

Construction Parking and Access Strategy

Western Harbour Tunnel and Warringah
Freeway Upgrade

Stage 1C Early and Enabling Works – Massey to
Amherst Street (M2A)

Transport for NSW

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Construction Parking and Access Strategy

Western Harbour Tunnel and Warringah Freeway Upgrade

Stage 1C Early and Enabling Works – Massey to Amherst Street (M2A)

March 2022

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Appendices

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Document control

Approval

Title	Massey to Amherst Street (M2A) Noise Barrier Works Construction Parking and Access Strategy
Approved by SPA Environment Interface Manager	Richard Peterson
Signed	
Dated	08.03.2022
Approved by SPA Construction Manager	Jason Nisbet
Signed	
Dated	08.03.2022

Version control

The below document status table is for tracking the revisions of the CPAS, while the project is in construction. The version control table is to be used to track CPAS revisions, including those incorporating changes following agency comments.

It may be modified where necessary to fit with requirements of the individual project.

Revision	Date	Description
A	16/09/2021	For internal review
1	21/09/2021	Issued for TfNSW Comments
2	21/10/2021	Issued for ER Comments
3	10/02/2022	Issued for DPE Approval
4	08/03/2022	Issued for DPE Approval

Glossary / abbreviations

Abbreviation	Expanded text
CCS	Community Communication Strategy
CEMP	Construction Environmental Management Plan
CGC	Cammeray Golf Course
CoA	Condition of Approval
CPAS	Construction Parking and Access Strategy
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
M2A	Massey to Amherst Street Noise Barrier Works
Project, the	Western Harbour Tunnel Warringah Freeway Upgrade
REMM	Revised Environmental Management Measures
ROL	Road Occupancy Licence
TfNSW	Transport for NSW
TTAMP	Traffic, Transport and Access Management Sub-plan
WFU	Warringah Freeway Upgrade
WFUEW	Warringah Freeway Upgrade Early Works
WFUMW	Warringah Freeway Upgrade Main Works
WHT	Western Harbour Tunnel
WHTWFU	Western Harbour Tunnel Warringah Freeway Upgrade

1 Introduction

1.1 Background

The Western Harbour Tunnel and Warringah Freeway Upgrade (WHTWUFU) is shown in Figure 1-1. The project comprises two main components:

- A new crossing of Sydney Harbour involving twin tolled motorway tunnels connecting the M4-M5 Link at Rozelle and the Warringah Freeway at North Sydney (the Western Harbour Tunnel)
- Upgrade and integration work along the existing Warringah Freeway, including infrastructure required for connections to the Beaches Link and Gore Hill Freeway Connection project. Reconfiguration works as part of the Warringah Freeway Upgrade would optimise the road corridor and improve the performance of the Sydney Harbour Tunnel, the Sydney Harbour Bridge and the Western Harbour Tunnel.

Due to its importance, the WHTWUFU project was declared to be Critical State Significant Infrastructure (CSSI) by the Minister for Planning and Public Space on 9 November 2020.

On 21 January 2021, the Department of Planning and Environment (DPE) approved the construction and operation of the WHTWUFU project (SSI 8863).

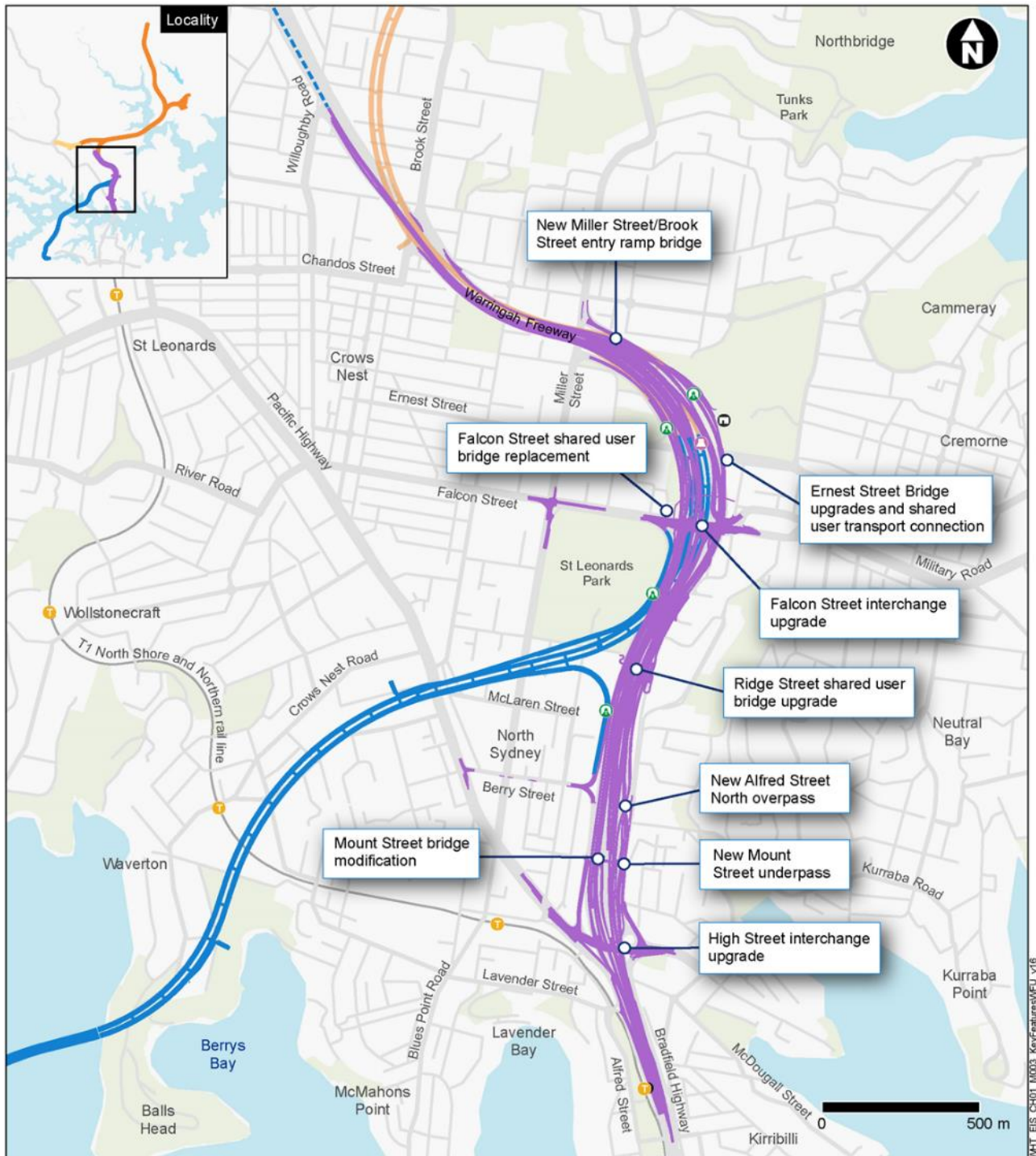
A detailed description of the project is provided in Chapter 5 of the Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement (EIS).

