

Appendix G

Construction Traffic Management Framework



Construction Traffic Management Framework

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Cover: The last tunnel segments bound for Northern Sydney section of the City & Southwest Sydney Metro crossed the Sydney Harbour Bridge.



Construction Traffic Management Framework

Sydney Metro West and Sydney Metro – Western
Sydney Airport construction

Contents

Definitions and terminology.....	4
1 Introduction.....	7
1.1 Purpose.....	7
1.2 Scope.....	7
1.3 Metro West & Western Sydney Airport Project description	7
1.4 Governance.....	8
2 Traffic management objectives	9
2.1 General traffic management approach.....	9
2.2 Traffic management strategy	10
2.3 Hierarchy of access.....	11
3 Implementation framework.....	13
3.1 Construction Environmental Management Framework (CEMF)	13
3.2 Construction traffic management task.....	13
3.3 Implementation process.....	13
3.3.1 Construction Traffic Management Framework (this document) .	14
3.3.2 Construction traffic management plans.....	14
3.3.3 Site specific CTMP.....	14
3.3.4 Traffic Guidance Schemes and other plans.....	15
4 Consultation groups	17
4.1 Traffic and Transport Liaison Group	17
4.1.1 Other organisations.....	18
4.2 Traffic control group.....	19
4.3 Government stakeholders.....	19
5 Communication	20
5.1 Existing businesses and residents.....	20
5.2 Notification of traffic changes or disruptive works	20
5.3 Responsibilities.....	21
5.4 Roadside messaging	21
6 Approvals.....	22
6.1 Policy context and legislative backing.....	22
6.2 Stakeholders	22
6.3 Construction traffic management plans approval process.....	22
6.4 Road Occupancy Licence process.....	25
6.5 Speed zone authorisation	26
6.6 Special event coordination.....	26
6.7 Adjustments to traffic signals	27
6.8 Over-size or Over-mass (OSOM) vehicle permits.....	28
6.9 Adjustments to bus routes and stops.....	28
6.10 Adjustments to Australia Post mail boxes or other roadside furniture.....	28
6.11 Local Traffic Committees (LTC).....	28
7 Management of construction traffic	30
7.1 Haulage routes	30
7.2 Management of heavy vehicle movements.....	30
7.3 Work zones and heavy vehicle marshalling	31
7.4 Construction/demolition vehicle types.....	31
7.4.1 Worker access and parking.....	31
7.4.2 Construction consolidation centre/depot	32
7.4.3 Driver training	32

7.4.4	Chain of responsibility and Heavy Vehicle National Law	32
8	Construction site traffic management requirements	33
8.1	Traffic control at construction sites.....	33
8.1.1	Policy and responsibilities	33
8.1.2	Traffic control techniques	33
8.1.3	Approved clothing for work personnel	34
8.1.4	Plant and equipment	34
8.2	Frequency of inspections	34
8.2.1	Inspections of roadwork traffic management schemes	34
8.3	Emergency incident planning.....	35
8.3.1	Accidents/incidents and complaints.....	35
8.3.2	Chemical spills and leaks.....	35
8.4	Traffic controllers and temporary traffic signals.....	36
9	Management of construction sites.....	37
9.1	Construction site boundaries	37
9.2	Hoardings.....	37
9.3	Site security, site access and signage	38
9.4	Pedestrian security/safety/lighting	38
9.5	Management of risks to vulnerable road users	38
10	Road safety audits	40
10.1	Purpose and benefits.....	40
11	Related documents and references.....	42

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Definitions and terminology

All terminology in this CTMF Document is taken to mean the generally accepted or dictionary definition. Other terms and jargon specific to this CTMF Document are defined within SM-17-00000203 Integrated Management System (IMS) Glossary. Terms and acronyms specific to this document are listed below.

Table 0-1: Definitions

Term	Definition
Approval	Any licence, permit, consent or approval required to be obtained from any authority to perform the construction activities or required in relation to the construction site by the contractor.
Authority/authorities	Any authority or person that has a right to impose requirements on any part of the contractor's activities or over the construction site.
<ul style="list-style-type: none"> Construction site 	The land, structures and water bodies where the contractor undertakes the contractor's activities.
<ul style="list-style-type: none"> Customer Journey Management (CJM) 	Oversees overall network performance, road incident and network disruption management as well as real time customer communications. The Transport Management Centre is a branch of Customer Journey Management (CJM).
Customer Journey Planning (CJP)	The office established to lead the proactive planning and coordination of the operations and management of the transport network for major infrastructure projects on behalf of Transport for NSW. Now referred to as Customer Journey Planning or CJP.
Construction Traffic Management Plan (CTMP)	The Construction Traffic Management Plan required by the SSI Approval. The CTMP is a plan showing how traffic & transport will be managed when construction works are being carried out. It describes the work activities being proposed, their impact on the roadway and on road users, and how these impacts are being addressed. A CTMP must incorporate Traffic Staging Plans, Traffic Guidance Schemes and Vehicle Movement Plans. Pedestrian Movement Plans may also be required to be incorporated. Sydney Metro site-specific CTMPs will need to be prepared for each construction site. These plans will be developed in consultation with the TTLG and TCG meetings.
Contractor	The organisation engaged by the Principal for the delivery of the Project Works and the Temporary Works.
Contractor's Activities	All things and tasks that the contractor is required to do under the contract, whether or not such things and tasks are performed by subcontractors.
Disability Discrimination Act (DDA)	The <i>Disability Discrimination Act 1992</i> .
Emergency	An unforeseen event which requires urgent action to protect life or property, or an occasion when emergency services (Police, Fire and Rescue, Ambulance or State Emergency Services) take control of a portion of the road network.
Hold Point	A point beyond which a work process must not proceed without the authorisation or release of a designated authority.

Term	Definition
Local Traffic Committee (LTC)	A technical committee chaired by the local council under delegated authority from TfNSW, which considers matters related to prescribed traffic control devices and traffic control facilities for which the council has delegated authority. It is made up of four formal, or voting, members: Council, NSW Police, TfNSW, and the local state Member of Parliament.
Long-term works	Works that impact on the road network for more than one shift. Traffic management measures will be installed on one day/night and remain in place for weeks or months but are removed on completion of the project or that work; for example, concrete barriers and signage.
Pedestrian Movement Plan	A diagram showing the allocated travel paths for workers or pedestrians around or through a construction site. A PMP may be combined with or superimposed on a Traffic Guidance Scheme.
Planning Approval	The approval being sought under the EP&A Act and relevant Commonwealth legislation (if required) by Sydney Metro and which is required to be complied with by the contractor, as directed in respective Project Deeds.
Preferred Infrastructure Report (PIR)	The report prepared to address issues raised in submissions on the Environmental Impact Statement and any proposed changes to the project to minimise its environmental impact.
Principal	Sydney Metro
Project Works	Any permanent works that the contractor is required to design, construct, complete and hand over.
Reference documents	The codes, standards, specification and guidelines specified in this document.
Revised Environmental Mitigation Measures (REMM)	Mitigation measures, additional to the project design, which are identified through the Environment Impact Assessment.
Road Interface Agreement (RIA)	Previously known as a Works Authorisation Deed (WAD). an agreement between TfNSW and the proponent authorising implementation of road works or other works for which TfNSW has a statutory interest and subject to identified requirements and conditions.
Road occupancy	An activity that is likely to impact on the traffic flow of the road network, and may involve the closure of traffic lane(s) or parking lane(s).
Road Occupancy Licence (ROL)	A licence for Road Occupancy issued by TMC that allows the holder to use or occupy a specified road space at approved times, providing that certain conditions are met.
Road Safety Audit (RSA)	An assessment and report of a road's safety performance and crash potential at various stages of a road/project's life cycle.
Road user	All users of roads and public spaces including, but not limited to, pedestrians, pedal cyclists, public transport passengers, public transport operators and motorists.
Short-term works	Works that are undertaken for one shift only. They may return the next day/night but it is set up and packed entirely in one shift; for example, cones and signs for a lane closure.

