

Appendix B8: Traffic and Transport Management Sub- Plan

NEWCASTLE INNER CITY BYPASS – RANKIN PARK TO JESMOND
(STAGE 4 – MAIN WORKS)

ACKNOWLEDGMENT OF COUNTRY

Fulton Hogan acknowledges the Awabakal People as the Traditional Owners of the land we are working on, and pay our respect to their Elders past, present and emerging.

We recognise their deep connection to Country and value the contribution to caring for, and managing the land and water.

We are committed to pursuing genuine and lasting partnerships with Traditional Owners to understand their culture and connections to Country in the way we plan for and carry out the delivery of the Works.



Artwork by Luke Penrith, from Fulton Hogan's Reconciliation Action Plan.

Luke Penrith is a modern contemporary Aboriginal Artist living in Brungle NSW, Wiradjuri Country. His ancestry is connected through the Wiradjuri, Woijobaluk, the Yuin and the Gumbaynggirr Nation.

Document control

This is an e-copy of the Plan and it interfaces with the other associated plans, which together describe the proposed overall project management system for the project.

The latest revision of this plan is available on the Fulton Hogan server. If any unsigned hard copies of this document are printed, they are valid only on the day of printing.

The revision number is included at the bottom of each page. When revisions occur, the entire document will be issued with the revision number updated accordingly for each owner of a controlled copy.

Attachments/Appendices to this plan are revised independently of this plan.

Revision history

REV	DATE	AUTHOR / REVISED BY	ENDORSED BY	BRIEF DESCRIPTION OF CHANGE
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Glossary/ Abbreviations

TERM/ ABBREVIATION	DEFINITION
CCS	Community Communication Strategy
CEMP	Construction Environmental Management Plan
CoA	Condition of Approval
Construction	Has the same meaning as the definition of the term in the Project Approval
Construction Boundary	Has the same meaning as the definition of the term in the Project Approval: The area physically affected by works described in documents listed in Condition A1.
Department/ DPE	NSW Department of Planning and Environment
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPA	NSW Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPL	Environment Protection Licence
ER	Environmental Representative for the SSI
EWMS	Environmental Work Method Statement
TTMP	Traffic and Transport Management Sub-Plan
HP	Hold Point: a point in the construction or verification process beyond which work may not proceed without receiving authorisation from the appropriate party.
Minister, the	NSW Minister for Planning
NA	Not applicable
Non-compliance	Has the same meaning as the definition of the term in the Project Approval: An occurrence, set of circumstances or development that is a breach of the Project Approval. This includes a failure to comply with the processes included within this CEMP.
Non-conformance	Failure to conform to the requirements of project or Fulton Hogan system documentation.
OEMP	Operational Environmental Management Plan
Planning Secretary, the	Planning Secretary of the DPE (or nominee, whether nominated before or after the date on which the Project Approval was granted.
POEO Act	<i>Protection of the Environment Operations Act 1997 (NSW)</i>
Project, the	Newcastle Inner City Bypass Rankin Park to Jesmond
Project Approval, the	The Minister's approval for the SSI.
Relevant Council(s)	Has the same meaning as the definition of the term in the Project Approval: Lake Macquarie City Council and City of Newcastle, as relevant.
REMM	Revised Environmental Management Measure

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Newcastle Inner City Bypass – Rankin Park to Jesmond (Stage 4 – Main Works)



TERM/ ABBREVIATION	DEFINITION
RMS	Roads and Maritime Services (now TfNSW)
SSI	State Significant Infrastructure, as generally described in Schedule 1 of the Project Approval, the carrying out of which is approved under the terms of the Project Approval.
SWTC	TfNSW Scope of Works and Technical Criteria
TfNSW	Transport for NSW
TTMP	Traffic and Transport Management Sub-Plan
TMSP	Traffic Management and Safety Plan
UDLP	Urban Design and Landscape Plan
Work(s)	Has the same meaning as the definition of the term in the Project Approval: All physical activities to construct or facilitate the construction of the SSI, including environmental management measures and utility works. however, does not include work that informs or enables the detailed design of the SSI and generates noise that is no more than 5 dB(A) above the rating background level (RBL) at any residence
VMP	A diagram showing the preferred travel paths for vehicles associated with a work site entering, leaving or crossing the through traffic stream. A VMP may be combined with or superimposed on a TGS.
P&CMP	Pedestrian & Cyclist Management Plan. A diagram showing the allocated travel paths for workers or pedestrians around or through a work site. A P&CMP may be combined with or superimposed on a TGS
TGS	Traffic Guidance Scheme. A diagram showing signs and devices arranged to warn traffic and to guide it around, past or if necessary through a work site or temporary hazard.

1. Introduction

1.1. Purpose

This Traffic and Transport Management Sub-Plan (TTMP) describes how Fulton Hogan will manage construction of the Newcastle Inner City Bypass - Rankin Park to Jesmond (RP2J) Project (the project) to ensure that impacts on traffic and transport are minimised.

This TTMP has been prepared to detail how Fulton Hogan will comply with the project approval, and implement and achieve relevant performance outcomes, commitments and mitigation measures specified in the EIS as amended by the SPIR and subsequent Modification 1 Submissions Report (also known as 'Revised Environmental Management Measures' (REMMs)) during construction of the project. Additionally, this TTMP has been prepared to address the requirements of the Scope of Works and Technical Criteria (SWTC) Appendix 27 – Road Occupancy Execution and Appendix 18 – Traffic Signals and ITS Execution.

For the avoidance of doubt, the CEMP (including this TTMP) relates to the construction phase only. Detailed design environmental requirements will be addressed as part of the detailed design phase, separate to the CEMP approvals process. Detailed design is generally completed about six months after CEMP approval. In addition, operational environmental requirements will be met during the operational phase (upon the completion of construction) and addressed in the Operational Environmental Management Plan (OEMP) or Environmental Management System (EMS) as agreed with the Planning Secretary in accordance with CoA D3.

1.2. Background

Chapter 8 of the EIS assessed the extent and magnitude of potential impacts of construction and operation of the project on traffic and transport. As part of this, a detailed traffic and transport assessment was undertaken and included in the EIS as:

- EIS Appendix F – Technical Paper 2 – Traffic and Transport Assessment, prepared by Aurecon for RMS, dated November 2016.
- Aurecon Australasia Pty Ltd (Aurecon) 2018, Newcastle Inner City Bypass, Rankin Park to Jesmond, Technical Paper 2 – Traffic and Transport Assessment – Supplementary Report
- Aurecon Australasia Pty Ltd (Aurecon) 2019, Newcastle Inner City Bypass Rankin Park to Jesmond – Bridge 7 Early Work: Division 5.2 and EPBC Act Approval Consistency assessment report Detailed Design Changes.
- Bowditch Group 2020, Newcastle Inner City Bypass Rankin Park to Jesmond – Stage 3, Package 1 detailed design changes: Division 5.2 and EPBC Act approval (SSI 6888) consistency review.
- Newcastle Inner City Bypass - Rankin Park to Jesmond Modification report: additional construction compounds' (TfNSW, May 2021)
- Newcastle Inner City Bypass - Rankin Park to Jesmond Modification report: additional construction compounds Submissions report' (TfNSW, September 2021)

An additional three potential ancillary facilities were approved as part of the Modification 1 Submissions Report (referred to as Lookout Road site, Cardiff Road site and Peatties Road site).

For the avoidance of doubt:

- The Astra Street site proposed as part of the Modification 1 Report was no longer proposed to be used as part of the Modification 1 Submissions Report.
- Fulton Hogan does not intend on using the Peatties Road site. As a result, the potential traffic impacts associated with the use of this compound are not addressed in the Management Plan.
- Construction Compound D & E are not currently proposed for use by Fulton Hogan. As a result, the potential traffic impacts associated with the use of this compound are not addressed in this Management Plan.

1.3. Structure of TTMP

This TTMP is part of Fulton Hogan's environmental management framework for the project and is supported by other documents, such as Traffic and Safety Management Plan, Traffic Staging Drawings, Traffic Guidance Schemes, Pedestrian and Cyclist Management Plans and Vehicle Movement Plans. The review and document control processes for this TTMP are described in Chapters 11 and 12 respectively of the CEMP.

1.4. Consultation for preparation of the TTMP

In accordance with CoA C4(a), consultation with City of Newcastle and Health Administration Corporation has been undertaken during the preparation of this TTMP. In addition, consultation with Emergency Services has been undertaken to satisfy the requirements of REMM TT08.

A summary of the key issues raised is provided below. It is noted that at the date of Revision 4 of the TTMP, Fire NSW had provided no further comments. There were no outstanding issues in relation to the comments received from Newcastle City Police District, City of Newcastle or Health Administration Corporation.

Health Administration Corporation

Health Administration Corporation provided comments generally in regards to vehicle movements in the JHH road Network and confirmation of access provisions to the hospital.

The TTMP was revised (Rev 3) in response to these comments and reissued to Health Administration Corporation. Fulton Hogan's response either noted the comment, outlined how each comment is addressed within the revised TTMP, other project documentation, or as part of the detailed design process. Health Administration Corporation responded to the TTMP Rev 3 submission with some additional comments specifically in regards to contractual interface issues. The comments register was updated to address the additional comments, with Health Administration Corporation confirming close out of all comments on 10/11/2022.

Health Administration Corporation confirmed their acceptance of comments in relation to the TTMP.

City of Newcastle

City of Newcastle provided comments generally in regards to proposed HV route at the Southern interchange and the use of Walford Road.

The TTMP was revised in response to these comments to provide clarification around the HV route and reissued to City of Newcastle. Fulton Hogan responded to City of Newcastle and either noted the comment, outlined how each comment is addressed within the revised TTMP, other project documentation.

City of Newcastle confirmed its comments had been satisfactorily addressed and it has no further comments in relation to the TTMP.

Newcastle City Police District

Newcastle City Police District advised that it had no objections with the provided documentation or proposed works, and noted that ongoing communication with regards to impact to roads will be helpful. Fulton Hogan responded to Newcastle City Police District outlining the ongoing consultation requirements in the TTMP and other project documentation. Newcastle City Police District confirmed on Monday 31st October 2022 that they have no objections with the documentation provided to-date.

Fire NSW

Fire NSW confirmed no comments or feedback on the TTMP from members of the Newcastle Bushfire Management Committee or Fire & Rescue NSW.

Copies of all consultation correspondence is included at Appendix A5 of the CEMP.

Ongoing consultation will be undertaken during detailed design and construction of the project as required by the project approval. This will be subject to a separate consultation process to that required for preparation of this TTMP and undertaken in accordance with the Community Communication Strategy (CCS) approved by the Planning Secretary under CoA B3.

Table 4 of the CCS provides an overview of the communication tools/methods that will be used for ongoing consultation.

Table 3 of the CCS addresses the potential issues that are likely, or known to be of interest or concern to community and stakeholders for the project. Traffic management is listed as a potential issue that may cause an impact through ‘disruptions, delays and temporary detours’ and ‘minimising the impact and maintaining access to local residents, businesses, pedestrians, cyclists, motorists and emergency vehicles’ and the CCS states that the communication strategy involves consulting with councils on any staging of local road network, parking, pedestrian and cycle infrastructure’ and consulting with bus operators for changes to bus stop locations, as required.

2. Objectives, targets and environmental performance outcomes

2.1. Objectives

The key objective of the TTMP is to ensure that impacts to traffic and transport are minimised and within the scope permitted by the project approval. To achieve this objective, Fulton Hogan will undertake the following:

- Ensure appropriate controls and procedures are implemented during construction activities to avoid or minimise potential adverse impacts to traffic and transport along the Project corridor
- Ensure appropriate measures are implemented to address the relevant CoA and REMMs outlined in Table 2 and Table 3 respectively.
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Chapter 3 of this TTMP.

2.2. Targets

The following targets have been established for the management of traffic and transport impacts during the project:

- Ensure full compliance with the relevant legislative requirements, CoA and REMMs outlined in Table 2 and Table 3 respectively.
- Minimise or avoid impacts on traffic and transport.

2.3. Environmental performance outcomes

The construction-related environmental performance outcomes relevant to this TTMP are listed in Table 1. A cross reference is also included to indicate where the environmental performance outcome is addressed in this TTMP in terms of how it will be implemented and achieved.

► Table 1: Environmental performance outcomes relevant to traffic and transport management

KEY ISSUE (PAGE XVIII OF THE EIS)	ENVIRONMENTAL PERFORMANCE OUTCOME	HOW IMPLEMENTED AND ACHIEVED
Traffic and access – temporary disruptions on existing roads and to property access during construction.	Additional connectivity for pedestrians, cyclists and recreational users of the bushland area.	Planning temporary arrangements, which minimise disruption to local and through traffic and maintain access to adjacent properties during construction as detailed in Section 7

3. Legal and other requirements

3.1. Legislation

Legislation relevant to traffic and transport management includes:

- Roads Act 1993
- Road Transport Act 2013
- Transport Administration Act 1988
- Local Government Act 2013.

Identified regulatory requirements are:

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

Legislation relevant to traffic management also includes the Environmental Planning and Assessment Act 1979 (EP&A Act), under which the project approval was granted. Relevant provisions of the above legislation are explained in the Register of Legal and Other Requirements included in Appendix A1 of the CEMP.

3.2. Guidelines and standards

The main guidelines, standards and policy documents relevant to this TTMP include:

- Specification D&C G10 – Traffic Management (NICB Rankin Park to Jesmond) June 2022
- Specification D&C G22 – Traffic Management (NICB Rankin Park to Jesmond) June 2022
- TfNSW Traffic Control at Work Sites Manual V6.1 February 2022
- TfNSW Roads Occupancy Manual
- NSW Speed Zoning Guidelines
- NSW Bicycle Guidelines
- Austroads Traffic Engineering Practice – Part 14
- NSW Government - The Guide to Traffic and Transport Management for Special Events
- RMS Supplements to Australian Standards and Austroads
- AS 1742.3 : Manual of Uniform Traffic Devices:
 - Part 1 - General Introduction and Index of Signs
 - Part 2 - Traffic Control Devices for General Use
 - Part 3 - Traffic Control Devices for Work on Roads
 - Part 4 - Speed Controls
 - Part 10 - Pedestrian Control and Protection
 - Part 11 - Parking Controls
 - Part 13 - Local Area Traffic Management

3.3. Conditions of approval

The CoA relevant to this TTMP are listed in Table 2. A cross reference is also included to indicate where the condition is addressed in this TTMP or other project management documents.

