Guide to Temporary Traffic Management Part 7
Traffic Controllers

Austroads

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Part 7: Traffic Controllers

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Guide to Temporary Traffic Management Part 7: Traffic Controllers

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Abstract

Austroads' 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 7 details contemporary traffic controller practices including information about training information, control instructions and devices.

Keywords

Temporary traffic management, road hierarchy, worksite, traffic control, risk assessment, safety

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Edition 1.1 contains additional information regarding the use of the Prepare to Stop sign, additional cones/bollards when the worksite has no line marking and correction to errors in some diagrams and figures.

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About Austroads

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

Austroads' 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.

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

Austroads is governed by a Board consisting of senior executive representatives from each of its eleven member organisations:

- Transport for NSW
- Department of Transport Victoria
- Queensland Department of Transport and Main Roads
- Main Roads Western Australia
- Department for Infrastructure and Transport South Australia
- Department of State Growth Tasmania
- Department of Infrastructure, Planning and Logistics Northern Territory
- Transport Canberra and City Services Directorate, Australian Capital Territory
- The Department of Infrastructure, Transport, Cities and Regional Development
- 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.

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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 7 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 7 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**

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Table 1.2: Parts of the Austroads Guide to Temporary Traffic Management

Part	Title	Content
Part 1	Introduction	• 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	• 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	• 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	• 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	• 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	• On site risk assessment • Installation and removal of TTM schemes • Operation and monitoring of TTM schemes • Record keeping
Part 7	**Traffic Controllers**	• **Training information** • **Instructions on practices** • **Control devices that can be used**
Part 8	Processes and Procedures	• Road network classification • Powers, roles and responsibilities • Training competencies • Forms and procedures • Model contract specification
Part 9	Sample Layouts	• 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	• Risk management processes • Review, inspection and road safety audit of worksites • Events • Emergency works

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1.3 Scope of Part 7

AGTTM Part 7 provides guidance primarily for traffic controllers on the control of traffic at road worksites using portable traffic control devices or through manual traffic control for temporary traffic management in accordance with Austroads best practice. It provides general information on the training required to undertake traffic control activities, instructions on how to undertake traffic control and the traffic control devices specifically for application in connection with traffic control activities. Refer to AGTTM Part 8 for detailed information regarding the training framework in temporary traffic management.

This part provides guidance on the design of a site for traffic control activities but does not describe the design of other elements of temporary traffic management at a road worksite. This guidance can be found in AGTTM Parts 3, 4 and 5.

Traffic control is typically a core element of temporary traffic management at road worksites with the core purpose of creating a safe workplace through either stopping all traffic for a period of time or allowing the workplace to be established within part of the existing roadway.

1.4 Application of Part 7 to New Zealand

AGTTM Part 7 describes the Traffic Controller role as currently in application in Australia. Within New Zealand, the role of Traffic Controller has a broader set of responsibilities which overlap with some roles of the Australian qualification for a Traffic Management Implementer.

AGTTM Part 7 remains applicable for New Zealand for the activities associated with manual control of traffic using Portable Traffic Control Devices such as portable traffic signals or boom barriers, or through the use of the STOP / GO bat. It does not discuss the other activities a Traffic Controller is authorised to undertake in New Zealand.

Readers in New Zealand should note the following in application of Part 7 of this Guide:

- Any reference in this Guide to the Australian STOP/SLOW bat should be replaced with the New Zealand STOP/GO bat.
- The signs and devices described in Section 2.6.3 are those used by Traffic Controllers in Australia and reference instead should be made to the New Zealand CoPTTM for the devices to be used.
- The site set up described in Section 2.7.3 is for application in Australia. Reference should also be made to the New Zealand CoPTTM for the site set up that applies.
- The sight distance and sign location described in Section 2.7.4 applies in New Zealand but figures showing signs and devices should be as per the New Zealand CoPTTM.
- The instructions for changing hand held STOP/SLOW Bat in Section 2.9.3 remain applicable but all references should be replaced with the STOP/GO Bat.

1.5 Definitions

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

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2. Traffic Controller Requirements

2.1 Introduction to Traffic Control

Road worksites are particularly hazardous in comparison to normal road operations. Traffic controllers protect road workers and as such, the training, skills and capability of traffic controllers are critical to the effective operation of worksites where they are used. Traffic controllers are used when signs and devices for roadworks are considered insufficient to provide traffic control for safety, public convenience and efficient job control and management. Traffic controllers have an important safety role on a worksite as well as being the front-line representative of their organisation and conducting an important public relations role when interacting with road users.

2.2 Authority and Accreditation

2.2.1 General

It is a mandatory requirement that any person who undertakes on-site traffic control tasks has successfully completed a traffic controller course provided by an accredited training provider.

Traffic controllers must always keep their traffic controller's ticket with them on their person indicating their accreditation details. Traffic controllers are not authorised to undertake any on-site traffic controlling tasks unless they hold a valid accreditation as a traffic controller at the time.

2.2.2 Authority of a traffic controller

Traffic controllers have the authority to:

- control traffic at road worksites where a road closure or partial road closure is necessary
- control traffic at other events where a road closure or partial road closure is necessary
- control traffic in other circumstances where traffic control is required on a roadway
- legally STOP / SLOW traffic where the traffic speed is previously reduced to 60 km/h or less
- report motorists who fail to follow reasonable directions to the supervisor or the Police
- implement signs and devices that are directly related to the traffic controller's operations.

2.2.3 Work health and safety

All traffic controllers must ensure they are familiar with relevant jurisdictional health and safety regulation, which sets out laws about the health and safety requirements affecting some work activities and specified high risk plant.

All traffic controllers share in the responsibility for the health and safety of all workers in the workplace while carrying out work activities or using specified high-risk plant.

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2.2.4 Supervising a traffic controller in training

A traffic controller in training is a person who has successfully completed the theory component of the approved training course prior to attending a worksite to obtain practical experience.

All approved traffic controller training courses require a traffic controller in training to gain practical experience in the workplace under the direction of a person who has achieved their traffic controller accreditation.

A traffic controller in training is only authorised to control traffic whilst under the direct and close supervision of a person who holds a current traffic controller accreditation (noting this may be a traffic controller or a registered training organisation (RTO)). The supervising traffic controller must intervene if the traffic controller in training has questions requiring immediate responses, or if other intervention is required.

The supervising traffic controller is responsible for:

- monitoring the competency of the traffic controller in training
- stepping in (or having someone on site who can step in immediately) to replace the traffic controller in training if the role is not being performed competently.

When conducting supervision of a traffic controller in training, the supervising traffic controller must not:

- devote attention to other tasks
- ask the traffic controller in training to do anything that is outside of the scope of the training agreement between the RTO and the worksite manager or between the RTO and the registered traffic management organisation.