Term	Definition
Subcontractor	A subcontractor of the contractor and includes a supplier of goods or services (including professional services and construction plant hire) or both.
Transport for NSW (TfNSW)	Relates to those sections of the former Roads and Maritime Services (RMS), with regard to operations and impacts on State Roads, traffic signals and other road responsibilities of that organisation. RMS has been integrated into Transport for NSW from 1 December 2019, as part of the Greater Sydney Division. Where existing documents or procedures were published by RMS this reference has been retained.
Temporary works	Any temporary works required to carry out the contractor's activities but which do not form part of the Project works.
TBM	Tunnel boring machine.
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.
Traffic Control Group (TCG)	A group chaired by either Sydney Metro or TfNSW and including the Principal, relevant contractor's traffic and transport representative and other stakeholders.
Traffic Management Plan (TMP)	The TMP is a plan showing how traffic will be managed when construction works which will impact on the surrounding road network are being carried out. It describes the work activities being proposed, their impact on the roadway and on road users, and how these impacts are being addressed. A TMP may incorporate Traffic Staging Plans, Traffic Guidance Schemes and Vehicle Movement Plans. Pedestrian Movement Plans may also be required to be incorporated. These plans will be developed for activities such as OSOM routes to and from the construction sites and in consultation with the TTLG and TCG meetings.
Traffic Staging Plan	Road design drawings showing traffic lane configurations to be provided for traffic passing through the site during the various construction stages, including details of road alignment and geometry, intersection layouts, provision for buses and cyclists, work areas and pedestrian areas, drainage, signs and pavement markings, etc.
Traffic and Transport Liaison Group (TTLG)	The group formed by the Principal in accordance with the requirements in the Project Planning Approval. Meetings are chaired by either Sydney Metro or TfNSW .
Traffic and transport representative	The person appointed to the position of traffic and transport representative by the contractor.
Vehicle Movement Plan (VMP)	A diagram showing the preferred travel paths for vehicles associated with a construction site entering, leaving or crossing the through traffic stream. A VMP may be combined with or superimposed on a Traffic Guidance Scheme.
Verifier	A person appointed to the position of verifier by the contractor.
WHS	Workplace Health & Safety.

1 Introduction

1.1 Purpose

This Construction Traffic Management Framework (CTMF) sets out the approach to managing traffic & transport impacts during the construction of the Sydney Metro projects (the Project). The CTMF also outlines contractor requirements, with reference to third party agreements.

1.2 Scope

The CTMF provides the overall strategy and approach for construction traffic management for the Project, and an outline of the traffic management requirements and processes that will be common to each of the proposed work sites. It establishes the traffic management processes and acceptable criteria to be considered and followed in managing roads and footpaths adjacent to Project construction sites.

A site specific Construction Traffic Management Plan (CTMP), along with Traffic Guidance Schemes (TGS) as required, will also be documented based on this framework. These documents will be prepared by the Principal contractors responsible for each works package for Sydney Metro construction works to align with the contents, principles and objectives of this CTMF, as well as contractual requirements, Revised Environmental Mitigation Measures (REMM) and all other obligations of the relevant planning approval.

Some of the construction sites associated with the Sydney Metro Projects will be located within high-activity, densely developed, and in some cases congested sections of the road network, and any traffic management measures will need to consider all the potential impacts that might occur because of the construction activities, and deliver safe environments for all road users.

1.3 Metro West & Western Sydney Airport Project description

Sydney Metro is a key component of Future Transport 2056 (Transport for NSW, 2018), a plan to create and maintain a world class, safe, efficient and reliable transport system. The Sydney Metro network will consist of a number of metro lines.

- Sydney Metro Northwest is constructed and operational between Tallawong and Chatswood.
- Sydney Metro City and Southwest (Chatswood to Sydenham) is under construction between Chatswood and Sydenham Stations with operations planned to commence in 2024.
- Sydney Metro City and Southwest (Sydenham to Bankstown) is currently in construction (early works) with operations planned to commence in 2024.
- Sydney Metro West (Westmead to Sydney CBD) is currently in planning, construction commenced in 2020.
- Sydney Metro – Western Sydney Airport (St Marys to Western Sydney Airport and Western Sydney Aerotropolis) construction commenced in 2021.

Sydney Metro West will service the key precincts of Greater Parramatta, Sydney Olympic Park, The Bays Precinct and the Sydney CBD. Sydney Metro West includes:

- A new underground metro station at Westmead, to support the growing residential area as well as the health, research and education precinct.

- A new metro station under an existing suburban station on the T1 Northern Line east of Sydney Olympic Park – allowing faster connections for customers from the Central Coast and Sydney’s north to Parramatta and Sydney through a quick and easy interchange between suburban and metro services.
- At least one Sydney Metro West station under the Sydney CBD, delivering an easy interchange between suburban rail, new light rail and the new metro stations currently under construction.
- Further consultation is being undertaken on new intermediate metro stations between Parramatta and Sydney Olympic Park and between Olympic Park and the Sydney CBD.

Sydney Metro – Western Sydney Airport will service Greater Western Sydney and the new Western Sydney International (Nancy-Bird Walton) Airport. Sydney Metro – Western Sydney Airport will include:

- Stations at Western Sydney Airport and the Western Sydney Aerotropolis.
- A station at St Marys, interchanging with the existing station and connecting customers with the rest of Sydney’s rail system.
- A station at Orchard Hills to service future commercial and mixed-use precinct.
- A station at Luddenham to service future education, innovation and commercial precinct.

The Projects will also include ancillary components, including stabling and maintenance facilities, new or upgraded overhead wiring, signalling, access tracks/paths, rail corridor fencing, noise walls, fresh air ventilation equipment, temporary and permanent alterations to the road network, facilities for pedestrians, and other construction related works.

1.4 Governance

The approved version of the CTMF will be available on the Sydney Metro website.

Sydney Metro will be the document owner of the approved CTMF. This CTMF forms part of the EIS for both Sydney Metro – Western Sydney Airport (SMWSA) and Sydney Metro West (SMW) submitted for approval by the Secretary, Department of Planning and Environment.

2 Traffic management objectives

This section outlines the approach, strategy and hierarchy of access required when managing traffic for Sydney Metro projects.

The Projects will require demolition and construction work to be undertaken within various local government areas (councils) and other road authorities within the Greater Sydney Region. At all locations, it is important that adequate consideration and emphasis is given to the operation of public transport, private vehicles, service vehicles, and pedestrian and cyclist management measures, to minimise impacts. It is also important that access for residents and businesses is maintained, where possible.

The design and operation of any proposed temporary traffic management measures will require careful planning, coordination and implementation.

Pedestrians, cyclists and vehicle drivers expect a high level of safety and service in using the existing road and pedestrian network. This requires efficient, effective and reliable traffic management strategies to be in place that:

- Achieve uniform traffic throughput.
- Minimise changes to pedestrian and cycle routes and movement.
- Ensure reliable and consistent travel times.
- Provide clear information to allow drivers and other road users to make appropriate decisions in relation to their journey.
- Support operation and use of sustainable transport modes to reduce on-road single occupant motor vehicle demand.
- Minimise potential road safety risk, especially for pedestrians and cyclists.

These traffic management goals will be achieved by:

- Understanding the impacts of the Projects and identifying appropriate methods to mitigate these impacts.
- Strategic advanced planning of the traffic management.
- Taking an approach to traffic management that minimises traffic disruption.
- Ongoing stakeholder engagement and communication.

2.1 General traffic management approach

Sydney Metro is committed to achieving desired performance goals in relation to the health and safety of workers employed to construct Sydney Metro Projects, and to minimising the impacts of the works on road users and the community. The construction objectives that relate to the CTMF are outlined in **Table 2-1**.

Table 2-1: CTMF related construction objectives

Key Result Area	Construction Objectives
Transport network	<ul style="list-style-type: none"> • Minimise disruption to pedestrians, cyclists and motorists. • Ensure Sydney Metro construction traffic accesses the arterial network as soon as practicable on route to, and immediately after leaving, the construction site. • Keep Sydney moving. • Minimise impacts on route bus operations, routes and stops, where possible. • Minimise changes to traffic operation and kerbside access. • Minimise construction traffic generation during network peak periods (maximum peak period construction vehicle volumes should not exceed those outlined in the EIS). • Maintain access to properties and businesses where possible, or arrange alternative. • Maintain a safe environment for pedestrians and cyclists.
Safety	<ul style="list-style-type: none"> • No worker injury accidents during construction. • No injury accidents to members of the public because of construction.
Cumulative impacts	<ul style="list-style-type: none"> • Work collaboratively with other stakeholders and other major projects to mitigate traffic and transport impacts.
Amenity	<ul style="list-style-type: none"> • Minimise noise and other environmental impacts on the residents and businesses in the vicinity of the construction sites, in line with the Construction Noise and Vibration Strategy (CNVS).

2.2 Traffic management strategy

There is the potential for activities associated with the construction of the Sydney Metro Projects to have an impact on the surrounding road network. Where possible, these impacts will be minimised through the provision of effective traffic management measures, in accordance with Sydney Metro’s objectives and relevant guidelines and standards, to achieve the objectives of the Project. Development of the traffic management measures will be carried out in consultation with the Traffic Control Group (TCG), Traffic and Transport Liaison Group (TTLG), TfNSW, CJP and other relevant stakeholders.

Priority will be given to providing adequate guidance to pedestrians, cyclists, drivers and the community prior to the commencement of any works. Priority will also be given to responding appropriately to issues and events that may arise during the works. As part of this strategy, some key traffic management measures include:

- The provision of directional signage and line marking to safely direct and guide drivers, cyclists and pedestrians past work sites and to suitable alternative routes (if required) on the surrounding road network.
- Notification of proposed changes and duration using appropriate media e.g. newspapers (local or majors), radio, project website, social media and direct community engagement (as required).
- On-going or direct co-ordination with CJP and CJM, to mitigate congestion and provide rapid response should incidents or increased congestion occur as a direct result of the works. Notification of incidents or congestion should also be relayed to Sydney Metro and relevant CJP representative immediately. The

direct contact numbers of the contract-wide and site-specific lead contractors should be provided to CJP and CJM. The contract-wide lead contractor is responsible for ensuring the direct contact numbers are current during any stage of construction.