► Table 2: Conditions of approval relevant to TTMP

CoA No.	CONDITION REQUIREMENTS	DOCUMENT REFERENCE
PART C - CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN		
C5	The CEMP Sub-plans must state how:	
(a)	the environmental performance outcomes identified in the documents listed in Condition A1 and terms of this approval will be achieved;	Section 2.3
(b)	the mitigation measures identified in the documents listed in Condition A1 and terms of this approval will be implemented;	Through the implementation of this TTMP (in particular refer to Section 3.4).
(c)	the relevant terms of this approval will be complied with; and	Through the implementation of this TTMP
(d)	issues requiring management during construction, as identified through ongoing environmental risk analysis, will be managed.	Chapter 5, second paragraph Chapter 6
C6	The CEMP Sub-plans must be developed in consultation with the relevant public authorities specified in Table 3 . Details of all information requested by an authority to be included in a CEMP Sub-plan as a result of consultation, including copies of all correspondence from those authorities, must be provided with the relevant CEMP Sub-Plan .	Section 1.4
C7	Any of the CEMP Sub-plans may be submitted along with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction for approval by the Planning Secretary.	CEMP (main section) Section 1.4
C8	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary, or as 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 SSI is staged, construction of a stage must not commence until the CEMP and sub-plans for that stage have been approved by the Planning Secretary.	CEMP (main section) Section 1.4
PART E – TRAFFIC AND TRANSPORT		
E62	All road roads within one (1) kilometre of the SSI (including construction ancillary facilities) proposed to be used by heavy	Section 5.2

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CoA No.	CONDITION REQUIREMENTS	DOCUMENT REFERENCE
	vehicles for the SSI must be identified in the Construction Traffic and Transport Management Sub-plan .	
E63	Local roads proposed to be used by heavy vehicles for the SSI works that were not assessed in the documents listed in Condition A1 must be approved by the Planning Secretary through the Construction Traffic and Transport Management Sub-plan (including any revisions to the sub-plan that identify additional local roads). (a) demonstrate that the use of local roads will not compromise the safety of the public and have no more than minimal amenity impacts; (b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and (c) describe the measures that will be implemented to minimise safety and amenity impacts to any schools, aged care facilities and child care facilities during their peak operation times.	Section 5.2.3 and 5.2.4
E64	The requirements of Conditions E62 and E63 in relation to Bridge 7 may be addressed by the documents required under Condition A9 .	TfNSW has completed construction of Bridge 7 in accordance with CoA E64 as documented in the TfNSW Staging Report Newcastle Inner City Bypass – Rankin Park to Jesmond (TfNSW, July 2022)
E65	Heavy vehicles must only use Construction Access Road 2 (as shown in Figure 2 in Appendix A) in the John Hunter Hospital precinct for the early works establishment of Construction Compound A, unless otherwise agreed by the Health Administration Corporation. <i>Note: Heavy vehicles movements associated with Condition E65 must comply with the construction hours specified in Conditions E26 and E27.</i>	Section 5.3 As per Modification Report 1 (2021) Construction Compound A is unavailable for use. .
E66	Heavy vehicle movements through the John Hunter Hospital precinct must be identified in the Construction Traffic and Transport Management CEMP Sub-plan. The Construction Traffic and Transport Management CEMP Sub-plan must include the following: (a) number of heavy vehicle movements; (b) frequency of heavy vehicle movements; (c) deliveries outside the construction hours identified in Condition E26; and (d) governance arrangements to address acute traffic management issues. <i>Note: These requirements are additional to the requirements of Part C of</i>	Section 5.3 <i>As per Modification Report 1 (2021) Construction Compound A is unavailable for use.</i>

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CoA No.	CONDITION REQUIREMENTS	DOCUMENT REFERENCE
	<i>this approval.</i>	
E67	At no time must heavy vehicles associated with the construction of the SSI, travel through the John Hunter Hospital precinct, except as permitted by Condition E65 .	Section 5.3 <i>As per Modification Report 1 (2021) Construction Compound A is unavailable for use.</i>
E68	Before any local road is used by a heavy vehicle for the purposes of construction of the SSI (including the establishment of ancillary facilities), a Road Dilapidation Report must be prepared for the road, unless otherwise agreed by the Planning Secretary. The Road Dilapidation Report must be prepared by a suitably qualified person before the commencement of works that have the potential to damage local roads (and associated infrastructure). A copy of the Road Dilapidation Report must be provided to the landowner and relevant roads authority within three weeks of completion of the surveys and no later than one (1) month before the use of local roads by heavy vehicles for the construction of the SSI.	Section 5.8
E69	If damage to roads or road related structures occurs as a result of the construction of the SSI, the Proponent must either (at the landowner's discretion): (a) compensate the landowner for the damage so caused. The amount of compensation may be agreed with the landowner, but compensation must be paid even if no agreement is reached; or (b) rectify the damage to restore the road or road related structure to at least the condition it was in pre-construction.	Section 5.9
E70	During the carrying out of work for the SSI, 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 the affected businesses and properties and implemented before the disruption occurs. Signage and directions to businesses must be provided before, and for the duration of, any disruption.	Section 5.7
E70A	To ensure pedestrian, cyclist and motorist safety on Peatties Road, the Proponent must ensure that traffic control is present to manage: (a) vehicle movements at the entry/exit point to the Peatties Road ancillary facility during the following times: (i) On school days between 7:00 am to 9:00 am and 2.30 to 4.00pm, if the pedestrian footpath required under Condition E71A crosses the entry/exit point to the Peatties Road ancillary facility; and	SWTC Exhibit B – gate Schedule does not provide access to this facility. Facility will not be utilised by FH and therefore Traffic and Transport requirements have not been addressed.

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CoA No.	CONDITION REQUIREMENTS	DOCUMENT REFERENCE
	(ii) at any time heavy vehicles are entering and leaving the Peatties Road ancillary facility; and (b) heavy vehicles associated with the construction of the SSI that are entering or exiting Peatties Road.	
Pedestrian and Cyclist Access		
E71	Safe pedestrian and cyclist access must be maintained around work sites for the duration of construction. In circumstances where pedestrian and cyclist access are restricted or removed due to construction activities, an alternate route (temporary or permanent) which complies with the relevant standards must be provided and signposted.	Section 5.4
E71A	Before work commences at the Peatties Road ancillary facility, the Proponent must provide a temporary footpath between Charlestown Road and at least 5 metres past the Peatties Road ancillary facility entry/exit point. The Proponent must consult City of Newcastle on the design and location of the path and it must be constructed in accordance with the relevant standards. This condition does not prevent the relocation and connection of utilities where the relocation or connection has a minor impact to the environment and sensitive receivers as determined by the ER.	SWTC Exhibit B – Site Access Schedule does not provide access to this facility. Facility will not be utilised by FH and therefore Traffic and Transport requirements have not been addressed.
E72	The SSI's shared paths must be designed to discourage pedestrian access onto the bypass. <i>Note: The intention is to discourage pedestrians and/or cyclist from inadvertently accessing the bypass for safety reasons</i>	Detailed Design
E73	The Jesmond Park parking area must be reviewed and optimised to include the replacement of disabled car parking removed by the SSI, in consultation with City of Newcastle. This parking must be provided before the removal of on street parking on Newcastle Road.	Detailed Design and in consultation with City of Newcastle in accordance with the CCS.
Fire trails		
E74	Alternate fire trails must be provided and implemented in consultation with the relevant fire authorities.	Detailed Design CCS Section 4.6

3.4. Revised environmental management measures

Relevant construction-related REMMs from the Modification 1 Submissions Report are listed in Table 3. A cross reference is also included to indicate where the measure is addressed in this TTMP or other project management documents.

► Table 3: Revised environmental management measures relevant to TTMP

ID No.	Revised environmental management measure	Document reference
Traffic and transport		
Construction traffic impacts		
TT01	Roads and Maritime will carry out further consultation with NSW Health Infrastructure, Hunter New England Local Health District and Ronald McDonald House during detailed design to minimise potential impacts associated with use of the hospital road network for construction access.	As per Modification Report 1 (2021) Construction Compound A is unavailable for use.
Property access impacts		
TT02	During detailed design, Roads and Maritime will carry out consultation with affected landowners about changes to property access.	Detailed Design and CCS
Fire trail impact		
TT03	Consultation with relevant fire authorities will be carried out during the detailed design phase regarding the construction of additional fire trails.	Detailed Design and CCS
Public transport impacts		
TT04	Roads and Maritime will carry out consultation with bus service providers during detailed design to manage potential impacts to bus operations and identify need for temporary and/or permanent relocation of bus stops.	Detailed Design and CCS
Parking impacts		
TT05	Roads and Maritime will carry out consultation with Newcastle City Council to determine if replacement disabled parking spaces are required in the dedicated carpark in Jesmond Park.	Detailed Design and CCS
Impacts on access in the bushland area		

ID No.	Revised environmental management measure	Document reference
TT06	During detailed design, Roads and Maritime will investigate the feasibility of an additional pedestrian access point across the proposed road corridor in the bushland area in consultation with nearby landowners, in order to provide improved connectivity between the John Hunter Hospital precinct and residential areas to the west.	Detailed Design Pedestrian access has been provided as per Construction of Bridge 9 and a shared connection with the hospital interchange (joining east west).
Construction traffic impacts		
TT07	A construction traffic management plan (CTMP), including a vehicle movement plan, will be prepared in accordance with: - Roads and Maritime <i>QA Specification G10</i> (Roads and Maritime 2015c) - Roads and Maritime's <i>Traffic Control at Work Sites</i> (Roads and Traffic Authority 2010) - Relevant Australian Standards such as <i>Australian Standard (AS) 1742 – Manual of Uniform Traffic Control Devices</i> (Standards Australia 2014a).	Section 7 This TTMP
TT08	The TTMP will be developed in consultation with, as relevant, Newcastle City Council, NSW Health Infrastructure, Hunter New England Local Health District and emergency service providers. The plan will specify all requirements related to construction traffic and transport including:	This TTMP Community Communication Strategy (CCS)
	Details of heavy haulage routes	Section 5.2
	Traffic Guidance Schemes for work area including access to the site. This will include details of site specific traffic control measures (including signage) to manage traffic movements	Section 7.3.1
	Road safety audit requirements	Section 8.5.1
	Requirements for condition surveys of roads before the start of construction	Section 5.8
	Parking arrangements for construction staff	Section 5.6 and Section 7.7
	Access arrangements at construction sites detailing vehicle access movements	Section 5.2 and Appendix A1
	Notification requirements for changes to the existing road network	Section 7.3 and 7.4 Community Communication Strategy (CCS)
	Notification requirements for changes to property access, bus stops and pedestrian/cyclist facilities	Section 7.6, 7.7 and 7.8 Community Communication Strategy (CCS)

Appendix B8: Traffic and Transport Management Sub-Plan

Newcastle Inner City Bypass – Rankin Park to Jesmond (Stage 4 – Main Works)



ID No.	Revised environmental management measure	Document reference
TT09	The contractor would obtain any licences and permits, such as a road occupancy licence, which would be required for any work or traffic controls in a public road.	Section 7.3 and 7.4
Property access impacts		
TT10	In order to minimise access impacts, in consultation with residents the construction contractor will: ▪ Provide vehicle access as far as practical/safe to enable residents, visitors and patrons to park inside the affected property ▪ Where vehicle access is not available, pedestrian access would be provided where practical/safe ▪ Where pedestrian access is unavailable for safety reasons, pedestrians can be escorted through the construction site by pre-arrangement with the construction contractor.	Section 5.7 Section 7.8
Jesmond Park shared path impacts		
TT11	In order to minimise the impacts to users of the Jesmond Park shared path during construction Roads and Maritime will: ▪ Construct the new shared path bridge (Bridge 7) over Newcastle Road and associated connections as early work ▪ Provide pedestrian and cyclist access across the construction footprint on the southern side of Newcastle Road for limited periods of time where safe and practical to do so ▪ Construct the new overpass bridge (Bridge 8) and underpass arrangement for the Jesmond Park shared path as soon as practicable.	TfNSW has completed construction of Bridge 7 in accordance with this CoA E64 as documented in the TfNSW RP2J Staging Report Rev 2 (Aug 2019) Section 7.5

4. Existing conditions

4.1. Existing road network

The existing road network of Local and Regional roads in the vicinity of the Project is shown in Figure 1 below. The RP2J Project is located in the suburbs of Jesmond, North Lambton, New Lambton and Rankin Park within the Newcastle Local Government area. The project is approximately 11 kilometres west of the Newcastle Central Business District and about 160 kilometres North of Sydney.

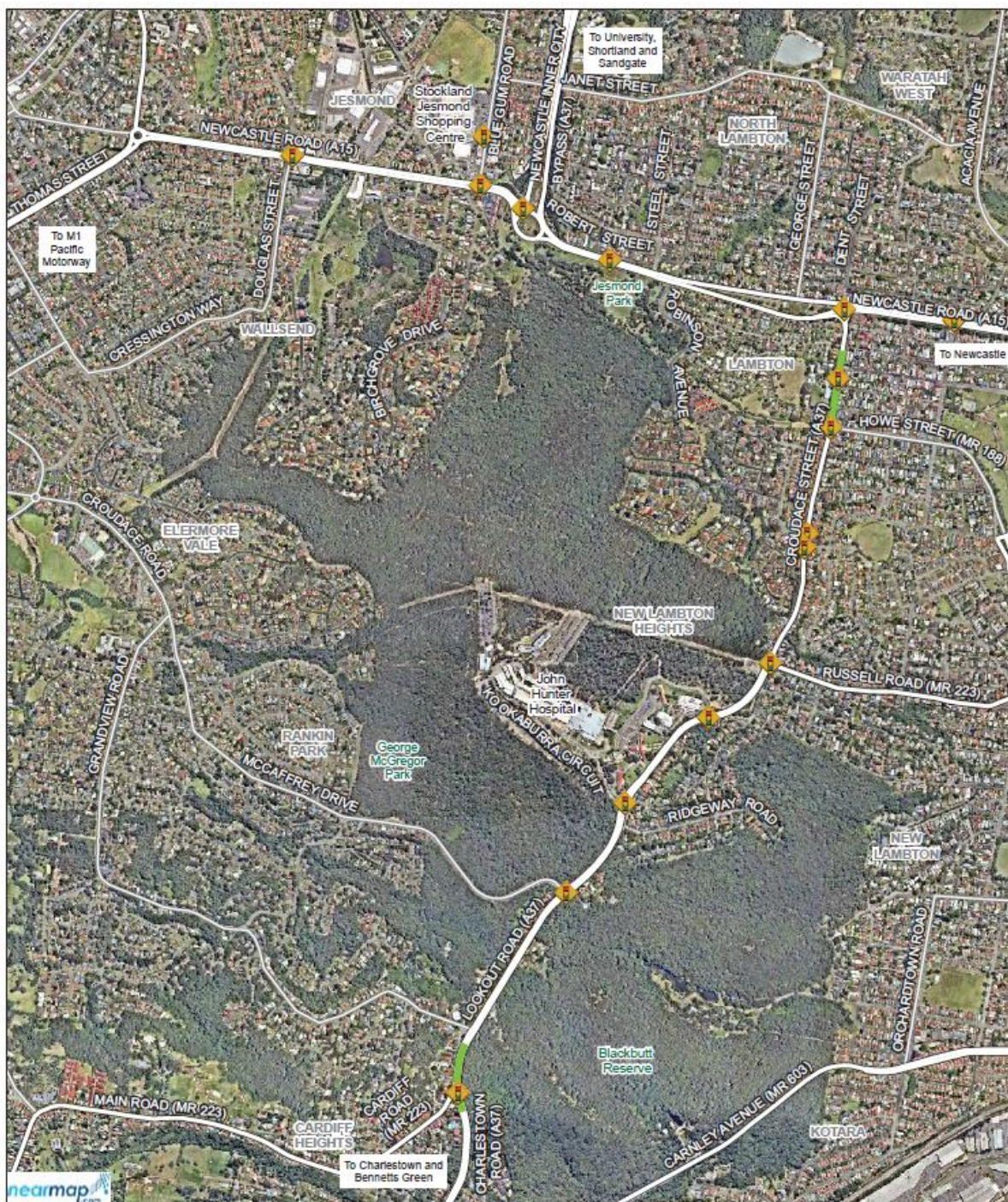


Figure 1: Existing road network (photo from page 48 EIS Vol 1)

