceed the off-ramp storage bays and onto the Western Distributor. Modelling results also indicate Western Distributor efficiency improves by up to 880 more vehicles travelling eastbound along Western Distributor in the AM peak hour in 2023.
The new ramp proposed at Fig Street is expected to mitigate the weaving issue currently experienced on the Western Distributor at Darling Harbour by removing the conflict between Sydney Harbour Bridge and CBD and King Street bound traffic. This weaving issue is expected to worsen as traffic demand grows in future years.
5. This proposal does not preclude the future vision for Pyrmont. Transport has committed to improving active transport and place-based amenity within Pyrmont and a plan is being developed through the Pyrmont to Ultimo Transport Plan.
6. Heavy vehicles would need to travel to Pyrmont and Ultimo to support commercial functions in the precinct. Standard heavy vehicles can and do currently access Pyrmont and Ultimo as all streets in

Pymont are designed to cater for these vehicles (such as rubbish trucks). Larger heavy vehicles (such as 19m B-doubles and above) are restricted from accessing parts of the precinct and must use approved Restricted Access Vehicle (RAV) routes. These routes would not change as result of this proposal.

7. Results of traffic modelling conducted using VISSIM modelling software indicates the proposal does not induce new traffic demand in the precinct. The removal of the turning movements from Pymont Bridge Road off-ramp to Bank Street reroutes a portion of traffic already bound for Pymont/Ultimo and the general precinct.
VISSIM traffic modelling results indicate movements on Harris Street northbound between Allen Street and Pymont Bridge Road is expected to increase by 183 vehicles per AM peak hour and 84 vehicles per PM peak hour in 2023 and Pymont Bridge Road westbound is expected to increase in traffic volumes by 310 vehicles per hour in the AM peak hour and 349 vehicles per hour in the PM Peak in 2023 as a result of the proposal.
8. Future traffic volumes are expected to grow at the Allen and Harris intersection, with majority of traffic turning right from Allen Street onto Harris Street southbound heading towards Central and southern Sydney. Without intervention, the right turning queues would extend from the intersection to the Western Distributor and delays would increase. Increased delays and queues could change the behaviour of motorists to turn late into the turning phase cycle, pressuring pedestrians and cyclists to cross quickly and raising the risk of vehicle-pedestrian incidents.
The signalised crossing to replace the zebra crossing at the Pymont Bridge Road and Bank Street intersection would improve safety for pedestrians as it gives pedestrians a dedicated time to cross the road, reinforced by stop lights for off-ramp traffic.
This proposal focuses on safety, efficiency and resilience of the Western Distributor corridor as well as the accesses into and out of Pymont, to ensure the millions of trips that rely on this corridor each year reach their destinations safely and reliably. Transport has committed to improving active transport and place-based amenity through the Pymont precinct and a plan is being developed through the Pymont Ultimo Transport Plan.
9. A solid line between Fig Street and Pymont Street on-ramp and King Street off-ramp would be implemented as part of the proposal. The alternative route for Pymont Street traffic bound for Sydney Harbour Bridge is to use the new on-ramp at Fig Street and Harris Street. The new on-ramp from Fig Street facilitates entry onto the Western Distributor on the right side and directs traffic straight through towards Harbour Bridge, avoiding the need to perform multiple lane changes from the existing ramp which joins Western Distributor on the left side.
The Darling Harbour weave ramp would include signage to inform drivers of the correct ramp to take depending on their destinations. It is expected 415 vehicles per hour in the AM peak in 2023 would be rerouted from Pymont Street on-ramp to Harris Street southbound between Pymont Bridge Road and Fig Street as a result of this proposal.

3.3 Heritage NSW

3.3.1 Gantry installation on the Anzac Bridge

Issue description

1. Does not support the installation of the gantries on the Anzac Bridge due to adverse visual impacts.

Response

1. Transport for NSW is revisiting the traffic management proposal on the Anzac Bridge and as such would be removing the gantries from this proposal. Due to the strong feedback in opposition to the gantries proposed and assessed in the REF, Transport would re-assess all aspects of the gantries in this proposal in terms of need, location, visual impact and heritage impact. All three gantries have been removed from the scope of this proposal.

3.4 Inner West Council

3.4.1 Construction

Issue description

1. Concern for the significant construction impacts that would arise from the proposal and would be supportive of resolving construction impact issues.

Response

1. Chapter 6 of the REF details the impacts that are expected during the construction of the proposal and corresponding mitigation measures. While the proposal would be under construction for two years, impacts would be variable over the duration of works as construction activities and locations change.

In addition, Transport is aware that this construction would come after much construction in the surrounding area and note that other major projects would also be in construction at the same time as this proposal. As such the REF identified a management measure (CUL1) for the ongoing coordination and consultation with contractors of other major projects in the area to assess and mitigate cumulative impacts including noise and respite, coordinated detours, and traffic impacts.

3.4.2 Proposal design and construction

Issue description

1. The role of the proposed speed signage gantry is acknowledged, and no issues are raised provided it is designed and located in a way that matches existing bridge infrastructure and minimises view obstructions to the ANZAC statue, bridge and broader landscape.

Response

1. Transport for NSW is revisiting the traffic management proposal on the Anzac Bridge and as such would be removing the gantries from this proposal. Due to the strong feedback in opposition to the gantries proposed and assessed in the REF, Transport would re-assess all aspects of the gantries in this proposal in terms of need, location, visual impact and heritage impact. All three gantries have been removed from the scope of this proposal.

3.4.3 Traffic and transport

Issue description

1. Oppose new/expanded motorways, would prefer public and active transport options and wants to resolve issues about reduced walk/cycle connectivity and safety and additional traffic as detailed in the City of Sydney Council submission.
2. Council supports safety improvements for all road-users and as such has no issues with the components of this REF that will bring safety benefits, provided safety for drivers is not at the expense of safety for other road users.
3. Concern the Pymont traffic route changes could lead to induced traffic and rat-running in the Inner West, could result in drivers taking residential streets such as Johnson Street and The Crescent instead of the Anzac Bridge. As this impact can't be assessed with certainty from the REF, Council asks that Transport addresses this specific concern.

Response

1. The proposal objectives focus on improving safety and efficiency of the motorway and off ramps to futureproof the Western Distributor and Anzac Bridge as a safe, reliable and accessible motorway connection, supporting broader network resilience in line with Sydney's future growth. The proposal also focuses on ensuring key accesses into and out of Pymont are reliable and efficient to cater for future demand.

The Pyrmont Peninsula precinct is undergoing major transformation and requires a multi-agency approach to coordinate the scope and delivery of local active transport provisions, place-based revitalisation and social outcomes. Active transport amenity upgrades and revitalisation of underused spaces within the study area require wider network planning and land use consideration than is possible for this proposal. As a separate program, Transport is investigating a range of improvements throughout the precinct that would align with the long-term vision for the Precinct, including those explored within DPE's Pyrmont Peninsula Place Strategy and the Pyrmont Ultimo Transport strategy. This approach has been taken to meet the requirements of the Providing for Walking and Cycling in Transport Projects Policy, but also to make sure that this is considered at a precinct level to provide a wholistic strategy for the area, not just those areas impacted by the proposal.

Responses to City of Sydney Council submission is detailed in Section 3.2.1.

2. Support for the safety benefits is noted.
3. The proposed alternative route to the Pyrmont Bridge Road off ramp turn onto Bank Street for majority of destinations is to use the Allen St off-ramp and turn left onto Harris Street. Trips that choose to use Inner West streets is estimated to be less than two percent. As such, Inner West streets have not been assessed as part of the REF.

3.5 Member for Balmain

3.5.1 Allen and Harris Street

Issue description

1. Change would only be a short-term fix for the motorway, it would increase traffic permanently to local streets

Response

1. Traffic modelling was conducted on the Allen Street and Harris Street intersection considering future year traffic demands up to 2033. Results indicate the changes proposed would improve the intersection performance and reduce length of queuing onto Western Distributor into these future years. Results also conclude that the proposal does not induce new traffic demand in the precinct.

3.5.2 Proposal design and construction

Issue description

1. The proposal does not align with the Pyrmont Peninsula Precinct Strategy prioritising pedestrians and cyclists

Response

1. The proposal objectives focus on improving safety and efficiency of the motorway and off ramps to futureproof the Western Distributor and Anzac Bridge as a safe, reliable and accessible motorway connection, supporting broader network resilience in line with Sydney's future growth. The proposal also focuses on ensuring key accesses into and out of Pyrmont are reliable and efficient to cater for future demand.

The Pyrmont Peninsula precinct is undergoing major transformation and requires a multi-agency approach to coordinate the scope and delivery of local active transport provisions, place-based revitalization and social outcomes. Active transport amenity upgrades and revitalization of underused spaces within the study area require wider network planning and land use consideration than is possible for this proposal. As a separate program, Transport is investigating a range of improvements throughout the precinct that would align with the long-term vision for the Precinct, including those explored within DPE's Pyrmont Peninsula Place Strategy and the Pyrmont Ultimo Transport strategy. This approach has been taken to meet the requirements of the Providing for Walking and Cycling in Transport Projects Policy, but also to make sure that this is considered at a precinct level to provide a wholistic strategy for the area, not just those areas impacted by the proposal.

3.5.3 Construction

Issue description

1. Opposes removal of trees as a result of the proposal and the proposed Jones Lane compound due to removal of trees and impacts on the wellbeing of residents during construction.

Response

1. Construction compounds provide facilities such as storage, site sheds, toilet blocks and delivery sites to support construction. The REF has nominated four sites close to the main works area as construction compounds. Transport would require the use of all four nominated compound sites to support construction, including Jones Lane.

The proposed construction compound use of the Transport owned land at Jones Lane would impact trees. There are 42 trees on this site and the proposed compound use would impact seven trees (and one additional tree identified as dead and proposed for removal on safety basis).

To minimise vegetation impacts in this area, the project team worked with an arborist to assess the proposal area, (please refer to Appendix C of the REF) identify specific safeguards to protect mature trees with higher retention value located around the edge of this site. Tree protection would comply with AS4970-2009 Protection of trees on development sites.

The biodiversity assessment has identified that all trees (including 2 dead trees) to be removed are all considered to be urban exotic or native species and do not correspond to a native Plant Community Type.

The proposal includes a landscape plan to mitigate amenity impacts of the proposal. Additionally, trees that are removed by the proposal are to be offset in accordance with Transport Biodiversity Offset Policy (2022) (see management measures AB1). Since the display of the REF, additional tree impacts have been identified and are detailed in Chapter 5 of this submissions report. Safeguards from the REF would apply to these new impacts.

The REF includes management measures to manage potential amenity impact of construction compound operations in addition to ongoing community engagement efforts into construction to keep the community informed of upcoming work schedules and potential impacts.

3.5.4 Public transport

Issue description

1. Opposes impacts to public transport as a result of the proposal- Bus 501 and light rail

Response

1. Transport has engaged with the community through the REF public engagement sessions to gain feedback into alternative routes and bus stops as a result of this proposal. Transport would continue to engage with the community, bus route planners and operators on proposed alternate bus routes and corresponding bus stops locations prior to the planned turn ban (proposed to be implemented once Sydney Fish Market relocates to its new location on Bridge Road) and on any bus stop impacts during construction.

Light rail services would be temporarily impacted during construction of the proposal. Construction would be coordinated with Light Rail shutdowns to limit impacts to services. These primarily occur during lower demand periods such as night closures to minimise impact on public transport journeys.

3.5.5 Proposal need and options

Issue description

1. The proposal should prioritise active and public transport.

Response

1. The proposal objectives focus on improving safety and efficiency of the motorway and off ramps to futureproof the Western Distributor and Anzac Bridge as a safe, reliable and accessible motorway connection, supporting broader network resilience in line with Sydney's future growth. The proposal also focuses on ensuring key accesses into and out of Pyrmont are reliable and efficient to cater for future demand.

The Pyrmont Peninsula precinct is undergoing major transformation and requires a multi-agency approach to coordinate the scope and delivery of local active transport provisions, place-based revitalisation and social outcomes. Active transport amenity upgrades and revitalisation of underused spaces within the study area require wider network planning and land use consideration than is possible for this proposal. As a separate program of works, Transport is investigating a range of improvements throughout the precinct that would align with the long-term vision for the Precinct, including those explored within DPE's Pyrmont Peninsula Place Strategy and the Pyrmont Ultimo Transport strategy. This approach has been taken to meet the requirements of the Providing for Walking and Cycling in Transport Projects Policy, but also to make sure that this is considered at a precinct level to provide a holistic strategy for the area, not just those areas impacted by the proposal.

3.5.6 Darling Harbour weave ramp

Issue description

1. New flyover ramp over Cockle Bay would remove several palm trees and further overshadow this location.

Response

1. Transport acknowledge that the proposal would have impact to street trees and the amenity value that they provide. Transport sought advice from both internal and external arboricultural specialists in the development of the REF. The assessment identified potential impact to 11 trees in the Darling Harbour area including eight Palm trees. The REF includes a commitment to develop a translocation strategy for impacted Palm trees in this location, to be developed in consultation with key stakeholders.

The proposal includes landscaping plan and review of opportunities including translocations and advanced tree stock to mitigate amenity impact of tree removal. Additionally, the proposal has committed to offset the impact of trees removed in accordance with the Transport Biodiversity Offset Policy.

Overshadowing of the new weave ramp was also considered in the development of the proposal. Overshadowing was considered at the June and December solstice and the September/March equinox. Three different times a day are considered, 9:00am, 12:00pm and 3:00pm. Due to the existing built forms in the area and the east-west nature of the ramp, in most scenarios viewed impacts were limited or negligible. Impacts would be limited to Tumbalong Boulevard and the ICC forecourt. In June, where the sun is at its lowest point on the horizon, and therefore casts longer shadows, while at 9am and 3pm overshadowing would be limited due to the surrounding buildings and infrastructure. However at 12 pm, there would be increased overshadowing along Tumbalong Boulevard and public areas as well as the ICC forecourt. It is noted that existing structures also currently create overshadowing in the area.

4. Changes to the proposal

Following exhibition of the REF, the proposal design has been refined in response to stakeholder feedback and further progression of the design, including to allow for construction efficiencies.

