

CONSTRUCTION TRAFFIC MANAGEMENT PLAN

Sydney Metro West – Western Tunnelling Package
Project Wide

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NOTES:

Once all signatures have been obtained, the Document Author is responsible for ensuring the signed and approved hard and soft copies are uploaded on to the project share drive or passed to the Responsible Person for filing.

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Definitions/ Abbreviations

Acronym	Definition
BNS	Burwood North Station (not applicable to WTP works)
CPC	City of Parramatta Council
CEMP	Construction Environmental Management Plan
CJP	Customer Journey Planning (formerly TC)
CLY	Clyde site
CMSF	Clyde Main Stabling Facility
CTMF	Construction Traffic Management Framework
CTMP	Construction Traffic Management Plan
CC	Cumberland Council
DMS	Delivery Management System
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
EPL	Environment Protection License
FDS	Five Dock Station (not applicable to WTP works)
GLC	Gamuda and Laing O'Rourke Consortium
HVLR	Heavy Vehicle Local Road report
LTC	Local Traffic Committee (Council)
MCoA	Ministerial Conditions of Approval
NSMS	North Strathfield Metro Station (not applicable to WTP works)
NSW	New South Wales
PMS	Parramatta Metro Station
ROL	Road Occupancy License
ROP	Road Opening Permit
SMW	Sydney Metro West
SOPA	Sydney Olympic Park Authority
SOPMS	Sydney Olympic Park Metro Station
SZA	Speed Zone Authorisation
TBM	Tunnel Boring Machine
TBS	The Bays Station (not applicable to WTP works)
TC	Transport Coordination (now known as CJP)
TCG	Traffic Control Group
TCP	Traffic Control Plan (now known as TGS)

Acronym	Definition
TfNSW	Transport for NSW
TGS	Traffic Guidance Scheme (formerly TCP)
TMC	Transport Management Centre
TTLG	Traffic and Transport Liaison Group
REMM	Revised Environmental Management Measure
WMS	Westmead Metro Station

1 INTRODUCTION

Sydney Metro West (SMW) is a new underground railway connecting Greater Parramatta and the Sydney CBD. It will provide fast connections between greater Sydney's two major business centres as well as providing better access to the growing business and entertainment precincts in Olympic Park and Pyrmont, the health and medical research hub at Westmead and the future business and tourism site at The Bays.

SMW is being delivered in several packages. The Western Tunnelling Package WTP is an enabling package for SMW. It involves 9km of twin railway tunnels between Sydney Olympic Park and Westmead as well as:

- Westmead Station box excavation, including temporary support, stub tunnels, partially mined station cavern and crossover cavern including permanent lining and support
- Parramatta Station, including excavation of station box and associated support
- Clyde Stabling and Maintenance Facility (SMF), including permanent dive structure, portal, spur running tunnels, spur tunnel junction cavern, bulk earthworks, civil structures, utilities corridor, road crossing and creek diversion
- Rosehill Services Facility, including shaft excavation, permanent lining, and lateral support
- a precast segment manufacturing facility at Eastern Creek
- demolition and site clearance work.

The entire Sydney Metro West Stage 1 is shown in Figure 1-1 below. The WTP Project location is from Westmead to Sydney Olympic Park.

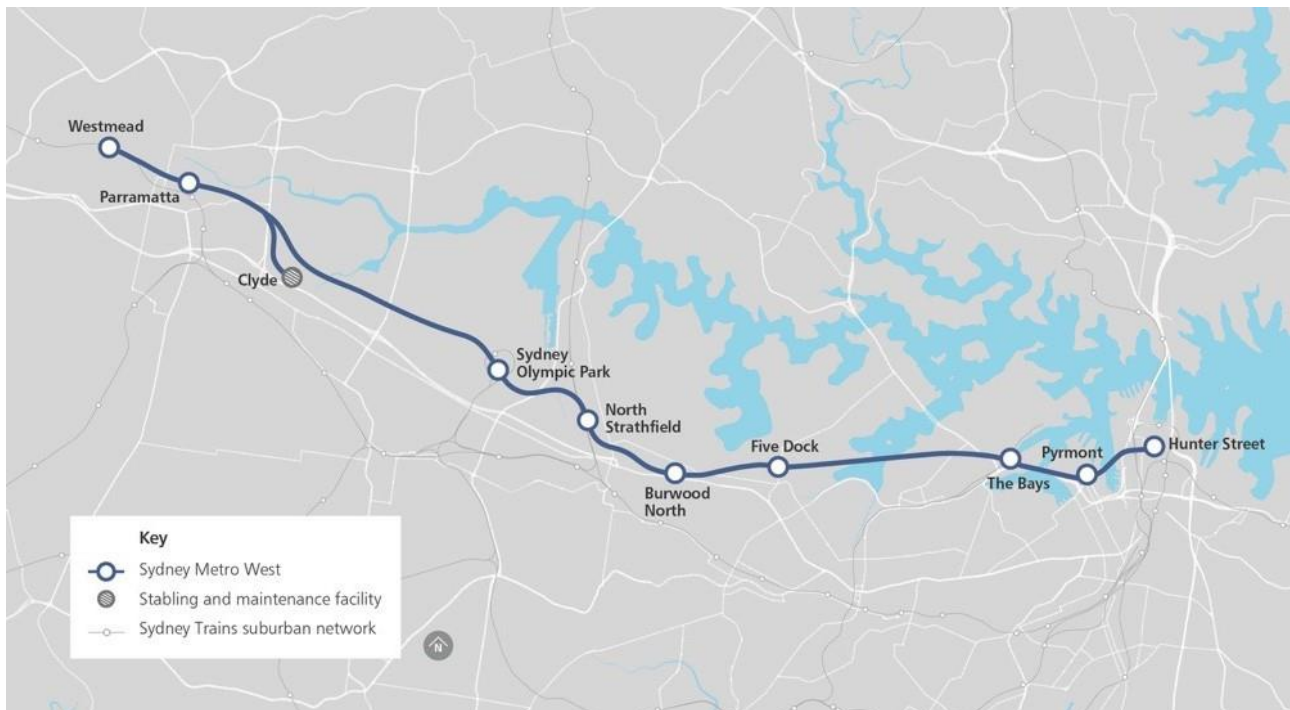


Figure 1-1: Project location

This plan is the overarching Construction Traffic Management Plan (CTMP) required under the Construction Traffic Management Framework. This plan complies with GLC's legal, planning and contractual requirements and environmental management system (EMS). This Plan also complies with the Project's State Significant Infrastructure Approval (SSI 10038) including the Revised Environmental Management Measures (REMMs) and the Ministerial Conditions of Approval (MCoA).

2 COMPLIANCE

2.1 Ministerial Conditions of Approval

The Ministerial Conditions of Approval are listed below in Table 1.

Table 1: Ministerial Conditions of Approval

MCoA	Condition requirement	Document reference
A47	All heavy vehicles used for spoil haulage must be clearly marked on the sides and rear with the project name and application numbers to enable immediate identification by a person viewing the heavy vehicle standing 20m away	Table 9
D80	Access to all utilities and properties must be maintained during works unless otherwise agreed with the relevant utility owner land owner or occupier	Section 9.2
D81	any property access physically affected by the CSSI must be reinstated to at least an equivalent standard unless otherwise agreed by the land owner or occupier. Property access must be reinstated within one (1) month of the work that physically affected the access is completed or in any other timeframe agreed with the land owner or occupier	Section 9.2
D82	construction vehicles (including light vehicles) must not use Roberts St, Rozelle to access The Bays metro station construction site unless required in the event of an emergency or in association with the delivery of the Rozelle power supply from the Rozelle sub-transmission substation to The Bays metro station constructions site	Not applicable to the Western Tunnelling Package
D83	The locations of all heavy vehicles used for spoil haulage must be monitored in real time and the records of that monitoring being made available electronically to the Planning Secretary and the EPA upon request for a period of no less than one (1) year following the completion of construction	Section 8.3
D84	The primary egress routes for spoil haulage trucks at Sydney Olympic Park metro station construction site must be determined in consultation with SOPA	Section 8.2
D85	Construction Traffic Management Plans (CTMPs) must be prepared in accordance with the Construction Traffic Management Framework a copy of the CTMPs must be submitted to the Planning Secretary for information before the commencement of any construction in the area identified and managed within the relevant CTMPs	Section 2.3
D86	Local roads proposed to be used by Heavy Vehicles to directly access construction sites that are not identified in the documents listed in Condition A1 of this schedule must be approved by the Planning Secretary and be included in the CTMPs	Section 8.2
D87	All requests to the Planning Secretary for approval to use local roads under Condition D86 above must the following a) A swept path analysis	Section 8.2

