

Appendix B

Traffic, Transport and Access Management Sub-Plan

Western Harbour Tunnel

April 2023

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Document control

Approval and authorisation

Approved on behalf of ACCIONA by	Andrew Marsonet
Signed	
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Glossary / Abbreviations

Abbreviation	Expanded text
Ancillary facility	A temporary facility for construction of the CSSI including an office and amenities compound, construction compound, material crushing and screening plant, materials storage compound, maintenance workshop, testing laboratory, material stockpile area and car parking facilities. <i>Note: where an approved management plan contains a stockpile management protocol, a material stockpile area located within the construction boundary is not considered to be an ancillary facility</i>
CEMP	Construction Environmental Management Plan
CJP	Customer Journey Planning
CSSI	Critical State Significant Infrastructure
DPE	NSW Department of Planning, Industry and Environment
EIS	Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement (January 2020)
EPA	NSW Environment Protection Authority
ER	Environmental Representative
MCoA	Minister's Condition of Approval
Project, the	Western Harbour Tunnel project, a component of the Western Harbour Tunnel and Warringah Freeway Upgrade project
REMM	Revised Environmental Management Measure
ROL	Road Occupancy Licence
RtS	Response to Submissions Report
SMART	Specific, Measurable, Achievable, Realistic and Time-based
SZA	Speed Zone Authorisation
TGS	Traffic Guidance Scheme
TMC	Traffic Management Centre
TMP	Traffic Management Plan
TSD	Traffic Staging Drawing
TfNSW	Transport for New South Wales

Abbreviation	Expanded text
TTAMP	Traffic, Transport and Access Management Plan (this document)
VMP	Vehicle Movement Plan
VMS	Variable message sign
WFU	Warringah Freeway Upgrade
WHT	Western Harbour Tunnel

1 Introduction

1.1 Context

This Traffic, Transport and Access Management Sub-Plan (TTAMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the Western Harbour Tunnel (WHT) (the Project), a component of the Western Harbour Tunnel and Warringah Freeway Upgrade project.

This TTAMP has been prepared to address the traffic and transport requirements of the Minister's Conditions of Approval (MCoA) for the Western Harbour Tunnel and Warringah Freeway Upgrade project (SSI #8863), the Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement dated January 2020 (the EIS), the Western Harbour Tunnel and Warringah Freeway Upgrade Response to Submissions report dated September 2020 (the RtS) and applicable guidelines and legislation.

This Plan describes how ACCIONA proposes to manage potential traffic impacts during the construction of the Project.

1.2 Background and project description

The Western Harbour Tunnel and Warringah Freeway Upgrade project comprises a new motorway tunnel connection across Sydney Harbour, and an upgrade of the Warringah Freeway to integrate the new motorway infrastructure with the existing road network and to enable the future connection of the Gore Hill Freeway Connection project.

The Project will connect the M4-M5 Link in Rozelle to the Warringah Freeway at North Sydney/Cammeray. The Project will traverse from Rozelle to Cammeray, comprising twin 6.5-kilometre bored/excavated tunnels with a crossing of Sydney Harbour, supported by surface based ancillary facilities.

The EIS was prepared to assess the impacts of construction and operation of the Western Harbour Tunnel and Warringah Freeway Upgrade project. As part of the EIS development, a detailed construction and operational traffic and transport assessment was prepared and included in the EIS as Appendix F (Technical working paper: Traffic and transport as *Western Harbour Tunnel and Warringah Freeway Upgrade Technical working paper: Traffic and Transport* (January 2020). The findings of the technical working paper relating to construction traffic are summarised in Chapter 8 (Construction traffic and transport) of the EIS.

A Response to Submissions Report (RtS) was prepared in response to submissions received on the EIS. The RtS includes clarifications as well as further detail relating to traffic issues of the Project. The EIS environmental management measures were revised and included in Part D of the RtS, with traffic management measures contained in this Plan.

The Western Harbour Tunnel and Warringah Freeway Upgrade project was declared to be Critical State Significant Infrastructure (CSSI) by the Minister for Planning and Public Spaces (the Minister) on 9 November 2020 and approved by the Minister on 21 January 2021.

This Plan covers management of potential impacts on traffic, transport and access associated with construction of the Project identified within the Planning Approval Documents.

The documents listed in the planning approval concluded that the construction phase of the Project could potentially impact on traffic, transport and access. The measures and management requirements to minimise impacts are detailed within this Plan.

1.3 Scope and staging

The scope of this TTAMP is to describe how ACCIONA will manage potential traffic, worker parking, transport and access impacts during construction of the Project.

As described in Transport for New South Wales (TfNSW) Staging Report, this Project will be managed in stages with the CEMP. This document applies to the WHT Package 3B which includes the following scope:

- Excavation of twin mainline tunnels about 2.5 kilometres long and each accommodating three lanes of traffic in each direction, connecting portals adjacent to the Cammeray Golf Course to the Harbour Crossing section of the tunnel at Berrys Bay.
- Excavation of Falcon Street off-ramp tunnel.
- Excavation of Berry Street on-ramp tunnel.
- Cut and cover infrastructure surface construction at the Ridge Street North construction support site (WHT9), Berry Street and the Warringah Freeway portals.
- Integration works including Mechanical and Electrical (M&E) fit out for the Southern and Northern tunnelling sections, paving, surface connections, ventilation cavern fitout, integration and fitout of the Motorway Operation Centre (MOC) and Motorway Control Centre (MCC)
- Establishment and operation of White Bay (WHT3 – southern portion. The northern portion of WHT3 as described in the EIS will not be used); Ridge Street North (WHT9), and Cammeray Golf Course (WHT10) construction support sites.
- Operation of the City West Link Portal tunnelling support site (WHT12) after the completion of Stage 3A.

Requirements triggered by the 3B scope of works are identified Table 3-1 and Table 3-2.

For more details on staging refer to the Staging Report, which has been prepared in accordance with MCoA A10.

1.4 Interface with other planning documents

This Plan is a component of a suite of documents, prepared as part of the implementation of the Project's Environmental Management System. The Environmental Management System overview is described in Section 1.4 of the CEMP.

The key documents that interface with the TTAMP are outlined in Table 1-1.

Table 1-1 Key interfaces with the TTAMP

Plan	Interface
Construction Environmental Management Plan	▪ Provides details on overall Project staging, interactions between Sub-Plans of the CEMP, and management of cumulative impacts ▪ Provides a framework for how the construction works will be managed ▪ Identifies procedures, processes and management systems that will apply in relation to construction activities ▪ Provides environmental planning and controls for construction including environmental risk assessment, regulatory

Plan	Interface
	requirements, protection measures and sustainability requirements
Community Consultation Strategy and Complaints Management System	▪ Describes how community and stakeholder engagement will be managed and facilitates communication about construction of the project with the community as well as relevant councils and agencies ▪ Specifies the process for receiving, addressing, resolving and recording complaints as well as outlines the process required in the escalation of a complaint to an independent mediator
Construction Parking and Access Strategy	▪ Provides the parking strategy for worker parking on the project ▪ Provides the strategy and impacts around removal of on-street parking as a result of project works and permanent works ▪ Specifies mitigation measures for removal of on-street parking as a result of project and permanent works

2 Purpose and objectives

2.1 Purpose

The purpose of this TTAMP is to describe how ACCIONA will safely manage vehicular, cyclist and pedestrian traffic and minimise disruptions during construction of the Project.

This TTAMP has been prepared to address the applicable statutory requirements and aims to ensure that the commitments in the planning approval are met with regard to construction traffic, transport and access impacts.

2.2 Objectives

The key objective of the TTAMP is to ensure that traffic impacts during construction are minimised and are within the scope permitted by the planning approval. This includes minimising delays, ensuring consideration is given to the needs of all road and active transport users and maintaining safety for both workers and the general public.

To achieve these objectives, the Project will undertake the following:

- Ensure appropriate controls and procedures are implemented during construction activities to address potential traffic impacts along the Project corridor, as well as manage risks from analysis of relevant construction activities as per MCoA C2(d)(ii)
- Ensure appropriate measures are implemented to address the relevant MCoA outlined in Table 3-1 and the environmental management measures detailed in the Response to Submissions Report (RtS), as outlined in Table 3-2.
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 3.1 of this Plan.

Furthermore, ACCIONA will meet the performance outcomes from Table 28-4 of the EIS that are applicable to traffic and transport impacts, as required by MCoA C2(d)(i), as identified in Table 2-1 below.

Table 2-1 Performance outcomes identified in the EIS relevant to this Plan

Performance outcome	How performance outcome will be addressed	Records
• Network connectivity, safety and efficiency of the transport system in the vicinity of the project are managed to minimise impacts • The safety of transport system customers is maintained • Impacts on network capacity and the level	Minimise impacts to local streets from loss of parking, road closures and heavy vehicle movements during construction • Utilise the heavy vehicle routes outlined in section 6.5. • Implement measures to minimise impacts resulting from loss of parking, road closures and heavy vehicles movements outlined in Section 6. • Undertake training, inspections, auditing and recording in accordance with Section 7.3 and 7.4 and Section 3.5 of the CEMP.	Heavy vehicle routes Complaints register Weekly traffic inspection record

Performance outcome	How performance outcome will be addressed	Records
of service are effectively managed Works are compatible with existing infrastructure and future transport corridors.	Minimise impacts to road network efficiency during construction - Implement the processes and mitigation measures identified in Section 6. - Undertake training, inspections, auditing and recording in accordance with Section 7.	Site Specific Traffic Management Plans Complaints register
	Enable access to properties to be maintained during construction - Property access will be maintained through the implementation of the processes and mitigation measures identified in Section 6.13. - Undertake training, inspections, auditing and recording in accordance with Section 7.2 and 7.3 and Section 3.5 of the CEMP.	Site Specific Traffic Management Plans Complaints register
	Maintain pedestrian and cyclist safety along surface roads near the project - Section 6.11 outlines processes and mitigation measures which will be implemented. - Undertake training, inspections, auditing and recording in accordance with 7.2 and 7.3 and Section 3.5 of the CEMP.	Site Specific Traffic Management Plans Complaints register

2.3 Targets

The following targets have been established for the management of traffic, transport and access impacts during the Project construction activities:

- Ensure full compliance with the relevant legislative requirements, MCoA and revised environmental management measures (REMMs)
- Manage construction traffic and movements to and from construction support sites to ensure pedestrian, cyclist and motorist safety
- Minimise disruptions on the road network in the vicinity of the construction support sites.

3 Environmental requirements

3.1 Relevant legislation and guidelines

3.1.1 Legislation and regulatory requirements

Legislation and regulatory requirements relevant to traffic, transport and access for this Project include:

- *Roads Act 1993* (NSW)
- *Road Transport Act 2013*
- Australian Road Rules
- Environmental Planning and Assessment Act 1979

all legislation relevant for the Project is included in Appendix A1 of the CEMP.

3.1.2 Licences and permits

Licencing and permit requirements relevant to traffic, transport and access for this project include:

- Approved and valid Road Occupancy Licences (ROL)
- Approved relevant Speed Zone Authorisations (SZA)

3.1.3 Guidelines

The main guidelines, specifications and policy documents relevant to this plan include:

- AS1742.3: Manual of Uniform Traffic Control Devices – Part 3: Traffic Control for Works on Roads
- AS1743:2018 - Road Sign and Traffic Signals
- AUSTROADS Cycling Aspects of Austroads Guides, 2017
- AUSTROADS Guide to Traffic Management, 2020 – Parts 1-13
- AUSTROADS Guide to Road Design, 2021 – Parts 1-7
- AUSTROADS Guide to Road Safety, 2021 – Parts 1-7
- TfNSW Truck and Plant Requirements: Specification (2020)
- Roads & Traffic Authority NSW Guide to Traffic Generating Developments, 2002
- TfNSW Supplement to Australian Standard AS 1742.9:2018, Manual of Uniform Traffic Control Devices
- TfNSW QA Specification G10 – Traffic Management
- TfNSW QA Specification R141 – Pavement Markings
- TfNSW QA Specification R142 – Raised Reflective Pavement Markers
- TfNSW QA Specification R143 – Sign Posting
- TfNSW Traffic Control at Worksites Manual (Version 6.1, 2022)
- TfNSW – Safety Barrier Acceptance
- TfNSW – Variable Message Signs (VMS) Guidelines
- TfNSW – Delineation Manual

- TfNSW – Traffic Modelling Guidelines
- TfNSW – Technical Direction (TDT 2009/07) Speed Enforcement on Worksites
- Transport Management Centre – Road Occupancy Manual
- TfNSW Road User Space Allocation Policy and Procedure
- Council’s Integrated Transport Strategy
- TfNSW Walking Space Guide

3.2 Ministers Conditions of Approval

The MCoA relevant to this Plan are listed in Table **3-1**. A cross reference is also included to indicate where and how the conditions are addressed in this Plan or other Project management documents.

3.3 Environmental Management Measures

Relevant Revised Environmental Management Measures (REMMs), as identified in Part D of the RtS, are listed in Table **3-2** below. A cross reference is also included to indicate where and how the REMMs are addressed in this Plan or other Project management documents.

Table 3-1: Ministers Conditions of Approval relevant to the TTAMP

MCoA No.	Condition Requirements	Document reference	How addressed
General			
A5	Where the terms of this approval require a document or monitoring program to be prepared or a review to be undertaken in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Planning Secretary with the document. The evidence must include: (a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval; (b) a log of the dates of engagement or attempted engagement with the identified party; (c) documentation of the follow-up with the identified party where engagement has not occurred to confirm that they do not wish to engage or have not attempted to engage after repeated invitations; (d) outline of the issues raised by the identified party and how they have been addressed; and (e) a description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.	Section 4	Evidence of consultation will be submitted to the Planning Secretary with this document.