The WHTWUFU project will be delivered in numerous stages:

- Stage 1 - Early and enabling works:
 - Stage 1A - Critical utility installation, relocation and protection (CUT)
 - Stage 1B - Cammeray Golf Course adjustment works (CGC)
 - Stage 1C - Massey to Amherst Street noise wall (M2A) (the subject of this CPAS)
- Stage 2 - Warringah Freeway Upgrade project:
 - Stage 2 – Warringah Freeway Upgrade (WFU)
- Stage 3 - Western Harbour Tunnel project (WHT).
 - Supplementary stages to be confirmed at a later stage (upon procurement of the WHT Contractor/s).

Further detail on each stage is provided in the WHTWUFU project Staging Report.

This Construction Parking and Access Strategy (CPAS) applies only to Stage 1C Early and Enabling Works - Massey to Amherst Street (M2A) noise barrier works stage of the project (referred to herein as the 'noise barrier works'. The noise barrier works will support the delivery of the wider WHTWUFU program of works by undertaking these works prior to the commencement of the Stage 2 and Stage 3.



(Reference: Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement, Figure 1-3)

Figure 1-1 Key features of the Warringah Freeway Upgrade component of the project

1.2 Project description

The early and enabling works will support the delivery program of the Main Works of the project by undertaking these works prior to the commencement of the Main Works. This CPAS applies only to the noise barrier works (Stage 1C).

The existing M2A noise wall will be impacted by the widening of the Warringah Freeway. The removal of the existing noise wall and the installation of the new M2A noise wall must occur before the start of the construction of the Warringah Freeway Upgrade. The new noise wall is about 175 metres in length and is located on the eastern side of the Warringah Freeway. The works will include:

- Site Establishment and installation of temporary site facilities
- Demolition of existing block wall
- Recessing Rock face
- Piling and standing columns
- Pre-casting and installing concrete panels
- Landscaping
- Asphaltting
- Site Demobilisation

The noise barrier works will commence in late 2021 and be completed in the second half of 2022. The program for the remaining stages of the WHTWUFU project is included in the WHTWUFU Project Staging Report.



Figure 1-2 Location of the noise barrier works

1.3 Purpose and scope of this CPAS

This CPAS has been prepared to describe how the Contractor, during the noise barrier works, will comply with the requirements of the NSW Minister for Planning and Public Space's Conditions of Approval (CoA) E139 and E140. The scope of the CPAS includes temporary on-street parking changes during the noise barrier works that are located outside the approved CSSI footprint. Car parking requiring removal inside the approved CSSI footprint has been considered in the EIS and has already been approved under the Infrastructure Approval (SSI-8863). The CPAS has been submitted to DPE for approval. These works will not commence until the CPAS has been approved by DPE.

The requirements of CoA E139 and E140 and where they are met in this CPAS are shown in Table 1-1. Additional CoA and Revised Environmental Management Measures (REMM) are presented in Appendix A2

Table 1-1 CoA E139 and E140 compliance

CoA No.	Condition requirements	Where addressed in CPAS
E139	Vehicles (including light and heavy vehicles) associated with the CSSI must be managed to:	
	a. minimise parking on local roads	Section □ Also refer to Traffic, Transport and Access Management Sub-Plan (TTAMP)
	b. minimise idling and queuing on state and regional roads	Section □ Also refer to the TTAMP
	c. not carry out marshalling of construction vehicles near sensitive land user(s)	Section □ Also refer to the TTAMP
	d. not block or disrupt access across pedestrian or shared user paths at any time	Section □ Also refer to the TTAMP
	e. ensure spoil haulage vehicles adhere to the nominated haulage routes identified in the Traffic, Transport and Access Management CEMP Sub-plan	N/A – no spoil haulage will be required during the noise barrier works
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	Table 1-1

CoA No.	Condition requirements	Where addressed in CPAS
	b. confirmation and timing of the removal of on- and off-street parking associated with construction of the CSSI	Section 4
	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 pick up, weekend periods and during special events	Section 3.1
	d. consultation with affected stakeholders utilising existing on- and off-street parking stock which will be impacted as a result of construction	Section 2
	e. assessment of the impacts of changes 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	Section 4
	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	Section 5
	g. where residential parking schemes already exist, off-road parking facilities must be provided for the CSSI workforce	Section 4.1
	h. mechanisms for monitoring, over appropriate intervals, to determine the effectiveness of implemented mitigation measures	Section 6.1
	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	Section 5
	j. provision of contingency measures should the results of mitigation or monitoring indicate implemented measures are ineffective	Section 6.4
	k. provision of reporting of monitoring results to the Planning Secretary and relevant council(s) at three monthly intervals	Section 6.3

CoA No.	Condition requirements	Where addressed in CPAS
	The Construction Parking and Access Strategy must be submitted to the Planning Secretary for approval at least one month before the commencement of any works that impact existing parking. The approved Strategy must be implemented before impacting on on-street parking.	Section 1.3

A rapid assessment of parking spaces that will be temporarily removed during the noise barrier works is shown in Table 1-2.

Table 1-2 Rapid assessment of parking spaces to be removed

Assessment criteria	Jenkins Street / Armstrong Street	Massey Street
Has the Roads Act 1993 been enacted or does TfNSW already own / control the land?	No	No
Is the parking located within the approved CSSI footprint?	No	No
Has sufficient off-street car parking been provided for the construction workforce?	Yes	Yes
How many parking spaces are proposed to be temporarily removed?	Six spaces	Five spaces
Are there sufficient remaining car parking spaces to meet parking demand post-removal?	Yes	Yes
Where addressed in CPAS	Sections 3.2 and 4.2	Sections 3.3 and 4.3

2 Consultation, endorsement and approval

This CPAS will be accepted by the Contractor Construction Manager, Contractor Environmental Manager and Transport for NSW (TfNSW) prior to lodgement to DPE for approval. The CPAS will be prepared with consideration of consultation undertaken with North Sydney Council and stakeholders who will be affected by impacts to on-street parking.