When a traffic controller in training is acquiring experience or demonstrating competency in using the STOP / SLOW bat or portable traffic control devices (PTCD) in live traffic situations, the supervising traffic controller is required to be present (in close proximity) and be able to intervene if required.

2.3 Fitness for Duty

2.3.1 General

Traffic controllers must meet ongoing medical fitness standards as outlined in Sections 2.3.2 to 2.3.9 in order to fulfil their duties.

The onus is on the traffic controller to self-assess that they meet the medical fitness criteria throughout the period of accreditation. The traffic controller must continue to meet the required standards on an ongoing basis.

When applying for accreditation, the traffic controller must declare their suitability to perform the role. If there is doubt about the traffic controller's medical fitness, competence and/or suitability, the road authority can require the traffic controller to produce a medical certificate to support their application. If the traffic controller is already accredited, and information is received that the person is not medically fit, competent or suitable, the traffic controller can be asked to show cause as to why they should not lose the authority.

Traffic controllers are not allowed to perform any traffic controller functions or responsibilities whilst they are not fit for service.

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2.3.2 Eyesight

A traffic controller must:

- be able to provide information on vehicle colour, size and/or licence plate
- be able to read vehicle licence plate at a distance of up to 20 m on a clear day
- have judgement of speed and distance so that the traffic controller can decide when to exit the path of an oncoming vehicle that fails to stop or slow down as directed
- distinguish the STOP / SLOW bat at a distance of up to 250 m on a clear day.

The distance of 250 m is considered appropriate as it should cover the length of most shuttle flow traffic control sites and allows for ongoing communications between traffic controllers in the event of radio failure.

If any doubt exists regarding the visual ability of a traffic controller then the person must be sent for medical assessment.

If visual aid is required by the person to meet the above requirements, they must be worn at all times while performing traffic controller duties.

2.3.3 Hearing, speech and vision

A traffic controller must:

- be able to hear a supervisor's instructions, vehicle warning devices and emergency vehicle sirens above normal traffic noise
- be able to differentiate noises emanating from either side and behind the traffic controller
- have sufficient hearing and vocal skills to communicate with other traffic controllers and road workers directly and via portable communication equipment (such as two-way radio)
- wear any required hearing aids or glasses to meet the hearing and visibility standards for traffic controller scheme entry, whilst performing traffic control duties.

2.3.4 Mobility, endurance and concentration

A traffic controller must be capable of:

- quickly moving out of the path of an approaching vehicle that does not stop or slow down as directed
- giving approved traffic control signals whilst standing and holding a STOP / SLOW bat for periods of up to two continuous hours
- loading and unloading traffic signs and other equipment from traffic control vehicles and trailers
- setting up and removing temporary road signs
- concentrating and maintaining focus for entire work periods between rest breaks.

2.3.5 Learning, literacy and numeracy skills

A traffic controller must have an appropriate level of learning, literacy and numeracy skills sufficient to competently undertake the role (such as the ability to accurately interpret and report vehicle and road user information and to complete traffic incident reports).

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2.3.6 Character and suitability

A traffic controller must be of good character and be a suitable person to entrust to exercise their authority in a professional, responsible and safety conscious manner. Traffic controllers interact with emergency services, motorists and other road workers in dynamic and high-risk road environments. A traffic controller must be of suitable temperament and disposition to act appropriately and assertively in all circumstances.

If during the period of accreditation, the traffic controller is convicted of a potentially disqualifying offence, the traffic controller may be required to give written notice of the matter to the relevant authority representative within 14 days of the conviction occurring.

When applying the pre-requisite check, the following can be taken into account:

- nature of the offence/s
- the relevance of the offence/s to the role requirements
- when the offence/s occurred
- nature of the penalty applied.

The intention of the pre-requisite check is not to re-penalise the person, but instead to look objectively at the offence/s and the associated risk implications to the public of performing the required duties of a traffic controller.

At the time of publication of this Guide, the following are considered to be disqualifying offences that would generally make an applicant unsuitable for accreditation as a traffic controller:

- offences of a violent nature such as serious assault, rape, attempted homicide, homicide, manslaughter, burglary, and major drug offences
  - where convictions were recorded in a Magistrate's Court in the past five years, or
  - where convictions were recorded in a District Court or higher court in the past 10 years.
- offences such as fraud, assault, drug possession, theft, break and enter
  - where convictions were recorded in a Magistrate's Court or higher court within the past three years.

Any offences under the relevant jurisdictional legislation and regulation, can be considered by the relevant authority in making a decision regarding the person's suitability.

2.3.7 Site climatic conditions

Ensure preparation for duty considers extreme climactic conditions, whether cold or hot. Where heat or high humidity are likely to be factors at the site, it is recommended the traffic controller takes care of themselves to ensure adequate hydration, and that cooling packs or other thermoregulation devices may be prepared in advance of the shift. It is recommended the traffic controller have adequate fluids and refreshments on hand at the site. It is suggested that the garments worn during hot days are to allow maximum air flow, be of light weight and be able to accommodate a cooling pack harness if needed. Wear garments that adhere to the requirements outlined in Section 2.5.

It is recommended that traffic controllers have appropriate garments on hand at the site to accommodate changing environmental conditions (such as rain) during the course of the shift. Any clothing worn for wet weather cannot obscure the high visibility garments required to ensure the visibility of the traffic controller to road users.

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2.3.8 Fatigue and hydration

Traffic controllers are only authorised to perform traffic control duties if they continue to meet the physical and medical pre-requisites for accreditation and are not suffering from fatigue that could impair their ability to perform their duties.

The traffic controller must not attempt to perform traffic control duties while suffering fatigue associated with heat exhaustion or other causes. Management of fatigue also includes consideration of time travelling to and from the worksite.

Management of fatigue and work arrangements (number of shifts, breaks between shifts, travel to and from sites) should be in accordance with the relevant jurisdictional legislation.

2.3.9 Drugs and alcohol

Traffic controllers must not perform their duties while adversely affected by drugs or other medication causing functional impairment. A traffic controller must operate at the highest professional standards and:

- maintain a “zero percent” blood/alcohol concentration while performing traffic control duties
- not perform traffic control duties while adversely affected by illegal drugs
- not perform traffic control duties while adversely affected by other medication causing impairment.

Some companies may subject traffic controllers to regular drug and alcohol testing.

2.4 Traffic Controller’s Responsibilities

2.4.1 General

Traffic controllers are only allowed to perform duties that fall within the boundaries of their functions and responsibilities. It is therefore imperative that traffic controllers familiarise themselves with the functions and responsibilities of a traffic controller before undertaking any on-site traffic controlling tasks.