State and arterial roads that provide key traffic movements in the vicinity of the project include:

- **Route A15** is the main east-west road transport route through Newcastle, providing road connection between the city and national and state highways located to the west. The route links the M1 Pacific Motorway and Hunter Expressway (route M15) at West Wallsend, and Stewart Avenue (Pacific Highway route A43) at Newcastle West. Route A15 connects with a number of other arterial roads, including: Lake Road (route B53) which is the main arterial road servicing the western side of Lake Macquarie; and Turton Road (route B63) which links the northern suburbs of Newcastle and the Port of Newcastle with suburbs to the south such as Kotara and Broadmeadow.
- **Route A37** is a key north-south road transport route through Newcastle, providing an alternate 'bypass' route to the Pacific Highway that avoids the inner suburbs of the city. The route connects the Pacific Highway (route A43) at Bennetts Green in the south and again at Sandgate (route A43) in the north. Route A37 shares a section of Route A15 between the intersection with Newcastle Road (Jesmond Roundabout) and Croudace Street. The section of Route A37, from Charlestown Road to Newcastle Road is located along a major ridge line over the majority of its length. The A37 route is along Charlestown Road, Lookout Road and Croudace Street, and is intersected by a number of regional roads, all of which are signalised intersections.
- **Route A43** is a major arterial route that forms a link between the north and west of Newcastle including the Pacific Highway and New England Highway with the Port of Newcastle, inner Newcastle and Lake Macquarie to the south. Within the vicinity of the project – A43 is a nominated restricted access vehicle route consisting of Maitland Rd, Industrial Drive with a key intersection with B63.
- **Route B63** is a key restricted access vehicle route that links the northern suburbs of Newcastle and the Port of Newcastle with suburbs to the south such as Kotara and Broadmeadow. In the localised vicinity of the project it consists of Turton Road, Tourle Street and Cormorant Road.
- **Route B53** (Lake Road) this route connects Newcastle Road with areas to the south of Newcastle such as Lake Macquarie

Regional roads that intersect with the state roads in the vicinity of the project include:

- **MR223** (Main Road / Cardiff Road / Russell Road) provides an east-west link from Croudace Street at New Lambton Heights to New Lambton and Broadmeadow, servicing residential and commercial areas, as well as the Cardiff industrial complex.
- **MR603** (Carnely Avenue) provides a connection between Charlestown Road at Kotara Height and Bridges Road at New Lambton, providing a key link for travel between Newcastle and Lake Macquarie
- **MR223** (Russell Road) provides a major east-west route within the project area, linking the A37 route, John Hunter Hospital and McCaffrey Drive to Broadmeadow and other districts to the east.
- **MR188** (Howe Street) is a two-way road that intersects with Croudace Street at Lambton and connects the area to New Lambton and is popular for travel between the inner western suburbs and the Jesmond/Wallsend area. MR188 provides a connection to A15 via Edith and Lorna Street.
- **MR605** (University Drive) provides a connection between Newcastle Inner City Bypass and Industrial Drive at Mayfield West and connection to Route B53.
- **7770** (Croudace Road/McCaffrey Drive) provides a connection from Lake Road (route B53) and Thomas Street (route A15) in the north-west to Lookout Road (route A37) through Rankin Park and Elmore Vale, providing a major east-west route together with Russell Road to the east to Lambton, Broadmeadow and Newcastle CBD.

4.2. Existing road network performance

Detailed Traffic surveys were completed in 2014, 2015 and 2016 in the vicinity of the Project to determine the existing road network performance and to complete traffic modelling. The surveys indicated that the road network surrounding the project currently experiences high levels of traffic congestion and delays at key intersections, particularly during peak periods. There are a number of constraints along the existing route including traffic lights, uncontrolled intersections with local and regional roads, driveways to private properties and a public school, that already reduce the actual traffic speeds below the posted speed limit. These constraints are:

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Newcastle Inner City Bypass – Rankin Park to Jesmond (Stage 4 – Main Works)



- Eleven sets of existing traffic lights on Lookout Road, Croudace Street and Newcastle Road from the McCaffrey Drive intersection to the existing roundabout on Newcastle Road at Jesmond
- Sixteen uncontrolled intersections with local and regional roads
- A large number of driveways to private properties, which reduce the allowable traffic speed and contribute to traffic congestion
- A public school located on Croudace Street with a 40 kilometre per hour school zone speed limit in place during peak hours.

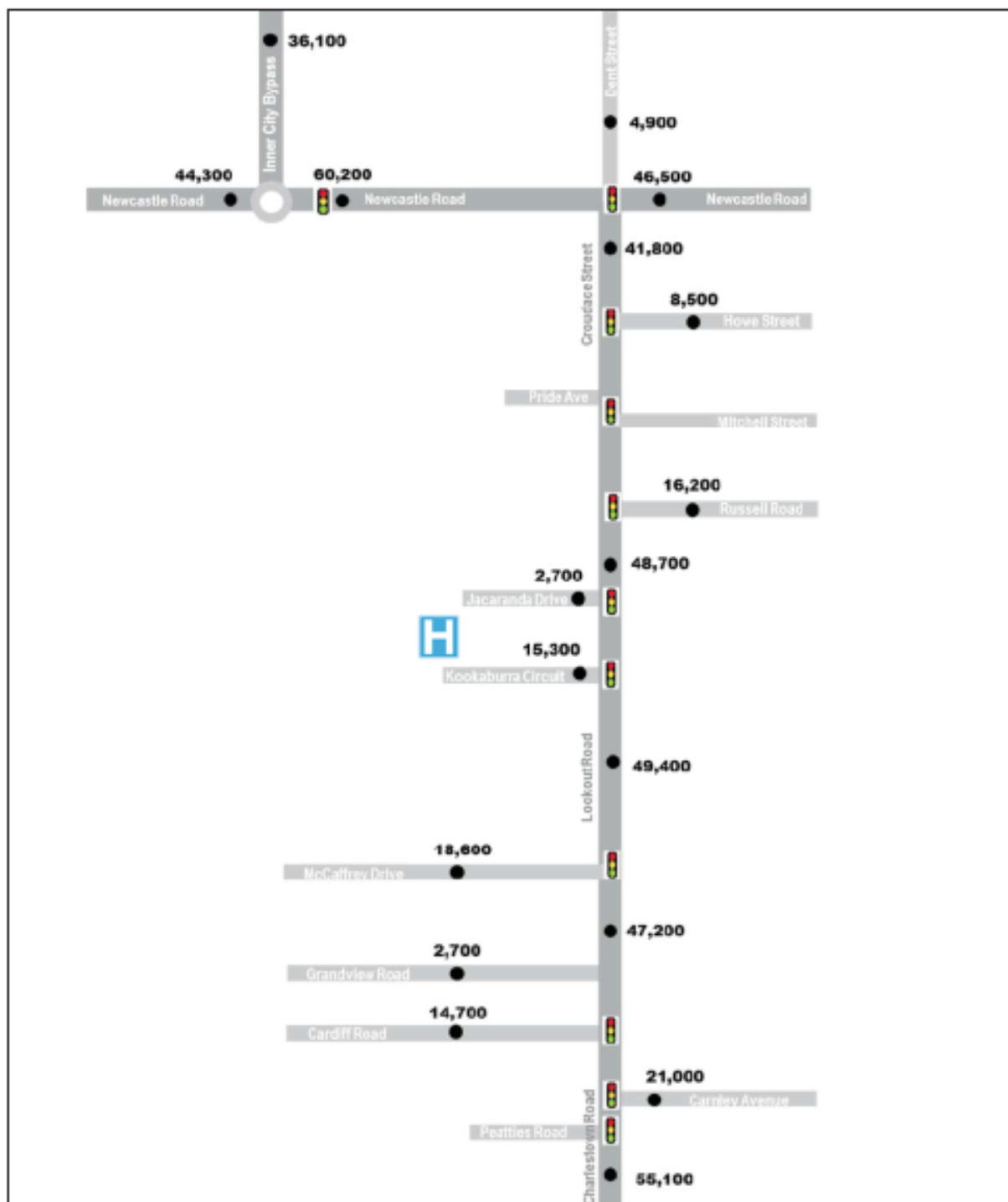


Figure 2: Average daily weekday traffic volumes (2014/2015) in project area

- Construction Traffic Impacts on the road network performance has been assessed in the following documents:
- Environment Impact Statement – Appendix F - Traffic and Transport Assessment (Aurecon, 2016)
- Technical Paper 2 – Supplementary Traffic and Transport Assessment (Aurecon 2018)
- Newcastle Inner City Bypass - Rankin Park to Jesmond Modification report: additional construction compounds Submissions report 2021

As detailed in the Environmental Documents, given the high existing volumes of traffic on the road network surrounding the project, construction traffic movements are unlikely to result in any significant traffic impacts with implementation of standard environmental mitigation measures (section 7). Additional assessment is detailed in Section 5.

4.3. Car parking

Existing car parking facilities surrounding the project have been identified below:

- Jesmond Park – General off street untimed parking
- Blackbutt Reserve (lookout road) – General off street untimed parking
- John Hunter Hospital precinct – 3400 car parking spaces (generally timed and charged) and on-street parking in hospital road network.
- Stockland Jesmond Shopping Centre – contains 900 untimed spaces with timed on-street parking along Blue gum Road
- General untimed on-street parking is permitted on most of the local roads near the Project vicinity.

Parking for construction personal will be provided at ancillary facilities and nominated locations on site as described in Section 5.6 with further details of Ancillary Facilities provided in the Ancillary Facility Establishment Management Plan (AFEMP). For the avoidance of doubt, construction personnel will not utilise the John Hunter Precinct parking during the project.

4.4. Public transport network

Local bus routes operate standard services in the area surrounding the Project. Key route numbers are 11, 12, 13, 23, 24, 26, 27 and 42 and are shown in Figure 3.

During construction of the project the following impacts on buses and bus customers are likely:

- Reductions in speed when travelling through construction activity areas, resulting in longer travel times
- Temporary relocation of bus stops away from construction zones and alternative access (requiring some passengers to walk further, whilst other passengers may have shorter walk).

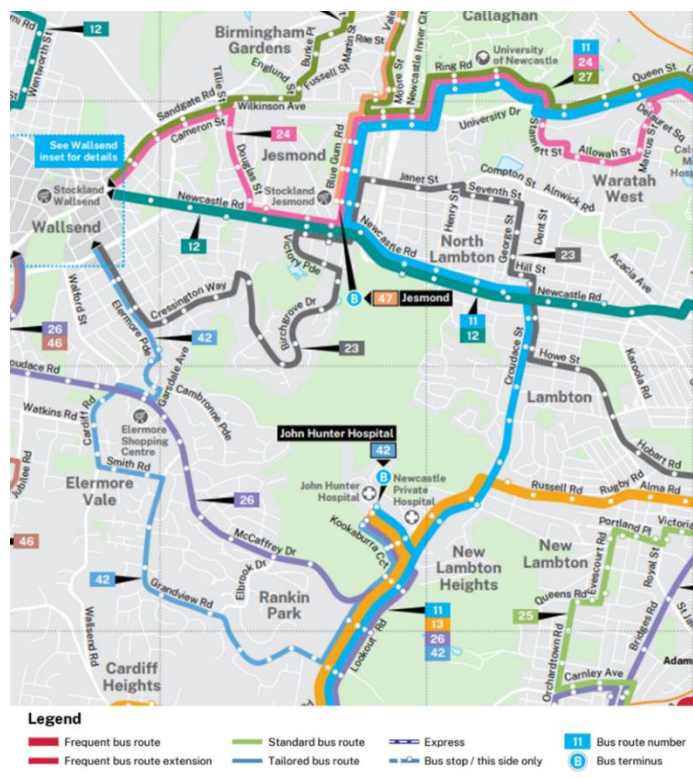


Figure 3: Newcastle transport network near RP2J Project (03 April 2022)

4.5. Pedestrian and cyclist access

There is significant pedestrian and cyclist infrastructure in the Project area, with both formal and informal paths present in the project footprint and summarised below:

Northern Area (Newcastle Road)

- An east-west shared path running along the southern extent of Jesmond Park to the Newcastle Road and Blue Gum Road intersection. This forms part of a pedestrian/cycleway linking Lambton to Jesmond and Wallsend. This path forms part of regional cycling route 5.
- A north-south shared path between Jesmond Park to John Hunter Hospital (forms part of cycling route L8)
- A north-south shared path running along the eastern side of the Jesmond to Shortland section of the NICB.
- A shared path on the southern side of Newcastle Road between Robinson Avenue and the mid-block signalised pedestrian crossing near Hill Street
- Shared path on the eastern side of the Jesmond to Shortland section of the Newcastle Inner City Bypass (NICB) commencing at the north eastern corner of the existing Jesmond Roundabout on Newcastle Road and extending north to the University of Newcastle
- A network of paved footpaths exists within Jesmond Park providing connection between Newcastle Road and the east-west shared path.
- Shared Path Bridge over Newcastle Road at the eastern end of Jesmond Park
- Shared Path Bridge over Newcastle Inner City Bypass (Main Road) north of roundabout at Jesmond Park
- The following informal pedestrian and cyclist facilities are also utilised:
- Cyclists utilise the 2-2.5 metre shoulders on the existing sections of the Newcastle Inner City Bypass.
- A Network of unpaved tracks (fire trails) throughout bushland bounded by Jesmond Park, John Hunter Hospital, Lookout Road, McCaffrey Drive and residential properties to the west.

Southern Area (Lookout Road)

- Paved footpaths on both sides of Lookout Road between Kookaburra Circuit and McCaffrey Drive
- Paved footpath on western side of lookout road from the intersection at McCaffrey Drive to about 40 metres to the south.
- Paved footpath on the eastern side of Lookout Road from the Blackbutt Reserve entrance to about 160 metres to the south
- Signalised pedestrian crossings on the surrounding road network:
 - Douglas Street/ Newcastle Road
 - Drury Street/ Newcastle Road/ Victory Parade
 - Blue Gum Road/ Newcastle Road
 - Newcastle Road about 170 metres west of Steel Street adjacent to Jesmond Park
 - Dent Street/ Croudace Street/ Newcastle Road
 - Morehead Street/ Newcastle Road
 - Croudace Street about 40 metres south of Elder Street adjacent to Lambton Public School
 - Howe Street/ Croudace Street
 - Pride Avenue/ Mitchell Street/ Croudace Street
 - Croudace Street/ Russell Road/ Lookout Road
 - Jacaranda Drive/ Lookout Road
 - John Hunter Hospital Access/ Lookout Road
 - McCaffrey Drive/ Lookout Road
 - Cardiff Road/ Charlestown Road/ Lookout Road.