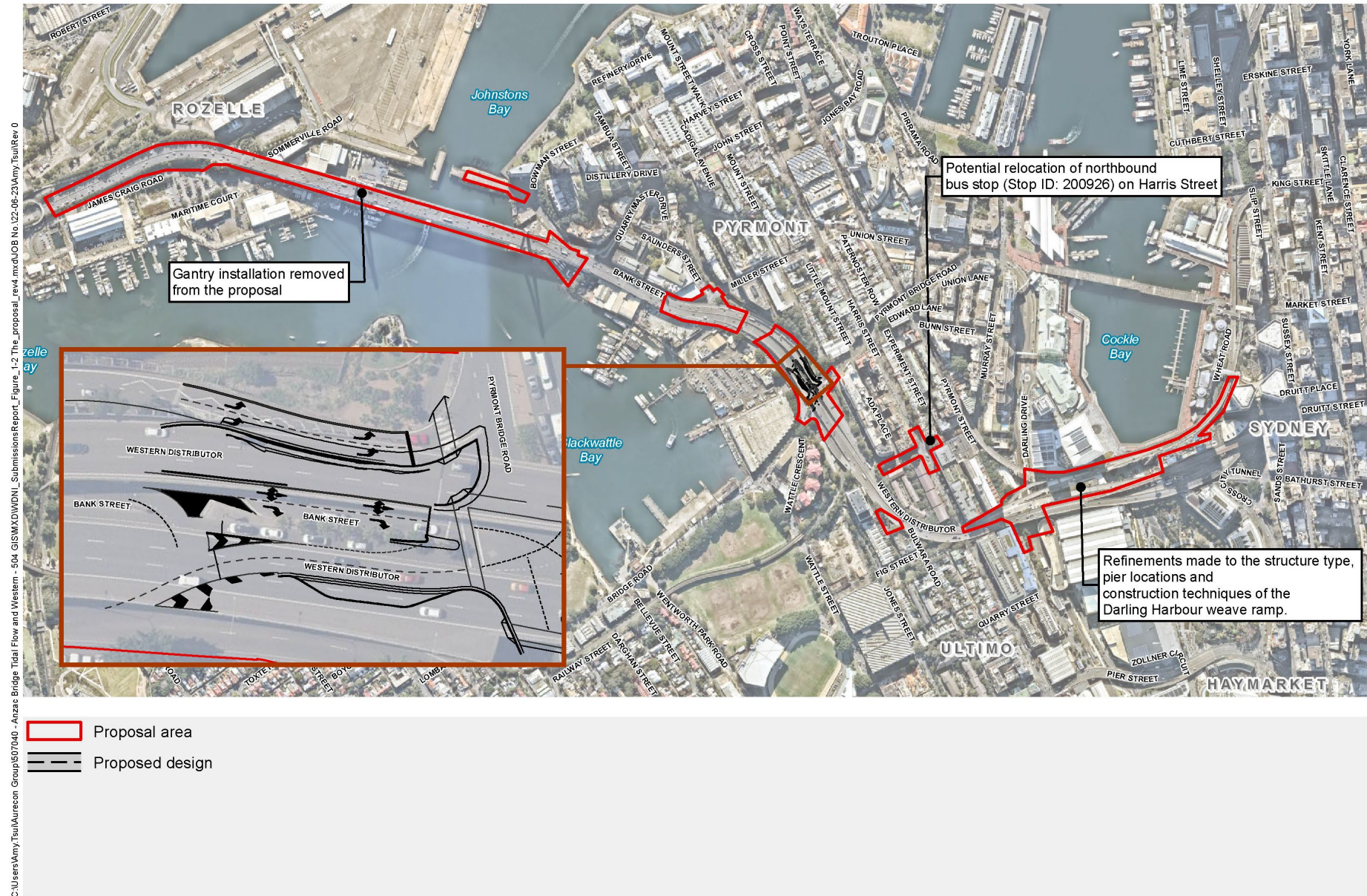
The design refinements to the proposal are detailed in the following sections and shown in Figure 4-1. All refinements are within the existing proposal area as defined in the REF.

The design changes in the revised design include:

- Gantry installation: removal of the three gantries identified in the REF from the scope of this proposal
- Darling Harbour weave ramp: refinements made to the structure type and pier locations to avoid major utilities and improve ramp alignment. Refinements also made to construction techniques
- Bus stop relocation: relocation of the northbound Harris Street at Allen Street bus stop (Stop ID: 200926) from the southern side of the Allen Street/Harris Street intersection to the northern side of the intersection.

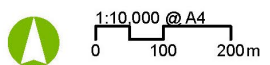
In addition, there are two REF clarifications identified that are detailed in the following section. These are:

- clarification of the line marking design on the weave ramp
- clarification of the loss of two timed parking spaces on Harris Street to the north of the Allen /Harris Street intersection.



Source: Aurecon, TfNSW, NSW Spatial Services, Nearmap

- Proposal area
- Proposed design



Projection: GDA 1994 MGA Zone 56

Figure 4-1: Design refinements of the proposal

4.1 Gantry installation

4.1.1 Description

Section 3.2.4 of the REF identified that three gantry structures would be installed as part of this proposal. This included one gantry spanning the full corridor width along the western approach to Anzac Bridge (Gantry 1) and two gantries midspan between the A-frames of the bridge (Gantry 2 and 3).

The three gantries identified within the REF have been removed from the proposal scope. The removal of these gantries does not require further assessment as part of this submissions report. Therefore, environmental safeguards and management measures NAH5 & 6 have been removed from the proposal as they are now redundant.

4.1.2 Justification for the change

Due to the strong feedback in opposition to the gantries proposed and assessed in the REF, Transport would re-assess all aspects of the gantries in this proposal in terms of need, location, visual impact and heritage impact.

4.2 Darling Harbour weave ramp

4.2.1 Overall

Further design development has resulted in a number of changes to the design and confirmation of details of the construction methodology that were not available in the REF.

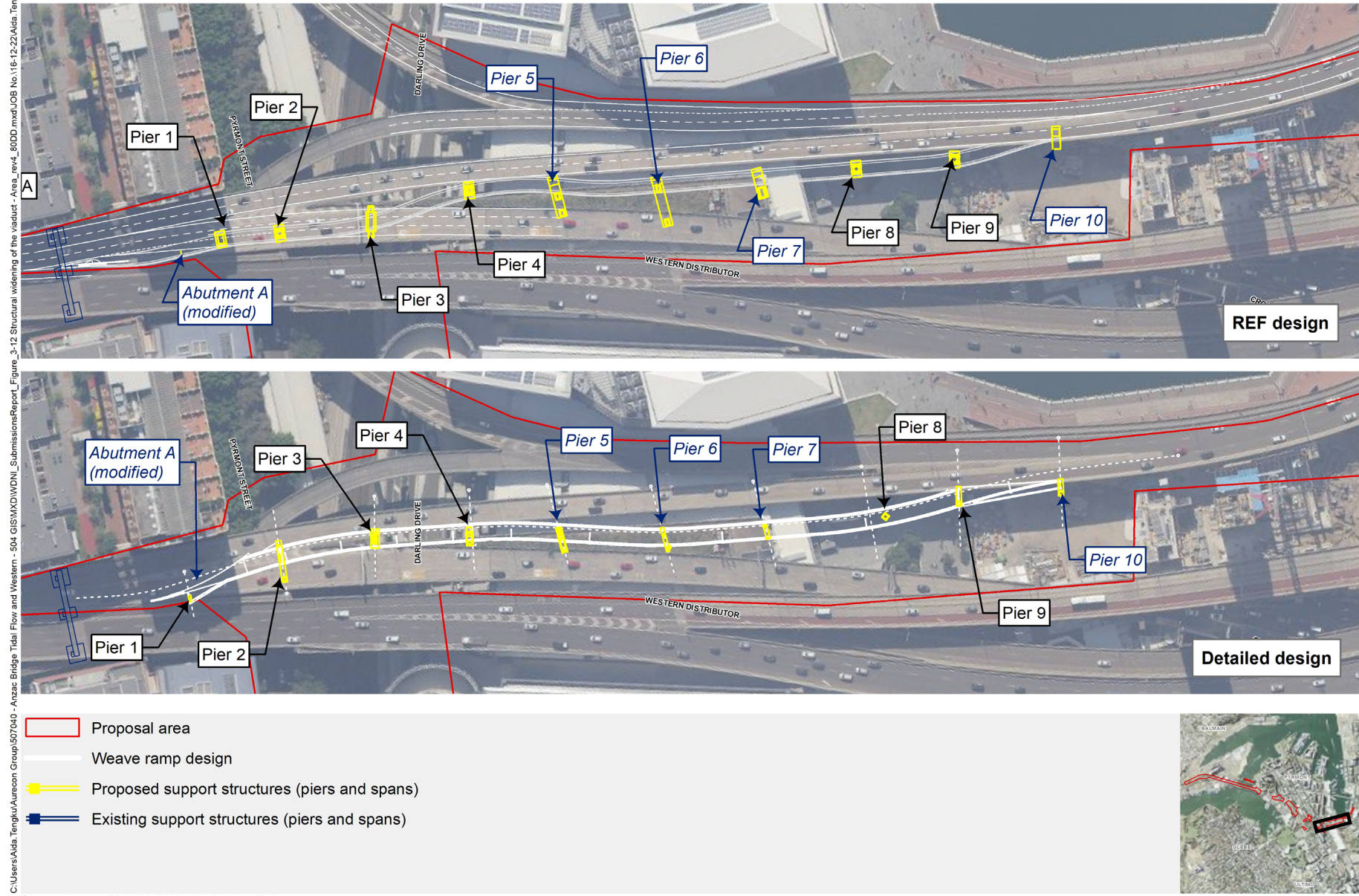
4.2.2 Proposal description

The REF identified:

‘There is an existing eastbound on-ramp structure from Harris Street and Fig Street intersection onto the Western Distributor. It is proposed to branch off the existing on-ramp to create a second separate on ramp structure (known as the weave ramp). The Darling Harbour weave ramp (about 370 metres long) would start from the Upper Fig Street on-ramp and merge into the Western Distributor on the right-hand side near “the Ribbon” development. The ramp would consist of a single 3.5-metre-wide lane and 0.75 metre shoulders on both sides. The proposed weave ramp would provide a safer and more effective solution at Darling Harbour by reallocating the merging traffic from Harris Street / Upper Fig Street, onto the Sydney Harbour Bridge lanes on the northbound side of the Western Distributor.’

The changes to the design of the Darling Harbour Weave ramp include a reduction in total length to 320 metres due to a slight realignment which would result in a more streamline design. In addition, there are a number of changes to the piers as a result of this shift. It should be noted that potential impacts of overshadowing Cockle Bay remain negligible with the new alignment of the Darling Harbour weave ramp. Reduced impacts to the structure of the ICC building are also identified with the design refinements of the Darling Harbour weave ramp, however minor disruptions to business access are expected during the construction. The change in the structure is shown in Figure 4-2 and changes to individual piers detailed in Table 4-1.

C:\Users\Ada.Tengku\Aurecon Group\507040 - Anzac Bridge Tidal Flow and Western - 504 GISMXD\WDNI_SubmissionsReport_Figure_3-12 Structural widening of the viaduct - Area_rev4_810DD.mxd\JOB No.116-12-22\Ada.Teng



REF submissions report

Figure 4-2: Comparison of the REF design and design refinement to the alignment of the Darling Harbour weave ramp

Table 4-1: Darling Harbour weave ramp changes

Pier ID	REF description	Change to the structure
Abutment A (modified)	<ul style="list-style-type: none"> To support the new Darling Harbour weave ramp, a new Abutment (Abutment A) would be constructed, and the ramp would begin to diverge from the existing ramp. Modifications would include a new abutment spread footing to be wrapped around the existing Western Distributor pier footing. Abutment A would support steel box girder widening (up to 4.5 metres). The mainline deck slab would be fixed to the new deck slab of the Upper Fig Street. 	Design refinements identified Abutment A would support Steel 'I' Girders.
Pier 1 (new pier)	<ul style="list-style-type: none"> To support the new Darling Harbour weave ramp, a new Pier would be installed adjacent to Abutment A and in between the Upper Fig Street on-ramp and the Darling Harbour off-ramp (Pier 1). This Pier is also located in front of the existing electrical substation (ground-level) which may cause utility access and conflict issues as well as sitting underneath the Western Distributor mainline carriageways. Pier 1 would support the installation of steel cross bracing girder and concrete deck widening (about 5 metres wide). Pier 1 would be a single column pier about four metres wide. This pier may directly intersect substation conduits such as water, fibre optic cables and high-voltage light rail lines. These may need to be relocated. New drainage and overhead lighting on the underside of existing Western Distributor viaduct structures would also be installed as part of the works. 	<p>Further refinement included revised positioning of Pier 1 to sit adjacent to Abutment A and within the Global Switch building service yard existing bridge pier. The pier would be a single column about one metre by 1.2 metre wide and support steel box girder.</p> <p>The shift in position would avoid impacts to the substation and key services, and would provide appropriate support for the bridge</p>
Pier 2 (new pier)	<ul style="list-style-type: none"> To support the new Darling Harbour weave ramp, a new Pier would be installed underneath the existing northbound Western Distributor pier structures and near Pyrmont Street (Pier 2). Pier 2 would support the installation of steel cross bracing girder and concrete deck widening (about 5 metres wide). Pier 2 would be a single column pier with four supporting piles. The Pier would be about four metres wide. This Pier would be located within the light rail corridor. New drainage and overhead lighting on the underside of existing Western Distributor viaduct structures would also be installed as part of the works. 	<p>Design refinement of Pier 2 included changing to twin column pier with portal structure. Both columns would be two metres wide and would support a steel box girder. It was also identified that Pier 2 is not located within the light rail corridor.</p> <p>The changes to Pier 2 are required to avoid utility impacts on key services including Sydney Water Drainage line and electrical underground services.</p>
Pier 3 (new pier)	<ul style="list-style-type: none"> To support the new Darling Harbour weave ramp, the existing pier structure support (NWD1) would be modified with a pier infill arrangement (Pier 3). This infill arrangement and pier encapsulation would sit underneath the existing northbound lanes of the Western Distributor and adjacent to the light rail line and Darling Drive. The Pier infill would support the installation of steel cross bracing girder and concrete deck widening 	<p>Relocation of Pier 3 to improve road alignment.</p> <p>Design refinements of Pier 3 identified parts of the existing Western Distributor bridge headstock that would need to be demolished and the installation of steel box girder would be required. This would improve asset maintenance.</p>