2.4.2 Functions of a traffic controller

For the purposes of this Guide, traffic control functions include the following activities carried out by the traffic controller at a road worksite, a planned event, or road closure:

- controlling traffic using PTCD
- STOP / SLOW traffic control duties on a roadway
- supervision of traffic controllers in training in accordance with relevant jurisdictional requirements
- communication and reporting of incidents whilst at the road worksite
- monitoring of queue length
- guiding traffic through intersections as required.

2.4.3 Responsibilities of a traffic controller

Traffic controllers are responsible for the following duties:

- their own safety
- safety of fellow workers

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- safety of motorists and road users
- enabling works at the site to be conducted safely by minimising the risk associated with traffic movement
- notify if any faulty equipment is being used
- remaining at their station at all times unless directed by the supervisor to leave or if relieved by another traffic controller
- controlling traffic to enable motorists and road users to negotiate around, through or past the worksite safely
- dealing with motorists and other road users professionally
- respond to instructions for traffic control in emergencies and other difficult situations
- monitor and report on delays to traffic
- supervising traffic controllers in training, as required
- reporting incidents and near misses
- install and remove signs that are required for traffic controllers.

2.4.4 Communicating effectively

Traffic controllers are required to be polite and courteous at all times when interacting with other road users as part of their duties. Traffic controllers must also give definite and clear signals whilst performing their duties.

2.4.5 Behaviour and attitude

Whilst interacting with other road users traffic controllers must:

- remember traffic controllers are a front-line representative of the organisation
- be polite and brief if asked a question or if giving verbal directions
- make accurate statements
- avoid using jargon
- never get involved in arguments
- never swear or use abusive language
- never let themselves be provoked.

2.4.6 Give definite and clear signals

All directions must be given with:

- the hand-held STOP / SLOW bat
- positive hand signals (see Section 2.9.3)
- confidence (knowing what you are doing)
- eye contact (when possible)
- a neat and tidy appearance
- do not appear bored, lazy or uninterested.

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2.4.7 Breaks from traffic controller duties

Where having to stand at a station continuously for more than two hours, traffic controllers must be relieved from their duty after not more than 2 hours for a period of rest or “other duties” of at least 15 minutes.

“Other duties” does not include operation of a STOP / SLOW bat or manual PTCD to control traffic or any duties involving:

- standing still in one position, or controlling traffic with a traffic control device
- continuing to control traffic in a similar manner to operating the STOP / SLOW bat (e.g. be the lead traffic controller at an intersection under control and be instructing the other traffic controllers when to send/hold).

The intent of a break is to ensure a:

- physical break from operating the STOP / SLOW bat (not from all traffic control duties)
- mental break from perpetual STOP / SLOW activity (particularly in multi traffic control, heavy traffic volume situation), to reduce the likelihood of traffic controller error.

Longer rest/meal breaks will be dealt with in accordance with relevant industry awards, industrial agreements and WHS legislation.

2.5 What to Wear

2.5.1 General

This Guide provides flexibility by giving traffic controllers a range of clothing options to achieve a high visibility outcome and assist in ensuring safety of the traffic controller on a worksite. It is recommended clothing be chosen to achieve a high level of comfort for the traffic controller, taking into account environmental factors and specific worksite requirements.

In all cases personal safety of the traffic controller at the site must be the highest priority consideration.

Specified traffic controller clothing is intended to signify a person on site performing specific traffic controller duties and functions and must be in compliance with AS/NZS 4602.1. Traffic controller specific garments must be worn when performing traffic controller STOP / SLOW duties or while supervising a traffic controller in training, as the supervisor may be required to step in to perform duties.

Traffic controllers are required to have headwear appropriate to climactic conditions (e.g. wide-brimmed hats for sun protection, hard hats near construction or beanies in cold weather).

In cold weather, the use of garments such as jackets must not obscure a traffic controller vest required for identification.

The specified traffic controller clothing is also applicable to a traffic controller in training who is allocated to the worksite to undertake the practical component of their accreditation training course.

2.5.2 Clothing to comply with standards

All clothing and accessories worn by traffic controllers must be clean, in good order and not be faded. Where this Guide refers to an Australian/New Zealand Standard, the latest edition will apply. Therefore, where compliance to an Australian/New Zealand Standard is required, traffic controllers must wear clothing and materials that conform to the latest edition of that Australian/New Zealand Standard.

The relevant Australian and New Zealand Standards are summarised in Table 2.1.

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Table 2.1: Australia and New Zealand Clothing Standards

AS/NZ Reference	Description
AS/NZS 1906.4	• Retro-reflective materials and devices for road traffic control purposes • Part 4: High-visibility materials for safety garments
AS/NZS 2210	• Safety, protective and occupational footwear
AS/NZS 4602.1	• High visibility safety garments • Part 1: Garments for high risk applications

Summarised in Table 2.2, AS/NZS 1906.4 provides classification for high visibility materials according to their day or night-time application.

Table 2.2: Classification of visibility materials (AS/NZS 1906.4)

Classification	Description
Class F	• High daytime visibility fluorescent material
Class F (W)	• High daytime visibility fluorescent material that has met both the requirements for Class F material and an optional wet weather test
Class R	• Retro-reflective material for use on garments used in dark conditions
Class RF	• Combined performance retro-reflective/fluorescent material meeting all of the requirements of Class R and the daytime colour of Class F
Class NF	• High daytime visibility non-fluorescent material

Monitoring of traffic controller safety attire by site supervisors and employers

Traffic controller employers and site supervisors have an obligation to monitor traffic control stations closely to ensure that the traffic controllers at the site are adequately attired and equipped for the prevailing climatic and site conditions.

Traffic controllers must be made aware of any hazardous road surfacing operations at the site, so that traffic control stations are not placed nearby. Accordingly, this Guide does not provide any suitable clothing options for performing STOP / SLOW traffic control duties in close proximity to hot asphalt operations.

No traffic controller must be placed in an unsafe situation because of inadequate preparation. For example, a traffic controller removing their high visibility safety garment in order to achieve the comfort needed to continue to perform STOP / SLOW duties on a very hot day.

2.6 What to Use

2.6.1 General

Traffic controllers may only use equipment specified in this Guide to direct or divert traffic through a designated worksite. Therefore, it is imperative that traffic controllers familiarise themselves with the allowed equipment, signs and devices. Traffic control devices are to be operated in accordance with the manufacturer's operating procedures and instructions.