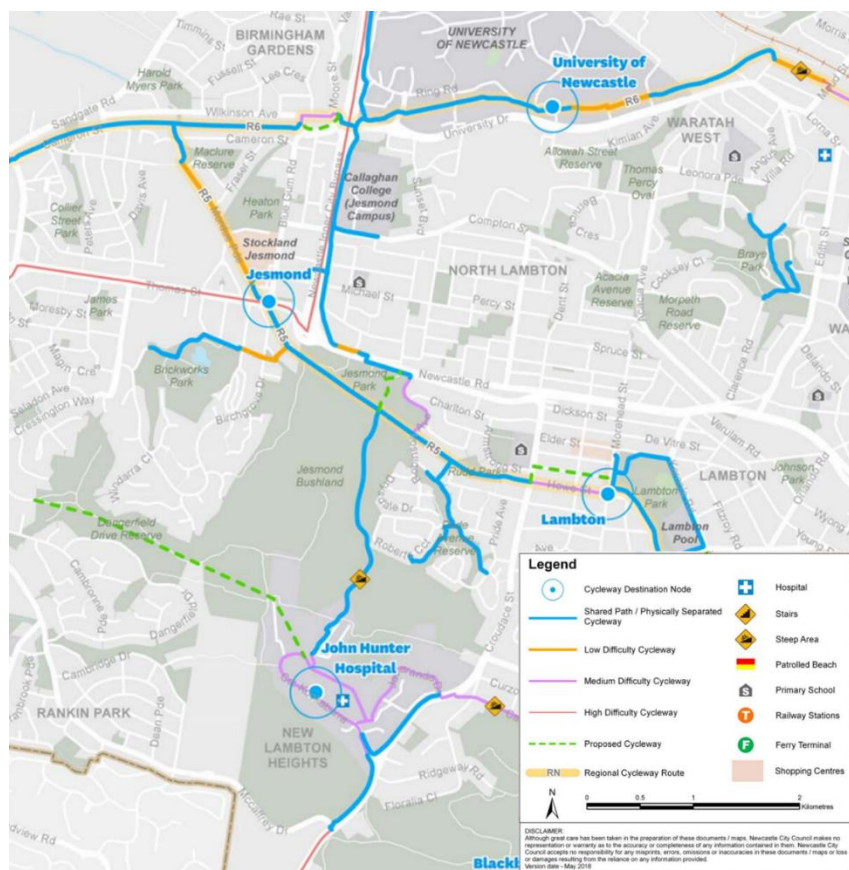


Figure 4: Newcastle cycleway map (2022) in project location

For the avoidance of doubt, the Shared path located between the JHH Precinct (north) and Roberts Circuit will not be impacted by the RP2J project works.

4.6. Fire Trails

The bushland areas associated with the project contain a network of fire trails that aid with management of bushfire and bushfire hazard reduction. As part of the detailed design – alternate fire trails will be developed in consultation with relevant fire authorities in accordance with the CCS. Implementation of the fire trails will be completed by Fulton Hogan during the construction phase.

In the case of emergency, Fire Services may access the project area during the construction phase.

5. Construction Traffic Impacts

Potential traffic impacts from the construction of the Project were assessed in the Environmental Documents as amended by the documents listed in CoA A1, notably EIS Appendix F. The assessment identified that during construction, the Project may affect the surrounding road network due to:

- Speed limit restrictions, traffic diversions and traffic lane or road closures on existing roads adjacent to work sites
- Increased localised traffic due to construction activities, particularly from heavy vehicle movements during earthworks
- Temporary changes to property access during the construction period
- Impacts to travel times, including public transport timetables, due to traffic controls being implemented
- Detours to pedestrian and cyclist movements due to construction works blocking existing shared paths
- Restrictions to, or additional use of on-street parking on local roads near construction areas.

5.1. Traffic generating activities

Construction is proposed to occur over a between 2023 and 2024 (indicatively) based on current program.. An increase in traffic volumes is expected during construction of the Project with peak construction activity anticipated to occur in 2023 during the bulk earthworks activities. These activities will generate the most construction traffic for deliveries of imported material and removal of carbonaceous material. Table 4 represents the anticipated light and heavy vehicle generation from each interchange/site access location and identified ancillary facilities. It is noted the values presented in Table 4 may fluctuate depending on the works being undertaken and will not be consistent through the entire construction period.

The main traffic generating construction activities comprise of:

- Construction haulage by heavy vehicles (import and export)
- Light Vehicle Movements associated with construction staff and contractors
- Deliveries of civil materials (precast, drainage, paving, concrete etc.)
- Movements of construction equipment.

► Table 4: Construction traffic generation (inbound and outbound)

CONSTRUCTION TRAFFIC BREAKDOWN		
Northern Interchange Access (including access to Construction Compound C)		
■ 100 light vehicle movement per day on average will be generated during peak Project Construction ■ 240 heavy vehicle movements per day on average will be generated during peak Project Construction		
Southern Interchange Access		
■ 45 light vehicle movement per day on average will be generated during peak Project Construction ■ 80 heavy vehicle movements per day on average will be generated during peak Project Construction		
McCaffrey Drive Access		
■ 5 light vehicle movement per day on average will be generated during peak Project Construction ■ 10 heavy vehicle* movements per day on average will be generated during peak Project Construction (noting that a maximum daily total of HV to utilize this route will be capped at 50 HV movements along McCaffrey Drive.		
*Heavy Vehicles maximum length of 19M		
Construction Compound F		
■ 40 light vehicle movement per day on average will be generated during peak Project Construction ■ 20 heavy vehicle movements per day on average will be generated during peak Project Construction		
Lookout Road Compound		
■ 10 light vehicle movement per day on average will be generated during peak Project Construction ■ 5 heavy vehicle movements per day on average will be generated during peak Project Construction		
Worse case vehicle movements per day	Heavy Vehicles	355
	Light Vehicles	200

5.2. Construction Routes

5.2.1. Ancillary Facilities Access

The project has 3 Ancillary Facility locations as highlighted in Figure 6. The final type, location and number of ancillary facilities is in accordance with the Ancillary Facilities Establishment Management Plan and the facilities assessed as part of the documentation listed in CoA A1.

Access to each facility will be via the following roads:

Newcastle Road (A15) – Access to Construction Compound C

Lookout Road (A37) – Access to Construction Compound F and Lookout Road Compound

Typical access for Ancillary Facilities will be detailed within the Traffic Staging Plans with detailed VMP's to be developed for each location as detailed in Section 7.3 of this plan. Typical two way site access and egress will generally be provided in accordance with Figure 5.

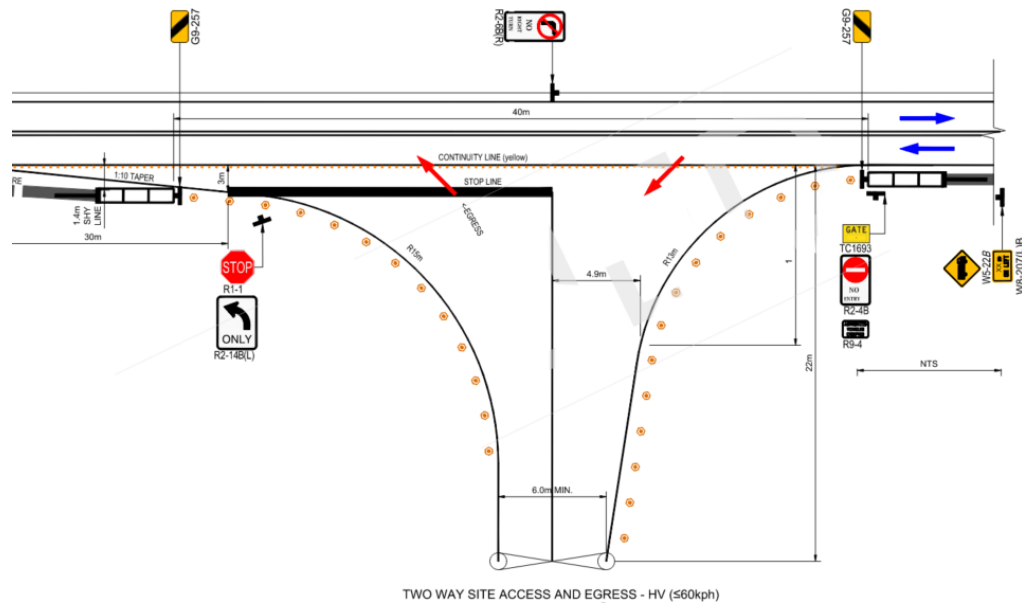


Figure 5: Typical two way site access and egress for construction vehicles

5.2.2. Haulage Routes

Heavy vehicle movements to and from the site will principally be via the supporting arterial road network.

Haulage routes and delivery staging will be planned to minimise movements on the road network during the AM and PM peak periods, where practicable. Where haulage routes pass schools, childcare facilities and/or aged care facilities heavy vehicle movement during operational peak hours of these facilities would be minimised. Consultation will be undertaken as required to determine the key operation time frames.

Roads within one (1) kilometre of the SSI proposed to be used by heavy vehicles for the RP2J project are:

- Newcastle Road (A15) – State Road
- Newcastle Inner City Bypass (A37) – State Road
- University Avenue (MR605) – State Road
- Lookout Road (A37) – State Road
- McCaffrey Drive (No. 7770) – Regional Road

The following HV Haulage routes are detailed below and are attached as Appendix A1.

- Northern Interchange – access will be facilitated via the Jesmond roundabout and was referenced in the environmental documents as Construction Access Road 1 (Appendix F, pg 91). Construction traffic would gain access via the arterial road network (A15, A37, MR223 and B63). A limited number of vehicles may require to access via MR605/MR168 with additional information provided in Appendix A1. Egress will be facilitated via A15 and the surrounding arterial road network.
- Southern Interchange – access will be facilitated via a Left In / Left Out movement from Lookout Road (A37) and was referenced in the environmental documents as Construction Access Road 1 (Appendix F, pg 91). Egress will be facilitated via A37 and the surrounding arterial road network.

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- McCaffrey Drive – access will be facilitated via a Left In / Left Out movement from McCaffrey Drive (No. 7770) and was referenced in the environmental documents as Construction Access Road 3 (Appendix F, pg 91). Egress will be facilitated via A37 and the surrounding arterial road network.

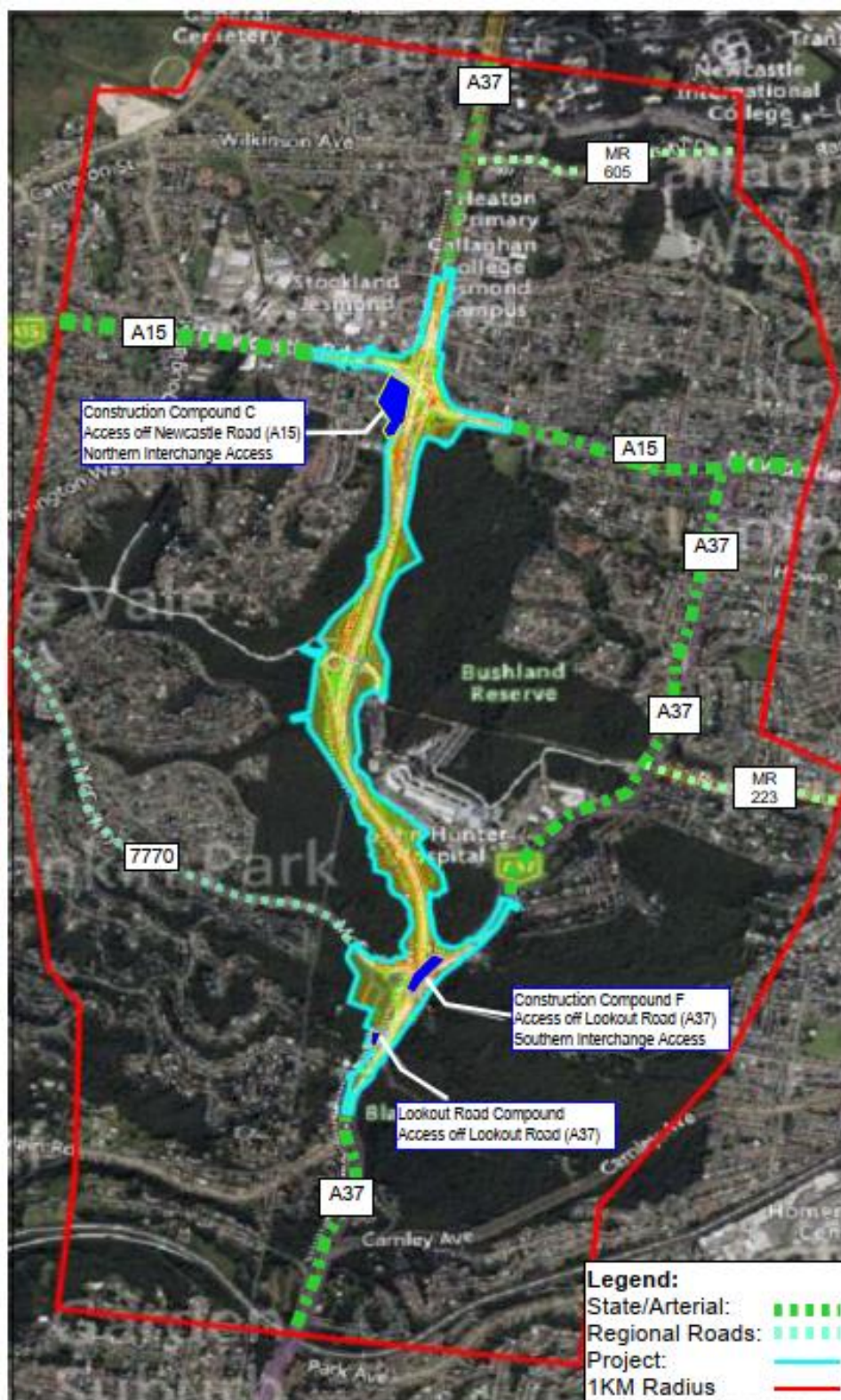


Figure 6: Project Footprint and arterial and regional roads within 1KM of project

5.2.3. Local roads use

No local roads are currently proposed for use by heavy vehicles for construction of the Project.

5.2.4. Local roads not assessed in the documents listed in CoA A1

In accordance with CoA E63, heavy vehicles associated with the Project are not permitted to use local roads that have *not* been assessed as part of the documents listed in CoA A1.

Throughout the Project Fulton Hogan will identify whether the use of any additional (unidentified) local roads within the Project area are proposed for use by Heavy Vehicles, and if so (in conjunction with TfNSW), must seek approval from the Planning Secretary prior to use of the local roads.

In accordance with CoA E63, requests to the Planning Secretary for the approval of Local Roads for use by Heavy Vehicles associated with the project will include a Traffic and Pedestrian impact assessment and a swept path analysis, if required. The traffic and pedestrian impact assessment must:

- Demonstrate that the use of local roads will not compromise the safety of the public and have no more than minimal amenity impacts;
- Provide details as to the date of completion of the road dilapidation surveys for the subject local roads and
- Describe the measure that will be implemented to minimise safety and amenity impacts to any schools, aged care facilities and child care facilities during their peak operation times.