Pier ID	REF description	Change to the structure
	<p>(about 5 metres wide). The pier would be about four metres wide.</p> <ul style="list-style-type: none"> New drainage would also be installed as part of the works. 	<p>It was also identified that Pier 3 would be located within the light rail corridor. Additionally due to over height structures and changes to the construction methods, the bridge deck would need to be launched from Darling Drive, due to the height constraints of the existing overhead viaduct. This would require the setup of temporary scaffolding and formwork from the ground level local roads including Darling Drive and Pyrmont Street.</p> <p>Due to the location of Pier 3, related works would require works within temporary track possession times to safely facilitate the work.</p>
<p>Pier 4 (new pier)</p>	<ul style="list-style-type: none"> To support the new Darling Harbour weave ramp, a new Pier would be installed between existing pier NWD2 (pier supporting northbound Western Distributor) and existing NWE2 (pier supporting northbound western distributor on-ramp). Pier 4 is also located at the rear of the International Convention Centre Sydney (ICC Sydney) building. The ICC Sydney building roof may need to be modified to accommodate the proposed structure. Pier 4 would support the installation of steel cross bracing girder and concrete deck widening (about 5 metres wide). Pier 4 would be a single column pier with four supporting piles. The Pier would be about three metres wide. New drainage would also be installed as part of the works. 	<p>Design refinements of Pier 4 identified parts of the existing Western Distributor bridge headstock that would need to be demolished and the installation of steel box girder would be required.</p> <p>It was also identified that Pier 4 would be two metres wide.</p>
<p>Pier 5 (existing pier)</p>	<ul style="list-style-type: none"> To support the new Darling Harbour weave ramp, there would be new cantilever headstock and new deck slab (about 5 metres wide). The new headstock would support the installation of steel cross bracing girder and concrete deck and fixed between two of the existing pier columns (Pier 5). Pier 5 is located within the ICC Sydney building. The ICC Sydney building roof may need to be modified to accommodate the proposed structure. Pier 5 may require strengthening works which include strengthening of existing column. This would be confirmed during detailed design and would be subject to separate assessment and approval. The existing stub-deck and headstock would be demolished to facilitate the new weave ramp. New drainage would also be installed as part of the works. 	<p>Design refinements to Pier 5 included supporting the installation of steel box girder.</p> <p>The modification of the ICC roof has been reduced.</p>

Pier ID	REF description	Change to the structure
Pier 6 (existing pier)	<ul style="list-style-type: none"> To support the new Darling Harbour weave ramp, there would be there would be new cantilever headstock and new deck slab (about five metres wide). The new headstock would support the installation of steel cross bracing girder and concrete deck and fixed between two of the existing pier columns (Pier 6). Pier 6 is located within the ICC Sydney building. The ICC Sydney building roof may need to be modified to accommodate the proposed structure. Pier 6 may require strengthening works which include strengthening of existing column. This would be confirmed during detailed design and would be subject to separate assessment and approval. The existing northbound girders, stub deck and headstock would need to be demolished to facilitate the new weave ramp. Part of existing Pier 6 would also need to be demolished. New drainage would also be installed as part of the works. 	<p>The refinements to Pier 6 identified the change to a precast pedestal that would sit on top of the existing headstock would be required to better accommodate the positioning and alignment of the Darling Harbour weave ramp. The pier would also be supporting steel box girder.</p> <p>The modification of the ICC roof has been reduced.</p>
Pier 7 (existing pier)	<ul style="list-style-type: none"> To support the new Darling Harbour weave ramp, there would be new cantilever headstock and new deck slab (about five metres wide). The new headstock would support the installation of steel cross bracing girder and concrete deck and fixed between two of the existing pier columns (Pier 7). Pier 7 is located within the ICC Sydney building. The ICC Sydney building roof may need to be modified to accommodate the proposed structure. Pier 7 may require strengthening works which include strengthening of existing column. This would be confirmed during detailed design and would be subject to separate assessment and approval. The existing unused carriageway girders, stub deck and headstock would need to be demolished to facilitate the new weave ramp. Part of existing Pier 7 would also need to be demolished. A safety rail at the edge of the demolished deck would be installed. New drainage would also be installed as part of the works. 	<p>The refinements to Pier 7 included change to a precast pedestal that would sit on top of the existing headstock. This would better accommodate the position and alignment of the Darling Harbour weave ramp. The pier would also support steel box girder.</p> <p>The modification of the ICC roof has been reduced. It was also identified that installation of a safety barrier on the viaduct would be required.</p>
Pier 8 (new pier)	<ul style="list-style-type: none"> To support the new Darling Harbour weave ramp, a new Pier would be installed adjacent to the existing northbound Western Distributor carriageway (Pier 8). This Pier is also located within the Darling Harbour Plaza and would be positioned away from the existing thoroughfare. Pier 8 would support the installation of steel cross bracing girder and concrete deck widening (about five metres wide). Pier 8 would be a single column pier with four supporting piles. The Pier would be about 3.5 metres wide. New drainage and a light pole would also be installed as part of the works. 	<p>The refinements to Pier 8 included revised positioning of the pier, six metres to the east. Pier 8 would be located within the existing thoroughfare. This design change would avoid clashing with the existing Ausgrid Transmission bank.</p> <p>Pier 8 would be a single column pier about 2.1 by 2.1 metres wide, supporting steel box girder.</p> <p>It was also identified that landscaping would be required.</p>

Pier ID	REF description	Change to the structure
Pier 9 (new pier)	<ul style="list-style-type: none"> To support the new Darling Harbour weave ramp, a new Pier would be installed adjacent to the existing northbound Western Distributor carriageway (Pier 9). This Pier is also located within the Darling Harbour Plaza and would be positioned away from the existing thoroughfare. Pier 8 would support the installation of steel cross bracing girder and concrete deck widening (about five metres wide). Pier 8 would be a single column pier with four supporting piles. The Pier would be about 3.5 metres wide. New drainage and a light pole would also be installed as part of the works. Darling Harbour Plaza pavement and landscaping would need to be reinstated in disturbed areas. 	The refinements to Pier 9 included changing to a single pier column with two supporting piles. The column would be two by two metres wide and would support the installation of steel box girder.
Pier 10 (existing pier)	<ul style="list-style-type: none"> To support the new Darling Harbour weave ramp, there would be new cantilever headstock and new deck slab. The new headstock would support the installation of steel cross bracing girder and concrete deck and fixed to an existing column (Pier 10). 	The design refinements to Pier 10 identified the installation of a new single column pier with one supporting pile. The pier would be about two by two metres wide and would support the installation of steel box girder.

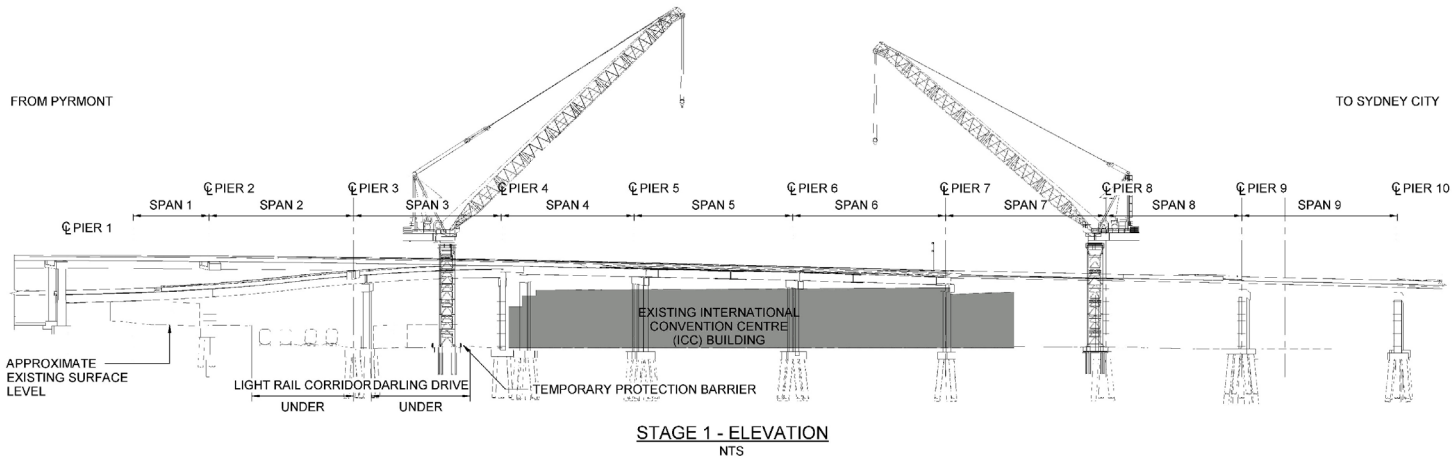
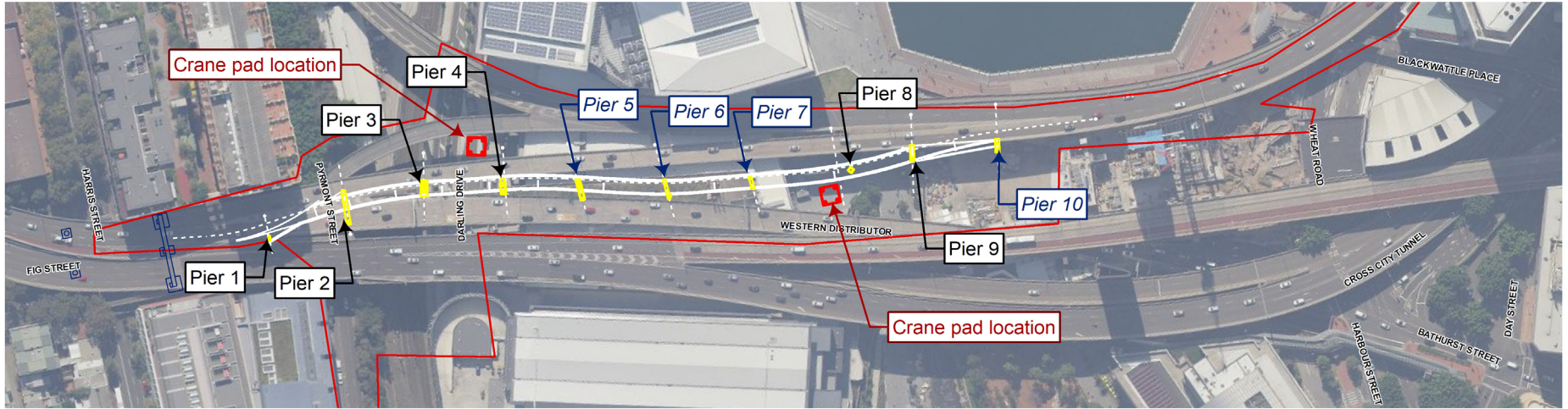
4.2.3 Construction methodology

Through further design development and consideration of construction methodology, it has been identified that the construction of the weave ramp would require the establishment of two large tower cranes to lift in substructure and superstructure elements. These cranes would be in place for the duration of construction. Tower crane 1 would be located on Darling Drive (on the access road to the loading dock for the International Convention Centre (ICC)) and tower crane 2 would be located on Tumbalong Boulevard (outside the ICC building). Both cranes would facilitate the removal of the existing Western Distributor deck structure and the erection of the new Darling Harbour weave ramp infrastructure, while reducing impacts on the existing bridge structures. Due to their size, the tower crane set up in both locations would involve:

- establishing a secure construction work zone on Tumbalong Drive, maintaining safe pedestrian thoroughfares
- vehicle access to site including mobile crane, truck deliveries, excavator, and piling rig via Zollner Circuit
- sacrificial piling for both tower crane foundations
- formation of temporary concrete base slab foundations for both tower cranes
- delivery to site of the large oversize segments of the crane. Delivery would occur via the surface roads and may include Zollner Circuit, Darling Drive and Tumbalong Boulevard
- assembly of the tower cranes onsite
- demobilisation including removal of crane elements, machinery and concrete base slab foundations
- reestablishment of any pavement and / or landscaping including reinstatement of garden bed.

At the base of the tower cranes, there would be a construction works zones where material laydown areas and construction work activities would occur within the REF boundary and subject to consultation with key stakeholders (refer to Figure 4-3).

In addition to the tower cranes, temporary scaffolding would be erected over Darling Drive and Pyrmont Street for form the launching platform to launch and place the on-ramp segments over the light rail corridor and Darling Drive.



- ▭ Proposal area
- Weave ramp design
- Weave ramp crane pads design
- Proposed support structures (piers and spans)
- Existing support structures (piers and spans)



Source: Aurecon, TNSW, NSW Spatial Services, Esri

Projection: GDA 1994 MGA Zone 56

Figure 4-3: Proposed location of the tower cranes

4.2.4 Justification for the change

The design of the Darling Harbour weave ramp has been refined to avoid impacts to major utility services and provide a more streamlined alignment for road users.

4.3 Harris Street bus stop relocation

4.3.1 Description

The proposal would relocate the northbound Harris Street at Allen Street bus stop (Stop ID: 200926) from the southern side of the Allen Street /Harris Street intersection to the northern side of the intersection to align with remaining pedestrian crossings and reduce impacts to pedestrians accessing bus transportation.

On Harris Street northbound between Allen Street and Pyrmont Bridge Road, the existing loading zone would be retained and shifted further north on Harris Street northbound. To accommodate the loading zone and bus stop, there would be a loss of six '2P' parking spaces with parking exemptions for residents in the City of Sydney Pyrmont and Ultimo parking area (Area 20)¹ (reduction from 19 to 13 spaces as shown in Figure 4-4).

Where the existing bus stop would be removed south of Allen Street, five new '1/2P' parking spaces would be created (refer to Figure 4-4). The seven existing parking spaces between Fig Street and Allen Street would be retained.

Further targeted consultation would occur with the local community regarding this change.

¹ Area 20 is bordered by Johnstons Bay, Pirrama Road, Murray Street, Pyrmont Street, Harris Street, Broadway, Bay Street, William Henry Street, Wattle Street and Blackwattle Bay.

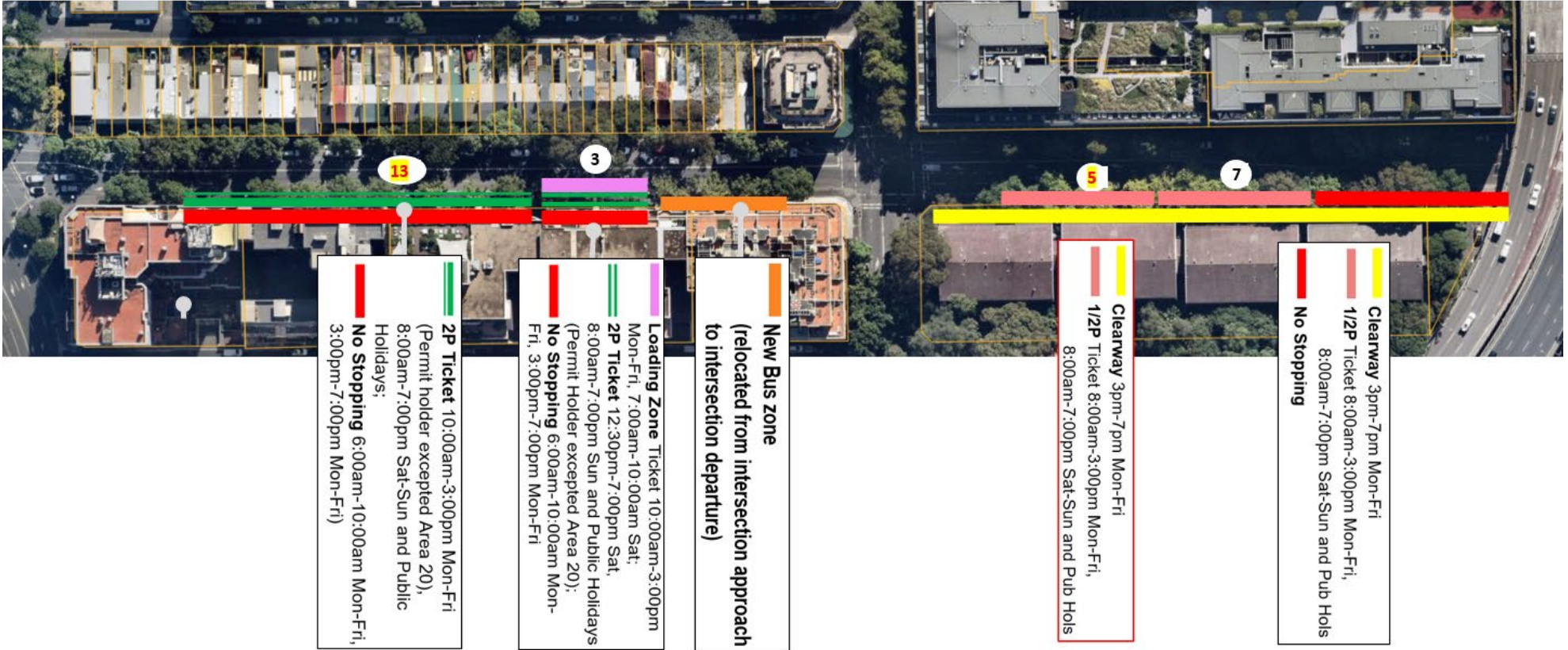


Figure 4-4: Proposed parking restrictions – Harris Street

4.3.2 Justification for change

Section 3.1.3 of the REF outlined that the pedestrian crossing on the southern leg of Harris Street at the Allen Street /Harris Street intersection would be removed to accommodate the changed intersection geometry. Feedback to the REF indicated that this pedestrian crossing was required for people on the eastern side of the road to access the northbound bus stop on Harris Street. As such, this change would result in three road crossings required.