MCoA No.	Condition Requirements	Document reference	How addressed						
Identification of workforce and compounds									
A47	All heavy vehicles used for spoil haulage must be clearly marked on the sides and rear with the project name and CSSI application number to enable immediate identification by a person viewing the heavy vehicle. Details of the project identification markings must be submitted to the Planning Secretary for approval prior to the heavy vehicles used for spoil haulage being utilised for the CSSI.	Section 6.3 Table 6-4 - TTAMP23	Heavy vehicles used by the Project for spoil haulage will be clearly marked as required by the condition, with details of the project identification markings submitted to the Planning Secretary for approval prior to use of the heavy vehicles. Details are provided in Section 6.3.						
Construction Environmental Management Plan									
C4	CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of all information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant CEMP Sub-plan, including copies of all correspondence from those agencies as required by Condition A5. <table><tr><td></td><td>Required CEMP Sub-plan</td><td>Relevant government agencies to be consulted for each CEMP Sub-plan</td></tr><tr><td>(a)</td><td>Traffic, transport and access</td><td>Relevant council(s)</td></tr></table>		Required CEMP Sub-plan	Relevant government agencies to be consulted for each CEMP Sub-plan	(a)	Traffic, transport and access	Relevant council(s)	Section 4	This TTAMP has been prepared in consultation with the relevant councils identified in this condition. Evidence of consultation will be submitted to the Planning Secretary with this document.
	Required CEMP Sub-plan	Relevant government agencies to be consulted for each CEMP Sub-plan							
(a)	Traffic, transport and access	Relevant council(s)							
C5	The CEMP Sub-plans must state how:								
	(a) the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved;	Section 3	This TTAMP was prepared in accordance with the environmental performance outcomes identified in the EIS and RtS as outlined in Section 3.						

MCoA No.	Condition Requirements	Document reference	How addressed
	(b) the mitigation measures identified in the documents listed in Condition A1 will be implemented;	Table 3-2 Table 6-4	Relevant environmental management measures identified in the EIS and RtS relating to traffic, transport and access are detailed in Table 3-2 and Table 6-4 including where and how they are addressed in this Plan. Measures to achieve these requirements are detailed in Section 6 of this Plan.
	(c) the relevant terms of this approval will be complied with; and	Table 3-1	Details regarding how the Project will comply with the relevant terms of approval are listed in this Table, including references to the relevant sections of this TTAMP.
	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles.	Section 6.1 - Table 6-4 Environmental Risk Assessment Workshop (Section 3.2.1 of the CEMP)	Traffic and transport issues requiring management during construction of the Project have been identified through the EIS, RtS and Environmental Risk Assessment Workshop. These issues, including cumulative impacts, have been outlined in Appendix A2 of the CEMP. Environmental risk analysis will be ongoing and regularly reviewed in accordance with Section 3.2.1 of the CEMP.
C9	The CEMP Sub-plans must be submitted to the Planning Secretary for approval along with, or subsequent to, the submission of the CEMP but in any event, no later than one month before construction.	Section 2 of the CEMP	The CEMP Sub-plans will be submitted for approval to the planning secretary with or subsequent to the final submissions of the CEMP no later than one month before construction.

MCoA No.	Condition Requirements	Document reference	How addressed
C10	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved, unless otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary, including any minor amendments approved by the ER must be implemented for the duration of construction. Where construction of the CSSI is staged, construction of a stage must not commence until the CEMP and sub-plans for that stage have been endorsed by the ER and approved by the Planning Secretary.	Section 2 of the CEMP	Construction of the Project will not commence until the CEMP and applicable Sub-plan as per the Staging Report have been approved, unless it is otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans will be implemented for the duration of construction
Construction Traffic Management			
E128	Access to all utilities and properties must be maintained during construction, where practicable, unless otherwise agreed with the relevant utility owner, landowner or occupier.	Section 6.13 Table 6-4 - TTAMP02	Access will be maintained to all utilities and properties during construction unless otherwise agreed with the relevant utility owner, landowner or occupier, as detailed in Section 6.13. Where impacts to private property access is unavoidable during construction, property owners will be consulted in advance to develop appropriate alternative access arrangements.
E129	Any property access physically affected by the CSSI must be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier.	Section 6.13 Table 6-4 TTAMP02	Any property access affected by Project works will be reinstated to pre-construction standard, unless otherwise agreed by the landowner or occupier, as detailed in Section 6.13.

MCoA No.	Condition Requirements	Document reference	How addressed
E130	Access to the ancillary facility WHT3 construction support site at White Bay by construction vehicles (including light vehicles) must only be via The Crescent/City West Link and James Craig Road. No vehicle associated with the CSSI is permitted to access the site via Robert Street, Rozelle, unless required in the event of an emergency.	Section 6.5 Table 6-4 - TTAMP03	Section 6.5 outlines the access arrangements for each construction support site including the White Bay construction support site (WHT3). Access to the White Bay construction support site (WHT3) will only be via The Crescent/City West Link and James Craig Road noting that access via Robert Street, Rozelle will not be used, unless required in the event of an emergency.
E131	Vehicles associated with the CSSI (including light vehicles) are not permitted to access the Yurulbin Point ancillary facility (WHT4) at Birchgrove, except in the following circumstances: (a) where required in the event of an emergency; or (b) drop off and pick up of site personnel by shuttle bus services; or (c) geotechnical investigations and site surveys; or (d) installation of utilities including temporary construction power; or (e) extenuating circumstances which must be endorsed by the ER and approved by the Planning Secretary. The Traffic, Transport and Access Management CEMP Sub-plan must be updated to ensure the requirements of this condition are met. <i>Note: For the purposes of this condition, extenuating circumstances does not include for economic reasons.</i>	N/A	Not applicable to Stage 3B

MCoA No.	Condition Requirements	Document reference	How addressed
E132	Local roads proposed to be used by heavy vehicles to directly access the construction boundary and ancillary facilities that are not shown in Figure 5-7 to 5-22 inclusive of Appendix F of the EIS must be approved by the Planning Secretary and included in the Traffic, Transport and Access Management CEMP Sub-plan.	Section 6.5.1 Table 6-4 – TTAMP10	The roads to be used by Project heavy vehicles are outlined in Section 6.5 and Section 6.5.1. These routes do not include any local roads not already identified in the EIS. If during construction the need for additional local road use by heavy vehicles is required a submission to the planning secretary will be developed to address condition E133 prior to the use.
E133	All requests to the Planning Secretary under Condition E132 must include the following: a) a swept path analysis; b) demonstration that the use of local roads by heavy vehicles for the CSSI will not compromise the safety of pedestrians and cyclists or the safety of two-way traffic flow on two-way roadways; c) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; d) measures that will be implemented to avoid where practicable the use of roads past schools, aged care facilities and child care facilities during their peak operation times; and e) written advice from an appropriately qualified professional on the suitability of the proposed heavy vehicle route which takes into consideration items (a), (b), (c), and (d) of this condition.	Section 6.5.1 Table 6-4 – TTAMP10	The Project may make requests to the Planning Secretary for the use of local roads by heavy vehicles which include the content as required by this condition.

MCoA No.	Condition Requirements	Document reference	How addressed
E134	Opportunities to maximise spoil / dredging material removal by non-road methods must be investigated and implemented where reasonably practicable to minimise movements by road.	Section 6.3 Table 6-4 - TTAMP08	Opportunities will be considered and investigated through the construction phase of works and will be implemented where reasonable and feasible, and where this does not increase environmental impacts as considered in the Project Approval.
E135	The locations of all heavy vehicles used for spoil haulage must be monitored in real time and the records of monitoring be made available electronically to the Planning Secretary and the EPA upon request for a period of no less than one year following the completion of construction. <i>Note: Refer to Condition A47 in relation to vehicle identification.</i>	Section 6.4 Table 6-4 - TTAMP09	Spoil heavy vehicles used by the project will be monitored in real time as outlined in Section 6.4. Records will be made available electronically to the Planning Secretary and the EPA, upon request, for a period of up to one year following the completion of construction.
Road Dilapidation			
E136	Before any local road is used by a heavy vehicle for the purposes of the CSSI, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the relevant council within three weeks of completion of the survey and no later than one month prior to the road being used by heavy vehicles associated with the CSSI.	Section 6.6 Table 6-4 - TTAMP11	Road dilapidation surveys will be undertaken in consultation with relevant councils and road owners prior to commencement of use of the local road by heavy vehicles for the works. A Road Dilapidation Report will be provided to relevant agencies in accordance with this condition. Details regarding the road dilapidation surveys are outlined in Section 6.6.

MCoA No.	Condition Requirements	Document reference	How addressed
E137	If damage to roads occurs as a result of the CSSI, the Proponent must either (at the relevant road authority's discretion): a) compensate the relevant road authority for the damage so caused; or b) rectify the damage to restore the road to at least the condition it was in pre-works as identified in the Road Dilapidation Report(s).	Section 6.6 Table 6-4 - TTAMP12	If damage to roads occurs as a result of construction of the works, The Project will rectify the damage. At the relevant road authority's discretion, the Project will either compensate the landowner for the damage caused or rectify the damage to restore the road to at least the condition it was pre-works as identified in the survey, as detailed in Section 6.6.
Pedestrian and Cyclist Access			
E138	Safe pedestrian and cyclist access must be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, a proximate alternative route which complies with relevant standards, unless otherwise endorsed by an independent, appropriately qualified and experienced person, must be provided (including signposting) prior to the restriction or removal of the impacted access.	Section 6.11 Table 6-4 - TTAMP13	Safe pedestrian and cyclist access will be maintained around work sites during the works, as detailed in Section 6.11.

MCoA No.	Condition Requirements	Document reference	How addressed
Construction Parking Management			
E139	Vehicles (including light and heavy vehicles) associated with the CSSI must be managed to: (a) minimise parking on public roads; (b) minimise idling and queueing on state and regional roads; (c) not carry out marshalling of construction vehicles near sensitive land user(s); (d) not block or disrupt access across pedestrian or shared user paths at any time; and (e) ensure spoil haulage vehicles adhere to the nominated haulage routes identified in the Traffic, Transport and Access Management CEMP Sub-plan.	Sections 6.3, 6.4 and 6.5 Table 6-4 - TTAMP14, TTAMP15, TTAMP16 TTAMP17	Construction vehicles will be managed in accordance with the measures in Section 6.3 and 6.4, to minimise impacts on parking, roads in the vicinity of the construction support sites, pedestrians and cyclists. Spoil haulage routes are included in Section 6.5 of this Plan.
E140	A Construction Parking and Access Strategy must be prepared to identify and mitigate impacts resulting from on- and off-street parking changes during construction of the CSSI. The Strategy must include, but not necessarily be limited to: a) achieving the requirements of Condition E139; b) confirmation and timing of the removal of on- and off-street parking associated with construction of the CSSI; c) parking surveys of all parking spaces to be removed or occupied by the CSSI workforce to determine current demand during peak, off-peak, school drop off and pickup, weekend periods and during special events;	Section 6.14 Appendix B1 Table 6-4 - TTAMP17	The Construction Parking and Access Strategy (CPAS) will be developed and submitted to the Planning Secretary for approval at least one month prior to commencement of construction that reduces availability of existing parking. When approved the CPAS will be appended to this plan in Appendix B1.

MCoA No.	Condition Requirements	Document reference	How addressed
	d) consultation with affected stakeholders utilising existing on- and off-street parking stock which will be impacted as a result of construction; e) assessment of the impacts to on- and off-street parking stock taking into consideration, occupation by the CSSI workforce, outcomes of consultation with affected stakeholders and considering the impacts of special events; f) identification of mitigation measures to manage impacts to stakeholders as a result of on and off-street parking changes including, but not necessarily limited to, staged removal and replacement of parking, provision of alternative parking arrangements, managed staff parking arrangements and working with relevant council(s) to introduce parking restrictions adjacent to work sites and compounds or appropriate residential parking schemes; g) where residential parking schemes already exist, off-road parking facilities must be provided for the CSSI workforce; h) mechanisms for monitoring, over appropriate intervals, to determine the effectiveness of implemented mitigation measures; i) details of shuttle bus service(s) to transport the CSSI workforce to construction sites from public transport hubs and off-site car parking facilities (where these are provided) and between construction sites; j) provision of contingency measures should the results of mitigation or monitoring indicate implemented measures are ineffective; and		

MCoA No.	Condition Requirements	Document reference	How addressed
	k) provision of reporting of monitoring results to the Planning Secretary and relevant council(s) at three monthly intervals. The Construction Parking and Access Strategy must be submitted to the Planning Secretary for approval at least one month before the commencement of any construction that reduces the availability of existing parking. The approved Strategy must be implemented before impacting on on-street parking and incorporated into the Traffic, Transport and Access Management CEMP Sub-plan.		
E141	During construction, all reasonably practicable measures must be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised. Where disruption cannot be minimised, alternative pedestrian and vehicular access, and parking arrangements must be developed in consultation with affected businesses and implemented prior to the disruption. Adequate signage and directions to businesses must be provided prior to, and for the duration of, any disruption.	Section 6.13 Table 6-4 - TTAMP02	All reasonably practical measures will be implemented to maintain pedestrian and vehicle access to, and parking in the vicinity of, business and affected properties. Measures which will be applied to mitigate impacts where disruptions cannot be minimised are provided in Section 6.13.