- Management and coordination of construction vehicle safe access to and from the work sites across pedestrian paths. The type of traffic management to be employed will be dependent on, and adjusted according to, the volume of pedestrians, passing traffic and the volume of construction vehicle activities for the site. The types of management could include manual supervision, physical barriers, temporary/portable traffic signals (where approved by TfNSW, council or other road authority) or modification to existing traffic signals (where approved by TfNSW).
- Ensuring that safe access to existing properties and businesses is maintained during the period of the works, or a suitable alternative is provided.
- Retain existing on-street parking and restrictions, as far as is practicable.

2.3 Hierarchy of access

In identifying the most appropriate form of traffic management for each site, consideration should be given to the priorities of the potential different users. The site specific CTMPs should be developed in line with the following hierarchy of access, listed from the highest to the lowest priority:

1. Incidents and emergency services access
2. Events (special and unplanned)
3. Pedestrians
4. Cyclists
5. Other public transport users – buses, coaches and light rail
6. Service vehicles
7. Coaches
8. Taxis
9. Kiss and ride and rideshare
10. Private cars

Roads are sometimes classified functionally as follows:

- Arterial / State road
- Sub-arterial or Regional road
- Collector road
- Local road

TfNSW publishes on its website a schedule of State and classified Regional roads with descriptions, which should be referred to in assessing the functional classification of any roads that may be potentially impacted by works. The document outlines the following:

“To manage the extensive network of roads for which councils are responsible for under the Roads Acts 1993, RMS in partnership with local government, established an administrative framework of State, Regional and Local Road categories. State Roads are managed and financed by RMS whilst Regional and Local Roads are managed and financed by councils.”

Regional Roads perform an intermediate function between the main arterial network of State Roads and council controlled Local Roads. Due to their network significance, RMS provides financial assistance to councils for the management of their Regional Roads. The Regional Road category comprises two sub-categories: those Regional Roads that are classified pursuant to the Roads Act 1993, and those Regional Roads that are unclassified. For completeness, the Schedule includes unclassified Regional Roads.

Local Roads are unclassified roads and therefore are not included in the Schedule.”¹

¹ Schedule of Classified Roads and Unclassified Regional Roads - RMS, April 2017

3 Implementation framework

3.1 Construction Environmental Management Framework (CEMF)

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 outlines construction traffic management requirements.

3.2 Construction traffic management task

The Projects require construction work to be undertaken for the tunnels, viaducts, stations, ancillary facilities and connections to the stations at locations within various council areas.

Managing the impacts of construction traffic on the road and pedestrian networks near the surface construction works is vital to the success of the Project.

3.3 Implementation process

The Construction Traffic Management Framework (CTMF) is one of several management plans required for the Projects, in accordance with the CEMF. The hierarchy of the traffic management plans for the Projects, their purpose, and the responsible entity for each are outlined in the table below.

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 overarching (contract wide) and 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 Guidance Scheme or TGS (formerly 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 TGS 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

Document	Purpose	Produced by
Other plans	Refer to the Principal's General Specifications relating to Traffic and Transport Management.	Sydney Metro

3.3.1 Construction Traffic Management Framework (this document)

This CTMF provides the framework within which subsequent site-specific CTMPs will be prepared. The CTMF describes the traffic management objectives, principles and strategies to be implemented during construction of Sydney Metro Projects.

This CTMF identifies and outlines areas that will be potentially impacted by the construction works and will require traffic, cycling and pedestrian management. 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.

3.3.2 Construction traffic management plans

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

The CTMP's will comply with the Traffic Control at Worksites Manual, relevant Australian Standards, relevant Austroads guides, TfNSW supplements to Australian Standards and Austroads, Principal's General Specifications – Traffic and Transport Management and the EIS.

In addition to an Overarching CTMP, site specific CTMPs will be prepared and implemented having regard to the relevant Project specific REMMs and Conditions of Approval.

3.3.3 Site specific CTMP

Contractors will prepare detailed site-specific Construction Traffic Management Plans (CTMPs). These will be developed by the contractor for each work site and identify proposed heavy vehicle routes, traffic and parking management measures. These plans will be developed in consultation with the TTLG and TCG meetings. Details of the consultation including presentation dates to TTLG and TCG and stakeholder consultation are to be included in the CTMP.

Details of station and construction work sites are to be provided in the each of the site-specific CTMPs.

Site specific CTMPs will detail construction work sites, access points, relevant signage, parking changes (if required), vehicle numbers (heavy and light vehicles) and frequency, maximum vehicle size, swept paths, expected dates and duration of works, work times. Other information to be included includes bus stop relocations (if required), proposed heavy vehicle routes, traffic and parking management measures, relevant correspondence with stakeholders (e.g. bus operators, Australia Post, business owners) and all traffic management and mitigation measures required to implement any proposed works.

It must also include Traffic Guidance Schemes TGS (formerly Traffic Control Plans (TCP)), Vehicle Movement Plans (VMP), Pedestrian Movement Plans (PMP), Parking Management Plans and Traffic Staging Plans for the specific works, unless otherwise agreed in writing with the Principal's Representative and relevant authorities. The

Parking Management Plan will also provide details regarding on-site and off-site staff parking arrangements, including any proposed bussing to and from construction sites. The TCP's should include the intended timing of the proposed traffic management measures e.g. nights, weekends, 24/7.

It is an important consideration in the development and approval of a CTMP that sufficient time is allowed for the review process and consideration by CJP, TfNSW, local council, bus operators and other stakeholders as required. The identified Project Document Management System (e.g. Teambinder) should be used to distribute documents to stakeholders for review and comment, where available. If not available for the stakeholder being consulted, then the CTMP is to be forwarded by email or hard copy. The Principal's representative is to be copied in on any submitted documentation.

The approval process for CTMP's is outlined in **Section 6.3**.

Once all comments have been addressed, the final version of the CTMP is then formally submitted to CJP for final approval of the CTMP, following TfNSW endorsement. Ten business days should be allowed for the final approval.

3.3.4 Traffic Guidance Schemes and other plans

The site-specific CTMPs provide the basis for preparation of the Traffic Guidance Schemes TGS (formerly Traffic Control Plans (TCP)) and Road Occupancy Licence (ROL) applications.

3.3.4.1 Traffic Guidance Schemes

All Traffic Guidance Schemes TGS (formerly Traffic Control Plans (TCP)) prepared for construction activities will be developed in accordance with Australian Standard AS1742.3 and the TfNSW Traffic Control at Worksites Technical Manual.

TGSs must be prepared by a person who has completed and passed the required training courses and obtained a Traffic Control Work Training Card.

All work sites and related TGSs will be implemented in compliance with the ROL issued by TMC for the approved times and appropriate standards.

Documents to be referenced in the preparation of TGSs include:

- Australian Standard AS1742.3 – Manual of uniform traffic control devices, Part 3, traffic control devices for works on roads.
- Roads and Maritime Services NSW – Traffic Control at Worksites Technical Manual.
- Principal's General Specifications – Traffic and Transport Management.
- Relevant Austroads Guides.
- TfNSW Supplements to Austroads and Australian Standards.
- Sydney Metro Principal Contractor Health and Safety Standard.

Early consultation with TfNSW and CJP may highlight site-specific requirements associated with the forecast heavy vehicle and light vehicle movements at proposed work sites along the Project corridor. These will be addressed by contractors during construction planning and CTMP preparation for each of the sites. On local roads, councils may also have operational requirements and these should be determined in consultation with the councils.

3.3.4.2 Vehicle movement plans

The Traffic Control at Work Sites Technical manual outlines a vehicle movement plan as “*a diagram showing the preferred travel paths for vehicles associated with a worksite entering, leaving or crossing the through traffic stream.*” The requirements for the provision of a VMP are detailed in chapter 5 of the Traffic Control at Worksites Technical Manual.

Vehicle movement plans should be included in site-specific CTMPs prepared by a suitably qualified person for the contractor. The VMP should also include the proposed site access points and how these are to be managed.

3.3.4.3 Pedestrian movement plans

The Traffic Control at Worksites Manual outlines a Pedestrian Movement Plan (PMP) as “*a diagram showing the allocated travel paths for workers or pedestrians around or through a worksite.*”

Wherever it is necessary to divert or warn pedestrians of works the PMP should be included in the CTMP prepared by the contractor. This may be a stand-alone document.

The needs of cyclists and other mobility devices (wheelchairs, mobility scooter) must also be considered and management measures documented in the pedestrian and cycle movement plan. This is particularly important where the work site is bounded by major roads such as State and Regional Roads.