Consultation was undertaken with affected stakeholders associated with on-street car parking removal proposed on Jenkins, Armstrong and Massey Streets in accordance with CoA E140(d),(e) and (f). The intent of this consultation was to inform affected stakeholders, to assess impacts to affected stakeholders and to develop specific mitigation measures to manage the impacts to affected stakeholder. This consultation included the following:

- Letter box drops
- Door knocks
- Emails
- Phone calls
- Online Survey.

No specific mitigation measures were identified following the outcomes of stakeholder consultation associated with the removal of on-street car parking along Jenkins, Armstrong and Massey Streets. Therefore, no additional mitigation measures were developed beyond those presented in Section 5.3 of this CPAS.

In accordance with CoA A5 a Consultation Summary report has been prepared to document the consultation undertaken in the development as required by CoA E140(d), (e) and (f). This Consultation Summary will be lodged to DPE along with this CPAS.

Ongoing consultation with stakeholders, including the surrounding community, will be conducted throughout works in accordance with the Community Communication Strategy (CCS).

3 Existing conditions

3.1 Parking surveys

3.1.1 Parking survey times and locations

In accordance with CoA E140(c), parking surveys have been undertaken at all locations where on-street parking spaces are proposed to be temporarily removed to determine existing parking demand during peak, off-peak, school drop-off and pick up and weekend periods.

The parking surveys were undertaken on the following days and times:

- Weekdays¹
 - 8.30 am (weekday morning peak / school drop-off)
 - 3 pm (school pick up)
 - 5 pm (weekday evening peak)
 - 10 pm (weekday evening off-peak)
- Weekends²
 - 12 pm (weekend day)
 - 11 pm (weekend evening)

These days do not coincide with public holidays or school holidays. The parking survey results can therefore be considered an accurate representation of a typical weekday and weekend.

The parking surveys were undertaken at the locations listed in Table 3-1.

Table 3-1 Parking survey locations

Location	Road segment
Jenkins Street / Armstrong Street, Cammeray (refer to Figure 3-1)	Both sides between Massey Street and West Street
Massey Street, Cammeray (refer to Figure 3-2)	Both sides

¹ Weekday surveys were undertaken on Monday 9 August 2021 to Friday 13 August 2021.

² Weekend surveys were undertaken on Saturday 14 August 2021 and Sunday 15 August 2021.



Figure 3-1 Parking survey locations – Jenkins Street / Armstrong Street, Cammeray



Figure 3-2 Parking survey locations – Massey Street, Cammeray

3.1.2 Parking survey methodology

All nominated locations subject to the parking survey were initially inspected to note existing capacity and existing parking restrictions (e.g., untimed, timed parking, loading zones). Where on-street parking spaces are not marked, the maximum number of parking spaces was determined in accordance with Australian Standard 2890.5-1993 Parking facilities Part 5: On-street parking.

On each day and time listed above, all nominated locations were surveyed by vehicle and the number of occupied spaces was documented.

3.1.3 Calculation of parking occupancy

Parking occupancy is defined as the ratio of the number of occupied spaces to the total number of available spaces:

$$\text{Parking occupancy (\%)} = \frac{\text{Number of occupied spaces}}{\text{Total number of available spaces}}$$

3.2 Jenkins Street / Armstrong Street, Cammeray

3.2.1 Parking supply

There is a total of 61 parking spaces on Jenkins Street / Armstrong Street. These spaces are allocated as follows:

- Northern side of Jenkins Street
 - East of Kyngdon Street – nine spaces – untimed
 - West of Kyngdon Street – six spaces – 2P unmetered, 8.30 am to 6 pm, Monday to Friday (permit holders excepted)
- Southern side of Jenkins Street
 - Eastern end at West Street – two spaces – 1/2P unmetered, 8.30 am to 6 pm, Monday to Friday and 8.30 am to 12 pm, Saturday (permit holders excepted)
 - Elsewhere on Jenkins Street – 19 spaces – 2P unmetered, 8.30 am to 6 pm, Monday to Friday (permit holders excepted)
- Eastern side of Armstrong Street – 10 spaces – 2P unmetered, 8.30 am to 6 pm, Monday to Friday (permit holders excepted)
- Western side of Armstrong Street – 11 spaces – 2P unmetered, 8.30 am to 6 pm, Monday to Friday (permit holders excepted).

The allocation of parking spaces is shown spatially in Figure 3-3.