In response, Transport undertook consultation with bus service providers and Transport network operations team regarding the location of the bus stop.

The relocation of the bus stop would reduce the number of road crossings that would be needed for passengers to access the northbound bus stop from three to two.

4.4 REF clarifications

The following clarifications are made for the design as displayed in the REF.

4.4.1 Darling Harbour weave

Figure 3-11 of the REF showed the line marking design that would be implemented as a result of the construction of the Darling Harbour weave ramp. This included a solid line running alongside the Western Distributor merge from the Pymont Street and existing Fig Street on-ramps. Section 3.1.3 did not detail that this would prevent drivers from the Pymont Street and existing Fig Street on-ramps merging into the Harbour Bridge lanes. From the existing Fig Street on-ramp and Pymont Street on-ramp, access would only be available to the King Street off-ramp. For access to the Harbour Bridge, drivers would need to access the Western Distributor via the new Fig Street on-ramp (refer to Figure 4-5).



Figure 4-5: Representation of the solid line marking design alongside the Western Distributor merge from the Pyrmont Street and existing Fig Street on-ramps

4.4.2 Clarification regarding the loss of two timed parking spaces on Harris Street

Section 6.2 of the REF detailed that there would be eight parking spaces and one loading zone permanently removed on Allen Street. However, that section did not identify the loss of two combined parking and loading zone spots on Harris Street to the north of the Allen /Harris Street intersection.

The parking assessment in the REF (refer to Section 6.2) identified that there would be sufficient parking spaces in the surrounding streets to accommodate the loss in public parking. This would still be true with the loss of these additional two parking spaces. The loading zone function of the parking spots would be reallocated to the next two northern parking spots so that there would not be any further loss of loading zones and would still support the need from the loss of the Allen Street loading zone as identified in the REF.

This change is superseded by the bus stop relocation which shifts the loading zone further north again. Refer to Section 4.3.

5. Environmental assessment

As a result of the refinements to the proposal outlined in Chapter 4, there are some changes to the magnitude and type of environmental impacts as assessed in the REF. The following sections assess the design refinements against environmental assessment disciplines where changes in impacts are expected. As the refinements are located within the REF proposal area, there would be no change to the existing environment as outlined in the REF.

5.1 Visual impact

While there would be minor shifts to the alignment of the weave ramp, most of the anticipated visual impacts are consistent with those identified in the REF and would not require further assessment.

5.1.1 Potential impacts

Construction

In the Darling Harbour area, the REF identified that during construction of the proposal, there would be temporary visual impacts on sensitive receptors, due to the presence of active construction zones and related infrastructure, including scaffolding, site fencing, and piling rigs. This would be true of the design refinement, however with the presence of the tower crane, this would increase the visibility of the works to people further afield than the immediate area including views from further afield such as the CBD and from the Western Distributor. Most of these views would be transient views. Tower crane 1 would be located on Darling Drive, near the loading dock of the ICC building. The surrounding area includes high-rise buildings, road infrastructure, the light rail and some pedestrian amenities. As this area would be used for deliveries and traffic accessing the carparks of the ICC, it would be expected that less sensitive receivers would be mostly impacted by the visual presence of the crane. Tower crane 2 would be located on Tumbalong Boulevard, a pedestrian throughfare in the Darling Harbour area. This area is a large open space with a plaza type set up. The presence of this crane during the construction of the proposal would impact more sensitive receivers within the area including pedestrians, local residents and businesses. However, most views would be transient.

Laydown areas would store materials and equipment during construction and would be visible to some receptors, for the duration of the construction phase of the proposal. The laydown areas and construction work zones would be surrounded by hoarding to limit the visual impacts of the works, however would be visible particularly to passers-by and people in buildings in the immediate vicinity.

Although there would be visual impacts expected with the construction of the proposal, these impacts would be temporary as all construction infrastructure including the tower cranes and laydown areas would be removed with the completion of the proposal construction.

Operation

The shift in the pier locations is relatively minor, being undertaken in proximity to existing pier infrastructure for the Western Distributor. However, pier 8 located outside the ICC building would shift from within the garden bed about six metres south to partially being located on one of the pedestrian access paths to the ICC building. This shift would make the pier more prominent in the viewpoint of people along Tumbalong Boulevard and accessing the ICC building. In addition, a number of existing mature trees (in total around 21 trees in the vicinity), would result in a change to the views of the area. However, Transport have committed to looking at the translocation of palms in the area and undertake landscaping as part of the proposal (refer to mitigation measures AB2 and AB11). These would help lessen the visual impact, particularly over time as any newly planted trees mature. Where possible, mature tree stock and translocated plants would be used to mitigate the visual impact sooner. The existing landscaping bed would be modified as a result of the relocation of the pier.

A computer-generated representation of this is shown in Figure 5-1. View would be transient, and it is noted that the piers would be located near existing pier infrastructure. Visual impact rating from Viewpoint 10 and Viewpoint 11 in the REF (Moderate-High and Moderate respectively) would not change. It should be noted that the minor shift in alignment of the Darling Harbour weave ramp would result in negligible overshadowing of Cockle Bay, consistent with the REF.

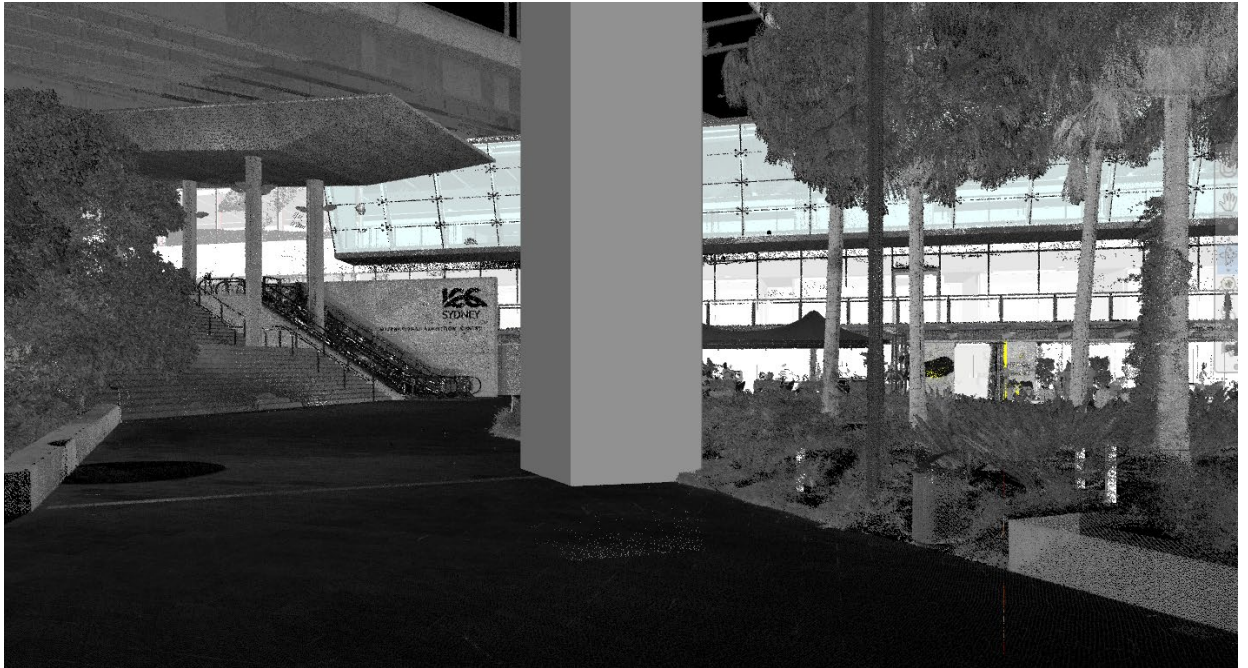


Figure 5-1: Visual representation of Pier 8.

5.1.2 Revised safeguards and management measures

The safeguards and management measures included in the REF are applicable to the revised design. No additional safeguards and management measures would be required due to the design refinements of the proposal.

5.2 Traffic and parking

Traffic and transport impacts of the revised design would be mostly consistent with those outlined in the REF; however, the establishment of the tower cranes would result in increased construction traffic along Darling Drive and Tumbalong Boulevard.

The relocation of the northbound Harris Street at Allen Street bus stop (Stop ID: 200926) would result in the loss of six '2P' parking spaces (which are also posted with City of Sydney Pyrmont and Ultimo (Area 20) resident parking exemptions) and the relocation of a loading zone further north. Where the bus stop is removed, it is proposed to signpost five new '1/2P' parking spaces.

An additional parking assessment has been carried out for the proposal to assess the impacts of the bus stop relocation on parking in the surrounding area. The assessment excluded the loss of resident parking exemptions.

5.2.1 Potential impacts

Construction

During the set up and dismantling of construction works such as the tower cranes and temporary scaffolding, there would be increased construction heavy and oversize vehicle traffic along local roads such as Pyrmont Street, Darling Drive and Tumbalong Boulevard. This increase in traffic would be from delivery and removal of crane segments, piling rigs and general construction worker traffic. All construction traffic movements would be managed through a Traffic Management Plan (TMP). The TMP would also consider how to further minimise impacts to the local road network, such as delivery via Western Distributor. As the tower crane segments would most likely be transported to site via oversize vehicles, these works may need to be undertaken at night under a Road Occupancy Licence and other relevant authority approvals.

As indicated in the REF, temporary possession and closure of the light rail would be required during construction of the weave ramp due to works being undertaken overhead. Vehicle access to the ICC Convention

Centre loading dock would be temporarily altered during construction. However, access to the loading dock would be maintained during construction, where possible. Prior to any temporary closures would be managed in consultation with ICC and stakeholders.

Active transport users and customers accessing the ICC building via Tumbalong Boulevard would be altered, with one access path to the ICC exhibition spaces being blocked off during construction. However, access to the ICC exhibition centre would be maintained through other existing or temporary alternative paths. This would result in minor detours for customers to take existing or temporary alternative path to the centre. Transport would install wayfinding signs and provide advance notification to assist in navigation.

All impacts to road, active transport and access to buildings would be temporary only and detailed in the TMP. Access would be restored on completion of construction.

Operation

Due to the Darling Harbour weave ramp, drivers entering Western Distributor from the Pyrmont Street on-ramp and the existing Fig Street on-ramp would not be able to access the Harbour Bridge lanes. From the Pyrmont Street and existing Fig Street on-ramps, access would only be available to the King Street off-ramp. Drivers wanting to access the Harbour Bridge would need to access the Western Distributor via the new Fig Street on-ramp. This would result in traffic that would currently use the Pyrmont Street on-ramp needing to travel further along Harris Street to access the Western Distributor. Traffic modelling shows that during the AM peak (7.00am to 8.00am) and PM peak (4.30pm to 5.30pm) in 2023, 161 and 150 vehicles respectively would need to travel along Harris Street southbound to access the new on-ramp.

The additional parking assessment adopted the same methodology as the parking assessment in the REF (refer to Section 6.2.1 of the REF). It considered the number of parking spaces that would be lost and whether there was sufficient equivalent parking spaces within walking distance. The walking distance was identified as 250 metres on Harris Street, between Allen Street and Pyrmont Bridge Road (refer to Figure 5-2). This assessment excluded the five new '1/2P' parking spaces on Harris Street between Fig Street and Allen Street as they were not 'like-for-like' replacements for the lost parking spaces.

The parking inventory in the area is shown in Table 5-1.