The outcomes and recommendations of the Traffic and Pedestrian Impact Assessment will be incorporated into this TTMP and the Traffic and Safety Management Plan as required.

5.3. John Hunter Hospital precinct

Heavy vehicle movements through the John Hunter Hospital precinct require to be identified and managed in accordance with the CoA E65, E66 and E67.

As identified in TfNSW Modification report: additional construction compounds (GHD, 2021) due to planned works being undertaken by Health Infrastructure NSW for John Hunter Health and innovation project, the establishment and use of previously identified Construction Compound A as a primary compound is no longer feasible and will not be undertaken by Fulton Hogan. For the avoidance of doubt the John Hunter Health Road Network is not currently proposed for use for any construction access (inclusive of light vehicles) for the RP2J project. Therefore the following Conditions of Approval will not be relevant to the Project going forward.

In addition, Fulton Hogan will consult with, and address any concerns raised by NSW Health and emergency service providers if any aspect of the construction activities is likely to affect access to John Hunter Hospital and emergency services operations or traffic prior to the access being affected. For the avoidance of doubt, property access via the John Hunter Health Road Network will not be affected.

In accordance with the CoA E66 this TTMP will be updated if any of the above requirements change.

► Table 5: CoA relevant to John Hunter Hospital precinct

CoA	CoA Requirements	Current Status
E65	Heavy vehicles must only use Construction Access Road 2 (as shown in Figure 2 in Appendix A) in the John Hunter Hospital precinct for the early works establishment of Construction Compound A, unless otherwise agreed by the Health Administration Corporation. Note: Heavy vehicles movements associated with Condition E65 must comply with the construction hours specified in Conditions E26 and E27	As per Modification Report 1 (2021) Construction Compound A is unavailable for use. As such no heavy vehicle access will be undertaken by the project in the John Hunter Hospital precinct.

E66	Heavy vehicle movements through the John Hunter Hospital precinct must be identified in the Construction Traffic and Transport Management CEMP Sub-plan. The Construction Traffic and Transport Management CEMP Sub-plan must include the following: (a) number of heavy vehicle movements; (b) frequency of heavy vehicle movements; (c) deliveries outside the construction hours identified in Condition E26; and (d) governance arrangements to address acute traffic management issues. Note: These requirements are additional to the requirements of Part C of this approval.	As per Modification Report 1 (2021) Construction Compound A is unavailable for use. As such no heavy vehicle access to will be undertaken by the project in the John Hunter Hospital precinct.
E67	At no time must heavy vehicles associated with the construction of the SSI, travel through the John Hunter Hospital precinct, except as permitted by Condition E65.	As per Modification Report 1 (2021) Construction Compound A is unavailable for use. As such no heavy vehicle access to will be undertaken by the project in the John Hunter Hospital precinct.

5.4. Pedestrians and cyclists

In accordance with NSW CoA E71 safe pedestrian and cyclist access will be maintained around work sites for the duration of construction. In circumstances where pedestrian and cyclist accesses are restricted or removed due to construction activities, an alternate route (temporary or permanent) which complies with the relevant standards will be provided and signposted prior to removal of the existing route. All required consultation will be done in accordance with the Community Communication Strategy (CCS).

5.5. Public transport

Temporary relocation of bus stops along Lookout Road and Newcastle Road will be required, with alternative access routes to be implemented for relocated bus stops. Fulton Hogan will consult with bus operators to inform them of construction activities which affect their bus routes and any required bus stop relocations throughout the project duration. All required consultation will be done in accordance with the Community Communication Strategy (CCS).

5.6. Parking

Parking for construction personnel will be provided at ancillary facilities as detailed in the Ancillary Facilities Establishment Management Plan with parking resources being provided to accommodate construction traffic parking (including for workforce parking and site visitors).

For the avoidance of doubt, construction personnel will not utilise the John Hunter Precinct parking during the project.

In accordance with NSW CoA E73 and REMM TT05 the detailed design will be developed in consultation with City of Newcastle for the provision of replacement disabled parking to be implemented prior to the removal of on street parking on Newcastle Road. This consultation will be undertaken with City of Newcastle in accordance with the Community Communication Strategy (CCS).

5.7. Property access

During construction property access will be maintained or alternative arrangements made in consultation with the affected landowners. All consultation will be done in accordance with the Community Communication Strategy (CCS).

5.8. Road dilapidation

In accordance with NSW CoA E68 a road dilapidation report (condition survey) must be prepared for any local road used by heavy vehicles for the purposes of construction of the Project (inclusive of the establishment of ancillary facilities, unless otherwise agreed by the Planning Secretary). The Road Dilapidation Reports will be conducted in consultation with TfNSW and City of Newcastle, with a copy of the completed report being provided no later than (1) month before the use of local roads by heavy vehicles associated with the Project. A copy of the Road Dilapidation report must be provided to the landowner and relevant roads authority within three weeks of completion of the Surveys. Additional road dilapidation inspections will also be undertaken in accordance with contract requirements.

The Road Dilapidation report will be undertaken by independent and appropriately qualified assessors and will in general comprise of a full photographic record that documents all defects on local roads including but not limited to, the road pavement, kerbs, gutters, manholes and verges.

Table 6 identifies road dilapidation being undertaken as part of the Project works:

► Table 6: Local Road Dilapidation requirements

Road	Timing	Requirement
McCaffrey Drive (7770)	A minimum of 4 weeks prior to use by Heavy Vehicles	SWTC
Lookout Road (A37)	A minimum of 4 weeks prior to use by Heavy Vehicles	SWTC
Newcastle Road (A15)	A minimum of 4 weeks prior to use by Heavy Vehicles	SWTC
Newcastle Inner City Bypass (A37)	A minimum of 4 weeks prior to use by Heavy Vehicles	SWTC
University Drive (MR188)	A minimum of 4 weeks prior to use by Heavy Vehicles	SWTC
Edith Street (MR188)	A minimum of 4 weeks prior to use by Heavy Vehicles	SWTC

5.9. Road maintenance

Throughout the course of the project, Fulton Hogan will undertake the maintenance of existing or temporary roads used by construction traffic during the Project. Maintenance activities will include the repairing of potholes, removing of debris, overgrown vegetation, leaning kerbs and gutters and re-applying of line marking.

Fulton Hogan will monitor the condition of the roads and will cooperate with TfNSW and City of Newcastle and its representative in carrying out the maintenance of existing roads outside the Project boundary.

In accordance with NSW CoA E69 if damage to roads or road related structures occurs as a result of the construction of the Project, Fulton Hogan will (at the land owner's discretion):

- Compensate the landowner for the damage so caused. The amount of compensation may be agreed with the landowner, but compensation must be paid even if no agreement is reached; or
- Rectify the damage to restore the road or road related structure to at least the condition it was in pre-construction.

All identified defects, proposed repairs and timing of repairs will be captured on a defect identification and scheduling form.

6. Environmental aspects and impacts

The key construction activities and the associated potential sources of traffic and transport impact are identified through a risk management approach. The consequence and likelihood of each activity's impact on the environment has been assessed to prioritise its significance. The results of this risk assessment are included in Appendix A3 of the CEMP.

Ongoing environmental risk analysis will be undertaken during construction through regular inspections, monitoring and auditing as described in Section 8.5. This will ensure that issues requiring management (including cumulative impacts) are appropriately managed.

7. Environmental mitigation measures

Specific mitigation measures to address impacts on traffic and transport are outlined in Table 7.

► Table 7: Traffic and transport mitigation measures

ID	Mitigation measure	Timing		Responsibility
		P C ¹	C 2	
NOTIFICATION AND CONSULTATION				
TTMM1	Consultation has been completed to minimise potential impacts associated with use of the hospital road network for construction access. No heavy vehicle access for the project to utilize hospital road network.	✓		Traffic Manager/Community Manager
TTMM2	Consultation (in accordance with the CCS) with affected businesses and properties where pedestrian and vehicular access to, and parking in the vicinity of businesses and affected properties is disrupted In accordance with NSW CoA E70 and REMM TT10 alternative pedestrian and vehicular access, and parking arrangements will be developed in consultation with the affected business and properties and implemented before the disruption occurs.	✓	✓	Traffic Manager/Community Manager
TTMM3	Consultation will be carried out with City of Newcastle, NSW Health Infrastructure, Hunter New England Local Health District in the development of the TTMP Consultation will be carried out with all relevant stakeholders including Councils and local bus companies when preparing the TMP. Consultation will be carried out with TfNSW, CNC North, Council and Police, Ambulance, Fire and other emergency services in development of Traffic Incident Management procedures. All consultation will be carried out in accordance with the CCS	✓	✓	Traffic Manager/Community Manager
TTMM4	Liaise with City of Newcastle in regards to Traffic Management arrangements that have the potential to impact on McCaffrey Drive, Grandview Road and other council owned roads adjacent to the Construction site in accordance with the CCS	✓	✓	Traffic Manager/Community Manager
TTMM5	Notify any changes in traffic conditions to the existing road network authority or for changes to property access, bus stops and pedestrian/cyclist facilities	✓	✓	Traffic Manager/Community Manager
TTMM6	Notify businesses, local residents, John Hunter Hospital and other key stakeholders (e.g. schools, Council) about any new or changed construction activities which will affect access to their properties or otherwise disrupt the residents' use of their premises, at least 5	✓	✓	Community Manager

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ID	Mitigation measure	Timing		Responsibility
		P C ¹	C C ²	
	working days before commencing work affecting businesses, residents, John Hunter Hospital and other key stakeholders. Consultation to be undertaken in accordance with the CCS.			
TTMM7	Liaise and coordinate traffic control measures with those of adjoining contracts undertaken concurrently by others. Identified concurrent projects: - JHH Upgrade Works - Hexham Straight Widening	✓	✓	Traffic Manager
TTMM8	Preparation of TTMP conforming to TfNSW QA G10, TCAWS (RMS 2010), AS1742 – Manual of Uniform Traffic Control Devices (2014a).	✓		Traffic Manager
TTMM9	Preparation of construction specific Traffic Management Plans detailing: • Approved Construction Routes / Access • Traffic Staging • Traffic control plans (also known as TGS) for work area including (signage and specific traffic control measures) • Access arrangements at construction gates detailing vehicle access movements • Road Occupancy Licenses and Speed Zone Authorizations • Pedestrian and Cyclist Management Plan (as required)		✓	Traffic Manager
TTMM10	Attainment of any licenses and permits required for any work or traffic controls in a public road (inclusive of ROL)	✓	✓	Traffic Manager
TTMM11	Planning of works to cause the least possible disruption to the traffic flow, minimise the number and extent of traffic switches to encourage drivers to become familiar with the temporary traffic arrangements	✓	✓	Traffic Manager
TTMM12	Traffic Staging Plans conforming to TfNSW Traffic Control at Worksites manual will be developed showing how traffic will pass safely through the Site during various construction stages	✓	✓	Traffic Manager
TTMM13	Traffic Guidance schemes conforming to TfNSW Traffic Control at Worksites manual will be developed showing signs and devices arranged to warn traffic and to guide it around, past or if necessary through a work site or temporary hazard.	✓	✓	Traffic Manager
TTMM14	Where applicable, Vehicle Movement Plans (VMP) and Pedestrian and Cyclist Movement Plan (P&CMP) will be developed and prepared with Traffic Guidance Schemes.	✓	✓	Traffic Manager

Appendix B8: Traffic and Transport Management Sub-Plan

Newcastle Inner City Bypass – Rankin Park to Jesmond (Stage 4 – Main Works)



ID	Mitigation measure	Timing		Responsibility
		P C ¹	C 2	
TTMM15	A Traffic Incident Management Plan will be developed and implemented. The Traffic Incident Management Plan will be developed in consultation with TfNSW (the principal), CNC North, Council and Police, Ambulance, Fire and other emergency services.	✓	✓	Traffic Manager
TTMM16	Traffic Management Risk Assessment Workshop will be undertaken two weeks prior to the implementation of each proposed construction stage traffic arrangement.	✓	✓	Traffic Manager
TTMM17	Undertake traffic audits and monitoring inspections in accordance with Section 8.4 of this TTMP	✓	✓	Traffic Manager
TTMM18	A Road Dilapidation Report must be prepared for local roads proposed to be used by heavy vehicles for works associated with the Project before the commencement of use by such vehicles.	✓	✓	Traffic Manager
TTMM19	If damage to roads or road related structures occurs as a result of the construction, compensation or rectification must be undertaken to restore the road or road related structure to at least the condition it was in pre-construction.	✓	✓	Construction Manager / Community Manager
TTMM20	Consultation will be undertaken with affected businesses and properties where pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties will be disrupted. 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, minimized. Signage and directions to businesses must be provided before, and for the duration of, any disruption. Where access to property will be disrupted for an extended period, alternative access will be provided, with a minimum of pedestrian and emergency vehicle access to properties to be maintained at all times.	✓	✓	Traffic Manager
TTMM21	Consultation will be undertaken with residents to provide vehicle access as far as practical/safe to enable residents, visitors and patrons to park inside the affected property. Where vehicle access is not available, pedestrian access would be provided where practical/safe. If pedestrian access is unavailable for safety reasons, pedestrian will be escorted through the construction site.	✓	✓	Traffic Manager

Appendix B8: Traffic and Transport Management Sub-Plan

Newcastle Inner City Bypass – Rankin Park to Jesmond (Stage 4 – Main Works)



ID	Mitigation measure	Timing		Responsibility
		P C ¹	C 2	
TTMM22	Safe pedestrian and cyclist access must be maintained around work sites for the duration of construction. In circumstances where pedestrian and cyclist access are restricted or removed due to construction activities, an alternate route (temporary or permanent) which complies with the relevant standards must be provided and signposted prior to removal of existing facilities.	✓	✓	Traffic Manager
TTMM23	Construction activities will be planned and staged in order to minimise impacts to users of the Jesmond Park shared path during construction. - Diverting cyclists over new shared path bridge (BR07) over Newcastle Road - Provision of access across construction footprint on southern side of Newcastle Road for limited periods of time where safe and practical to do so - Construction of new overpass bridge (Bridge 8) and underpass as soon as is practical to do so	✓ ✓ ✓	 ✓ ✓	Construction Manager / Traffic Manager
TTMM24	Consultation must be undertaken with all bus companies to inform them of construction activities which affect their bus routes and bus stops Maintain existing bus stop facilities and when required provide equivalent alternate facilities in alignment with requirement of G10 A2.2 and Section 7.6	✓ ✓	✓ ✓	Construction Manager / Traffic Manager
TTMM25	Construction deliveries will be managed to occur outside peak traffic periods when feasible and reasonable, to minimise impacts on the road network. In addition, construction deliveries will be minimised along Lookout Road every day in the periods of JHH shift changes (7:30-9:30AM and 3:00-5:00PM, respectively).	✓	✓	Traffic Manager
TTMM26	Construction deliveries required to access the McCaffrey Drive site will be managed to occur outside peak traffic periods for the Croudace Road public school. Construction deliveries will be minimized along Croudace Road between (8:00-9:30AM and 2:30-4:00PM, respectively).	✓		Traffic Manager
TTMM27	Approved construction routes, travel times, VMP and gate entry and exit protocol will be briefed to all site staff during project induction.		✓	Traffic Manager
TTMM28	Haulage routes are to be managed in compliance with WHS Management Plan and Chain of Responsibility.		✓	WHS Manager

Appendix B8: Traffic and Transport Management Sub-Plan

Newcastle Inner City Bypass – Rankin Park to Jesmond (Stage 4 – Main Works)



ID	Mitigation measure	Timing		Responsibility
		P C ¹	C ²	
TTMM29	Chain of Responsibility Plan and Construction Haulage Routes are to be issued to major suppliers as part of project onboarding.		✓	WHS Manager

¹ PC means pre-construction; ² C means construction

7.1. Construction traffic management

The RP2J Project works will be planned to minimise disruption to traffic flow in the local area.. Construction deliveries will be managed to occur outside peak traffic periods when possible, to minimise impacts on the road network. In addition, construction deliveries will be minimised along Lookout Road every day in the periods of JHH shift changes (7:30-9:30AM and 3:00-5:00PM, respectively) and McCaffrey Drive (7770) between 8:00-9:30AM and 2:30-4:00PM, respectively.