MCoA	Condition requirement	Document reference
D87	All requests to the Planning Secretary for approval to use local roads under Condition D86 above must the following b) Demonstration that the use of local roads by Heavy vehicles for the CSSI will not compromise the safety of pedestrians and cyclists of the safety of two way traffic flow on two way roadways	Section 8.2
D87	All requests to the Planning Secretary for approval to use local roads under Condition D86 above must the following c) Details as to the date of completion of the road dilapidation surveys for the subject local road and	Section 8.2
D87	All requests to the Planning Secretary for approval to use local roads under Condition D86 above must the following d) Measures that will be implemented to avoid where practicable the sue of local roads past schools, aged care facilities and child care facilities during their peak operation times and	Section 8.2
D87	All requests to the Planning Secretary for approval to use local roads under Condition D86 above must the following e) Written advice from an appropriately qualified professional on the suitability of the proposed Heavy Vehicle route which takes into consideration items a) to d) of this condition	Section 8.2
D88	Before any local road is used by a Heavy Vehicle for the purposes of construction of Stage 1 of the CSSI, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the Relevant Road Authority(s) within three (3) weeks of completion of the survey and at no later than one (1) month before the road being used by Heavy Vehicles associated with the construction of Stage 1 of the CSSI	Section 8.6
D89	If damage to roads occurs because of the construction of Stage 1 of the CSSI, the Proponent must either (at the Relevant Road Authority's discretion) a) Compensate the Relevant Road Authority for the damage so caused or b) Rectify the damage to restore the road to at least the condition it was in pre-work as identified in the Road Dilapidation Report	Section 8.6
D90	Vehicles associated with the project workforce (including light vehicles and Heavy Vehicles must be managed to: a) Minimise parking on public roads	Sections 5.9, 5.10, 8 and 8.2
	Heavy Vehicles must be managed to: b) Minimise idling and queuing on state and regional roads	Section 8
	Heavy Vehicles must be managed to: c) Not carry out marshalling of construction vehicles near sensitive land user(s)	Section 8
	Heavy Vehicles must be managed to: d) Not block or disrupt access across pedestrian or shared user paths at any time unless alternate access is provided and	Section 5.4

MCoA	Condition requirement	Document reference
	Heavy Vehicles must be managed to” e) Ensure spoil haulage vehicles adhere to the nominated haulage routes identified in the CTMPs	
	A Construction Parking and Access Strategy must be prepared to identify and mitigate impacts resulting from on and off street parking changes during construction. The Construction Parking and Access Strategy must include, but not necessarily be limited to: <ul style="list-style-type: none"> a) Achieving the requirements of Condition D90 above b) Confirmation and timing of the removal of on and off street parking associated with construction of Stage 1 of the CSSI c) Parking surveys of all parking spaces to be removed or occupied by the project workforce to determine current demand during peak, off peak, school drop off and pick up, weekend periods and during special events d) Consultation with affected stakeholders utilising existing on and off street parking stock which will be impacted as a result of construction e) Assessment of the impacts to on and off street parking stock taking into consideration occupation by the project workforce, outcomes of consultation with affected stakeholders and considering the impacts of special events f) Identification of reasonable and practicable mitigation measures to manage impacts to stakeholders as a result of on and off street parking changes including, but not necessarily limited to, staged removal and replacement of parking, provision of alternative parking arrangements, managed staff parking arrangements and working with relevant council(s) to introduce parking restrictions adjacent to worksites and compounds or appropriate residential parties schemes g) Where residential parking schemes already exist off road parking facilities must be provided for the project workforce h) mechanisms for monitoring over appropriate intervals (not less than six months) to determine the effectiveness of implemented mitigation measures i) Details of shuttle bus services to transport the project workforce to construction sites from public transport hubs and offsite car parking facilities (where these are provided) and between construction sites j) Provision of contingency measures should the results of mitigation or monitoring indicate implemented measures are ineffective and k) Provision of reporting of monitoring results to the Planning Secretary and relevant Council(s) at six (6) monthly intervals 	Section 5.10
D92	The Construction Parking and Access Strategy must be submitted to the Planning Secretary for approval at least one (1) month before the commencement of any construction that reduces the availability of existing parking. The approved Construction Parking and Access Strategy must be implemented before impacting on on-street parking and incorporated into the CTMPs	Section 5.10

MCoA	Condition requirement	Document reference
D93	During construction or reasonably practicable measures must be implemented to maintain pedestrian, cyclists and vehicular access 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, cyclists and vehicular access and parking arrangements must be developed in consultation with affected businesses and implemented before the disruption. Adequate signage and directions to businesses must be provided before and for the duration of any disruption	Section 5.4
D94	A Traffic and Transport Liaison Group(s) must be established in accordance with the Construction Traffic Management Framework to inform the development of CTMPs	Section 9.3.1
D95	Supplementary analysis and modelling as required by TfNSW and/ or the Traffic and Transport Liaison Group(s) must be undertaken to demonstrate that construction and operational traffic can be managed to minimise disruption to traffic network operations including changes to the management of pedestrian, cyclist and public transport networks, public transport services, and pedestrian and cyclist movements. Revised traffic management measures must be incorporated into the CTMPs	Section 9.3.1
D96	<p>The permanent road works at Clyde/ Rosehill must be designed, constructed and operated with the objective of integrating with existing and proposed road and related transport networks and minimising adverse changes to the safety, efficiency and accessibility of the networks and avoid deterioration in peak period levels of service in relation to permanent and operational changes. Design and assessment of related traffic, parking, pedestrian and cycle accessibility impacts and changes shall be undertaken:</p> <ul style="list-style-type: none"> a) In consultation with, and to the reasonable requirements of the relevant Traffic and Transport Liaison Group b) In consideration of existing and future demand, connectivity (In relation to permanent changes), performance and safety requirements c) To minimise and manage local area traffic impacts d) To ensure access is maintained to property and infrastructure and e) To meet relevant design, engineering and safety guidelines, including Austroads, Australian Standards and TfNSW requirements <p>Copies of civil, structural and traffic signal design plans shall be submitted to the Relevant Road authority for consultation during design development and before completion of construction of Stage 1 of the CSSI</p>	Sections 5.8 and 9.3.1
D97	Permanent road works including vehicular access, signalised intersection works, and works relating to pedestrians, cyclists and public transport users must be subject to safety audits demonstrating consistency with relevant design, engineering and safety standards and guidelines. Safety audits must be prepared in consultation with	Sections 5.8 and 9.3.1

MCoA	Condition requirement	Document reference
	the relevant Traffic and Transport Liaison Group before the completion and use of the subject infrastructure and must be made available to the Planning Secretary upon request.	
D98	Safe pedestrian and cyclist access must be maintained around construction sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, a proximate alternate routes which complies with the relevant standards, must be provided and signposted before the restriction or removal of the impacted access.	Section 5.4
D99	Opportunities to maximise spoil material removal by non-road methods must be investigated and implemented where reasonably practicable to minimise movements by road	Refer to Spoil Management Plan
D100	The Proponent must maintain emergency vehicle access, in consultation with TfNSW, emergency services and NSW Health, to Westmead Hospital at all times throughout Stage of the CSSI. Measures must be outlined in the Construction Parking and Access Strategy required under Condition D91 above	Section 9.3.3

2.2 Revised Environmental Management Measures

The Revised Environmental Management Measures are listed below in Table 2.

Table 2: Revised Environmental Management Measures

REMM#	Condition requirement	Site(s)	Document Reference
TT1	The community would be notified in advance of proposed road and pedestrian network changes through appropriate forms of community liaison	All	Section 9
TT2	In the event of a traffic related incident, coordination would be carried out with Transport for NSW, including Transport Coordination and/ or the Transport Management Centre's Operations Manager	All	Section 5.5
TT3	Access to properties for emergency vehicles would be always provided	All	Section 9.3.3
TT4	Vehicles access to and from construction sites would be managed to maintain pedestrian, cyclist and motorist safety. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modifications to existing signals or, on occasions, police presence	All	Sections 5.4 and 7
TT5	Additional enhancements for pedestrians, cyclists and motorist safety near the construction site would be implemented during construction. This would include measures such as:	All	Sections 8 and 9

REMM#	Condition requirement	Site(s)	Document Reference
	<ul style="list-style-type: none"> Assessing the suitability of construction haulage routes through sensitive land use areas with respect to road safety Deployment of speed awareness signs in conjunction with variable message signs near construction sites to provide alerts to drivers Providing community education and awareness about sharing the road safety with heavy vehicles Specific driver training to understand route constraints, safety and environmental considerations such as sharing the road safety with other road users and limiting the use of compression braking <p>Requiring technology and equipment to improve vehicle safety, eliminate heavy vehicle blind spots, and monitor vehicle location and driver behaviour</p>		
TT6	All trucks would enter and exit construction sites in a forward direction, where feasible and reasonable	All	Section 8
TT7	Construction site traffic would be managed to minimise movements during peak periods	All	Section 8
TT8	Construction site traffic immediately around construction sites would be managed to minimise vehicle movements through school zones during pick up and drop off times	WMS ¹ PMS BNS FDS	Section 8
TT9	Opportunities to minimise impacts at the Alexandra Avenue/ Bridge Road intersection would be determined in consultation with Transport for NSW	WMS	Section 5.8.1
TT10	Where existing parking is removed to facilities construction activities consultation would occur with the relevant local council to investigate opportunities to provide alternative parking facilities	All	Section 5.10
TT11	Construction sites would be managed to minimise the number of construction workers parking on surrounding streets by: <ul style="list-style-type: none"> Encouraging workers to use public or active transport Encouraging ride sharing 	All	Section 5.9

¹ WMS=Westmead, PMS=Parramatta, BNS-Burwood North Station, FDS=Five Dock Station, NSMS=North Strathfield Metro Station, TBS=The Bays Station