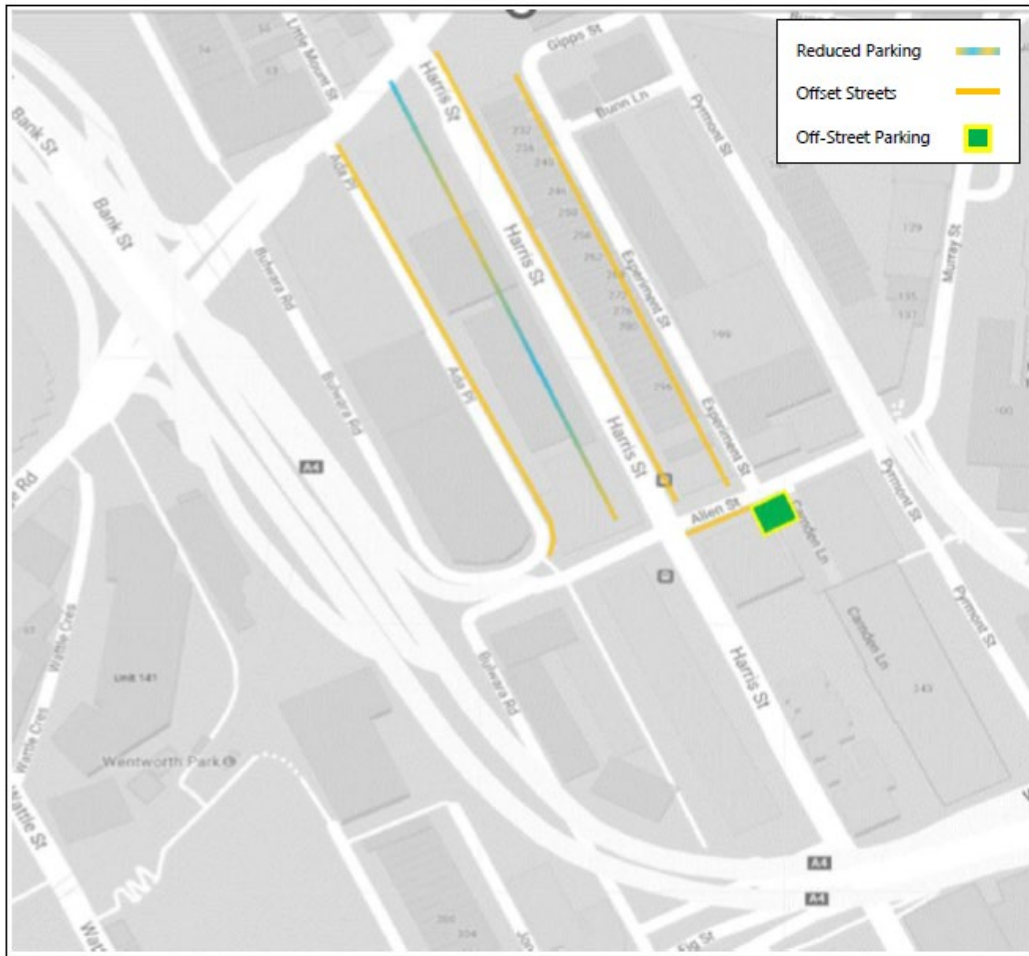


Figure 5-2: Area considered in the additional parking assessment

Table 5-1: Parking availability near Harris Street between Allen Street and Pyrmont Bridge Road

Date	Maximum demand	Maximum deficit	Notes
Wednesday 07/08/2019	10 vehicles at 12:00pm	No deficit	Sufficient vacancies throughout the survey period with a minimum of 28 surplus spaces available at 11:00am and 12:00pm
Thursday 08/08/2019	13 vehicles at 11:00am	No deficit	Sufficient vacancies throughout the survey period with a minimum of 27 surplus spaces available at 11:00am
Friday 09/08/2019	9 vehicles at 12:00pm	No deficit	Sufficient vacancies throughout the survey period with a minimum of 28 surplus spaces available at 12:00pm
Saturday 10/08/2019	20 vehicles at 11:00am	No deficit	Sufficient vacancies throughout the survey period with a minimum of two surplus spaces available at 11:00am
Sunday 11/08/2019	16 vehicles at 12:00pm	No deficit	Sufficient vacancies throughout the survey period with a minimum of 17 surplus spaces available at 12:00pm
Monday 12/08/2019	10 vehicles at 11:00am	No deficit	Sufficient vacancies throughout the survey period with a minimum of 21 surplus spaces available at 1:00pm
Tuesday 13/08/2019	10 vehicles at 12:00pm	No deficit	Sufficient vacancies throughout the survey period with a minimum of 21 surplus spaces available at 12:00pm

The assessment found that, in general, there would be sufficient parking spaces in the surrounding streets to accommodate the cumulative parking losses on Allen Street (as per the REF) and Harris Street (as per Section 4.3.1) on both weekdays and weekends.

The existing loading zone on Harris Street northbound (made up of three parking spaces) would shift further north as shown in Figure 4-6. There would be no reduction in loading zone capacity due to the bus stop relocation. Consultation with the community would be conducted to gather feedback on whether this change is preferred over maintaining the bus stop in its current location.

5.2.2 Revised safeguards and management measures

The safeguards and management measures included in the REF are applicable to the revised design. Two additional management measures are proposed to address the additional impacts from the revised design (refer to Table 5-2).

Table 5-2: Additional traffic and transport safeguard and management measures

Impact	Environmental safeguard	Responsibility	Timing
Loading dock access	Transport will continue to consult with the ICC to manage access to the Convention Centre loading dock on Darling Drive and maintain business access for the duration of construction.	Transport	Pre-construction, Construction
Bus stop relocation	Transport will consult with the community and local business prior to relocation of the northbound Harris Street at Allen Street bus stop (Stop ID: 200926). Consultation with the community will be conducted to gather feedback on whether this change is preferred over maintaining the bus stop in its current location.	Transport	Pre-construction

5.3 Noise and vibration

The construction of the tower cranes on Darling Drive and Tumbalong Boulevard would result in lengthier construction activities in these locations and potential differing noise impacts.

5.3.1 Potential impacts

In the REF, it noted that construction of the weave ramp would result in construction noise impacts for areas in close proximity to the works. This would range between noticeable to highly intrusive noise impacts, depending on the activity being undertaken and location of the sensitive receivers. The changes to the construction of the weave ramp would involve additional works in relation to the establishment and demolition of the tower cranes which would result in similar high construction noise levels. In addition, should the delivery and construction of the tower crane need to be undertaken at night, this would affect particularly residents in the vicinity. To manage construction noise impacts, standard noise mitigation measures would be implemented in accordance with an approved Noise and Vibration Management Plan (as detailed in the REF). Additionally, because of the high density of receivers, Transport have developed detailed 3D construction noise modelling software for the proposal to be able to make accurate construction noise predictions. This modelling software would be used to inform assessments of eligibility for offer of alternate accommodation for each main construction scenario.

5.3.2 Revised safeguards and management measures

The safeguards and management measures included in the REF are applicable to the revised design. No additional safeguards and management measures would be required due to the design refinements of the proposal.

5.4 Arboriculture impact

A review of the construction techniques has identified a number of additional trees to be removed to facilitate the construction of the Darling Harbour weave ramp. The additional impacts identified due to design refinements were obtained from the Arborist report prepared for the REF and no further investigations were required.

5.4.1 Potential impacts

Construction

The arboricultural assessment for the REF assessed the existing environment within the proposal area and divided the area into zones based on the construction activities of the proposal (Zone A-K). Trees potentially impacted by the proposal were also allocated numbers for better identification (refer to Section 6.3 of the REF).

The REF identified that in Zone K-Darling Harbour, there would be the removal of 11 trees. The design refinement of the weave ramp identified additional tree impacts in Zone K to those specified in the REF. The revised design of the Darling Harbour weave ramp has identified an additional 10 trees within this zone that would be impacted during construction, bringing the total number of trees impacted by the weave ramp to 21. The cumulative number of trees impacted by the proposal requiring removal increases from 69 to 79 trees. This additional tree impact is due to the installation of a tower crane, piling activities and the construction of Pier 8 outside of the ICC building as part of the proposal. The additional impacts include removal of:

- Four Cabbage-tree Palms (trees 395, 396, 397, 398) for weave ramp construction area
- Three trees for construction of the piling pad required for pier 9 (two Swamp Mahogany trees 403 and 404, and a spotted gum tree 405)
- Three trees for assembly and operation of the construction tower crane, this includes two fig trees (406 and 407) and a Cabbage-tree Palm (tree 408).

It is noted that trees 395, 396, 397, 398, 406, 407 and 408 are listed on the on the City of Sydney significant tree register. Adjacent tree 399, also on the tree register, is located just outside of the proposal area boundary and is not impacted and would require protection during construction.

The arboriculture assessment of the REF identified that impacted Cabbage-tree Palms within Zone K would be subject to a Translocation Strategy to be developed in consultation with key stakeholders. As per management measure AB2 of the REF, the additional palm tree removals identified within Zone K would be included in the Palm Tree Translocation Strategy. In addition, landscape plans produced for the proposal (management measure AB11) would identify opportunities for incorporating mature plant stock.

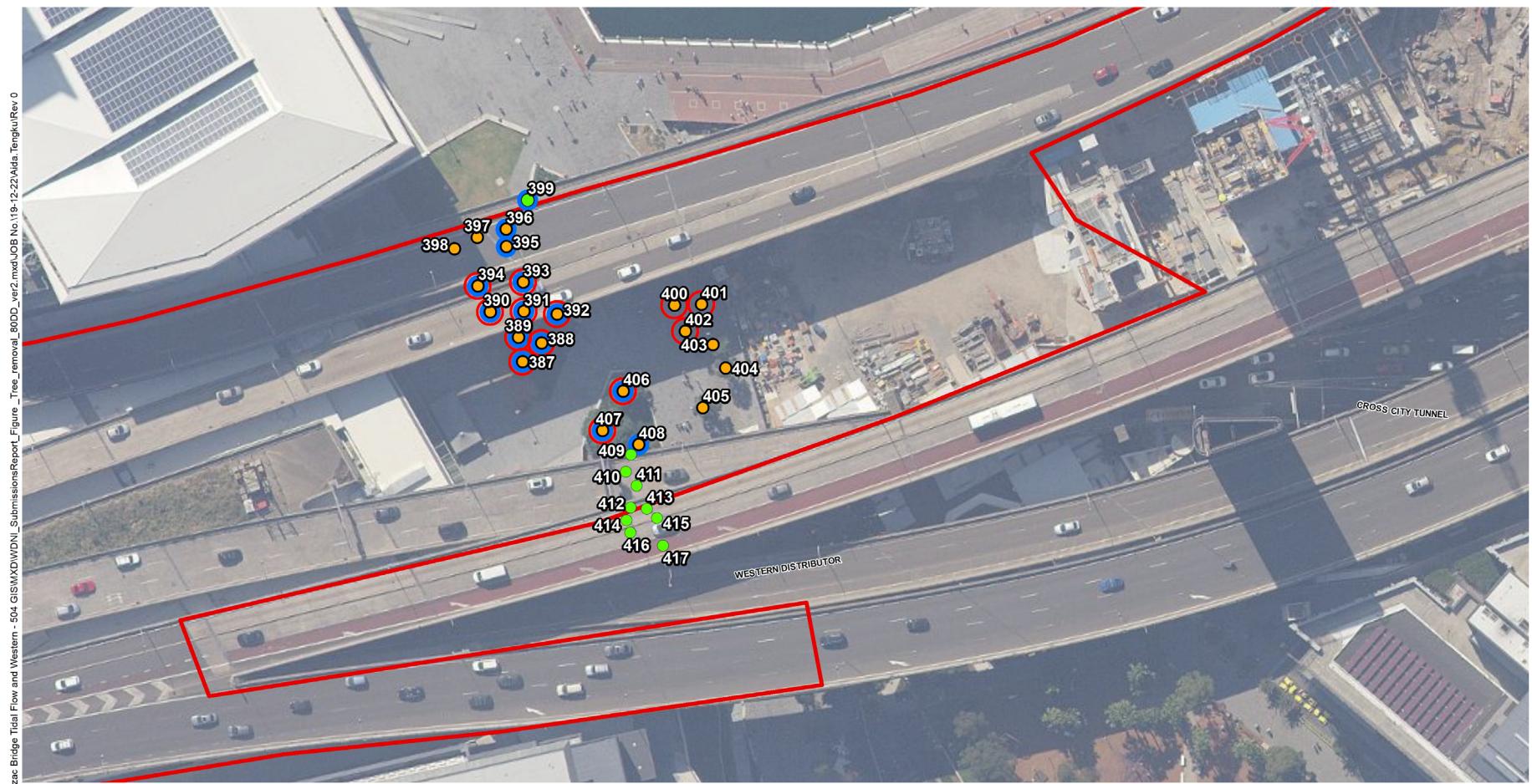
Operation

No further tree impacts would occur during operation.

5.4.2 Revised safeguards and management measures

The safeguards and management measures included in the REF are applicable to the revised design. No additional safeguards and management measures would be required due to the design refinements of the proposal.

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- Proposal area
- Tree listed on The City of Sydney Significant Tree Register
- Tree impacts from submissions report**
- Trees to be retained
- Trees to be removed
- Tree impacts from REF**
- Trees to be removed



Source: Aurecon, TfNSW, NSW Spatial Services, ELA, Esri
 1:1,000 @ A4
 Projection: GDA 1994 MGA Zone 56

Figure 5-3: Additional tree impacts of the design refinements.

5.5 Socio-economic impact

The impacts associated with the design refinements are mostly consistent with the socio-economic section of the REF. However, changed impacts are anticipated from refinements in the construction of the weave ramp and relocation of the northbound Harris Street at Allen Street bus stop (Stop ID: 200926).

5.5.1 Potential impacts

Construction

The REF identified there would be impacts on the ICC building due to the construction of the Darling Harbour weave ramp. It was identified that several of the piers would impact the structure of the ICC building, including the plant room and roof of the building. These impacts would reduce customer accessibility to the ICC. However, the refined design that realigns the Darling Harbour weave ramp, have reduced the impacts to the ICC building structure that would not result in potential impacts to the operation of the building. However, the installation of tower crane 1 on the slip lane to the ICC building on Darling Drive, would result in access disruptions to the loading docks and would require the relocation of the loading dock security booth. Tower crane 2 would be installed on Tumbalong Boulevard, a pedestrian throughfare that provides customer access, including disabled access, to the ICC exhibition centre. During construction of the proposal, pedestrians using Tumbalong Boulevard would experience disruptions, including closure of footpaths, narrowing pathways and reduced access to the ICC. Detours for pedestrians would need to set up to maintain access to the ICC, however, disabled access to the ICC building would not be impacted by the works. Further visual amenity impacts are expected with the installation of the tower cranes, including the presence of scaffolding, site fencing, materials and equipment, and the removal of trees and areas of pavement. In addition, the works would require the relocation of a water fountain and bike racks on Tumbalong Boulevard which would be required for a works zone for pier construction. Transport would work with Darling Harbour Live around construction zones and relocation of any impacted facilities.

All these construction access and amenity impacts would be temporary. At the completion of construction, all construction infrastructure would be removed, and site rehabilitated to the existing situation. Transport have engaged with the ICC regarding the proposal and would continue consultation to monitor and manage any further impacts on the operation of the business.

The refinement in the weave ramp pier location would result in additional private property impacts to the Global Switch Data Centre during construction (Lot 1 DP1189030). This would result in the partial acquisition of around eight square metres. A new pier (Pier 1) would be constructed adjacent to an existing Western Distributor pier. This pier is located within the Global Switch secure yard. The pier would be installed on an existing column pad footing, of which transport already has access to for maintenance. This would result in minor modification to the ground floor slab, minor building services and roofing to accommodate the new pier. There would be no impact on the operation of the business or impacts on the wider community.

Operation

Operation of the design refinements would have no further socio-economic impacts to those outlined in the REF. Pedestrian access along Tumbalong Boulevard would be marginally impacted, with a narrowing pathway towards the ICC due to the presence of pier 8 encroaching on the pedestrian pathway. However this impact would be minor and access to the building and surrounding facilities would be maintained.

The relocation of the northbound Harris Street at Allen Street bus stop (Stop ID: 200926) would improve access and connectivity for bus passengers wishing to use the southern pedestrian crossing movement at Harris Street compared to the design outlined in the REF. As a result, bus passengers would now cross two roads (compared to three) to access the bus stop.

The provision of an additional five '1/2P' parking spaces on Harris Street northbound to the south of the Allen Street intersection would provide additional parking opportunities. The parking provisions for these new spaces do not provide for local resident exemptions.