PMPs are to be prepared for any work sites located where significant pedestrian activity occurs, e.g. shopping centres, commercial/office areas. Other construction sites may also require PMPs subject to site-specific assessments.

3.3.4.4 Parking management plans

Parking Management Plans identify parking requirements and also on-site and off-site parking arrangements and associated impacts; remote parking arrangements and associated access between sites and public transport nodes; alternate parking arrangements for displaced parking; and communication and parking management measures. For any proposed kerbside use impacts within a town centre or other activity centre, a proposal for relocation of impacted users may be required.

Changes to on-street parking restrictions will require the approval of the relevant road authority; either TfNSW or local council.

4 Consultation groups

The size of Sydney Metro projects requires effective and ongoing interaction between several different organisations, key stakeholders and the general public. This chapter outlines the consultation groups that will be convened to manage these interactions. Requirements for consultation with local businesses and the community are outlined in Chapter 5 Communication.

As the Project needs regular and ongoing discussions and distribution of information, the following groups will be convened to assist in traffic management planning, document review and stakeholder consultation:

- a. Traffic and Transport Liaison Group(s) (TTLG).
- b. Traffic Control Group(s) (TCG).

4.1 Traffic and Transport Liaison Group

A Traffic and Transport Liaison Group (TTLG) operates, to ensure the stakeholders most affected are aware of the proposed construction activities, upcoming works and related traffic and transport implications. The participants in this group will reflect the location of the work site however, representation is anticipated to include, as relevant to the site:

- Sydney Metro
- Transport for NSW including:
 - Centre for Road and Maritime Safety
 - Sydney Light Rail
 - Parramatta Light Rail
 - Metro Bus and Ferry Planning and Development
 - Greater Sydney Planning and Programs
- Customer Journey Planning
- Sydney Trains
- Port Authority of NSW
- Infrastructure NSW
- Department of Planning and Environment
- Western Sydney Airport (WSA Co Ltd)
- Western Parkland City Authority (WPCA)
- Sydney Motorway Corporation (WestConnex)
- NSW Police
- NSW Fire and Rescue
- NSW Ambulance Service
- Local councils (depending on work site locations)
- Bus operators
- Sydney Metro contractors

The TTLG provides a forum for key stakeholders, contractors and Sydney Metro to discuss matters that could impact on the road network operations around the sites. The TTLG also provides a forum through which information on proposed traffic changes is made available to key stakeholders. It will allow key transport agencies, local councils and other authorities to inform the development of traffic management plans and construction staging by providing local and specialist knowledge and insights. The TTLG:

- Maintains good communication between Sydney Metro project team, contractors and other stakeholders.
- Discusses the construction traffic management arrangements for the Sydney Metro works and approvals.
- Assists in identification and refinement of potential measures to mitigate the impacts of the Sydney Metro works in an area.
- Assists coordination of works for Sydney Metro and other projects.
- Can request the provision of supplementary analysis and modelling for proposed traffic management measures to ensure any disruption to the traffic and pedestrian network is minimised.
- Ensures that submitted plans are actioned and agreed in a timely manner in accordance with the overall Sydney Metro project program.
- Is consulted in the preparation of road safety audits before the completion and use of infrastructure.

4.1.1 Other organisations

Other organisations may be asked to attend the TTLG and/or receive relevant information depending on the matters under discussion or consideration. This may include:

- NSW Taxi Council
- NSW Taxi Drivers Association
- BusNSW
- Bicycle NSW
- Bicycle User Group(s)
- Pedestrian Council of Australia
- Sydney Buses
- Private bus operators (such as NightRide contractors)
- Property NSW
- Sydney Ferries, Harbour City Ferries and other relevant ferry operator(s)
- Disability Council of NSW
- Transurban
- NRMA
- NSW Trains
- NSW Health Infrastructure
- Managing Contractors of other adjacent major infrastructure projects

4.2 Traffic control group

For each (or multiple) Sydney Metro contract, a Traffic Control Group (TCG) will be convened to provide a technical forum for the discussion of proposed works that will impact on the surrounding road network and feedback on proposed TGSs prior to formal submission. This group would meet on regular occasions (weekly, fortnightly or as agreed by TCG members) to provide an assessment of the forthcoming traffic management measures and to ensure that any identified or potential issues are raised and addressed to ensure that works proceed in accordance with the agreed program. The participants in this group will vary depending on the contracts. Representation would be expected to include:

- Relevant Sydney Metro contractor Traffic Managers and other construction staff as required.
- Sydney Metro
- Transport for NSW
- Customer Journey Planning (CJP)
- Centre for Road and Maritime Safety
- Local councils
- Infrastructure NSW
- Western Sydney Airport (WSA Co Ltd)
- Port Authority of NSW (Bays West Precinct)
- Western Parkland City Authority (WPCA)

The TCG will provide a forum for discussion on proposed traffic management measures during the various stages of each of the contracts, discussion of potential impacts on the road network operations around the sites, and how to address or minimise those impacts.

4.3 Government stakeholders

Consultation with CJP, Port Authority and TfNSW in the preparation of this CTMF document has been carried out, the outcomes of which have been incorporated into this document.

A summary of the comments and responses from the consultations has been provided to the Department of Planning and Environment.

5 Communication

All external communication with the community, including businesses, must follow the guidelines set out in the Sydney Metro Community Communication Strategy (CCS).

The community must be notified of any current and upcoming works, temporary works or contractor activities that have the potential to impact on stakeholders and the community before they happen.

An overview of the approach to stakeholder and community involvement during construction of the Project is provided in the Construction Environmental Management Framework and Community Communication Strategy. A key element of this strategy will relate to notifications to stakeholders, local councils and the community that may be affected by changes to transport, access and local traffic arrangements.

5.1 Existing businesses and residents

Owners and operators of potentially affected properties and businesses will be consulted throughout the delivery of the Project and notified in accordance with the Community Communications Strategy (CCS) in advance of any works that may potentially disrupt access to their property.

Every endeavour is to be made to maintain safe access at all times to properties for both pedestrians and vehicles. If works will temporarily affect access to a property, consideration should be given to the staging of the works, to maintain safe access and limit the disruption. Any access restrictions for residents, tenants or property owners and alternative arrangements are to be undertaken and agreed with the occupiers.

Residents, property owners and businesses in the surrounding area will also be notified prior to the start of works.

5.2 Notification of traffic changes or disruptive works

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

- Doorknocks
- Letterbox drops
- Advertising (newspapers)
- Social media updates
- Radio.

5.3 Responsibilities

The contractor's Stakeholder and Community Manager will be responsible for ensuring a system is in place to advise the Sydney Metro Project Communications Team, the TTLG and other key stakeholders each time proposed changes are to be made to traffic arrangements. Advice will include information about the changes to the traffic operation, anticipated delays to traffic, any changes to the times and duration of the work, and any other potential major disruptions. This advice should be provided at the earliest opportunity, in accordance with the CCS and provide sufficient time for key agencies to provide comments or information as necessary.

5.4 Roadside messaging

Appropriate signposting, whether static or Variable Message Signs (VMS), should be located and installed to provide for the easy and safe passage of vehicles, pedestrians and cyclists. This also includes public transport users accessing facilities such as bus stops. The installation of signs will be detailed within the relevant CTMP.

Any signposting should be placed in accordance with relevant guidelines and standards. Messages should be clear and easily interpreted by drivers, pedestrians and cyclists, and should not create a safety hazard. The proposed location of any VMS would require the approval of the road authority.

6 Approvals

6.1 Policy context and legislative backing

Notwithstanding the Project SSI Approval being secured under Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) or other approval obtained under relevant Commonwealth legislation (where relevant). Sydney Metro contractors will be required to secure all other required statutory approvals prior to the commencement of works.

Any changes to traffic control devices (e.g. traffic signals or traffic signs) and traffic control facilities will require the approval from the road authority and arrangements with the road authority for the changes to occur. Regulatory sign and line-marking changes on local or Regional roads will require approval from the local council through a submission to the local traffic committee. Sign and line marking changes on State roads will require the approval of TfNSW.

6.2 Stakeholders

The agencies that may have a potential interest in the traffic management measures proposed for each Project construction site are outlined below:

- Customer Journey Planning
- Local council
- Sydney Trains
- Transport for NSW
- Department of Planning and Environment (for Sydney Olympic Park)
- Port Authority of NSW
- Western Sydney Airport
- Western Sydney Parkland City Authority

6.3 Construction traffic management plans approval process

Construction Traffic Management Plans will require approval and consideration by several key stakeholders. Contractors should assess the overall required approval times at the beginning of the Project to provide adequate scheduling of the preparation and submission of the CTMPs.

Construction Traffic Management Plans (CTMPs), consistent with this CTMF, must be prepared for each construction site in consultation with the TTLG(s), and submitted to CJP for approval following TfNSW endorsement before construction commences at the relevant construction site.

