

Guide to Temporary Traffic Management Part 8

Processes and Procedures



Guide to Temporary Traffic Management Part 8: Processes and Procedures



Austroads

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Guide to Temporary Traffic Management Part 8: Processes and Procedures

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Abstract

Austrroads' Guide to Temporary Traffic Management (AGTTM) details contemporary temporary traffic management practice for application in Australia and New Zealand. It provides guidance for the planning, design and implementation of safe, economical and efficient temporary traffic management designs. This Guide recognises the level of variability of the road environments for which guidance is provided. The guidance provided in AGTTM is intended to encourage a consistent level of planning that supports the streamlined safe progress of work. It applies to all works on roads and near roads, in addition to off road development and other activities that interact with and impact on the road environment.

AGTTM has been developed based on best practice temporary traffic management practice in Australia and New Zealand, to assist road authorities to meet their existing legislative responsibilities for workplace and public safety.

Part 8 provides guidance to road authorities, road infrastructure managers, any party conducting works on, or near a road, and all persons involved in planning, designing, implementing, managing and completing temporary traffic management works. It details the processes and procedures relating to jurisdictional management of temporary traffic management at roadworks. The information included covers: categories of temporary traffic management; powers, roles and responsibilities; training; and standard forms and descriptions.

Keywords

Temporary traffic management, road safety, training, procedures

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Austrroads is the peak organisation of Australasian road transport and traffic agencies.

Austrroads' purpose is to support our member organisations to deliver an improved Australasian road transport network. To succeed in this task, we undertake leading-edge road and transport research which underpins our input to policy development and published guidance on the design, construction and management of the road network and its associated infrastructure.

Austrroads provides a collective approach that delivers value for money, encourages shared knowledge and drives consistency for road users.

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- Department of Transport Victoria
- Queensland Department of Transport and Main Roads
- Main Roads Western Australia
- Department of Planning, Transport and Infrastructure South Australia
- Department of State Growth Tasmania
- Department of Infrastructure, Planning and Logistics Northern Territory
- Transport Canberra and City Services Directorate, Australian Capital Territory
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- Australian Local Government Association
- New Zealand Transport Agency.

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1. Introduction

1.1 Purpose

Managing the risks associated with providing an optimal level of safety for persons working in or near traffic and the impact of road work on road users, road congestion and the general community, is a significant issue for road agencies and industry. Road agencies and industry have a legislative requirement as an employer of construction, operational and maintenance services to provide a safe work environment and to manage the risks of working in or near traffic through current jurisdictional Work Health and Safety (WHS) requirements, regulation, training and roadwork planning.

The Austroads Guide to Temporary Traffic Management (AGTTM) details the contemporary temporary traffic management practice of member organisations. In doing so, it provides guidance to designers in the production of safe, economical and efficient temporary traffic management designs. This Guide recognises the level of variability of the road environments for which guidance is provided. The guidance provided in AGTTM is intended to encourage the consistent planning, design and implementation of temporary traffic management across Australia and New Zealand while also supporting the streamlined safe progress of work. It applies to all works on roads and near roads, in addition to off road development and other activities that interact with and impact on the road environment.

The purpose of the AGTTM is to provide guidance and supporting material that:

- supports the ability of road agencies and industry to meet their WHS requirements and lead to improved safety outcomes at road worksites
- improves the standard of temporary traffic management in Australia and New Zealand through consistency of application which assists road users to recognise and understand temporary traffic management, thereby improving their behaviour and safety
- aims to reduce the rate of incidents occurring at worksites
- improves the ability of road authorities and industry to manage the increasing frequency and variety of activities that are being undertaken on and near the road
- allows continuous industry review to maintain best practice.

This purpose is achieved through:

- providing direction for all matters relating to the planning, design and implementation of temporary traffic management
- facilitating improved adaptation to changes in technology and practices through being reactive to changes and being able to readily include new innovations
- providing guidance focused on the users of this Guide
- providing road agencies and industry with uniform practices whilst carrying out works on or near roads.

The benefits associated with uniform guidance broadly accepted by jurisdictions and industry include:

- guidance and training that appropriately develop designers with the skills necessary to develop and deliver safe traffic management at road worksites
- reduced impost on industry working across jurisdictional borders
- improved harmonisation of road worksites across jurisdictions providing improved consistency for road users, including vulnerable road users such as pedestrians and cyclists. This is targeted at improving road user behaviour, safety of road worksites and reducing impact on road congestion and the general community.

1.2 Structure of AGTTM

The structure and content of the Austroads Guide to Temporary Traffic Management is discussed in AGTTM Part 1: Introduction to Temporary Traffic Management Practice. Within the AGTTM, the terminology that applies is detailed in Table 1.1.

Table 1.1: Guidance terminology

Guide	The description for the complete Austroads Guide to Temporary Traffic Management including all 10 Parts.
Part	The description for the individual documents within the Guide. This document is Part 8 of the Austroads Guide to Temporary Traffic Management.
Section	The description for a numbered section within each Part of the Guide. This is Table 1.1 placed within Section 1.2 of Part 8 of the Austroads Guide to Temporary Traffic Management.

Within this Guide, reference may be made to other parts of the Austroads range of publications such as the *Guide to Road Design* and the *Guide to Traffic Management*.

In the context of the other guides within the Austroads range of publications, this Guide is restricted to matters relating to temporary traffic management practice, and refers only briefly to issues more appropriately addressed in other Austroads Guides. It is recognised it is difficult, if not impossible, to discuss many aspects of temporary traffic management practice without reference to traffic management, road design and/or safety issues. The view is taken that within the AGTTM, any such advice should be brief and be supported by references to other Guides for the appropriate guidance as required.

The scope of the AGTTM is broad, addressing requirements and recommendations for protecting road workers and all road users, including vulnerable road users, from hazards, road traffic and other impacts of road works across a range of situations that may include:

- urban and rural environments
- motorways, major arterial roads, local roads, roads in built-up areas, roads in open road areas and unsealed roads
- all variations of road use by cars, heavy vehicles, public transport, motorcycles, cyclists and pedestrians
- day and night works
- changing road and weather conditions.

The structure of the AGTTM is described in Figure 1.1 and in Table 1.2

Figure 1.1: Structure of the Austroads Guide to Temporary Traffic Management

Overview	Part 1: Introduction		
Planning	Part 2: Traffic Management Planning		
Design	Part 3: Static Worksites	Part 4: Mobile Works	Part 5: Short Term Low Impact Worksites
Field	Part 6: Field Staff – Implementation and Operation		Part 7: Traffic Controllers
Support	Part 8: Processes and Procedures	Part 9: Sample Layouts	Part 10: Supporting Guidance

Table 1.2: Austroads Guide to Temporary Traffic Management (detailed)

Part	Title	Content
Part 1	Introduction	<ul style="list-style-type: none"> • Introduction to the discipline of TTM practices • Breadth of the subject and the relationship between the various Parts of the Guide • Legislative relationships • Links to related jurisdictional documentation • Definitions
Part 2	Traffic Management Planning	<ul style="list-style-type: none"> • Broad strategies and objectives to provide effective TTM to ensure the safety for all road users is maintained • Guidance on the safety of workers and other road users • Examples and key considerations for planning of TTM at road worksites • Process for planning and documenting TTM
Part 3	Static Worksites	<ul style="list-style-type: none"> • Guidance on the design of temporary traffic guidance schemes at static worksites • Process to decide what static worksite set up is appropriate to implement (including devices used)
Part 4	Mobile Works	<ul style="list-style-type: none"> • Guidance on the design of temporary traffic guidance schemes at mobile works • Process to decide what mobile works set up is appropriate to implement (including devices used)
Part 5	Short Term Low Impact Worksites	<ul style="list-style-type: none"> • Guidance on the design of temporary traffic guidance schemes at short term low impact worksites • Process to decide what short term low impact worksite set up is appropriate to implement (including devices used)
Part 6	Field Staff – Implementation and Operation	<ul style="list-style-type: none"> • On site risk assessment • Installation and removal of TTM schemes • Operation and monitoring of TTM schemes • Record keeping
Part 7	Traffic Controllers	<ul style="list-style-type: none"> • Training competencies • Instructions on practices • Control devices that can be used
Part 8	Processes and Procedures	<ul style="list-style-type: none"> • Road network classification • Powers, roles and responsibilities • Forms and procedures • Model contract specification • Training competencies
Part 9	Sample Layouts	<ul style="list-style-type: none"> • Example layouts of static worksite conditions • Example layouts of mobile works conditions • Example layouts of short term, low impact conditions • Example layouts for staging plans • Worked example for a multi-stage project
Part 10	Supporting Guidance	<ul style="list-style-type: none"> • Risk management processes • Review, inspection and road safety audit of worksites • Events • Emergency works

1.3 Scope of Part 8

AGTTM Part 8 provides guidance to road authorities, road infrastructure managers, any party conducting works on or near a road, and all persons involved in planning, designing, implementing, managing and completing TTM works.

It is about the practice of processes and procedures relating to jurisdictional management of traffic management at roadworks. The information included includes:

- categories of TTM
- powers, roles and responsibilities
- training
- standard forms and descriptions
- model contract specifications.

1.4 Application of Part 8 to New Zealand

Readers in New Zealand should note the following in application of Part 8 of this Guide;

- The road categories described in Section 2 of this Part have been based on the New Zealand CoPTTM model but vary in a number of aspects. The road categories in this document do not apply in New Zealand and readers should refer to the New Zealand CoPTTM.
- The TTM Roles described in Sections 3, 5 and 6 of this Part are based on the roles in the TTM industry in Australia. At the time of publication, New Zealand has not adopted these role descriptions and readers should refer to the New Zealand CoPTTM for description of the appropriate roles in New Zealand.

1.5 Acronyms

The following acronyms are to be used in the context of this Part.

Table 1.3: Acronyms

Acronym	Description
AADT	Annual Average Daily Traffic
ETM	Event Traffic Marshal
MMS	Multi-Message Signs
MTC	Manual Traffic Controller
PCBU	Person Conducting a Business or Undertaking
PPE	Personal Protective Equipment
RIM	Road Infrastructure Manager – defined as controlling road authority in terms of TTM
TC	Traffic Controller
TGS	Traffic Guidance Scheme
TMA	Truck-Mounted Attenuator
TMD	Traffic Management Designer
TMD-NP	Traffic Management Designer – Non-Practitioner
TMI	Traffic Management Implementor

Acronym	Description
TMI-NP	Traffic Management Implementor – Non-Practitioner
TMP	Traffic Management Plan
TSL	Temporary Speed Limit
TTM	Temporary Traffic Management

1.6 Definitions

Refer to AGTTM Part 1 for a full list of definitions which apply to this Part.

2. Road Categories for Temporary Traffic Management

2.1 General

Road categories form a broad framework for road controlling authorities, or the Road Infrastructure Manager (RIM), to apply guidelines for the purpose of applying TTM practices.

Road categories determine the requirements for TTM for the:

- design of the TGS by the TMD – covered in Parts 3, 4 and 5
- training of personnel to implement and close-out a TGS – see Section 6
- response times for submission, review and approval of TMPs – see Section 4.

For purposes of planning and implementing a TMP, roads in Australia are categorised to best fit the application of TTM practices. These categories are currently focused primarily around the training framework and some variances in design practice but in time are expected to include further variations in design practices and the TTM company prequalification.

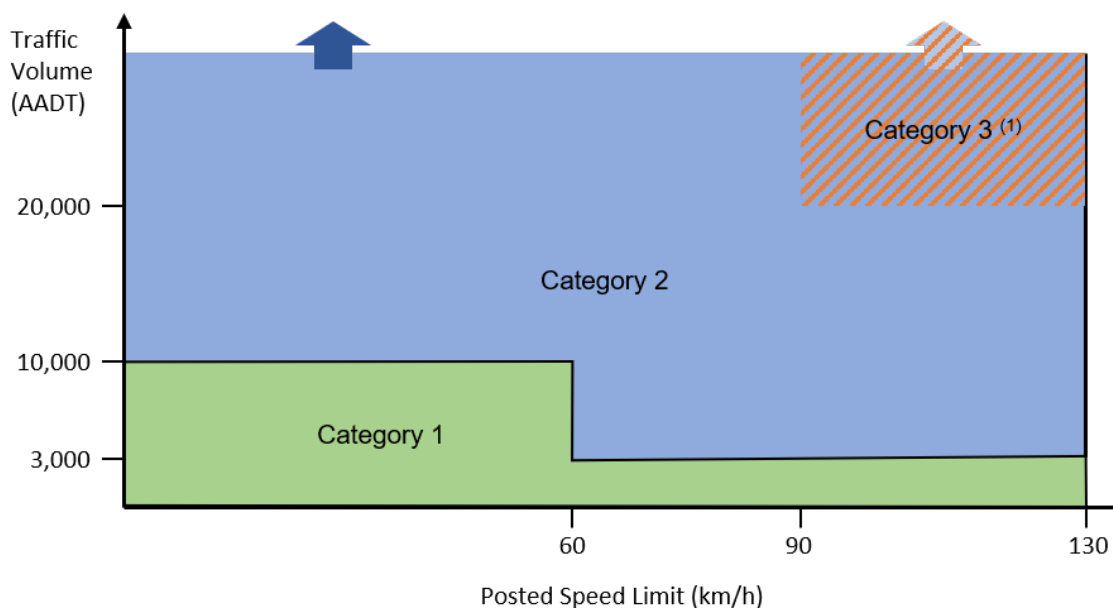
Any category of road may be adjusted up or down by the RIM dependent on a range of site-specific considerations. Conditions on the works may be applied if required or deemed necessary for the road category adjustment for a specific project or work activity. This adjustment to road category may be project or site specific or even permanent.

Road Categories shall only be defined by the RIM and may not be modified by the Principal Contractor or the TTM Contractor.

2.2 Default TTM Road Categories

The criteria for the selection of the default TTM category is based on the traffic volume and posted speed for a road as depicted in Figure 2.1.

Figure 2.1: Road categories for TTM applications



Note (1) Category 3 applies only when the road is an expressway type road or is predominantly characterised by grade separated intersections.

Roads shall be categorised to reflect their intensity of use (traffic volume), complexity (road type) and the risk (speed and mix of traffic) to associated TTM practices. Three general road categories are defined for the purpose of default categorisation:

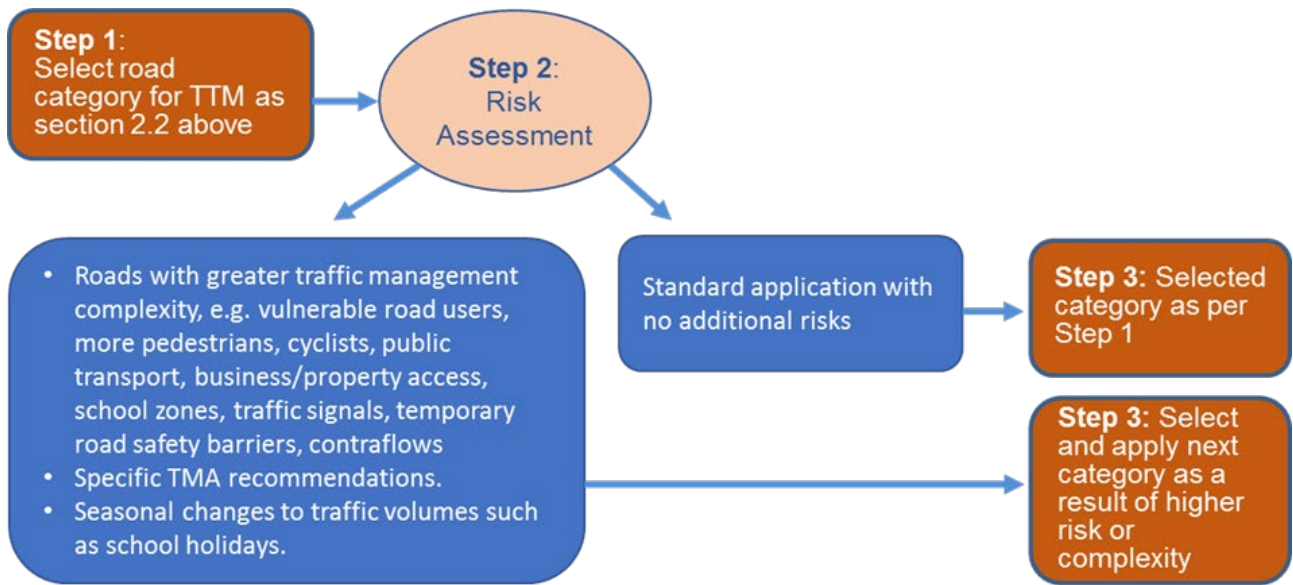
- **Category 1** (most urban streets and lower volume rural roads). The characteristics of category 1 roads are defined by the following parameters:
 - Posted speed and AADT of:
 - any speed limit with less than 3,000 vehicles per day AADT
 - a speed limit of less than 60 km/h and traffic volumes between 3,000 and 10,000 vehicles per day AADT
 - The characteristics of these roads are generally recognised as:
 - roads (with or without a centre line), sealed and unsealed
 - two lanes two way, and sections including one-way single lane, and overtaking lanes.
- **Category 2** (high-volume roads). The characteristics of category 2 roads are defined by the following parameters:
 - Posted speed and AADT of:
 - a speed limit greater than, or equal to 60 km/h and traffic volume greater than, or equal to 3,000 vehicles per day AADT
 - any speed limit with traffic volumes greater than, or equal to 10,000 vehicles per day AADT.
 - Signalised intersections
 - The characteristics of these roads are recognised as:
 - multilane or divided roads
 - high speed highways.
 - This Category of road:
 - may include major urban streets in the central business district, some arterial roads
 - generally requires larger signs
 - generally requires signs on both sides of the road
 - Stringent criteria for mobile operations apply to this Category of TTM.
- **Category 3** (expressways = high-volume & high-speed roads). The characteristics of category 3 roads are defined by the following parameters:
 - These are high-volume expressways, or high volume/high-speed multi-lane expressways with a divided carriageway
 - Any expressway and any associated on-ramp or off- ramps
 - Grade separated road with speed limit greater than, or equal to 90 km/h. Traffic volumes are generally greater than 20,000 VPD but can be lower
 - For this Category, TMA's shall be used when setting up or removing static worksites.

These categories form a broad framework for application by road controlling authorities or the RIM to define road categories across the road network for the application of TTM practices.

2.3 Project Specific Amendments to TTM Road Categories

TTM road category selection may be adjusted by the RIM (for example from Category 1 to Category 2) through a risk assessment of the specific road environment and contributing factors as indicated in Figure 2.2.

Figure 2.2: Road categories risk assessment



Notes:

As a result of the risk assessment there may be activities that result in the RIM defining the road category down, e.g. works off the carriageway on a category 2 road with no impact on road users, could be adjusted down to category 1 in some instances.

The RIM will typically choose to allocate a TTM road category to each road within their jurisdiction. This can be mapped by applying vehicles per day (VPD) and traffic speed attributes for GIS mapping in line with the criteria in section 2.2.

The selection and amendments to the road categories is an initial step in determining the scale of the task to be undertaking in developing and implementing applicable TTM.

3. Process for TGS Selection

3.1 General

Traffic Guidance Schemes are described in three broad types:

- generic
- site suitable
- site specific.

3.2 Generic TGS

A generic TGS has no specific location information and may be applicable for use at a number of locations.

The development of a suite of generic TGSs shall be completed by a TMD competent person. The selection procedure shall be defined to assist in the selection of the correct TGS for the road type, road environment and the type and location of works to be undertaken (for example on shoulder or in lane).

A generic TGS may be selected by a TMD or a TMI competent person using the defined selection procedure. A generic TGS should only be considered for short term routine/repetitive maintenance works. Any works longer than a single shift should have a site specific TMP and TGS.

A generic TGS therefore only exists in a suite of generic TGSs (a library of TGSs) with a defined selection procedure. A selected generic TGS shall be confirmed as site suitable prior to implementation.

3.3 Site Suitable TGS

A TGS is defined as 'Site Suitable' once a generic TGS has been selected using the defined selection procedure, and a site visit or investigation of the site and the required works has confirmed that the selected TGS is appropriate for use for those works at that site.

All generic TGS shall be confirmed as a site suitable TGS prior to commencement of works. Once the generic TGS is confirmed as suitable for use, location information is added to the generic TGS. Confirmation that a generic TGS is site suitable shall be performed and signed off by a TMD or TMI competent person.