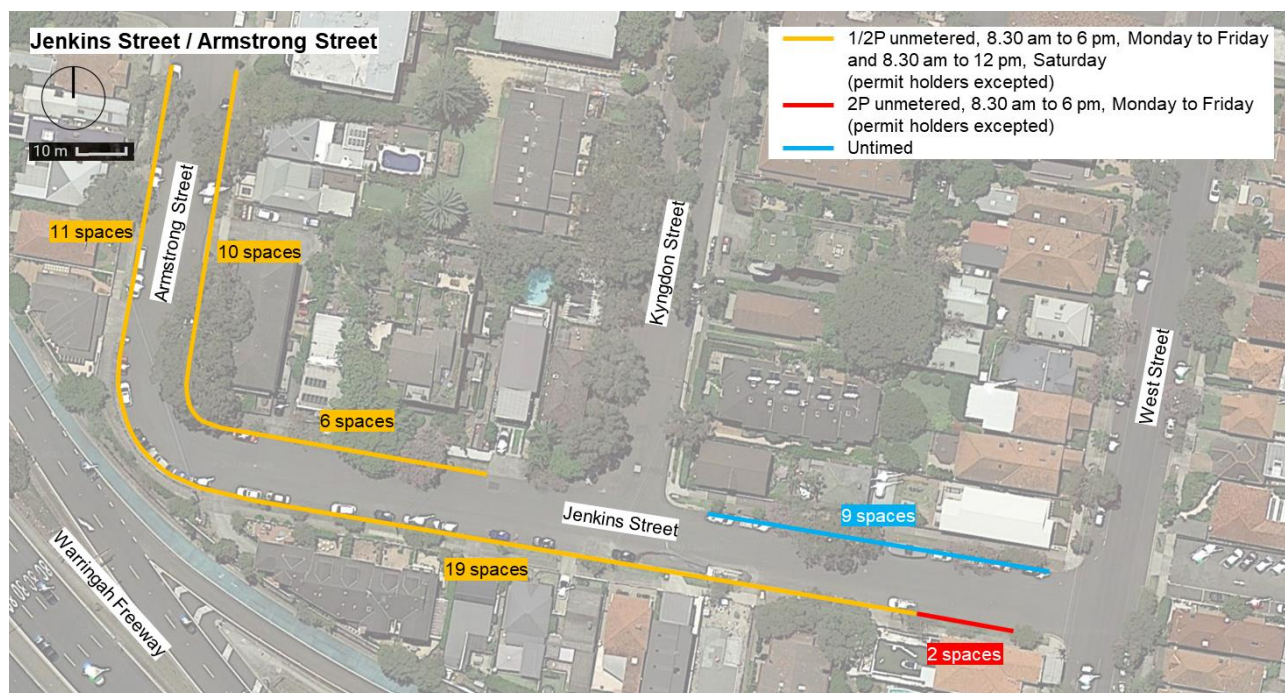


Figure 3-3 Existing parking supply – Jenkins Street / Armstrong Street, Cammeray

3.2.2 Parking occupancy

Existing parking occupancies on Jenkins Street / Armstrong Street during the various surveyed days and times are detailed in Table 3-2. The results show high occupancies of over 75 per cent in all surveyed periods. Existing parking is likely associated with long-term resident / visitor parking servicing adjoining residential properties.

Table 3-2 Existing parking occupancy – Jenkins Street / Armstrong Street, Cammeray

Day	Time period	Occupied spaces	Unoccupied spaces	Total available spaces	Parking occupancy
Average weekday	8.30 am (weekday morning peak / school drop-off)	43	14	57	75%
	3 pm (school pick up)	46	11	57	81%
	5 pm (weekday evening peak)	44	13	57	77%
	10 pm (weekday evening off-peak)	50	7	57	88%
Average weekend	12 pm (weekend day)	48	9	57	84%
	11 pm (weekend evening)	51	6	57	89%

3.3 Massey Street, Cammeray

3.3.1 Parking supply

There is a total of 17 parking spaces on Massey Street. These spaces are allocated as follows:

- Northern side – nine spaces – 2P unmetered, 8.30 am to 6 pm, Monday to Friday (permit holders excepted)
- Southern side – eight spaces – untimed.

The allocation of parking spaces is shown spatially in Figure 3-4.

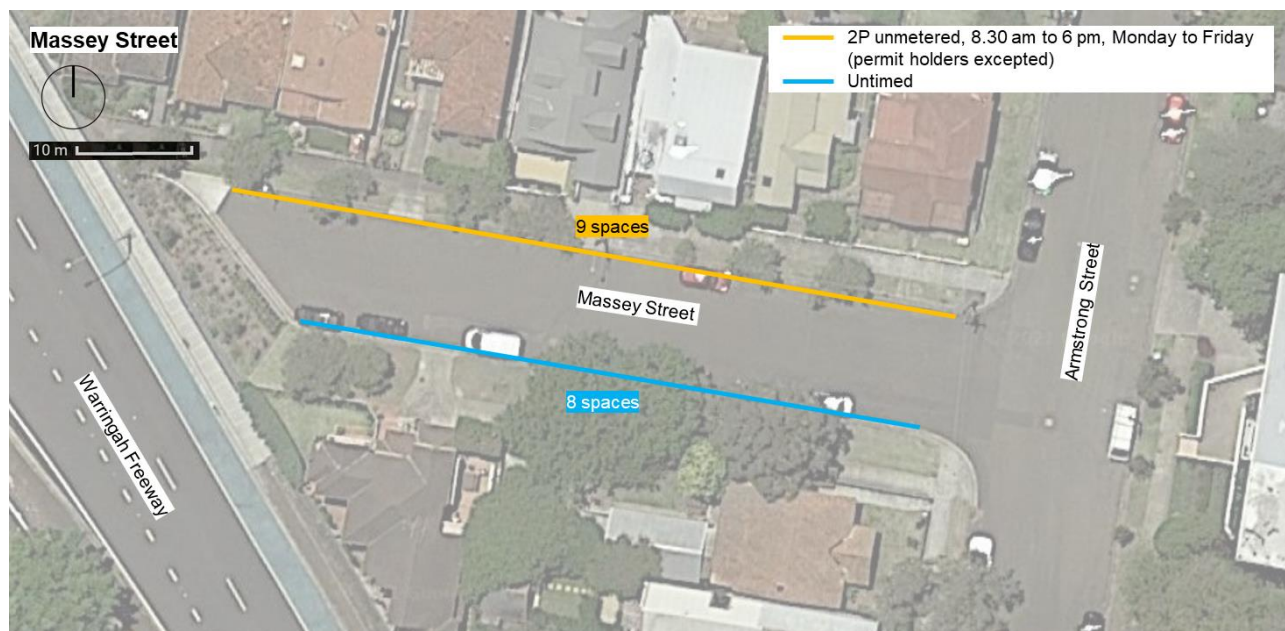


Figure 3-4 Existing parking supply – Massey Street, Cammeray

3.3.2 Parking occupancy

Existing parking occupancies on Massey Street during the various surveyed days and times are detailed in Table 3-3. The results show moderate occupancies of between 47 and 65 per cent in the surveyed periods. Existing parking is likely associated with long-term resident / visitor parking servicing adjoining residential properties.

Table 3-3 Existing parking occupancy – Massey Street, Cammeray

Day	Time period	Occupied spaces	Unoccupied spaces	Total available spaces	Parking occupancy
Average weekday	8.30 am (weekday morning peak / school drop-off)	8	9	17	47%
	3 pm (school pick up)	10	7	17	59%
	5 pm (weekday evening peak)	9	8	17	53%
	10 pm (weekday evening off-peak)	11	6	17	65%
Average weekend	12 pm (weekend day)	8	9	17	47%
	11 pm (weekend evening)	11	6	17	65%

3.4 Public transport accessibility

The work site associated with the noise barrier works (located on the Brook Street on-ramp to the Warringah Freeway and Amherst Street west of West Street) is located near two bus routes. These are detailed in Table 3-4 and shown in Figure 3-5. These bus services provide connections to several railway stations for Sydney Trains services to destinations across Greater Sydney.