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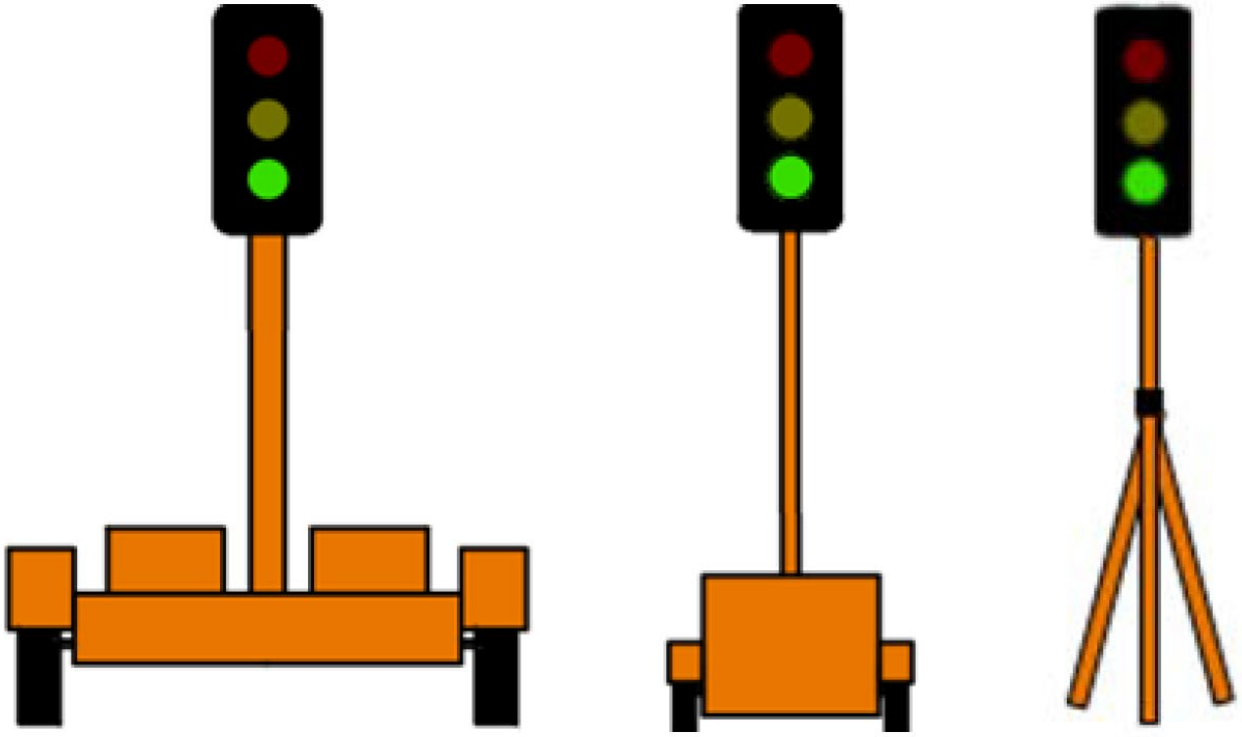
2.6.2 Portable traffic control devices

Traffic control devices approved by the relevant authority may be used in lieu of the STOP / SLOW bat. These devices are being used to separate traffic controllers from direct interaction with traffic to prevent harm on the worksite. Such a device must be operated in accordance with the local jurisdiction approved procedure for that particular device, where an approved procedure has been released. Only a traffic controller is authorised to operate manually controlled portable traffic signals or a boom barrier.

A traffic controller must not be placed in control of portable traffic control signals or a boom barrier unless the traffic controller has been trained and is competent in the operation of the device. Examples of portable traffic signal unit mountings and a boom barrier are shown in Figure 2.1 and Figure 2.2 respectively.

Figure 2.1: Example portable traffic signal unit mountings (for illustrative purposes only)



Source: MRTS254 Portable Traffic Signals, 2017, Queensland Department of Transport and Main Roads

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Figure 2.2: Example of a boom barrier

Source: Portable Traffic Control Devices, 2017, Quee nsland Department of Transport and Main Roads

Location

The key considerations in determining a safe location for traffic controllers include site geometry, traffic control device position, sight distance, roadside terrain/vegetation, the type of PTCD used, vehicle mix and their approach speeds. Environmental factors (for example fog, rain, dust or smoke) and time of day/night also need to be considered.

Traffic controllers should occupy a position which:

- is clear of the travel path (the risk of being struck by passing vehicles is significantly reduced as the offset distance is increased)
- has an escape path
- has sight distance of approaching traffic
- aims to ensure that drivers focus on the device, and not take cues from the traffic controllers
- enables effective communication to both site workers and other traffic controllers (if applicable). If a single traffic controller is operating two PTCD, an added consideration is required to ensure the operating range of the hand-held remote controller is not exceeded
- enables the traffic controller to identify the last vehicle before changing to STOP
- is close enough to the PTCD to allow the traffic controller to commence STOP/SLOW bat duties in the event of a system failure. In the case of a single traffic controller operating two PTCDs, the traffic controller should be located at the end which is on approach to the closed section of road (as this is the critical approach to control in the event of a failure)
- has visibility of the PTCD (either the front face or rear indicator light) and traffic queues. In the case of a single traffic controller operating two PTCD's, the traffic controller should be located to have visibility of both devices and traffic queues for each approach.

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Visibility

Visibility of the PTCD is a key consideration when designing traffic guidance schemes. The Traffic Management Designer should consider the following during the development of the traffic guidance scheme:

- managing the impact of work vehicles and plants on the visibility of the PTCD, especially when they are located in the background
- when using PTCD at night:
  - consider the potential for driver distraction from reflective stripes on the traffic controller uniform, lights from the traffic controller wand and the indicator lights on the hand-held remote controller
  - recognise that vehicle-mounted warning devices can significantly diminish the visibility of the PTCD, especially when the vehicle is parked in the background
  - the PTCD location should be illuminated
- vehicle actuated, or fixed time operation of a portable traffic signal system should be visible to motorists at a minimum distance of 150 m
- PTCD under manual operation by a traffic controller should be visible to motorists
- located no further than 1 m from the travelled path
- mast is vertical, footing is stable, and the traffic signal is weighted down if required
- site signed to 60 km/h maximum on approach to the PTCD (as nominated in AGTTM Part 3).

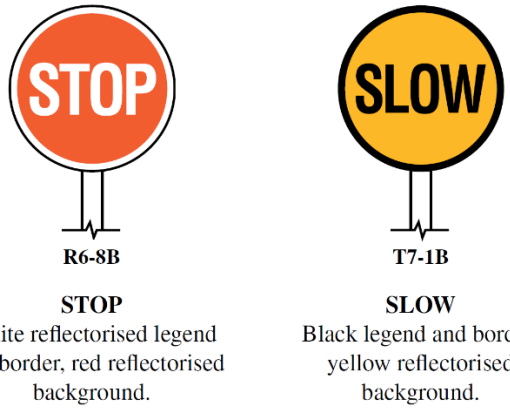
2.6.3 Approved equipment for manual control of traffic

Hand-held STOP / SLOW bat

A STOP / SLOW bat measuring a minimum 1.8 m from the ground to the underside (bottom) of the STOP / SLOW bat must be used, except when a boom barrier or other traffic control devices approved by the relevant jurisdiction is used.