REMM#	Condition requirement	Site(s)	Document Reference
	Provision of alternative parking locations and shuttle bus transfers where feasible and reasonable		
TT12	Any temporary closure or relocation of bus stops and kiss and ride facilities would be carried out in consultation with Transport for NSW including Transport Coordination (for relevant locations), the relevant local council and bus operators, Wayfinding and customer information would be provided to notify customers of relocated bus stops	WMS NSMS BNS TBS	Section 5.3
TT13	Opportunities to improve bus priority along the temporary detour at Westmead metro station construction site would be investigated during detailed design	WMS	Section 5.8.1
TT14	Pedestrian and cyclist access would be maintained during the temporary closure of Alexandra Avenue. Wayfinding and customer information would be provided to guide pedestrians and cyclists to alternative routes	WMS	Section 5.8
TT15	Where existing cyclist facilities (eg bicycle parking) would be temporarily unavailable to facilitate construction activities, suitable replacement facilities would be provided for this duration	WMS PMS	Section 5.4
TT16	Any relocation of taxi ranks would be carried out in consultation with Transport for NSW, the relevant local council and taxi operators. Wayfinding and customer information would be provided to notify customers of relocated taxi ranks	SOPMS ²	Not applicable to the Western Tunnelling Package
TT17	During major special events, impacts to the transport and traffic network would be reduce by (as necessary), <ul style="list-style-type: none"> • Minimising the level of construction activity • Maintaining appropriate access to all areas within the event precinct • Erection of hoarding, site fencing and gates at key locations within the construction site boundary to permit pedestrian movements adjacent to the construction site and separate pedestrians form construction vehicles • Scheduling deliveries to the construction site outside of event periods 	PMS CSMF SOPMS	Section 5.6

² SOPMS=Sydney Olympic Park Metro Station, CSMF=Clyde Stabling and Maintenance Facility

REMM#	Condition requirement	Site(s)	Document Reference
	For special events that require specific traffic measures, those measures would be developed in consultation with Transport for NSW including Transport Coordination (for relevant locations) and the organisers of the event		
TT18	Access to existing properties and buildings would be maintained in consultation with property owners	All	Section 9.2
TT19	Traffic control measures required at the Parramatta metro station constitution site access on George Street would be determined in consultation with Transport for NSW	PMS	Section 7
TT20	Adjustments to site access arrangements and the local road network would be explored during detailed design to minimise conflicts with heavy vehicle movements	NSMS FDS	Not applicable to the Western Tunnelling Package
TT21	Construction site traffic generated at the Five Dock Station construction site would be managed to avoid or minimise travel during the evening peak period	FDS	Not applicable to the Western Tunnelling Package
TT22	Construction site traffic generated at the Five Dock Station construction site would be managed to minimise movements during church service times at St Albans Anglican Church	FDS	Not applicable to the Western Tunnelling Package
TT23	Opportunities to provide vehicle access and egress directly to Parramatta Road and minimise the use of Loftus Street at the Burwood North Station construction site would be explored during detailed design	BNS	Not applicable to the Western Tunnelling Package
TT24	Coordination of traffic management arrangements between major construction projects would occur in consultation with Transport for NSW including Transport Coordination	TBS	Not applicable to the Western Tunnelling Package
TT25	If barging of spoil is progresses, as Marine Traffic Management Plan would be developed by the construction contractor. The plan would outline the general operational plan for the movement and management of barging vehicles in accordance with TT27, TT28, TT29. The Plan would also outline the process for construction in accordance with TT26	TBS	Not applicable to the Western Tunnelling Package
TT26	If barging of spoil is progresses, clubs which operate watercraft would be consulted about potential barging and potential changes to courses for watercraft such as yachts before the start of barging	TBS	Not applicable to the Western Tunnelling Package

REMM#	Condition requirement	Site(s)	Document Reference
TT27	If barging of spoil is progressed, barging vessel movements would be scheduled to avoid times and locations of high recreational marine traffic where feasible and reasonable in consultation with Transport for NSW	TBS	Not applicable to the Western Tunnelling Package
TT28	If barging of spoil is progressed, barging vessel movements would be managed to not interfere with port operations or the navigation of seagoing ships and ferries, unless prior approval has been obtained from the Harbour Master	TBS	Not applicable to the Western Tunnelling Package
TT29	If barging of spoil is progressed, barging vessel movements would not be undertaken during special events when navigation restrictions are in place	TBS	Not applicable to the Western Tunnelling Package
TT30	The design of the temporary traffic arrangements at Westmead metro station construction site would consider construction traffic, alternate bus routes and bus stops, local vehicular traffic and pedestrian safety. The design of the temporary traffic arrangements would be undertaken in consultation with Transport for NSW, Schools Infrastructure, Health Infrastructure, relevant local councils and bus operators	WMS	Section 5.8
TT31	Where exiting parking is removed to facilitate construction activities for The Bays Station construction site power supply route, consultation would occur with the relevant local council, local businesses, the community and schools (where appropriate) to investigate opportunities to provide alterative parking facilities	TBS	Not applicable to the Western Tunnelling Package
TT32	Provision of assistance to carry shopping, luggage and other heavy or large goods between the alternative parking area at Ausgrid Rozelle sub transmission substation (subject to final agreement between Sydney Metro and Ausgrid) and residences during times when access is limited	TBS	Not applicable to the Western Tunnelling Package

2.3 Construction Traffic Management Framework

The Construction Environmental Management Framework (CEMF) sets out the environmental, stakeholder and community management requirements for construction. It provides a linking document between the planning approval documentation and the construction environmental management documentation to be developed by the principal contractors relevant to their scope of works. The CEMF also includes the Construction Traffic Management Framework (CTMF) which sets out the traffic requirements for the project. The CTMF requires the development of

Construction Traffic Management Plans (CTMP) to be prepared by contractors covering the full spatial extent of their works.

The hierarchy of the traffic management plans required by the CTMF, their purpose and the responsible entity for each are shown below on. Figure 2-1

Table 3-1: Traffic Management Plans hierarchy, purpose and responsible entity

Document	Purpose	Produced by
Construction Traffic Management Framework (CTMF) (this document)	Provides the approach within which subsequent site specific CTMPs will be prepared.	Sydney Metro
Site-specific Construction Traffic Management Plan (CTMP)	Site-specific CTMPs are to be prepared for each Sydney Metro construction site, for each contract.	Contractor
Traffic Control Plans (TCP)	Prepared as part of the site specific CTMP or as a standalone drawing for submission with Road Occupancy License applications and/or Council permits.	Contractor
Pedestrian Movement Plans (PMP) Vehicle Movements Plans (VMP)	Prepared, where required, as part of the site specific CTMP, combined with a TCP or as a standalone drawing for submission with Road Occupancy License applications and/or Council permits.	Contractor
Parking Management Plan (PkMP)	Prepared, where required, as part of the site specific CTMP or as a standalone document for submission with Road Occupancy License applications and/or Council permits.	Contractor

Figure 2-1: Hierarchy of traffic plans (source: CTMF page 13)

The CTMF also describes the traffic management objectives, principles and strategies to be implemented during construction of Sydney Metro Project. The development of suitable traffic management plans to minimise, as much as possible, the potential impacts of the works, is a key component to managing any disruptions to vehicle and people movement and the efficient construction of the projects.

2.4 Relevant legislation

Identified regulatory requirements are:

- An approved and valid Road Occupancy Licence (ROL)
- An approved relevant Speed Zone Authorisation (SZA)
- Australian Road Rules form the basis for state and territory road rules
- *Roads Act 1993* (NSW) sets out rights along a public road, establishes procedures for a public road and provides the classifications of roads
- *Heavy Vehicle National Act 2013 and Regulation, 2013* (NSW)
- *Heavy Vehicle (Adoption of National Law) Act, 2013* (NSW)
- *Dangerous Goods (Road and Rail Transport) Act, 2008*
- Road and Rail Transport (Dangerous Goods) (Road) Regulation, 1998
- Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission, 2008)
- Dangerous Goods (Road and Rail Transport) Regulation, 2014

- Australia Code for the Transport of Dangerous Goods by Road and Rail Edition 7.7 (National Transport Commission, 2020)
- *Environmental Planning and Assessment Act, 1979* – under which the project approval was granted.

2.5 References and guidelines

The relevant standards, codes and guidelines are noted below:

- AustRoads Cycling Aspects of AustRoads Guides, 2017
- AustRoads Guide to Traffic Management, 2020 – Parts 1-13
- AustRoads Guide to Road Design, 2013 to 2021-Parts 1-7
- AustRoads Guide to Road Safety, 2019 to 2021 – Parts 1-7
- TfNSW AustRoads Supplements
- Australian Standards 1742.3 2019 Manual of uniform traffic control devices – traffic control for works on road
- Australian Standards 1742 – Manual of uniform traffic control devices - the series
- Roads and Traffic Authority, NSW Guide to Traffic Generating Developments, 2002 and further updates as provided
- TfNSW Cycleway Design Toolbox – Designing for cycling and micromobility (2020)
- Roads and Maritime NSW Speed Zoning Guidelines, 2011
- TfNSW Traffic Control at Worksites Manual, version 6.1, 2022 and
- TfNSW NSW Substantiable Design Guidelines, version 4, 2017
- TfNSW Traffic Signal design guidelines

2.6 Consultation, review and update

This plan will be reviewed over the life of the project when issues related to compliance are raised.

This plan will be discussed at the TCG and TTLG during the development and finalisation of the plan. Other stakeholders to be consulted include:

- City of Parramatta Council
- Cumberland Council
- Transport for NSW including
 - Customer Journey Planning
 - Program and Planning
- Sydney Metro West project team
- Sydney Olympic Park Authority
- Emergency Services including:
 - NSW Fire and Rescue
 - NSW Police Force
 - NSW Ambulance
- Department of Health including:
 - Westmead public, private and children's hospitals
- Department of Education including:
 - Westmead Public School
 - Parramatta High School

This plan will be provided to the Planning Secretary for information prior to the commencement of works, as noted in this CTMP.

3 PURPOSE AND OBJECTIVES

3.1 Purpose of the plan

This plan is the project wide Construction Traffic Management Plan which will guide the development of site specific Construction Traffic Management Plans, This plan forms part of the Construction and Site Management (CSMP) for the Sydney Metro West – Western Tunnelling Package.