Despite these changes, the sensitivity, magnitude and level of significance of these impacts to access and connectivity would remain low, consistent with the REF.

5.5.2 Revised safeguards and management measures

The safeguards and management measures included in the REF are applicable to the revised design. Two additional management measures are proposed to address the additional impacts from the revised design (refer to Table 5-3).

Table 5-3: Additional socio-economic safeguard and management measures

Impact	Environmental safeguard	Responsibility	Timing
Socio-economic – general	<ul style="list-style-type: none"> Transport will continue to engage and consult with the ICC to minimise impacts to business operations for the duration of construction. 	Transport	Pre-construction, Construction
Socio-economic – general	<ul style="list-style-type: none"> Transport will continue to consult with Darling Harbour Live regarding impacts to Darling Harbour for the duration of construction 	Transport	Pre-construction, Construction

6. Environmental management

The REF for the Western Distributor Network Improvements identified the framework for environmental management, including safeguards and management measures that would be adopted to avoid or reduce environmental impacts (Section 7.2 of the REF).

After consideration of the issues raised in the public submissions and changes to the proposal, the safeguard and management measures have been revised. Changes to the safeguards and management measures include commitment to ongoing consultation with stakeholders such as Bicycle NSW, the ICC and Darling Harbour Live, to further manage facilities and impacts to business operations, inclusion of active transport management within the traffic management plan (TMP) and the consideration of lighting impacts from construction and compound sites of the proposal.

Should the proposal proceed, environmental management would be guided by the framework and measures outlined below.

6.1 Environmental management plans (or system)

A number of safeguards and management measures have been identified in order to minimise adverse environmental impacts, including social impacts, which could potentially arise as a result of the proposal. Should the proposal proceed, these management measures would be incorporated into the detailed design and applied during the construction and operation of the proposal.

A Project Environmental Management Plan (PEMP) and a Construction Environmental Management Plan (CEMP) would be prepared to describe safeguards and management measures identified. The PEMP and CEMP would provide a framework for establishing how these measures would be implemented and who would be responsible for their implementation.

The PEMP and CEMP would be prepared prior to construction of the proposal and must be reviewed and certified by environment staff, Eastern Harbour City, prior to the commencement of any on-site works. The CEMP would be a working document, subject to ongoing change and updated as necessary to respond to specific requirements. The PEMP and CEMP would be developed in accordance with the specifications set out in the QA Specification G36 – Environmental Protection (Management System), QA Specification G38 – Soil and Water Management (Soil and Water Plan), QA Specification G40 – Clearing and Grubbing and QA Specification G10 – Traffic Management.

6.2 Summary of safeguards and management measures

The REF for the Western Distributor Network Improvements identified a range of environmental outcomes and management measures that would be required to avoid or reduce the environmental impacts.

After consideration of the issues raised in the public submissions, the environmental management measures for the proposal (refer to Section 7.2 of the REF) have been revised. Should the proposal proceed, the environmental management measures in Table 5 1 would guide the subsequent phases of the proposal. Additional and/or modified environmental safeguards and management measures to those presented in the REF have been underlined and deleted measures, or parts of measures, have been struck out.

Table 6-1: Summary of environmental safeguards and management measures

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
GEN1	General - minimise environmental impacts during construction	<p>A CEMP will be prepared and submitted for review and endorsement of the Transport for NSW Environment Manager prior to commencement of the activity.</p> <p>As a minimum, the CEMP will address the following:</p> <ul style="list-style-type: none"> • any requirements associated with statutory approvals • details of how the proposal will implement the identified safeguards outlined in the REF • issue-specific environmental management plans • roles and responsibilities • communication requirements • induction and training requirements • procedures for monitoring and evaluating environmental performance, and for corrective action • reporting requirements and record-keeping • procedures for emergency and incident management • procedures for audit and review. <p>The endorsed CEMP will be implemented during the undertaking of the activity.</p>	Contractor / Transport for NSW project manager	Pre-construction Detailed design
GEN2	General - notification	All businesses, residential properties and other key stakeholders (eg schools, local councils) affected by the activity will be notified at least five days prior to commencement of the activity.	Contractor / Transport for NSW project manager	Pre-construction
GEN3	General - environmental awareness	<p>All personnel working on site will receive training to ensure awareness of environment protection requirements to be implemented during the proposal. This will include up-front site induction and regular "toolbox" style briefings.</p> <p>Site-specific training will be provided to personnel engaged in activities or areas of higher risk. These include</p> <ul style="list-style-type: none"> • noise and vibration management measures • no go areas • incident response and reporting procedures • tree protection measures • areas of Aboriginal heritage sensitivity <p>requirements of the Microbat management plan</p>	Contractor / Transport for NSW project manager	Pre-construction Detailed design

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
TT1	Traffic management	<p>A Traffic Management Plan (TMP) would be prepared and implemented as part of the CEMP for the construction period. The TMP would be prepared in accordance with the Roads and Maritime Traffic Control at Work Sites Manual (Roads and Maritime Services 2018) and QA Specification G10 Control of Traffic (Roads and Maritime 2008).</p> <p>The TMP would include:</p> <ul style="list-style-type: none"> • site specific road traffic and active transport control measures (including signage) would be implemented to manage and regulate traffic movement • measures to maintain pedestrian and cyclist access, along the local roads and through Darling Harbour • requirements and methods to consult and inform the local community of impacts on the local road network • a Traffic Movement Plan (VMP) showing the travel paths and locations of access and egress points to construction sites. This needs to include measures to prevent construction vehicles queueing on public roads. • a response plan for any construction traffic incidents • monitoring, review and amendment measures 	Contractor	Detailed design Pre-construction Construction
TT2	Traffic Management Plan	The TMP would be developed in conjunction with key stakeholders where property and/or user access is impacted. This includes ongoing consultation with Placemaking NSW (ICC Sydney) and City of Sydney Council regarding pedestrian activity impacts to areas around the International Convention Centre Sydney and Darling Harbour / Tumbalong Boulevard areas.	Transport Contractor	Detailed design Pre-construction Construction
TT3	Compound site access/egress	Compound sites would be securely fenced with fencing maintained to ensure continual site security. Signage installed notifying the general public of access restrictions and also identifying the site compound. Upon construction completion, temporary compound sites, work areas and established stockpiles, would be safely disassembled with the site cleared of all rubbish and site restored to its previous condition.	Transport Contractors	Pre-construction Construction
TT4	Construction site access/egress	Construction site access/egress would be in accordance with an approved Traffic Management Plan (TMP)	Transport Contractors	Pre-construction Construction
TT5	Bus routes	Relevant bus route operators would be notified in advance of the proposed works (including the removal of the Pyrmont Bridge Road U-Turn) and timing of works. If bus detours or bus stop relocations are proposed due to conflicting work site activities, then the relevant bus route operator would be consulted in advance.	Transport	Pre-construction Construction
TT6	Cyclist and pedestrian safety	Cyclist and pedestrian detours would be as per an approved Traffic Management Plan (TMP)	Transport	Pre-construction Construction

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No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
TT7	Residential property and user access	Residential property and user access would be maintained during partial closures, including to apartment driveway access points	Transport Contractor	Construction Operation
TT8	Light Rail	Collaboration with the Light Rail operator to review construction timing including the need for short term closures of the rail line during certain periods and opportunities to coordinate asset works to reduce cumulative impacts on customer journey.	Transport Contractor	Construction Operation
<u>TT9</u>	<u>Cyclist detours</u>	<u>Transport will continue to consult with Bicycle NSW to review and manage any temporary detours to cycling pathways and impacts to associated facilities expected during construction.</u>	<u>Transport</u>	<u>Construction</u>
<u>TT10</u>	<u>Loading dock access</u>	<u>Transport will continue to consult with the ICC to manage access to the Convention Centre loading dock on Darling Drive and maintain business access for the duration of construction.</u>	<u>Transport</u>	<u>Construction</u>
<u>TT11</u>	<u>Bus stop relocation</u>	<u>Transport will consult with the community and local business prior to relocation of the northbound Harris Street at Allen Street bus stop (Stop ID: 200926). Consultation with the community will be conducted to gather feedback on whether this change is preferred over maintaining the bus stop in its current location.</u>	<u>Transport</u>	<u>Pre-construction</u>
P1	General	Construction in accordance with an approved communication strategy to communicate parking impacts to stakeholders in advance. This includes targeted stakeholder engagement where loading zones are impacted Additional assessment if any new parking impacts are identified during detailed design/construction Maintain resident access to private parking driveway/s	Transport Contractor	Pre-construction Detailed Design
P2	Sydney Fish Market compound site	Co-ordination and discussions with Sydney Fish Market to discuss the loss of parking during construction, particularly at weekends Targeted stakeholder engagement with Sydney Fish Market during detailed design and pre-construction Further targeted assessment of the under viaduct parking area demand during detailed design	Transport Contractor	Pre-construction Detailed Design
P3	Jones Lane	Where possible, two disability allocated parking spaces located adjacent to the compound would be maintained during construction. If this is not possible, targeted stakeholder engagement is proposed to evaluate and secure suitable alternative arrangements.	Transport Contractor	Pre-construction Detailed Design
AB1	Offset	Tree impacts will be offset in accordance with Transport's Biodiversity Offset Policy (Transport, 2022)	Transport	Pre-construction / Construction

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No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
AB2	Tree relocation	A Palm Tree Translocation plan is to be developed in consultation with key stakeholders for the Cabbage-tree Palms impacted in Darling Harbour (Zone K) . Translocation plan to include; <ul style="list-style-type: none"> • Identification of suitable relocation sites' • Work methodology • Activities requiring project arborist supervision • Tree care plan • Program for timing of relocations Assessment for planter box options during construction.	Contractor Transport	Pre-construction Detailed design
AB3	General	The proposal would be carried out to meet the Australian Standard AS 4373-2007, Pruning of Amenity Trees and NSW WorkCover Code of Practice for the Amenity Tree Industry (1998)	Contractor	Pre-construction Construction
AB4	General	Prior to any construction, an onsite meeting is to be conducted with attendees including but not limited to the project arborist (AQF Level 5 Consulting Arborist), site manager and construction personnel team to walkthrough the tree protection measures requirements per zone.	Contractor	Pre-construction
AB5	General	All trees approved for removal are to be indicated clearly in accordance with an approved Vegetation Management Plan (VMP)	Contractor	Pre-construction Construction
AB6	General	All tree pruning and removal is to be carried out by an arborist with a minimum AQF Level 5 qualification in Arboriculture	Contractor	Construction
AB7	General	All works within the TPZ and SRZ of trees to be retained are to be under the supervision of the Project Arborist (AQF level 5 consulting arborist)	Contractor	Construction
AB8	Pruning of trees near Glebe Island Bridge	The pruning of trees 8 and 9 would require further assessment by an AQF Level 5 Consulting Arborist as to create a turning envelope for vehicles to access site to minimise canopy impacts.	Contractor	Pre-construction Construction
AB9	Tree retention ratings in CAD design	Incorporate tree retention rating and TPZ values into CAD design	Contractor Transport	Pre-construction Detailed design
AB10	Utility design	Review utility design and encroachment on TPZ at each stage of detailed design and assess feasibility of alternate construction methodologies, such as non-destructive excavation (NDE) or underbore at sites of TPZ encroachment	Contractor Transport	Pre-construction Detailed design
AB11	Landscape plan	Develop a detailed landscape plan in consultation with key stakeholders -	Contractor Transport	Pre-construction Detailed design

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
AB12	Site induction requirements.	Site induction material to cover requirements of Flora and Fauna Management Plan (FFMP) including specific tree protection measures	Contractor Transport	Pre-construction Detailed design
NV1	Noise and vibration	<p>A Noise and Vibration Management Plan (NVMP) will be prepared and implemented as part of the CEMP. The NVMP will generally follow the approach in the Interim <i>Construction Noise Guideline</i> (ICNG) (DECC, 2009) and include as a minimum:</p> <ul style="list-style-type: none"> • all potential noise and vibration generating activities associated with each distinct work phase • a quantitative noise assessment for each main construction phase • feasible and reasonable mitigation measures to be implemented, taking into account the mitigation measures outlined in the CNVG and noise and vibration assessment • procedure for application of noise blankets • a monitoring program to assess performance against relevant noise and vibration criteria • arrangements for consultation with affected neighbours and sensitive receivers, including notification and complaint handling procedures • contingency measures to be implemented in the event of non-compliance with noise and vibration criteria • assessment of construction noise impacts from haulage activities and corresponding mitigation measures • an Out of Hours Work Permit would need to be obtained prior to any out of hours construction work. The Permit would undertake a specific noise assessment and apply reasonable and feasible mitigation measures depending on the level of noise impact • assessment of construction noise impacts from deliveries outside of standard hours and corresponding mitigation measures • the NVMP shall be regularly updated to account for changes in construction phase and in response to complaints <p>Process to review adequacy of mitigation measures where cumulative noise from other major construction projects have the potential to occur</p>	Contractor	Detailed design Pre-construction
NV2	Noise and vibration	<p>All sensitive receivers (eg schools, local residents) likely to be affected will be notified at least 10 days prior to commencement of any works associated with the activity that may have an adverse noise or vibration impact. The notification will provide details of:</p> <ul style="list-style-type: none"> • the proposal • the construction period and construction hours • contact information for project management staff • complaint and incident reporting 	Contractor	Detailed design / pre-construction

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
		<ul style="list-style-type: none"> how to obtain further information 		
NV3	Noise and vibration	<p>All employees, contractors and subcontractors are to receive an environmental induction. The induction must at least include:</p> <ul style="list-style-type: none"> all proposal specific and relevant standard noise and vibration mitigation measures relevant licence and approval conditions permissible hours of work any limitations on high noise generating activities location of nearest sensitive receivers site opening/closing times (including deliveries) <p>environmental incident procedures.</p>	Contractor	Pre-construction
NV4	Construction noise	<p>Non-tonal reversing beepers (or an equivalent mechanism) must be fitted and used on all construction vehicles and mobile plant regularly used on site and for out of hours work. Consider the use of ambient sensitive alarms that adjust output relative to the ambient noise level.</p>	Contractor	Pre-construction/ Construction
NV5	Construction noise	<p>Construction compound site layouts are to maximise opportunities to mitigate noise impacts including:</p> <ul style="list-style-type: none"> connection to power to avoid generator use planning vehicle movements to minimise need for vehicle reversing movements placement of site offices to maximise shielding shielding of stationary noise sources use of noise blankets. 	Contractor	Pre-construction/ Construction
NV6	Ground Vibration Management Plan	<p>A Ground Vibration Management Plan must be prepared prior to construction as part of the CEMP to address how construction will be carried out to minimise the impact of ground vibration on affected buildings within adjacent properties. The Vibration Management Plan must detail how construction vibration will be managed for various plant items working adjacent to the potentially affected buildings (as identified in the Vibration Risk Assessment). The Plan must show the locations of all occupied and unoccupied buildings which are potentially impacted on surrounding properties (including relevant heritage items) on a map, and provide details of control measures to be undertaken during construction, including:</p> <ol style="list-style-type: none"> Identification of all vibration generating tasks, duration and predicted vibration levels (based on the Vibration Risk Assessment); A schedule of properties where building condition inspections are required to be undertaken (based on the Vibration Risk Assessment); 	Contractor	Pre-construction / Construction