In addition, where construction results in conditions in excess of the forecast impacts or where traffic management measures cause excessive delays or impacts, the contractor must review the measures identified in the CTMPs in consultation with the TTLG(s), as relevant. Any changes to the CTMPs must be submitted to CJP for approval, following TfNSW endorsement, before implementing.

An overview of the approvals process for the Sydney Metro works is as follows:

- Site-specific CTMPs will be prepared consistent with this CTMF by the contractor for each site covered under the contract. These CTMPs must comprise other plans or drawings such as Traffic Staging Plans, Traffic

Guidance Schemes, Vehicle Movement Plans, Pedestrian Movement Plans, a Parking Management Plan, unless otherwise agreed with the Principal's representative and the relevant authorities, and address any changes from the EIS indicative haulage routes.

- Prior to the submission of the CTMP, the planned works and traffic management measures are presented to TfNSW, CJP and relevant council at a TCG meeting. This will enable initial comments from the stakeholders to be considered in the preparation of the CTMP. The TCG presentation should be distributed via email or the identified Project Document Management System at least five business days prior to the TCG meeting to enable informed discussion on the proposed traffic management measures.
- Planned works and traffic management measures also presented to TTLG, to obtain feedback from other key stakeholders. Notwithstanding presentation at the TTLG, the CTMP should be distributed to emergency services and other key stakeholders for information.
- The CTMP is modified in accordance with TCG and TTLG feedback.
- This would then provide the basis for submission of the CTMP to CJP, TfNSW and relevant road authority for formal comments. Up to twenty business days should be allowed for the review of the CTMP by stakeholders and return of comments on the plan.
- Once comments have been received and the CTMP discussed at the next available TCG, a revised CTMP is submitted (if required) for review to the stakeholders, allowing ten business days for formal response.
- After review and resolution of issues, the CTMP is submitted to CJP for approval following TfNSW endorsement, before construction commences at the relevant site. Ten business days should be allowed for the final approval.
- The CTMP is to be sent to Department of Planning and Environment for information only, if required
- The CTMP is to be published on the contractor's website prior to works commencing at the relevant site, if required.

The contractor will be responsible for documenting all stakeholder feedback and comments in a document specific issues register. These comments will be addressed and closed out by the contractor in consultation with the relevant stakeholders. Sydney Metro, TfNSW and CJP will not be responsible for processing or referring comments on behalf of the contractor.

- Changes to traffic management requirements at a site which requires material changes to the existing CTMP will require re-submission of the revised CTMP (with tracked changes) to TfNSW, CJP and the local road authority for comment and approval as applicable.

This CTMP approval process is outlined in the flow chart in **Figure 6-1**.

Figure 6-1: CTMP approval flowchart



6.4 Road Occupancy Licence process

Whenever it is proposed to occupy or close a lane or road during the construction program for each of the sites, the closure will require the contractor to apply for a Road Occupancy Licence (ROL) from the Transport Management Centre and/or the local council or designated road authority. ROLs are issued by TMC for approved times, following endorsement by CJP for State roads or locations on Regional or local roads within 100 metres of traffic signals. It should be noted that due to the critical nature of the potential traffic impacts for local roads within the Sydney and Parramatta CBDs or other key centres that applications for ROLs on streets within these areas may be required to be submitted to TMC. The issuing of ROL's on local or Regional roads for lane or road closures in the CBD's above will also be subject to the approval of the local council.

The contractor will need to consult with stakeholders prior to submission of the ROL application and provide information as required.

For local roads, outside of the areas highlighted above, the approval of the local council or road authority will be required. This will require an application in the appropriate method to council or road authority.

The ROL requirements are outlined in the TfNSW Road Occupancy Manual (and in the Principal's General Specifications – Traffic and Transport Management).

The Contractor must allow a minimum of 10 business days for a response to an application from TMC. A minimum of 10 business days should also be assumed for responses to applications from other roads authorities.

ROLs will generally be issued for relatively short periods of time and CJP will require that an approved TGS or site CTMP for the work be in place.

Information on proposed and approved ROLs should also be provided to the Sydney Metro Project Communications Team for notification, prior to works commencement.

The general process for ROL's is outlined below:

- ROL and related applications are submitted by the contractor to TMC for occupation of roadway (other than approved work zones) on State and Regional roads and all works within 100m of traffic signals. These applications are approved by TMC for the times shown on the licence. A CTMP will be required to be approved by CJP prior to approval of the ROL.
- Application made to CJP for ROL.
- TMC assesses for potential conflicts with any identified conflicts to be resolved to satisfaction of CJP.
- CJP will review and assess prior to submission to TfNSW for approval.
- Contractor may be requested by CJP to consult with other stakeholders including TfNSW.
- Contractors will require council or road authority approval of road occupancies / lane closures / permits to stand plant / road openings impacting Regional and local roads.

The contractor is to prepare and maintain a register of ROL applications and approvals providing stakeholders with status information throughout construction.

Upcoming ROL and related applications are to be discussed at TCG meetings for council and other stakeholder feedback prior to submission.

6.5 Speed zone authorisation

An application must be made to TfNSW for any proposed adjustment of the speed limit on the road network, whether they are proposed as temporary measures for work zones and road occupancies or for longer periods such as the duration of the construction works at a site. A Speed Zone Authorisation application usually accompanies a ROL application where a change in speed limit is proposed as part of the road occupancy.

The TfNSW speed zone change process involves the submission of the appropriate form, available online from the TfNSW website, which is to be submitted to TMC's Planned Incident Unit. Depending on the extent of the works and project familiarity the application will be supported by the site specific CTMP or a TGS. Short-term speed zone changes can be dealt with via the CTMP process. Longer term (over six months) or permanent changes are included in the site specific CTMP and are to be referred to CJP & TfNSW for assessment, consideration and approval. Permanent speed zone changes can only be approved by TfNSW.

6.6 Special event coordination

There are many special events that occur in and around the Sydney CBD, Parramatta CBD, Sydney Olympic Park and other locations around Sydney which may impact on the Projects. These special events have an impact through increased visitor numbers, road closures and diversion of bus services. The major events such as New Year's Eve, Australia Day, Vivid Festival, Royal Easter Show, major sporting events and ANZAC Day all have significant impacts with increased visitor numbers and the need to provide additional rail and bus services, and impacts on the road network. At some sites this may include pedestrian marshals if increased pedestrian activity is identified in the preparation of the CTMP.

Class 1 and 2 events, outlined below, are to be facilitated in the planning of work programs as works may not be permitted during these classes of events. For example, works are not permitted to happen between 3pm and midnight during the Vivid Festival in and around the Sydney CBD, Pyrmont and parts of Chatswood. Other areas and times may be incorporated in these restrictions in the future.

In addition, pedestrian activity in CBD and shopping centres increases significantly during December and early January, in the lead up to Christmas and the post-Christmas sales. The City of Sydney has a policy of not permitting works that will cause disruption to the retail core of the city during December. Other councils may have similar restrictions during key periods. Works that would have a significant impact on pedestrian paths and station access should be minimised during these periods and/or additional and increased interface supervision should be provided between the site and the adjoining pedestrian network.

The TfNSW special event management guidelines identify four classes of special events. These classes provide direction on the approvals required, timeframes and methods of advertising measures such as road closures and other aspects of the event. The classes of events can be summarised as follows:

- 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 country town.

- Class 2 – Events that impact local traffic and transport systems and result in low-scale disruption to the non-event community. For example, an event that blocks off the main street of a town or shopping centre but does not impact a principal transport route or highway.
- Class 3 – Events with minimal impact on local roads and negligible impact on the non-event community. For example, an on-street neighbourhood Christmas party.
- Class 4 – Events that are conducted entirely under Police control (but is not a protest or demonstration). For example, a small march conducted with a Police escort.

During the Project, special consideration and traffic planning will need to be undertaken for each of the work sites to address the road user needs during programmed special events. It should also include the response to ad hoc events that may occur with minimal notice, including marches, protests and other public events.

The traffic management requirements of Special Events may require adjustments to times of operation and routes used for haulage or delivery operations as well as varying Road Occupancy Licence (ROL) conditions for Sydney Metro construction. The ROL approval and CTMP approvals will identify any time and day restrictions, taking in to account any known potential conflicts at the time of submission and approval. It should be noted that the contractor will be required to comply with any direction given by CJP regarding embargos that may be placed during Major / Special Events (all classes) and marches / special operations.

Sydney Metro contractors will be responsible for identifying special events that occur in the area of the work site, incorporating known special events into the construction program and detailing responses and contingencies in the CTMP for each site. This coordination will occur through CJP, approved event registers of councils, the TCG and the TTLG.

During development of the site specific CTMPs the proposed traffic management measures must take account of major and regular events, such as ANZAC Day or Royal Easter Show for example, to ensure that proposals do not impede or impact on these events.

6.7 Adjustments to traffic signals

Any temporary or permanent works that impact on the operation of, or require the reconstruction or adjustments to, traffic signals require close consultation with TfNSW and approval of the traffic signal design plans, prior to the commencement of any work.