3.4 Site Specific TGS

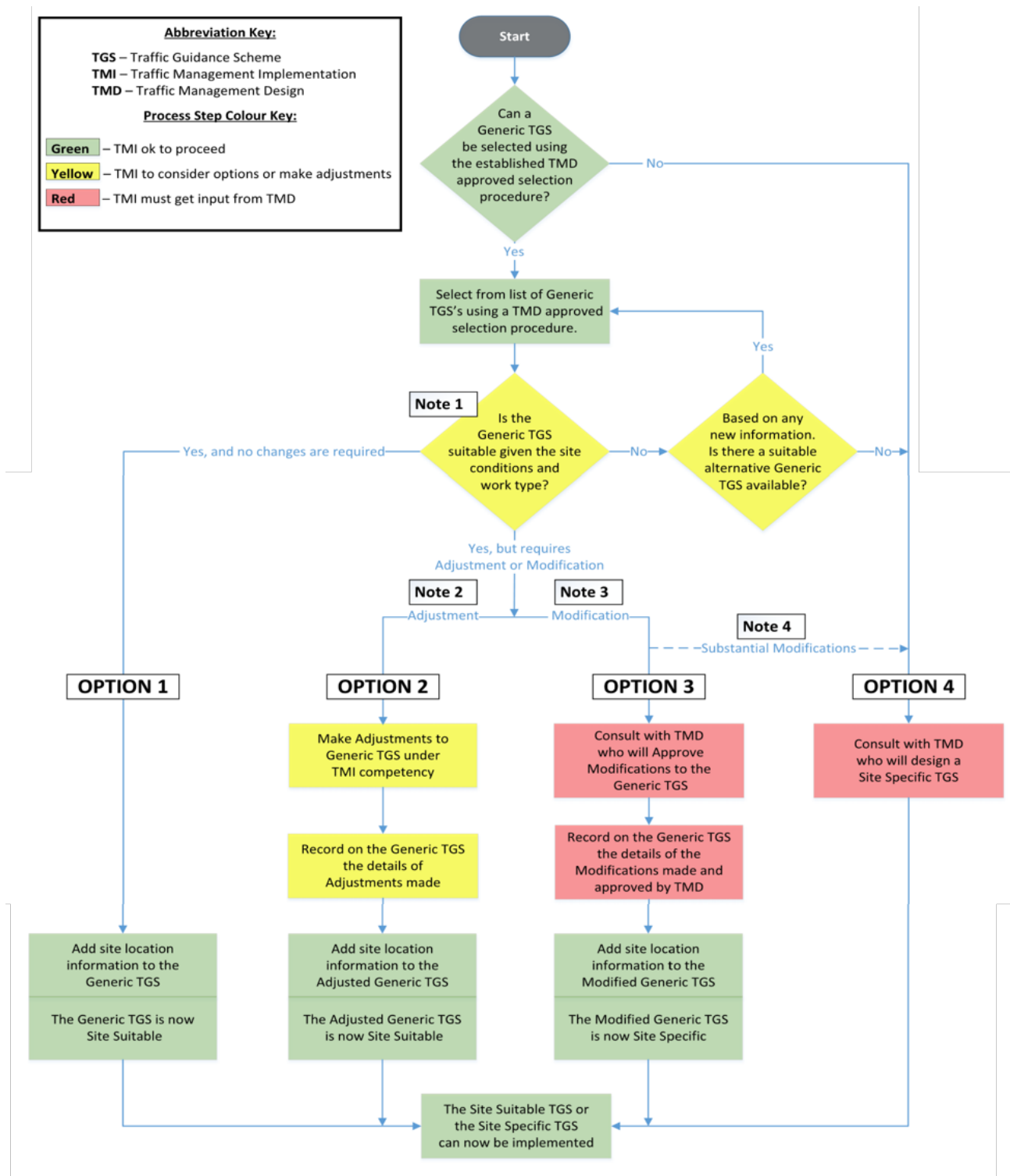
A site specific TGS is developed by a TMD competent person for use at a specific location on the road network and to complete a specific work task.

A generic TGS which has been modified by (or the modifications have been approved by) a TMD competent person to suit a particular site or work type may also become a site specific TGS.

3.5 TGS Type Selection

The process for establishing the most appropriate TGS type for use at a site is outlined in Figure 3.1. This process describes the assessment and consideration of a suite of generic TGS for selection of one to apply as a site suitable TGS, or the need to design a site specific TGS. The selection process shall use a checklist (refer example checklist in Table 3.1) with specific questions for the TMI to consider when reviewing the suitability of a TGS. The checklist will also include reference to the choices / steps in this process and the need for adjustments and modifications.

Figure 3.1: Flow chart to select applicable TGS



Note:

- (1) A checklist may be used to assist the TMI determine if the Generic TGS is: Suitable, Not Suitable, May be Suitable with Adjustment, or May be Suitable with Modification
- (2) "Adjustments" are alterations to the Generic TGS which are permitted to be made and recorded by a TMI qualified person.
- (3) "Modifications" are changes or additions to the Generic TGS which require design and approval by a TMD qualified person.
- (4) Where "Modifications" to the Generic TGS are substantial, the TMD may require that rather than the TMI record lots of modifications on the Generic TGS, that a new Site Specific TGS is prepared

Table 3.1: Example TGS selection checklist

Road Name: _____ Works Order / Request No: _____					
Type of Work to be Undertaken: _____					
Date: _____ Time: _____ Completed By: _____					
Step	Action	Applicable?		Referred to TMD	
		Yes	No	Yes	No
A	Select an appropriate generic TGS				
B	Change the spacing of signs, delineating devices or the length of tapers that fall within the tolerances specified on TGSs				
C	Change the advance and departure speed signs on a generic TGS				
D	Change generic TGS in response to an incident or an unplanned event				
E	Use spotters, work outside of peak traffic times, pre-warn residents / businesses of restrictions etc.				
Question	Typical Questions	Applicable?		Controlled Action ¹ ?	
		Yes	No	Yes	No
1	Are there side roads or intersections within the worksite?				
2	Are there schools, sports grounds, churches etc. in the vicinity of the worksite?				
3	Will work be performed during peak times (e.g. during school set down and pick up)?				
4	Could there be vehicles entering or leaving the worksite from private or commercial driveways?				
5	Do pedestrians (including those with disabilities) pass through the worksite?				
6	Do cyclists pass through the worksite?				
7	Are cycle facilities such as shared paths/cycleways affected?				
8	Could prevailing weather conditions (rain, wind, fog etc.) have an impact?				
9	Are there public transport facilities (e.g. bus stops) within the worksite?				
10	Are there any known events (e.g. festivals) being held in the vicinity?				
11	Are sight distances for road users to signs and/or traffic controllers an issue?				
12	Are traffic approach speeds an issue?				
13	Are the expected traffic volumes / composition an issue?				
14	Is the clearance between the traffic stream and workers an issue?				
15	Will the works affect traffic flow through a rail crossing?				
16	Will the works impact permanent traffic signals?				
If a question is not controlled by a generic TGS, then a generic TGS must be either adjusted, modified, or a new TGS developed.					
Option 1 <input type="checkbox"/> The Generic TGS is suitable Option 2 <input type="checkbox"/> The Generic TGS requires adjustment Option 3 <input type="checkbox"/> The Generic TGS requires modification Option 4 <input type="checkbox"/> A Site Specific TGS is to be designed		Generic TGS No: _____ New TGS No: _____			

4. TTM Approval Activities

Response times and Key Performance Indicators (KPI's) will be developed by each RIM relevant to the type of TTM works that are being undertaken. TMP's should be submitted in time to allow for the RIM to identify any changes required to ensure the TMP meets the requirements of the AGTTM.

Table 4.1 and Table 4.2 below show example activities for submission, review and authorisation of TMPs for short-term, mobile and long-term activities. The timeframes for TMP reviews and approvals for each of these activity types will vary and will be defined by the RIM. TTM sites with major impacts to traffic flow will typically require longer timeframes for approval.

Table 4.1: Roadworks TMP approvals – example activities

Activity
Where works do not restrict roadways, cyclist or pedestrian passage and does not involve the installation of new structures or underground services.
Where partial closure of the roadway, cycleway, dual use paths or footpaths is required.
Where partial closure of the roadway requires Regulatory Signage.
All other types of work including contra-flows and works through signals.

Table 4.2: Traffic management at events – example activities

Activity
Class 1 events - Large public participation, full road closures – e.g. city to surf.
Class 2 events – racing of motor vehicles with full road closures and suspension of traffic regulations.
Class 3 events – local street event with road closures.
Class 4 events – a public meeting on a road or procession involving traffic controlled by police.
Class 5 events – on road race or speed test without road closure with suspension of traffic regulations.

5. Powers, Roles and Responsibilities

5.1 Legislative Context

Each Australian and New Zealand jurisdiction has a range of legislation and regulation that requires or provides context for implementing TTM practices, as detailed in Table 5.1:

Table 5.1: Policy and regulation

Jurisdiction	Title
Australia	Work Health and Safety Act 2011 Work Health and Safety Regulation 2017.
Western Australia	Road Traffic Code 2000. Occupational Safety and Health Act 1984. Occupational Safety and Health Regulations 1996. Traffic Management for Works on Roads Code of Practice Traffic Management for Events on Roads Code of Practice Guidelines for the use of Truck Mounted Attenuators in WA Traffic Management at Roadworks on State Roads Policy and Application Guideline
Queensland	Transport Operations (Road Use Management) Act 1995 (TORUM Act). Transport Operations (Road Use Management – Road Rules) Regulation 2009. Transport Operations (Road Use Management – Accreditation and Other Provisions) Regulation 2009. Traffic Management for Construction or Maintenance Work Code of Practice 2008.
Victoria	Road Management Act (Works and Infrastructure) Regulations 2015. Road Management Act 2004. Occupational Health and Safety Regulations 2017. Road Safety Act (Traffic Management Regulations) 2009. Additional Network Standards & Guidelines Part 2.2 Authorisation of Traffic control devices. Local Government Act 1989.
New South Wales	Road Transport Act 2013 Road Regulation 2008 Road Transport (General) Regulation 2013
South Australia	Road Traffic Act 1961
Northern Territory	Control of Roads Act 1953 Traffic Regulations 1999 Traffic Act 1987
ACT	Work Health and Safety Act 2011 Road Transport (General) Act 1998 Road Transport (safety and Traffic Management) Act 1999
Tasmania	WHS Act 2012 WHS Regulations 2012 Tasmanian Guide – Traffic Control for Works on Roads Local Government Act 1993 Roads and Jetties Act 1935
New Zealand	Land Transport Rule: Setting of Speed Limits 2017. Health and Safety at Work Act 2015. Government Roding Powers Act 1989. Land Transport Rule: Traffic Control Devices 2004.

5.2 Statutory Health and Safety Responsibilities – Duty of Care

Any Person Conducting a Business or Undertaking (PCBU) in connection with or pursuant to TTM and the AGTTM, has a 'duty of care', so far as is reasonably practicable, that the health and safety of workers who work for the PCBU or whose activities in carrying out work are influenced or directed by the PCBU, are not exposed to health and safety risks arising from that business or undertaking.

A PCBU shall ensure, so far as reasonably practicable, that other road users are not exposed to health and safety risks arising from any TTM business or undertaking.

A PCBU includes all types of working arrangements such as crown agencies, organisations, companies, principals, contractors and sub-contractors.

5.3 Application of the Parts of AGTTM

The Road Infrastructure Manager (RIM) is the defined authority who is responsible for roads within its jurisdiction. The roles identified by each RIM for TTM activities need to be understood by all persons involved in planning, designing, implementing, monitoring, managing and completing TTM works. Understanding of these roles and responsibilities is critical for the development of efficient TTM documentation and works and to ensure the safety at worksites. The AGTTM forms a collective Guide to achieve this objective. The responsible roles to lead, support and oversee TTM activities as described in Part 1.

For TTM, the Principal Contractor has the responsibility to:

- apply the correct TTM practices for the project road category
- understand the roles and responsibilities for who should plan, design, implement, complete and get approval for the TMP and TGS
- ensure each TTM person involved in the process is appropriately trained
- comply and complete relevant forms for approval and quality control
- comply to contract specifications.

5.4 Roles and Responsibilities

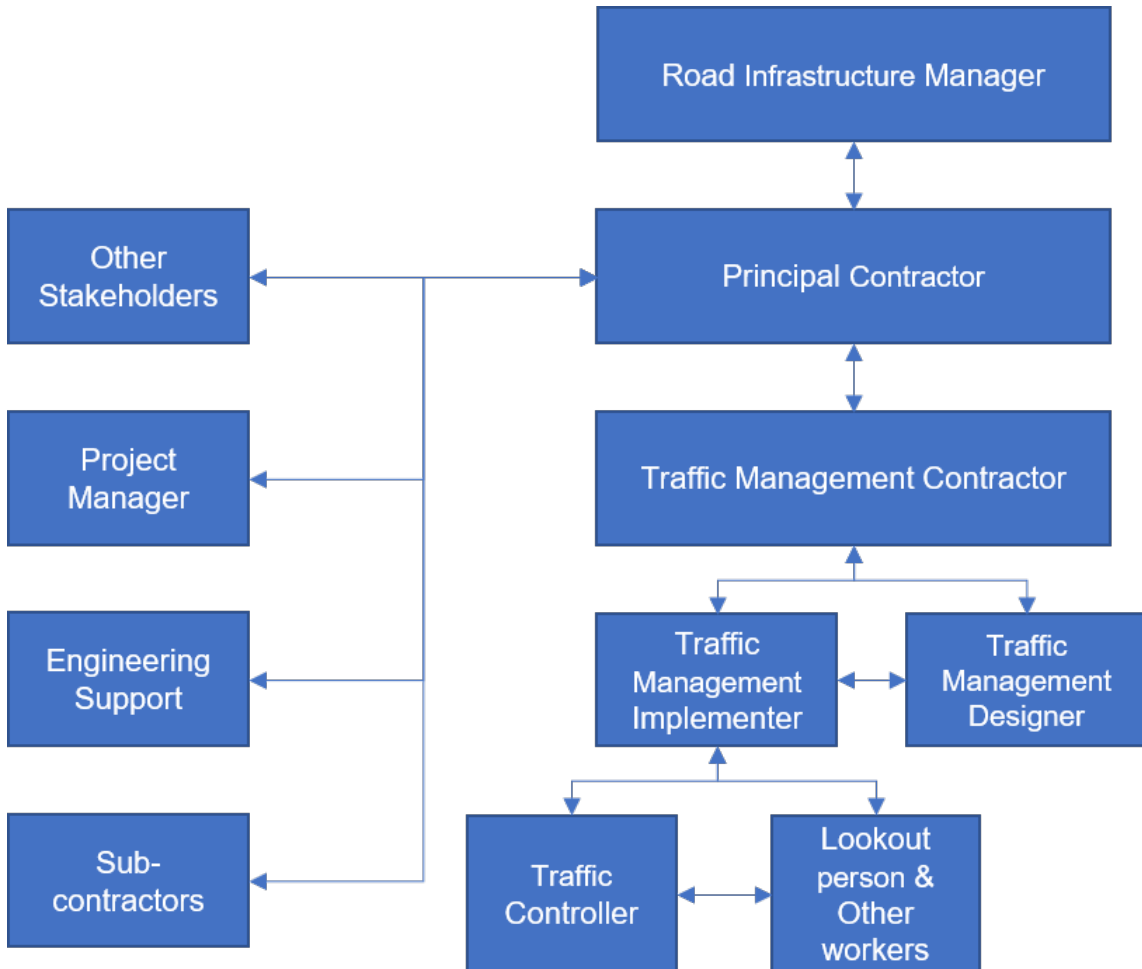
This section describes the roles and responsibilities involved in the development and implementation of TTM. The roles are listed below in Table 5.2. Further detail on tasks and activities for these roles are provided in Appendix A.

Table 5.2: TTM role descriptions

Abbreviations	Role	Description
RIM	Road Infrastructure Manager	National, State or Local Government authority, or private road authority authorised to work in the road reserve.
Non-RIM Principal	Such as a telecommunications company	Road controlling authority (other than National, State or Local Government authorities) authorised to work within the road reserve.
Engineer	Engineer	Engineer required for TTM activities related to any specific engineering advice.
PM	Project Manager	The person appointed by the RIM or Principal Contractor to manage the TTM project.
TMD	Traffic Management Designer	Responsible for the design of the TTM. TTM qualifications need to be maintained as per TMD training requirements. The TMD shall have the appropriate TTM qualifications and has completed the theoretical training as a TMD as well as the practical assessment. The TMD can be appointed by the RIM or Principal Contractor depending on project engagement arrangements.
TMD-NP	Traffic Management Designer - Non-Practitioner	This is typically, a RIM or Government role responsible for reviewing TMP design, monitor implementation and undertake surveillance. The TMD-NP has completed the theoretical training as a TMD but not the independent individual case study assessment. TTM qualifications need to be maintained as per TMD-NP training requirements. The TMD-NP shall have the appropriate TTM qualifications.
TMI	Traffic Management Implementer	The TMI implements the TGS as designed by the TMD. The TMI shall have the appropriate TTM qualifications.
TMI-NP	Traffic Management Implementer – Non-Practitioner	This is typically, a RIM or Government role responsible for surveillance at TM sites. The TMI-NP has completed the theoretical training as a TMI but not the practical training assessment. The TMI-NP shall have the appropriate TTM qualifications.
TC	Traffic Controller	The TC controls traffic as per the TGS. The TC shall have the appropriate TTM qualifications.
Principal Contractor	Principal Contractor	The principal contractor is appointed by the RIM and is responsible for the design of the TMP (by a TMD) and the submission for approval. After approval the contractor's TMI implement the TMP and TGS. Note: Principal Contractor is defined differently across jurisdictions.
Other TTM Personnel	<ul style="list-style-type: none"> • Traffic Management Worker. • Roadworks Pilot Vehicle Driver. • Truck Mounted Attenuator (TMA) Driver. • Event Traffic Marshall (ETM) for special events. 	

The key functional roles TTM roles are for a project presented in Figure 5.1 and can vary based on project size, complexity and contractual arrangements. On some projects, a single organisation may fill several of the organisational roles, for example a RIM may also be the Principal Contractor and Traffic Management Contractor. Similarly, a single person may perform the role of TMI and TC on smaller scale projects.

Figure 5.1: TTM functional roles



A summary of key responsibilities and accountabilities for these TTM roles are listed in Table 5.3 to Table 5.13. Key additional tasks and activities for TTM Roles are described in Appendix A.

Table 5.3: Road Infrastructure manager (RIM)

Accountability	The RIM has a statutory duty to ensure so far as reasonably practicable the safe and efficient operation of the road network under their authority
Responsibilities	<p>The RIM shall be responsible for:</p> <ul style="list-style-type: none"> • ensuring that all TTM measures are in accordance with Jurisdictional requirements, AS1742.3 and the AGTTM • fulfilling legal responsibilities under relevant legislation • preparing criteria to select the category of each road or event within the network • consulting with neighbouring RIMs with the objective of gaining consistency as to the category of TTM for road networks as far as possible • notifying the contractor or those responsible for the TTM as to the road category to be used for the various sections of network • identifying during the planning stage any requirements with respect to a particular worksite activity which are additional or different from those covered in the AGTTM and which may not be evident to an experienced practitioner by site inspection, observation and knowledge of traffic volumes • providing traffic volume data and other information, where available, to assist traffic management planning, including: <ul style="list-style-type: none"> - Annual Average Daily Traffic (AADT) - hourly counts - any activities (e.g. works or events) occurring on or near the site - formal approval or rejection of TMPs. • authorising: <ul style="list-style-type: none"> - temporary speed and parking restrictions, and the use of other regulatory signs - all planned road or lane closures. • authorising and setting conditions for work and other activities on the road • approving the TMP • prepare for and oversee community consultation activities • authorising Design Exceptions (DEs) • ensuring all TTM team have the appropriate training qualifications • reapproving all long-term Temporary Speed Limits (TSL) as required • determining and ensuring appropriate delegations are in place to approve: <ul style="list-style-type: none"> - TMPs - TSLs - parking restrictions - the use of approved portable traffic signals systems - the use of regulatory signs - all planned road closures. • ensuring adequate monitoring and inspecting of all TTM within the RIM's road network. • identifying (or requiring a contractor/consultant to identify) the scope of disruption likely to be caused to road users by the proposed works • showing (or requiring a contractor/consultant to show) that it is possible to construct the proposed design, including any required TTM measures • ensuring contract specifications adequately address risks and requirements for TTM. <ul style="list-style-type: none"> - A RIM acts not only as a RIM, but when carrying out its own work the RIM becomes the principal to the contract for that work and must ensure the contractors and consultants meet all requirements.

Table 5.4: Non-RIM principal (e.g. a utility company)

Accountability	The Non-RIM should obtain permission in the form of consent to undertake any activities within the road reserve or adjacent to the road reserve where the activity may affect road users.
Responsibilities	<p>A non-RIM principal shall be responsible for ensuring:</p> <ul style="list-style-type: none"> • it has the appropriate authorisation for any work or activity it intends to carry out in the road reserve. This may take the form of either: <ul style="list-style-type: none"> - a one-off authorisation - a consent to occupy - a consent for works - a service agreement. • that their contractors undertake activity in the road reserve, or in an adjacent area affecting the road reserve, with an approved TMP in accordance with jurisdictional requirements, AGTTM and AS1742.3. <p>The non-RIM principal shall make all necessary information available to the TMI and contractor for the activity to be undertaken.</p>

Table 5.5: Engineer

Accountability	Accountable to the RIM and/or Principal Contractor and on request provides specific engineering advice or design services required to support the TTM activities.
Responsibilities	<p>The Engineer, or equivalent, shall be responsible to provide engineering advice and design services, within their area of competency, as requested by the RIM and/or Principal Contractor, on any TTM activity. This may include:</p> <ul style="list-style-type: none"> • identifying the scope of disruption likely to be caused to road users by the proposed works • undertaking the necessary design activities for TTM measures to facilitate the construction the proposed design, including any required TTM measures • undertaking the necessary design and traffic engineering analysis to ensure the correct inclusion of all TTM measures in the estimate and schedule of prices.

Table 5.6: Project manager

Accountability	The Project Manager is the person appointed by the RIM or Principal Contractor to manage the TTM project from inception to delivery. This is normally only required for large or long-term TTM projects with significant risks.
Responsibilities	<p>The Project Manager (PM) will generally have the most complete knowledge of the work activity and it shall be their responsibility to ensure the TMD has adequate information for the scope of works and the work staging to appropriately plan the traffic management arrangements and design the TGS. The PM shall be responsible for ensuring the correct TGS is implemented for the works being conducted to ensure the safety of workers and road users.</p> <p>The Project Manager shall allocate adequate TTM resources for the project.</p>

Table 5.7: Traffic management designer

Accountability	The TMD is accountable for ensuring all relevant information is obtained from the Project Manager and relevant project stakeholders and to ensure they have adequate information of the scope of works and the work staging to appropriately plan the traffic management arrangements and design the TMP and TGS.
Responsibilities	<p>The TMD shall be responsible for designing and drafting the TMP(s), including all associated TGSs, that are compliant with legislative requirements and can be practically implemented.</p> <p>The TMD shall ensure the TGS design will protect both workers and the public and is fit for purpose.</p> <p>The TMD should provide advice on appropriate TTM resources required.</p>

Table 5.8: Traffic management designer – non-practitioner

Accountability	The TMD-NP undertakes peer review, surveillance on site and performance reporting on TMPs and the associated TGSs.
Responsibilities	<p>The TMD Non-practitioner:</p> <ul style="list-style-type: none"> • has completed the TMD training (theory only) • can assist the TMD to design and draft TMPs, including associated TGSs, but may not sign off the TMP and TGS • acting for a RIM may review and approve plans submitted for consideration and forward comments to the submitting organisation for consideration.