MCoA No.	Condition Requirements	Document reference	How addressed
E142	The Proponent must mitigate the loss of on-street parking in Alfred Street North (specifically between Wyagdon Street and Whaling Road), Neutral Bay during construction and operation of the CSSI, with the objective of having no impact to resident parking during operation, by: (a) confirming existing capacity and the parking requirements of the residents by survey; (b) investigating options to mitigate the loss of on-street parking that meet the parking needs of the residents of Alfred Street North and adjacent streets; (c) consulting with the residents at locations where on-street parking would be lost to confirm the preferred parking options; and (d) identifying the parking measures to be implemented. A report on the outcomes of this condition must be documented and submitted to the Planning Secretary for approval within six months of construction commencing.	N/A	Stage 3B has no impacts on parking in Alfred Street North and/or Neutral Bay as part of construction; these areas were impacted by the Warringah Freeway Upgrade portion of works.
E143	The parking measures identified by Condition E142, must be delivered prior to impact, unless otherwise agreed by the Planning Secretary.	N/A	Stage 3B has no impacts on parking in Alfred Street North and/or Neutral Bay as part of construction; these areas were impacted by the Warringah Freeway Upgrade portion of works.
Road Safety			
E144	The CSSI must be designed to meet relevant design, engineering and safety guidelines, including the Austroads Guide to Traffic Management for new or modified local roads, parking, pedestrian and cycle infrastructure.	Section 6.7 Table 6-4 - TTAMP18	The Project will be designed in accordance with the relevant standards/guidelines, for new and modified local roads, parking, pedestrian and cycle infrastructure, including the Austroads Guide to Traffic Management

MCoA No.	Condition Requirements	Document reference	How addressed
E145	An independent Road Safety Audit must be undertaken to assess the safety performance of new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the CSSI (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Management. The audit must be undertaken by an appropriately qualified and experienced person during detailed design development (audit of plans) and prior to opening (pre-opening audit). The audit findings and recommendations of the detailed design plans (audit of the plans) must be actioned prior to construction of the relevant infrastructure. The pre-opening audit findings and recommendations must be actioned prior to the relevant infrastructure being made available for use.	Section 7.4 Table 6-4 - TTAMP19	Independent Road Safety Audits will be undertaken to assess the safety performance of new and modified local roads, parking and pedestrian and cyclist infrastructure provided as part of the Project as outlined in section 7.4.
Public Transport - Construction			
E149	Where bus stops are required to be temporarily closed, such closure must not occur until relocated bus stops that comply with relevant standards, are functioning, have similar capacity and amenity and are relocated within a 400 metre walking distance of the existing bus stop. Closures and relocation of bus stops during construction must be undertaken in consultation with relevant council(s). Wayfinding signage must be provided directing commuters to adjacent or relocated bus stops. Footpaths and (where required) road crossing facilities must be provided to any relocated bus stops such that accessibility and safety standards are met.	Section 6.12 Table 6-4 - TTAMP20	Where bus stops are relocated, the Project will ensure alternative stops of a similar capacity and amenity are provided within a 400-metre walking distance, as outlined in Section 6.12. The new bus stop will be established in accordance with this condition, and in consultation with relevant councils prior to the affected stop being closed.

MCoA No.	Condition Requirements	Document reference	How addressed
E150	Prior to the commencement of operation, all bus stops temporarily closed must be reinstated in a manner that complies with relevant standards, provides equal or improved capacity, amenity and accessibility (including footpaths and road crossings) in consultation with relevant council(s).	Section 6.12 Table 6-4 - TTAMP21	Where bus stops are closed or relocated for the Project they will be reinstated to comply with relevant standards, provide equal or improved capacity, amenity and accessibility (including footpaths and road crossings) in consultation with relevant council(s).
E151	Prior to the decommissioning of the Birchgrove Ferry Stop, a replacement public transport service of comparable service must be provided during construction.	N/A	Not applicable to Stage 3B
E152	The Birchgrove Ferry Stop must be reinstated as soon as reasonably practicable following the completion of construction activities affecting the stop.	N/A	Not applicable to Stage 3B

Table 3-2: Revised Environmental Management Measures relevant to this TTAMP

Ref #	Commitment	Document reference	How Addressed
CNV5	Where feasible and reasonable, unless compliance with the relevant traffic noise criteria can be achieved, or alternative arrangements have been agreed with affected receivers, construction vehicle movements will not occur on local roads beyond those required for direct access to construction sites.	Section 6.5.1	Additional local roads (beyond those already approved) will require approval by DPE.
CTT1	A road dilapidation report will be prepared, in consultation with relevant councils and road owners, identifying existing conditions of local roads and mechanisms to repair damage to the road network caused by heavy vehicle movements associated with the project.	Section 6.6 Table 6-4 - TTAMP11	Road dilapidation surveys will be undertaken in consultation with relevant councils and road owners prior to commencement of use of the local road by heavy vehicles for the works. A Road Dilapidation Report will be provided to relevant agencies in accordance with this condition. Details regarding the road dilapidation surveys are outlined in Section 6.6.
CTT2	Moorings impacted during construction will be relocated elsewhere in Sydney Harbour in consultation with the lease holders.	N/A	Not applicable to Stage 3B
CTT3	A replacement service for commuters impacted by the temporary closure of Birchgrove Ferry Wharf will be determined during construction planning. The temporary closure of the Birchgrove Wharf will not occur until the replacement service is operational.	N/A	Not applicable to Stage 3B

Ref #	Commitment	Document reference	How Addressed
CTT4	Ongoing consultation will be carried out with (as relevant to the location) Transport Coordination within Transport for NSW, the Port Authority of NSW, local councils, emergency services and bus operators to minimise traffic and transport impacts during construction.	Section 4 Community consultation strategy	A Traffic and Transport Liaison Group will be formed including senior representatives from relevant stakeholders. Ongoing consultation will be carried out through this forum to minimise construction traffic and transport impacts.
CTT5	The community will be notified in advance of proposed transport network changes, and maritime restrictions through appropriate media and other appropriate forms of community liaison.	Sections 4, 6.3, 6.12 and 7.2 Community Consultation Strategy Table 6-4 – TTAMP22	The community will be notified in advance of proposed changes and restrictions through appropriate media and other appropriate forms of community liaison, as detailed in the Project Community Consultation Strategy.
CTT6	Construction road traffic will be managed to minimise movements during peak periods.	Section 6.2 Table 6-4 - TTAMP04	Construction road traffic will be managed to minimise movements during peak periods. Spoil heavy vehicles used by the project will be monitored in real time as outlined in Section 6.4, which will enable monitoring of driver behaviour to minimise movements during peak periods.
CTT7	Vehicle movements to and from construction sites will be managed to ensure pedestrian, cyclist and motorist safety. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modifications to existing signals or, on occasion, police presence	Sections 6.3 and 6.4 Table 6-4 - TTAMP05	Vehicle movements to and from construction sites will be managed to ensure pedestrian, cyclist and motorist safety. Site specific Traffic Management Plans (TMPs) will be developed for work sites and construction support sites. The TMPs will specify the road safety measures to be applied while

Ref #	Commitment	Document reference	How Addressed
			undertaking construction works to ensure pedestrian, cyclist and motorist safety.
CTT8	Directional signage, barriers and/or line marking will be used as required to direct and guide drivers, cyclists and pedestrians past construction sites and on the surrounding network. This will be supplemented by Variable Message Signs to advise drivers of potential delays, traffic diversions, speed restrictions, or alternative routes.	Section 6.3, 6.10 Table 6-4 - TTAMP06	Drivers, cyclists and pedestrians will be directed safely past construction sites and on the surrounding network. Site specific TMPs will be developed for work sites and construction support sites. The TMPs will specify the road safety measures to be applied while undertaking construction works to ensure pedestrian, cyclist and motorist safety, including signage, barriers and/or line marking as required.
CTT9	Where provision of construction on-site parking cannot accommodate the full construction workforce, feasible and reasonable management measures that minimise impacts on parking on local roads will be identified and implemented. Depending on the location, management measures may include workforce shuttle buses and the use of public transport.	Section 6.14 Appendix B1 Table 6-4 - TTAMP17	A Construction Parking and Access Strategy will be prepared for the Project and submitted to DPE at least one month prior to impacting parking. The Project will minimise parking impacts by maximising on-site parking arrangements. Facilitate access to public transport. The Project will consult with local councils to identify parking areas which may be leased.

Ref #	Commitment	Document reference	How Addressed
CTT10	Any adjustments to existing bus stops will be determined in consultation with relevant stakeholders including other divisions of Transport for NSW and advanced notification will be provided to affected bus customers. Relocations will be as close as feasible and reasonable to their existing position.	Section 6.12 Table 6-4 - TTAMP20	Where bus stops are relocated, the Project will ensure alternative stops of a similar capacity and amenity are provided within a 400 metre walking distance. The new stops will be established prior to the affected bus stop being closed in accordance with MCoA E149.
CTT11	Truck marshalling areas will be identified and used where feasible and reasonable, to minimise potential queueing and traffic and access disruptions in the vicinity of construction support sites.	Section 6.4 Table 6-4 - TTAMP15 Table 6-4 – TTAMP16	Construction vehicles will be managed to minimise impacts in the vicinity of construction support sites, including the identification of truck marshalling areas to minimise idling and queueing.
CTT12	Activities requiring partial and full road closures will occur outside of peak periods and/or during night-time to minimise the impact of these activities on the road network where feasible and reasonable.	Section 6.3 Section 6.7 Table 6-4 - TTAMP07	Activities requiring partial or full road closures will be scheduled to occur outside of peak periods to minimise the impact of these activities on the road network.
CTT14	Haulage of spoil by barge will be considered as an alternative to road-based haulage.	Section 6.3 Table 6-4 - TTAMP08	Opportunities will be considered and investigated through the construction phase of works and will be implemented where reasonable and feasible, and where this does not increase environmental impacts as considered in the Project Approval.
CTT15	Construction vessels will be required to operate in a manner that minimises wash to areas of shoreline.	N/A	Not applicable to Stage 3B

Ref #	Commitment	Document reference	How Addressed
CTT16	Construction marine traffic activities will be scheduled to avoid times and locations of high recreational marine traffic where feasible and reasonable.	N/A	Not applicable to Stage 3B
CTT17	Harbour closures scheduling will be carried out in consultation with Port Authority of NSW, other divisions of Transport for NSW and other relevant stakeholders, including Sydney Harbour Federation Trust.	N/A	Not applicable to Stage 3B
CTT18	Construction vessel movements will be managed so that they will not interfere with port operations or the navigation of seagoing ships and ferries, unless prior approval has been obtained from the Harbour Master.	N/A	Not applicable to Stage 3B
CTT19	Direct impacts to existing shared user paths will be minimised where reasonable and feasible. Any detours and adjustments will be designed with consideration of user safety and convenience.	Section 6.11 Table 6-4 - TTAMP13	Safe pedestrian and cyclist access will be maintained around work sites during the works, as detailed in Section 6.11. Impacts to shared user paths will be minimised.
LP3	Where impacts to private property access is unavoidable during construction, property owners will be consulted in advance to develop appropriate alternative access arrangements.	Section 6.13 Table 6-4 - TTAMP02	Access will be maintained to private properties during construction unless otherwise agreed with the relevant landowner or occupier, as detailed in Section 6.13.
LP4	Transport for NSW will consult with the owners and/or leaseholders and/or licence holders of moorings that require temporary relocation to determine alternative arrangements. All efforts will be made to relocate facilities as close to their original locations as possible.	N/A	Not applicable to Stage 3B

Ref #	Commitment	Document reference	How Addressed
B16	Transit routes for vessels entering and departing from construction support sites will be marked out with consideration for propeller wash and distances to sensitive marine habitats.	N/A	Not applicable to Stage 3B
HR2	Dangerous goods and hazardous substances will be transported in accordance with relevant legislation and codes, including the Dangerous Goods (Road and Rail Transport) Act 2008, Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998 and the Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission, 2007).	Section 6.9	These codes and legislation are minimum requirements for transporters of dangerous goods, and apply regardless of the location/project.
HR3	Adequate access and egress for fire fighting vehicles and construction vehicles and staff will be provided at the Berrys Bay construction support site (WHT7). Access roads will have a minimum width of four metres to allow passage of fire fighting vehicles.	N/A	Not applicable to Stage 3B

4 Consultation

4.1 Consultation for Plan Preparation

This Plan has been developed and finalised in consultation with relevant councils outlined in MCoA C4(a), and in accordance with MCoA A5. Consultation with each agency, including responses received and how any issues raised were addressed in the development of this Plan will be provided to the Planning Secretary along with this Plan.

4.2 Ongoing consultation

Community feedback and complaints will be managed in accordance with the Community Consultation Strategy and Complaints Management System.

Ongoing consultation with Transport Coordination (a division within TfNSW), the Port Authority of NSW, relevant Councils, emergency services, bus operators and other stakeholders will be undertaken regarding impacts associated with construction traffic and parking management.

Information will be disseminated to the community through the following channels for project impacts or changes:

- Project website updates
- Temporary advisory signage
- Notices at bus stops or pedestrian and cyclist facilities affected by the works
- Variable message signs prior to traffic changes
- Radio advertising for traffic changes
- Newsletters
- Leaflets and flyers to local properties affected by the works
- Project display centres and social media

4.2.1 Traffic Control Group (TCG)

A Traffic Control Group (TCG) will be established as a technical forum to discuss road safety and traffic management measures, potential impacts on the road, pedestrian and cycle network, TMPs and program. The Traffic Control Group will include representatives from Customer Journey Planning (CJP), TfNSW and relevant Councils. On occasion the TCG may include adjacent construction project representatives.

4.2.2 Traffic and Transport Liaison Group (TTLG)

A Traffic and Transport Liaison Group will be formed including senior representatives from relevant stakeholders. Ongoing consultation will be carried out through this forum to minimise construction traffic and transport impacts. The TTLG would typically include a wider audience and be more of an informative session for key stakeholders (in lieu of project problem solving, and discussions as would be part of the TCG with a smaller more targeted audience). The TTLG may include stakeholders from bus operators, other adjacent projects and the usual invite list from the Traffic Coordination Group.