This document has been prepared to assist GLC staff plan and implement traffic and pedestrian management control measures when carrying out construction and related works located within the various worksites. This plan has also been provided to provide an overview of the traffic and transport related activities across the project. The term “traffic” wherever used in this CTMP encompasses vehicle, pedestrian, cyclist and public transport movements.

Traffic management will be undertaken in a manner that shall provide for the safety of all staff, subcontractors and the public and will ensure that road and path users are not exposed to foreseeable risks. These risks and controls will be in line with Gamuda Australia’s Primary Standard 15 – Traffic Control.

3.2 Objectives

GLC are committed to striving to achieve the objectives as outlined in the CTMF and the environmental performance outcomes, namely:

- a) Minimising disruption to pedestrian, cyclists, motorists and public transport users and providers
- b) Ensuring construction traffic access the arterial network as soon as practicable on route to and immediately after leaving the construction site
- c) Minimising change to traffic operations and kerbside access
- d) Minimising construction traffic generation during network peak periods, as outlined in the EIS
- e) Maintaining access to properties, businesses, and utility providers/ maintainers
- f) Remain incident and injury free to workers and members of the public
- g) Working collaboratively with other stakeholders and other major projects to mitigate traffic and transport impacts

4 PEOPLE AND RESPONSIBILITIES

All personnel have a role in ensuring the strategies and procedures set out in this plan are implemented. The key roles and their responsibilities critical to the management of traffic and access are outlined in Table 3.

Table 3: Roles and responsibilities

Role	Responsibilities
Project Director	<ul style="list-style-type: none"> • Ensure adequate resources to fulfill traffic commitments • Manage the delivery of the Project including overseeing implementation of traffic management processes, initiatives and procedures
Traffic Manager	<ul style="list-style-type: none"> • Manage ongoing compliance with the Project's traffic management documents, legal and contractual obligations • Ensure all traffic management activities are performed in a compliant and responsible manner • Ensure the Communications team is provided with sufficient information and time to consult with and notify key stakeholders and the community <p>Facilitate consultation with the TTLG, TCG and LTC</p>
Environmental Manager	<ul style="list-style-type: none"> • Manage ongoing compliance with the Project's environmental management documents • Administer compliance with the EPL and Planning Approval requirements
Communications Manager	<ul style="list-style-type: none"> • Facilitate the consultation and communication of traffic management measures with key stakeholders, including the TTLG and the community • Ensure notifications are issued with sufficient information and times
Construction Manager	<ul style="list-style-type: none"> • Drive the successful delivery of the construction process, in relation to traffic management
Logistics Manager	<ul style="list-style-type: none"> • Maintain electronic records of trip movements, where required to be provided to outside bodies • Ensure compliance with the approved haulage routes

5 TRAFFIC MANAGEMENT STRATEGY

5.1 General requirements

GLC will engage TfNSW qualified traffic related subcontractors including:

- Traffic controllers
- Traffic signal designers
- Traffic signal installers

All traffic controllers shall hold SafeWork NSW Traffic Controller cards and always wear the required Personal Protective Equipment (PPE) whilst on site.

Queuing and idling of construction vehicles in public places will not be permitted. Nor will circulating of heavy vehicle construction related traffic outside of nominated routes, to be detailed in the relevant site specific Construction Traffic Management Plan(s).

All access gates to the construction sites, will be manned or located to prevent public access into the site. Where there is an interaction between construction heavy vehicles and pedestrians/ cyclists and depending on the location the use of physical barriers and/ or manual supervision may be implemented. All trucks will enter and exit the sites in a forward direction, where feasible. In the event that this is not feasible the relevant traffic control to be implemented will be included in the site specific Construction Traffic Management Plan.

During concrete pours the following precautions will be implemented:

- Safe and unobstructed access for the public is to be ensured where a 'pump-line' is set up from the street
- Control measures are to be implemented for all trip/ slip/ fall hazards associated with the pour and a traffic controller is to be on hand to ensure unauthorised persons are kept away from the immediate area of the pump.

5.2 Motoring public

Site entry and exit points will be easily identifiable to the motoring public due to standardised signage and pavement marking, where required by the CTMP. If there is a possibility of a conflict due to high volumes of construction traffic, traffic control devices will be installed to minimise the interface between construction and general traffic.

5.3 Public transport operators and users

Customer Journey Planning will be consulted on any changes required to bus stops and/ or routes. This consultation will occur through the TCG and TTLG and GLC will actively engage with TfNSW and councils. Any changes to bus stop will be planned to allow adequate time for changes required to the Opal card system and to provide appropriate wayfinding signage and notice to customers. Typically, CJP require 28 day's notice for changes to bus operations.

Changes in the Westmead area will be further explored during the local area works development, refer to section 5.8.1.

Any changes to taxi operations will also be undertaken in consultation with the NSW Taxi Council and be included in the site specific CTMPs.

5.4 Active transport users

Due consideration to pedestrians and cyclists will be given before proceeding with works on or adjacent to paths. Pedestrians can be workers or the general public. Catering for pedestrians means catering for the different modes of travel used such as walking or cycling and for people with different characteristics such as disabilities.

Some of the considerations that may need to be taken in any design for a travel path are listed below:

- People with ambulant disabilities (ie: using a walking aid) require a clear width of 1m
- People who use a wheelchair require a clear width of 1.2m
- Paths are relatively smooth and clear of obstacles
- Adequate lighting is provided
- Placement of signs and/or devices do not block vision to young pedestrians
-

The following pedestrian safety points should be included in the final control measures. These points will be observed prior to commencing works – note that the list is not exhaustive.

- Safe negotiation of the work site, especially any “squeeze” points in and around the work site
- Crossing points are designed to ensure that pedestrians are not forced to cross at inappropriate locations
- The most appropriate means for pedestrian to negotiate the site, (ie: through past or around the site)
- The most appropriate time of day to conduct the works considering both normal and peak hour times
- Routes are continuous through/ adjacent to the work site
- Site vehicle access/ egress locations and interaction with pedestrians, shared or cycle paths

Pedestrian and cyclists safety will be managed through:

- Consideration in site specific CTMPs and TGS tabled at the TCG
- Early engagement at the TCG and TTLG regarding traffic movements and/ or changes
- Stakeholder and community consultation process
- Dedicated signage and Truck Aware decals/ signage
- Dedicated traffic control at all access/ egress points
- No reversing of vehicles, unless under dedicated traffic control

Where access to paths are required to be disrupted, the disruption will be minimised and where this is not possible alternate paths will be provided with appropriate wayfinding.

Where existing cyclist facilities (eg bicycle parking) would be temporarily unavailable to facilitate construction activities, suitable replacement facilities would be provided for the disruption. At present no facilities that would be impacted have been identified.

5.5 Incident management

In the event of an incident that has the potential to impact traffic or public transport, at sites managed by GLC, GLC will ensure that traffic control resources are provided. These resources include:

- Traffic control personnel
- Traffic control vehicle containing:

- Barrier boards
- Cones/ bollards
- Flashing arrow
- Signs
- Spill kits

GLC will report all traffic incidents to Sydney Metro, the Transport Management Centre (13 17 00) and Customer Journey Planning representative.

An incident Emergency and Crisis Management Plan has been prepared which covers construction traffic incidents as part of the Project Health and Safety Plan. GLC will maintain access for emergency vehicles and any changes to emergency services access will be discussed and agreed within the TCG and TTLG forums.

5.6 Special events

If any special events are planned, works will be coordinated with those events. GLC will ensure that special events are included within the program of works. Any modifications to haulage routes due to special events will be made in consultation with the various stakeholders at the Traffic Control Group (TCG).

There are many special events that occur in around the Parramatta CBD, Sydney Olympic Park, Rosehill and other locations which may impact on the project works. These special events have an impact through increased visitor numbers, road closures and diversion of bus services. Major events such as New year's Eve, Australia Day, Royal Easter Show, major sporting events at Commbank Stadium and ANZAC day all have increased visitor numbers with the need to provide additional public transport services that can impact the road network. Class 1 events, outlined below, are included in the work programs.

- Class 1 events that impact major traffic and transport systems and result in significant disruption to the non-event community. For example, an event that affects a principal transport route in Sydney or one that reduces the capacity of the main highway through a local town

During these major special events, GLC may implement the following:

- Minimising the level of construction activity
- Maintaining appropriate access to all areas within the event precinct
- Erection of hoarding, site fencing and gates at key locations within the construction site boundary to permit pedestrian movements adjacent to the construction site and separate pedestrians from construction vehicles
- Scheduling deliveries to the construction site outside of event periods

GLC will continue to interrogate event websites that provide details on up and coming special events, such as:

- [Visit NSW](#)
- [Dept of Premier and Cabinet Events](#)
- [Destination NSW](#)
- [City of Parramatta Council events](#)
- [Cumberland Council events](#)
- [Sydney Olympic Park events](#)
- [Commbank Stadium](#)
- [Rosehill Racecourse and function centre events](#)

5.7 Road safety audits

Road safety audits will be undertaken during the development of the site specific CTMPs and then post their implementation.

Permanent work designs will have road safety audits undertaken during the stages as noted within the General and Particular Specifications. Permanent works including vehicular access, signalised intersection works, and works relating to pedestrians, cyclists and public transport users. The audits will be prepared in consultation with the Traffic and Transport Liaison Group, before the use of the new works. These design audits will be made available to the Planning Secretary upon request.