A STOP / SLOW bat is always to be used in conjunction with hand signals while watching approaching vehicles.

Figure 2.3: Approved STOP / SLOW bat (Aus), STOP / GO bat (NZ)



(a) Australia
Source: Traffic Controller's Handbook, Eighth Edition 2014, Main Roads Western Australia

(b) New Zealand
Source: New Zealand Transport Agency (2018) Code of Practice for Temporary Traffic Management

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Hand-held “STOP” and “SLOW” bats can be mounted back to back on a timber or aluminium pole measuring a minimum 1.8 m from the ground to the underside (bottom) of the sign.

When using the STOP / SLOW bat:

- ensure any movement of the bat (e.g. rocking slowly from side to side) does not prevent the driver from seeing it clearly
- gain the driver’s attention by using hand signals and making eye contact
- hold the sign in the hand closest to traffic allowing the other hand to be free to give clear directions. This is also best in case the traffic controller is required to respond to an emergency
- take care not to inadvertently display the "STOP" or "SLOW" sign to traffic.

Warning signs

The PREPARE TO STOP sign must be used in conjunction with the Traffic Controller, Signals Ahead or Boom Barrier (symbolic) signs, and where possible these signs should be positioned side by side, with the PREPARE TO STOP sign placed closest to the travel way.

When used side by side in a multi-message situation, the PREPARE TO STOP sign must be placed closest to the travel way as a 600 x 600 sign. In this situation, the PREPARE TO STOP must not be the 1200 x 300 size as it does not demand the same authority as illustrated in Figure 2.4.

Figure 2.4: Multi-message warning sign (if sign was placed on the left hand side of the road)

2.6.4 Communication devices

Portable two-way radios or similar means will be used for communication where traffic controllers cannot see or hear each other. Additional radios with site workers may be useful to ensure that the control is suitable for the worksite. Prior to commencing any duties, the staff must ensure their radio is charged and operating correctly prior to starting any works.

When using portable two-way radios:

- ensure you know the relevant channel for the worksite (including any back up channels)
- speak clearly and slowly
- be accurate
- not use profanities or breach relevant Australian Communications and Media Authority (ACMA) or Commerce Commission of New Zealand (ComCom) communications standards
- provide enough information to allow the other traffic controller/s to know exactly what is going on

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- try to use standard messages such as:
  - "stopping my vehicles now, last one through is a red commodore wagon"
  - "starting my vehicles now"
- keep dialogue relevant to the role and to a minimum
- Do not use mobile phones to communicate over distances, excluding in emergency situations.

2.6.5 Night works

Compared to works during daytime, night-works are significantly more hazardous. Whilst conducting night works, the following devices must be used:

- a high visibility safety garment suitable for night-time use (N)
- a retroreflective hand-held STOP / SLOW bat
- retroreflective signs, cones and bollards
- a red illuminated wand to supplement the STOP / SLOW bat (N).

In addition, consider the use of:

- barrier boards
- flashing lights.

Ensure the traffic control station and devices used are well illuminated by portable floodlights, street lighting, etc. To ensure safety of other road users and approaching traffic, it is recommended the light source be shielded to minimise glare. A risk assessment must be undertaken if illumination is not achievable.

2.6.6 Approved hand signals for traffic controllers

Practical diagrammatic illustration of the approved hand signals for traffic controllers are provided in Section 2.9.3.

2.6.7 When hand signals can be used without additional equipment

Apply the use of hand signals only, without the additional use of a STOP / SLOW bat, in the following circumstances to control traffic:

- a traffic controller, who under exceptional circumstances (e.g. emergency/incident response or where potential lightning strikes are imminent), is temporarily controlling traffic, subject to certain conditions including:
  - the traffic controller is not placed at risk
  - an on-site risk assessment is conducted to assess the safety of continuing to control traffic at the site
  - consideration has been given to suspending works in the first instance to ensure safety of all site workers.
- a traffic controller while displaying the STOP sign of the STOP / SLOW bat to vehicular traffic, may use hand signals to direct pedestrians to cross a road way where it is safe to do so
- a traffic controller who is controlling traffic (vehicular or non-vehicular) on a footpath may control traffic using hand signals only, as an alternative to using hand signals with a STOP / SLOW bat.

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2.6.8 Departures from standards and innovation

The requirements and recommendations set out in this Guide should not be used to prevent innovative or alternative traffic management solutions that provide improved outcomes (including safety and value for money), which meet the intent of this Guide.

Where innovative treatments are proposed to be adopted for use by traffic controllers, undertake a risk assessment in accordance with the traffic management plan and include the innovative treatment as approved by the TMP designer and road authority.

2.7 When a Traffic Controller Gets to the Worksite

2.7.1 General

As part of on-site traffic controlling tasks, traffic controllers may be responsible for setting up the designated worksite. The traffic control station set up and positioning must be in accordance with the guidelines specified in Part 3 of the AGTTM.

If traffic control is taken over part way through a shift, the traffic controller must check that all signs and devices are properly set up at the start of their shift.

2.7.2 Pre-start meeting

The contractor and the traffic management company must to organise a pre-start meeting, to be attended by the traffic controller/s before commencing traffic control duties. The meeting is vital to ensure everyone on site understands activities that are occurring and the responsibilities and roles of each person working on the site are made clear prior to work commencing. Matters to cover in the pre-start meeting include:

- direct briefing of traffic controller's role
- details of traffic guidance scheme, including traffic controller escape path
- contact numbers and details of relevant people
- breaks (e.g. toilet, water)
- traffic monitoring instructions
- details of the works being undertaken
- locations where workers are on foot
- site specific risks
- consideration of an exclusion zone
- incident management procedures.