Table 5.9: Traffic management implementer

Accountability	<p>The person in charge of implementing the TTM at each worksite is the TMI.</p> <p>The TMI shall:</p> <ul style="list-style-type: none"> • record and summarise all adjustments or approved modifications made to the TTM on the TMP and TGS • monitor the performance and effectiveness of the implemented TGS.
Responsibilities	<p>The TMI shall:</p> <ul style="list-style-type: none"> • hold the qualification appropriate for the highest category of road within the network area for which they are responsible • have suitable certified documentation available on site as evidence of qualification • ensure that they are wearing appropriate PPE • recommend postponing, cancel or modify operations due to adverse traffic, weather or other conditions that affect the safety of the worksite. <p>The general responsibilities of the appointed TMI for a worksite are to:</p> <ul style="list-style-type: none"> • check that the TMP and TGS are appropriate to the worksite. Where they are not suitable, do not proceed until the necessary remedial actions have been taken. • keep Daily Diary and have it available (monitoring and record-keeping activities) • arrange on-site meetings for discussions concerning TTM measures at: <ul style="list-style-type: none"> - the start of each set-up - on a regular basis (eg daily) - each change of a TTM measure due to a change in worksite conditions. • brief all TCs on the TTM requirements and verify the traffic control is functioning safely • record and notify the Principal Contractor as appropriate of all incidents at the worksite and any complaints about the TTM • ensure there is a copy of the approved TMP and TGS available on-site at all times when the worksite is attended and that this is available for inspection • ensure contingency plans are implemented when excessive traffic delays, emergencies, weather conditions or other factors occur • ensure that they can be contacted by mobile phone or two-way radio at all times, for the duration of the installation, maintenance and removal of TTM at the worksite • where shift work is involved, brief the TMI for the next shift at the worksite on the TTM and inspection requirements before handing over responsibility. Briefing shall be confirmed in writing to acknowledge the handover • ensure that persons on the worksite operate in terms of the relevant traffic regulations • do a volume and/or traffic speed check to see if any adjustments are required. Communicate with TMD for advice before adjustments are made • ensure traffic is monitored for queuing and delays and take appropriate action as required • ensure worksite inspections of all TTM equipment is completed at least two-hourly or as detailed in the minimum inspection frequency • notify relevant parties at the start and finish of the work shift. • ensure when any TTM changes required by an authorised person (State/Territory Police, WorkSafe Inspector or RIM) are made, that the Principal Contractor is immediately made aware and it is documented on the TMP and TGS. Also ensure the TMD is notified of the change including who has requested and authorised the change.

Responsibilities (continued)	<ul style="list-style-type: none"> • where one worksite interferes with another operation (ie any signs or other devices overlap on the same piece of road) the TMI seeking to undertake activity on the affected piece of road shall meet with the TMI of the established operation. They should establish whether both worksites can co-exist: <ul style="list-style-type: none"> - if the TMI cannot resolve the matter, the issue must be referred to the Principal Contractor for a decision - ensure that the TMD for each of the sites is also be involved in any modification or changes required to either or both sites. • for general TMI site duties refer to AGTTM Part 6. <p>Other roles that the TMI may undertake include:</p> <ul style="list-style-type: none"> • other worker roles (if qualified and competent) in addition to their TMI duties. The TMI role must take priority. • delegated worksite control, including a risk assessment if worksite attendance is to change. This could include not attending when there is no impact to traffic (traffic, cyclists, pedestrians) or where no regulatory devices are affected. The TMI shall always be contactable for unattended sites. • ensure fixed signs are covered or un-covered.as required.
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Table 5.10: Traffic management implementer – non-practitioner

Accountability	The TMI Non-practitioner (TMI-NP) undertakes surveillance on site and performance reporting on TMPs including associated TGSs.
Responsibilities	<p>The TMI-NP</p> <ul style="list-style-type: none"> • has completed the TMI training (theory only) • can only assist the TMI on site in their duties when instructed and directly supervised by the TMI • undertakes surveillance of a TGS on site and can provide observations, comments, and reports but cannot alter the TGS themselves.

Table 5.11: Traffic controller

Accountability	The Traffic Controller (TC) is accountable for controlling the traffic in accordance with the TMP and TGS.
Responsibilities	<p>The TC shall:</p> <ul style="list-style-type: none"> • hold a TC qualification appropriate for the TTM activity • have with them suitable certified documentation as evidence of qualification • wear appropriate PPE / uniform. <p>For TC general duties refer to AGTTM Part 7.</p>

Table 5.12: Principal contractor

Accountability	The Principal Contractor is accountable for the safe delivery of all tasks.
Responsibilities	<p>Principal Contractors shall be responsible for:</p> <ul style="list-style-type: none"> • ensuring they have the authorisation of the RIM to carry out work activity in the road reserve or affecting the road reserve • ensuring they have an approved and accepted TMP before starting any work • ensuring those preparing TMPs / TGSs are trained TMDs for the category of TTM for the road on which the activity will take place • ensuring the TMD prepares the TMP and TGSs that accurately reflect the worksite conditions, in accordance with AGTTM and any contractual requirements or RIM authorisation conditions • ensuring there is a copy of the approved TMP and TGS available on-site at all times when the worksite is attended and that this is available for inspection. Digital copies of the approved plans and permits are acceptable • ensuring that any TSLs have appropriate approval • obtaining approval and timings for occupation of the worksite from the RIM, prior to commencing work • ensuring that only approved TMPs / TGSs are implemented • operating in terms of the applicable traffic regulations

Responsibilities (continued)	<ul style="list-style-type: none"> • ensuring, so far as reasonably practicable, the safe and efficient movement of all road users through and around the working space, including cyclists and pedestrians. Adequate resources must be reasonably available to make changes to the TTM if worksite conditions require changes to be made. • ensuring that the TMI is supported in matters of safety • storing any TTM equipment or plant not in immediate use off the carriageway and in accordance with redundant TTM equipment and parking and storage of vehicles, plant and materials • retaining a record of training and experience for each TC, TMI and TMD within the company or organisation • the appointment of a suitably trained TMD, TMI and TC, and staff for each worksite • recording details of inspections of TTM measures • fulfilling their legal responsibilities under relevant legislation • arranging for the publication of approved notices in appropriate media as specified in the request for tender • reporting on incidents at worksites to TMI.
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Table 5.13: Traffic management workers

Accountability	Follow instructions from TMI in charge of the site
Responsibilities	<p>Individual worksite personnel shall:</p> <ul style="list-style-type: none"> • wear high-visibility garments in accordance with applicable RIM standards • comply with the requirements of the approved TMP and TGS • follow company health and safety procedures, eg wear appropriate personal protective equipment (PPE) • comply with the requirements of the relevant jurisdictional Health and Safety Policies and Acts and its regulations • take reasonable care for their own health and safety, and take reasonable care that their actions do not adversely affect the health and safety of other persons • comply with the requirements of the traffic rules • be aware of the general configuration of signs and devices and report any defect to the TMI in charge • hold any other qualifications or licences as required.

5.5 Roles and Responsibilities for Special Applications

5.5.1 Road safety barrier systems

The various temporary traffic management duties in relation to the selection, design and implementation of a temporary road safety barrier as part of a Traffic Guidance Scheme (TGS) are outlined in Table 5.14. Only approved temporary road safety barriers may be used. A list of approved products is available from the relevant jurisdiction road authority.

Table 5.14: Temporary road safety barriers

Task	Description	Competent Person
Determine the need for a temporary road safety barrier	Works require the use of a temporary road safety barrier system due to worker or road user safety.	TMD
Selection of temporary road safety barrier system.	Compare various temporary road safety barrier systems and select the most suitable for the specific site.	TMD with temporary road safety barrier design training.
Design of temporary road safety barrier in complete accordance with approved guidelines.	Complete the design of the barrier system including (but not limited to) the location / length of need / fixing / deflection limits and end treatment requirements.	TMD with temporary road safety barrier design training or Specialist temporary road safety barrier designer in consultation with the TMD.
Design of temporary road safety barrier which is outside the scope of the manufacturer's supplied manuals / guidelines.	Engineer certification is required for all areas of the design and installation which are outside the scope of (or not included in) the manufacturer's supplied manuals / guidelines.	Engineer with temporary road safety barrier design expertise.
Install a temporary road safety barrier system.	Install the temporary road safety barrier as nominated on the TGS, in accordance with the manufacturer's supplied manuals / guidelines and instructions from the TMD or Engineer with temporary road safety barrier design training.	TMI competent with the installation of the selected temporary road safety barrier or Specialist temporary road safety barrier installer.
Certification of manufacturer's supplied manuals / guidelines.	Temporary road safety barrier suppliers must ensure all manufacturer's supplied manuals / guidelines are appropriately certified by an Engineer.	Engineer or equivalent with temporary road safety barrier design expertise.

6. TTM Training Framework

6.1 Application of TTM Training Framework

Part 1 of this Guide outlines that the Austroads Safety at Road Worksites project (Project BN2019) includes the development of harmonised national training for all TTM qualifications.

Initially Project BN2019 focused on a revised training framework which, following consultation with industry, was finalised in June 2019. At the date of this publication the project is continuing the development of a governance model for the registering and licencing of Registered Training Organisations (RTOs) and individual trainers, as well as developing the delivery and assessment materials for use in each training course.

Therefore, the training framework described in this section is not in application until:

- the delivery and assessment materials are finalised
- transitional arrangement for existing trained individuals, including any gap training, are determined by the relevant State and Territory jurisdictions
- an agreed transition timeframe is determined by the relevant State and Territory jurisdictions

The training framework in this Section is therefore published for information only to allow industry to commence consideration and planning for the future training arrangements.

6.2 Training Roles

There are three core TTM defined roles:

- Traffic Controller
- Traffic Management Implementer
- Traffic Management Designer.

The role descriptions for each of these are detailed in Section 5 of this part of AGTTM.

In addition to these three defined roles, Austroads member jurisdictions identified the benefit of an online awareness training program for people who work on or near roads (e.g. parking inspectors, maintenance staff, surveyors). This online package (*Working Safely Near Traffic*) is available to anyone who is seeking to improve their knowledge of roadwork related safety or operate in accordance with the Short Term Low Impact provisions detailed in AGTTM Part 5. It is recommended that it be voluntarily adopted by employers as a requirement for all staff working on or near a road.

6.3 Training by Road Category

There are eight categories of TTM training as outlined in Table 6.1.

Table 6.1: TTM role overview by category

Role	Category 1	Category 2	Category 3
Traffic Controller	✓	✓	N/A
Traffic Management Implementer	✓	✓	✓
Traffic Management Designer	✓	✓	✓

A progressive approach to qualification to operate on various road categories applies. The key components of this progressive approach are:

1. Category 1 training and competency assessment is a base entry point for each individual TTM role and is a prerequisite to undertaking higher category level training in that role.
2. An experience requirement before a person is eligible to undertake Category 2 or 3 training. Experience requirements are outlined in the following sub-sections which describe arrangements for each of the TTM roles. While training provides valuable foundational skills, experience is required to embed the capability and therefore a period of practical experience is required before a person can progress to Category 2 or Category 3 training. The suitability of a person to progress to a higher category of training will be based on a portfolio of evidence to be verified by an RTO.
3. After successful completion of Category 1 training and assessment, and verification of relevant experience, a person may choose to progress to Category 2 and/or Category 3 training in the relevant role.

The tiered system of qualification for TTM roles, ensures that individuals have the requisite skills for the road environment in which they are required to operate. New entrants to TTM roles will build their skills over time. Individuals will choose whether they wish to undertake further training to enable them to work on either Category 2 or 3 roads. As the majority of roads in Australia and New Zealand are Category 1, this approach ensures that people who are working only on these Category 1 roads, will not be subject to unnecessarily onerous training requirements which would be required to build their capability to work across all road categories.

6.4 Training – General

6.4.1 Competencies

Competency requirements for each role are based on units within the existing RII Skill Sets¹ as well as additional units developed as part of the Austroads Safety at Road Worksites project. In each case, units with a 'RII code' are existing Vocation and Educational Training (VET) units, and those without, are units supported by jurisdictions and developed by Austroads.

6.4.2 Assessment

There are three required forms of competency assessment for each of the TTM roles:

1. Knowledge (established via a combination of written and oral testing and in-situ observation and questioning)
2. Simulation in an on or off-road environment
3. Traffic Controller and Traffic Management Implementer roles - Demonstration of capability in a live traffic environment on the relevant road category
OR
Traffic Management Designer - Independent individual case study assignment
4. For the Traffic Controller and Traffic Management Implementer qualifications:
 - Jurisdictions are committed to ensuring that people receiving a TTM qualification are job ready and therefore, progressive establishment of skills culminating in an assessment in a live road environment is considered critical. In addition, it is expected that newly qualified persons would be monitored and as their experience and confidence grows, be progressively given exposure to more complex work by their employers.

¹ RII training units are approved within the VET Sector regulatory arrangements

- The preferred position is that the assessor observes the participant in the live traffic environment. However, it may be acceptable in some circumstances for video evidence to be utilised. This video would be gathered by a suitably trained person who would be provided a script of the process required and evidence to be collected. The video would be subsequently viewed for assessment purposes by the assessor. The circumstances in which video evidence may be utilised is detailed in the Austroads Temporary Traffic Management - Traffic Controller and Traffic Management Implementer Training Materials (still to be published at the date of this publication).
- It is the responsibility of the RTO to work with TTM providers and Road Authorities as required to enable live site assessment. This assessment may be an actual worksite, although this is not essential. The set up and operation of an assessment site on a suitable category of road based on interaction with normal traffic, not vehicles operated by the RTO, is sufficient. It is critical that the assessment experience is undertaken in an environment that is, in all relevant respects, equivalent to what the person will encounter when in the workforce.

6.5 Traffic Controller

6.5.1 Training by road category

Training and qualification for Traffic Controllers is only available for Road Categories 1 and 2. Due to the extremely high risks of any form of traffic control on Category 3 roads, Traffic Control using either Portable Traffic Control Devices or through Manual Traffic Control is not supported by jurisdictions. Any decision to utilise Traffic Controllers on Category 3 roads shall be the subject of a detailed risk assessment and shall only be considered when all other alternative methods for suitably protecting the worksite and road users have been determined to not be suitable.

6.5.2 Competencies

Table 6.2 sets out training requirements for the Traffic Controller skills sets

Table 6.2: Traffic controller units of competency

Role	Category 1	Category 2
Traffic Controller	RIIWS201D – Work safely and follow WHS policies and procedures RIICOM201D – Communicate in the workplace RIIWS205E – Control traffic with stop slow bat RIIWS207 – Control traffic with portable traffic control devices and temporary traffic signs ¹	Control traffic on multi-lane roads and near Traffic Signals

¹ Based on existing unit RIIRTM 202D – Position and set up portable traffic signals

Details of the units of competency and assessment with supporting guidance material is contained within the forthcoming Austroads Temporary Traffic Management - Traffic Controller Training Materials.

6.5.3 Progression between categories

Table 6.3 outlines the experience requirements that will apply, post Category 1 qualification, before a person is eligible to enrol in Category 2 training. The individual will be required to present a portfolio of evidence to an RTO for verification before enrolment would be accepted.

Table 6.3: Level of experience to support progression to category 2 training as a traffic controller

Role	Experience Requirements to Undertake Category 2 Training
Traffic Controller	Minimum of 3 months experience; and At least 80 hours experience in the preceding 3 months

6.6 Traffic Management Implementer

6.6.1 Training by road category

Training and qualification for Traffic Management Implementers is available for Road Categories 1, 2 and 3.

6.6.2 Competencies

Table 6.4 sets out training requirements for the Traffic Management Implementer skills sets.

Table 6.4: Traffic management implementer units of competency

Role	Category 1	Category 2	Category 3
Traffic Management Implementer	RIIWHS201D – Work Safely and follow WHS policies and procedures RIICOM201D – Communicate in the workplace RIIWHS302E – Implement TMP and TGS RIIRIS301D – Apply risk management process RIIWHS305 – Position, set-up and program portable traffic control devices	Implement TMP and TGS – Multilane roads and near Traffic Signals RIIBEF301D Run on-site operations	Implement TMP and TGS – Motorways and Freeways RIIBEF301D Run on-site operations

Details of the units of competency and assessment with supporting guidance material is contained within the forthcoming Austroads Temporary Traffic Management - Traffic Management Implementer Training Materials.

6.6.3 Progression between categories

Traffic Controller training is not a prerequisite for Traffic Management Implementer training, although it is highly desirable from an industry perspective for Traffic Management Implementers to also have the necessary qualifications to control traffic.

After completion of Category 1 TMI training, and a suitable period of experience (discussed below), Implementers will be eligible to enrol in either Category 2 and/or Category 3 training. Category 2 training is not a prerequisite for Category 3 training and vice versa.

Category 2 roads are generally considered more complex than Category 1 roads with increased difficulty arising from higher speeds, increased road user volumes and more complex road user interfaces and infrastructure features.

Motorways and high speed grade separated roads, which characterise Category 3 road environments, create their own unique risks rather than building on the risks of Category 2 roads.

Due to the fundamentally different nature of Category 2 and Category 3 roads there is not a linear progression from Category 1 to Category 2 and finally Category 3 roads.

The progression options for Traffic Management Implementer are therefore as follows:

- Category 1 TMI is the mandatory core initial skills set
- On completion of Category 1 training, and following a suitable period of experience, a person may enrol in either Category 2 or Category 3 training.
- After completion of either Category 2 or 3 training a person may choose to undertake the remaining level of training (ie: Category 2 or 3) with no additional period of experience required.

Implementers will only be able to work on a category(s) of road for which they are currently approved. If for example a person holds a Category 1 and 3 training qualification, they will be able to undertake the role of a TMI only on these categories of roads and not on Category 2 roads.

Table 6.5 outlines the experience requirements that will apply, post Category 1 training, before a person is eligible to enrol in either Category 2 or 3 training. The individual will be required to present a portfolio of evidence to an RTO for verification.

Table 6.5: Experience to support progression to higher categories – TMI

Role	Experience Requirements to Undertake Category 2 or 3 TMI Training
Traffic Management Implementer	Minimum of 3 months experience; and Within the last 12 months, at least 12 set ups of 3 different types from the following list - must include mandatory design types (indicated in bold): <ul style="list-style-type: none"> • Pedestrian and cycle control • Construction site • Lane closure • Shoulder closure • Higher speed road • Use of portable traffic control devices • Night works

6.7 Traffic Management Designer

6.7.1 Training by road category

Training and qualification for Traffic Management Designers is available for Road Categories 1, 2 and 3.

6.7.2 Competencies

Table 6.6 sets out training requirements for the Traffic Management Designer skills sets.

Table 6.6: Traffic management designer units of competency

Role	Category 1	Category 2	Category 3
Traffic Management Designer	RIICWD503E – Prepare work zone TMP and TGS RIIRIS402D – Carry out the risk management process	Prepare work zone TMP and TGS– Multilane roads and near traffic signals	Prepare work zone TMP and TGS – motorways and freeways

Details of the units of competency and assessment with supporting guidance material is contained within the forthcoming Austroads Temporary Traffic Management - Traffic Management Designer Training Materials.

6.7.3 Progression between categories

To be eligible to enrol in Designer Category 1 training an individual must have **either**:

- A minimum of 12 months appropriate experience in TTM, which could include experience as an Implementer
- A tertiary qualification in a civil construction, traffic engineering or road design related field.

As for Traffic Management Implementers, after completion of Category 1 TMD training, and a suitable period of experience (discussed below), Designers will be eligible to enrol in either Category 2 and/or Category 3 training. Category 2 training is not a prerequisite for Category 3 training and vice versa.

The progression options for Traffic Management Designer are therefore as follows:

- Category 1 Designer is the mandatory core initial skills set
- On completion of Category 1 training, and following a suitable period of experience, a person can enrol in either Category 2 or Category 3 training
- After completion of either Category 2 or 3 training a person may choose to undertake the remaining level of training (ie: Category 2 or 3)

Designers will only be able to work on a category of road for which they are currently approved. If for example a person holds a Category 1 and 3 training qualification, they will be able to perform the role of a TMD only on these categories of roads and not on Category 2 roads.

Table 6.7 outlines the experience requirements that will apply, post Category 1 training, before a person is eligible to enrol in either Category 2 or 3 training. The individual will be required to present a portfolio of evidence to an RTO for verification.

Table 6.7: Level of experience to support progression to higher categories – traffic management implementer

Role	Experience Requirements to Undertake Category 2 or 3 Training	
Traffic Management Designer	<p>Category 1 to Category 2</p> <p>Minimum of 12 months experience; and</p> <p>At least 4 different TMP design types from the following list within the last 12 months - must include mandatory design types (indicated in bold)</p> <ul style="list-style-type: none"> • Pedestrian and cycle control • Intersection • Construction site • Lane closure • Shoulder closure • Higher speed road • Use of portable traffic control devices • Roundabouts • Public transport interface 	<p>Category 1 or 2 to Category 3</p> <p>Minimum of 12 months experience; and</p> <p>At least 4 different TMP design types from the following list within the last 12 months - must include mandatory design types (indicated in bold)</p> <ul style="list-style-type: none"> • Pedestrian and cycle control • Intersection • Signalised intersection • Construction site • Lane closure • Shoulder closure • Higher speed road • Use of portable traffic control devices • Roundabouts • Public transport interface

Designs undertaken must have been used in practice or be in the process of being put in place. Therefore, theoretical or desktop only designs are not acceptable as evidence of experience.

6.8 Practitioner and Non-Practitioner Status

Regulators and private sector managers are often required to oversee and inspect TTM worksites and plans. These people do not directly undertake TTM roles at worksites or develop/modify TTM plans. However, to competently undertake their duties, which may involve the approval of a TMP developed by others, they require knowledge and understanding of TTM work and risks. To address this need for non-operational personnel to have a level of skill and capability, a non-practitioner status is defined for both the Implementer and Designer roles.