5.8 Permanent design works

Permanent design works will meet the relevant design and engineering standards and guidelines. The works will be designed taking into consideration the existing and future demand, connectivity (In relation to permanent changes), performance and safety requirements. The works will be also designed to minimise and manage local area traffic impacts and to ensure access is maintained to property and infrastructure.

Copies of civil, structural and traffic signal design plans will be submitted to the relevant road authority for consultation during the design development and before completion of the works.

5.8.1 Westmead local area works

There are a number of works that require completion at Westmead prior to the start of the main construction phase of the works. These changes to the local area include:

- Modified signalised intersection of Alexandra Avenue and Hassall Street
- Installation of new traffic signals at the intersection of Bailey Street and Hassall Street
- Modified signalised intersection of Priddle Street and Hawkesbury Road.

During the tender, the closure of Alexandra Avenue was removed from the local area works, therefore the opportunities to improve bus priority along the temporary detour is no longer required. Similarly, pedestrian and cyclist access is no longer changed with Alexandra Avenue remaining open.




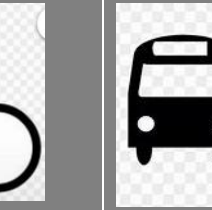
During the works GLC will explore opportunities to minimise impacts at the Alexandra Avenue/ Bridge Road intersection, if GLC site operations impact that intersection.

5.9 Sustainable transport

The convenient location of the construction sites will allow us to take advantage of public and active transport. A review of options for the sites is provided in Table 4. GLC will encourage our personnel to actively use these services.

Given the close location of all sites to public transport hubs, the use of satellite car parking facilities has not been pursued other than for Westmead.

Table 4: Sustainable transport options

				
Westmead	Limited car parking	Footpaths generally in the area with signalised pedestrian crossings	A number of shared use paths and cycle routes are located to the north of the site Cycle parking is available at Westmead rail station	A number of bus services operate along Alexandra Avenue. Westmead rail station is located across from the site
Parramatta	Limited car parking	Footpaths generally in the area with signalised pedestrian crossings	A number of shared user paths and cycle routes are provided around the site	Parramatta Rail station and bus interchange is located 550m from the site The Parramatta Ferry terminal is located 650m from the site
Clyde/ Rosehill	On site car parking available	There are limited footpaths within the area	The shared use path along Martha Street connects Wentworthville South to Sydney Olympic Park	Clyde rail station is located 1 km from the site Bus stops are available on Parramatta Road.
Sydney Olympic Park	Limited car parking	Footpaths generally in the area with signalised pedestrian crossings	A number of shared user paths and cycle routes are provided around the site	Sydney Olympic Park rail station is located 200m from the site.

5.10 Construction Parking and Access Strategy

A Construction Parking and Access Strategy will be developed for each site and will be submitted to the Planning Secretary for approval one month before commencement of any construction that reduces the available of existing parking stock. The Strategy will provide confirmation and timing of on street and off street parking that will be removed to facilitate the construction of the project.

Parking surveys have been undertaken and analysis of those surveys is presently being done. These surveys were completed during:

- Peak periods

- Off peak periods
- School drop off
- School pick up
- Weekends and
- During special events.

Consultation will be completed for those stakeholders that currently use existing on and off street parking areas which may be impacted as a result of construction. Opportunities to reduce impacts including staged removal, replacement parking, provision of alterative arrangements, introduction of parking restrictions or introduction of resident parking schemes will be explored. No residential parking schemes currently existing near the construction sites and this has been confirmed by on site walks and the relevant council's websites.

Emergency vehicle access will be maintained at all times throughout the construction of the project and especially to Westmead Hospital. GLC will consult with TfNSW, emergency services and NSW Health for works at the Westmead site.

Monitoring of the Strategy will be undertaken every six months with the results of this monitoring being the subject of a report which will be provided to the relevant council and the Planning Secretary.

6 APPROVALS AND MONITORING

6.1 Site specific Construction Traffic Management plans

Site specific Construction Traffic Management Plans will be developed for the following sites:

- Clyde/ Rosehill
- Parramatta
- Westmead
- Eastern Creek
- Tunnel Boring Machine delivery
- Tunnel Boring Machine removal
- Sydney Olympic Park

Other CTMP may include:

- Utility relocation works
- Local area works

All traffic related plans will be developed with the aim of warning, informing and guiding road users through the changed environment at each construction site. Implementation of our plans will enhance the safety of our operations and provide a safe and readable environment for the immediate community and travelling public. These CTMPs will be developed in consultation with CJP, Sydney Metro, local councils and other stakeholders, as required.

The CTMPs will specify the road safety and traffic management measures to be applied while undertaking construction works, including:

- Location of the works and extents of impacts
- Shoulder/ lane closures, detours and their impacts
- Pedestrian and cyclists access
- Traffic impact assessment and analysis through the various peak hour times, inclusive of modelling as needed
- Temporary design drawings including:
 - Design speeds
 - Barriers and crash cushions including identification of type to be used
 - Existing and proposed wayfinding including identification of size, installation details
 - Traffic control signal changes or new installations
- Road safety audits
- Programs, where required

The temporary works to be designed will at the Westmead metro station construction site will consider construction traffic, alternate bus routes and bus stops, local vehicular traffic and pedestrian safety. The design of the temporary traffic arrangements will be undertaken in consultation with Transport for NSW, Schools Infrastructure, Health Infrastructure, relevant local councils and bus operators.

The site specific CTMPs will follow the process outlined in the CTFM, as shown on

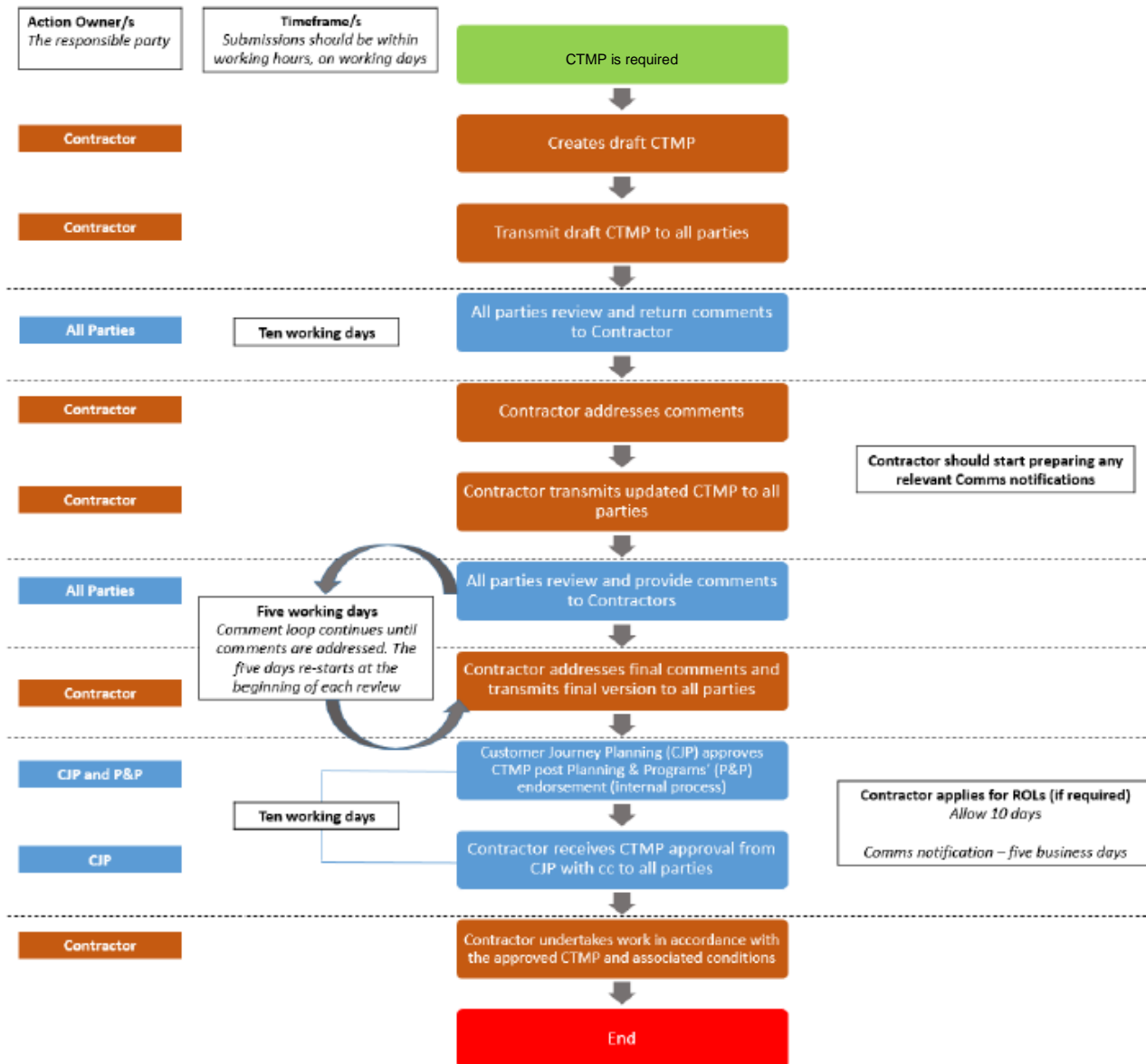


Figure 6-1: CTMP approval flowchart

6.2 Licenses and permits

Road occupancy is noted as any activity likely to impact on the operational efficiency of the road or path network(s). A Road Occupancy License (ROL) is applied for via the OpLinc system via the TMC or via the relevant council, normally with electronic lodgement of the permit, ([Cumberland Council](#), [City of Parramatta Council](#)) or [Sydney Olympic Park Authority](#)

Road opening permits will also be required – if on a TfNSW owned road, the TfNSW Asset Area will need to be approached to gain a TfNSW asset number prior to lodging a ROL with TMC. For works on council assets, these permits can be applied for through the above websites.