2.7.3 Station set up and positioning

The traffic control station position must be established after due consideration is given to the following:

- is the station clear of the travel path?
- does the traffic controller feel safe?
- does the traffic controller have an escape path? An area around the traffic control station must be kept clear in advance, behind and along the escape path
- the traffic controller has required line of sight of approaching traffic (see Section 2.7.4)

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- the traffic controller is visible to approaching traffic (see Section 2.7.4)
- effective communication to other traffic controllers or site workers is provided (if applicable)
- the traffic controller can easily identify the last vehicle to move through before changed to STOP and is able to communicate this to other traffic controllers (if applicable)
- the traffic controller can see all PTCDs in use and any traffic queues
- the station is located so that a traffic controller can commence STOP / SLOW bat duties in the event of a PTCD system failure. In the case of only one traffic controller operating two PTCD's, they should be located at the end which is on the approach to the road closure, not at the end of the road closure
- position must be subject to a risk assessment, which should consider the drivers' perspective, including the surrounding areas and possible distractions leading up to the traffic control point.
- Where line marking leading to the traffic controller is missing or hasn't been provided, additional cones or bollards may be placed at the traffic control location to further delineate the intended traffic lane. The traffic lanes on the approach to the traffic control location may also be narrowed to manage vehicles' approaching speed.

Once the traffic control station position is established, a traffic controller must ensure that:

- the Traffic Controller (symbolic) /Signals Ahead/PREPARE TO STOP/STOP HERE ON RED SIGNAL/STOP HERE WHEN DIRECTED signs and PTCDs are erected correctly at the beginning of the shift
- all signs and devices are properly set up if traffic control is taken over part way through a shift
- the Traffic Controller (symbolic)/PREPARE TO STOP/STOP HERE ON RED SIGNAL/STOP HERE WHEN DIRECTED signs are removed or covered when a traffic controller is not performing traffic control duties on site
- a STOP HERE ON RED SIGNAL/STOP HERE WHEN DIRECTED sign is placed a minimum distance of 6 m from the PTCD/traffic controller position (downstream), and in line with the nearest cone to the traffic controller station unless otherwise determined by a site-specific risk assessment
- where required, four cones are placed at 4 m spacing on the centreline, with the first to be 6 m from the traffic controller station, starting from the STOP HERE ON RED SIGNAL/STOP HERE WHEN DIRECTED sign position (downstream). Traffic cones are used to highlight the traffic control position, where vehicles are to stop and for traffic management purposes. A temporary hazard marker or KEEP LEFT DELINEATOR sign may be installed at the start of the row of 4 cones to direct traffic to the correct travel path if needed. The requirement for the four cones is not applicable if the traffic guidance scheme specifies otherwise following a site-specific risk assessment
- a PREPARE TO STOP sign in conjunction with the Traffic Controller (symbolic)/Signals Ahead/Boom Barrier Ahead sign is installed a minimum distance as shown in Table 2.3 from the predicted end of traffic queue (not the PTCD/traffic controller position)
- there is a maximum speed limit of 60 km/h established through the worksite
- they are not partially hidden by signs and/or devices and they do not obstruct a road user's view of such signs and/or devices
- they have a clear escape path to a non-traffic (closed) section of the roadway, shoulder, footpath or median
- approaching traffic has sufficient distance to stop safely
- where possible, it is recommended traffic controllers avoid stopping large vehicles at the front of the queue and ensure vehicles have a safe braking distance
- once traffic has stopped, a traffic controller must change their position as necessary so that they are clearly visible to approaching traffic.

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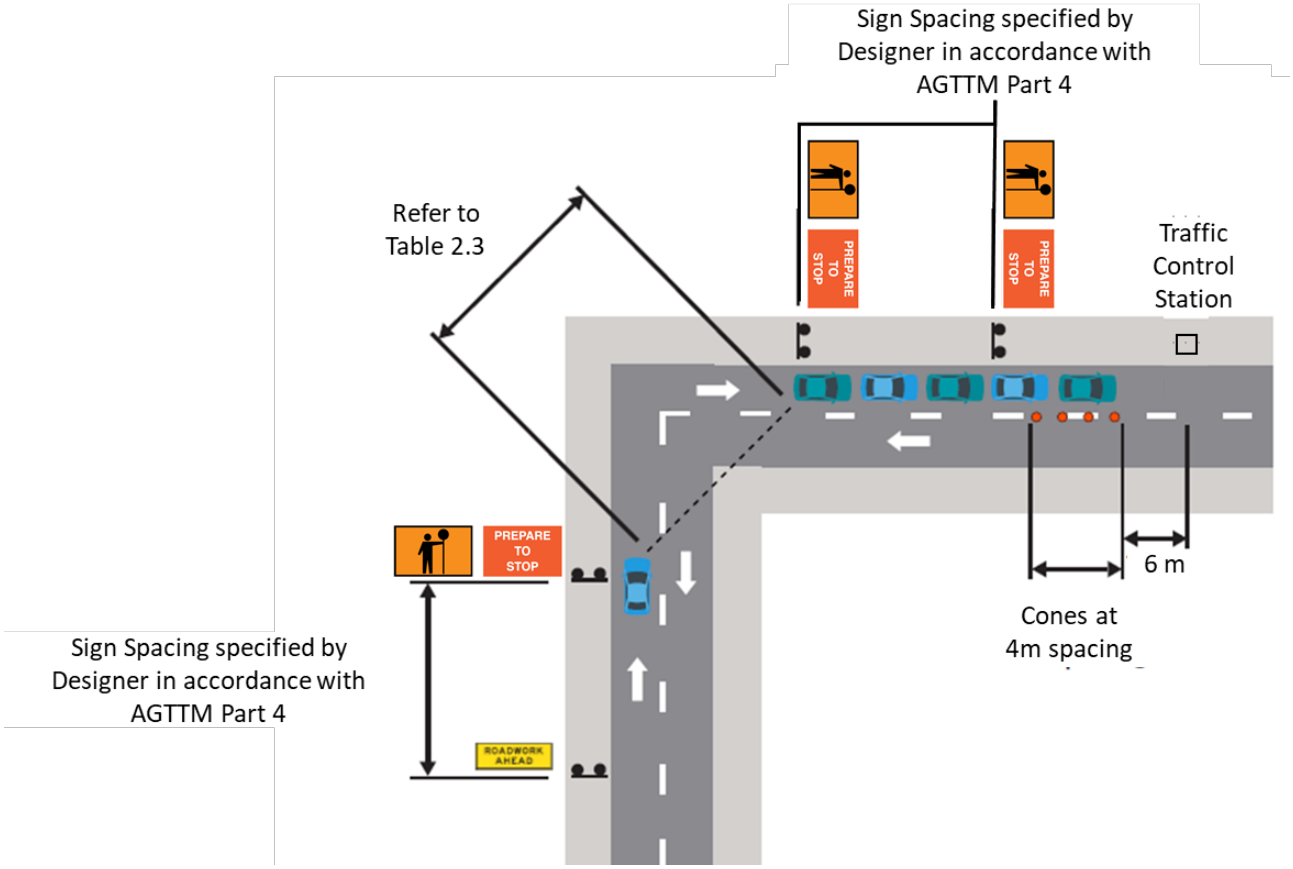
Figure 2.5: Station set up and positioning guide