A non-practitioner will undertake the same training as a practitioner, however, will not be required to undertake the full suite of assessment. The following table outlines the differences in the assessment requirements for a practitioner and non-practitioner.

Table 6.8: Practitioner and non-practitioner assessment

Assessment / Experience	Practitioner	Non-Practitioner
Implementer		
Theoretical knowledge	✓	✓
Simulation in an on or off road environment	✓	✓
Assessment at a live worksite	✓	✗
Designer		
Theoretical knowledge	✓	✓
Supervised in class individual and group case studies	✓	✓
Independent individual case study assessment	✓	✗

Non-practitioners will not be able to undertake in-field work or to change TMPs or TGSs.

The non-practitioner status will be available at all levels, therefore Category 1, 2 and 3. Unlike practitioners, non-practitioners will not be required to have a period of demonstrated experience before they can enrol in other levels of training. However, Category 1 training must be undertaken before enrolment will be accepted in either Category 2 or 3 training.

6.9 Maintenance of Qualification Currency

Maintenance of qualifications requires a person to take active action to maintain currency and is intended to:

- ensure that only persons who have maintained their skills are eligible to operate in the industry
- reduce the time and cost imposed of repeat training where a person has maintained their competence through work experience
- provide an option including verification of competency or refresher training based on individual preference.

For an individual to maintain a qualification currency, individuals may choose to either

- complete a verification of competency based on presentation of an evidence pack
- sit the refresher training.

Where an individual does not meet one or the other of the above within 3 years and 3 months from their last relevant TTM training completion date, they will be required to undertake full assessment again (in class training may be optional depending on the RTO requirements noting that recognition of prior learning will apply).

Where a person chooses to seek a verification of competency, a package of information is to be presented to an RTO which demonstrates that they have been actively working in the relevant TTM role in the past 12 months. This would not be expected to require detailed records, such as job sheets, however, must be sufficiently robust to enable a reasonable assessment of veracity. For an RTO to issue the ongoing competency, they are required to determine that the individual meets the same requirements as those needed to originally gain the competency. There may also be a requirement for an individual to provide evidence that they are aware of key changes in legislation and practice within the industry.

A verification of competency can only apply where a person has been working actively in the specific TTM role. For example:

- A person qualified as a Traffic Controller and Implementer, but who has not undertaken traffic control work for 2 years, will not retain the Traffic Control qualification, but may retain the Implementer qualification if they have been working in that capacity.
- A person who has Implementer Category 1, 2 and 3 qualification, but has operated exclusively in motorway environments for the past 12 months, will not retain their Category 2 qualification. They would however retain both the Category 1 qualification (as the foundation skills set) and the Category 3 qualification.

Refresher training content will focus on assessing the level of continuing competency as well as ensuring understanding of, and ability to implement, new and emerging TTM practice and legislative requirements.

Non-practitioner Designers and Implementers will be subject to the same requirement to demonstrate their experience and ongoing competency or to undertake refresher training to maintain their qualification currency.

The expiry date for a qualification will be based on the date of the last training relevant to the role. For example, if a person undertook Implementer Category 2 training 18 months after completion of Category 1 training, the expiry date for both their Category 1 and 2 Implementer qualification, would be based on the completion date of the Category 2 training. Subsequent training in another TTM role (Traffic Controller or Designer) would not be relevant to the expiry date of the Implementer approval.

7. Standard Forms

Standard form examples and descriptions in support to those involved in the TTM project, from inception and implementation of the TMP, through to removal and sign-off to open the road for normal traffic flow are included in Appendix B. The forms and descriptions provided are only examples for each RIM to adopt or change where required.

Table 7.1: Summary of example standard forms

Form	Description
B1	TMP Suitability Checklist
B2	Traffic Management for Roadworks Operational Check / Onsite Pre-opening Inspection - Checklist
B3	Worksite Traffic Management – Hierarchy of Safety Controls – Checklist CHECKLIST PART A – Traffic Controls Assessment CHECKLIST PART B - Justification for Control Selection CHECKLIST PART C - Additional Site-Specific Safety Hazard / Risk Factors
B4	TMP Daily Traffic Management Diary
B5	Traffic Management Plan (TMP) - Long Form
B6	Design Exception
B7	Example of Site Condition Rating (SCR) Form – Compliance Inspection
B8	Example of Site Condition Rating (SCR) Form – Compliance Inspection – Short Form
B9	Example of Notice of Non-Conformance
B10	Example of Notification of Road Closure/Lane Closure
B11	Report on incident at roadworks site
B12	Newspaper Advertisement Standard

8. Model Contract Specification

Example contract specifications for TTM are provided in Appendix C and Appendix D. Every local and state authority or territory has its own requirements for contractual specifications. The samples provided in Appendix C and Appendix D are examples only that can be used to prepare or adjust current jurisdictional specifications where required.

Appendix A TTM Roles – Additional Tasks and Activities

Table A 1: Engineer

Task – Design/exception	
Activity	Additional information
TMP and TGS designs or the use of devices which are or have elements which are outside the scope or “shall” requirements of the AGTTM or AS1742.3 (including designs with innovative devices or treatments). TMPs which require traffic modelling to support decisions.	An Engineer with the competency of TMD may sign off on particular elements of the TMP/TGS designs.
The engineer shall hold a qualification appropriate for the category of road within the project area for which they are responsible.	-
If asked to report on the TTM at a worksite, the Engineer’s report may include the following as appropriate: <ul style="list-style-type: none"> • The requirements of any contract documents, including the schedule of specific job requirements for traffic management and safety. • The requirements of any other consent or agreement. • Any specific requirements of the RIM. • The output from any completed audits. • Detail any requirements recommended to eliminate or minimise risk and improve safety, capacity or reduce road user delays. 	-

Table A 2: Project manager

Task – Project management to implement and deliver TMP and TGS	
Activity	Additional information
Communicate to the TMD the scope of works, work activities and staging to assist the TMD in planning the TMP and designing the TGS.	-
Review the TMP and TGS to ensure it adequately caters for the work activities before the works begin.	-
Monitoring and evaluating the traffic guidance scheme to ensure it is sufficient for the safety of workers and road users during the project.	-

Table A 3: Traffic management designer

Task – Selection and design of TMP and TGS	
Activity	Additional information
Select and implement a work method practice in accordance with the short-term low impact works and unsealed roads in AGTTM Part 5 and mobile works in AGTTM Part 4.	With the appropriate risk assessments.
Prepare Traffic Management Plans (TMP).	-
Design generic or site specific TGS in accordance with the AGTTM Parts 3, 4 and 5. Designs are practicably implementable.	Includes developing procedures and protocols for selection and implementation of a generic TGS. Including all notes required for implementation.
Design a TGS without complying with a “should” or “where practicable” requirement of the AGTTM Parts 3, 4 and 5.	With a supporting risk assessment in accordance with AGTTM Part 10
Design a TGS without complying with a “shall” requirement of the AGTTM or outside the scope of the AGTTM (innovative treatment, devices etc.)	With a supporting risk assessment and Engineer signoff of relevant items in accordance with AGTTM Part 10
Design a TGS with Traffic Controllers using STOP / SLOW bats.	Ensure the site is suitable for STOP / SLOW bat operation and locations for the TC are defined.
Design a TGS with Portable Traffic Control Devices (PTCD) including: Portable Traffic Signal Systems (PTSS), boom barriers, rumble strips, speed humps, speed awareness devices. If manually controlled PTCD's applied, define the location of the Traffic Controller using the device.	Includes the design for the configuration (timing and operation) of PTSS
Provide supervision and instruction to a person without a TMD competency preparing (designing) a TMP or TGS.	The TMD shall sign off and take full responsibility for the plans prepared under their supervision and instruction.
Modify a TGS designed by another TMD in accordance with the AGTTM Parts 3, 4, and 5.	If the original TGS was designed by another TMD, it is recommended that the original TMD be advised of the changes. Ensure the changes are documented and traceable to the relevant TMD.
Changes to the TGS designs or devices outside a “should” recommendation of the AGTTM.	With a supporting risk assessment in accordance with AGTTM Part 10
Changes to the TGS design or devices outside the scope or “shall” requirements of the AGTTM.	With a supporting risk assessment and Engineer signoff of relevant items in accordance with AGTTM Part 10
Instruction of a person without a TMD competency to make on site changes to a TGS	The person with a TMD competency must sign off and take full responsibility for the changes made to the TGS under their instruction.
Identify circumstances in which Event Traffic Marshals (ETM) can be used as per jurisdictional requirements.	Specifically nominate on the TGS for a permitted Special Event: <ul style="list-style-type: none"> • The signs which may be installed by an ETM. • Traffic control positions which may be suitable for an ETM. • Other instructions for the ETM.

Table A 4: Traffic controller

Task – Implementation of TGS	
Activity	Additional information
Only signs and devices for TC operations	Refer AGTTM Part 7 for Traffic Controller equipment. Also signs and devices for traffic signals and portable boom barriers as per AGTTM Part 7 if operated in manual mode by TC.
Install and operate portable traffic signals systems.	Only if competent (through training / experience) to do so and in accordance with manufacturer's specifications.
Install and operate portable boom barrier	Only if competent (through training / experience) to do so and in accordance with manufacturer's specifications.
Task – Monitor a TGS	
Activity	Additional information
Monitor the performance (effectiveness) of the implemented TGS (this may include driver or other road user behaviour, vehicle speeds on the approach to the TC and queue lengths).	Ensure all required traffic control devices for the TC remain in place. Monitor any specific item as identified in the TGS by the TMD. If the TGS is not effective (for example approach speeds to the TC or traffic queues are extending to a point where end of queue protection measures should be considered), TC is to advise the site supervisor who will contact the TMD for modification options. Near-miss reporting
Task – Modify TGS on site	
Activity	Additional information
In response to an emergency event	In accordance with AGTTM Part 10 Initial Response only.
Only the signs and devices for TC operations.	Install or remove, (cover or uncover) the signs or devices as required for TC operations.
If the assigned position of the TC is not in accordance with Part 7 of AGTTM (for example sight distance or escape path).	TC is to advise the site supervisor who will contact the TMD for modification options

Table A 5: Traffic management implementer

Task – Selection and implementation of TMP and TGS	
Activity	Additional information
Select and implement a work method practice in accordance with the short-term low impact works in AGTTM Part 5.	With the appropriate risk assessments.
Select an appropriate generic TGS, assess as site suitable and implement.	Selection and implementation must be performed in accordance with the established protocol or procedure as documented by the TMD competent person when developing the generic TGS.
Task – TMP and TGS implementation	
Activity	Additional information
Implement a site specific TGS.	Implementation must be performed in accordance with the established protocol or procedure as documented by the TMD competent person when developing the site specific TGS.
Install Portable Traffic Control Devices including: Portable Traffic Signal Systems (PTSS), boom barriers, rumble strips, speed humps, and speed awareness devices.	Includes the configuration of PTSS Type 2 devices only when operated in timed or vehicle activated modes (as instructed by a TMD). The manual operation of PTSS or boom barriers shall only be performed by a Traffic Controller (TC). Only to be undertaken if competent (through training / experience) to do so and in accordance with manufacturer's specifications.
Provide direct supervision and instruction to a person without TMI competency to implement a TGS.	The person under instruction should have the Working Safely Near Traffic training unit competency. Direct supervision requires the supervising TMI to be present (in close proximity) and able to intervene if required.
Display text messages or electronic signs on VMS screens (both vehicle-mounted and trailer-mounted).	In accordance with requirements and instructions on the TGS.
Display of direction arrow(s) on vehicle mounted arrow boards.	In accordance with requirements and instructions on the TGS.
Task – Monitor TMP and TGS	
Activity	Additional information
Monitor the performance (effectiveness) of the implemented TGS (this may include driver or other road user behaviour, vehicle speeds, queue lengths and so on).	Ensure all required traffic control devices remain in place. Monitoring of any specific item as identified in the TGS by the TMD. If the TGS is not effective, contact the TMD for modification instructions.
Task – Adjustment and modification of TMP and TGS	
Activity	Additional information
Adjustment: Move signs within tolerances.	As per the AGTTM Part 6 If required to move signs beyond these tolerances, contact the TMD for modification instructions.
Modification: In response to a long queue of traffic.	Modifications to be as per the requirements of the TGS, prepared by a TMD for use with long traffic queues. If the TGS does not have provision for long queues and is not effective, contact the TMD for modification instructions.
Modification: Modify the TGS on site, in response to an emergency event	In accordance with AGTTM Part 10 "Initial and Interim Response". Implementation of a Follow-up Protection may be performed in accordance with designs or instructions from a TMD or authorised person.

Table A 6: Principle contractor

Task – Principal contractor’s support of TMI in matters of safety	
Activity	Additional information
<p>The contractor is responsible for ensuring that the TMI is supported in matters of safety. In safety situations where the TMI is overridden by the contractor, any non-conformance will apply to the organisation. The TMI may contact the RIM with any concerns or contact the relevant state/territory department for safety.</p>	-
<p>An incident is defined as any incident resulting in damage to any installed TTM equipment, vehicles, plant or injury to a person. Any incident resulting in either the death of a person, or a notifiable injury or illness, or a notifiable event or incident (any immediate or imminent exposure to a serious risk to a person's health or safety) shall be reported to the relevant state/territory department for safety as soon as possible after the crash becomes known to:</p> <ul style="list-style-type: none"> • An employer • A self-employed person • The principal <p>If the relevant state/territory department for safety is notified of the crash, reasonable steps must be taken to ensure the site is not disturbed until authorised by an inspector.</p>	-
<p>The contractor shall record all incidents at worksites and, within 24 hours of any crash, brief the TMI and the RIM on the details of the crash, including the following:</p> <ul style="list-style-type: none"> • A copy of the signed and approved TMP for the worksite. • Details of the incident including a diagram showing the layout of the worksite at the time of the crash. The diagram must also show any relevant crash details such as vehicle travel paths, skid marks, etc. • Photographs of the crash site. <p>Minor incidents, such as one or two cones being struck, do not need to be recorded unless there appears to have been potential for a serious incident to have occurred.</p>	-

Table A 7: Traffic management worker

Competent person – Working safely near traffic	
Task – Implementation of a TGS	
Activity	Additional information
Install or remove signs and other devices included on a TGS under direct supervision and instruction by a TMI competent person.	Direct supervision requires the supervising TMI to be present (in close proximity) and able to intervene if required.
Select and implement a work method practice in accordance with the short-term low impact works and unsealed roads in AGTTM Part 5.	With the appropriate risk assessments. Includes installing the relevant signs and devices as required under the specific sections.
Cover or uncover signs	Generally, at the end or start of a shift. Instruction must be included on the TGS that the signs can be covered or uncovered and at what times or under what conditions.
Record Keeping	Daily record of installed traffic management signs and devices.
Task – Modification of a TGS	
Activity	Additional information
Modify the TGS on site in response to an emergency event.	In accordance with AGTTM Part 10, “Initial Response” only.
Competent person – Lookout person	
Activity	Additional information
Perform lookout activity as required in the AGTTM Part 5	Must have good eyesight, hearing and be competent to perform lookout activities.
Competent Person – Roadworks pilot vehicle driver	
Activity	Additional information
Drive a pilot vehicle on a work site working with the Traffic Controllers in attendance for the purpose of traffic management at that work site only.	Must have a current driver’s licence and be competent to perform roadwork pilot vehicle driver duties. NOTE: This task is separate to and different from the requirements for pilot vehicles for heavy vehicles in general traffic situations.
Competent Person – Truck mounted attenuator (TMA) vehicle driver	
Activity	Additional information
Drive a vehicle fitted with a Truck Mounted Attenuator (TMA) on a work site	TMA driver must have a current and valid Heavy Vehicle drivers’ licence of a suitable class to operate the TMA vehicle. Completed specific training and is deemed competent in the operation of a TMA. The TMA operator / driver must also hold the Traffic Management Implement competency at the appropriate road category.
Display text messages or electronic signs on VMS screens mounted on the TMA vehicle.	In accordance with requirements and instructions on the TGS.
Display of direction arrow(s) on arrow boards mounted on the TMA vehicle.	In accordance with requirements and instructions on the TGS.

Appendix B Standard Forms – Examples

Table B 1: Summary of example standard forms

Form	Description
B1	TMP suitability checklist
B2	Traffic management for roadworks operational check / onsite pre-opening inspection – Checklist
B3	Worksite traffic management – Hierarchy of safety controls – Checklist CHECKLIST PART A – Traffic controls assessment CHECKLIST PART B – Justification for control selection CHECKLIST PART C – Additional site-specific safety hazard / risk factors
B4	TMP daily traffic management diary
B5	Traffic management plan (TMP) – Long form
B6	design exception
B7	Example of site condition rating (SCR) form – Compliance inspection
B8	Example of site condition rating (SCR) Form – Compliance inspection – Short form
B9	Example of notice of non-conformance
B10	Example of notification of road closure/lane closure
B11	Report on incident at roadworks site
B12	Newspaper advertisement standard

B.1 Form B.1 – TMP Suitability Checklist

The suitability check can be undertaken by the Road Infrastructure Manager prior to approving the TMP or by the TMD before submitting the TMP. This check helps ensure the Road Infrastructure Manager is fulfilling its duty of care to road workers and road users.

Issue	Yes/No/NA	Comment
1. Approvals		
1.1 Traffic Management Plan (TMP)		
Has the TMP been prepared by a person holding a valid TMD accreditation? Has the TMP been signed off by the person along with his/her name, TMD certificate number and date of endorsement of the plan?		
Does the TMP contain a statement confirming that the person preparing the plan (or a person under their direction) attended a site visit prior to preparing the plan?		
Check for conditions of approval relating to working hours, number of traffic lanes, lane widths, signs & site instructions		
Check to ensure that Traffic Guidance Scheme (TGS) are included in the Traffic Management Plan. - Are these appropriate for the worksite? Are TGSs required for the implementation of the traffic management? If so, are they included in the TMP?		
Have the Traffic Guidance Scheme (TGS) been assigned a unique reference number, dated and signed by the TMD?		
Have the police, emergency services and other effected stakeholders been consulted and informed of the works?		
1.2 Railway / Light Rail / Tramway Crossing		
Is the worksite in the vicinity of a Railway / Light Rail / Tramway Crossing? If so, have the necessary approvals been obtained from the Rail Infrastructure Manager?		
Does the TMP comply with the conditions of approval imposed?		
Has risk of wheeled pedestrians and cyclist crossing rails at less than 60 degree angles been mitigated?		

Issue	Yes/No/NA	Comment
1.3 Traffic Signals		
Is the worksite in the vicinity of Traffic Signals? If so, have the necessary approvals been obtained from the Road Infrastructure Manager?		
Has the relevant Traffic Operations Centre been advised of the scope and extent of the roadworks?		
1.4 Active Worksites		
Is there more than one active worksite? If so, are they part of the same project?		
Are there approved Traffic Guidance Schemes (TGSs) for each of the active worksites?		
2. Project Information		
2.1 Purpose and Scope		
Has the author of the TMP been made aware of the staging and details of work? Has this been covered adequately in the TMP?		
Is the time, date and duration of works covered in the TMP?		
2.2 Site Constraints/Impacts		
Does the TMP contain accurate information regarding existing traffic and speed environment?		
Does the TMP detail the permissible working times due to traffic volumes and road function?		
2.3 Roles and Responsibilities		
Does the TMP include: General responsibilities Hierarchy?		
Are there clearly defined responsibilities for TTM Personnel: - Project Manager, TMD, TMI, TC.		

Issue	Yes/No/NA	Comment
Does the TMP include: <ul style="list-style-type: none"> • Client Contact? • Road Infrastructure Manager? • Main Contractor? • Site Contact? • Other Contacts? • TMP design? • Company details? • Site contact details? 		
Will the requirements of the TMP be communicated to all workers at site inductions?		
2.4 Statutory Requirements		
Is the TMP part of a safety plan? Does it mention: <ul style="list-style-type: none"> • PPE • Plant & Equipment • Incident procedures (including a traffic incident reporting form) • Contingency plans for emergencies 		
2.5 Site Inspections Auditing & Record Keeping		
Does the TMP detail the responsibilities of implementing the TMP and evaluating its effectiveness? Does the TMP show the frequency of inspecting? Does the TMP show who is to conduct inspections and what will happen to the inspection/review report?		
Does the TMP detail the daily routine tasks of inspecting and maintaining the traffic control devices on-site and keeping records?		
2.6 Emergency Planning		
Does the TMP give details for: <ul style="list-style-type: none"> • Emergency Services? • Dangerous Goods? • Damage to services? • Failure of services? 		

Issue	Yes/No/NA	Comment
3. Communication and Consultation		
Does the TMP give approval details for impacted stakeholders e.g: <ul style="list-style-type: none"> • Road Infrastructure Manager? • Environmental Agency? • Heritage/Indigenous Affairs I? • Utility Providers / Dial before you dig 		
Have Public Transport operators been consulted and informed of the works?		
Have all relevant stakeholders been consulted and informed of the works?		
Has a communication plan been developed to appropriately inform the public?		
Is there a mechanism for registering complaints?		
Are traffic signs correctly located, with adequate lateral and vertical clearance from all movements (including cyclists)?		
4. Planning		
4.1 Risk identification		
Has a risk assessment been done? Does it contain any site-specific risks? Does the risk assessment appear generic? Does the TMP address the risk treatments? Are there any residual risk ratings of "HIGH"? If so, has an TMD endorsed the plan?		
4.2 Traffic Assessment		
Will traffic flow be maintained as much as possible in line with AGTTM and contract requirements? Have the effects of network congestion been examined and justified in accordance with the AGTTM and State/territory requirements?		