The TTLG will be convened at the start of the project (prior to construction) and are proposed to be held monthly initially (unless otherwise requested by stakeholders). The frequency and benefit of the meeting is expected to reduce once sites are established and tunnelling works are continuous, therefore meeting frequency will be agreed with stakeholders and TfNSW representatives and will vary throughout the project.

5 Construction traffic, transport and access impacts

Potential traffic, transport and access impacts resulting from the construction of the Project were assessed in the EIS. The EIS identified that the construction of the Project is anticipated to have impacts on the surrounding road network, public transport and active transport routes surrounding the construction sites. Although with the introduction of construction traffic, performance of the road network is expected to worsen in some areas, it is expected to not materially change compared to existing conditions. Impacts to performance in the vicinity of construction support sites will be managed in accordance with the measures outlined in Section 6 of this plan.

5.1 Construction Traffic

5.1.1 Haulage Routes

Appendix F (Technical working paper: Traffic and Transport) of the EIS identified site access points and vehicle routes which would be utilised during the construction of the Project. The roads (including local roads) identified in Figure 5-7 to 5-22 of Appendix F of the EIS that are approved for use by heavy vehicles on the Project are shown in Appendix B2. Impacts associated with the use of these roads was assessed in the EIS. Local roads proposed to be used by heavy vehicles to directly access the construction boundary and ancillary facilities that are not shown in Figure 5-7 to 5-22 of Appendix F of the EIS must be approved by the Planning Secretary. Additional details are provided in Section 6.5.1 of this Plan.

5.1.2 Temporary Road Closures

The following temporary road closures are required during construction of the Project:

- Berry Street northbound entry ramp to Warringah Freeway
- Falcon Street northbound Bus Exit ramp from Warringah Freeway
- Warringah Freeway central (reversible) carriageway
- Brook Street northbound exit ramp from Warringah Freeway

These temporary road closures would be managed in accordance with the measures outlined in Section 6 of this plan. Additional closures may be required during delivery for scope not yet identified, these closures will be planned and communicated in consultation with TfNSW, Customer Journey Planning (CJP) and relevant stakeholders.

5.2 Public Transport

Construction of Stage 3B of the Project is not expected to result in any additional impacts on public transport.

5.3 Active Transport

As a result of construction staging across the entirety of the WHT and WFU Projects, construction of the Project is not anticipated to result in any further impacts beyond those currently occurring for the Warringah Freeway Upgrade under Stage 2 which includes:

- The shared user path of the northern side of Ernest Street would be maintained by the WFU contractor, however a signalised crossing would be installed across the Cammeray Golf Course construction support site (WHT10) secondary site entry / exit on Ernest Street to facilitate safe access by pedestrians and cyclists during the operation of the site

- The shared user path along Warringah Freeway near Cammeray Golf Course would be temporarily realigned by the WFU contractor to travel along the rear of the support site to the Ernest Street/Merlin Street intersection.

Should development of the detailed design and further construction planning identify that construction will result in long-term disruptions to pedestrian footpaths and cycleways during construction of the Project, this impact along with the required management and mitigation will be discussed with CJP, TfNSW and local council representatives, and reasonable alternatives will be investigated and provided where feasible to mitigate any impacts to local communities.

These impacts would be managed in accordance with the measures outlined in Section 6 of this plan.

5.4 Parking Removal

The Project will require the temporary removal of parking at the following locations, as identified in the EIS:

- Nine parking spaces on Ridge Street (North Sydney) at the eastern end have been removed to provide suitable access to the Ridge Street north construction support site (WHT9) (these parking spaces have already been removed by the WFU contractor)
- Ten parking spaces on Ernest Street (Cammeray) have been removed to provide suitable access to the Cammeray Golf Course construction support site (WHT10) (these parking spaces have already been removed by the WFU Contractor)

Development of the detailed design and further construction planning may identify additional long-term removal of parking is required during construction of the project. Should this be identified, it will be detailed in the Construction Parking and Access Strategy, to be submitted one month prior to any parking being affected as a result of the project works, in accordance with MCoA E140.

At this stage no additional parking removal for the project delivery has been identified.

5.5 Property Access Impacts

The Project has not yet identified the need for impacts to property accesses. Where impacts are identified during delivery, these impacts would be managed in accordance with the measures outlined in Section 6 of this plan.

5.6 Cumulative impacts with other major projects

The following projects have been identified as having potential to create cumulative construction impacts should they proceed concurrent with the Project:

- Warringah Freeway Upgrade
- Sydney Metro West
- Sydney Metro City and Southwest
- NSW Port Authority's operations from White Bay (e.g. Glebe Island concrete batching plant and Glebe Island Multi-User Facility)
- The new Sydney Fish Market.

Cumulative traffic impacts include the additional and prolonged reduction in level of service on local streets due to construction traffic volumes. Areas considered most likely to experience sustained impacts to receivers that may result in construction fatigue include residential receivers in the vicinity of the Rozelle Rail Yards, White Bay and Glebe Island, commercial receivers in the North Sydney CBD, residential receivers in Cammeray, and regular users of the Warringah

Freeway. Potential impacts include construction traffic and parking. A detailed assessment of cumulative impacts will be undertaken as part of site-specific Traffic Management Plans (TMPs).

The anticipated cumulative impacts for Rozelle and North Sydney are described below, in Section 5.6.1 and 5.6.2 respectively.

5.6.1 Rozelle Cumulative Impacts

At the commencement of works at Rozelle the WestConnex M4-M5 Link works as well as the WHT Stage 3A works will be completed. This will ensure there are no cumulative impacts in the Rozelle area due to either of these projects operating concurrently to the WHT Stage 3B works.

Sydney Metro West projects (including Central Tunnelling Project and Eastern Tunnelling Project) will have completed their major spoil operations by the time the WHT Stage 3B works get underway. This will see a significant reduction in truck movements in the area compared to their peak tunnelling operation.

Other subsequent projects listed in the Rozelle area are not anticipated to generate significant heavy vehicle movements and are therefore not anticipated to create a significant cumulative impact issue on the roads around Rozelle and White Bay.

5.6.2 North Sydney Cumulative Impacts

Warringah Freeway Upgrade (WPU) works will continue after the commencement of the WHT Stage 3B works have commenced. There will be some cumulative impacts from truck movements on roads around the North Sydney area and on the Warringah Freeway. Peak daily heavy vehicle movements outlined in the WPU TTAMP suggest that the peak movements for Cammeray sit at 280 and the main corridor of the Warringah Freeway as 200 movements.

The movements associated with the Cammeray Golf Course are anticipated to relate primarily to the excavation and construction of the WHT site and should see a reduction to coincide with the commencement of the WHT Package 2 tunnelling operation at Cammeray. The 200 movements on the mainline of the Warringah Freeway are expected to continue concurrently to the tunnelling operation for the WHT Stage 3B works.

6 Traffic, Transport and Access Management

6.1 Traffic, Transport and Access Management Strategies

Construction associated with the Project has the potential to impact traffic, transport and access in the vicinity of the construction footprint. In order to avoid, mitigate and/or minimise these potential impacts, a range of environmental requirements and control measures are identified in the various environmental documents, including the EIS and other Transport for NSW guidance documents. Specific measures and requirements to address impacts on traffic, transport and access are outlined in Table 6-4.

This section has been developed in consideration of the SMART Principles – Specific, Measurable, Achievable, Relevant and Time-based. Risk assessments for the Project, including the development of the REMMs as part of the detailed environmental risk analysis undertaken throughout the development of the EIS and RtS, as well as lessons learnt from previous major projects delivered by Transport for NSW in highly urbanised environments, have contributed to the development of this Plan. On this basis the measures developed for the Project are considered to be relevant and achievable for the project and would be monitored against specific, measurable and time-based targets.

6.2 Staged traffic management

6.2.1 General staging

Road safety and traffic management measures will be staged as construction progresses. Traffic staging has been categorised and described in this section according to the general construction area wherein road safety and traffic management measures will be implemented.

Traffic Staging Drawings (TSD) will be prepared in advance of the works and will be included with a Traffic Management Plan (TMP) in support of a ROL application (refer to Section 6.7). The purpose of a TSD is to illustrate the proposed traffic staging to be implemented during construction. TSDs will outline the basic construction methodology, identify the need for temporary works, specify any traffic management measures / controls, define work areas and illustrate the available travel lanes.

Temporary traffic works including temporary bridges / crossings and access roads will be removed / rehabilitated as soon as practicable once their use is no longer required.

6.2.2 Rozelle Area Staging

Rozelle Area staging is limited to the provision of access and egress arrangements to and from the worksite from City West Link Road. This signalised modification will already be established by the WHT Package 1 Contractor and access for the WHT Project will not commence until works by other contractors have been completed in this area.

The WHT Project will maintain this access arrangement for the duration of tunnelling operations. The permanent signalised intersection will be constructed under localised traffic control arrangements prior to final opening and integration of the new tunnel.

6.2.3 Cammeray Area Staging

The Cammeray site will have access provided by the WFU contractor when each of the handover areas are transferred to the WHT Package 2 contractor. The Cammeray site will have pre-constructed shared access road connecting the site to Ernest Street via a signalised intersection. There will also be a new access also constructed by the WFU contractor which connects the site to the southbound carriageway of the Warringah Freeway which will include acceleration and deceleration lanes.

6.2.4 Berry Street Area Staging

The Berry Street sites will have some minor traffic staging arrangements to facilitate construction of permanent works. Berry Street entry ramp will require some localised barriers to protect the construction of permanent barrier. The barrier separates the new decline ramp and the northbound Berry Street entry ramp to the Warringah Freeway.

Some localised traffic control is required on Berry Street and at the intersection of Berry Street and The Pacific Highway as part of the WHT Package 2 works. Due to the proximity of traffic lanes and the extent of the work scope; the work is expected to be completed within localised traffic arrangements and short-term traffic control.

6.2.5 Ridge Street North Area Staging

Ridge Street north access is to be constructed by the WFU contractor to coincide with the relevant portion handover. The access will consist of an acceleration and deceleration lane to access the site.

The exit lanes which connect the Warringah Freeway northbound to Falcon Street westbound will be closed by the WFU contractor. This closure is expected to be implemented prior to any portion handover at the Ridge Street site. The closure of the exit lanes is expected to create space for the necessary access and egress arrangements.

Internally the ridge street site will require some additional internal haul roads and ramps to be constructed to best cater for vehicles navigating the site after entering via the Warringah Freeway.

6.2.6 Finishing and opening

Finishing works will incorporate a series of night shift works to permit pavement, drainage, kerb, and signage installation in preparation for tunnel opening. The works will be within the existing Westconnex tunnel network within tunnel closures. Kerb, pavement and linemarking works will be required to reconfigure the signalised intersection at Rozelle. Pavement, kerb, drainage, linemarking and signage works will be required at the Warringah Freeway interface with the new tunnel portals. New pavement and linemarking works will also be required on the northbound carriageway of the Warringah Freeway to the north of Berry Street.

Some tidal flow equipment throughout the Warringah Freeway alignment, and other existing features will need to be removed or modified to facilitate the opening of the western harbour tunnel. These modifications will typically be facilitated through localised traffic control arrangements.

6.3 Construction vehicle management

The Project will develop site specific TMPs for work sites, ancillary facilities, intersection works and/or where long-term changes occur to the road network. The TMPs will outline how the Project will safely manage interactions between construction vehicles, workers, public vehicles, pedestrians and cyclists. The TMPs will specify the road safety and traffic management measures to be applied while undertaking construction works to ensure pedestrian, cyclist and motorist safety.

ACCIONA will implement management measures including:

- Traffic Guidance Schemes (TGS) (previously known as Traffic Control Plans or TCPs) will be prepared where required for any temporary changes to the traffic environment associated with the establishment and use of construction support sites and construction works
- Vehicle Movement Plans (VMPs) will be prepared where required for any access associated with establishment and use of construction support sites and construction access routes
- Construction road traffic will be managed to minimise movements during peak periods

- Where a partial and / or full road closure is required, this will be scheduled to occur outside of peak periods and / or during night time to minimise the impact of these activities on the road network where feasible and reasonable
- Temporary signalised site access points at construction support sites will be designed and constructed where required, in accordance with Austroads Guide to Traffic Engineering and the TfNSW Road Design Guide. They will be developed in consideration of construction vehicle movements
- Signage will be installed to warn motorists, pedestrians and cyclists of trucks turning into and out of site accesses with frequent truck movements
- Ensure access and egress driveways are visible to approaching traffic and signposted accordingly
- Where practicable, manage pedestrians at site access and egress driveways with suitable measures such as designated crossings and traffic controller supervision
- Install security fences and gates at locations which maintain clear sight lines and enable vehicles to park clear of adjacent travel lanes
- Community notification in advance of proposed traffic changes through appropriate media and other appropriate forms of community liaison.

The above management measures will be incorporated in site specific TMPs.

In addition to the above, all heavy vehicles used for spoil haulage will be clearly marked on the sides and rear with the project name and CSSI application number to enable immediate identification by a person viewing the heavy vehicle. The markings will be in accordance with CoA A47. Details of the project identification markings will be submitted for approval by the Planning Secretary prior to the heavy vehicles used for spoil haulage being utilised for the CSSI.

The locations of all heavy vehicles used for spoil haulage will be monitored in real time and the records of monitoring be made available electronically to the Planning Secretary and the Environment Protection Authority (EPA) upon request for a period of no less than one year following the completion of construction.

Truck marshalling areas will be used to minimise queuing and traffic disruptions in the vicinity of construction support sites. Marshalling of construction vehicles will not be carried out near sensitive land users. To avoid idling and queuing of project heavy vehicles on state and regional roads the following truck marshalling areas have been identified:

- Glebe Island area (for Rozelle sites)
- Within the WHT portals at Rozelle (for Rozelle sites)
- Falcon Street (closed) ramp from Warringah Freeway (for Falcon Street and Berry Street sites)
- Cammeray Golf Course access (for Cammeray site).