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
		<p>c. Location and type of mitigation measures to reduce excessive ground vibration such as:</p> <ul style="list-style-type: none"> i. Maximising the offset distance between high vibration plant items and nearby buildings; ii. Substitution by alternative equipment, plant and processes; iii. Screening or enclosures; iv. Restricted times when work is being carried out; v. Work setback distances, for example different vibration levels and machinery; vi. Consultation with affected residences and business owners; vii. Orienting equipment away from vibration-sensitive areas; and viii. Selecting site access points and roads as far as possible from sensitive receptors. <p>d. Specific physical and managerial measures for controlling ground vibration to comply with the relevant OEH guidelines and best practice;</p> <p>e. Vibration monitoring, reporting and response procedures;</p> <p>f. Procedures for notifying residents and business premises about vibration-generating activities likely to affect buildings on their property;</p> <p>g. Contingency plans to be implemented in the event of non-compliances and/or vibration complaints;</p> <p>h. Procedures for regularly reviewing the effectiveness of the Vibration Management Plan;</p> <p>Short and long term ground vibration monitoring program to assess compliance with the identified criteria.</p>		
NV7	Property Condition Surveys	Building condition surveys shall be conducted at receivers determined, by the Contractor's vibration specialist, to be sensitive to ground vibration impacts. The determination should be based on the results of a Vibration Risk Assessment plan for the proposal prior to construction, where the results of this will also feed into the Vibration Management Plan. These measures are to address potential community concerns that perceived vibration may cause building damage.	Contractor	Pre-construction
NV8	Noise modelling	Noise modelling is to be updated as part of Detailed design to reflect the final design and include feasible and reasonable assessment of noise mitigation for eligible noise receivers	Transport	Detailed design
NAH1	Non-Aboriginal Heritage Impacts- General	<p>A Non-Aboriginal Heritage Management plan would be prepared and included in the CEMP. This plan would include but not be limited to the following:</p> <ul style="list-style-type: none"> • A map identifying locations of items or sites (including curtilages) which are to be protected and those impacted and no-go zones. • Identification of potential environmental risks/impacts due to the works/activities 	Contractor	Detailed design / pre-construction

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
		<ul style="list-style-type: none"> Confirmation of all relevant approvals and permits required to commence works Specific mitigation measures to protect identified heritage items or areas Identify in toolbox talks where management of non-Aboriginal heritage is required such as identification of no-go zones and responsibilities under the Heritage Act 1977 and any obtained permits or exemptions. A stop works procedure in the event of actual or suspected potential harm to a heritage feature/place. <p>Requirement to comply with <i>RMS Standard Management Procedure -Unexpected Archaeological Finds, 2012</i>.</p>		
NAH2	Non-Aboriginal Heritage Impacts- General	<i>The Standard Management Procedure -Unexpected Heritage Items</i> (Transport for NSW, 2015) will be followed in the event that any unexpected heritage items, archaeological remains or potential relics of non-Aboriginal origin are encountered. Work will only re-commence once the requirements of that Procedure have been satisfied.	Contractor	Construction
NAH3	Non-Aboriginal Heritage Impacts- General	Ensure ongoing consultation with the relevant stakeholders including Heritage NSW.	Transport	Detailed design / Construction
NAH4	Non-Aboriginal Heritage Impacts- General	Further assessment of heritage impacts would be required for any additional impacts or works outside of the proposal area.	Transport	Detailed design
NAH5	Impacts on the Anzac Bridge	<p>Insofar as possible, mitigate through design the impacts of installing new gantries along the Anzac Bridge. Recommended measures are as follows:</p> <ul style="list-style-type: none"> Design and detail the structures with consideration for the significant elements of the bridge design, including form, scale, materiality, detailing and user experience Insofar as possible, ensure the gantries are lightweight structures that complement, rather than detract from the streamlined character of the Anzac Bridge and its uninterrupted span Implement low impact construction techniques that can be reversed or remediated if ever required <p>Make sure Gantries are of a high quality to match the design and detailing of the Bridge to reduce impacts on the heritage fabric.</p>	Transport	Detailed design
NAH6	Impacts on the Anzac Bridge	Undertake a digital photographic archival recording of the Anzac Bridge before and after the installation of the gantries and update Roads and Maritime records associated with the Section 170 listing for the bridge. The recording should be undertaken in accordance with the NSW Heritage Office guidelines <i>Photographic Recording of Heritage Items Using Film or Digital Capture (2006)</i> .	Contractor	Pre and Post Construction
NAH7	Impacts on the Anzac Bridge	Detailed design is to include consideration for updating or refreshing the interpretive signage that currently conveys the history and significance of the bridge at the eastern approach near the	Transport	Detailed design / pre-construction

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No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
		shared pedestrian/cycle offramp. Alternatively, provide further interpretation or information via a digital platform or other more innovative medium.		
NAH8	Impacts on the old Glebe Island Bridge	Implement specific management measures from the HMP to prevent any damage to the significant fabric of the Glebe Island Bridge. Ensure all construction compound activities are fully reversible and remain east of the Glebe Island Bridge Gate (see Figure 3-1). Construction compound use must remain within the existing fenced area.	Contractor	Detailed design / pre-construction
NAH9	Impacts on the old Glebe Island Bridge	Avoid parking trucks, heavy machinery or stockpiling materials beyond the eastern gated entrance to the Bridge.	Contractor	Construction
NAH10	Impacts on the Goldsborough Woolstore	Implement specific management measures from the HMP to protect the physical fabric and visual setting of the Goldsborough Woolstore throughout the construction of the proposal. This includes compliance with vibration management requirements of the NVMP. At ground level, mitigate further setting and streetscape impacts through landscape and urban design.	Transport /Contractor	Detailed design / pre-construction
NAH11	Impacts to Non-Aboriginal Archaeology	Implement the Transport Unexpected Heritage Finds protocol in the event of an unexpected find. As per the Unexpected Finds protocol obtain specialist archaeological advice and consult with the NSW Heritage Division Archaeology team if a historical relic or object is encountered during the construction works.	Transport / contractor	Construction
NAH12	NAH14 - Impacts to Non-Aboriginal Archaeology	As part of the Non-Aboriginal Heritage Management Strategy undertake site inductions and conduct heritage awareness training which details the kinds of historical relics, structures and deposits which may be encountered during construction works.	Transport / contractor	Construction
UDL1	Construction visual impacts	The layout and management of the compound sites would take into consideration the potential visual impact. The design would consider: <ul style="list-style-type: none"> • using screening for fencing that faces sensitive receivers or views • careful placement of structures to maintain viewpoints or to provide additional screening. Management practices for compound sites would include: <ul style="list-style-type: none"> • keep compound sites well-presented, tidy and maintained • remove excess materials and/or waste regularly • sort, group and properly stockpile excess materials and/or waste to avoid scattering of materials/waste across site during decommissioning, progressively restore compound sites to pre-construction conditions when no longer required.	Contractor	Pre-construction Construction Decommissioning
<u>UDL2</u>	<u>Lighting</u>	<u>The layout and management of construction and compound sites would take into consideration appropriate lighting and appropriate shielding of lights during construction.</u>	<u>Contractor</u>	<u>Pre-construction Construction</u>

Transport for NSW

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
SE1	Socio-economic – general	<p>A Communication Plan (CP) will be prepared and implemented as part of the CEMP to help provide timely and accurate information to the community during construction. The CP will include (as a minimum):</p> <ul style="list-style-type: none"> mechanisms to provide details and timing of proposed activities to affected residents, including changed traffic and access conditions contact name and number for complaints. 	Transport	Pre-construction
SE2	Socio-economic – general	Transport will continue to consult with affected property owners and land occupiers (including The Ribbon development) until the completion of the proposal.	Transport	Pre-construction/ construction
SE3	Socio-economic – general	Temporary changes in access will be discussed with impacted land occupiers prior to commencement of construction and during construction activities should arrangements change. TfNSW would confirm any realignment of street access or inter-property access under the proposal, in consultation with property owners	Transport	Pre-construction/ construction
SE4	Socio-economic – general	<p>A Traffic Management Plan (TMP) will be developed prior to construction to mitigate potential impacts to road users. The plan will include:</p> <ul style="list-style-type: none"> access arrangements for the local road network including detours access arrangements for pedestrians and cyclists including appropriate safety signage and alternative routes <p>Traffic control and plans for work that require road closures.</p>	Transport	Pre-construction
SE5	Socio-economic – general	Access to social infrastructure facilities including parks and reserves will be maintained during construction, with safety measures in place for noise and amenity impacts. Should any active pathways or routes require closure during construction, TfNSW would consult with Council and the community.	Transport	Pre-construction/ construction
SE6	Socio-economic	Transport will work with council through the construction period to try and minimise impacts during Sydney events, such as marathons and festivals to minimise any adverse impacts on the road network and the CBD and businesses. Transport should also consult with ICC Sydney and Place Management NSW in relation to large events and the Darling Harbour development area.	Transport	Pre-construction
SE7	Socio-economic – general	<p>A complaints handling procedure and register would be included in the CEMP and maintained for the duration of the proposal. The procedure must include:</p> <ul style="list-style-type: none"> how complaints are to be recorded how a qualified community representative or delegate would be available to respond and appropriate action community complaints how Transport would be informed of complaints · how complaints are to be reported how complaints would be followed up and managed how the complaints would be established and maintained 	Contractor	Construction

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for NSW

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
SE8	<u>Socio-economic – general</u>	<u>Transport will continue to engage and consult with the ICC to maintain business operation for the duration of construction.</u>	<u>Transport</u>	<u>Pre-construction/ construction</u>
SE9	<u>Socio-economic – general</u>	<u>Transport will continue to consult with Darling Harbour Live regarding impacts to Darling Harbour for the duration of construction</u>	<u>Transport</u>	<u>Pre-construction/ construction</u>
B1	Microbat Management Plan	<p>Prior to the commencement of works on the Darling Harbour weave ramp, a suitably qualified microbat ecologist in consultation with Transport's Biodiversity Officer would undertake a preclearing process to identify whether microbats are present in the viaduct structure in and around the area of works.</p> <p>Should microbats be confirmed on site, a Microbat Management Plan must be developed prior to any potential impacts in accordance with TfNSW guidelines including:</p> <ul style="list-style-type: none"> • a detailed methodology for pre-clearing surveys • a protocol for identification, capture, and relocation of microbats • a protocol for microbat exclusion • references to examples to demonstrate proven effectiveness of proposed management measures • reporting requirements including species identification, number, relocation actions, exclusion methods 	Contractor, TfNSW	Detailed Design
B2	Removal of threatened fauna habitat	Threatened fauna habitat (HBTs) removal will be minimised through detailed design.	Contractor, TfNSW	Detailed design
B3	Removal of threatened fauna habitat	Habitat removal will be undertaken in accordance with Guide 4: Clearing of vegetation and removal of bushrock of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011).	Contractor, TfNSW	During construction
B4	Injury and mortality of fauna	Fauna will be managed in accordance with Guide 9: Fauna handling of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011).	Contractor, TfNSW	During construction
B5	Invasion and spread of weeds	Weed species will be managed in accordance with Guide 6: Weed management of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011).	Contractor, TfNSW	During construction
AH1	Aboriginal heritage	The Bays Precinct PAD02 [45-6-3338] on Bank Street is to be identified in the CEMP and environmental constraints mapping as a 'No-Go' exclusion area with appropriate physical protection measures. The Bank Street compound site as well as access to the facility is to be kept away from the Potential Archaeological Deposits (PAD) site.	Contacto	Pre-construction and to be maintained/monitored during construction
AH2	Unexpected heritage finds	The <i>Standard Management Procedure - Unexpected Heritage Items</i> (Roads and Maritime, 2015) will be followed in the event that an unknown or potential Aboriginal object/s, including skeletal remains, is found during construction.	Contacto	Construction
AQ1	Air quality	An Air Quality Management Plan (AQMP) will be prepared and implemented as part of the CEMP. The AQMP will include, but not be limited to:	Contacto	Detailed design / pre-construction

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
		<ul style="list-style-type: none"> potential sources of air pollution air quality management objectives consistent with any relevant published EPA and/or OEH guidelines mitigation and suppression measures to be implemented methods to manage work during strong winds or other adverse weather condition a progressive rehabilitation strategy for exposed surfaces. 		
S1	Contamination from onsite filling	Analytical results from any spoil requiring off-site disposal will be sorted in accordance with NSW EPA Waste Classification Guidelines (2014) Parts 1 to 4 and Addendum 1. If natural soil is disturbed, it may meet the definition of Excavated Natural Material with the analytical data compared to the concentrations and requirements with ENM Resource Recovery Order and Exemption under the <i>Protection of Environmental Operations (Waste) Act 2000</i> .	Contractor	Construction
S2	Construction surface water quality	A site-specific Erosion and Sediment Control Plan/s (ESCP) will be prepared and implemented as part of the Construction Soil and Water Management Plan. These Plans will further develop the Construction Erosion and Sediment Control Strategy developed in detailed design and be consistent with the above guidelines (Landcom 2004, DECC 2008 and RTA 2011).	Contractor	Detailed design Pre-construction/ Construction
F1	Flooding	Measures to manage residual flood impacts will include: <ul style="list-style-type: none"> A procedure to monitor weather conditions (existing and forecast conditions), including minor rain events, local weather warnings and river water level data Ensuring construction equipment and materials are removed from floodplain areas at the completion of each work activity or should a weather warning be issued of impending flood producing rain. Developing flood emergency response procedures to remove temporary works during periods of heavy rainfall. 	Contractor	Pre-construction
W1	Waste	<p>A Waste Management Plan (WMP) will be prepared and implemented as part of the CEMP. The WMP will include but not be limited to:</p> <ul style="list-style-type: none"> measures to avoid and minimise waste associated with the proposal classification of wastes and management options (re-use, recycle, stockpile, disposal) statutory approvals required for managing both on and off-site waste, or application of any relevant resource recovery exemptions procedures for storage, transport and disposal monitoring, record keeping and reporting. <p>The WMP will be prepared taking into account the <i>Environmental Procedure-Management of Wastes on Transport for NSW Land</i> (Transport for NSW, 2014) and relevant Transport for NSW Waste Fact Sheets.</p>	Contactora	Detailed design / pre-construction