Issue	Yes/No/NA	Comment
<p>Are details included for:</p> <ul style="list-style-type: none"> • Volume of traffic? • Composition of traffic? • Existing & proposed speeds? • Intersection capacity? • Parking facilities? • Heavy & Oversized loads? • Public transport? • Special events? • Lane widths? • Number of lanes? 		
<p>Has consideration been given to vulnerable road users including:</p> <ul style="list-style-type: none"> • Pedestrians? • Cyclists? • People with disabilities? • School crossings? 		
<p>Will detours be in place during the works? If so, will the existing road infrastructure adequately cater for the increased volumes and vehicle types (e.g. loading dynamics, turning circles etc.)? Have all Road Infrastructure Manager and Heavy Vehicle Services been consulted with?</p>		
<p>Is the worksite in the vicinity of a Railway Crossing? If so, have any associated risks been mitigated?</p>		

Issue	Yes/No/NA	Comment
4.3 Site Assessment		
Does the plan cover access to adjoining developments?		
Does it have provisions addressing environmental conditions such as: <ul style="list-style-type: none"> • Weather including: • Rain? • Floods? • Sun Glare? • Fog/Dust/Smoke? • Heat? • Terrain? • Vegetation adjacent to the road and within the road corridor? • Existing traffic/advertising signs? • Other: • Structures? • Noise? • Fumes? 		
4.4 Works Programming		
Is the work to be staged, is this addressed in the TMP?		
Has each TGS addressed the appropriate work scenario?		
Has night work been addressed?		

Issue	Yes/No/NA	Comment
5. Traffic Management		
Have the following Traffic Management issues been addressed in the TMP:		
Adequate warning prior to worksite		
Adequate delineation		
Turning radii (all vehicle types)		
Tapers (all vehicle types)		
Traffic lane safety and visibility (defined, sight distance)		
Unsealed roads (maintenance)		
Night time safety (street lighting, reflectivity of signs/devices) <ul style="list-style-type: none"> • for pedestrians and cyclists • visibility of fences and structures 		
Clear zones (non-frangible objects, batter slopes)		
Safety Barriers (design, approvals, end treatments length of need)		
TMA operation		
Speed management		
Worksite Access		
Permanent signs and pavement marking		
VMS (correct use)		
Temporary traffic signals (approvals, positioning, back up)		
Detours (increased volumes and vehicle types on other road infrastructure, consultation with all affected road authorities)		

B.2 Form B2 – Traffic Management for Roadworks Operational Check / Onsite Pre-opening Inspection - Checklist

Operational Check: The operational check should be undertaken by the project team once the traffic management scheme has been implemented. Preferably the check should be undertaken by the TMD.

Onsite Inspection: Onsite inspections should be undertaken frequently by the TMI.

Project Information	
Project	
TMP Date	
TMP No.	
Rev No.	
Location	
TMP author contact details	
Site supervisor contact details	

Issue	Yes/No/ NA	Comment
1. Alignment		
Is the roadworks located safely with respect to horizontal and vertical alignment? If not, does works signing, offset and/or protection cater for this?		
Are the transitions from the existing road to the roadworks safe and clearly laid out?		
Are turning radii and tapers adequate for all road users? Have the swept paths of all vehicles been catered for?		
2. Delineation, traffic lane safety and visibility		
Is the work area clearly defined?		
Are the travel paths for both directions of traffic clearly defined? Is the work area appropriately separated from passing traffic? Check the transition at the interface of the modified alignment.		
Do the temporary works involve shoulder or traffic lane closures? If so, are the taper lengths adequate?		
Are traffic cones, bollards upright, secure, correctly spaced and neatly aligned?		
Are centre lines/lane lines/edge lines clear and unambiguous?		

Issue	Yes/No/ NA	Comment
Are sight and stopping distances adequate at works, at intersections and driveways?		
Are traffic lanes clearly delineated?		
3. Traffic management signs and devices		
Are all signs and devices placed, such that they are clearly visible to approaching drivers and other road users both day and night? Do they give adequate warning of the changed conditions?		
Have all road users been considered including trucks, pedestrians, cyclists, motorcyclists and buses.		
Are traffic signs correctly located, with adequate lateral and vertical clearance?		
Are signs placed to not restrict sight distance, particularly for turning vehicles?		
Are redundant permanent signs (e.g. speed limit) covered up?		
4. Traffic Flow		
Has traffic flow been maintained as predicted by the TMP? Have the works impacted on other adjoining routes?		
5. Speed management		
Are speed limits correctly applied?		
Are road users informed of the need to slow down through the roadworks site?		
Are the speed limits established on site consistent with the modified road environment? If not, should this be changed or should the “safety space” to the worksite be increased?		
Are road users complying with the temporary speed limits? If not, can something be done to on site to encourage speed compliance?		
Are buffer zones established? Are the zone lengths consistent with standards and guidelines? Are speed limits reinstated as soon as practical in line with standards and guidelines?		
6. Night-time safety		
Is appropriate street lighting or other delineation provided at the roadworks to ensure that the site is safe at night?		
If temporary lighting is used, have issues such as glare or transition in illumination been addressed?		
Are all fixed objects adjacent to and close to the travel path treated to ensure visibility at night?		
Is the works area safe for pedestrians and cyclists at night?		

Issue	Yes/No/ NA	Comment
Do the traffic control devices meet the requirements for retro-reflectivity?		
Are the correct signs used for each situation including at night where required, and is each sign necessary?		
7. Aftercare		
Have unnecessary signs been removed when works are not in progress? (for example, at night)?		
Where signs and devices have been removed after hours is appropriate delineation provided (particularly at night)?		
Where practical have hazards been removed or suitably protected (e.g. backfilling excavations).		
8. Safety barriers		
Is there adequate clearance from the edge of the traffic lane and road safety barrier system?		
Are safety barriers erected in a manner that: <ul style="list-style-type: none"> • does not make them a hazard to traffic? • does not obstruct visibility? 		
Is the work area appropriately separated from the deflection zone of the safety barrier?		
Is the road safety barrier system adequate (eg length of need, barrier type, offset to traffic, offset to work area, end treatment)?		
9. Traffic controllers		
Are traffic controllers provided where required? Is there an adequate number to ensure rest breaks can be taken?		
Is sight distance to traffic controllers adequate? Are queue lengths being monitored in line with AGTTM? Are 'Prepare to Stop' signs adequate for queue lengths?		
10. Work site access		
Are site entrances and exits safely located with adequate sight distance? Are appropriate procedures in place and applied for workers accessing and exiting the site?		
11. Pedestrians and cyclists		
Have the effects of the work areas on pedestrians and cyclists been considered?		
Are safe and adequate detour facilities provided around "bike lane closed" signs? Are ramps to exit provisioned?		
Pedestrians: Including mobility scooters, wheelchairs, prams, blind people etc.		

Issue	Yes/No/ NA	Comment
Cyclists: <ul style="list-style-type: none"> • Consider impact for bike lane closed signs, and • Consider clear direction of cyclist expectation. • Have safe transitions between facilities and road been provided? 		
Is the path free of defects (for example, excessive roughness or rutting, potholes, loose material, dust, etc.) that could result in safety problems such as loss of steering control or visibility?		
Is the path free of areas where ponding or sheet flow of water may cause safety problems?		
Are facilities for wheelchair users in terms of width, ramp gradients and pavement surface provided past the worksite?		
Are all signs and devices placed, such that they do not adversely impact access to properties and other road users (pedestrians, cyclists and other vulnerable road users)?		
12. Road pavement		
Is the pavement free of defects (for example, excessive roughness or rutting, potholes, loose material, dust, etc.) that could result in safety problems such as loss of steering control or visibility?		
Is the pavement free of areas where ponding or sheet flow of water may cause safety problems?		
13. Occupational Safety and Health		
13.1 General		
Are the responsibilities in the TMP being adhered to?		
Are personnel wearing correct PPE when on site?		
Are start-up meetings being conducted each day and are staff aware of their responsibilities during each stage of the works?		
Are the risks of mobile plant and workers being managed?		
Are personnel following all other safety requirements?		
13.2 Accreditations		
Is there TMI available to manage variations, contingencies and emergencies, and to take overall responsibility for traffic management.		
Are staff managing the implementation of the plan appropriately accredited in TMI?		
Are the Traffic Controllers used on the worksite accredited, suitably attired and adhering to the traffic control handbook and other standards?		
Are staff operating TMAs appropriately accredited?		

Issue	Yes/No/ NA	Comment
14. Any other matter		
Have all other matters which may have a bearing on safety been addressed?		

Name	Position
Signature	Date

B.3 Form B3 – Worksite Traffic Management – Hierarchy of Safety Controls – Checklists

B.3.1 Using the Checklist

The Checklist commencing on the following page may be used to apply the hierarchy of safety controls for worksite traffic management. It may be completed by the Road Infrastructure Manager to determine the practicability or otherwise of a road closure, and to document the WorkSafe test of practicability i.e. why this option should be excluded from permitted options at time of tender.

It will also document reasons why the proposed controls were selected and if applicable other controls justified as not reasonably practicable for the location. Use of the checklist can demonstrate compliance with the relevant WHS Construction Regulations.

Lower level 'behavioral controls' if necessary, should only be implemented combined with devices to reinforce speed compliance. Speed compliance is not a reliable control and an unsafe workplace may result if speed reduction is the only control measure deployed.

The following process steps are recommended to determine the highest controls practicable for the site traffic management. It takes into account our obligations to apply the highest control practicable for the protection of workers on site from traffic:

- **Step 1:** Obtain site details i.e. road type, road / lane widths, traffic volumes, road category, speed limit, roadside features, etc.
- **Step 2:** Complete Checklist Part A to identify physical and operational constraints to practicability. Commencing with the highest-level controls assess potential controls for physical and network constraints. Considerations include location, availability of control and suitability of alternative roads and their capacity to handle additional traffic.
- **Step 3:** Complete Checklist Part B Determine the controls practicable for the site. Document credible reasons why any higher-level controls are not considered practicable (if applicable). Document speed reinforcement controls to be deployed if level 6 to 10 are the only practicable controls for the site.
- **Step 4:** Design and specify Traffic Management Plan accordingly and compare with contractors' proposals (if different) and agree or disagree with plan proposed.

B.3.2 Form B3 – CHECKLIST PART A – Traffic Controls Assessment

Location (Address):	Duration of Works:	Poor Advance Site Distance to Worksite (<200m): Y / N
Road Category:	Time of Works: Day / Night / Day & Night	Predicted End of Queue Distance to Site (m):
Type of Works:	Normal Traffic Speed: 50 / 60 / 70 / 80 / 90 / 100 / 110	Excavations Adjacent to Worksite: Y / N
Clearance Between Workers & Traffic (m):	Reduced Traffic Speed: 40 / 50 / 60 / 70 / 80 / 90 / 100	Cyclists/Pedestrians Access Through Site: Y / N
Lane Width (Mm):	Daily Traffic Volume:	Initial Worksite Hazard Rating: High / Low

Hierarchy of Control (Commencing with Most Effective)	Physical & Operational Constraints to Practicability	Yes / No (If 'No' Provide Justification Details in Part B)
Is the worksite on road or within the 'adjacent' zone? If so the hierarchy of controls should be applied following the process below and documenting as applicable the reason why a higher control measure is not considered practicable.		
Positive Controls		
1. Road Closure (elimination)	Have all considerations for road closure been practicably assessed considering the physical and operational constraints developed in consultation with operations.	
2. Temporary safety Barriers Beside Road (Engineering)	Is the road of sufficient width to maintain existing number of traffic lanes? (At least 300mm barrier clearance to traffic, barrier width and expected deflection at impact adjusted for speed limit).	
	Will the works take longer than two weeks cumulatively? If so, barriers are justified for protection	
	Will works be static? If 'no' (frequently moving) barriers may not be practicable.	
3. Temporary Safety Barriers Long Term Lane Closure (Engineering)	Can the lane be closed long term without significant traffic congestion? I.e. Is the capacity of the other lanes adequate?	
	Can emergency lanes be occupied? I.e. suitable alternatives for breakdowns and emergency access?	
	Will remaining lanes provide adequate traffic capacity during peak periods?	
	Will works be static? If 'no' (frequently moving) barriers may not be practicable.	

Positive Controls		
4. Temporary Safety Barriers Short Term Lane Closure with Moveable Barriers (engineering)	Can the lane be closed off-peak in day? Consider both road capacity and duration of work.	
	Can the lane be closed off peak at night?	
	Can the barriers be readily moved longitudinally as necessary?	
	Will works be static? If 'no' (frequently moving) barriers may not be practicable.	
5. Crash Cushion Equipped Barrier/Shadow vehicle (TMA) (Engineering)	For work on or adjacent to lanes not protected by safety barriers can crash cushion equipped shadow vehicles be deployed equal to or greater than 80 km/h?	
	Can adjacent lane closure/s be implemented? If not a speed reduction to 40 km/h or less is justified.	
	Can a small work group or lane closure set-up and removal be protected by a TMA protected shadow vehicle?	
	Can the lane be closed off-peak in the day?	
	Can the lane be closed off-peak at night?	
	Can a temporary speed zone be implemented?	
6. Barrier/ Shadow Vehicle without Crash Cushion (Engineering)	Is the work to be conducted in a low speed environment < 60 km/h? Note TMAs generally apply equal to or greater than 80 km/h but could be applied with crash attenuation above 60 km/h on high speed roads.	
	Can the vehicle be placed off road and on traffic approach side of work area?	
	Can the vehicle be placed in a lane closure?	
	Without crash cushion the vehicle should not be occupied except during placement and on departure from site.	
Behavioural Controls		
7. Lane Closures Adjacent to Site or Working Lane to Provide Lateral Buffer Zones/Off Peak (Isolation)	Can lane closure adjacent to site or working lane be used to provide lateral buffer?	
	Does the speed clearance between traffic and workers provide a low risk worksite? 1 adjacent lane closure maximum speed 40 km/h, 2 adjacent lane closures maximum speed 60 km/h	
	Can the lane/s be closed off peak in the day?	
	Can the lanes/s be closed off-peak at night?	

8. Lane Closure & No Adjacent Lane Closure for Lateral Buffer Zone (Isolation)	Can working lane be closed?	
9. Police on Site (Administration/Behavioural)	Are the Police able to come on site? They are particularly helpful where speed compliance is a proven safety concern and workers are close to or on road.	
10. Speed Control Devices (Administration/Behavioural)	How can speeding be discouraged? i.e. Variable Message Signs, Speed Radar trailers, additional signs etc. document what additional devices will be used on next page.	
	Can Temporary Road Humps be used in adjacent lane to work area?	
11. Next Generation Practices and Devices (Administration/Behavioural)	Can Rumble Strips be used?	
	Can Speed Limits be Progressively Reduced (e.g. 100-80-60-40 km/h)?	
	Can Portable traffic lights and automatic flagger assistance devices be used?	
	Can the Taper Area, Shoulder and Closed Lanes be kept clear? Shoulder lanes are often used by cyclists.	
	Night Works - Can Balloon Lights for worksite lighting to reduce glare be used?	
12. Road Safety Camera on Site (Administration/Behavioural)	Have all other controls been deployed and speeding is still of concern?	
	Has a request been made to the Department of Justice for a road safety camera?	
13. Traffic Delineators/Separators (Administration/Behavioural)	Can Traffic Delineators be used to guide road users safely past the worksite?	
14. Compliance	Is traffic management fully compliant with AS1742.3 and AGTTM	

B.3.3 Form B3 – CHECKLIST PART B - Justification for Control Selection

If Controls 1 – 6 are not considered practicable for the location provide justification details below:

1. Road Closure	
2. Temporary Safety Barriers Beside Road	
3. Temporary Safety Barriers Long Term Lane Closure	
4. Temporary Safety Barriers Short Term Lane Closure with Moveable Barriers.	
5. Crash Cushion Equipped Barrier/ Shadow Vehicle (TMA)	
6. Barrier/Shadow Vehicle Without Crash Cushion	
Other	

IF SPEEDING IS COMPROMISING WORKSITE SAFETY WHAT TYPE OF SPEED CONTROL DEVICES WILL BE PROVIDED BY CONTRACTOR TO REINFORCE SPEED LIMITS?

B.3.4 Form B3 – CHECKLIST PART C – Additional Site-Specific Safety Hazard / Risk Factors

In addition to the need to select the highest level of traffic management safety for a worksite via the hierarchy of controls there will be additional site safety hazards specific to the location which will need to be identified and controlled. The following checklist identifies some of these hazards; it is not to be taken as an exhaustive list.

Safety Hazard / Risk Factors	Present at Worksite	Risk Control Measure/s
High Volume of Traffic (hazard increases due to traffic exposure)		
Speeding Traffic through worksite – heavy vehicles past barriers.		
Poor advance sight distance to worksite (< 200 metres)		
End of queue build-up of traffic / Poor sight distance to end-of queue		
Works vehicles entering / leaving worksite		
Vehicles entering or exiting residences through safety barriers.		
Cyclists / pedestrians through worksite.		
Deep excavations adjacent to road > 500mm.		
Presence of unprotected hazards within the clear zone (materials, plant, structures, un-protected barrier ends, etc.)		
Rough or unsealed road surfaces		
Poor observance of directions / instructions by motorists		
Wet Ground Conditions in soft grass Shoulder areas.		
Dry Grass Shoulder in Fire Danger Period/ Bush Fire Risk.		
Other		

HIERARCHY OF SAFETY CONTROL PROPOSAL SUBMITTED WITH TMP

SUBMITTED BY (Please Print)CONTACT PHONE NUMBER

SIGNATURE DATE

RIM AGREEMENT TO THE CONTROLS AS PART OF THE TRAFFIC MANAGEMENT PLAN BEFORE WORKS COMMENCE

AGREED BY (Please Print)CONTACT PHONE NUMBER

SIGNATURE DATE

B.4 Form B4 – TMP Daily Traffic Management Diary

Location: _____	Client: _____	Date: _____								
TMP/TGS No: _____	Weather Conditions: _____	Diary Sheet: _____ of _____								
Start Time at Depot: _____	Time Arrive Onsite: _____	Commencement of Site Setup: _____ Site Setup and Operational: _____								
Site Pulled Down at: _____	Time After signs setup: _____	TGS No: _____ Time left site: _____ Finish time at Depot: _____								
<input type="checkbox"/> Day Works	<input type="checkbox"/> Night Works	<input type="checkbox"/> Emergency Response								
Site Setup as per TGS <input type="checkbox"/> Yes <input type="checkbox"/> No (if not comment on next page)										
<input type="checkbox"/> Attendance at Pre-Start Meeting										
Did an incident occur (if yes complete incident report form) <input type="checkbox"/> Yes <input type="checkbox"/> No										
I confirm that the above times of 'setup' and 'pulldown' of traffic management signs and devices are a true and correct										
Name (Site Supervisor): _____	Signed: _____									
Drive Through Checks (Checks must be conducted at least every hour).										
Time of check entered. Rule off and leave blank if the check does not apply to the site. Make a note of any issues on the next page.										
Traffic Management Site Checks	1	2	3	4	5	6	7	8	9	10
Time										
Are signs upright, clean, visible, level & stable?										
Are taper lengths correct?										
Are speed limit signs correct and doubled up?										
Are sign spacings correct?										

Traffic Management Site Checks	1	2	3	4	5	6	7	8	9	10
Are cone/bollard alignments straight & spaced correctly?										
Are devices operating correctly?										
Are cyclists and other vulnerable user controls working correctly?										
Are lane widths adequate?										
Are vehicle queue lengths acceptable?										
Is road surface condition adequate?										
Is the work area clearly defined?										
Are the travel paths for both directions of traffic clearly defined? Is the work area appropriately separated from passing traffic? Check the transition at the interface of the modified alignment.										
Do the temporary works involve shoulder or traffic lane closures? If so are the taper lengths adequate?										
Are traffic cones, bollards upright, secure, correctly spaced and neatly aligned?										
Are centre lines/lane lines/edge lines clear and unambiguous?										
Are sight and stopping distances adequate at works, at intersections and driveways?										
Are traffic lanes clearly delineated?										
Are lighting for night-time controls operating correctly?										
Are low lights controls operational and adequate?										

No. of TTM Vehicles Onsite: _____ No. of TTM Personnel Onsite: _____

TTM Personnel Names & Accreditations:

Name	Accreditation Details (tick)				Time of Break from Stop/Slow (Traffic controllers must have a 15-minute break every two hours of constant stop/slow operation)							
	TC	TMI	TMD	TMA	On	Off	On	Off	On	Off	On	Off
					:	:	:	:	:	:	:	:
					:	:	:	:	:	:	:	:
					:	:	:	:	:	:	:	:
					:	:	:	:	:	:	:	:
					:	:	:	:	:	:	:	:
					:	:	:	:	:	:	:	:

Additional Comments _____

I confirm that the details contained herein are true and correct

Name: (TTM Leader): _____ Signed: _____

B.5 Form B.5 – Traffic Management Plan (TMP) – Long Form

Organisations TMP Reference	TMP Reference	Contractor (Working Space)		Principal (<i>Client</i>)			
		Contractor (TTM)		RIM: Signature			
Location Details and Road Details Characteristics	Road Names and Suburb			House no./RPs (from and to)	Road Category	Permanent Speed	
Traffic Details (Main Route)	AADT			Peak Flows			
Description of Work Activity							
Planned Work Programme							
Start Date		Time		End Date		Time	
Consider significant stages. For example: • Road Closures • Detours • No activity periods							
Alternative dates id activity delayed							
Road aspects affected (<i>delete either Yes or No to show which aspects are affected</i>)							
Pedestrians affected?	Yes No	Property access affected?	Yes No	Traffic lanes affected?	Yes No		
Cyclists affected?	Yes No	Restricted parking affected?	Yes No	Delays or queuing likely?	Yes No		

Proposed TTM methods	
Installation <i>(includes parking of plant and materials storage)</i>	
Attended (Day)	
Attended (Night)	
Unattended (Day)	
Unattended (Night)	
Detour Route	
	<p>Does detour route go into another RIM's roading network? Yes No</p> <p>If Yes, has confirmation of acceptance been requested from that RIM? Yes No</p> <p>Note: Confirmation of acceptance from affected RIM must be submitted prior to occupying the site.</p>
Removal	

Proposed TSLs (see TSL decision matrix for guidance)				
	TSL details as required Approval of Temporary Speed Limits (TSL) <i>(List speed, length and location)</i>	Times (From and to)	Dates (Start and finish)	Diagram ref. no's <i>(Layout drawings or traffic management diagrams)</i>
Attended Day/Night	A temporary maximum speed limit of km/h is hereby fixed for motor vehicles travelling over the length of m situated between (House no./RP) and House no./RP) on (street or road name)			
Unattended Day/Night	A temporary maximum speed limit of km/h is hereby fixed for motor vehicles travelling over the length of m situated between (House no./RP) and (House no./RP) on (street or road name)			
TSL Duration	Will the TSL be required for longer than six months? <i>If yes, attach the completed checklist from [reference]</i>	Yes No		
Positive Traffic Management Measures				
Contingency Plans				
Generic contingencies for: <ul style="list-style-type: none"> Major incidents Incidents Pre-planned detours. <i>Remove any options which do not apply to your job</i>	Major Incident A major incident is described as: <ul style="list-style-type: none"> Fatality or notifiable injury - real or potential Significant property damage, or Emergency services (police, fire, etc) require access or control of the site. 	Actions The TMI must immediately conduct the following: <ul style="list-style-type: none"> Stop all activity and traffic movement Secure the site to prevent (further) injury or damage Contact the appropriate emergency authorities Render first aid if competent and able to do so Notify the RIM representative and / or the engineer Under the guidance of the officer in charge of the site, reduce effects of TTM on the road or remove the activity if safe to do so Re-establish TTM and traffic movements when advised by emergency authorities that it is safe to do so Comply with any obligation to notify WorkSafe. 		
	Incident An incident is described as: <ul style="list-style-type: none"> Excessive delays - real or potential Minor or non-injury accident that has the potential to affect traffic flow Structural failure of the road.	Actions <ul style="list-style-type: none"> Stop all activity and traffic movement if required Secure the site to prevent the prospect of injury or further damage Notify the RIM representative and / or the engineer TMI to implement a plan to safely remove TTM and to establish normal traffic flow if safe to do so Re-establish TTM and traffic movements when it is safe to do so and when traffic volumes have reduced.		