Table 3-4 Bus services at each compound and work site

Location	Nearest bus stops	Distance from work site	Bus services	Connections to Sydney Trains services
Noise barrier works site, located on the Brook Street on-ramp to the Warringah Freeway and Amherst Street west of West Street	Stop ID 206221 – Amherst Street after West Street	150 m	Route 263 – Crows Nest to City Bridge Street Route 267 – Crows Nest to Chatswood	Chatswood
	Stop ID 206213 – Miller Street opposite Abbott Street	390 m	Routes 194, 201-209, 260, 263, 267 – services to North Sydney, Milsons Point, Crows Nest and Sydney CBD	North Sydney, Milsons Point and Sydney CBD stations
	Stop ID 206218 – Miller Street at Abbott Street	400 m	Routes 194, 202-209, 260, 267 – services to various destinations across the North Shore	Chatswood

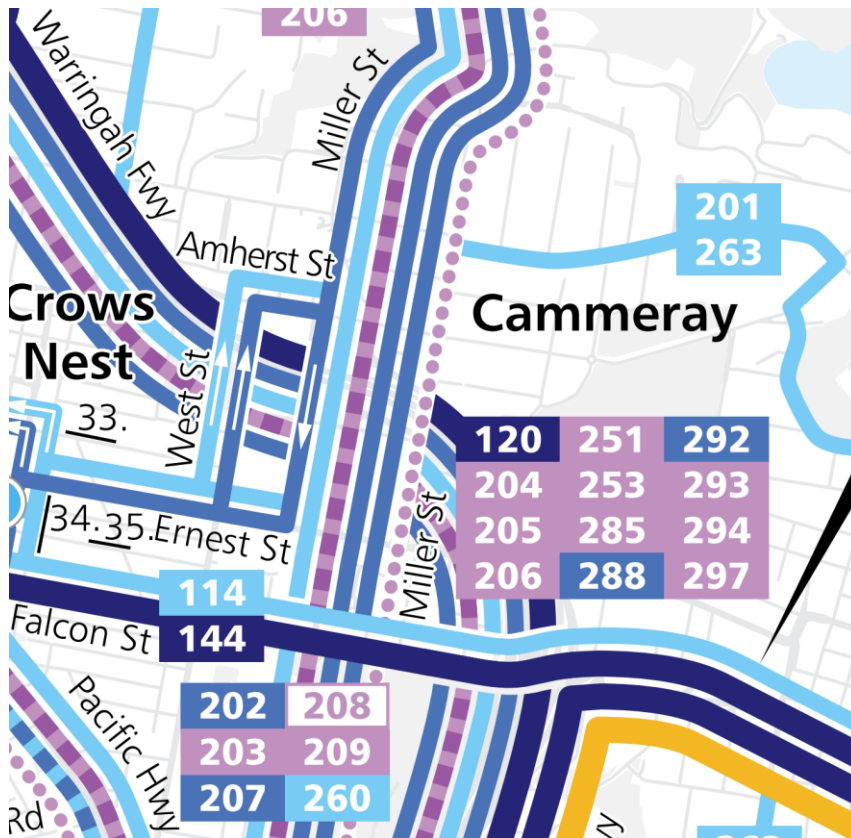


Figure 3-5 Bus network in Cammeray

4 Proposed parking and access changes and impacts

The temporary removal of on-street parking spaces during the noise barrier works is located outside the approved CSSI footprint and is addressed in Sections 4.2 and 4.3. Car parking requiring removal inside the approved CSSI footprint has been considered in the EIS and has already been approved under the Infrastructure Approval (SSI-8863). Throughout construction there may be occasional times when short-term on-street car parking removal (i.e., for the period of one shift) will be required under a Road Occupancy Licence (ROL). In this case, any short-term on-street car parking that is removed will be reinstated at the end of each shift following expiration of the ROL. Any such short-term car parking removal will be managed in accordance with the TTAMP.

4.1 Construction workforce parking

The construction workforce will comprise of trades and construction personnel, and engineering staff. The maximum size of the construction workforce is expected to be 10 people at any one time.

Construction workforce parking will be contained within the footprint of the work site with no impact on adjacent on-street parking.

4.2 Jenkins Street / Armstrong Street, Cammeray

Impact of parking changes

The noise barrier works will result in the intermittent temporary removal of six on-street parking spaces at the junction of Jenkins Street and Armstrong Street March 2022 to October 2022 for a total of about six weeks (refer to Figure 4-1). The intermittent temporary removal of these spaces is required to facilitate the M2A works on the grass verge behind the existing chain wire fence. Construction car parking will not be permitted in these spaces.