The contractor will need to take account of potentially lengthy approval lead times in any works involving traffic signal construction or modifications. Additional time may also be required to facilitate the modification of the electronic hardware, in addition to undertaking any physical changes onsite. Approvals for modifications to existing traffic signals, or new traffic signals, can take up to six (6) months.

The contractor will be responsible for the preparation of any traffic signal designs and obtaining the necessary approvals, allowing sufficient time to maintain the works program. Designs will be required to be carried out by a TfNSW accredited signal designer and comply with the 'RMS Traffic Signal Design Manual' (RTA/Pub 08.092). Any works at a traffic signal site shall be carried out by a TfNSW accredited traffic signal contractor. A list of contractors for design and civil works can be found at <http://www.rms.nsw.gov.au/business-industry/partners-suppliers/tenders-contracts/prequalified-contractors.html>.

6.8 Over-size or Over-mass (OSOM) vehicle permits

Prior approval for the passage of any proposed over-size or over-mass vehicles is required from the National Heavy Vehicle Regulator, TfNSW for State roads, or councils for Regional or local roads, and an authorisation permit issued prior to the operation of the vehicle. A TMP is likely to be required that describes how an OSOM movement will be safely undertaken in NSW. Details can be found on the TfNSW website, which provides all requirements for applications.

6.9 Adjustments to bus routes and stops

Any proposed adjustments or relocation of bus routes and stops to facilitate construction works require the prior approval of TfNSW, CJP, the local council and affected bus operators.

Any proposed adjustments or relocation of bus shelters associated with bus stop changes or construction works require the approval of the local council and affected bus operators.

Customer information and wayfinding information for any relocated bus stops is to be provided before, and after, the relocation works have been carried out.

The procedures and protocols to be followed by Contractors in respect of bus stop, infrastructure & network changes are outlined in the CJP's Bus Disruption Process. **Contractors should not deal directly with the bus operators in the first instance. CJP will coordinate any proposed changes.**

6.10 Adjustments to Australia Post mail boxes or other roadside furniture

Consultation regarding the relocation and/or adjustments to post boxes and the associated kerbside 'Mail Zone' will be required to be undertaken with Australia Post and the relevant road authority prior to any relocations occurring. In some instances, post boxes may be able to be relocated, however there will be instances where the post box, for heritage requirements, will not be able to be relocated. These post boxes will need to be protected to ensure that they are not damaged during construction works.

Adjustments or relocation of other roadside furniture or modifications to signposting such as advisory signs or regulatory signs will require consultation and approval of the owner. In most cases this will be the local council. Changes to regulatory signposting which defines the mail zone, and linemarking on local and Regional roads will require a submission to the Local Traffic Committee.

6.11 Local Traffic Committees (LTC)

Changes to regulatory signposting on local roads and other works will require a submission to the Local Traffic Committee for council approval.

Each council is delegated authority by TfNSW on certain aspects for the control of traffic on Regional and local roads, including regulatory signposting. The delegation requires council to seek the advice of the NSW Police and TfNSW prior to exercising these delegated functions. This is usually done through the establishment and consultation with the Local Traffic Committee.

Councils can sub-delegate the approval of certain traffic control measures, such as Works Zones, to an appropriate staff member. These further delegations are determined by each individual council. Contractors will need to consult with council on the extent of the delegations.

Where possible, the contractor should endeavour to secure all necessary council approvals under delegation to avoid the need for referral via the Local Traffic Committee and council meetings.

The Local Traffic Committee is a technical committee that considers matters related to prescribed traffic control devices and traffic control facilities for which the council has delegated authority. It is made up of four formal, or voting, members:

- One representative of council (may be a councillor or council officer)
- One representative of the NSW Police
- One representative of TfNSW
- The local state Member of Parliament or their nominee.

Matters that may need to be considered by the Local Traffic Committee include:

- Establishment of a kerbside work zone on a local or Regional road.
- CTMP's if regulatory signposting is proposed to be changed.
- Changes to parking restrictions.
- Road closures.

It should be noted that a TMP will need to be provided separately to council for the above matters irrespective of any CJP/ TfNSW approval of a CTMP. Submission and approval of matters through the LTC can involve an extended timeframe. Matters will need to be submitted to council for inclusion on the LTC agenda approximately 2-8 weeks prior to the meeting. Council requirements differ and these should be determined by the contractor to ensure sufficient time is allowed.

The LTC does not have delegation to approve matters on behalf of the council. The LTC provides recommendations to the council. Only once the council has approved the LTC recommendation can work proceed. The timeframe between the LTC meeting and council meeting for approval can be 1-4 weeks.

Traffic management changes or proposed amendments to the public domain (e.g. footpaths or access across reserves) will require submission to the relevant council, including possible referral to the Local Traffic Committee.

Road closures will require a TMP to be submitted to TfNSW (through council) for approval prior to submission to LTC. Once approved by TfNSW it would then be listed for LTC meeting.

7 Management of construction traffic

7.1 Haulage routes

Designated access routes for heavy vehicle movements during demolition, construction and spoil removal will be along the arterial (state) road network as much as practically possible.

Where proposed haulage routes in the CTMP differ from the routes shown in the EIS / Submissions Report / PIR, the contractor will undertake a review and where necessary document these in the contract wide and site-specific CTMPs and provide a justification for these changes. Contractors will need to satisfy any other approval specific conditions such as securing Department of Planning and Environment approval for the use of local roads for construction traffic movements. Approved EIS heavy vehicle hourly volumes shall not be exceeded, unless otherwise agreed with relevant road authorities.

Details of any proposed routes for heavy vehicle access will be developed in consultation with the TCG, TTLG, relevant state or local government authority and detailed in the appropriate section of the site-specific CTMP. The CTMP would be approved by CJP following endorsement by TfNSW, where appropriate, and consideration by the relevant roads authority.

In addition, measures should be in place to avoid heavy vehicles queuing on the road network near the worksite. In general, the sites for the project have a very constrained road network surrounding the site and the parking of vehicles on the surrounding road network will not be possible.

It will be necessary for the contractor to manage arrivals and departures for each site to ensure a consistent and timely arrival and departure of vehicles for the site, for example, the use of timetables. This should be communicated to all sub-contractors and operators prior to commencement of works.

Heavy vehicle movements through designated school zones should be minimised when these zones are in operation (8:00am to 9:30am, 2:30pm to 4:00pm, school days).

7.2 Management of heavy vehicle movements

Heavy vehicle movements must be managed in accordance with construction and traffic management principles of the CTMF and in accordance with the relevant standards. Each site-specific CTMP will need to demonstrate, where applicable, how marshalling facilities will be used to safely manage truck movements and reduce congestion. The arrival of trucks should be scheduled so that there is no queuing of trucks on adjacent streets. Trucks must not park on State, Regional or local roads for the sole purpose of waiting to enter the site.

Vehicle and pedestrian access to each work site, including the locations of entries, exits, turning restrictions, slip lanes, traffic signals, signage and other site management requirements will be established in line with the requirements of the Project approvals and in consultation with TfNSW, CJP and councils.

All vehicles are to enter and exit the construction sites in a forward direction. If this cannot be achieved then traffic control is to be provided. Refer to the 'Traffic Control at Worksites Technical Manual'.

7.3 Work zones and heavy vehicle marshalling

During some stages of the works at each of the sites there may be a requirement for using kerb space on adjacent streets for short-term parking or unloading for deliveries to the site. Applications for a Works Zone will be undertaken by the contractor to the relevant authority (council for local and Regional roads and TfNSW for State roads). There may be a requirement for referral through the Local Traffic Committee of council. The use of a Works Zone should be minimised as much as practicable. Where approved, Works Zone locations are to be included in site specific CTMPs. In general, Works Zones will not be permitted within existing bus zones and their operating times, unless arrangements have been approved for the relocation of the bus zone.

7.4 Construction/demolition vehicle types

To minimise the number of heavy vehicle movements on the road network, the selection of vehicle size will have regard to the number of movements required, the impact of the quantity of vehicles on road and pedestrian movements, road geometry and safety. It is recognised that CBD sites will have constraints on access routes, safety considerations and specific site constraints.

The types of truck to be used for the transporting of materials will be assessed in consultation with the relevant authorities in the preparation of the contract wide and site specific CTMPs.

Heavy vehicles used on the project must comply with the relevant standards including the safety requirements outlined in the Sydney Metro Principal Contractor Health and Safety Standard.

Higher mass and longer heavy vehicles will be required to transport certain materials to and from the sites (some under permit) and these would be subject to separate approvals.

It is anticipated that contractors will need to make use of truck and dog heavy vehicle combinations for the removal of spoil from tunnel or station excavation. Details of proposed truck and dog use are to be provided in the CTMPs.

'Truck and dog' combinations of 19m or less in length and up to 4.3m in height are classified as General Access Vehicles (GAV) in that they comply with mass and dimension requirements prescribed by TfNSW and do not require a notice or permit to operate on the road network. These vehicles have general access to the road network unless the road is sign-posted otherwise.