	<p>Detour</p> <p>If because of the on-site activity it will not be possible to remove or reduce the effects of TTM once it is established a detour route must be designed. This is likely for:</p> <ul style="list-style-type: none"> • Excessive delays when using an alternating flow design for TTM • Redirecting one direction of flow and / or • Total road closure and redirection of traffic until such time that traffic volumes reduce, and tailbacks have been cleared. <p>The risks in the type of work being undertaken, the risks inherent in the detour, the probable duration of closure and availability and suitability of detour routes need to be considered.</p> <p>The detour and route must be designed including:</p> <ul style="list-style-type: none"> • Pre- approval from the RIM whose roads will be used or affected by the detour route. • Ensure that TTM equipment for the detour - signs etc are on site and pre-installed. 	<p>Actions</p> <p>When it is necessary to implement the pre-planned detour the TMI must immediately undertake the following:</p> <ul style="list-style-type: none"> • Notify the RIM and / or the engineer when the detour is to be established • Drive through the detour in both directions to check that it is stable and safe • Remove the detour as soon as it practicable and safe to do so and the traffic volumes have reduced, and tailbacks have cleared • Notify the RIM and / or the engineer when the detour has been disestablished and normal traffic flows have resumed.
	<p>Note also the requirements for no interference at an accident scene:</p> <p>In the event of an accident involving serious harm the TMI must ensure that nothing, including TTM equipment, is removed or disturbed and any wreckage article or thing must not be disturbed or interfered with, except to:</p> <ul style="list-style-type: none"> • Save a life of, prevent harm to or relieve the suffering of any person, or • Make the site safe or to minimise the risk of a further accident, or • Maintain the access of the general public to an essential service or utility, or • Prevent serious damage to or serious loss of property, or • Follow the direction of a constable acting in his or her duties or act with the permission of an inspector 	
<p>Other contingencies to be identified by the applicant</p> <p><i>(i.e. steel plates to quickly cover excavations)</i></p>		

Authorisations				
Parking restriction(s) alteration authority	Will controlled street parking be affected?	Yes No	Has approval been granted?	Yes No
Authorisation to work at permanent traffic signal sites	Will portable traffic signals be used, or permanent traffic signals be changed?	Yes No	Has approval been granted?	Yes No
Road closure authorisation(s)	Will full carriageway closure continue for more than 5 minutes (or other RIM stipulated time)?	Yes No	Has approval been granted?	Yes No
Bus stop relocation(s) – closure(s)	Will bus stop(s) be obstructed by the activity?	Yes No	Has approval been granted?	Yes No
Authorisation to use portable traffic signals	Make, model and description/number			
	Product compliant?	Yes	No (delete either Yes or No)	
Design Exception (DE)				
Is an DE applicable?	Yes No <i>(delete either Yes or No)</i>	DE attached?	Yes	
Delay calculations/trial plan to determine potential extent of delays				
Public notification plan				
Public notification plan attached?	Yes No (delete either Yes or No)			
On-site monitoring plan				
Attended <i>(day and/or night)</i>				
Unattended <i>(day and/or night)</i>				
Method for recording daily site TTM activity				

Site safety measures						
Other information						
Site specific layout diagrams						
Number				Title		
Contact details						
	Name	24/7 Contact Number	ID	Qualification	Expiry Date	
Principal						
TMD						
Engineers' Representative						
Contractor						
TMI						
TC						
Others as required						
TMP Preparation						
Preparation						
	Name (TMD qualified)	Date	Signature	ID no.	Qualification	Expiry Date
This TMP meets AGTTM requirements						
Number of diagrams attached						
TMP returned for correction <i>(if required)</i>						
	Name	Date	Signature	ID no.	Qualification	Expiry Date

TMD to complete following section when approval or acceptance required						
Approved by TMD (delete one)						
	Name	Date	Signature	ID no.	Qualification	Expiry Date
Acceptance by TMD						
	Name	Date	Signature	ID no.	Qualification	Expiry Date
Qualifier for engineer or TMI approval						
<p>Approval of this TMP authorises the use of any regulatory signs included in the TMP or attached traffic management diagrams. This TMP is approved on the following basis:</p> <ol style="list-style-type: none"> 1. To the best of the approving TMD's judgment this TMP conforms to the requirements of AGTTM. 2. This plan is approved on the basis that the activity, the location and the road environment have been correctly represented by the applicant. Any inaccuracy in the portrayal of this information is the responsibility of the applicant. 3. The TMP provides so far as is reasonably practicable, a safe and fit for purpose TTM system. 4. The TMI for the activity is reminded that it is the TMI's duty to postpone, cancel or modify operations due to the adverse traffic, weather or other conditions that affect the safety of this site. 						
Notification to TMI prior to occupying worksite/Notification completed						
Type of notification to TMI required		Notification completed	Date			
			Time			

B.6 Form B.6 – Design Exception

Basic description of the activity associated with DE			
Location detail and scheduled dates			
Location	This DE relates to TTM activities at:	Dates:	From:
			To:
It is proposed to vary the requirements of AGTTM.			
WHAT the problem is: (a) describe the road environment constraint, (b) state AGTTM requirements for the proposed activity.			
a. The road environment constraint			
b. AGTTM requirements for the proposed activity			
WHY AGTTM compliant TTM should not/cannot be installed.			
HOW will safety be ensured?			
This DE must be attached to the TMP. Any generic DEs must be forwarded to the RIM			
DE – Proposal			
Signed for and behalf of:			
	<i>Insert contractor's name</i>		
Signed by:			
	<i>Name</i>	<i>Designation</i>	<i>ID number</i>
	<i>Signature</i>	<i>Date</i>	
DE – Approved by			
Signed for and behalf of:			
	<i>Insert RIM name</i>		
Signed by:			
	<i>Name</i>	<i>Designation</i>	<i>ID number</i>
	<i>Signature</i>	<i>Date</i>	

B.7 Form B.7 – Example of Site Condition Rating (SCR) Form – Compliance Inspection

Site condition rating (SCR)

Full audit - site condition	<p>The SCR evaluates temporary traffic management (TTM) compliance with the minimum requirements of the AGTTM.</p> <p>Each element of non-compliance is given a value that reflects its importance in terms of TTM at the worksite and is tallied to give the SCR.</p>								
	<p>SCR categories</p> <table border="1" data-bbox="536 566 1425 685"> <tr> <td data-bbox="536 566 754 618">0 - 10</td> <td data-bbox="754 566 975 618">11 - 25</td> <td data-bbox="975 566 1201 618">26 - 50</td> <td data-bbox="1201 566 1425 618">51+</td> </tr> <tr> <td data-bbox="536 618 754 685">High standard</td> <td data-bbox="754 618 975 685">Acceptable</td> <td data-bbox="975 618 1201 685">Needs improvement</td> <td data-bbox="1201 618 1425 685">Dangerous</td> </tr> </table>	0 - 10	11 - 25	26 - 50	51+	High standard	Acceptable	Needs improvement	Dangerous
0 - 10	11 - 25	26 - 50	51+						
High standard	Acceptable	Needs improvement	Dangerous						
	<p>A notice of non-conformance may be issued when the worksite is rated dangerous.</p>								
Short compliance inspection - site condition	<p>The SCR evaluates TTM compliance with the minimum requirements of the AGTTM.</p> <p>Short inspection ratings are as follows:</p> <ul style="list-style-type: none"> • Acceptable • Needs improvement • Dangerous. <p>If an item is rated dangerous it must be rectified at once.</p> <p>If there are one or more dangerous ratings the auditor must consider issuing a notice of non-conformance.</p> <p>In the case of issuing a notice of non-conformance, the inspector must either provide a detailed report, and if possible, photographs, or an SCR using the full audit.</p>								
Sighting traffic management plans (TMPs)	<p>At attended worksites the TMP is sighted to ensure:</p> <ul style="list-style-type: none"> • that the worksite layout complies with the approved TMP (including any design exception (DEs) approved for the worksite) • that the plan, which may include an DE, is appropriate to the actual situation. <p>For unattended worksites the auditor must request and sight the TMP if the SCR is within the Needs improvement or Dangerous categories.</p> <p>Where the approved TMP varies from the AGTTM and an DE has been approved, the SCR should be reworked to reflect the worksite's compliance with the approved TMP and the DE.</p>								

Site Condition Rating (SCR) Form- Compliance Inspection									
Inspector									
Phone		Location							
Name		Activity					Level of TTM		
Qualification Reg. No.		RIM		Client			Date/Time		
Audit SCR	0-10 High	11-26 Acceptable		26-60 Needs Improvement			61+ Dangerous		
Result (SCR)		TMP Sighted	Yes No		TMP appropriate to site		Yes No		
Action Taken									
Contractor									
Name				Phone					
Qualification Reg. No.				TMI/TMD					

Signs	Points	Tally	Total
Missing (including side road and TSL)	6 for each sign		
Spacing (too close/far)	2 for each sign		
Not visible	3 for each sign		
Wrong sign	6 for each sign		
Condition marginal	1 for each sign		
Condition unacceptable	4 for each sign		
Permanent signs not covered	2 for each sign		
Unapproved signs used too small	4 for each sign		
Sign obstructing road/path	3 for non-conformance		
Sign on wrong side	2 for each sign		
Sign too low	1 for each sign		
Speed limit not correctly aligned	2 for each occasion		
Sign not upright	1 for each sign		

Misc	Points	Tally	Total
Working in live lanes	20 for each occasion		
Flashing beacons not used/not complaint	1 for each vehicle		
High visibility garment not worn or acceptable	6 for each individual		
Parking/stopping features not relocated (where required)	6 for each occasion		
Unsafe / illegal parking of plants/equipment	20 for each occasion		
Surface condition unsafe	30 for each occasion		
Safety buffer insufficient	20 for each safety zone compromised		
Excavation not protected	10 if excavation protection not acceptable		
VMS message is incorrect	10 for each occasion		
Barrier defects	20 for each barrier defect		
Adequate Lighting	10 for conformance		

Non-compliant support	2 for each support		
Lateral location wrong	1 for each occasion		
Subtotal			

No qualified person on attended site	Non-conformance		
Inadequate property access made when entrance blocked	20 if no arrangement		
Inadequate provision for pedestrians	10 where inadequate provision made		
Inadequate provision for cyclists	10 where inadequate provision made		
Inadequate provision for vulnerable road users	10 where inadequate provision made		
Subtotal			

Delineation	Points	Tally	Total
Missing (including chicane when required)	30 for each occasion		
Lateral shift tapers too short	6 for each occasion		
Merge taper too short	20 for each occasion		
Inadequate spacing between multiple tapers	6 for each occasion		
Delineation spacing in tapers exceed tolerance	3 for each occasion		
Delineation spacing in lanes exceed tolerance	2 for each occasion		
Condition marginal	1 for each device		
Condition unacceptable	6 for each occasion		
Non-approved device	4 for each non-approved device		
Road marking incorrect	30 where not adjusted at long term sites		
Inadequate site access	10 for each occasion		
Subtotal			

Mobile Operations	Points	Tally	Total
Tail vehicle omitted	30 for missing or incorrect location		
Lead pilot vehicle omitted	20 for missing or incorrect location		
Shadow vehicle omitted	20 for missing or incorrect location		
Signs omitted	6 for missing or incorrect signs		
TMA missing or non-compliant	20 for each occasion		
VMS / Arrow board missing	20 for each occasion		
VMS / Arrow board message	20 for no or incorrect message		
Subtotal			

Total for each section = SITE CONDITION RATING			
Site Induction	6 Bonus points deducted from total if induction is carried out		
OVERALL SITE CONDITION RATING			

Inspection Comments:

A large, empty rectangular box with a black border, intended for recording inspection comments.

B.8 Form B.8 – Example of Site Condition Rating (SCR) Form – Compliance Inspection – Short Form

Site Condition Rating (SCR) Form- Short Form						
Street name		RIM Permit Reference		Attended / Unattended		
Number (from/to)		Principal				
Employer of site		Inspection commences	am / pm	Date		
Rating	A= Acceptable		NI= Needs Improvement		D= Dangerous	
Summary of Standing		A	NI	D	Action Needed	
1. Responsible party	Employer at attended site? Name: Registration no.:					
2. TMP	On site? Appropriate to situation?					
3. High visibility garments	Worn by all? Done up? Condition acceptable?					
4. Signs	All necessary signs present? Correct positions? Stabilised against wind? Conflicting signs covered? Signs in good condition? Other:					
5. Delineation	Protects working space/other features? Taper lengths compliant? Correct spacing of cones? Sufficient positive traffic controls? Other:					
6. Pedestrian needs	Footpath widths ok? Safe passage for pedestrians? Surfaces/ramps ok? Other:					
7. Cyclist needs	Cyclist widths ok? Safe passage for cyclists? Surfaces and ramps ok? Other:					

Summary of Standing		A	NI	D	Action Needed
8. Traffic needs	Lane widths ok? Speed limit appropriate? No significant delays? Surfaces ok? Lighting ok? Other:				
9. Property access	Property access ok?				
10. Site scores	Number in each rating	A	NI	D	
Action agreed by TMI/TMD					

Inspector Name:	Number:	Signature:
Number:		

Employer	Signature:
-----------------	-------------------

CONTRACTOR COPY- Hand to contractor once inspection has been completed

Inspection finished: am/pm

B.8.1 Examples of ratings (short audit)

ASPECT	A = Acceptable (Standard met)	NI = Needs improvement (Moderate risk)	D = Dangerous (High risk)
1. Responsible party	<ul style="list-style-type: none"> TMI is at attended site 	<ul style="list-style-type: none"> TMI arrives after allowed time limit 	<ul style="list-style-type: none"> No TMI at attended site No TMI responsible for the site
2. TMP (only for attended sites)	<ul style="list-style-type: none"> TMP on site, and Appropriate to the situation 	<ul style="list-style-type: none"> TMP on site Appropriate to the situation There are some safety issues 	<ul style="list-style-type: none"> TMP not on site TMP not appropriate to situation
3. High-visibility garment	<ul style="list-style-type: none"> Worn by all Done up Condition acceptable 	<ul style="list-style-type: none"> Worn by all, and Garments done up Condition of garments marginal 	<ul style="list-style-type: none"> Not everyone wearing Some garments not done up Garments have unacceptable condition
4. Signs	<ul style="list-style-type: none"> All necessary signs present Correct order and distances Conflicting signs covered 	<ul style="list-style-type: none"> Some signs are either missing, of poor quality, or inadequate distance and visibility, but An adequate message given to motorists Some conflicting signs not covered Some signs not well supported 	<ul style="list-style-type: none"> Some signs are either missing, not visible or conflict with other signs, or blown over Motorists are not reasonably warned; causing a hazard to road users
5. Delineation	<ul style="list-style-type: none"> Protects working space/other features Taper lengths compliant Spacings of cones close enough Sufficient positive traffic control 	<ul style="list-style-type: none"> Protects working space/other features but could be better Taper lengths should be longer Cone spacings need to be reduced Insufficient positive traffic control 	<ul style="list-style-type: none"> Does not protect working space/other features Does not provide sufficient positive traffic control
6. Pedestrian needs	<ul style="list-style-type: none"> Footpath widths OK Surfaces and ramps in place Appropriate protection provided 	<ul style="list-style-type: none"> Safe passage for pedestrians but footpath width could be greater, ramps and surfaces could be better, entry point could be more obvious 	<ul style="list-style-type: none"> Insufficient footpath widths No safe passage for pedestrians, Surfaces not suitable for pedestrians Pedestrians forced onto road close to fast traffic or past a dangerous site without sufficient protection Pedestrians not using option provided Surfaces and ramps not suitable for pedestrians
7. Cyclist needs	<ul style="list-style-type: none"> Cycle widths OK Surfaces OK Safe passage provided 	<ul style="list-style-type: none"> Safe passage provided for cyclists, but <ul style="list-style-type: none"> Widths need to be greater Surfaces need to be better Signage more appropriate 	<ul style="list-style-type: none"> Cycle widths not acceptable No safe passage for cyclists provided Surfaces not suitable for cyclists, No positive traffic management to enable cyclists to merge

ASPECT	A = Acceptable (Standard met)	NI = Needs improvement (Moderate risk)	D = Dangerous (High risk)
8. Traffic needs	<ul style="list-style-type: none"> • Sufficient lane widths OK • Speed limit appropriate • No significant delays • Surfaces OK 	<ul style="list-style-type: none"> • Lane widths not narrow enough for positive traffic management needs • Too narrow and causing a nuisance • Some unnecessary delays • Surfaces rough and uneven 	<ul style="list-style-type: none"> • Lane widths causing hazard by failing to positively control traffic, • Speed limit not appropriate to site • Surfaces unacceptably rough
9. Property access	<ul style="list-style-type: none"> • Occupants well catered for and informed 	<ul style="list-style-type: none"> • Some minor access difficulties 	<ul style="list-style-type: none"> • Serious access difficulties
10 Lighting	<ul style="list-style-type: none"> • Sufficient lighting 	<ul style="list-style-type: none"> • Glare, lacking lighting 	<ul style="list-style-type: none"> • No lighting

B.9 Form B.9 – Example of Notice of Non-Conformance

Notice of Non-Conformance			
Date of inspection		Time	
Inspected by		of	
Contractor		Contract/consent number	
TMI/Responsible parties:			
This notice is to inform you that the temporary traffic management at the following worksite is not in accordance with accepted traffic management practices:			
Roads:			
Location:	RS:	RP:	
This notice of non-conformance is issued in respect of the following temporary traffic management defects <i>(delete those that do not apply)</i> :			
<ul style="list-style-type: none"> • TMI nominated in TMP not on worksite • Copy of signed and approved TMP not on worksite • Safety inspection of temporary traffic management site condition rating 'dangerous' • Temporary traffic management not in accordance with the AGTTM • Inappropriate or excessive TSL 			
The details of non-conforming temporary traffic management are:			
The actions required to be implemented are:			
Notice handed / mailed / faxed (delete those that do not apply) to on at Note: For attended sites, notification must be given to the site TMI before inspector leaves the worksite			
Signed:		Received:	
Inspector:		Contractor:	

B.10 Form B.10 – Example of Notification of Road Closure/Lane Closure

Notification of Road Closure/Lane Closure of State Highways/Local Authority Roads				
RIM		Road/State highway		
Locality				RP
Closed at	am / pm	Date		
Reason (add Yes as appropriate)				
Snow	Drop out	Vehicle blockage/crash	Planned closure	
Ice	Wash out	Toxic spill		
Slip	Flooding	Fatal crash		
Other:				
Estimated duration closure (add Yes as appropriate)				
<2 hours		<12 hours		
<6 hours		>12 hours (see below)		
Closed by (add Yes as appropriate)				
Police		Fire Service		
RIM		Other		
Alternative route/s available and conditions that apply				
Reporting officer				
For closures >12 hours AND crashes/spills				
Open at:	am / pm	Date:		
Remaining restrictions:	No / Yes (specify):			
Work outstanding:	No / Yes (specify):			
Reporting officer:	Lane km closed: (divided carriageways only)			
Head Office use only: cc				
HCM	CE	File		

B.11 Form B.11 – Report on Incident at Roadworks Site

Reporting company reference:		AGTTM.Incident reference:			
Reference added by reporting company		Reference added by the AGTTM.Incident database administrator			
Report on Incident at Roadworks Site					
Send to: RIM in charge of the network					
Date of incident				Time of incident	
Reported by				Company	
TMI name				TMI No.	
Contractor / TTM Company				Contact number	
Road location (include direction and lane)					
Description of work being undertaken					
Incident type	Near miss	Vehicle entered TTM	Vehicle entered working space	TMA hit	Other
Operation type	Static	Mobile	Semi-static	Shoulder	Unattended
Phase of operation	Install		Static, mobile, semi-static		Removal
Damage to	Vehicles		Plant		TTM equipment
Injuries	Number of people in each injury category	<i>Enter the number of people in each injury category</i>		Minor	Notifiable
		Road workers			
		Road users			
Crash type				Road user vehicle	Vehicle type
					Reg. number
If TMA hit, which TMA				Which lane	
Police attended	<i>(Officer name/number)</i>			Further information	<i>For a more detailed internal report (contact)</i>
Description of events					

Crash diagram (or scan and attach) - photos can also be attached

A large grid of graph paper, consisting of 20 columns and 30 rows of small squares, intended for drawing a crash diagram. The grid is empty and occupies the majority of the page below the header.