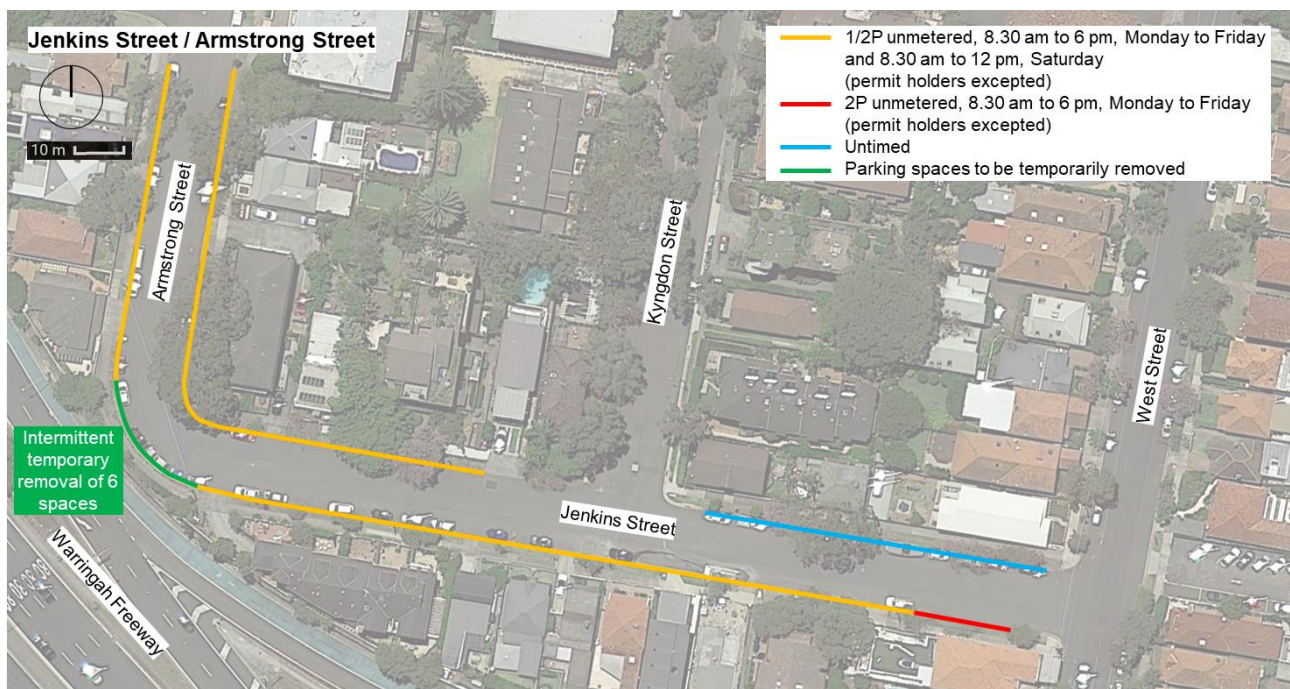


Figure 4-1 Intermittent temporary removal of on-street parking – Jenkins Street / Armstrong Street, Cammeray (indicative only – exact location subject to change)

The removal of these spaces will impact resident / visitor parking servicing adjoining houses. However, existing parking occupancy as detailed in Table 3-2 shows there is spare capacity to accommodate the displacement of parking with a minimum of six unoccupied spaces elsewhere on Jenkins Street / Armstrong Street during the surveyed periods. Therefore, the impact is considered minor and mitigation measures are not required.

Comparison with impacts assessed in the EIS

The WHTWUFU EIS did not assess the impact of parking changes on Jenkins Street / Armstrong Street.

4.3 Massey Street, Cammeray

Impact of parking changes

The noise barrier works will result in the intermittent temporary removal of five on-street parking spaces at the western end of Massey Street between March 2022 to October 2022 for a total of about six weeks (refer to Figure 4-2). The intermittent temporary removal of these spaces is required to facilitate access to the work site for the removal of the existing noise wall and installation of the new noise wall. Construction car parking will not be permitted in these spaces.

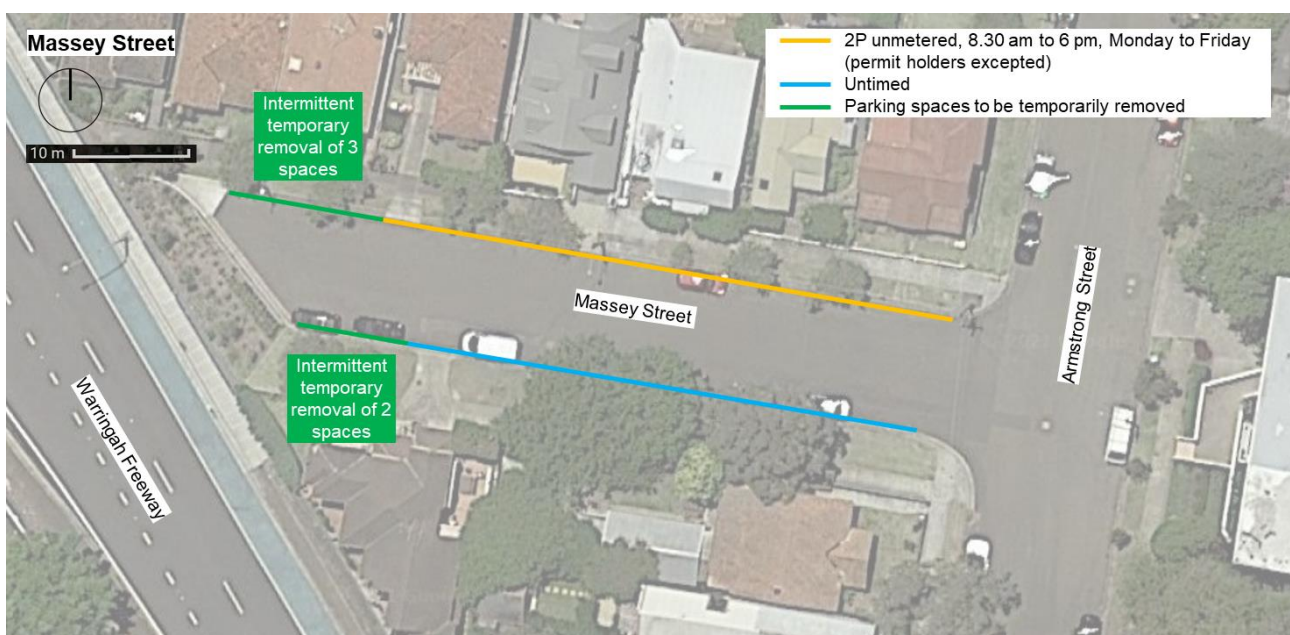


Figure 4-2 Intermittent temporary removal of on-street parking – Cammeray Avenue (adjacent to ANZAC Avenue Reserve), Cammeray (indicative only – exact location subject to change)

The removal of these spaces will impact resident / visitor parking servicing adjoining houses. However, existing parking occupancy as detailed in Table 3-3 shows there is spare capacity to accommodate the displacement of parking with a minimum of six unoccupied spaces elsewhere on Massey Street during the surveyed periods. Therefore, the impact is considered minor and mitigation measures are not required.

Comparison of impacts assessed in the EIS

The WHTWUFU EIS did not assess the impact of parking changes on Massey Street.