Non-road transport options were investigated for the project, however the location which would need to be used for loading barges at Glebe Island has a significant structural issue with the existing seawall and has load limitations for a distance from the water. This has excluded this location as a point to load barges with spoil. The other areas within Glebe Island have existing commitments or lease arrangements with other stakeholders or infrastructure projects which has limited options for loading barges with spoil generated by the tunnel construction.

6.4 Surface site access and vehicle management

The Project will involve works at the following construction support sites:

- Rozelle Rail Yards construction support site (WHT1) – including WHT cut and cover structure
- White Bay (Glebe Island) construction support site (WHT3)
- Berry Street north construction support site (WHT8)
- Ridge Street north construction support site (WHT9)
- Cammeray Golf Course construction support site (WHT10)

There are a range of hazards to vehicles operating onsite, including rough surfaces, other larger plant and existing infrastructure. Of equal importance is the safety of construction personnel working within the work sites. For each stage of work, the Project will ensure that:

- Regular toolbox meetings discuss onsite vehicle movements and changes to work areas
- Risks relating to traffic, transport and access provisions are identified, assessed and managed
- Site plant is fitted with flashing yellow lights, non-tonal reversing alarms ('quackers'), horns and two-way radios
- Access tracks are clearly defined and sign posted
- Pedestrian tracks and crossing points are defined and sign posted
- Warning signs or traffic controls are installed on the approach to hazards or conflict points
- Consideration would be given to reducing on-site speed limits.

Table 6-1 provides details for each of the sites including the expected heavy and light vehicle movements, which are based on those presented in the EIS. It is noted that the values provided will fluctuate depending on the works being undertaken and will not be consistent throughout the Project. The numbers provided in Table 6-1 are total anticipated peak movements (where a truck entering and then a truck exiting would equate to two movements).

6.4.1 Ridge Street local road use

Ridge Street is required as the primary access for early works and site establishment of the Ridge Street north construction support site (WHT9). Once the site is established access using Ridge Street would be limited however access via Ridge Street would still be required.

Vehicle movements during site establishment and early works is not expected to exceed 70 light vehicle and 20 heavy vehicle movements per day.

Ridge Street will be the primary access and egress route for site demobilisation once construction works at Ridge Street north construction support site is complete, and facilities are to be removed. During this period vehicle movements are not expected to exceed 70 light vehicle and 20 heavy vehicle movements per day.

Table 6-1: Surface sites traffic management

Construction Site	Traffic control (Y/N)	Parking on site (Y/N)	Peak daily movements		AM Peak vehicle movements (8 – 9am) ¹		PM Peak vehicle movements (5 – 6pm) ¹	
			Light	Heavy	Light	Heavy	Light	Heavy
Rozelle Rail Yards construction support site (WHT1)	Traffic signals	Yes	306	586	20	24	40	24
White Bay construction support site (WHT3)	No	Yes	530	700	20	12	40	12
Ridge Street north construction support site (WHT9) during site establishment – accessed via Ridge Street	No	Yes	70	20	10	2	20	2
Ridge Street north construction support site (WHT9)	To be advised by WFU contractor	Yes	165	200	10	8	20	8
Cammeray Golf Course construction support site (WHT10)	To be advised by WFU contractor	Yes	480	485	20	12	40	12
Berry Street construction support site (WHT8)	To be advised by WFU contractor	Yes	130	30	8	2	16	2

¹ Figures are estimates. Typical shift structure will see workers arriving at sites prior to the AM peak period and some leaving after the PM peak period.

6.5 Construction traffic routes

The Project will access and depart from each construction site using the routes and roads outlined in Table 6-2, and the access and egress points shown in Appendix B2. The routes were chosen to minimise potential impacts on traffic and sensitive receivers along the route and generally use major arterial roads or motorways as the routes. No local roads have been identified for use which were not nominated in Figures 5-7 to 5-22 in Appendix F (Technical working paper: Traffic and transport) of the EIS.

Where additional access routes are required, these will aim to:

- Avoid sensitive areas including schools, aged care facilities and child care facilities
- Minimise impacts on residents
- Return construction vehicles to major arterial roads as quickly as possible.

The construction vehicle routes will be provided to sub-contractors for distribution to their workers and drivers and will be readily available at each ancillary facility for review by drivers.

Mitigation measures which will be implemented at construction site access and egress points to manage interactions between construction vehicles and public vehicles, pedestrians and cyclists are outlined in Section 6.11.

Table 6-2: Access & egress routes for construction support sites

Construction Site	Vehicle Type	Access Route	Road Classification	Identified in Figure 5-7 to 5-22 of Appendix F of the EIS?	Justification for route
Rozelle Rail Yards construction support site (WHT1)	Light vehicles	The Crescent and City West Link Road	State	Yes	Direct access & egress requirement
		Balmain Road, Lilyfield Road and Catherine Street	Regional	No	Direct access & egress requirement
	Heavy vehicles	The Crescent and City West Link Road	State	Yes	Direct access & egress requirement
		Balmain Road, Lilyfield Road and Catherine Street	Regional	No	Direct access & egress requirement – infrequent use by heavy vehicles
White Bay construction support site (WHT3)	Light vehicles	The Crescent, City West Link Road & Victoria Road	State	Yes	Direct access & egress requirement
		James Craig Road & Sommerville Road	Local	Yes	Direct access & egress requirement
	Heavy vehicles	The Crescent, City West Link Road & Victoria Road	State	Yes	Direct access & egress requirement
		James Craig Road & Sommerville Road	Local	Yes	Direct access & egress requirement

Construction Site	Vehicle Type	Access Route	Road Classification	Identified in Figure 5-7 to 5-22 of Appendix F of the EIS?	Justification for route
Ridge Street north construction support site (WHT9)	Light vehicles	Falcon Street, Miller Street & Warringah Freeway	State & Regional	Yes	Direct access & egress requirement
		Ridge Street	Local	Yes	Direct access & egress requirement – refer Section 6.4.1 for use
	Heavy vehicles	Warringah Freeway	State	Yes	Direct access & egress requirement
		Falcon Street, Miller Street	State & Regional	Yes	Direct access & egress requirement
		Ridge Street	Local	Yes	Direct access & egress requirement – refer Section 6.4.1 for use
Cammeray Golf Course construction support site (WHT10)	Light vehicles	Warringah Freeway	State	Yes	Direct access & egress requirement
		Ernest Street	Regional	Yes	Direct access & egress requirement
	Heavy vehicles	Warringah Freeway	State	Yes	Direct access & egress requirement
		Ernest Street	Regional	Yes	Direct access & egress requirement
Berry Street construction support site (WHT8)	Light	Berry Street and Warringah Freeway	State	Yes	Direct access & egress requirement
	Heavy	Berry Street and Warringah Freeway	State	Yes	Direct access & egress requirement

6.5.1 Construction traffic routes (local roads)

The construction vehicle routes outlined in Section 6.5 have been developed to avoid local roads outside the construction footprint, where possible, maximising the use of state and regional roads. However, some construction site and work areas can only be accessed from local roads. Current local roads proposed to be used include those listed in Table 6-3 and shown in the Heavy Vehicle Route diagrams located in Appendix B2. These align with those local roads identified in Figure 5-7 to 5-22 of Appendix F of the EIS. No additional local roads are proposed for access to sites at this time. If during construction additional local roads are identified as necessary for the Project, a request will be made to the Secretary under MCoA E132 and E133, and once approved will be appended to this Plan.

Where the Project works require access to a local road for regular heavy vehicle movements, the Project will undertake early and ongoing consultation and communication with the local council and affected property occupiers to identify the potential impacts of the proposed route. Standard mitigation strategies and approaches have been identified that will be implemented with respect to the use of local roads to address the requirements of MCoA E133 (refer to Table 3-1).

Table 6-3: Impacts on local roads

Local road	Description of use during construction	Description of potential impacts
Ridge Street, North Sydney	Heavy and light vehicle access to Ridge Street construction site	Impacts would include an increase in movements on Ridge Street and connecting regional and state roads during construction of the Falcon Street and Berry Street tunnel connections. Heavy vehicles use to be limited to site establishment, demobilisation, or local area & utility works.
James Craig Road, Rozelle	Heavy and light vehicle access to White Bay construction support site	Increased heavy and light vehicle movements on James Craig Road, Rozelle to service the construction support site.
Sommerville Road, Rozelle	Heavy and light vehicle access to White Bay construction support site	Increased heavy and light vehicle movements on James Craig Road, Rozelle to service the construction support site.

6.6 Road restoration

Road dilapidation surveys will be undertaken on the local roads identified in Section 6.5 and 6.5.1, before they are used by heavy vehicles for works associated with the Project to identify existing conditions, and following completion of the works.

A road dilapidation report will be provided to relevant agencies in accordance with E136. The condition reports will include a written survey, photos and/or video of each road. A copy of the report, including such mechanisms to be considered for the repair of damage to the local road(s) caused by heavy vehicle movements associated with the Project, shall be provided to the relevant roads' authority (Inner West Council, North Sydney Council or TfNSW) within three weeks of

completing the surveys and no later than one month prior to the commencement of roads being used by construction vehicles.

If damage to roads occurs as a result of the construction of the Project, the following will be offered (at the relevant road authority's discretion):

- Compensate the landowner for the damage so caused
- Rectify the damage to restore the road to at least the condition it was in pre-works as identified in the Road Dilapidation Report (refer to Section 6.6).

The Project will monitor and maintain temporary alignments installed to facilitate the delivery of WHT project works as part of a TMP. A specific management measure (TTAMP12) is provided in Table 6-4.

6.7 Road Safety Audit

An appropriately qualified and experienced person will undertake independent Road Safety Audits:

- During detailed design development (audit of plans)
- Prior to opening (pre-opening audit)

The audits will be undertaken to assess the safety performance of new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the Project (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Management.

The audit findings and recommendations of the detailed design plans (audit of the plans) will be actioned prior to construction of the relevant infrastructure. The pre-opening audit findings and recommendations will be actioned prior to the relevant infrastructure being made available for use.

6.8 Road occupancy

A road occupancy consists of any activity likely to impact on the operational efficiency of the road network. Where feasible, construction works will be staged to limit road occupancy and minimise potential impacts on the existing road network. However, where road occupancy cannot be avoided the necessary approvals will be obtained with concurrence of the relevant road authority, prior to conducting any works on the road or the road reserve.

A ROL authorises the occupation of a portion of the road that would normally be available for public traffic or pedestrian thoroughfare. ROLs will be required for the following scenarios:

- Development works within the road reserve and/or any changes to existing infrastructure
- Temporary or permanent installation and/or change of any regulatory traffic control device on a road
- Road closures, occupation of the road network to conduct works, and the associated installation of temporary traffic control devices.

Except in the case of an unplanned incident, or when directed by the Police or the emergency services, they will be obtained for work which:

- Slows, stops or otherwise delays or affects the normal flow of traffic
- Diverts traffic from its normal course along the road, including lane closures and detours
- Occupies any portion of the road related area, including the footpath that is normally available for vehicular, pedestrian or bicycle movement.

The ROL will be obtained prior to the commencement of any works on or near a State road. ROL applications will be submitted in accordance with Road Occupancy Licensing Guidelines to the TMC.

Activities requiring partial and full road closures will occur outside of peak periods and/or during night-time to minimise the impact of these activities on the road network wherever possible.

6.9 Safety management

Temporary roadwork speed limits are one of many traffic controls that will be implemented to manage the speed of traffic approaching and passing through the work site. The Project will be conscious of the potential for speed reductions over long distances, to have negative impacts on road user travel times. The Speed zones will comply with Section 8.2 of the TfNSW Traffic Control at Work Sites Manual (version 6.1), the TfNSW NSW Speed Zoning Guidelines, Australian Standard 1742.3 and Austroads Guide to Temporary Traffic Management.

The Project will implement Roadwork Speed Zones logically, credibly and capable of being enforced by the NSW Police Force, in accordance with approved Speed Zone Authorisations and as detailed in the ROL.

When considering the use of a roadwork speed zones, the Project will:

- Ensure they are clearly delineated and capable of being enforced
- Ensure they are used only while road works are in progress or the lower speed road conditions exist.

As per the TfNSW Traffic Control at Worksites Manual (Version 6.1), in order to maintain the current speed limits through some of the work zones, the use of safety barriers will be required to protect work and workers.

When night works are required, special consideration will be taken to determine changes in the speed limit depending on the location and type of works.

Dangerous goods and hazardous substances will be transported in accordance with relevant legislation and codes, including the Dangerous Goods (Road and Rail Transport) Act 2008, Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998 and the Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission, 2007). These codes and legislation are minimum requirements for transporters of dangerous goods, and apply regardless of the location/project.

6.10 Signposting and delineation

Traffic Control Devices (TCD) are all signs, traffic signals (permanent and temporary), road markings, pavement markers, traffic islands, and/or other devices placed or erected to regulate, inform, warn and/or guide road users. These TCDs are used to promote orderly traffic flow, regulate traffic (assign right of way, and indicate regulations in force), warn road users of hazards or regulatory controls ahead, (in particular they also warn of temporary hazards that could endanger road users or workers at roadwork sites), and guide traffic (e.g. guide signs to inform road users of directions to destinations, identify routes, and pavement markings to guide the travel path of vehicles).

TCDs including directional signage, barriers and/or line marking will be used as required to direct and guide drivers, cyclists and pedestrians past construction sites and on the surrounding network. This will be supplemented by Variable Message Signs to advise drivers of potential delays, traffic diversions, speed restrictions, or alternative routes.

Signage associated with property access, local community access and businesses will be considered during the detailed design and implementation of temporary traffic management schemes and impacts will be addressed to ensure appropriate information for road users is effectively communicated at all times.

Information signage and advance warning signage will be designed for changes to the road network and traffic conditions in accordance with relevant TfNSW Supplement Manual of Uniform Control Devices (AS 742.3) and Road Sign Specifications (AS 1743).