B.12 Form B.12 – Newspaper Advertisement Standard

Advert format to be as follows:

Width: Double column

On top: Road Infrastructure Manager logo

Title: Brief description of the activity

Wording '(RIM) wishes to advise that, weather permitting, (if appropriate) the (local description of affected

road including start and finish points if necessary) will be closed between the hours of
(time format to be 9.00 am) and

(time format to be 7.00 pm) on

(date format to be 11 April 2012) for (brief description of activity).

Where activity could be delayed the following provision may also be added:

However if (give reasons for possible delay) prevents activity at these times, the activity will be carried out on the next available day/night (give alternative dates and times as detailed above) road users are requested to follow the sign posted detours whilst the closure is in operation.

(RIM) regrets any inconvenience caused.

(Name of RIM representative)'

Appendix C Sample Temporary Traffic Management Specification Template Local Government Roads

C.1 Specification

C.1.1 Location and description of work

The Works to be executed under this specification consists of all work necessary to provide for the safe movement of traffic and the protection of personal and property through and/or around the work sites within the City/Town when requested by the City/Town.

Actual locations will be as directed by the Superintendent at varying notice periods before the work is required to be undertaken at each job site. The works at each job site (other than traffic control services) will be carried out by the City/Town's work force; other contractors engaged by the City/Town or Utility authorities.

C.1.2 Extent of work

Works under this Contract comprise the supply of labour, materials and plant for the provision of traffic control services which shall be carried out in their entirety in strict accordance with and to the true intent and purpose of, the Conditions of Contract, these Technical Specifications, under the supervision of the Superintendent.

C.1.3 Setting out the works

The Superintendent will provide details of the area and extent of the works to be undertaken where traffic control services will be required. The details will be provided on site or indicated on drawings provided. The contractor will be responsible for the setting out works of the required traffic guidance scheme

C.1.4 Scope of work

The purpose of this Contract is to establish a relationship between the Principal and Contractor to provide traffic management services within the City/Town.

This work includes, but is not limited to, the supply, installation, maintenance and removal of temporary traffic control devices, traffic controllers, signposting, lights, barriers and any other items required for satisfactory traffic management services.

With regard to design, for minimum requirements the Contractor should comply with State Road Authority guidelines, which require either a single traffic controller or a pair of traffic controllers, depending on the physical length of the project. For more complex projects, the City/Town will provide a Traffic Management Plan.

C.1.5 Traffic guidance scheme (TGS)

When the Superintendent requests of the Contractor to establish a traffic guidance scheme, the following principles shall apply:

- a. Any Traffic Management Plan or Traffic Control Diagram must be prepared and signed by a person qualified in Advanced Worksite Traffic Management to State Road Authority requirements or a Road Works Traffic Manager for Traffic Management Plans defined as complex in the State Road Authority [reference].

- b. The Contractor shall design the Traffic Guidance Scheme with the least possible obstruction to traffic and shall undertake a risk analysis of the proposed Scheme to ensure that undue risks (e.g. detours via uncontrolled intersections) are managed.
- c. The Contractor shall submit, for the Superintendent's approval, a Traffic Management Plan in accordance with the Austroads Guide to Temporary Traffic Management (AGTTM), AS 1742.3 and jurisdictional requirements.
- d. Where practicable, the minimum clearance requirements, sign spacing, and taper lengths shall be as specified in AS1742.3. However due to the built-up nature of the City/Town, at times such spacing will not be achievable. In any situation where the specified distances or clearances cannot be attained, the maximum possible distances and clearances shall be adopted. (see (e) below)
- e. When variations from the requirements of AGTTM or AS1742.3 are made, notation as to the reason for the variation shall be made on the Traffic Management Plan.
- f. The Traffic Guidance Scheme shall be implemented in accordance with the approved Traffic Management Plan, except that when site conditions require alteration to the approved plan, the alterations shall be noted on the plan by a person accredited in Traffic Management Design.
- g. Special consideration to the safety of pedestrians and cyclists shall be given in the preparation of the traffic guidance scheme. Particular care shall be taken when requiring reversal of traffic flows or the separation of unidirectional flow by medians or other physical separation. In high pedestrian or cyclist use areas, traffic controllers shall be stationed at crossing points to warn pedestrians of the reversed traffic flows.
- h. A copy of the approved Traffic Management Plan shall be kept on site at all times and used to check the arrangement and maintenance of traffic control devices.
- i. All traffic controllers are to adhere to the requirements of the AGTTM, AS1742.3 and jurisdictional documents in terms of modes of operation, high visibility clothing and visibility at night works.

C.1.6 Record keeping and audit requirements

The Contractor shall submit for the approval of the Superintendent an Audit sheet and system which shall be used by the contractor to record details of all activities and inspections undertaken on each Traffic Guidance Scheme, and once approved, the Contractor will undertake regular audits of each and every Traffic Guidance Scheme and shall submit the Audit sheets and Traffic Management Plans including details of any variations to the plan made during the course of the works to the Superintendent at the completion of each Traffic Guidance Scheme that has been installed. The Audit sheets must be submitted to the Principal within 24 hours of completion of the Works.

The Contractor is to maintain a records system to traffic control undertaken for the City/Town for at least seven (7) years.

C.1.7 Emergency and public transport vehicles

The Contractor shall inform all emergency services when a Traffic Guidance Scheme will involve road closures or long delays are expected, as well as [bus authority] when works involve disruption to bus services.

The Contractor will give assistance to emergency vehicles and buses to ensure they pass through the work site with minimum possible delays.

C.1.8 Numbers of traffic controllers

In addition to the requirements of the Australian Standards and AGTTM listed in this request, a traffic controller shall remain at the head of traffic queue while it is halted. If there is the possibility of approaching vehicles colliding with the end of the queue because of restricted sight distance, or of drivers queue jumping because they cannot see the traffic controller at the front of the queue, then an additional traffic controller shall be placed at the end of the queue.

The number of Traffic Controllers required for each Traffic Guidance Scheme shall be agreed with the Superintendent prior to the commencement of each Traffic Guidance Scheme. The number of Traffic Controllers to set up and maintain the Traffic Guidance Scheme need not be constant for each day or part of a day, and the Superintendent may direct that additional Controllers be made available during set up, take down or for short term traffic direction during the course of the day.

C.1.9 Traffic management plans

For more complex projects, the City/Town will provide a Traffic Management Plan in accordance with the Australian Standards listed in this request, and jurisdiction [reference].

The Traffic Management Plan shall include as a minimum:

- a. Job Location and Commencement dates of the Works to be undertaken by the Contractor.
- b. Details of arrangements for construction under traffic in accordance with the Australian Standards listed in this request:
- c. A Traffic Control Diagram showing:
 - i. location, size and legend of all temporary signs,
 - ii. temporary portable regulatory signs and temporary portable speed zones,
 - iii. All traffic control devices such as, but not limited to, temporary traffic signals, line marking, pavement reflectors, guideposts, guard fence and barrier boards.

The Contractor will be required to sign off on the Traffic Management Plan and shall include the names of proposed traffic controllers. Each must comply with the Australian Standards listed in this request and HB81 (Set): 2003.

A copy of the agreed Traffic Management Plan shall be kept on site at all times and used to check the arrangement and maintenance of traffic control devices.

Any change to the Traffic Management Plan must be approved by the Principal prior to the change being implemented.

C.1.10 Arrangement of traffic control devices

The arrangement and placement of traffic control devices shall be carried out in accordance with the approved Traffic Management Plan, Australian Standards and State Road Authority [reference].

All temporary traffic control devices when no longer required shall be covered and/or removed without delay in order to maintain unambiguous safe guidance to traffic. All permanent traffic and parking signs that conflict with the traffic control shall be covered for the duration of the conflict only.

C.1.11 Adequate traffic control devices

Where the Contractor fails to provide and maintain adequate traffic control devices specified in this Specification, the Principal may arrange to have such items provided and maintained by others and/or suspend work until adequate traffic control devices have been provided for by the Contractor.

The cost of providing and maintaining adequate traffic control devices arranged by the Principal shall be borne by the Contractor and the cost deducted from payments made by the City/Town.

C.1.12 Opening completed work

The Contractor shall be responsible for the removal of all temporary traffic control devices and supports / anchors / sandbags / star pickets etc. no longer required for the safety of traffic, when the Works or part thereof are opened to traffic.

C.1.13 Use of 40km/h speed zoning

Contractors are reminded that the use of the 40km/h speed zone is to be applied when workers are on foot and within 1.2m of moving traffic as per Section 4.2 of AS1742.3, and that the maximum length of 40km/h speed zoning is 500m. The 40km/h zone shall only be applied when the conditions mandate or a risk assessment shows that the speed restriction is justified.

C.1.14 Flashing arrow signs

Flashing arrow signs shall be provided when required or requested and comply with the requirements of AS/NZS 4192. Payment for the additional flashing arrows will be made under a separate item in the Schedule of Rates. All flashing arrow signs shall be installed in accordance with AS 1742.3.

C.1.15 Message boards

Where required, variable message boards may be used. The use of variable message boards shall be approved by the Superintendent. Payment for variable message boards will be made under a separate item in the Schedule of Rates.

C.1.16 Water filled delineators and crash barriers

Where water filled barriers are required to provide separation of vehicles and the worksite in cases where minimum clearance requirements cannot be met, barriers shall conform to the requirements of AS/NZS 3845: 1999. Payment will be made under a separate item in the Schedule of Rates.

C.1.17 Barrier boards

Barrier boards shall comply with the requirements of AS 1742.3.

Retro reflective sheeting on the rails shall be in accordance with AS/NZS 1906.1.

Trestles supporting the barrier boards may be manufactured of timber, metal or other suitable material and shall be yellow. The trestles shall provide firm supports for the barrier board and be kept in place by concrete blocks, sandbags or other devices. The bases of the trestles shall not protrude beyond the ends of the boards.

Barrier boards or trestles shall enable mounting of traffic warning lamps.

C.1.18 Cones and bollards

Traffic cones and bollards shall comply with the requirements of AS 1742.3 and be placed in accordance with the arrangement diagrams in [reference].

Unless cones are firmly fixed in position they shall be used only while work is in progress, or in locations where there is an employee in attendance who shall reinstate any of the cones which have been dislodged by traffic. Otherwise they shall be removed, and bollards or barriers substituted.

Cones and bollards used under night conditions shall be reflectorized in accordance with AS 1742.3.

C.1.19 Traffic signals

Traffic signals may be either portable or temporary as shown in AS 1742.3.

i. PORTABLE TRAFFIC SIGNALS

Portable traffic signals may be used for shuttle control where a single lane has to be used alternately by traffic from opposite directions or at road crossings or intersections. They are intended for relatively short-term applications.

Where the Contractor proposes to use portable traffic signals they shall be in accordance with AS 4191.

ii. TEMPORARY FIXED TRAFFIC SIGNALS

Temporary fixed traffic signals may be used in accordance with AS 1742.3 for longer term shuttle operations or for non-shuttle control of intersecting traffic flows.

Where the Contractor proposes to use temporary fixed traffic signals they shall be designed and installed in accordance with AS 1742.14.

Payment will be made under a separate item in the Schedule of Rates.

C.1.20 Devices to be safely supported

All signs and devices shall be supported on legs or stands designed to collapse on impact. Steel star pickets or fences constructed of steel tubing shall not be used.

C.1.21 Permanent traffic signals

Where works involve lane closures or cause delays at permanent traffic signal sites, the traffic controller shall maintain contact with the State Authority traffic signal control room and arrange adjustment to phase times to minimise delays.

C.1.22 Alternative duties

When Traffic Controllers are required to set up, maintain and take down a Traffic Guidance Scheme, but the Traffic Controllers are not required to specifically direct traffic during the course of works, then the Traffic Controller may be requested to undertake other minor duties within their capability to assist the work crew. Any Traffic Controller supplied to the City/Town shall be available to assist works crews with minor tasks such as lifting, shovelling or holding string lines, tapes or survey staffs.

C.1.23 Control of worksites

Traffic control is provided to allow specific works to be undertaken. The control of any worksite shall be at the discretion of Principal, and the requirements of the works may conflict with the requirements of the AGTTM and AS1742.3.

Where this occurs, it is the City/Town's representative who will assess the risks involved and advise of the course of action. A traffic controller may express their concern, giving reasons for their concern, but the final decision will rest with the City/Town's representative, and the traffic controllers will follow the City/Town's direction.

However, where a traffic controller is of the opinion that this decision impacts on their own personal safety, then they have the right to refuse the direction, and must contact the Contractors manager to attend the site within two (2) hours to resolve the situation.

C.1.24 Compliance with standards, handbooks and guides

Subject to any contrary provision in the Contract Details, a Service or Product supplied by the Contractor must comply with the following standards, handbooks, and Guides including any revisions and amendments:

AGTTM	Austrroads Guide to Temporary Traffic Management
AS 1742.3	Manual of uniform traffic control devices - Traffic control devices for works on roads
AS 1742.14	Manual of uniform traffic control devices - Traffic signals
AS 1743	Road signs - Specifications
AS 1744	Standard alphabets for road signs
AS/NZS 1906.1:1993	Retro reflective materials and devices for road traffic control purposes - Retro reflective materials
AS1906.2-1981	Retro reflective materials and devices for road traffic control purposes - Retro reflective devices (non-pavement application)
AS 1906.3-1992:	Retro reflective materials and devices for road traffic control purposes - Raised pavement markers (retro reflective and non-retro reflective)
AS/NZS 1906.4:1997:	Retro reflective materials and devices for road traffic control purposes - High visibility materials for safety garments
AS/NZS 4602:1999	High visibility safety garments
AS/NZS 3845:1999	Road safety barrier systems
AS 4191:1994	Portable traffic signal systems
AS/NZS 4192:1994	Illuminated flashing arrow signs

State Road Authority [reference] refers to the latest revision, including any applicable amendments, of the documents in the following list:

- Traffic Management for Works on Roads – [reference]
- Traffic Management for Events – [reference]
- Road works Traffic Managers – [reference]
- Traffic Management Plan Preparation – Guidelines and Examples [reference]
- Traffic Controllers' Handbook [reference]
- Guidelines on the provisions for all path users at roadwork sites in built up areas
- The variations to requirements of AS 1742.3 included in these specifications shall apply
- Guidelines for Temporary Speed Humps at Works Sites.

C.1.25 Safety

The contractor will inform itself of all occupational safety and health policies, procedures or measures implemented or adopted by Council and will comply with any and all directions by Council relating to occupational safety and health.

All drivers and operators shall comply with the requirements of the Occupational Safety and Health Act [reference] and the Occupational Safety and Health Regulations [reference].

Drivers or operators are required to be in possession of a "Worksafe Construction Safety Awareness Training Card".

The Contractor shall ensure all of the drivers and or operators are appropriately trained, are supplied with and use all relevant safety equipment that conforms to the current Australian Standard. The following Personal Safety Equipment is required at all times or as appropriate:

- Steel capped/Composite toed safety boots at all times
- Appropriate work wear
- Hearing protection where appropriate
- Eye protection where appropriate
- High visibility clothing or vest at all times.

Appendix D Sample Temporary Traffic Management Specification Template State / Territory Government Roads

D.1 Scope

D.1.1 General

This Specification sets out the requirements for the management of traffic passing through, going around, and/or adjacent to the Site.

Its scope includes:

- a. measures for the safe movement of traffic
- b. use of Traffic Controllers to direct and control traffic
- c. design, construction, upgrading, maintenance and removal of any temporary roadways and detours
- d. provision of access to properties adjoining the Site
- e. protection of workers from passing traffic
- f. installation and removal of temporary safety barriers
- g. installation and removal of temporary signs, road markings and lighting.

D.1.2 Traffic management plan

The Contractor shall establish, implement and manage a Contract specific

1. Traffic Management Plan complying with:
 - a. the Contract
 - b. RIM's and/or Jurisdictional TTM requirements for Works at Road Sites
 - c. Austroads Guide to Temporary Traffic Management (AGTTM)
 - d. Australian Standard AS 1742.3
 - e. Relevant Workplace Health and Safety Act
 - f. Relevant Occupational Safety and Health Regulations
 - g. Relevant Road Traffic Regulations.
2. The Traffic Management Plan shall form part of the Contractor's WSH Management Plan and shall comply with the requirements of relevant RIMs' Specification.
3. The Traffic Management Plan shall also address the impact of each Traffic guidance scheme on traffic flow and movements on the road network including adjacent properties. The Contractor shall ensure that the road system, including the surrounding road network, continues to operate efficiently and any disruption to road users is minimised.

D.2 Temporary Traffic Management (TTM) Personnel

D.2.1 Authority to direct traffic

Authorisation is required through the relevant State or Territory Regulations for the appointment of Traffic Controllers solely for the purposes of the Contract to provide for the safe movement of traffic around, past or through the work site. Any such appointment must cease upon the completion of traffic control work under the Contract, or the termination of the Contract, whichever is the earlier.

D.2.2 Traffic management implementer

Where specified nominate in the Contractor's Traffic Management Plan (TMP) a full-time member of the Contractor's site management team to be the Contractor's Traffic Manager Implementer (TMI).

The TMI must be qualified, as a minimum, in the Austroads prescribed course (i.e. hold current evidence of competencies) and have recent experience in traffic management on road construction sites of equivalent complexity to the current Contract. The TMI in charge is the Traffic Management Representative (TMR). For example, there may be many staff onsite with TMI accreditation, therefore the TMR is the TMI that is in charge.

Detail in the TMP the role and responsibilities of the TMI, which must include:

- a. ensuring that the approved traffic management measures are implemented and maintained in accordance with the approved plans
- b. carrying out regular inspections of the traffic control measures to ensure that they are effective
- c. amending and updating the plans, as required, to ensure that they remain current as the work progresses
- d. identifying situations where traffic congestion, or unsafe conditions for vehicles, cyclists, pedestrians and workers, are occurring and providing recommendations for improvement
- e. maintaining current copies of the Traffic Management Plan, Traffic Staging Plans, Traffic Guidance Schemes, Vehicle Movement Plans, Pedestrian Movement Plans, Lane Occupancy Licences and Speed Zone Authorisations, and their controlled distribution
- f. liaising with the Principal and other authorities such as Transport Management Centre (TMC), Police and local Councils on traffic management matters for the Site
- g. facilitating traffic awareness and giving toolbox talks to site personnel.

The TMI must have the authority to stop work on any activity if it is considered to be necessary to prevent traffic accidents, or to comply with the directions of the Principal, TMC or Police.

D.3 Planning and Design

D.3.1 General

The planning and design of a TMP includes the following requirements:

D.3.2 Hazard identification, risk assessment and control

- a. The Contractor shall prepare a Traffic Risk Assessment & Treatment Register for hazards associated with traffic including network traffic performance and road users.
- b. The Traffic Risk Assessment & Treatment Register shall be prepared by the TMD and form part of the Traffic Management Plan.

- c. The Contractor shall assess the likelihood and consequence of traffic hazards and the categorisation of each traffic risk occurring during the Works.
- d. The Contractor shall develop all traffic guidance schemes based on a maximum lane capacity as detailed in AGTTM unless the Contractor can demonstrate to the Superintendent's satisfaction alternative lane capacities that could be suitably applied to the section of the network that will be subject to the traffic guidance scheme.
- e. The Contractor shall detail and implement procedures that ensure traffic control measures are evaluated for effectiveness and modified to manage the hazard. The evaluation procedure shall detail the responsibilities, timelines and records that will be kept as part of the process.

D.3.3 Objective and targets

- a. The Contractor shall determine the Contract traffic management objectives and targets for the Contract and clearly detail these Contract objectives and targets in the Traffic Management Plan
- b. The Contractor shall detail the procedure that ensures the Contractor's Representative and the TMR regularly review the Contract performance against the prescribed traffic management objectives and targets.

D.3.4 Temporary speed zoning

If temporary speed zoning is available for implementation, the speed zoning and speed limit selection must comply with AGTTM.

D.3.5 Least possible disruption

Plan your (the Contractor's) work to cause the least possible disruption to the traffic flow. Obtain all necessary approvals from the relevant authorities for the temporary traffic arrangements as necessary.

Liaise with the Principal and other regulatory authorities when planning and implementing the Contractor's traffic management proposals.

D.3.6 Maintain access to adjoining properties and side roads

At all times, maintain safe access for vehicles, pedestrians and livestock to adjoining properties and side roads affected by the road construction.

Ensure proper planning includes issues affecting access to adjoining properties and use of side roads without providing an adequate alternative access, to the satisfaction of the Principal. This should be done and approved in advance to ensure no delays occur.

D.4 Road Occupancy Licence

D.4.1 Road occupancy licence application

When the Contractor's planned activity requires an existing road to be used in such a way that affects traffic flow, obtain a Road Occupancy Licence (ROL). This licence applies only to occupation of the road space and does not grant permission for or approval to the actual/physical work being undertaken.

Information on how to apply for a ROL is contained in the RIMs' Road Occupancy Manual.

Submit the Contractor's application for ROL to the relevant authority at least 10 working days prior to the planned commencement of the activity requiring the road occupancy. The activity must not commence until the ROL is obtained.

D.4.2 Road occupancy fees

Road Occupancy Fees for occupancy of the RIMs' roads may be payable under the Contract, notwithstanding anything to the contrary stated in the Road Occupancy Manual. Where such fees are applicable, it will be indicated in by the RIM, and their costs will be borne by the Contractor.

D.4.3 Licence conditions

The lane occupancy hours granted in the Contractor's ROL may be less than, and will override, the working hours stated in the Contract, for work that requires the lane occupancy. Manage the Contractor's work activities to comply at all times with the lane occupancy hours granted in the ROL.