5 Mitigation measures

5.1 Potential mitigation measures

Potential measures that were considered to mitigate the identified impacts of the intermittent temporary removal of on-street parking include the following:

- Consultation with affected stakeholders of parking proposed to be removed
- Staging the removal of on-street parking
- Consideration of alternative parking locations and / or arrangements
- Provision of a shuttle bus service for the construction workforce
- Introduction of parking restrictions near work sites where they currently do not exist, or alteration of existing parking restrictions
- Daily workforce parking to be contained within the footprint of individual work sites
- Provision of parking at ancillary facilities
- Ancillary facility design to considered impacts to pedestrian and shared user paths
- Encouraging use of public transport
- Encouraging carpooling (subject to easing of covid restrictions)
- Ongoing communication with the construction workforce on measures to reduce impacts to parking and access
- Parking demand reduction (through the use of other transport modes).

5.2 Construction workforce parking

As described in Section 4.1, construction workforce parking will have a minimal impact on on-street parking given construction workforce parking will be contained within the footprint of the work site. In addition:

- Where practical, essential vehicles (i.e., vehicles carrying tools, plant and other equipment to facilitate works) will be contained within the footprint of each work site with no impact on adjacent on-street parking
- The provision of parking within the footprint of the work site means there will be no requirement to idle and queue on state and regional roads
- The provision of parking within the footprint of the work site, and the limited number of deliveries required at the work site, means there will be no requirement to marshal construction vehicles
- The work site is located on a section of road where pedestrian access is currently not permitted and where cyclists will be diverted onto other routes for the duration of works.

In addition, the following measures will be in place for the construction workforce to reduce the potential for an unexpected impact to occur:

- Encouragement of the use of public transport – through the recruitment and onboarding process and site toolbox talks to reduce the number of private vehicles travelling to and from the work site
- Encouragement of carpooling – site toolbox talks will be utilised to encourage the construction workforce on the same shifts to coordinate with others to carpool to / from similar locations (subject to easing of covid restrictions)

- Communication of parking restrictions to the construction workforce – parking restrictions around the compounds and work sites will be communicated to the construction workforce through site inductions where they will be supplied with a Project Worker Code of Conduct, site toolbox talks, and pre-start meetings as required. Where workers are impacting the amenity of adjacent residents, are not complying with the Project Worker Code of Conduct, or are repeatedly parking inappropriately, they may be required to re-attend the site inductions. Stronger sanctions, up to and including dismissal, may be implemented for repeat offenders at the discretion of the Project Manager.

In accordance with CoA E138, 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 temporary car park acquisition, an alternate route which complies with the relevant standards will be provided and signposted prior to the restriction or removal of the relevant pedestrian and cyclist access. Prior to any alteration to pedestrian and cyclist access arrangements effected stakeholders will be notified in accordance with the CCS.

5.3 Jenkins Street / Armstrong Street, Cammeray

As described in Section 4.2, the impact of the intermittent temporary removal of on-street parking on Jenkins Street / Armstrong Street to facilitate the works, is considered minor. Potential measures that have been considered to mitigate the potential impacts of the intermittent temporary removal of on-street parking on Jenkins Street / Armstrong Street are detailed in Table 5-1. As detailed in Section 2 of this CPAS, no additional mitigation measures were identified following consultation with affected stakeholders associated with the intermittent temporary removal of on-street car parking at this location. Construction car parking will not be permitted in these spaces.

Table 5-1 Consideration of potential mitigation measures – Jenkins Street / Armstrong Street, Cammeray

Potential mitigation measure	Applicability to location	Justification
Consultation with affected stakeholders	Yes	Consultation has occurred with affected stakeholders prior to the removal of car parking and will be ongoing throughout the works.
Staging the removal of on-street parking	Yes	The removal of on-street parking will be staged to occur intermittently to reduce impacts on residents.
Consideration of alternative parking locations and / or arrangements	No	Alternative parking locations have not been considered given there is a minimum of six unoccupied spaces elsewhere on Jenkins Street / Armstrong Street in all surveyed periods to accommodate the displacement of parking.

Potential mitigation measure	Applicability to location	Justification
Provision of a shuttle bus service for the construction workforce	No	<p>A shuttle bus service would not be practical given:</p> <ul style="list-style-type: none"> • There is sufficient parking within the footprint of the work site to cater for the expected maximum size of the construction workforce • The scope of the noise barrier works is tool and equipment-intensive rather than labour-intensive • The varied nature of the works means construction workforce numbers are highly variable.
Introduction of parking restrictions near compounds and work sites where they currently do not exist, or alteration of existing parking restrictions	No	Existing parking restrictions already provide priority to residents with permits.
Daily workforce parking to be contained within the footprint of individual work sites	Yes	Construction workforce parking will be contained within the footprint of the work site.
Provision of parking at ancillary facilities	No	Construction workforce parking will be contained within the footprint of the work site and therefore provision of parking at ancillary facilities will not be required.
Ancillary facility design to considered impacts to pedestrian and shared user paths	No	The work site is located on a section of road where pedestrian access is currently not permitted and where cyclists will be diverted onto other routes for the duration of works.
Encouraging use of public transport	Yes	The construction workforce will be encouraged to use public transport throughout construction.
Encouraging carpooling	Yes	The construction workforce will be encouraged to carpool throughout construction.
Ongoing communication with workforce on measures to reduce impacts to parking and access	Yes	Parking and access impacts will be communicated to the workforce throughout construction via inductions and toolbox talks.

Potential mitigation measure	Applicability to location	Justification
Parking demand reduction (through the use of other transport modes)	No	Parking demand reduction measures have not been considered given there is a minimum of six unoccupied spaces elsewhere on Jenkins Street / Armstrong Street in all surveyed periods to accommodate the displacement of parking.

5.4 Massey Street, Cammeray

As described in Section 4.3, the impact of the intermittent temporary removal of on-street parking on Massey Street to facilitate the works, is considered minor. Potential measures that have been considered to mitigate the potential impacts of the intermittent temporary removal of on-street parking on Massey Street are detailed in Table 5-2. As detailed in Section 2 of this CPAS, no additional mitigation measures were identified following consultation with affected stakeholders associated with the removal of on-street car parking at this location. Construction car parking will not be permitted in these spaces.

Table 5-2 Consideration of potential mitigation measures – Massey Street, Cammeray

Potential mitigation measure	Applicability to location	Justification
Consultation with affected stakeholders	Yes	Consultation has occurred with affected stakeholders prior to the removal of car parking and will be ongoing throughout the works.
Staging the removal of on-street parking	Yes	The removal of on-street parking will be staged to occur intermittently to reduce impacts on residents.
Consideration of alternative parking locations and / or arrangements	No	Alternative parking locations have not been considered given there is a minimum of six unoccupied spaces elsewhere on Massey Street in all surveyed periods to accommodate the displacement of parking.