Detailed Traffic Staging Plans and Traffic Guidance Schemes (TGS) will be prepared by Fulton Hogan to identify measures that will be installed to warn traffic and guide it around or past the site in addition to identifying any property access issues related to the works.

- Traffic Guidance Scheme (TGS) – a diagram showing signs and devices arranged to warn traffic and to guide it around, past or if necessary through a work site or temporary hazard.
- Vehicle Movement Plan – a diagram showing the preferred travel paths for vehicles associated with a work site entering, leaving or crossing through traffic stream. A VMP may be combined or superimposed on a TGS and describes measures to ensure the safety of local traffic associated with the works and may detail specific site information for construction vehicles inclusive of access points, radio protocols, turning areas and parking areas.
- Pedestrian and Cyclist Movement Plan – a diagram showing the allocated travel paths for workers or pedestrians around or through a work site. A P&CMP may be combined with or superimposed on a TGS.

7.2. Traffic staging plans

The construction and traffic staging is developed as part of detailed design and identified construction methodologies. The overall detailed staging plan will be submitted as part of design review process, and is separate to the CEMP approvals process.

The Traffic Staging Plans will include, but not be limited to:

- Road design drawings
- traffic lane configurations
- Road alignment and geometry
- Intersection layouts
- Provision for buses
- Provisions for cyclists and pedestrian areas,
- Road drainage requirements
- Traffic Signs and pavement markings.

Due consideration for the works being staged forms part of this design review process to ensure that a maximum length of roadway with reduced speed zone is no more than what is required. Site specific traffic staging is to be progressively developed throughout the duration of the project works as required to facilitate construction of the RP2J project. The following additional detail has been provided in lieu of detailed design being finalised:

7.2.1. Traffic switches

Traffic switches will be required to enable Project works. Traffic Switches will be completed in alignment with the developed staging plans for the Southern and Northern Interchange.

Development of the Detailed Design of the Traffic Staging Plans will endeavour to minimise the number and extent of traffic switches to encourage drivers to become familiar with the temporary traffic arrangements. Traffic switches are key milestones that are only implemented as key elements of progressing the Project works.

7.2.2. Design Requirements – adjustment to lanes, shoulders and traffic detours

A high standard of road design will be developed for the temporary staging of the works, which includes addressing horizontal road geometry, swept path analysis, drainage and surface run off issues between construction stages,

lighting, specific constraints and issues addressed and approved prior to implementation. A suitably qualified and experienced Road Designer will complete designs in accordance with the below listed specifications

- Road Geometry Design - AGRD “Austroads Guide to Road Design (several Parts)” and associated TfNSW
 - Supplements
 - Minimum design travel speed
 - Traffic lane and shoulder widths
- Storm water Drainage Design - AGRD05 “Austroads Guide to Road Design Part 5: Drainage (including Parts 5A and 5B)” and associated TfNSW Supplement for a storm of 5 year average recurrence interval (ARI)
- Pavement Design - AGPT02 “Austroads Guide to Pavement Technology Part 2: Pavement Structural Design” and associated TfNSW to suit the required activities and as per minimum specified requirements in G10 A2
- Safety Barrier Selection - AGRD06 “Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers” and associated TfNSW Supplement
 - — Safety barriers selected must comply with <https://roads-waterways.transport.nsw.gov.au/business-industry/partners-suppliers/approved-products-materials/safety-barriers/index.html>
- Temporary Fixed Traffic Signal Design - RTA/RMS Traffic Signal Design Manual and AGTM10 “Austroads Guide to Traffic Management Part 10: Traffic Control and Communication Devices” and Appendix 18 of the SWTC

7.2.3. Safety Barriers & Devices

Temporary safety barriers will be implemented to protect the work areas and pedestrian areas from construction and other traffic. Barriers will be used in accordance with TfNSW Specification (R132) Safety Barrier Systems and the Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers, giving due consideration to design traffic speed, angle of departure from the road, separation between work areas, pedestrians and through traffic plus dynamic clearance requirements.

7.2.4. Traffic control signs and devices

Traffic control devices include signs, traffic signals, pavement markings, traffic island and other devices used to regulate, warn and/or guide road users. Traffic control devices for the Project include:

- Safety barriers
- Portable Variable Message Sign (VMS)
- Pavement Markings and Signs
- Temporary Pavements and Lane Adjustments
- Temporary Speed Zones
- Lighting Towers

Traffic control signs and devices required during construction will be identified within the developed TGS for each traffic stage and implemented in accordance with the Traffic Control at Worksites Manual (v6 Sept 2020) Fulton Hogan will obtain all necessary approvals for traffic control devices to be used on the Project.

7.2.5. Signposting and delineation

Signposting and delineation are important aspects of road safety and traffic management. Regulatory signs control specific traffic movements, warning signs give advance notice of traffic hazards, road markings (and pavement markers) provide delineation and reinforce signage, guide signs give advance guidance and advice of routes and destinations which assist all drivers to make clear, early decisions. All signage will be installed in alignment with the “Project Signage and Branding Plan and in accordance with Transport for NSW Infrastructure Project Signage Style Guide, September 2017, TfNSW Specification D&C R143

Construction staging, and temporary works will efficiently manage conflicts with the existing road network and maximise spatial separation between work areas and travel lanes. Work areas are to be isolated from general

traffic through the implementation of appropriate traffic and access controls. The details of controls for maintaining access will be provided as part of the Traffic Guidance Schemes (TGS).

In accordance with NSW CoA E70 signage will be used to provide information and direction to any affected businesses should alternative routes be required. Signage will be implemented before the disruption occurs and remain in place for the duration of the disruption. Signage will be developed in consultation with the affected businesses and properties.

Information signage will be consistent with the Guide: Signposting (RTA, July 2007) and Tourist Signposting guide (RMS and Destination NSW, 2012).

7.3. Traffic guidance scheme (TGS) and Vehicle Movement plans (VMP)

7.3.1. For works requiring TGS

Approved temporary Traffic Control measures are to be implemented for any works which disrupt free traffic movement in road related areas such as local roads, driveways, pedestrian accesses and facilities.

These measures are to include TGSs, P&CMPs and VMPs as required and are to encompass vehicle movement, cyclists and pedestrian movement for both construction resources and the general public. Property accesses affected by the construction activities are to also be identified and considered on the TGSs.

TGSs for any activity associated with the Works, including the use of temporary warning signs, are to be developed on the basis of the following documents and in the order listed below:

- G10 Specification
- RMS Traffic Control at Worksites (TCaWS) Manual v6.1 February 2022, or later
- AS 1742.3 – Manual of uniform traffic control devices – Traffic control for works on roads

This TTMP does not contain a draft of all TGSs, instead the Standard TGSs and templates contained in TCaWS are to be considered drafts which are required to be submitted and/or approved by the Road Occupancy Authority for the Works.

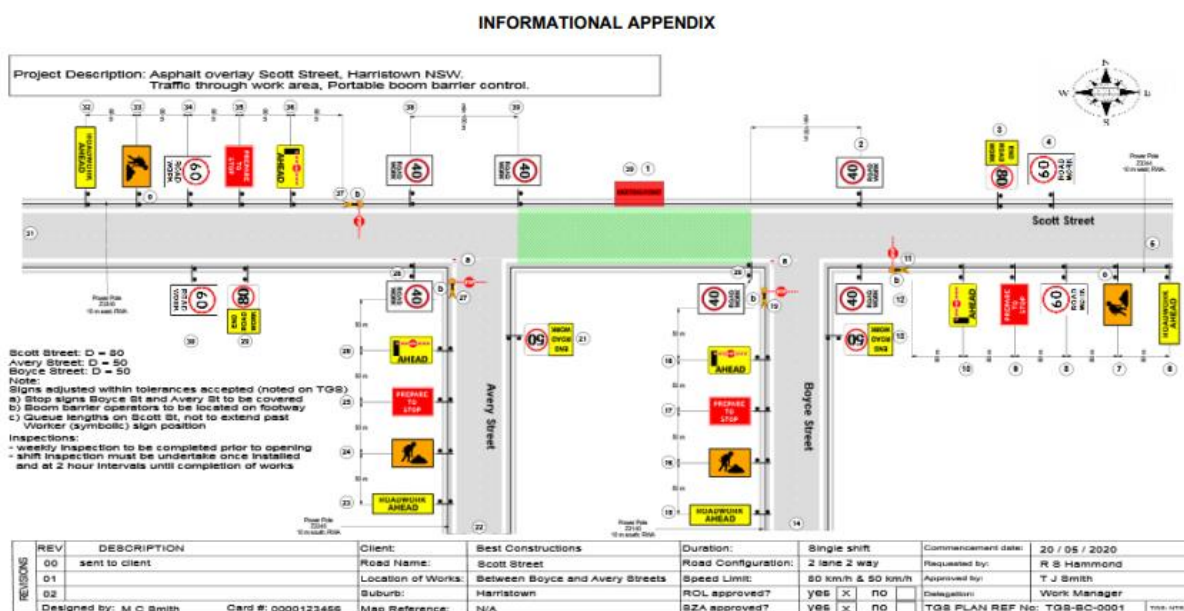


Figure E-1. Completed TGS

7.3.2. For works requiring a VMP and P&CMP

VMP's and P&CMP's are to be developed to provide for traffic associated with the Works such as trucks delivering materials and equipment and work supervisor vehicles, to safely manoeuvre in and out of traffic streams, at work areas, local roads and turn around. VMP's are also to reflect the parking, turning areas and vehicle entry and exit points to the worksite and clearly indicate that these are the only points where interface with the road traffic is permitted. P&CMPs are to show the allocated travel paths, temporary crossing and any other facilities relevant to the safe passage of workers, pedestrians and cyclists around or through the site inclusive of maintaining safe and unhindered access to bus stops.

VMPs and P&CMPs are to be submitted together with the TGS with works not being able to begin until TfNSW have reviewed the revisions to the VMP and P&CMPs via a hold point under clause 2.4.1 of G10 Specification, the associated TGSs, staging drawings and other documents.

VMPS and P&CMPs may be superimposed on a TGS and in general show construction related interfaces and vehicles entering and exiting the road network in the direction of the traffic flow (where this is not practicable additional controls may be utilised).

VMPs and P&CMPs are to be:

- Integrated in to Traffic Staging Plan(s) and Construction Staging Plan(s) to reflect the work activity to ensure that the intended purpose and objectives in the plans are met
- Updated throughout the Project. The VMP is to be issued to the Project team and as an instruction to all suppliers to ensure compliance by delivery drivers. Included in the VMP is a list of delivery protocols and contact details to ensure that all vehicle movements in and out of site are managed consistently and do not compromise the safety of road users; and
- Prepared and managed in accordance with G10 Specification and requirements in TCaWS .

	Works/ Project Area Vehicle, Plant and Pedestrian Management Plan VMP No: 1 Rev: 5	
UHF Channel: 52 Comments / Notes - Approach gate access with caution and enter at a safe speed. Ensure there is a safe gap before turning right into site. - Use effective communication with other plant and personnel on site to avoid any collisions between traffic on departing from gate access. ONLY exit site with a left turn when there is a safe distance between the exiting vehicle and approaching traffic - All plant movements involving heavy vehicles for works/ deliveries must be conducted with a spotter to manage interfaces with on foot personnel - All on foot personnel must carry a radio if exiting the pedestrian walkway & must establish UHF communication with any plant in the area Notes - VMP's must be discussed daily at the Prestart meetings - Plan is Mandatory to all works areas and must be approved prior to works commencing. - Supervisor (leading hand, foreman or PE) – Approver (Safety team member, SPE, Area Manager or Superintendent). - Plan is to be briefed to all members of the work group with the Activity Prestart Meeting. - Evacuation point to be nominated onsite and amended on plan. - Plan is to be checked on a daily basis, approvals recorded on a weekly basis. - Changing conditions (i.e. Additional work groups, works progress) – Amend plan and agree changes. - Additional Controls to be included within Activity Prestart Briefing.	Bridge Road VMP Location/ Chainage Bridge Road/ Princes Highway Intersection Worksite Diagram  Legend: - Entry → - Exit → - Work Area ENTRY GATE Site accessible via princes HWY NB entering via Gate 7. Call UHF 52 before entry. EXIT GATE Exit the site from gate 7. Left turn ONLY, making sure UHF 52 is maintained and safe car distance is ensured before exiting Site Contacts Civils Foreman: Ehab Lozi:	

Figure 8: Example VMP

Appendix B8: Traffic and Transport Management Sub-Plan

Newcastle Inner City Bypass – Rankin Park to Jesmond (Stage 4 – Main Works)