Notwithstanding any ROL granted by the RIM for any lane or shoulder closure, co-operate with the RIM and other authorities, such as the Police or State Emergency Services, to facilitate traffic flows on the roadway through the Site. The Principal may at any time direct the Contractor to temporarily cease work and re-open any closed lane or shoulder.

Keep a copy of the ROL on site at all times when the licence is in operation.

D.5 Traffic Management Plan (TMP)

D.5.1 Plan submission

The TMP shall address all the work under the Contract and shall detail all procedures, processes, work practices and information required by the Contract.

The TMP shall be consistent with all requirements of the Contractor's WSH Management Plan.

At least 20 working days before the commencement of any activity which will affect traffic conditions on the Site, submit for the Principal's acceptance of the Contractor's Traffic Management Plan (TMP) for the Works.

The Principal should agree to a reduced lead time for submission of the TMP if the proposed traffic management measures do not require construction of temporary roadways and detours involving pavement or drainage works.

Hold point

Process Held: Any activity which will affect traffic conditions on the Site.

Submission Details: At least 20 working days prior to the proposed commencement date of any activity which will affect traffic conditions on the Site, or any shorter period agreed to by the Principal, submit the Contractor's Traffic Management Plan.

Release of Hold Point: The Principal will consider the submitted documents and resources proposed prior to authorising the release of the Hold Point.

If the Principal requests additional information or clarification, the 20 working days assessment period will again apply from the date of submission of the requested details.

The TGS and other documents making up the TMP may be submitted in stages in accordance with the requirements of the RIM for the staged submission of the PROJECT QUALITY PLAN.

D.5.2 Required elements

The TMP must include, as a minimum and where appropriate, the following elements:

- a. Details of any traffic staging arrangements associated with each proposed construction stage, including Traffic Staging Plans and the time periods during which each stage will be in operation.
- b. Traffic Guidance Schemes including provision for cyclists, and any specific traffic control arrangements associated with the conditions of approval of the ROL.
- c. Risk register, risk assessment and treatments.
- d. Traffic analysis including lane capacity, heavy vehicle requirements and public transport.
- e. Vehicle Movement Plans showing the preferred travel paths for vehicles to enter, leave or cross the through traffic stream.
- f. Pedestrian Movement Plans showing the allocated travel paths for workers or pedestrians around or through the work site.
- g. Provision of access to adjoining properties and side roads affected by the construction.
- h. Copies of any ROL and approvals from other relevant authorities obtained.
- i. Design drawings for any temporary roadways and detours, including alignment and surface levels, pavement widths, pavement cross-sections and drainage.
- j. Names and contact details of nominated personnel (including the TMI if applicable) responsible for attendance at traffic incidents where required to do so by the Police and emergency services, and for maintenance of traffic control devices and temporary roadways outside normal working hours. Provide confirmation that these details have been provided to the Police.

D.5.3 Plan preparation

The TMP and associated documentation must be prepared by person(s) suitably experienced in the design and implementation of traffic management plans of equivalent complexity to those required in the Contract and holding qualifications acceptable to the Principal, including as a minimum, a qualification in the RIMs' relevant "Design and Inspect Traffic Guidance Schemes" course.

Consult with all relevant stakeholders, including Councils and local bus companies, when preparing the TMP.

D.5.4 Contractor's responsibility

Acceptance of the TMP by the Principal does not relieve the Contractor of the Contractor's responsibility to implement an effective traffic guidance scheme, particularly in cases where a risk has not been previously identified or adequately mitigated in the Contractor's TMP.

Review the effectiveness of the TMP at least once a month, or more frequently if additional risk areas are encountered. Revise the TMP and implement more appropriate measures if the original traffic management practices prove not to be fully effective.

D.6 Traffic Staging Plans

D.6.1 General

If required, prepare Traffic Staging Plans to show how traffic will pass safely through the Site during the various construction stages. Traffic Staging Plans may be integrated with any Construction Staging Plans prepared by the Contractor.

D.6.2 Required details

The Traffic Staging Plans must show, for each stage, the following details:

- a. Lane configurations on existing and new (temporary and permanent) pavements, indicating any departures from existing traffic lanes.
- b. Intersection layouts and temporary traffic signals arrangements.
- c. Pedestrian and cyclist paths.
- d. Bus stop locations, where applicable.
- e. Work areas.
- f. Access to adjoining properties and side roads.
- g. Pavement markings.
- h. Drainage system, both temporary and permanent, including any pollution control measures.
- i. Utilities and their impact on the traffic staging.

If removal of pavement markings is required, the Traffic Staging Plans must provide details of the proposed methods for removal, the estimated durations to carry out the removal, and if necessary, any proposed measures to restore the road surface.

D.6.3 Safety barriers

Select safety barrier types and their end treatments in accordance with AGRD06 “Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers” and associated RIMs’ Supplement, giving due consideration to design traffic speed, angle of departure from the road, separation between work areas, pedestrians and through traffic plus dynamic clearance requirements.

The safety barrier products selected must be listed on the “Safety Barrier Products (Safety Barrier) accepted for use on Classified Roads in the State or Territory”.

Submit to the Principal a statement of the basis for the selection and locations of safety barrier systems and their end treatments.

Provide safety barriers along the top edge of batters, including part-width construction of permanent embankments and adjacent to excavations.

D.7 Traffic Guidance Schemes

D.7.1 Plan submission

If not previously submitted as part of the TMP or where a TMP is not required, at least 3 working days prior to its proposed use, submit for the Principal’s acceptance the Contractor’s Traffic Guidance Scheme (TGS) for the particular section of the Site.

If traffic staging is applicable, submit individual TGS for each traffic stage.

If lane occupancy is required, comply with the requirements of for obtaining the ROL.

Hold point

Process Held: Any activity which will affect traffic conditions on the Site.

Submission Details: If not previously submitted as part of the TMP or where a TMP is not required, at least 3 working days prior to its proposed use, submit the Contractor's Traffic Guidance Scheme comprising the details listed in (where applicable). Include the Vehicle Movement Plan and Pedestrian Movement Plan, and copies of any associated ROL obtained.

Release of Hold Point: The Principal will consider the submitted documents and resources proposed prior to authorising the release of the Hold Point.

If the Principal requests additional information or clarification, the 3 working days assessment period will again apply from the date of submission of the additional information.

D.7.2 Generic traffic guidance schemes

The Contractor may use generic TGS, with minor modifications where necessary to suit a specific work location, if they are appropriate. Follow the procedures (refer to AGTTM) set out in the TMI for the selection, approval and implementation of the standard TGS and keep records of the steps performed.

The selection and minor modification of a standard TGS to suit a specific work location must only be carried out by a person who is qualified in the relevant Austroads TMI training "course (i.e. holds a current evidence of competency).

D.7.3 Project specific traffic guidance schemes

Where specified or where standard TGS (including TGS with minor modifications) are not appropriate for the work being planned, draw up TGS specifically for the project. This work must only be carried out by a person qualified in the relevant Austroads training "Design and Inspect Traffic Guidance Schemes" course.

These project specific TGS must be drawn using computer aided drafting software and not by hand, unless approved otherwise by the Principal.

The chainages shown in the TGS must match those shown on the Drawings.

D.7.4 Required details

TGS must show, where applicable, the following details:

- a. Types and locations of permanent regulatory (R series) and warning (W series) signs.
- b. Types and locations of temporary signs (T series) including advance warning signs and variable message signs (VMS).
- c. Number of lanes and lane widths.
- d. Locations of permanent and temporary traffic signals.
- e. Locations of any required Traffic Controllers.
- f. Locations and lengths of taper and safety buffer areas.
- g. Locations of safety barrier systems including end terminals.
- h. Pedestrians and cyclists paths.
- i. Locations of entry and exit gates to work areas, individually numbered and signposted.

- j. Details of access to adjoining properties, car parking areas, and side roads.
- k. Pavement marking details, including types of delineation required, turning arrows, stop/holding lines and other road markings, types and positions of raised pavement markers and other delineation devices.
- l. Locations of temporary lighting.

Include a statement with each TGS describing the circumstances for which the TGS is applicable.

D.8 Vehicle Movement Plans and Pedestrian Movement Plans

D.8.1 Vehicle movement plans

Where applicable, submit together with the Contractor's TGS, Vehicle Movement Plans (VMP) showing the preferred travel paths for the Contractor's work vehicles entering, leaving or crossing the through traffic stream.

Show on the VMP the vehicle entry and exit points into the work areas and indicate clearly that these are the only points where interface with the through traffic is permitted.

A VMP may be combined with or superimposed on a TGS.

D.8.2 Pedestrian movement plans

Where applicable, submit together with the Contractor's TGS, a Pedestrian Movement Plans (PMP) showing the allocated travel paths for workers or pedestrians around or through the Site, including all signs and devices used to guide the workers or pedestrians. This should include, where applicable, the needs of people with disabilities, children and cyclists.

D.9 Road Safety Audit of TMPs

If specified prior to its initial implementation and whenever significant changes are made to the TMP, carry out a road safety audit of the TMP in accordance with the Road Safety publication "Guidelines for Road Safety Audit Practices" and AGRS06 "Austroads Guide to Road Safety Part 6: Road Safety Audit".

The audit team carrying out the audit must comprise, as a minimum, a lead - accredited Senior Road Safety Auditor and a second team member - minimum of an accredited Road Safety Auditor or higher, both of whom must be listed on the State or Territory for Road Safety's Register of Road Safety Auditors.

Submit to the Principal, within 5 working days of the audit, a copy of the road safety audit report, including details of any corrective actions arising from the audit findings, and any subsequent correspondence between the Contractor and the road safety audit team.

The Principal shall reserve the right to conduct second party audits on the Contractor and any of the Contractor's sub-contractors and suppliers.

Although "Guidelines for Road Safety Audit Practices" and "Austroads Guide to Road Safety Part 6: Road Safety Audit" call for the auditors to be independent of the project, there is benefit in reduced conflict of interest by having the auditors independent of the Contractor's company, too. To further reduce the potential conflict of interest and improve the quality of the audit the Principal must be given the opportunity with appropriate notice to have a staff member be included as part of the audit team.

D.10 Traffic Management Risk Assessment Workshop

D.10.1 General

If specified undertake a Traffic Management Risk Assessment Workshop to identify and address the risks associated with traffic management, road safety and other road network issues specific to the Site.

D.10.2 Content of workshop

The content of the workshop will be specific for each Contract. Suggested areas for examination include:

- a. Contract requirements relating to traffic management.
- b. Traffic Management Plan.
- c. Planning for traffic switches.
- d. Safety barriers systems.
- e. Delineation, signage and guidance to motorists.
- f. Road safety auditing.
- g. Knowledge requirements, and training required to rectify any deficiencies.

D.10.3 Participants

Participants must include the Contractor's site management staff, the Contractor's traffic management designer, personnel involved in preparing the Contractor's TMP, any other personnel involved in reviewing/road safety auditing of the TMP, and Police and local Council representatives, as appropriate. Invite the Principal to attend the Workshop.

D.10.4 Close out identified risk issues

Record the risk issues identified at the Workshop and close them out when finalising the Contractor's Traffic Management Plan and Traffic Staging Plans.

D.11 Temporary Roadways and Detours

D.11.1 Construction of temporary roadways and detours

Construct the temporary roadways and detours in accordance with the Contractor's approved temporary roadway design drawings, and the relevant State or Territory Specifications for the particular roadworks element.

This includes modification and strengthening of existing pavement and road shoulders, where they are unlikely to be able to support the new traffic loadings.

D.11.2 Opening temporary roadways and detours to traffic

Complete all ancillary work before opening

Complete all required installation of pavement markings, retroreflective raised pavement markers, signposting, safety barriers and portable or temporary traffic signals, before opening the temporary roadways to traffic.

Inspection of TGS Implementation

Prior to opening the temporary roadways to traffic, have a person who is qualified in the “Design and Inspect Traffic Guidance Schemes” course carry out an inspection to verify that the pavement markings, road signs and other traffic control devices have been installed in accordance with the TGS.

Hold point

Process Held: Implementation of traffic switch or opening of temporary roadway and detour to traffic.

Submission Details: At least one day prior to the intended date of opening the temporary roadways to traffic, notify the Principal in writing that the traffic control measures are conforming and ready for inspection by the Principal.

Release of Hold Point: The Principal will undertake a joint inspection with the Contractor of the temporary roadway and detour, prior to authorising the release of the Hold Point.

If either the Contractor’s inspection or the Principal’s inspection identifies a need for adjustments to any signs or traffic control devices, or the provision of additional signs or traffic control devices, amend the applicable TGS as needed, and implement the agreed changes. The Hold Point above will again apply.

Condition for traffic switches

Unless approved otherwise by the Principal, traffic may only be switched to a temporary roadway or detour where the Contractor’s usual workforce will be on site for a minimum of two successive days thereafter.

Disturbance of existing roadway after traffic switch

Unless approved otherwise by the Principal, do not disturb sections of existing roadway being replaced for at least two days after opening a temporary roadway or detour to traffic, to allow for the situation where failure of the temporary roadway or detour occurs and there is a need to redirect traffic back onto the existing roadway.

The need to redirect traffic back onto the existing roadway will be determined by the Principal, and any costs associated with the redirection of traffic back will be borne by the Contractor.

D.11.3 Road safety audit of temporary roadways or detours

If a road safety audit of the TMP has been undertaken, then within 24 hours of the traffic switch on to the temporary roadways or detours, carry out a road safety audit of the implemented traffic control measures at both daytime and night time.

Comply with the requirements for the carrying out of the road safety audit and the composition of the audit team.

If the measures implemented are found to be deficient, then based on the initial report submitted and in consultation with the audit team and the Principal, develop corrective actions and implement the revised measures without delay.

Submit a copy of the road safety audit report to the Principal within 5 working days of the audit. This report must include details of any corrective actions developed and implemented.

D.11.4 Removal of temporary roadways and detours

Upon completion of the Works, remove the temporary roadways and/or detour arrangements and restore the area to a condition equivalent to that which existed prior to the commencement of the work.

D.12 Traffic Control Devices

D.12.1 Safety barriers

General

Where identified in the Contractor's TGS for the work, provide safety barriers to protect the work areas and pedestrian areas from the traffic. The safety barriers used must be listed on the "Safety Barrier Products (Safety Barrier) accepted for use on Classified Roads in the State or Territory", available from: xxxx website

Erect the safety barriers in accordance with Specification and the Acceptance conditions for that safety barrier product.

Use of water filled plastic barriers

Water filled plastic barriers may be used at those locations that preclude the use of rigid barriers, such as at corners or intersections and any other locations approved by the Principal, provided that their use complies with the TMI and the Acceptance conditions for the safety barrier product.

Provide the manufacturer's recommended buffer zones on the approach side of water filled barriers.

Exclusion zone

Establish an exclusion zone behind barriers as required and do not permit construction work or pedestrian movement within the deflection or impact zone of safety barriers.

Do not use safety barriers for delineation

Do not use safety barriers or safety barrier systems for delineation as a substitute for linemarking.

D.12.2 Pavement markings and signs

Relevant standards

Install all pavement markings, retroreflective raised pavement markers and signposting proposed for use in the temporary works in accordance with the requirements of relevant Specifications.

Unless specified otherwise, use waterborne paint for pavement markings for temporary works.

Removal of redundant pavement markings

The method of removal of redundant pavement markings from wearing surfaces, other than final wearing surfaces, must comply with the requirements of relevant Specifications. Removal of redundant line-marking within traffic lanes by covering with paint is not acceptable.

Temporary speed zoning signs

Supply and erect temporary speed zoning signs at the locations indicated in the Contractor's TGS. Keep the signs covered when the speed zone is not in use. Remove the signs when the temporary speed zoning is no longer in force. Keep records of the times when the temporary speed zoning signs are in force.

D.12.3 Portable variable message signs

General

If specified or if required by the Contractor's TGS, place variable message signs (VMS) at prominent locations initially at each end of the Site, to keep road users informed of changes to road conditions and of possible delays as a result of construction work. Move the VMS to other locations as necessary during the progress of the Works.

The locations of the VMS must be approved by the Principal.

Type of VMS

The VMS must be portable, Type C size, and solar powered, complying with AS 4852.2.

Use of VMS

The messages displayed on the VMS must be approved by the Principal.

Use the VMS to publicise any pending changes in traffic arrangements for 5 days prior to those changes, and for changed traffic arrangements for 5 days after making those changes.

Keep the messages that are displayed on the VMS current over the duration of the Contract.

Secure and maintain VMS

Make secure the VMS and maintain the VMS by cleaning its perspex face and solar panels and checking the battery distilled water levels at least once a month.

D.12.4 Radar activated speed signs

General

If specified or if required by the Contractor's TGS, provide trailer mounted radar activated speed signs (RASS) for use during the construction period.

Locations

Locate the RASS in positions suitable for influencing the speed of motorists entering the reduced speed zone. The locations of the RASS and the message displayed must be as agreed with the Principal.

Calibration

Obtain calibration details from the RASS supplier(s) to confirm that each RASS is accurately calibrated within the manufacturer's specified tolerances. Periodically check each RASS for accuracy and carry out recalibration to within the manufacturer's specified tolerances promptly as needed.

Monitor effectiveness

Monitor the effectiveness of the speed limit reductions and furnish a detailed log of the speeds each week to the Principal.

D.12.5 Temporary traffic signals

If required by the Contractor's TGS, install portable traffic signals complying with the TMP or temporary fixed traffic signals complying with the relevant Traffic Signals Equipment Specification and associated Drawings.

D.13 Monitoring of Traffic Control Measures

As a minimum, check at the commencement and conclusion of each day's work that all required traffic control measures and signs are in place as shown on the TGS for each stage. Regular inspections shall be undertaken in accordance with AGTTM.

Keep records of the results of the inspection checks. Records shall be registered, ordered and retained on Site for the duration of the Contract. The Control of Records shall be in accordance with the Contractor's approved Quality Plan for the Contract and these procedures shall be supplemented with procedures that are OSH specific for Records and Records Management in accordance with AS/NZS 4801.

The person conducting this check must be qualified in the Austroads TMI course.

D.13.1 Communication

- Traffic management information shall be communicated to workers.
- The Contractor shall develop and detail procedures that ensure relevant requirements of the TGS and proposed traffic controls are advised to all affected personnel including the public, property owners and occupiers, businesses, local authorities, transport and government agencies and emergency services.

D.13.2 Emergency preparedness and response

- The Traffic Management Plan shall detail procedures that ensure access for emergency vehicles past or through the construction site shall be maintained at all times and that emergency vehicles are not unduly delayed.
- While the Contractor is working on site they shall render assistance in the event of a crash or vehicle breakdown.
- The Contractor shall document as part of the Traffic Management Plan the nominated key personnel for emergency situations with their contact details and the contact details of the emergency service providers and relevant RIM personnel.

D.13.3 Incident investigation, corrective and preventative action

- All traffic Incidents shall be reported and investigated.
- Incident Reports must be forwarded to the Superintendent within 48 hours of the Incident occurring or becoming apparent.
- The Traffic Management Plan shall detail the reporting and investigation procedures for Incident investigation. The procedures shall include the investigating officer responsible and the time limits imposed for reporting and investigating the Incident and to close-out the Incident in a timely manner to prevent a recurrence. Contingency plans shall be included in the TMP to preserve evidence at the worksite.
- The Superintendent may participate in or undertake an investigation into the Incident and the Contractor shall co-operate with and provide assistance to the investigation organised or undertaken by the Superintendent.
- In the event of a fatality or serious injury, arrangements shall be made for preserving the worksite of evidence of all aspects of the Incident. The site is not to be cleaned or tampered with (including all traffic management devices) and crash debris must be left in situ until police and/or Worksafe arrive. Therefore, additional or complete road closure may need to be applied.

D.14 Side-Tracks and Detours

- Side-tracks and detours for the purpose of moving traffic through or around the Works shall be designed, constructed and maintained in both wet and dry conditions.
- Temporary driving surfaces shall be maintained to a standard that permits safe and comfortable travel of all road users at the design speed of the side-track or detour. The Contractor shall ensure that the design of temporary driving surfaces shall, as far as practicable, address the environment and the road users.
- Temporary driving surfaces shall be sealed in accordance with and at those locations nominated in the contract.
- Where bituminous surfacing has not been specified as the temporary driving surface, the Contractor shall undertake and detail the hazard identification, risk assessment and controls for the alternative surfacing, ensuring all environmental issues and vehicle types, including motor cycles, caravans and out-of-dimension vehicles and cyclists have been taken into account as part of the risk assessment.
- The Contractor shall take appropriate action to eliminate dust raised from any temporary driving surface, when this dust constitutes an inconvenience or hazard to motorists or nearby residences. The Contractor shall undertake the minimum maintenance measures shown in the contract, inclusive of during stand-downs, weekends and holiday periods.
- Side-tracks, detours and temporary surfaces through or around work sites for shared paths, cycleways and footpaths shall be designed and constructed to ensure they meet the Standards detailed in Austroads Guidelines, AS 1742.3 and the AGTTM.
- Prior to opening a side-track to any road user, the Contractor shall issue a Certificate of Compliance certifying to the Superintendent that the side-track complies with all requirements of the Contract. HOLD POINT.

D.15 Opening to Traffic Upon Completion

Complete all relevant permanent signposting, pavement markings, safety barriers and traffic signals required under the Contract, prior to opening of the whole of the Works or any part of the Works to traffic.

Remove all temporary traffic control devices no longer required for the safety of traffic, when the whole of the Works or part of the Works are opened to traffic.

Give the Principal at least 10 working days written notice of the date of opening the whole of the Works or part of the Works to traffic. Determine the procedure for opening through consultation between the Contractor, the Principal and the Police.

Austrroads' Guide to Temporary Traffic Management (AGTTM) details contemporary temporary traffic management practice for application in Australia and New Zealand. It provides guidance for the planning, design and implementation of safe, economical and efficient temporary traffic management designs.

Guide to Temporary Traffic Management Part 8: Processes and Procedures details the processes and procedures relating to jurisdictional management of temporary traffic management at roadworks. It covers: categories of temporary traffic management; powers, roles and responsibilities; training; and standard forms and descriptions.

Guide to Temporary Traffic Management Part 8



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