7.4.1 Worker access and parking

The constrained nature of the sites means car parking for construction personnel will not be possible at most sites. At each of the sites there may be the opportunity to provide minimal light vehicle parking spaces for engineers and other site management staff use.

The contractor may also be required to identify remote parking areas for workers, to minimise any impacts of workers parking on-street.

A general assumption for site specific CTMPs is that there will be no provision, either on the road or within the work site, for worker parking. Workers should be encouraged to use public transport in travelling to and from the work sites.

7.4.2 Construction consolidation centre/depot

To mitigate the potential impact of construction traffic the provision of a centralised Project centre should be considered. This centre could receive deliveries and arrange for combining of loads and materials for distribution to the various construction sites. This would have the potential to reduce construction traffic movements to the sites, particularly for small loads. Contractors may make use of their existing depots.

7.4.3 Driver training

Heavy vehicle drivers should be made fully aware by the contractor of the construction site traffic management arrangements and site-access requirements, including approach and departure routes and any heavy vehicle noise management measures required. Driver training should consider current best practice and information, including cycle awareness training.

The contractor is to ensure that regular briefings are provided to drivers on routes, potential changes and impacts on the routes in the form of toolbox talks.

Contractors must ensure mandatory completion of the Sydney Metro project-specific heavy vehicle driver introduction training.

Contractors are required to have systems in place to monitor vehicle locations (e.g. telematics) at all times and report and address any identified non-conformances.

7.4.4 Chain of responsibility and Heavy Vehicle National Law

Contractors must have systems in place to ensure compliance with 'Chain of Responsibility' legislation, including the Heavy Vehicle National Law and regulations, at all times. All necessary heavy vehicle approvals and permits (for example, over-size, over-mass, etc.) must be obtained from the relevant road manager. Specific 'Chain of Responsibility' requirements are further outlined in Sydney Metro Principal Contractor Health and Safety Standard.

8 Construction site traffic management requirements

8.1 Traffic control at construction sites

The contractor must develop and implement Construction Traffic Management Plans (CTMPs) to minimise and mitigate traffic impacts, including road safety impacts, caused by the contractor's activities. In consultation with the TCG, TTLG, TfNSW, CJP and the relevant local council or road authority, the contractor must develop, formalise and implement traffic management, control and operational protocols, procedures, processes, systems and communication between the contractor and CJP. Works within the road reservation will be identified in the CTMP.

This consultation will be initiated through the TTLG and TCG.

8.1.1 Policy and responsibilities

Work zones provide for the safe operation of road workers and the safe passage of vehicular and pedestrian traffic. Traffic control devices are provided to warn, instruct and guide road users safely through, around or past construction sites on roads and footpaths.

An important aspect is for the planning and staging of the works to ensure that any workers required to work on or near the road are separated from traffic as much as possible. Traffic control at construction sites is to be provided in accordance with the latest edition of the *Traffic Control at Work Sites Technical Manual (TfNSW)* and *Sydney Metro Principal Contractor Health and Safety Standard*. Australian Standard *AS 1742.3 Manual of uniform traffic control devices – Traffic control for works on roads*, is also to be referenced when determining traffic controls and signposting.

It is the responsibility of all personnel engaged on the Project and at construction sites to ensure that any works carried out on the road are done so in a safe and efficient manner. The contractor will prepare specific TGSs for all work that will impact on the road and traffic.

TGSs are required to be prepared by a suitably qualified person who holds a current TfNSW certificate – *Prepare Work Zone Traffic Management Plan*.

When temporary speed limits are required, the contractor will be required to make the necessary application to TfNSW. These may also need to be outlined in the site CTMP, detailing the anticipated impacts and mitigation strategies. This application will need to be submitted with sufficient time prior to the proposed implementation, to allow for processing and authorisation, via the TMC OpLinc system.

8.1.2 Traffic control techniques

There are several traffic control methods that can be used at construction sites, which must be selected in accordance with the hierarchy of controls to ensure safety risks to workers (including traffic controllers) and the public are minimised 'so far as is reasonably practicable' (SFAIRP). These include:

- a. Temporary road deviations.
- b. Line-marking with raised pavement markers to delineate proposed diversion.
- c. The use of traffic cones, approved water filled barriers or other approved physical devices to delineate the required route.

- d. Directional and information signposting to direct or advise drivers. This can include Variable Message Signs (VMS), directional arrows or static signs.
- e. Portable traffic signals on local roads to control traffic flows if lane closures are required, subject to the relevant authority approval
- f. Other traffic control devices as provided in the TfNSW 'Traffic Control at Worksites Technical Manual'.

Refer also to Sydney Metro Principal Contractor Health and Safety Standard.

For longer-term works, where traffic management devices are in place for an extended length of time, regular inspections are to be carried out by the contractor's works supervisor. This is to ensure that the controls in place continue to provide safe traffic management. All controls are to comply with the current TfNSW guidelines.

8.1.3 Approved clothing for work personnel

Any worker working near traffic will be required to wear clothing in accordance with the requirements of Australian Standard AS1742.3 and *Sydney Metro Principal Contractor Health and Safety Standard*.

8.1.4 Plant and equipment

Any plant used and working near traffic or pedestrians is to be suitably highlighted with physical protection and appropriate warning signs provided to ensure public safety. Refer also to the 'Plant and Equipment' section of *Sydney Metro Principal Contractor Health and Safety Standard*.

8.2 Frequency of inspections

For long-term works, that is, longer than one shift, traffic management road inspections will be carried out regularly by the contractor's works supervisor to ensure the safe movement of traffic and the protection of persons and property through and/or around the construction site. The required inspections of all temporary traffic control devices are detailed in the following section.

Inspections will ensure that all signs and devices are properly located, oriented and maintained in an effective condition, and that the layout is satisfactory and not confusing to motorists or pedestrians. Records will be maintained by the contractor of all traffic guidance facilities and any adjustments or changes made to such facilities, together with dates and times the facilities were installed, varied and removed. Inspection reports recording dates and times of inspections of the traffic management facilities are to be recorded on a suitable pro-forma and made available for inspection.

Incidents are to be reported, investigated and actioned in accordance with the *Sydney Metro Principal Contractor Health and Safety Standard*.

8.2.1 Inspections of roadwork traffic management schemes

The requirement to undertake inspections of traffic control measures is outlined in Section 6.1 of the *Traffic Control at Worksites Technical Manual (TfNSW)* and Appendix A of Australian Standard AS 1742.3 – *Manual of uniform traffic control devices – Traffic control for works on roads*. There are three main types of inspections to be carried out:

- a. Pre-start and pre-close-down inspections of short-term traffic control.
- b. Weekly inspections of long-term traffic control.
- c. Night inspections of long-term traffic control.

Appendix E of the Traffic Control at Worksites Technical Manual provides inspection checklists and forms that can be used for all inspections, whether short term, long term or night. The responsibility and frequency of the inspections required is provided in the Traffic Control at Worksites Technical Manual.

8.3 Emergency incident planning

Incident management planning must be carried out in accordance with the *Sydney Metro Principal Contractor Health and Safety Standard*, and must include incidents that could occur on roads. An Incident Management Plan for on-road incidents, or incidents that impact on the public transport network should be submitted to CJP for review and comment.

Examples of incidents could include the following:

- Traffic crashes
- Hazardous material spillage
- Power failure
- Terrorist attack
- Flooding
- Fire
- Structural damage to a rail line, building, road tunnel or bridge

The Incident Management Plan should include:

- Duties of workers attending the site.
- Procedures for contacting Police, emergency services, or back-up assistance from the relevant road authority.
- Equipment that is to be ready always on potential call-out vehicles.

All details of incidents that occur within the area of an approved ROL are to be recorded by the contractor, and reported and investigated in accordance with the requirements of the Sydney Metro Principal Contractor Health and Safety Standard.

8.3.1 Accidents/incidents and complaints

The contractor's ROL register will maintain records of traffic crashes and incidents reported at construction sites. Any complaints received regarding traffic delays at construction sites should be referred to the Principal. The contractor will be required to table the register, upon request, at TCG meetings.

The person in charge of the construction site will continue to be responsible for dealing with complaints regarding safety issues. Where action is considered necessary to address the matters of complaint, an appropriate recommendation will be forwarded to the Principal.

8.3.2 Chemical spills and leaks

Information on procedures to be followed and properties of hazardous chemicals are detailed in:

- NSW Environmental Protection Authority
(<http://www.epa.nsw.gov.au/licensing/Dutytonotify.htm>)
- Safe Work NSW codes of practice

- TfNSW policy procedure – Procedure for Managing Hazardous Chemicals
- Contractors' Construction Environmental Management Plans.

NSW Fire and Rescue is primarily responsible for rendering safe, and cleaning up after, incidents involving flammable or hazardous substances, vapours, gases or liquid spillage, as well as an actual fire or explosion.