All signposting changes will be detailed in the TMP and TGS.

Delineation of any intersection layout changes will comply with the requirements of TfNSW Traffic Control at Worksites and other standards and will be detailed in the individual TMP and TGS.

6.11 Pedestrians and cyclists

Safe pedestrian and cyclist access will be maintained around construction support sites and work area. This will be done through strategic planning and implementing construction techniques that consider the impact on and safety of road users and the general public. Appropriate signage will be installed around worksites to alert pedestrians and cyclists of vehicle movements. Where documented in the site specific TMP. This signage will be supplemented with Variable Message Signs where necessary (as outlined in Section 6.10).

Where pedestrian and cyclist access is restricted or removed a proximate alternative route which complies with relevant standards will be provided in accordance with MCoA E138 unless otherwise endorsed by an independent, appropriately qualified and experienced person, prior to the restriction or removal of the impacted access. Any detours and adjustments will be designed with consideration of user safety and convenience.

Vehicles (including light and heavy vehicles) associated with the Project will be managed to not block or disrupt access across pedestrian or shared user paths at any time. A specific management measure (TTAMP14) is included in Table 6-4.

Diversions to pedestrian and cyclist access have been identified as required for the Western Harbour Tunnel construction works in Section 5.3. Note that no additional diversions have been identified as part of the WHT Package 2 works at this stage.

6.11.1 Pedestrians

The Project will endeavour to maintain pedestrian connectivity around construction support sites and work areas, however some detours may be required to improve the safety or amenity of pedestrians including where heavy vehicles are entering and exiting construction support sites. Any changes to pedestrian connectivity will be communicated to Inner West Council, North Sydney Council, TfNSW and community stakeholders prior to implementation.

The Project will manage pedestrian desire lines with temporary footpaths that comply with the requirements of Austroads Guide to Road Design Part 6A: Pedestrians and Cycle Paths and AS1742.3: Manual of Uniform Traffic Control Devices – Part 3: Traffic Control for Works on Roads. Prior to work commencing on State and local roads, where the pedestrian access may be affected, the Contractor will provide alternate pedestrian access routes that are clearly signed and delineated in accordance with all safety requirements.

Alternate routes will aim to minimise inconvenience to pedestrians with the primary goal of maintaining clear space between pedestrians, active work areas and live traffic. This will be addressed in site specific TMPs prior to the commencement of the works.

As part of the TMPs, the following measures will be implemented when providing alternate pedestrian routes to minimise impacts on mobility impaired pedestrians:

- Clearly define temporary footpath arrangements by using appropriate signage
- Maintain sufficient space for wheelchair access
- Maintain a smooth, even surface on all temporary footpaths and crossings
- Conduct regular inspections to maintain footpaths free of trip hazards
- When changing footpath access, minimise grades for wheelchair use.

Disability Discrimination Act 1992 requirements will be adopted for kerb ramps and bus stop locations.

Pedestrian safety will be a critical consideration wherever construction (and especially heavy vehicle) traffic interacts with pedestrian movements. Each site will have their pedestrian and vehicle risk assessed as part of each Traffic Management Plan, and will deploy appropriate controls such as:

- Audible warnings for approaching and/or departing heavy vehicles
- Visual warnings at entry/exit points (including flashing lights and/or signage)
- Traffic controllers or gatekeepers to assist in managing the interface between pedestrians and vehicles

The type and extent of control will be outlined in site specific Traffic Management Plans submitted to TfNSW and CJP for review and approval.

The Project has been designed with limited locations of interface with pedestrians, and most access and egress points avoid crossing pedestrian paths.

6.11.2 Cyclists

The Project will endeavour to maintain cyclist connectivity and functionality provided within and directly adjacent to the construction support sites and work areas, by preserving existing facilities or providing alternative facilities as part of a detour. The Contractor will manage the cyclist desire lines with temporary routes that comply with the requirements of AS1742 Part 9: Bicycle Facilities, AustRoads Guide to Road Design Part 10 and AS1743: Road Signs Specification.

Where alternate routes are implemented, they will be appropriately signed and marked. Where alternate routes are impractical, directional signage will be erected to advise cyclists that the cycle access is temporarily unavailable. Any changes will be communicated to Inner West Council, North Sydney Council, TfNSW and community stakeholder prior to implementation.

Cyclists on local/urban roads will typically utilise shoulders or dedicated paths where they exist. Cyclist movements at site access points will be managed to maximise cyclist safety. The existing cycle routes as shown in the TfNSW Cycleway Finder are outlined below in Figure 6-1 and Figure 6-2.



Figure 6-1: Cycleway finder map (North Sydney area)



Figure 6-2: Cycleway finder map (Rozelle area)

6.12 Public transport

The Project will seek to minimise disruption to the current level of service of public transport services, however some impacts are required for the construction of the Project as outlined in Section 5.2. No impacts have been identified at this stage to accommodate WHT Package 2 works.

The community will be notified in advance of proposed transport network changes, through appropriate media and other appropriate forms of community liaison as detailed in the Project Community Consultation Strategy developed in line with MCoA B1 to B5.

6.12.1 Bus services

Where impacts to bus lanes or bus stops are identified, the Project will consult with the bus operators and other divisions of Transport for NSW to identify appropriate mitigation. During the short-term closures of bus lanes, buses will be required to use the adjacent general traffic lanes available. Impacts due to the temporary closure of the bus lanes will be minor and managed during the short periods that these bus lanes would not be in operation.

Where adjustments to bus stops within the construction works area are required, disruption to bus customers will be minimised by relocating the bus stops to a location within 400 metres walking distance of the existing stop in accordance with MCoA E149 and E150. Bus stop closure will not occur until relocated bus stops that comply with relevant standards are functioning and have similar capacity and amenity. Closures and relocations of bus stops will be undertaken in consultation with North Sydney Council. Bus stop relocation may require some existing parking spaces to be removed.

Advance notification will be provided to affected bus customers of the changes to stopping sequences and location of bus stops in accordance with TfNSW and CJP requirements.

Wayfinding signage will be provided directing commuters to adjacent or relocated bus stops. Footpaths and (where required) road crossing facilities will be provided to any relocated bus stops such that accessibility and safety standards are met.

Prior to the commencement of operation, all bus stops temporarily closed will be reinstated in a manner that complies with relevant standards, provides equal or improved capacity, amenity and accessibility (including footpaths and road crossings) in consultation with North Sydney Council.

Bus service operator maps in the areas affected by The Project are provided below, in Figure 6-3 and Figure 6-4.

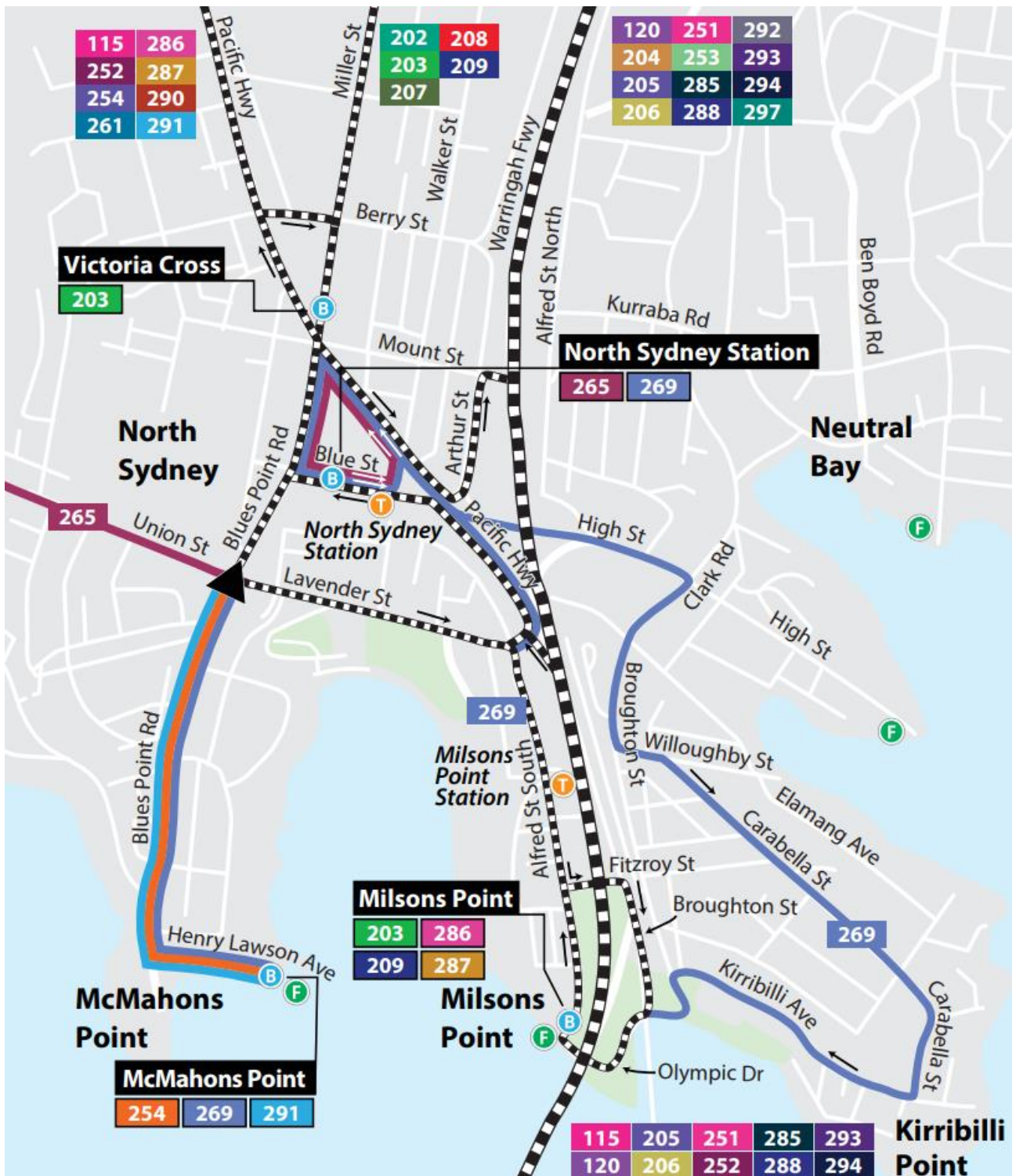


Figure 6-3: North short and west bus operator map - Busways

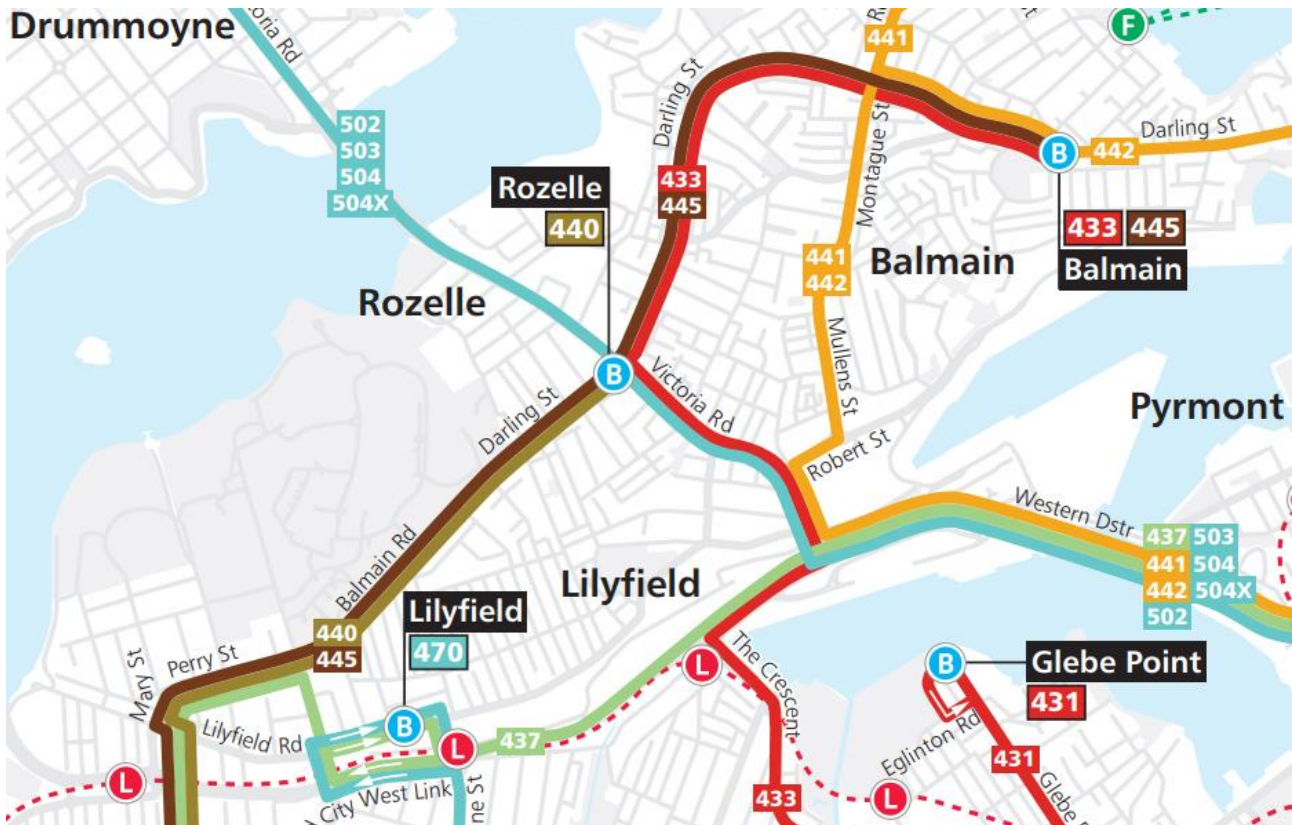


Figure 6-4: Inner west bus operator map – Transit Systems

6.13 Property and utility access

Access to all utilities and properties will be maintained during construction, where practicable, unless otherwise agreed with the relevant utility owner, landowner or occupier. There are no known access impacts on existing commercial or residential properties as access will be retained throughout the works.