Notes:

- *Signs shown on one side of the road are to be duplicated on the other side of the road*
- *Not all advance warning signs are shown*
- *For speeds less than 45 km/h sign spacing is 15 m, for speeds greater than 45 km/h refer to Table 2.3*

2.7.4 Sight distance and sign location

Traffic controllers should stand and place signs in locations with as much as sight distance as practicable. Consideration of suitable sight distances will enable road users enough time to perceive and react to a hazardous situation on the road ahead resulting in safe and efficient traffic management. Sight distances are best when designed to be as long as practicable, but are often restricted by the following:

- curves in road
- crests in road
- obstructions (e.g. safety fences, boundary fences, barriers, parked cars, street furniture, landscaping, signs)
- railway crossings
- bridges
- traffic queues
- weather (e.g. linemarking visibility in the rain, fog, smoke, dust)
- time of day (e.g. night visibility, glare)
- sealed or unsealed roads
- type of road users at the site (e.g. over-dimensional vehicles, motorcyclists)
- other local site features.

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It is the traffic controller's responsibility to set up the PREPARE TO STOP and the Traffic Controller (Symbolic) signs prior to works and remove them at the end of works. This can only be done by, or under the under the guidance of, a person holding appropriate accreditation.

If traffic control is taken over part way through a shift, the traffic controller must check that both signs are properly set up at the start of their shift.

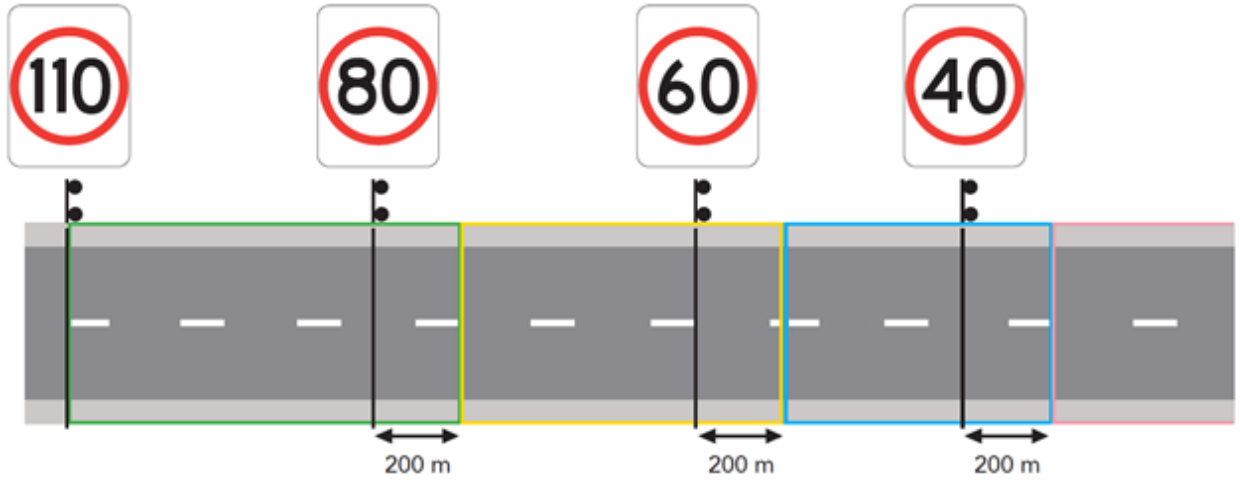
The position of the PREPARE TO STOP sign, portable traffic signal or boom barrier and Traffic Controller (symbolic) sign is according to the local prevailing conditions and speed, and placed a minimum distance from the end of traffic queue, as outlined in Table 2.3. Detailed steps and calculations associated with assigning appropriate sight distances are described in detail in Austroads Guide to Road Design Part 3 and Part 4a. Where there is the potential for long traffic queues, consider the use of repeater signs ahead of the worksite to inform road users of upcoming road conditions.

Table 2.3: Prepare to Stop/Traffic Controller (symbolic) sign position from end of traffic queue

Speed (km/h)*	Minimum Distance (m)
≤ 45	50
46 - 55	70
56 - 65	90
≥ 66	Two times the speed of traffic (km/h)

** Choose speed as per Figure 2.6. For example, if signs are positioned in the green zone, use distance which corresponds to a speed of 110 km/h in Table 2.3. If signs are positioned in the yellow zone, use distance which corresponds to a speed 80 km/h, 60 km/h for the blue zone and so on.*

Figure 2.6: Appropriate speed use for sign placement



2.8 Performing Traffic Control

2.8.1 Traffic signals

A traffic controller cannot direct traffic through traffic signals without having the relevant authority to switch the traffic signals to flashing amber or off. Worksite supervisors must first gain the written approval of the relevant road infrastructure manager to switch traffic signals to flashing amber or off.

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Where a traffic controller is to control traffic within 100 m of a signalised intersection with traffic signals operating in normal mode (not flashing amber or switched off), the traffic controller station must be positioned a safe distance from the operating traffic signals. Generally, a safe distance would be within the range of 50 to 100 m, but in exceptional circumstances, it may be safe at less than 50 m subject to a site-specific risk assessment. A risk assessment should be undertaken when a traffic controller is in view of traffic signals to ensure there is no conflict between the traffic controller's directions and the traffic signals.

2.8.2 Risk management

Risk management entails the identification and analysis of all safety risks likely to arise during works on road including the setup, operating, changing and ultimate dismantling of a traffic guidance scheme, followed by the determination of appropriate measures to mitigate those risks. Every person on site is responsible for the management of risk and cannot assume this is the responsibility of others. Any assessment of risk must be documented and include:

- description of the risk
- probability/likelihood of the risk occurring
- the consequences of the risk
- the treatment to be used to avoid/prevent the consequences
- how the control of the selected treatment, and its effectiveness, will be monitored.

2.8.3 Always be alert to changing conditions

When working on a site, it is important to:

- remember to watch for the angle of the sun which may shade the traffic control station and make the traffic controller hard to see, make signs difficult to read or blind or dazzle road users
- look for signs which may be set up in poor positions, blown over, vandalised, or too old or dirty
- be alert to peak hour traffic which may mean longer queues, or changes in road use mix (i.e. heavy vehicles, pedestrians etc.)
- be alert to any near misses as these may indicate a problem or emerging problem
- let the immediate supervisor know if a traffic controller suspects any problems as soon as possible, in a safe manner that does not compromise the safety of the traffic controller or others on site.