NSW Fire and Rescue holds detailed information on dangerous goods and hazardous chemicals. Sydney Metro staff and contractors are to be instructed not to approach such spills until NSW Fire and Rescue have declared the site safe. In such cases the contractor will close the roadway at a safe distance until NSW Fire and Rescue arrives and issues appropriate instructions.

8.4 Traffic controllers and temporary traffic signals

The use of traffic controllers and/or temporary traffic signals to control traffic at construction sites is to be in accordance with the Traffic Control at Work Sites Technical Manual (TfNSW) and Sydney Metro Principal Contractor Health and Safety Standard.

Variable Message Signs (VMS) will be used to inform drivers, where necessary, to avoid particular roads or areas where activities associated with Sydney Metro construction would cause disruption. Where these are used, it is to be in accordance with documented Austroads Guidelines, TfNSW supplements, procedures, guidance and approval of the road authority.

The placement of temporary VMS must consider pedestrian safety and disabled access needs when placed on footpaths. A ROL may be required when a portable VMS is proposed to be in a parking or loading bay. VMS placement should conform to Austroads Guidelines, TfNSW supplementary material and approval processes of the road authority.

9 Management of construction sites

9.1 Construction site boundaries

Details of the proposed erection and maintenance of hoardings, scaffolds and associated structures will be documented in the site-specific Construction Traffic Management Plans. Where reasonable and feasible, all construction site boundaries will be clearly defined with the use of hoardings or fencing. The CTMPs will identify the boundaries and detail accesses for the site, the footpath and road controls. Activities within the construction site are excluded from the CTMPs, except in relation to ensuring the movement of construction traffic in and out of the construction site is physically possible and can be done safely. Construction sites include any gantries (e.g. Type B hoardings) or other structures associated with the site layouts. The site specific CTMPs will consider these interactions and the impacts of gantries, etc., on the road and footpaths.

9.2 Hoardings

Hoardings will be required to be erected around the construction sites to protect the site and any passing pedestrians and vehicles. These may also need to provide site facilities for the workers on the site due to the constrained nature of the sites. The erection of hoardings around the sites will require the consideration and approval of the local council if located within the road reserve, and other local authorities where applicable. Applications for scaffolds and hoardings would be to the relevant council with concurrent notifications to Sydney Metro, TfNSW and CJP.

In providing any hoarding and gantry structures, consideration will be given to ensuring sight-lines for side roads, vehicle accesses, signposting, and traffic signals are maintained. Respective councils may have published policies on hoardings on their website. While the policy document provides guidelines for the presentation of the hoarding, the branding and visual aspects of the hoarding are to be in line with TfNSW/Sydney Metro requirements.

Each council or other authority may specify requirements for the type of hoarding proposed within the road reserve and may require the submission and approval of an application prior to the commencement of the site establishment works. Detailed information should be obtained from the respective council websites. In some locations there may also be a requirement for the hoarding to comply with design guidelines.

All hoardings around Sydney Metro construction sites should comply with the TfNSW/Sydney Metro branding requirements. If it has been determined that an application for a hoarding is required to be submitted to a local council for approval, information that would be required to be submitted with the application can include, but is not limited to, the following:

- Plans of the proposed hoarding drawn to scale, elevations of hoardings and identifying any council or other asset that may be impacted.
- An engineer's statement on the proposed hoarding and any facilities to be provided.
- Approval from NSW Police.
- Approval from TfNSW (for sites located on a state road or on any road within 100 metres of traffic signals).
- Structural certificate (for Class B hoarding).

Hoarding application forms for specific councils can generally be found on the council website. In addition, councils or other road authorities may have specific requirements for the type of hoarding and operational requirements. The contractor must check with the relevant council and road authority over any specific requirements.

The application for permits to erect hoardings may differ between councils or road authority, and this will need to be considered for each construction site.

9.3 Site security, site access and signage

The issues to be considered in determining the location of site accesses are:

- Safety of travelling public
- Safety of construction workers and equipment
- Efficient and safe entry and exit to the site including turning paths, consistent with the requirements of the relevant Australian Standard, Austroads or TfNSW guidelines
- Impact on local communities in terms of safety, noise and road damage
- Ease of access for emergency vehicles
- Site security.

The construction sites will have appropriate arrangements to discourage entry without approval and minimise vandalism. All access points to construction sites will have lockable gates.

Appropriate information signs will be provided at construction sites to identify the Project and contact persons.

Contractors will be required to develop and prepare Security Management Plans based on the site-specific security threats (hazards) identified. Requirements for Security Management Plans are outlined in Sydney Metro Principal Contractor Health and Safety Standard.

9.4 Pedestrian security/safety/lighting

The consideration of safety and security issues for pedestrians will be considered at all construction sites. For those footpath or specific cycle facility areas which will be impacted by construction works the contractor is to undertake a condition assessment to ensure that they remain suitable for use. This would include an assessment of the paving and lighting of the footpath/cycleway to maintain a safe and suitable passage.

Any hoardings or other structures on the site boundaries will have lighting in accordance with current standards, particularly where existing street lighting is removed or obscured because of the site works. In those locations where this occurs, supplementary lighting is to be provided to meet the current standards.

Discussions will be carried out with the relevant authority or operator of CCTV cameras if the coverage or operation of CCTV cameras is impacted by the works. The relevant authority may be TfNSW, council, other authority or building owner.

9.5 Management of risks to vulnerable road users

The contractor is to adopt applicable vulnerable road user safety measures, as per Sydney Metro Principal Contractor Health and Safety Standard, to minimise the road safety risks to pedestrians, cyclists and motorcyclists on route to, and near, construction sites. Such measures include, but are not limited to:

- 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 safely with heavy vehicles.
- Specific construction driver training to understand route constraints, safety and environmental considerations such as sharing the road safely with other road users and limiting the use of compression braking.
- Requiring technology and equipment to eliminate heavy vehicle blind spots, monitor vehicle location and driver behaviour, and improve vehicle safety standards.

Where construction sites have an impact on footpaths, consideration must be given to the requirements of all pedestrians and especially where there is the potential for vulnerable road users, such as school children, elderly people and mobility impaired people. This is to include condition surveys of affected footpath areas to ensure that they are suitable and appropriate for use.

DDA requirements will be adopted with kerb ramps or other measures provided at road crossings. Footpath widths are required to provide for two-way pedestrian traffic allowing for prams or strollers and wheelchairs to pass each other without requiring temporary widening from their existing width prior to construction commencement. Narrowing of the footpath width, if required, is to be approved by the relevant authorities.

Where high numbers of vulnerable road users are using a footpath, special provision and design consideration may be required to mitigate any impacts.

10 Road safety audits

10.1 Purpose and benefits

A Road Safety Audit (RSA) “assesses a road’s safety performance and crash potential at various stages of a road/project’s life cycle” (Road Safety Audits Fact sheet – RTA 2010).

It is a formal procedure for checking the design, implementation and operation of road works and other traffic measures from a safety perspective. The establishment of quality systems provides the philosophy underpinning the RSA process. The overriding objective of the process is to ensure that all existing road schemes and future routes operate at an acceptable level of safety, with safety being an integral part of the road network development process.

The benefits of an RSA are that:

- a. The likelihood of crashes on the road and the adjacent network can be reduced.
- b. The severity of crashes can be reduced.
- c. Road safety is given prominence in the minds of road designers.
- d. The need for costly remedial work is reduced.
- e. The total cost of a project to the community, including crashes, disruption and trauma, is reduced.

Road Safety Audits will be undertaken by the contractor during the three stages outlined below.

- Detailed design stage

At this stage, the geometric design, traffic signage scheme, line-marking plans, lighting plans and landscaping plans are available and will be reviewed in relation to the operation of the road.

- Pre-opening stage

Prior to the opening of a site, an inspection will be made for all relevant conditions during both the night and day for all likely road users, to ensure that the construction has addressed earlier audit concerns and to check for any hazardous conditions that were not apparent at the feasibility or design stages.

- Road safety audits of Construction Traffic Management Plans

Sydney Metro and/or its contractors will undertake Road Safety Audits for site-specific CTMPs, to be submitted with the CTMP to stakeholders. The contractor will be required to respond and address all RSA comments before endorsement of the CTMP by TfNSW and approval by CJP.

Regular safety audits of work zones are also to be undertaken to ensure all construction site safety arrangements are in place. These audits will be additional to the daily inspections by the site staff. Attention will be given to WHS guidelines, work areas adjacent to the road, movement of construction traffic, vehicle speeds and all warning devices or systems.

- Road safety audit procedure

All Road Safety Audits will be undertaken in accordance with the Guidelines for Road Safety Audit Practices (RMS, 2011), with reference to current practices outlined in

Guide to Road Safety Part 6, Road Safety Audit (Austroads, 2022) and Sydney Metro Principal Contractor Health and Safety Standard.

11 Related documents and references

Related documents and references

- Sydney Metro Principal Contractor Health and Safety Standard
 - Principal's General Specifications – Traffic and Transport Management
 - SM-17-00000203 Integrated Management System (IMS) Glossary
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