During construction, all reasonably practicable measures will be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised. Where disruption cannot be minimised, alternative pedestrian and vehicular access, and parking arrangements will be developed in consultation with affected businesses, landowners and / or occupiers and implemented prior to the disruption. Adequate signage and directions to businesses will be provided prior to, and for the duration of, any disruption.

Any property or utility access physically affected by the Project will be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier.

6.14 Parking management

Construction worker parking will be managed in accordance with the Construction Parking and Access Strategy, which will be implemented, in accordance with MCoA E140. The Construction Parking and Access Strategy will be developed and submitted to the Planning Secretary for approval at least one month prior to commencement of construction that reduces availability of existing parking. When approved the CPAS will be appended to this plan in Appendix B1.

6.14.1 Worker parking

The project sites will include some on-site parking across the tunnelling and civil sites in the North Sydney area. These include a number of parking spaces at the Cammeray construction support

site and the Ridge Street north construction support site. Berry street construction support site will have limited room for on-site parking. Any surplus parking demand for the north is expected to be accommodated through public transport noting the proximity of the North Sydney train station to the sites.

Worker parking will be provided at Glebe Island. The parking is anticipated to be sufficient to support the tunnelling and construction activities at both Glebe Island and the Rozelle worksites. Some on-site parking will be available within the tunnel portals at Rozelle however will only be limited. Incident management and response

Emergencies or unplanned incidents may occur during the works which impact upon traffic including motor vehicle crashes, environmental spills, terrorist attacks, bomb threats, construction type incidents, structural catastrophic failures, inclement weather conditions, flooding and anti-social behaviour. Road incidents will be managed under the direction of emergency services and communicated to TMC.

Any incidents responded to as part of incident management for the project will be recorded in an incident management database. The incident database will be transmitted to TfNSW on a daily basis, or as otherwise agreed with TfNSW representatives.

Environmental relevant incidents reporting will be carried out in accordance with Section 3.8 of the CEMP.

6.15 Cumulative impacts

Cumulative construction impacts may result if other major projects proceed concurrently with the Project. A detailed assessment of cumulative impacts will be undertaken as part of site-specific Traffic Management Plans (TMPs).

The Community Consultation Strategy includes consideration of construction fatigue and includes procedures to proactively manage this type of issue where possible.

6.16 Management and mitigation measures

Management and mitigation measures relevant to the Project are outlined in Table 6-4. These will be implemented to minimise traffic, transport and access impacts, and ensure all commitments and requirements of the project approval are met. These specific management and mitigation measures have been developed to address the requirements of applicable legislation, the MCoA and commitments of the REMMs.

Table 6-4: Traffic, transport and access management and mitigation measures

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Source	Evidence
Construction traffic management						
TTAMP01	Road safety and traffic management measures will be staged as outlined in this Plan to minimise delays for private road users and public transport.	This Plan TMP Traffic staging drawings	Construction	Site supervisor	Multiple Best practice	TMPs Inspection Records Road Safety Audit Reports
TTAMP02	During construction, all reasonably practicable measures will be implemented to maintain pedestrian and vehicular access to, utilities and properties unless otherwise agreed with the relevant owner/occupier, by implementing the actions as described in Section 6.13	Pre-construction dilapidation reports. TMP TGS	Construction	Site supervisor	MCoA E128 MCoA E129 MCoA E141 REMM LP3	Consultation records Inspections Agreement with owner
TTAMP03	Access to the White Bay construction support site (WHT3) by construction vehicles (including light vehicles) will only be via The Crescent/City West Link and James Craig Road, with no access to the site via Robert Street, Rozelle, unless required in the event of an emergency.	TMPs VMPs	Construction	Site supervisor	MCoA E130	Inspections

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Source	Evidence
TTAMP04	Construction road traffic will be managed to minimise movements during peak periods.	TMPs	Construction	Contractor's Traffic Manager Site supervisor	REMM CTT6	Traffic Management Plans
TTAMP05	Vehicle movements to and from construction sites will be managed to ensure pedestrian, cyclist and motorist safety. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modifications to existing signals or, on occasion, police presence	TMPs VMPs TGSSs	Construction	Contractor's Traffic Manager Site supervisor	REMM CTT7	Road safety audits Traffic Management Plans
TTAMP06	Directional signage, barriers and/or line marking will be used as required to direct and guide drivers, cyclists and pedestrians past construction sites and on the surrounding network. This will be supplemented by Variable Message Signs to advise drivers of potential delays, traffic diversions, speed restrictions, or alternative routes.	TMPs VMPs TGSSs	Construction	Site supervisor	REMM CTT8	Traffic Management Plans, approvals and Road Safety Audits
TTAMP07	Activities requiring partial and full road closures will occur outside of peak periods and/or during night-time to minimise the impact of these activities on the road network.	RoLs	Road closure activities	Site supervisor	REMM CTT12	Traffic Management Plans and Road Occupancy Licences

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Source	Evidence
TTAMP08	Opportunities to maximise spoil material removal by non road methods will be investigated and implemented where reasonably practicable to minimise movements by road.	Spoil Manager	Pre-construction Construction	Spoil Manager	MCoA E134 REMM CTT14	Traffic Management Plan with advice from Spoil Manager
TTAMP09	The locations of all heavy vehicles used for spoil haulage must be monitored in real time and the records of monitoring be made available electronically to the Planning Secretary and the EPA upon request for a period of no less than one year following the completion of construction.	Real time monitoring	Construction	Site supervisor Environmental manager	MCoA E135	Real time monitoring electronic records
TTAMP10	Additional approvals for local roads will be undertaken as described in Section 6.5.1	Local road approval application	Construction	Traffic Manager	MCoA E132 MCoA E133	DPE approval letters
Road Dilapidation						

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Source	Evidence
TTAMP11	Before any local road is used by a heavy vehicle for the purposes of the Project, a Road Dilapidation Report will be prepared for the road in consultation with relevant councils and road owners, including such mechanisms to be considered for the repair of damage to the local road(s) caused by heavy vehicle movements associated with the Project. A copy of the Road Dilapidation Report will be provided to the relevant council within three weeks of completion of the survey and no later than one month prior to the road being used by heavy vehicles associated with the Project.	Suitably qualified person	Before local road is used by Project heavy vehicles	Traffic Manager	MCoA E136 REMM CTT1	Road Dilapidation Report Evidence of submission in accordance with this requirement.
TTAMP12	A Road Dilapidation Report will be prepared following completion of works using a road. If damage to roads occurs as a result of the Project, either the relevant road authority will be compensated for the damage so caused, or the damage will be rectified to restore the road to at least the condition it was pre-works as identified in the Road Dilapidation report (at the relevant road authority's discretion).	Suitably Qualified Person	Following completion of works using local roads	Traffic Manager Project Manager	MCoA E137	Road Dilapidation Report

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Source	Evidence
Pedestrian and Cyclist Access						
TTAMP13	Direct impacts to existing shared user paths will be minimised. Safe pedestrian and cyclist access will be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, a proximate alternative route which complies with relevant standards, unless otherwise endorsed by an independent, appropriately qualified and experienced person, will be provided (including signposting) prior to the restriction or removal of the impacted access. Any detours and adjustments will be designed with consideration of user safety and convenience.	TMPs VMPs TGSs	Construction	Traffic Manager	MCoA E138 REMM CTT19	Traffic Management Plans and Road Safety Audit reports for long-term closures or impacts.
TTAMP14	Vehicles (including light and heavy vehicles) associated with the Project will be managed to not block or disrupt access across pedestrian or shared user paths at any time.	TMPs VMPs TGS	Construction	Traffic Manager Site supervisor	MCoA E139	Traffic Management Plans, Gatekeepers where necessary and CCTV monitoring where necessary

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Source	Evidence
Construction Parking Management						
TTAMP15	Spoil haulage vehicles must adhere to the nominated haulage routes identified in this Plan.	Real time monitoring VMPs	Construction	Traffic Manager Project Manager Spoil Manager	MCoA E139	Real time monitoring electronic records
TTAMP16	Vehicles will be managed to minimise idling and queueing on state and regional roads. Truck marshalling areas will be used to minimise potential queueing and traffic and access disruptions in the vicinity of construction support sites. Marshalling of construction vehicles will not be carried out near sensitive land user(s).	TMPs VMPs TGS Real time monitoring	Construction	Traffic Manager Site Supervisor	MCoA E139 REMM CTT11	Real time monitoring records, CCTV cameras and Vehicle Movement Plans
TTAMP17	The Construction Parking and Access Strategy will be implemented to mitigate impacts resulting from on- and off-street parking changes during construction. Vehicles (including light and heavy vehicles) associated with the Project will be managed to minimise parking on public road.	Construction Parking and Access Strategy TMPs	Construction	Traffic Manager Site Supervisor Project Manager	MCoA E139 MCoA E140 REMM CTT9	Implementation of Construction Parking and Access Strategy

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Source	Evidence
Road safety						
TTAMP18	For new and modified local roads, parking, pedestrian and cycle infrastructure, the design will meet relevant design, engineering and safety guidelines, including the Austroads Guide to Traffic Management	Detailed design to comply with MCoA E144	Detailed design and construction	Traffic Manager Project Manager	MCoA E144	Design reports
TTAMP19	An independent Road Safety Audit will be undertaken by an appropriately qualified and experienced person to assess the safety performance of new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the Project (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Management.	Suitably qualified person	Prior to construction of relevant infrastructure Pre-opening	Traffic Manager	MCoA E145	Proof of engagement Auditor qualifications Audit report
Public transport						

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Source	Evidence
TTAMP20	Where bus stops are required to be temporarily closed, such closure will not occur until relocated bus stops are provided that comply with relevant standards, are functioning, have similar capacity and amenity and are relocated within a 400 metre walking distance of the existing bus stop. Closures and relocation of bus stops during construction will be undertaken in consultation with relevant council(s) and relevant divisions of Transport for NSW. Wayfinding signage will be provided directing commuters to adjacent or relocated bus stops. Footpaths and (where required) road crossing facilities will be provided to any relocated bus stops such that accessibility and safety standards are met. Advanced notification will be provided to affected bus customers regarding any adjustments.	TMP, signage and community consultation	Construction	Traffic Manager	MCoA E149 REMM CTT10	Consultation records

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Source	Evidence
TTAMP21	Prior to the commencement of operation, all bus stops temporarily closed must be reinstated in a manner that complies with relevant standards, provides equal or improved capacity, amenity and accessibility (including footpaths and road crossings) in consultation with relevant council(s).	TMP and Signage	Prior to commencement of operation	Traffic Manager	MCoA E150	Consultation records
TTAMP22	The community will be notified in advance of proposed transport network changes, through appropriate media and other appropriate forms of community liaison as detailed in the Project Community Consultation Strategy developed in line with MCoA B1 to B5.	Community Consultation Strategy	Construction	Traffic Manager Community Manager	CCTT5	Consultation records
Identification of workforce and compounds						
TTAMP23	All heavy vehicles used for spoil haulage will be clearly marked on the sides and rear with the project name and CSSI application number to enable immediate identification by a person viewing the heavy vehicle.	Graphic for stickers Traffic Management Strategy and Spoil Management Plan	Construction	Project Manager Spoil Manager	MCoA A47	Inspection records

7 Compliance management

Compliance with this Plan will be measured against the targets outlined in Section 2.3 of this plan through ongoing monitoring throughout the construction of the Project.

7.1 Roles and responsibilities

The Project Team's organisational structure and overall roles and responsibilities as well as the Environmental Representative and required specialists are outlined in the CEMP.

Specific roles and their responsibilities for the implementation of construction traffic management are detailed below.

Table 7-1 Traffic management roles and responsibilities

Position	Skill Levels Required / Authority
Traffic Manager	• Develop TMPs and TGS and obtaining required approvals from the relevant authorities. • Ensure approved traffic management measures are implemented and maintained in accordance with approved plans. • Carry out regular inspections of the traffic control measures to ensure they are effective. • Amend and update the plans as required to ensure that they remain current as work progresses. • Record and report on all identified traffic incidents. • Arrange traffic control audits and implementing audit close out actions. • Undertake traffic-based risk assessments of the works.
Traffic Engineer(s)	• Assist in the development of Traffic Management Plans • Conduct inspection to verify the operation of Traffic Management Plans meets intent and safety goals • Assist in scheduling traffic control resourcing, development of Traffic Guidance Schemes and seeking approvals • Assist in scheduling Road Safety Audits and closing out findings • Assist in implementations, inspections, procurement and installation of signs, linemarking, barriers and other traffic related equipment
Site supervisor	• Allocate field resources as required • Support delivery of the traffic management objectives • Assist with the implementation of the TTAMP • Ensure relevant field team members receive the appropriate training.

7.2 Training

All employees, contractors and utility staff will undergo site induction training relating to traffic, transport and access management issues. The induction training will address site and/or construction activity specific impacts, including:

- Existence and requirements of this Plan

- Relevant legislation and guidelines
- Construction traffic routes
- Construction parking and access requirements.

Further details regarding staff induction and training are outlined in the CEMP.

7.3 Inspections

Requirements and responsibilities in relation to inspections are documented in the CEMP.

ACCIONA will undertake regular inspections to ensure the safety of all traffic movements, as well as the wellbeing of pedestrians, cyclists, drivers and property through and surrounding all worksites. The responsibility and frequency of inspections is stipulated in section 8.1 of the TfNSW Traffic Control at Worksites Manual Version 6.1.