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing
CL1	Contamination risks	<p>Where contamination is identified, a Contaminated Land Management Plan will be prepared in accordance with the Guideline for the Management of Contamination (Transport for NSW, 2013) and implemented as part of the CEMP. The plan will include, but not be limited to:</p> <ul style="list-style-type: none"> capture and management of any surface runoff contaminated by exposure to the contaminated land further investigations required to determine the extent, concentration and type of contamination, as identified in the detailed site investigation (Phase 2) management of the remediation and subsequent validation of the contaminated land, including any certification required <p>measures to ensure the safety of site personnel and local communities during construction.</p>	Contractor	Construction
CL2	Contamination risks	<p>If contaminated areas are encountered during construction, appropriate control measures will be implemented to manage the immediate risks of contamination. All other works that may impact on the contaminated area will cease until the nature and extent of the contamination has been confirmed and any necessary site-specific controls or further actions identified in consultation with the Transport for NSW Environment Manager and/or NSW EPA.</p>	Contractor	Construction
CL3	Accidental spill	<p>A site-specific emergency spill plan will be developed and include spill management measures in accordance with the <i>Roads and Maritime Code of Practice for Water Management</i> (RTA, 1999) and relevant EPA guidelines. The plan will address measures to be implemented in the event of a spill, including initial response and containment, notification of emergency services and relevant authorities (including Transport for NSW and EPA officers).</p>	Contractor	Construction
CUL1	Cumulative impacts	<p>Ongoing coordination and consultation will be undertaken between the contractors from the surrounding major projects, including Rozelle interchange, Sydney Metro West, Western Distributor Smart Motorways project, Glebe Island Bridge project and the Bays Precinct Redevelopment and the Blackwattle Bay Transport Improvement Program team to ensure cumulative traffic impacts are appropriately assessed and managed particularly during high traffic periods.</p> <p>The CEMP would need to be updated progressively throughout construction to capture concurrent impact including coordination of noise mitigation strategies, scheduling of deliveries and coordinating road closures or detour routes.</p>	Transport / Contractor	Detailed design Construction

6.3 Licensing and approvals

Table 6-2: Summary of licensing and approval required

Instrument	Requirement	Timing
<i>Heritage Act 1977</i> (s139)	Excavation permit (s139 (4) Exception)	Prior to start of the activity.
<i>Roads Act 1993</i> (s 138)	All impacts to the road network would be undertaken in accordance with a Road Occupancy License (ROL) to be obtained from the Traffic Management Centre.	Pre-construction

7. References

Transport for NSW, August 2022; Western Distributor Network Improvements Review of Environmental Factors

Appendix A: Summary Table of respondents, submission numbers and responses.

Table A-1: Respondents

Respondent	Submission No.	Section number where issues are addressed
Individual	1	2.6.2
Individual	2	2.3.2, 2.8.1
Individual	3	2.3.2
Individual	4	2.7.1
Individual	5	2.2.1, 2.3.2, 2.6.3, 2.19
Individual	6	2.3.2
Individual	7	2.3.2
Individual	8	2.7.1
Individual	9	2.6.2, 2.9
Individual	10	2.3.1
Individual	11	2.3.2, 2.6.1, 2.8.1
Individual	12	2.3.2
Individual	13	2.2.1
Individual	14	2.3.2, 2.19
Individual	15	2.6.2
Individual	16	2.2.1
Individual	17	2.6.2, 2.7.1
Individual	18	2.6.1, 2.8.1, 2.11
Individual	19	2.7.1
Individual	20	2.2.1, 2.2.2, 2.2.3, 2.6.1, 2.7.1, 2.9, 2.19
Individual	21	2.3.2
Individual	22	2.3.2
Individual	23	2.3.2, 2.4.1, 2.6.2, 2.14
Individual	24	2.2.1, 2.4.1, 2.7.3, 2.7.3, 2.8.1
Individual	25	2.7.1
Individual	26	2.3.2
Individual	27	2.3.2
Individual	28	2.7.1
Individual	29	2.3.2
Individual	30	2.2.1, 2.19
Individual	31	2.2.1, 2.19
Individual	32	2.2.1
Individual	33	2.2.1, 2.6.2, 2.7.1
Individual	34	2.2.1

Respondent	Submission No.	Section number where issues are addressed
Individual	35	2.3.2, 2.7.1
Individual	36	2.2.1
Individual	37	2.2.1
Individual	38	2.2.1
Individual	39	2.2.1
Individual	40	2.3.2
Individual	41	2.2.1
Individual	42	2.2.1
Individual	43	2.3.2, 2.19
Individual	44	2.2.1
Individual	45	2.2.1, 2.8.1
Individual	46	2.8.1
Individual	47	2.2.1
Individual	48	2.2.1, 2.8.1
Individual	49	2.2.1
Individual	50	2.2.1
Individual	51	2.2.1, 2.6.2
Individual	52	2.2.1
Individual	53	2.2.1
Individual	54	2.2.1
Individual	55	2.6.1
Individual	56	2.2.1
Individual	57	2.2.1
Individual	58	2.2.1
Individual	59	2.7.1
Individual	60	2.3.2
Individual	61	2.7.1
Individual	62	2.2.1
Individual	63	2.3.2, 2.7.1
Individual	64	2.8.1, 2.19
Individual	65	2.2.1, 2.3.2, 2.6.2, 2.7.1, 2.7.3, 2.10, 2.14
Individual	66	2.2.1, 2.7.1
Individual	67	2.9
Individual	68	2.7.1
Individual	69	2.7.1

Respondent	Submission No.	Section number where issues are addressed
Individual	70	2.2.1, 2.9
Individual	71	2.2.1
Individual	72	2.2.1, 2.2.3, 2.2.4
Individual	73	2.2.1, 2.7.1, 2.9
Sydney Fish Market	74	2.7.1, 2.7.3, 2.8.1
Individual	75	2.2.1
Individual	76	2.7.1, 2.10, 2.14, 2.19
Individual	77	2.7.1
Individual	78	2.3.2
Individual	79	2.3.2, 2.10
Individual	80	2.3.2, 2.6.2
Individual	81	2.7.1
Individual	82	2.4.2
Individual	83	2.2.1, 2.3.2, 2.6.2, 2.7.1, 2.9
Individual	84	2.3.2
Individual	85	2.7.1
Individual	86	2.3.2
Individual	87	2.2.8
Individual	88	2.3.2
Individual	89	2.2.1
Individual	90	2.3.2
Individual	91	2.3.2, 2.19
Individual	92	2.3.2
Individual	93	2.3.2
Individual	94	2.3.2
Individual	95	2.3.2
Individual	96	2.3.2
Individual	97	2.3.2
Individual	98	2.3.2
Individual	99	2.3.2
Individual	100	2.3.2
Individual	101	2.3.2
Individual	102	2.3.2
Individual	103	2.3.2
Individual	104	2.3.2

Respondent	Submission No.	Section number where issues are addressed
Individual	105	2.3.2, 2.6.2
Individual	106	2.2.1, 2.7.2, 2.9
Individual	107	2.3.2
Individual	108	2.3.2
Individual	109	2.3.2
Individual	110	2.3.2
Individual	111	2.3.2
Individual	112	2.3.2, 2.8.1
Individual	113	2.7.1
Individual	114	2.3.2, 2.7.1
Individual	115	2.2.1
Individual	116	2.2.1
Individual	117	2.2.1
Individual	118	2.7.1
Individual	119	2.6.2
Individual	120	2.8.1, 2.9
Individual	121	2.8.1, 2.9
Individual	122	2.12, 2.19
Individual	123	2.2.1, 2.6.1, 2.9, 2.13, 2.16
Individual	124	2.9
Individual	125	2.2.1
Individual	126	2.2.1, 2.9
Individual	127	2.7.1, 2.9
Individual	128	2.9, 2.16
Individual	129	2.2.1
Individual	130	2.2.1, 2.7.3
Individual	131	2.2.1, 2.7.3
Individual	132	2.6.2, 2.7.1, 2.11
Individual	133	2.8.1, 2.10
Individual	134	2.8.1
Individual	135	2.2.1, 2.2.4, 2.6.2, 2.7.3, 2.8.1, 2.9
Individual	136	2.2.1
Individual	137	2.2.1, 2.2.3, 2.2.4, 2.3.2, 2.6.2
Individual	138	2.7.3, 2.9, 2.14, 2.19
Individual	139	2.7.3

Respondent	Submission No.	Section number where issues are addressed
Individual	140	2.3.2, 2.8.1, 2.9, 2.10, 2.14
Darling Harbour Live Pty	141	2.6.5
Individual	142	2.2.1
Individual	143	2.2.4, 2.8.1
Individual	144	2.7.1, 2.11
Individual	145	2.6.2, 2.7.1
Individual	146	2.2.3, 2.6.5, 2.9
Parisi	147	2.8.1, 2.14
Individual	148	2.6.2, 2.8.1
Individual	149	2.2.1, 2.2.3, 2.3.2, 2.6.2, 2.7.1, 2.7.5, 2.9, 2.11, 2.12, 2.13
Individual	150	2.2.5
Individual	151	2.11
Individual	152	2.2.6
Individual	153	2.8.1, 2.9
Individual	154	2.7.3
Individual	155	2.2.4
Individual	156	2.11
Individual	157	2.3.3
Individual	158	2.2.1
Individual	159	2.3.2, 2.8.1, 2.9, 2.10, 2.11, 2.14
Individual	160	2.2.1
Individual	161	2.3.2, 2.8.1, 2.9, 2.10, 2.11, 2.14
Individual	162	2.3.2, 2.8.1, 2.19
Individual	163	2.7.3
Individual	164	2.3.2
Individual	165	2.6.2
Individual	166	2.2.3, 2.6.2, 2.8.1, 2.9
Individual	167	2.5.1, 2.7.1, 2.14
Individual	168	2.2.1, 2.8.1, 2.9
Individual	169	2.2.1, 2.7.1, 2.8.1, 2.9
Individual	170	2.3.2, 2.7.1, 2.7.5
Individual	171	2.7.1, 2.11
Pymont Peninsula Public Transport Forum	172	2.11
Individual	173	2.2.1

Respondent	Submission No.	Section number where issues are addressed
Individual	174	2.2.1
Individual	175	2.11
Individual	176	2.16
Individual	177	2.12
Individual	178	2.12
Friends of Ultimo	179	2.2.1, 2.2.3, 2.6.1, 2.8.1, 2.9, 2.11, 2.12, 2.14
Individual	180	2.7.1, 2.11
Individual	181	2.2.1, 2.4.1, 2.7.5, 2.9, 2.11
Individual	182	2.9, 2.12, 2.16
Individual	183	2.2.3, 2.6.2
Individual	184	2.2.1, 2.9, 2.12, 2.16
Individual	185	2.2.1, 2.2.6, 2.6.1, 2.9, 2.11, 2.12, 2.14
Individual	186	2.2.1, 2.6.1, 2.11, 2.14
Individual	187	2.2.2, 2.2.3
Individual	188	2.2.3, 2.5.2, 2.7.1, 2.8.1
Individual	189	2.2.2
Individual	190	2.16
Individual	191	2.2.1, 2.13
Individual	192	2.2.1, 2.2.4
Individual	193	2.3.2, 2.8.1
Walk Sydney	194	2.2.1, 2.6.4, 2.8.1, 2.9, 2.10, 2.12, 2.17
Sydney Fish Market	195	2.7.1, 2.7.2, 2.8.1, 2.9
Ultimo Village Voice	196	2.3.2, 2.8.1, 2.9, 2.10, 2.11, 2.12, 2.13, 2.14, 2.15, 2.18
Individual	197	2.2.2
Individual	198	2.13
Individual	199	2.2.1, 2.6.1
Individual	200	2.2.1, 2.7.1
Individual	201	2.7.2
Individual	202	2.3.3
Individual	203	2.8.1
City of Sydney	204	3.2
Individual	205	2.3.2
Heritage NSW	206	2.3.2, 3.3
Individual	207	2.9, 2.12, 2.13, 2.17
Individual	208	2.3.2

Respondent	Submission No.	Section number where issues are addressed
Individual	209	2.2.9, 2.7.1, 2.8.1
Individual	210	2.7.1, 2.7.4
Individual	211	2.2.1, 2.8.1, 2.9
Individual	212	2.7.1, 2.11, 2.16
Member for Balmain	213	3.5
Individual	214	2.6.2, 2.8.1, 2.9, 2.12
Individual	215	2.8.1
Individual	216	2.9, 2.12
Individual	217	2.9, 2.12
Individual	218	2.2.1, 2.6.4 ,2.12, 2.16
Individual	219	2.8.1, 2.9, 2.10, 2.12, 2.13, 2.14
Individual	220	2.2.1
Individual	221	2.7.4
Individual	222	2.2.1
Individual	223	2.6.2
Individual	224	2.8.1
Trans-Tasman Fisheries	225	2.8.1
Different Strokes Dragon Boat Club	226	2.14
Sydney Zodiacs Dragon Boat Club	227	2.14
Pymont Action Inc	228	2.2.4, 2.3.2, 2.7.1, 2.7.4, 2.10, 2.11, 2.13, 2.14, 2.15
Individual	229	2.2.1, 2.2.4, 2.8.1, 2.12
Individual	230	2.2.1, 2.6.5, 2.8.1
Individual	231	2.8.1, 2.12, 2.17
Bicycle NSW	232	2.8.1, 2.9, 2.10, 2.12, 2.13, 2.14, 2.17
Inner West Council	233	3.4
Individual	234	2.6.2, 2.19
Individual	235	2.8.1, 2.12, 2.17
Individual	236	2.2.5, 2.13
Individual	237	2.7.1
Individual	238	2.7.1
Pacific Dragons Boat Club	239	2.7.1
Individual	240	2.8.1
ACCA Dragon Boat Racing Team	241	2.14

Respondent	Submission No.	Section number where issues are addressed
The Sloths Dragon Boating Club	242	2.14
Individual	243	2.3.2, 2.8.1, 2.9, 2.10, 2.11, 2.12, 2.14, 2.15, 2.18
Individual	244	2.9, 2.11, 2.12
Individual	245	2.8.1
Dragons Abreast Sydney	246	2.14
Individual	247	2.8.1, 2.9, 2.10, 2.12, 2.16
Individual	248	2.3.2, 2.6.1, 2.7.2, 2.12, 2.19
Dragon Boats NSW	249	2.14
Individual	250	2.8.1, 2.9, 2.10, 2.11, 2.14
Individual	251	2.2.4, 2.6.2, 2.8.1
Individual	252	2.2.2, 2.7.4, 2.9, 2.12
Individual	253	2.2.1, 2.2.3
Individual	254	2.8.1, 2.16
Individual	255	2.2.3, 2.2.4, 2.19
Individual	256	2.3.2, 2.12, 2.13, 2.17
Action for Public Transport	257	2.12, 2.13, 2.19
Individual	258	2.8.1, 2.9, 2.11, 2.13, 2.14, 2.16
Individual	259	2.2.1, 2.8.1, 2.12
Individual	260	2.6.1, 2.12, 2.16
Individual	261	2.6.1, 2.13
Individual	262	2.3.2
Individual	263	2.3.2



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