Hoarding and crane permits are also available from councils. All parties typically require 10 business days to process permits.

6.3 Local traffic committee

Where works require changes to regulatory traffic control devices, such as line marking and signs, a compliant TfNSW Traffic Management Plan will be provided to the local traffic committees for endorsement. It is noted that local traffic committee submissions are likely in:

- Clyde – where parking restriction changes associated with the installation of traffic signals will be required
- Parramatta – where parking restriction changes associated with the installation of traffic signals will be required
- Westmead – where parking restriction changes associated with remodelled or new signalised intersections will be required.

The two Council's Local Traffic Committee meets every 4 weeks with the agenda closing approximately 2 weeks out from the meeting. It is anticipated that Sydney Metro will work with GLC to help coordinate relevant authorities to reach best for project solutions.

6.4 Inspections and frequency

Inspections will be undertaken as per Table 5, sourced from TfNSW's Traffic Control at Work Sites Manual, Table 8-1

Table 5: Inspections and frequency

Stage	Activity	Purpose
Planning	TGS verification	To ensure that the TGS selected or designed is suitable for the works and location
During temporary traffic management	Weekly inspections	To ensure that the CTMP and relevant TGS are appropriate and operating safely, effectively and efficiently
	Shift inspections	To ensure that a TGS is implemented as designed. This includes at a minimum twice per shift and when: <ul style="list-style-type: none"> A. TGS is installed changed or updated B. At regular frequency after work commences (every 2 hours) C. Once aftercare arrangements have been installed, if required
	CTMP review	To ensure that the CTMP controls are achieving the required outcomes
	Road safety audits	To identify road safety crash potential and areas of risk that could lead to traffic crashes

Stage	Activity	Purpose
Post completion	Post completion	To ensure that the site has been demobilised as planned and is safe for opening to traffic

7 THE WORKS

7.1 Locations

There are several activities at each construction site that will impact pedestrians, cyclists, public transport operations, emergency services and road users during the construction phase of the works at:

1. Westmead – station excavation and Tunnel Boring Machine (TBM) removal site
2. Parramatta – station excavation site
3. Rosehill – TBM launch site
4. Clyde – maintenance facility/ stabling yard site
5. Sydney Olympic Park – TBM removal site only

A listing of general traffic impacts for the various phases of the works is provided in Table 6 Table 6.

Table 6: General traffic impacts throughout the phases of works

Phase	Activity	Impact	Proposed management
Site establishment	Driveway construction Utility investigations	Excavation adjacent to traffic lane/ paths	Short term lane/ footpath closures Signage and traffic controllers
	Hoarding installation	Disruptions to pedestrians	Short term lane footpath closures Signage and traffic controllers
	Bus stop relocations	Changes to bus operations	Wayfinding signage Personnel on site
	Surveys – condition, traffic and general	Short term impacts to active transport users and motorists	Short term lane/ footpath closures Signage and traffic controllers
Site operations	Traffic changes to facilitate site operations	Disruptions to pedestrians, motorists, cyclists and parking removal	Short or long term lane/ footpath closures Signage and traffic control devices/ controllers
	Utility relocation works	Disruptions to pedestrians, motorists, cyclists and parking removal	Short or long term lane/ footpath closures Signage and traffic controllers
	Site access/ egress vehicles/ plant	Pedestrian/ vehicle interaction	Traffic controllers on site to manage

Phase	Activity	Impact	Proposed management
			pedestrian and vehicle movements or the use of traffic control devices
Site operations	Footpath changes	Disruptions to pedestrian movements	Wayfinding signage and traffic controllers on site
	TBM deliveries and relocations	Disruptions to road users including impacts on traffic times in the area	Lane/ contra flow closures at night OSOM permits with escorts
Site demobilisation	Removal of plant/ equipment/ hoarding	Pedestrian/ vehicle interaction	Traffic controllers on site to manage pedestrian and vehicle movements or the use of traffic control devices

7.2 Site establishment works

A listing of the proposed site operations during the site establishment phase are as noted in Table 7.

Table 7: Site establishment

Site operations and road, path and transport impacts	
Clyde Maintenance Service Facility/ Rosehill dive site	
Access/ egress	Access/ egress to the site will be at several locations on Unwin Street, Kay Street, Shirley Street, Wentworth Street and Deniehy Street, via existing driveways
Active transport users	The existing M4 shared user path connecting Sydney Olympic Park with Parramatta (via Martha St) will remain in place. Where required traffic management will be in place at areas where there is an interaction between paths and heavy vehicles There is limited pedestrian activity in the areas surrounding the sites with limited footpaths available adjacent the construction site.
Public transport	No changes are required to the public transport network for this site
Motoring public	Deniehy Street and Tennyson Street will be closed to the public and become part of the construction site Wentworth Street north of Kay Street will be closed to the public and become part of the construction site.
Parking	Parking will be retained during this phase of works
Parramatta site	

Site operations and road, path and transport impacts	
Access/ egress	Access will be via Macquarie Street into Horwood Place or via a left turn from George Street onto Horwood Place Egress will be a left turn onto George Street from Horwood Place
Active transport users	Pedestrian management will be in place where there is an unregulated interaction between active transport users and heavy vehicles
Public transport	There will be no impact to public transport operations
Motoring public	There will be no changes for the motoring public
Parking	There will be changes to parking at this site during the site establishment works
Westmead site	
Access/ egress	Access/ egress will be via existing driveways on Alexandra Avenue, Bailey Street, Hawkesbury Road and Hassall Street
Active transport users	Pedestrian management will be in place where there is an interaction with heavy vehicles
Public transport	There will be no changes to current public transport operations Utility works will require lane closures along Alexandra Avenue, which are short term.
Motoring public	There will be a number of lane closures required to facilitate the local area works.
Parking	There will be a number of lane closures required to facilitate the local area works.

7.3 Site operations works

A listing of the proposed site operations during the site operations phase are as noted in Table 8.

Table 8: Site operations activities

Site operations and road, path and transport impacts	
Clyde Maintenance Service Facility/ Rosehill dive site	
Access/ egress	Access/ egress to the site will be at several locations on Unwin Street, Kay Street, Shirley Street, Wentworth Street and Deniehy Street. Traffic signals are proposed to be installed at the crossing point on Unwin Street into the previous rail corridor to allow vehicle movements between the maintenance site and Rosehill dive structure
Active transport users	The existing M4 shared user path connecting Sydney Olympic Park with Parramatta (via Martha St) will remain in place. Where required traffic management will be in place at areas where there is an interaction between paths and heavy vehicles There is limited pedestrian activity in the areas surrounding the sites with limited footpaths available adjacent the construction site.

Site operations and road, path and transport impacts

Public transport	No changes are required to the public transport network for this site
Motoring public	The access/ egress from the Clyde site to the Rosehill dive site will be signalised to allow for safe operation between the two sites During the tie in works for the realigned Unwin Street, traffic control/ management will be in place Deniehy Street and Tennyson Street will be closed to the public and become part of the construction site Wentworth Street north of Kay Street will be closed to the public and become part of the construction site. Kay Street will be removed and a new connection will be provided to Wentworth St via the realigned Unwin Street
Parking	Parking removal will be required for the realigned Unwin Street Parking will be removed along Kay Street for the realigned Unwin Street Parking will be removed along the closed sections of Deniehy Street, Tennyson Street and Wentworth Street.

Parramatta site

Access/ egress	Access and egress to the site will be via George Street via a newly signalised intersection to be installed by GLC
Active transport users	The new set of traffic signals will provide new signalised crossings across George Street and across the site access/ egress point.
Public transport	No changes to public transport are required for this site It is noted that Parramatta Light Rail will commence testing and operations in 2023
Motoring public	A new set of traffic signals will be installed on George Street at the site entry/ exit points Horwood Place will be closed, with a new access road to be provided between Macquarie Street/ Smith Street/ George Street
Parking	Approximately 25 parking spaces will be removed to facilitate the new signal site

Westmead site

Access/ egress	Access will be via a newly constructed driveway on Hassall Street. Egress will be via Hawkesbury Road
Active transport users	<ul style="list-style-type: none"> • At the site access point on Hassall Street, pedestrians will be guided using fencing to a controlled crossing point within the site. • The Alexandra Avenue footpath adjacent to the construction site will be closed for the duration of the works. • The Hawkesbury Road footpath will remain open with traffic control in place to manage the construction vehicle / public interface <p>Cyclists will use their current route.</p>

Site operations and road, path and transport impacts	
Public transport	The existing bus stop on the southern side of Alexandra Parade will be relocated east of Hassall Street intersection as part of the Local Area Works.
Motoring public	<ul style="list-style-type: none"> The intersection of Alexandra Avenue/ Hassall Street will be remodelled to allow for a right turn into site from Hassall Street The intersection of Bailey Street/ Hassall Street will be signalised with the existing roundabout to be removed The intersection of Priddle Street/ Hawkesbury Road will be remodelled to allow for a wider pedestrian crossing on the southern side of the intersection with sections of new pedestrian fencing
Parking	<ul style="list-style-type: none"> The installation of new signals at Bailey Street/ Hassall Street intersection may require the removal of some existing parking

7.4 Cumulative impacts

It is recognised that the Parramatta Light Rail will commence testing and commissioning in 2023 with planned operations to commence that year. The Parramatta Light Rail will operate along Church Street and Macquarie Street, Parramatta with a minor impact on the Parramatta site heavy vehicle route.