Provision of a shuttle bus service for the construction workforce	No	<p>A shuttle bus service would not be practical given:</p> <ul style="list-style-type: none"> • There is sufficient parking within the footprint of the work site to cater for the expected maximum size of the construction workforce • The scope of the noise barrier works is tool and equipment-intensive rather than labour-intensive • The varied nature of the works means construction workforce numbers are highly variable.
Introduction of parking restrictions near compounds and work sites where they currently do not exist, or alteration of existing parking restrictions	No	Existing parking restrictions already provide priority to residents with permits.
Daily workforce parking to be contained within the footprint of individual work sites	Yes	Construction workforce parking will be contained within the footprint of the work site.
Provision of parking at ancillary facilities	No	Construction workforce parking will be contained within the footprint of the work site and therefore provision of parking at ancillary facilities will not be required.
Ancillary facility design to considered impacts to pedestrian and shared user paths	No	The work site is located on a section of road where pedestrian access is currently not permitted and where cyclists will be diverted onto other routes for the duration of works.
Encouraging use of public transport	Yes	The construction workforce will be encouraged to use public transport throughout construction.
Encouraging carpooling	Yes	The construction workforce will be encouraged to carpool throughout construction.
Ongoing communication with workforce on measures to reduce impacts to parking and access	Yes	Parking and access impacts will be communicated to the workforce throughout construction via inductions and toolbox talks.

Parking demand reduction (through the use of other transport modes)	No	Parking demand reduction measures have not been considered given there is a minimum of six unoccupied spaces elsewhere on Massey Street in all surveyed periods to accommodate the displacement of parking.
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6 Monitoring and reporting

6.1 Monitoring of mitigation measures

Monitoring to assess the effectiveness of this CPAS will be undertaken on roads that have been impacted by the intermittent temporary removal of on-street parking, i.e., Jenkins Street / Armstrong Street and Massey Street, Cammeray.

Inspections will be undertaken once a week when parking has been temporarily removed and will involve the following:

- Confirmation that where alternative parking arrangements have been provided, these are being implemented
- Monitoring the impacts of the removal of on-street parking on surrounding roads
- Inspections for the presence of construction workforce parking on local roads.

Inspections will be undertaken by project engineers. The Project Manager will be responsible for implementing the mitigation measures contained in this CPAS with support from the Traffic Manager.

6.2 Corrective actions

Where monitoring or community complaints identify non-conformances with this CPAS, corrective actions will be undertaken through the project's non-conformance works procedure. Corrective actions will be documented as per the procedure. Where practicable, non-conformances and corresponding corrective actions will be communicated to the construction workforce and reinforced through various communications including but not limited to:

- Site toolbox talks
- Pre-start meetings
- Project alerts
- Investigation and implementation of alternative methods to reinforce this CPAS
- Investigation and implementation of other viable options for the construction workforce to use public transport
- Issue warning notices where the owner of an offending vehicle can be identified
- Documenting actions in weekly and monthly internal reports.

Refer to Section 3.8 of the Construction Environmental Management Plan (CEMP) for further detail on environmental non-conformances.

6.3 Reporting

A quarterly summary report will be provided to North Sydney Council, DPE and TfNSW regarding the outcomes of the monitoring that has been undertaken in the preceding quarter. Details of non-conformances and corrective actions will be summarised.

6.4 Contingency measures

Contingency measures will depend on the issues / non-conformances identified during monitoring and the effectiveness of corrective actions that have been implemented as described in Sections 6.1 and 6.2, respectively.

Contingency measures will be investigated if it is determined that the corrective actions implemented are ineffective, and may include:

- Investigating the potential to provide additional off-street parking for the construction workforce
- Revising site induction and site toolbox talk content to better encourage the use of public transport and communicate designated and prohibited locations for construction workforce parking
- Amending carpooling communications to encourage an increase in participation rates
- Implementing disciplinary processes for repeated non-conformances.

6.5 Update and amendment of this CPAS

Any revisions to this CPAS will be in accordance with the process outlined in Section 3.12 of the CEMP and will be provided to TfNSW for review and comment and forwarded to the Secretary of DPE for approval.

A copy of the updated CPAS and record of changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure.

Appendix A1 Parking survey data

	Monday 9 Dec				Tuesday 10 Dec				Wednesday 11 Dec				Thursday 12 Nov				Friday 13 Dec				Saturday 14 Nov		Sunday 15 Dec	
	8.30am	3pm	5pm	10pm	8.30am	3pm	5pm	10pm	8.30am	3pm	5pm	10pm	8.30am	3pm	5pm	10pm	8.30am	3pm	5pm	10pm	12pm	11pm	12pm	11pm
Jenkins Street / Armstrong Street	45	42	45	52	40	52	49	50	41	47	44	47	43	45	40	48	45	42	40	51	49	50	47	52
Massey Street	9	7	9	11	7	13	8	9	8	9	12	12	7	10	9	11	9	9	8	10	8	12	8	10
	Average weekday																							
	8.30am	3pm	5pm	10pm																				
Jenkins Street / Armstrong Street	43	46	44	50																				
Massey Street	8	10	9	11																				
	Average weekend																							
	12pm	11pm																						
Jenkins Street / Armstrong Street	48	51																						
Massey Street	8	11																						

Appendix A2 Additional CoA and REMM compliance table

Additional CoA and REMM relevant to the development of the noise barrier works CPAS are presented in Table A-6-5 below.

Table A-6-5 CoA and REMM relevant to the development of this CPAS

Source / Condition	Condition requirements	Where addressed in CPAS
CoA 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 5 Also refer to the TTAMP
CoA 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 5 Also refer to the TTAMP
CoA 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.	N/A – No bus stops will be required to be closed as part of the noise barrier works subject to this CPAS.
CoA 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	N/A – No bus stops will be required to be closed as part of

Source / Condition	Condition requirements	Where addressed in CPAS
	capacity, amenity and accessibility (including footpaths and road crossings) in consultation with relevant council(s).	the noise barrier works subject to this CPAS.
REMM 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 5 Also refer to the TTAMP
REMM 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.	N/A – No bus stops will be required to be closed as part of the noise barrier works subject to this CPAS.