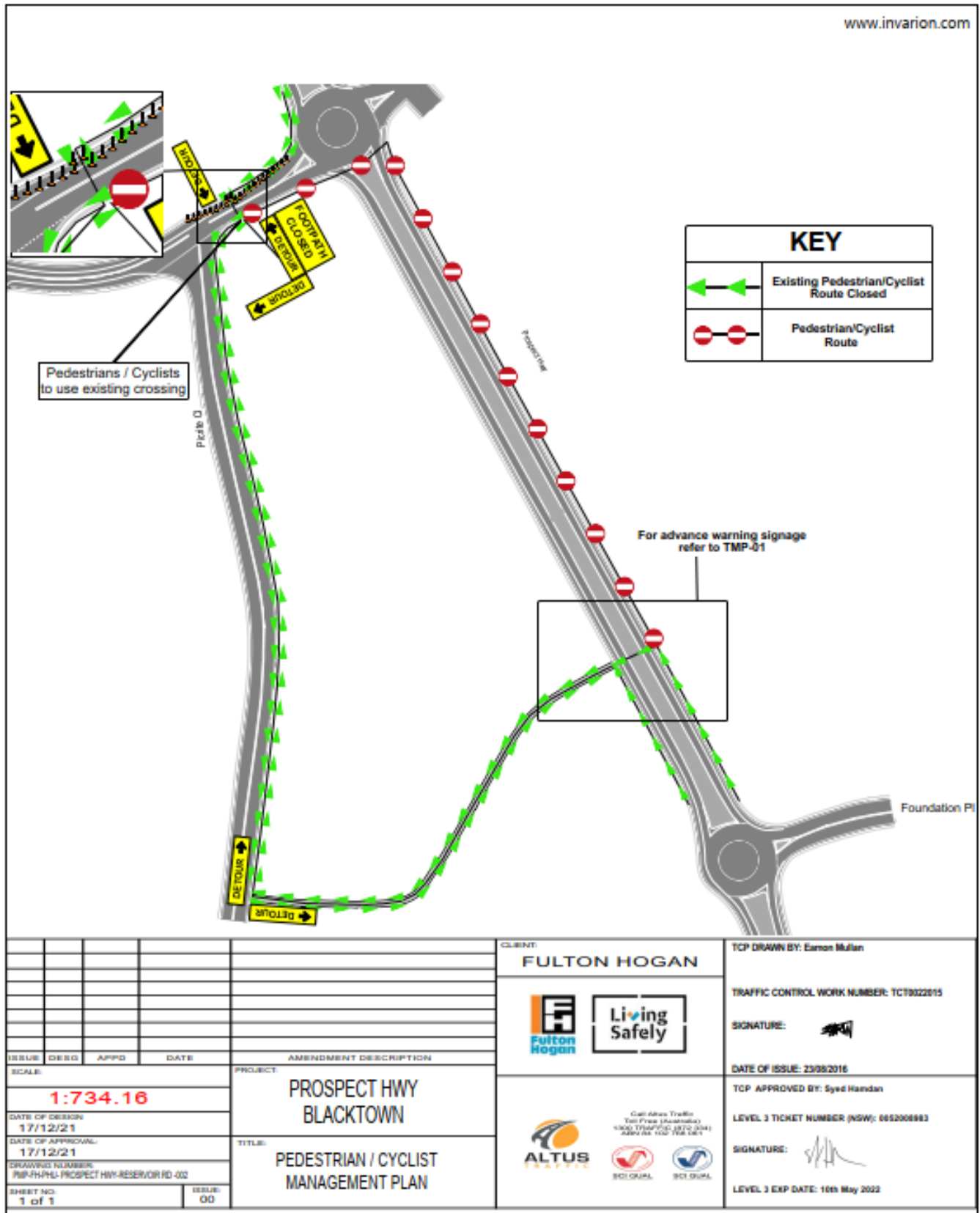


Figure 9: Example P&CMP

7.3.3. Modifications to TGSs, VMPs and P&CMPs

TGSs, VMPs and P&CMPs shall be regularly reviewed for their effectiveness as they form part of the TMP, and shall be amended and recorded on the plan with revision date:

- As and when deemed necessary to maintain or improve safety of the public and construction activities, including both vehicular, pedestrian and cyclist movements;
- When there are programmed changes to the construction activities that will affect traffic movements on public roads; and
- When existing traffic control measures are required to be amended to improve traffic flow or to minimise the impact of construction traffic on road users.
- Any modifications to approved TGSs, VMPs and P&CMPs will require TfNSW' review through the Hold Point approval process.

7.4. Road Occupancy and Speed Zone Authorisations

7.4.1. Road Occupancy Licenses

A Road Occupancy licence (ROL) will be obtained by Fulton Hogan when planned activities require an existing road to be used in such a way that affects free flow of traffic.

Road occupancies include:

- Shoulder occupancies and/or closures
- Lane occupancies and/or closures
- Road closed and detours
- Any occupation of the construction site that requires a Traffic Guidance Scheme

Applications for an ROL will be prepared by Fulton Hogan in accordance with TfNSW Specification G10 and will comply with the road safety and traffic management principles, objectives and targets outlined in this TTMP.

Applications will be submitted as per the requirements and timeframes specified in TfNSW Specification G10 to the relevant Road Occupancy Authority inclusive of all required information. For works on Lookout Road, Newcastle Road and existing section of Newcastle Inner City Bypass an ROL application will be made to CNC North. For works on McCaffrey Drive or any local road where planned activities require an existing road to be used in such a way that affects free flow of traffic an ROL application will be made to City of Newcastle.

The submissions will include a description of the work to be conducted, design drawings (if relevant) a program of the works, a TGS, VMP, details of SZA submission (if applicable), and contact details of the Traffic Manager or nominated delegate.

7.4.2. Speed Management

A temporary roadwork speed zone will only be implemented where it is required to assist in controlling the speed of traffic through roadwork sites. A reduced roadwork speed zone will only be implemented where it is warranted or approved in:

- Emergency situations
- Installation of long-term traffic control devices when approved by ROL
- Completion of on road works when approved by ROL

In conjunction with ROL applications, additional application for a temporary Speed Zone Authorisation (SZA) to alter the speed limit of section(s) of the road. Temporary Speed zoning and speed limits selection will comply with the TCAWS. If approved, copies of Speed Zone Authorisations must be kept on site and made available for review by TfNSW and other authorised personnel, including NSW Police, upon request.

The key principles for the effective implementation of roadwork speed limits are:

- They are self-enforcing or will be enforced
- They are not to be used alone but with other traffic control signs and devices
- They are not to be used in place of more effective means of traffic controls
- They are only to be used while roadworks are in progress or there are temporary safe road conditions

7.5. Pedestrians and cyclists

In accordance with NSW CoA E71 safe pedestrian and cyclist access must be maintained around work sites for the duration of construction. In circumstances where pedestrian and cyclist accesses are restricted or removed due to construction activities, an alternate route (temporary or permanent) which complies with the relevant standards must be provided and signposted.

Fulton Hogan will prepare detailed Pedestrian and Cyclists Management Plans (P&CMP's) as part of the construction Traffic Staging Plans, developed TGS and VMPs. The P&CMP's will consist of diagrams showing the allocated travel paths for construction site personnel and pedestrians around or through construction sites.

In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, an alternate route which complies with the relevant standards (as detailed below) will be provided and signposted prior to removal of the existing route.

For pedestrians and cyclists, the traffic staging is developed in a manner to ensure the requirements of SWTC Appendix 27 are met inclusive of:

- Maintenance of safe access for pedestrians along the western footways of Lookout Road and McCaffrey Drive
- Maintenance of safe pedestrian and cyclist access along the Jesmond Park shared path through the site until bridge 8 and its approaches are completed
- Provision of Safe pedestrian access along Newcastle Road in both directions.
- In the event that the safety of usual pedestrian access is temporarily compromised, equivalent alternative arrangements acceptable to the TfNSW including escorting pedestrians and dismounted cyclists (as required) through the relevant site areas.

Traffic staging documents and over-arching construction program is to be managed to facilitate construction of new overpass bridge (Bridge 8) as soon as practicable. Due to the location of Bridge 08 interfacing directly with Newcastle Road (A15) and to minimise impacts to existing road users, multiple traffic stages will be implemented over the project lifecycle to achieve this. When preparing the P&CMP's Fulton Hogan will identify the pedestrian and cyclists needs through consideration of:

- Number of pedestrians / cyclists;
- Type of pedestrian/cyclist activity: whether office, retail, residential or recreational
- Origin and destination points of the pedestrians/cyclist, and their desired travel path (inclusive of route connectivity);
- Needs of vulnerable pedestrians/cyclists, such as young children, the elderly, vision impaired, disabled people, people with prams and trolleys; and
- Proximity of pedestrian/cyclist generating developments, such as schools, shopping centres, railway stations, bus terminals.
- The grade of road/path – and the potential effective travel speed of cyclists

Providing temporary footpaths

Where work areas restrict access to existing footpaths or crossings, alternative routes and facilities are to be considered. In doing so, the Project team is to engage with the community to understand any specific requirements or suggestions that they may have regarding any changes.

Alternative routes may include using the opposite footpath, installation of signalised crossings or setting up detours via other streets. Alternative facilities may include footpath protection such as barriers or a speed reduction to

ensure adherence to minimum lateral clearances to traffic or provision of temporary footpaths through the work area.

In summary, temporary pedestrian/cyclist shared paths are to be:

- Clearly defined;
- Signposted appropriately to indicate the direction of the path;
- Constructed of an all-weather surface, free of trip hazards;
- Designed to accommodate the type of pedestrian/cyclist to be encountered within the area;
- Provided with pram ramps, holding rails and sufficient lighting where required; and
- Kept well maintained while in operation.

Any developed VMPs are to allow for safe management of pedestrians, including the workforce via means of separation and segregation in particular in the areas where heavy vehicles operate as depicted in the WHSMP.

Providing temporary crossings

Where feasible, the Traffic Manager will aim to maintain all existing pedestrian crossing facilities. Where this cannot be achieved, alternative facilities that are a similar standard to the present facility will be provided.

Alternative facilities may include pedestrian refuges, marked foot crossings, pedestrian actuated traffic signals, temporary grade separated pedestrian bridges, and the like. Adjusted Pedestrian Traffic Crossings will be detailed within the Traffic Staging plans and will be further developed through P&CMP.

An approval from the TfNSW is required prior to adjusting any existing pedestrian/cyclist crossing facility or the implementation of any new temporary facility.

7.6. Public transport

Construction activities and traffic management measures have the potential to cause disruption to bus routes along Lookout Road and Newcastle Road. Fulton Hogan will consult and communicate with all bus operators to inform them of construction activities which affect their operations and to agree suitable locations to relocate bus stops and access points along the route, where required.

Measures to mitigate impacts to public transport include:

- Traffic staging will be developed to ensure that bus turning movements are adequately catered for
- changes to bus stops will be implemented in consultation with TfNSW, City of Newcastle and relevant bus operators (in accordance with the CCS).

Provision of temporary bus bays will be provided to the following dimensions:

- 15m long
- 3.5m wide
- tapers 20m long at each side
- Provide appropriate bus stop signs
- Ensure adequate area to queue and for pedestrian movements
- Provide signs directing pedestrians to and from the bus stops.

Consultation with bus service providers will be undertaken in accordance with the Community Consultation Strategy.

7.7. Parking

Parking for construction personnel will be provided at ancillary facilities. No impact on surrounding public parking areas is expected due to the Project.

For the avoidance of doubt, construction personnel will not utilise the John Hunter Precinct parking during the project.

If alternative parking arrangements/requirements are identified by the project, they will be developed in consultation with Council and any affected businesses and properties.

7.8. Property access

Access to all properties will be maintained during Construction unless otherwise agreed by the relevant business owner, property owner or occupier.

In accordance with CoA E70 all reasonable and practicable measures must be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties. Disruption to property access will be minimised by:

- Detailing property access requirements on Traffic Staging drawings, TGS's and VMP's
- Providing all-weather access arrangement for vehicles and pedestrians
- Ensuring continuity of services to properties such as garbage collection and mail delivery
- Provision of signage and directions to businesses must be provided before, and for the duration of, any disruption.
- Priority access will be provided for emergency services vehicles through the Site and Local Roads Works areas by the Project.

During construction and in accordance with REMM TT10, Fulton Hogan will consult with affected property owners/residents to minimise disruption to access. Where access to property would be disrupted for an extended period (longer than a week), alternative access will be provided that is fit for purpose. Where pedestrian access is unavailable for safety reasons, pedestrians can be escorted through the construction site by Fulton Hogan, this will be facilitated by Fulton Hogan through consultation as detailed below to determine access requirements or the provision of alternative access as required.

Consultation will occur in accordance with the Community Communication strategy (CCS) for the Project, with the purpose of consultation to inform property or business owners of the extent and timing of the Construction works that will affect access, identify temporary alternative access arrangements or other management measures and determine any special arrangements required, Regular communication will be undertaken with affected property or business owners during the period that construction impacts access.

Access to properties that require adjustment will be through existing roads and current property access points. No property access points for property adjustments will be closed or disrupted during the works. Properties requiring adjustment are listed below:

- P01 – 138 Lookout Road (relocate letterbox)
- P02 – 68 Victory Parade, Wallsend (install colorbond fencing)
- P03 – 21 Myall Street, Wallsend (provide colorbond fencing and timber post and plain wire fencing)

8. Compliance management

8.1. Roles and responsibilities

Fulton Hogan's Project Team organisational structure and overall roles and responsibilities are outlined in Section 4.1 of the CEMP. Specific responsibilities for the implementation of controls are detailed in Table 7 of this TTMP.

8.1.1. Traffic Manager

Fulton Hogan will provide a Traffic Manager for the project. The Traffic Manager will hold a current "Prepare Work Zone Traffic Management Plan" qualification and have minimum of 5 years of recent experience in traffic management on road construction sites.

- ensuring that the approved traffic management measures are implemented and maintained in accordance with the approved plans;
- carrying out regular inspections of the traffic control measures to ensure that they are effective;

- amending and updating the plans, as required, to ensure that they remain current as the work progresses;
- identifying situations where traffic congestion, or unsafe conditions for vehicles, cyclists, pedestrians and workers, are occurring and providing recommendations for improvement;
- maintaining current copies of the Traffic Management Plan and its various component plans, lane road occupancy licences / permits and speed zone authorisations, and their controlled distribution;
- keeping records of the Traffic Controllers' qualifications and ensuring that they are current;
- liaising and facilitating regular meetings with the Principal, other authorities and relevant parties on traffic management matters for the Site, maintaining records of these meetings and making them available to the relevant persons;
- in conjunction with Community Relations Manager, undertake consultations with local businesses and residents;
- providing induction on traffic management measures to site personnel;
- recording and reporting on all traffic incidents;
- preparing monthly reports on traffic management matters

8.1.2. Community Relations Manager

Fulton Hogan will provide a Community Relations Manager (CRM) for the project. The environmental responsibilities of the Community Relations Manager include:

- Ensure that all community consultation activities are carried out in accordance with the project requirements
- Report any environmental issues raised by stakeholders or members of the community to the Environmental Manager
- Communicate environment-related project progress, performance, mitigation measures and issues to stakeholders and the community
- Maintain the 24-hour complaints hotline.

The CRM will notify the community in accordance with the Community Communication Strategy (CCS) and in accordance with the mitigation measures listed in Chapter 7 of the TTMP.

- Be made by targeted letterbox drop, door knock, phone call or email to identified affected stakeholders
- Be posted on the project website

8.1.3. Traffic Controllers

Traffic controllers will be appointed by Fulton Hogan solely for the purposes of the Contract to provide for the safe movement of traffic around, past or through the work site. Traffic Controllers controlling and directing traffic will hold a current "Traffic Controller" qualification.

8.1.4. Temporary Roadway Designer

If temporary new roadways and detours, or adjustments to existing lane configurations and road geometry, are required as part of traffic staging, they will be designed in accordance with the relevant design standards, engineering and safety guidelines by a suitably qualified and experienced road designer with a minimum of 5 years recent experience in designing roads to TfNSW standards.

8.1.5. Functional Personnel

Functional personnel provide support for all construction activities and their traffic management related responsibilities are described above

WHS team is responsible for managing haulage routes in compliance with WHS Management Plan and Chain of Responsibility

8.2. Training

All employees, subcontractors and utility staff working on site will undergo site induction training relating to traffic and transport management issues, including:

- requirements of this TTMP and all plans and procedures

- relevant legislation, regulations, licenses, conditions and permit requirements
- roles and responsibilities for managing impacts on traffic and access
- temporary and interim traffic arrangements
- response procedure for dealing with traffic incidents

Further details regarding staff induction and training are outlined in Chapter 5 of the CEMP.