Three main types of inspections and records will occur:

- Inspections of short-term (single shift) traffic controls during the shift
- Regular daytime inspections of long-term traffic controls after implementation
- Regular night time inspections of long-term traffic controls after implementation.

Pre-opening inspections may be carried out by the Traffic Manager before the start of each new temporary roadwork site or major modification.

Any signage or devices identified during the checks or audits requiring attention will either be rectified at the time or advised to the Project's Traffic Manager during that shift for follow-up action.

7.4 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of traffic management measures, compliance with this sub plan, MCoA and other relevant approvals, licenses and guidelines.

Audit requirements are detailed in the CEMP.

An independent Road Safety Audit will be undertaken in accordance with MCoA E145 to assess the safety performance of new or modified local road, parking, pedestrian and cycle infrastructure (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Management.

The audit must be undertaken by an appropriately qualified and experienced person during detailed design development (audit of plans) and audit findings and recommendations must be actioned prior to construction of the relevant infrastructure.

7.5 Incidents and Non-compliances

All incidents will be managed in accordance with the CEMP.

All non-compliances will be managed in accordance with the CEMP.

7.6 Reporting

Reporting requirements are detailed in the CEMP. Any additional reporting requirements described in this document will be undertaken in addition to those described in the CEMP.

8 Review and improvement

8.1 Continuous improvement

As outlined in the CEMP, management reviews will be undertaken as part of the continual improvement process. The reviews will be initiated by the Environmental Manager and include relevant project team members and stakeholders. Continuous improvement of this Plan will be achieved by the ongoing evaluation of environmental management performance against planning approval requirements, environmental policies, objectives, and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of traffic management
- Determine the cause or causes of non-conformances and deficiencies
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies
- Verify the effectiveness of the corrective and preventative actions
- Document any changes in procedures resulting from process improvement
- Make comparisons with objectives and targets outlined in Section 2 of this Plan.

8.2 Plan update and amendment

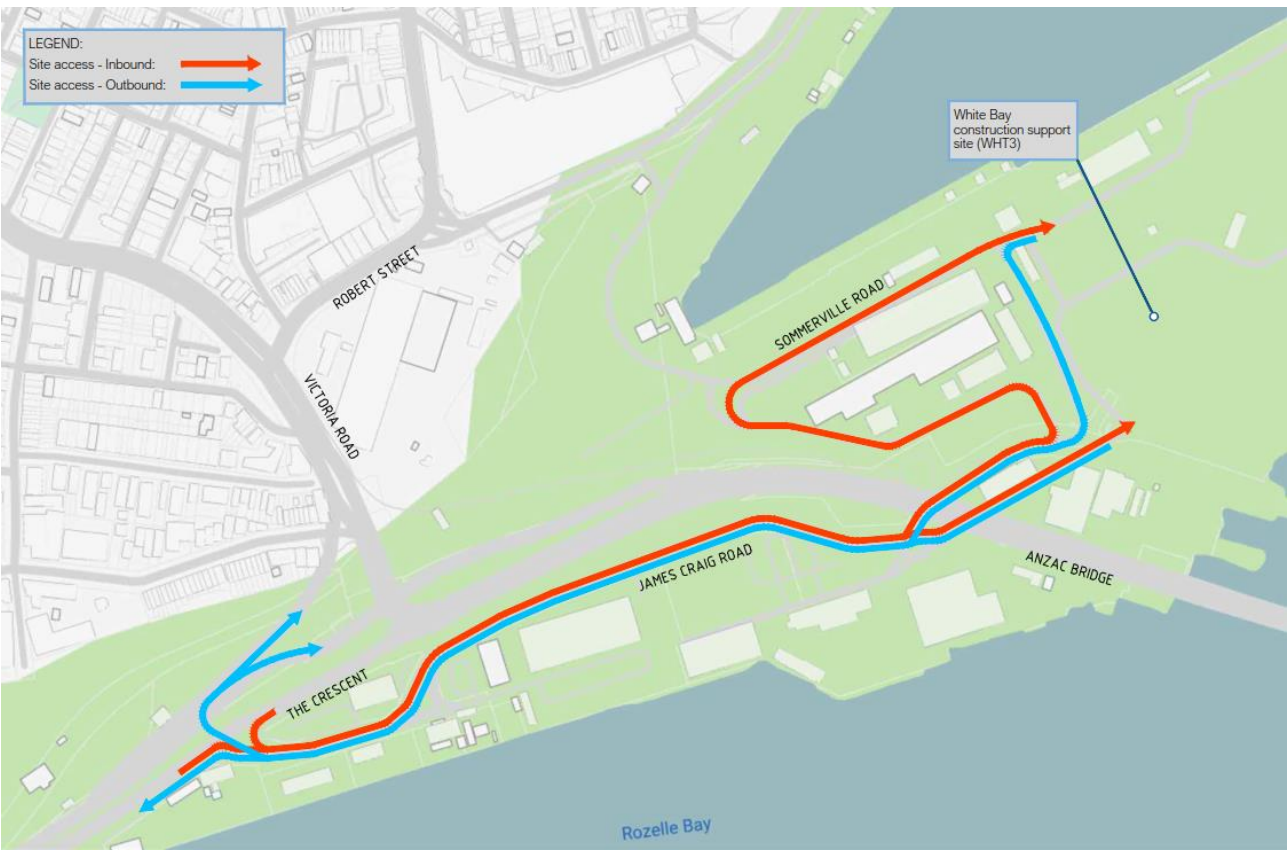
The continuous improvement processes described in the CEMP may result in the need to update or revise this Plan. This will occur whenever there is a change to the construction scope or methodology that may increase the potential impacts upon traffic, transport or access or to address relevant updates to a related sub plan (as identified in Table 1-1).

Only the Environment Manager can amend this Plan. Any update of this Plan will require endorsement by the Environmental Representative and depending on the change, the process outlined in Section 2 of the CEMP must be followed where approval from the Planning Secretary prior to implementation of the update is required.

Appendix B1 Construction Parking and Access Strategy

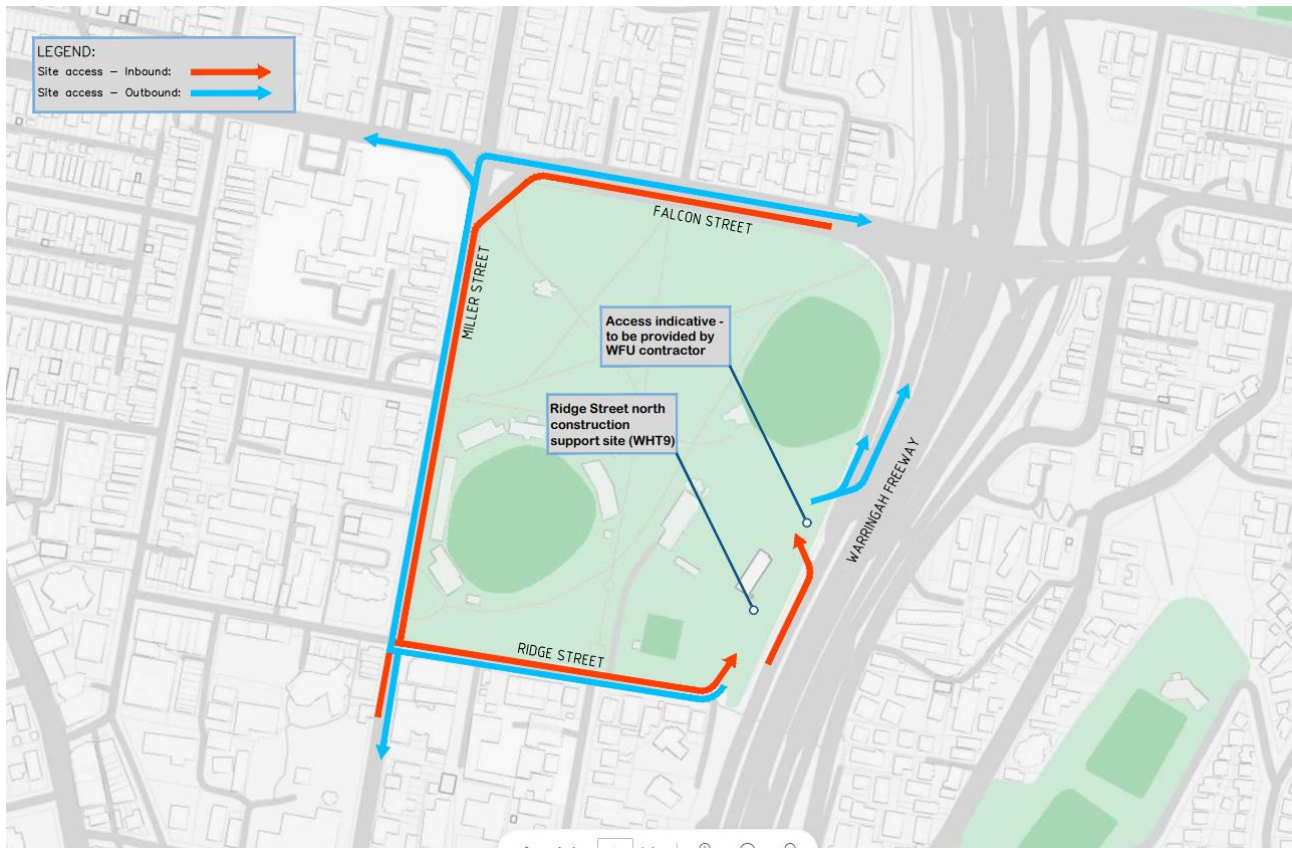
[To be appended here on approval of the CPAS]

Appendix B2 Heavy Vehicle Routes



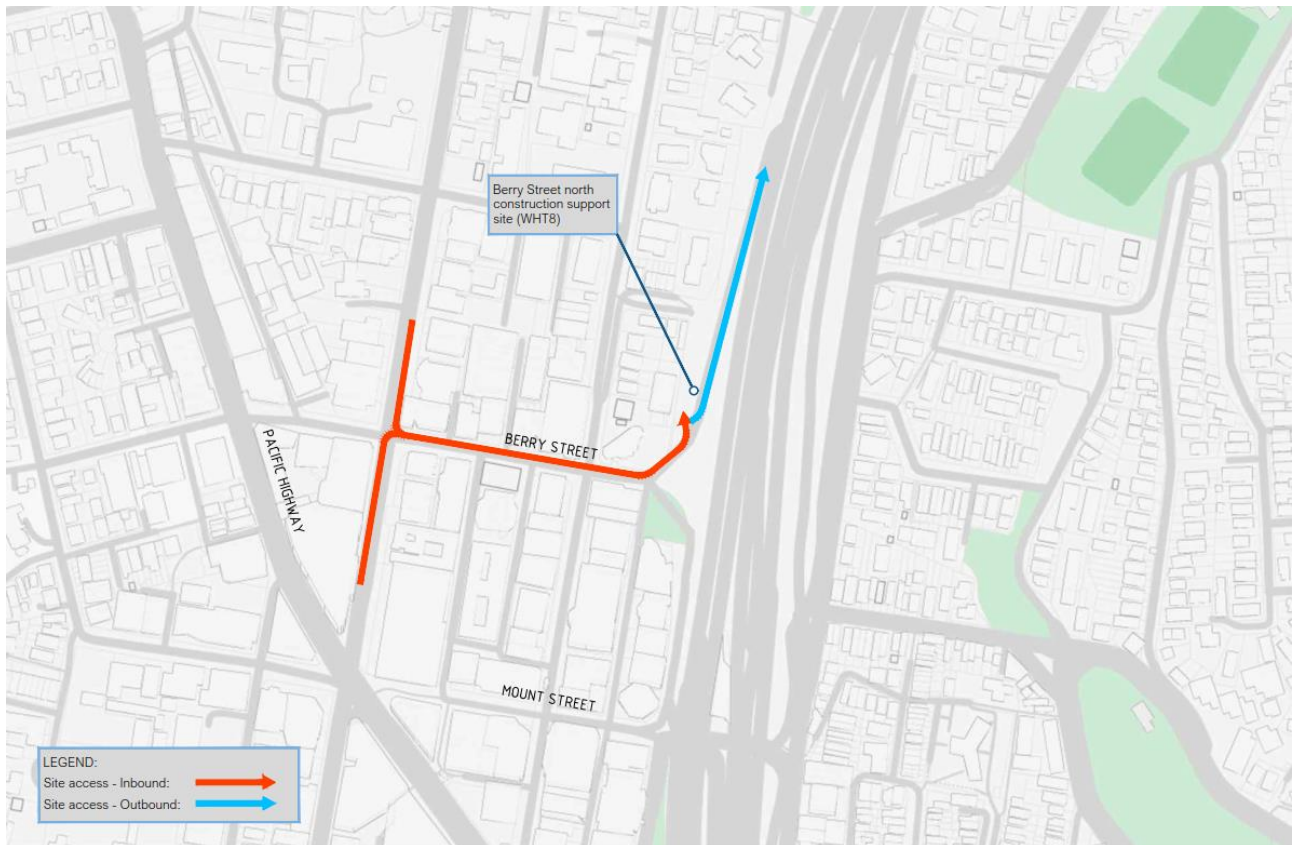
(Reference: Acciona original)

Figure 8-1: Indicative construction vehicle routes – White Bay WHT3



(Reference: Acciona original)

Figure 8-2: Indicative construction vehicle routes – Ridge Street North WHT9



(Reference: Acciona original)

Figure 8-3: Indicative construction vehicle routes – Berry Street North WHT8



(Reference: Acciona original)

Figure 8-4: Indicative construction vehicle routes – Cammeray Golf Course WHT10



(Reference: Acciona original)

Figure 8-5: Indicative construction vehicle routes – Rozelle Rail Yards WHT12

Appendix B3 Heavy Vehicle Routes not identified in Appendix F of the EIS

[To be appended here if additional local roads are identified during construction]