8 FLEET MANAGEMENT

Trucks to be used on the project will be compliant with NSW legislation, Sydney Metro's Principal Contractor Health and Safety Standard, relevant Australian Design Rules and vehicle standards and the Heavy Vehicle National Legislation. All heavy vehicle operations will be conducted in accordance with GLC's Chain of Responsibility (CoR) Management Plan including compliance with nominated haulage routes.

A combination of truck types will be used during the works, with trucks being truck and dog, semi-trailers, 12.5m single unit trucks and low loaders. All vehicles will enter and exit the site in a forward direction.

Construction traffic will be managed to minimise movements during peak periods and through school zones during drop off and pick up times, in particular at the Westmead and Parramatta sites and this will be achieved through scheduling of vehicles and staggered start and finish times. GLC will ensure that there is no idling or queuing on public roads by providing sufficient on site areas for vehicles to wait. The use of marshalling facilities is not envisioned, however, where this is required, GLC will ensure that the marshalling of heavy vehicles is not carried out near sensitive land user(s).

8.1 Drivers and operators

Operator selection will be based on safety performance criteria. Operators and drivers will be required to have general construction industry induction cards and will be required to attend ongoing general project and site specific inductions.

All operators will be comprehensively trained with regard to community expectations and impacts from heavy vehicle movements through site inductions and attendance at the Sydney Metro Industry Curriculum (SMIT) – Safe Heavy Vehicle Introduction Skills which provides drivers with the knowledge, skills, motivation and confidence to drive heavy vehicles safely and professionally in an urban built up road environments, whilst undertaking a transport task required on the project. The training course focuses on low risk driver behaviours, shared the road safely with vulnerable road users and reinforces heavy vehicle driver knowledge and skill. The project and site inductions will have a particular focus on operator behaviour. The driver induction process will include safety awareness in relation to all road users, particularly pedestrians and cyclists. Site specific inductions will include information for drivers on any site specific risks such as schools, high risk crossing points or other identified risks.

8.2 Heavy vehicle routes and compliance

Generally, the heavy vehicle routes will be via arterial roads/ freeway/ tollways. Where possible the routes will consider the requirements of the Environmental Impact Statement (EIS). Where the routes differ from those proposed in the EIS and the use of local roads is proposed, the Planning Secretary will be provided with a report detailing:

- a) A swept path analysis
- b) Demonstration that the use of local roads by Heavy Vehicles for the project will not compromise the safety of pedestrians and cyclists of the safety of two way traffic flow on two way roadways

- c) Details as to the date of completion of the road dilapidation surveys for the subject local roads and
- d) Measures that will be implemented to avoid where practicable the use of local roads past schools, agreed care facilities and child care facilities during their peak operation times

The report will be reviewed by an appropriately qualified professional on the suitability of the proposed heavy vehicle route which takes into account the items above. This report will be submitted to the Planning Secretary for approval and once approved will be incorporated into the relevant CTMP(s).

The site specific CTMPs will include the Heavy Vehicle Local Road report, where relevant. Consultation on routes will be undertaken with the relevant road authorities.

8.3 Fleet tracking

There are a number of systems that will be implemented to provide certainty of compliance to the laws and project requirements for the management of heavy vehicles for the duration of the project. One system to be used is the Teletrac Navman system for spoil vehicle monitoring and management. This electronic Delivery Management System (DMS) has the capability to monitor, record and provide reports on all movements in real time.

Teletrac Navman has been used on numerous major infrastructure projects in NSW. The system has the ability to:

- Geo-fencing of all localities and designated routes
- Notification where deviation from designated haulage routes is detected
- Vehicle control, including the management of traffic scheduling and flow
- Traceability of all deliveries and disposal of material
- Fatigue management compliance
- Speed management compliance

8.4 Fleet safety

GLC is committed to safety for all aspects of the project with road safety being paramount to the success of the project. To demonstrate this commitment the requirements listed in Table 9. For further information on GLC's Chain of Responsibility management please refer to GA-PLN-WHS-005 Chain of Responsibility Management Plan.

Table 9: Heavy vehicle requirements

Requirement(s)	Purpose	Managed by
Ensure all heavy vehicles are registered and comply with the Australian Design Rules	Ensure compliance with legislative requirements	Checking prior to attendance at site through subcontractor engagement
Blind spot elimination or minimise front, side and rear blind spots, including <ul style="list-style-type: none"> • Class V and VI mirrors as per ADR14.02 where blind spots cannot be permanently eliminated 	Ensure compliance with SWTC and increase visibility of active transport users	Checking prior to attendance at site through subcontractor engagement

Requirement(s)	Purpose	Managed by
<ul style="list-style-type: none"> The prohibition of accessories that restrict the forward field of vehicles including opaque or chrome bug deflectors 		
Side underrun protection fitted to both sides of the vehicle: <ul style="list-style-type: none"> Between the front and rear axle of all rigid (SU) trucks and Between the front axle/ landing legs and rear axle of trailers forming part of a combination 	Improved protection for active transport users	Checking prior to attendance at site through subcontractor engagement
Signage placed on heavy vehicles including: <ul style="list-style-type: none"> Rear warning signs alerting other roads users to the dangers of overtaking and Front nearside signs warning pedestrians about walking close to the front of a moving or stationary heavy vehicle 	Increasing road safety awareness for all users	Checking prior to attendance at site through subcontractor engagement
Full body line and contour conspicuity markings and reflective markings fitted to the drawbar of all trailers	Increasing visibility of heavy vehicles	Checking prior to attendance at site through subcontractor engagement
Heavy vehicle drivers to complete the Sydney Metro Safe Heavy Vehicle Driver Induction program or similar	Training and induction to address safety of pedestrians/ cyclists along street frontages	Training and induction process
All heavy vehicles used for spoil haulage must be clearly marked on the sides and rear with the project name and application number to enable immediate identification by a person viewing the heavy vehicle standing 20m away	Compliance with MCoA	Checking prior to attendance at site through subcontractor engagement

8.5 Deliveries and pick ups

Considerations for deliveries are:

- All deliveries will be coordinated with the relevant site contact in advance of the delivery and will be managed through a real time delivery system
- Material deliveries will be required to be booked in advance to ensure a location and resource are specifically assigned

- All out of hours work notification will be organised well in advance of the delivery, where required
- Appropriate licenses/ permits for oversize/ over mass loads will be in place prior to the requirement

8.6 Road dilapidation report

Before any local road is used by Heavy Vehicles, a road dilapidation report will be prepared. A copy of that report will be provided to the City of Parramatta Council within three (3) weeks of completion of the survey and no later than one (1) month before the road used by heavy vehicles associated with the project.

Any damage to roads that occur as a direct result of our operation will result in either GLC rectifying the damage to restore the road back to its condition as noted in the road dilapidation report or compensate the relevant road authority, subject to the road authority's discretion.

Local road dilapidation surveys will be undertaken at the locations as noted in Table 10.

Table 10: Dilapidation surveys locations

Road name	Start	Finish	Road Authority
Wentworth Street	M4 Motorway Overpass	Kay Street	City of Parramatta Council
Kay Street	Wentworth Street	Unwin Street	City of Parramatta Council
Unwin Street	Kay Street	Colquhoun Street	City of Parramatta Council
Shirley Street	Unwin Street	Duck Creek	City of Parramatta Council
Wilde Avenue	Parramatta River	Phillip Street	City of Parramatta Council
Phillip Street	Wilde Avenue	Charles Street	City of Parramatta Council
Charles Street	Phillip Street	George Street	City of Parramatta Council
George Street	Charles Street	O'Connell Street	City of Parramatta Council
Hawkesbury Road	Alexandra Avenue	Great Western Highway	Cumberland Council
Bailey Street	Hawkesbury Road	Hassall Street	Cumberland Council
Hassall Street	Bailey Street	Alexandra Avenue	Cumberland Council