8.3. Complaints

Complaints will be recorded and addressed in accordance with Section 6.2.3 of the CEMP and the Community Communication Strategy (CCS)

8.4. Traffic management risk assessment workshop

A Traffic Management Risk Assessment Workshop will be undertaken to identify and address the risks associated with traffic management, road safety and other road network issues specific to each stage of the Project.

The workshop will be attended by the nominated Traffic Manager, road designers, any personnel involved in preparing the TMP, traffic control organisation, police, CNC North and council representatives

8.5. Inspections and monitoring

Regular inspections and monitoring specific to traffic and transport will be undertaken during construction. General requirements and responsibilities in relation to inspections and monitoring are documented in Sections 8.1 and 8.2 of the CEMP respectively.

Auditing

Auditing (both internal and external) will be undertaken to assess the effectiveness of environmental mitigation measures, compliance with this TTMP, TfNSW specifications and other relevant approvals, permits and licences. Auditing requirements are detailed in Section 8.4 of the CEMP.

8.5.1. Construction road safety audits

Prior to its initial implementation, and prior to Traffic Switches, a desktop road safety audit will be carried out on the TSMP and relevant Traffic stage documents. Audits will be completed in accordance with the requirements in the NSW Centre for Road Safety publication Guidelines for Road Safety Audit Practices and AGRS06 Austroads Guide to Road Safety Part 6: Implementing Road Safety Audits and QA Specification G10.

A Road Safety audit will also be conducted within 24 hours of completing a traffic switch on to temporary roadways or detours.

8.6. Reporting

General reporting requirements and responsibilities are documented in Chapter 9 of the CEMP.

8.7. Non-conformances

Non-conformances will be dealt with and documented in accordance with Chapter 10 of the CEMP.

9. Review and improvement of TTMP

The TTMP will be reviewed annually to ensure compliance with legislative requirements and its suitability and effectiveness for the project.

The review may be in the form of:

- A formal management review
- An audit, and/or

- An inclusion as a separate item at a site meeting.

The Traffic Manager may review and update the TTMP more regularly where:

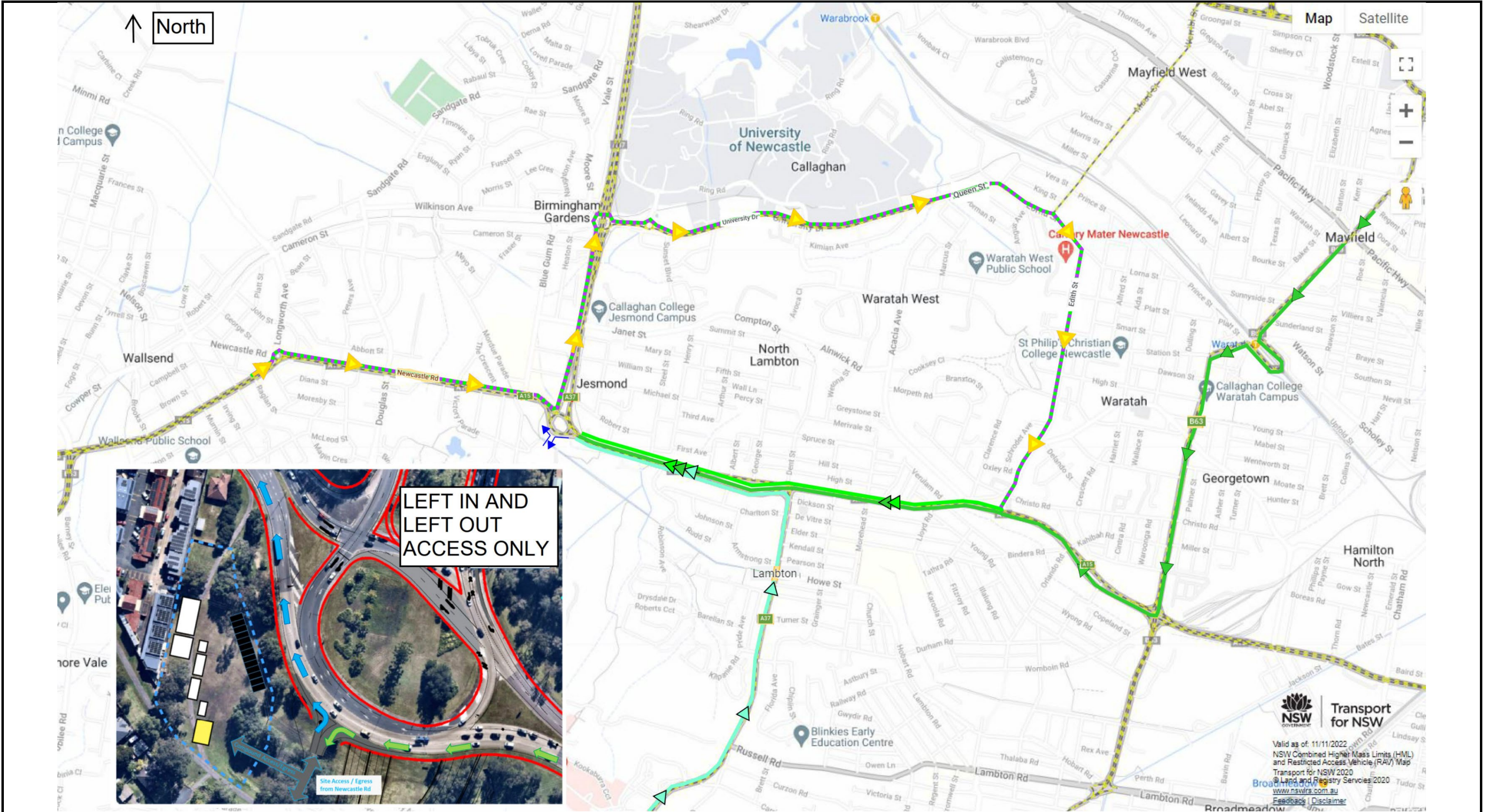
- Significant changes in construction activities occur
- Where targets are not being achieved, or
- In response to audits and non-conformance reports.

Any changes to the TTMP will be approved by the ER and made in accordance with the process outlined in Section 1.6 of the CEMP.

Appendix A1: Site Access and Egress Routes



Northern Interchange Access – Newcastle Road (A15)



Notes

- Construction vehicle movements as detailed in Table 4
- All construction vehicles are to enter via Newcastle Road (A15)
- Primary Haulage routes for Northern Interchange to utilise Arterial road network (A37, A15 and B53) to gain access to Newcastle Road.
- Limited Access Route to be utilised for localised construction deliveries only.
- Access and Egress arrangement at roundabout indicative only – site specific Staging Design, TGS and VMP to be developed

Key Haulage Routes for site entry

Access

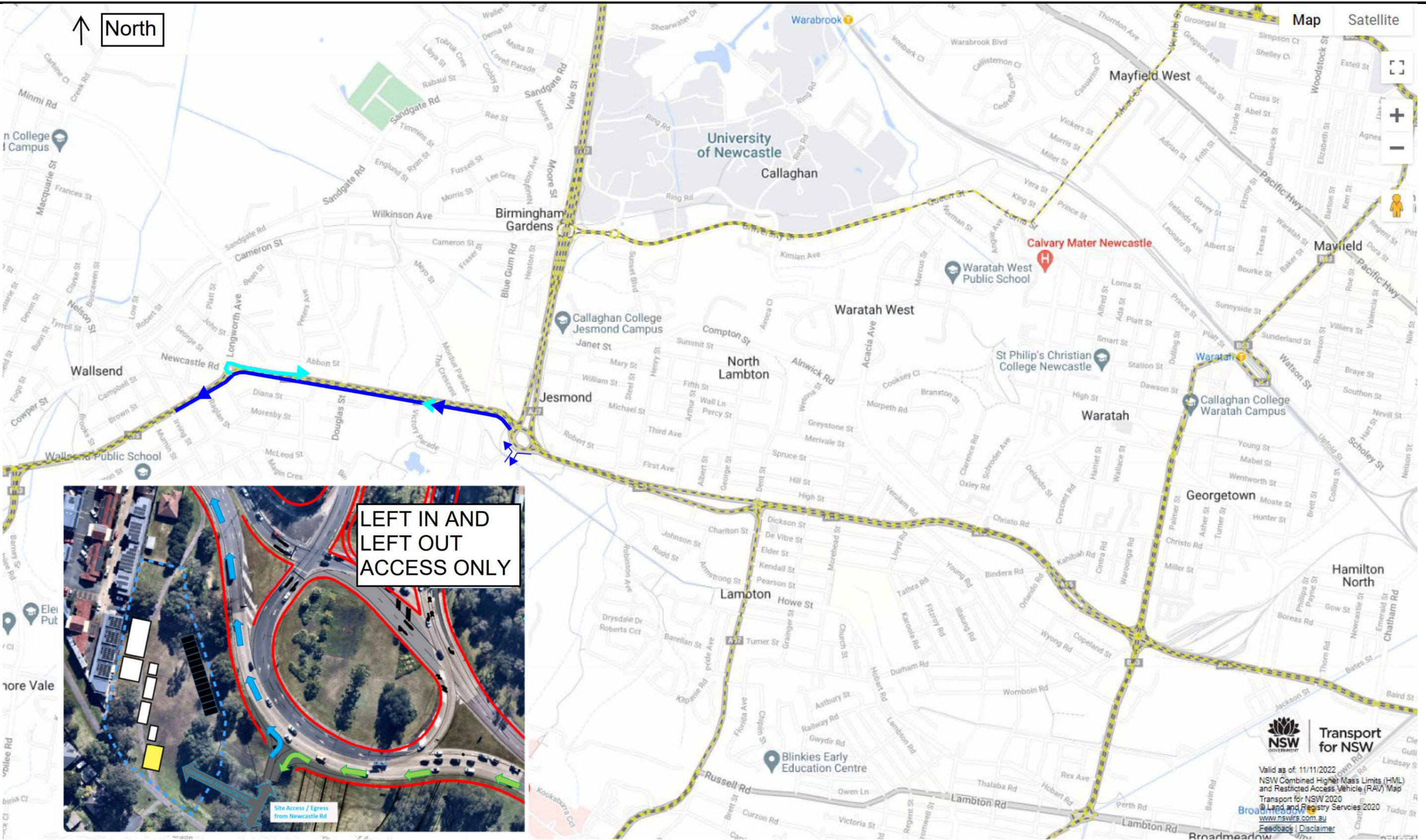
Egress

Arterial Road Network

Limited Access Route



Northern Interchange Egress – Newcastle Road (A15)



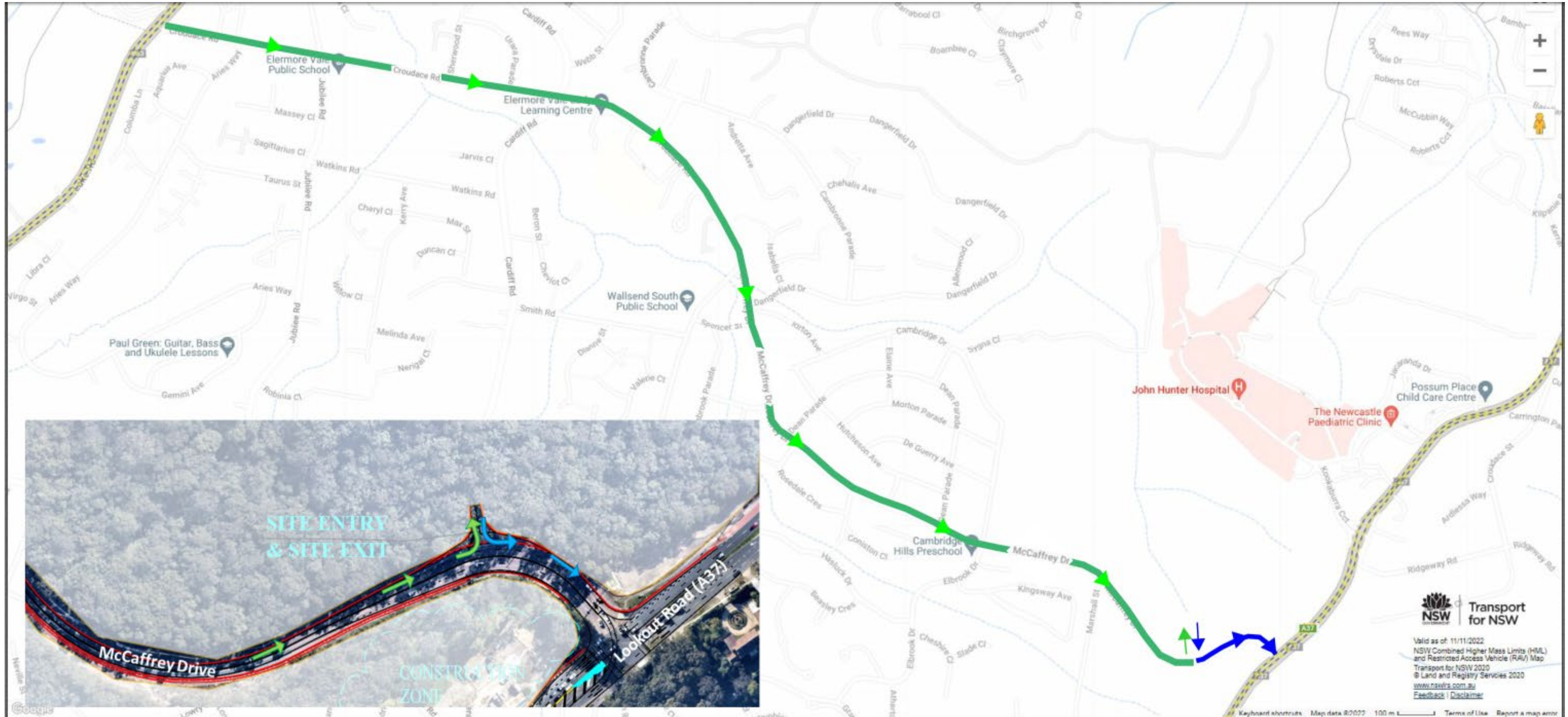
- Notes**
- Construction vehicle movements as detailed in Table 4
 - All construction vehicles are to exit work site via Newcastle Road (A15) and utilise arterial road network
 - Exit arrangement at roundabout indicative only – site specific Staging Design, TGS and VMP to be developed

Direction of Travel

Access

Egress

Arterial Road Network



Notes

- Construction vehicle movements as detailed in Table 4
- All construction vehicles are to enter via McCaffrey Drive
- All construction vehicles are to exit via Lookout Road (A37)
- Access and Egress arrangement at roundabout indicative only – site specific Staging Design, TGS and VMP to be developed

Key Haulage Routes for site entry

- Access (Green line)
- Egress (Blue line)
- Arterial Road Network (Yellow dashed line)
- Limited Access Route (Pink dashed line)