The Clyde/ Rosehill dilapidation survey locations are shown on Figure 8-1



Figure 8-1; Clyde/ Rosehill dilapidation survey locations

The Parramatta dilapidation survey locations are shown on Figure 8-2

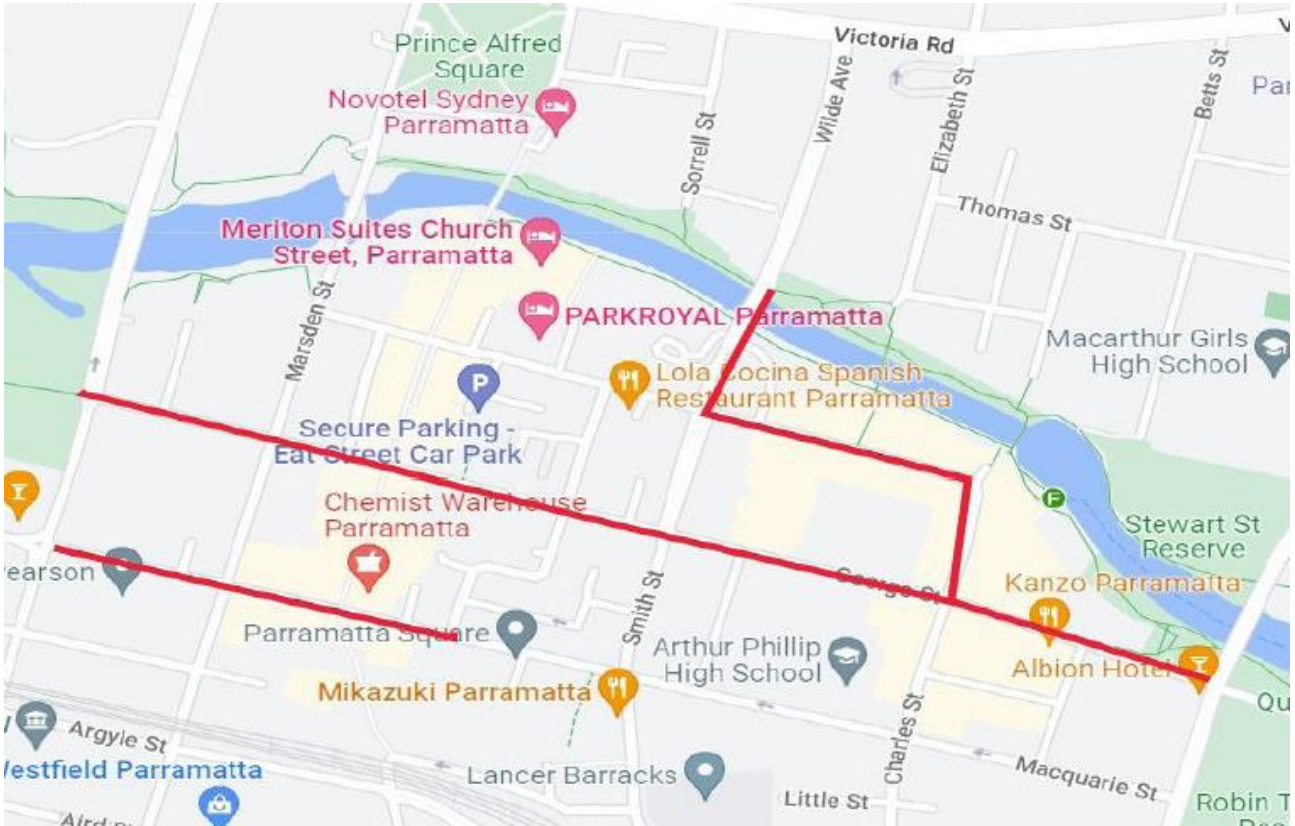


Figure 8-2: Parramatta dilapidation survey locations

The Westmead dilapidation survey locations are shown on Figure 8-3

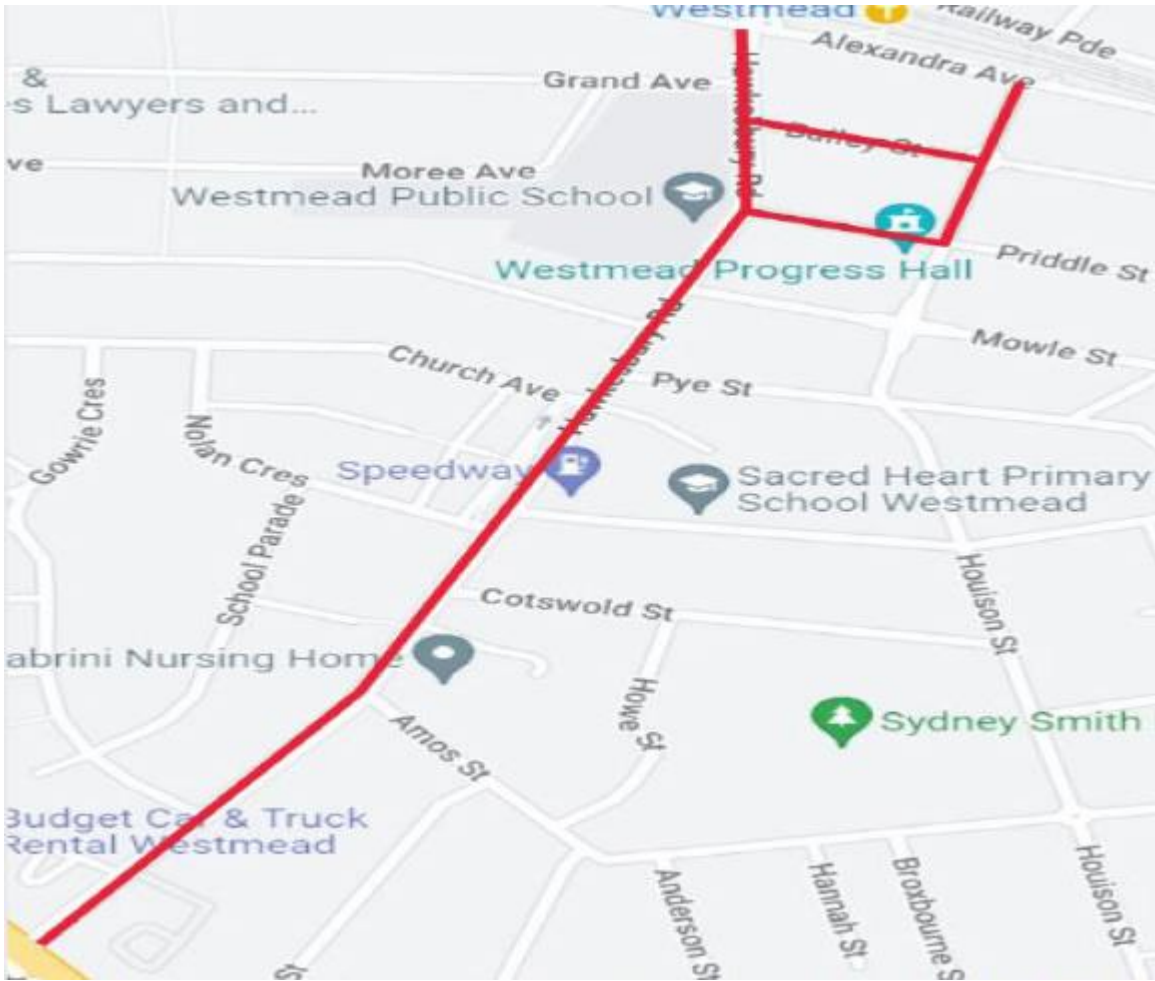


Figure 8-3: Westmead dilapidation survey locations

9 COMMUNITY AND CONSULTATION

9.1 Communications and the community

GLC will endeavour to carry out works for this project to produce minimal disruption to members of the community. Regular notifications and updates will be provided to the community as per the Community Communications Strategy Management Plan.

The community will be notified of any current and upcoming changes to the traffic conditions that have the potential to impact them, prior to their occurrence. Notifications to the community will be done for the following:

- Changes to traffic conditions requiring traffic alerts
- Modifications to pedestrian or cycle routes
- Modifications to bus routes or stops
- Construction commencement
- Changes to the scope of work
- Providing community education and awareness about sharing the road safety with heavy vehicles

Activity specific communication strategies will be developed prior to any traffic event. These strategies will include details of the work, impacts and proposed mitigation measures. In addition to the strategy, activity specific notifications will be developed and issued to directly impacted properties prior to works commencing. Notification of proposed changes will be included on the project website. Other communication methods that may be implemented include, but are not limited to:

- Doorknocks
- Letterbox drops
- Advertising
- Social media updates
- Radio
- Deployment of speed awareness signs in conjunction with variable message signs near construction sites to provide alerts to drivers

9.2 Existing businesses and residents

GLC will continue to consult with Sydney Metro in accordance with the GLC Business Management Plan and Community Communication Strategy for the project. Where appropriate, GLC representatives will interact with the business consultation forum to advise of specific strategies and mitigation measures to minimise traffic impacts to local businesses. Every endeavour will be made to maintain safe access to properties for both pedestrians and vehicles. If works will temporarily affect access to a property, GLC will consider staging of the works, where possible. If access is impacted, GLC will liaise with the affected stakeholder to gain agreement on the proposal.

Where access is impacted, GLC will reinstate the access to at least the previous standard, unless agreed otherwise with the property owner or occupier. These works will be completed within one month of the works being completed.

9.3 Stakeholders

Key stakeholders include:

- Customer Journey Planning
- Local councils including:
 - City of Parramatta Council
 - Cumberland Council
- Sydney Trains
- Transport for NSW
- Department of Planning and Environment
- Transport Management Centre
- Schools Infrastructure
- Health Infrastructure
- Sydney Olympic Park
- Emergency Services including:
 - NSW Police Force
 - NSW Fire and Rescue
 - NSW Ambulance
- Local bus operators including:
 - Transit systems
 - Hillsbus
 - Busways North West

9.3.1 Traffic and Transport Liaison Group (TTLG)

The TTLG has been established by Sydney Metro for the project. The TTLG consists of members from Sydney Metro, council(s) and representatives from the Emergency Services. The TTLG informs the development of CTMP and can request that supplementary analysis and modelling to be undertaken to demonstrate that construction and operational traffic can be managed to minimise disruption to the traffic networks operations including changes to the management of pedestrian, bicycle and public transport networks, public transport services and pedestrian and cyclists movements. Any changes required will be documented in the site specific CTMP. The TTLG will also be consulted on permanent road designs at the Rosehill/ Clyde sites. The TTLG currently meets monthly.

9.3.2 Traffic Control Group (TCG)

A TCG has been established for the project by Sydney Metro. The TCG meets fortnightly and comprises of Sydney Metro, council(s) and other project contractor representatives.

9.3.3 Emergency Services

Relevant Emergency Services will be informed, in a timely manner of relevant activities proposed within the site specific CTMP. The initial communication to these stakeholders will be via the TTLG. Regular updates will be provided to Emergency Services representatives noting changes to the road network, changes to road conditions and worksite access location. This communication will be via emails and face to face discussions. Access to properties for emergency vehicles will be provided at all times.

A COMMENTS AND RESPONSE