2.9 Traffic Control Station Operation

2.9.1 General

Traffic controllers are responsible for ensuring that traffic control stations are operated in a safe and orderly manner. The traffic control station must be operated in accordance with the guidelines specified in this Guide.

2.9.2 Queue monitoring

Queueing and delay is expected at stop locations where traffic controllers are positioned. Consider the speed of traffic and sight distance to the end of the queue and whether additional warnings are required to avoid end of queue collisions. The designer should provide appropriate layout for additional signs in these circumstances.

Surges in traffic demand can occur on a daily basis so adequate monitoring of traffic queues on site and active adjustment to sign positioning can mitigate risks in real time.

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Where there is a requirement to stop vehicles, and where sight distance is limited, it may be necessary to use a second traffic controller in advance of the directing traffic control station to slow down or stop traffic approaching the end of a queue. If traffic controllers are unable to signal to each other, another means of contact, such as portable communications equipment, or an intermediate traffic controller, should be used.

It is recommended that a marker (e.g. cone or bollard) is placed at the predicted end of queue to assist the traffic controller to monitor the end of queue. The traffic controller must report any issues with queue length to the site supervisor. STOP / SLOW traffic control on two-way roadway

Where more than one traffic controller is working at a particular location, the need to change the direction of traffic flow rests with the traffic controller who is the next to stop the traffic (this being the traffic controller who has the SLOW sign facing the traffic). Practical instructions for traffic controllers on two-way roadways are detailed in Section 2.9.6.

2.9.3 Changing hand-held STOP / SLOW bat

Figure 2.7 shows the change from SLOW to STOP.

Figure 2.7: Changing from SLOW to STOP

Source: Traffic Controller's Handbook, Eighth Edition 2014, Main Roads Western Australia

When changing the bat from SLOW to STOP:

- stand facing the traffic but just outside the path of vehicles
- wait for a safe break in the traffic to give approaching traffic sufficient time to stop
- transmit the basic details (make, colour, etc.) of the last vehicle let through to the other traffic controller, via the two-way radio
- give the lead vehicle enough warning so the driver does not have to brake suddenly to stop. (where possible avoid stopping large vehicles at the front of the queue)
- turn the sign to "STOP", signal with the right hand raised up with the palm facing the traffic (see Section 2.9.6)
- only once traffic has stopped, change your position as necessary (where safe to do so) so you are clearly visible to drivers as they arrive at the end of the queue, never step in front of a moving vehicle
- be cautious of vehicles approaching from both directions
- make sure your escape route is still available.

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Figure 2.8 shows changing from STOP to SLOW.

Figure 2.8: Changing from STOP to SLOW

Source: Traffic Controller's Handbook, Eighth Edition 2014, Main Roads Western Australia

When changing the bat from STOP to SLOW:

- check the other traffic controller is showing "STOP" to his/her traffic
- check the last car has come through from the opposite direction
- check there is no machinery or trucks in the traffic lane or about to enter or turn into it
- move back to the side of the road
- re-check behind to ensure the work area is clear, check with the other traffic controller prior to sending traffic through the work area
- turn the sign to "SLOW" and signal the traffic "TO GO" with the right hand (see Section 2.9.6)
- stand clear of traffic
- remember the basic details (make, colour, etc.) of the first and the last vehicle to leave.

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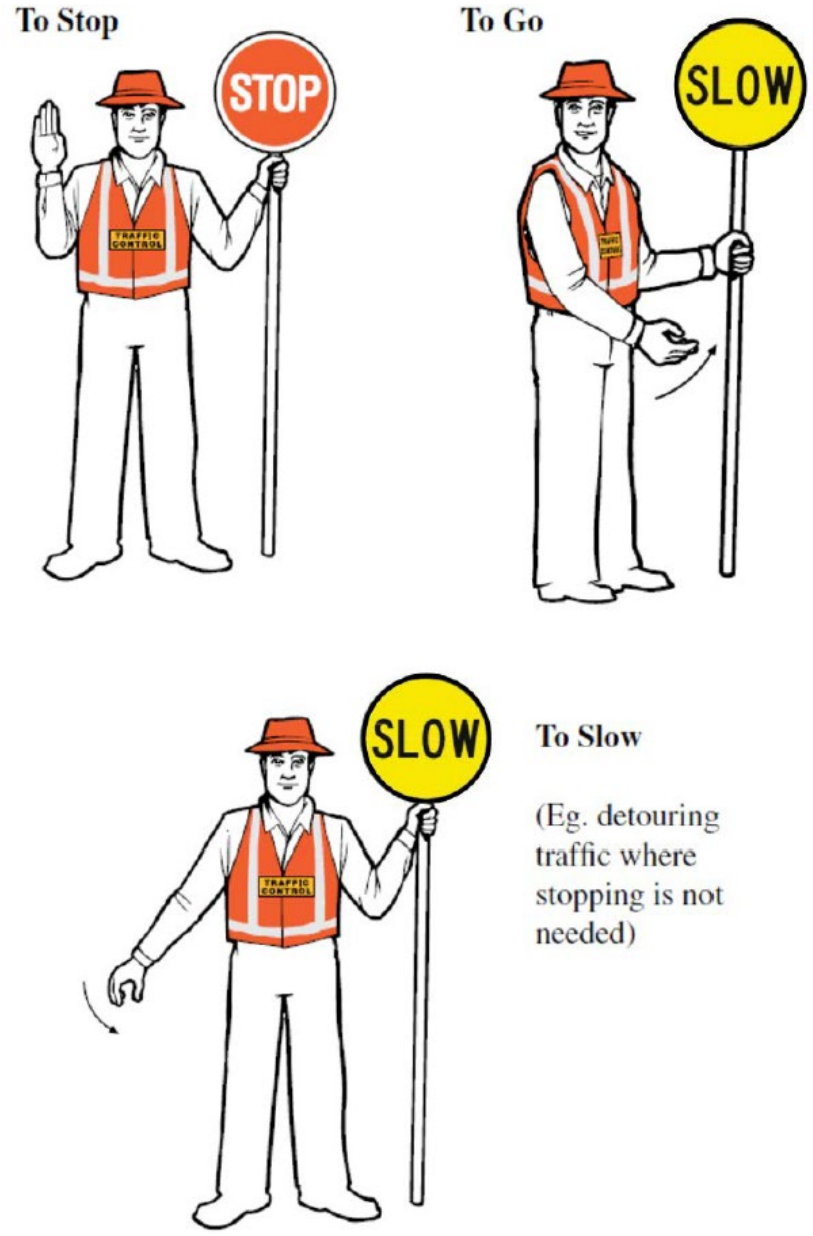
Figure 2.9 provides a visual summary of the approved signals for traffic controllers.

Figure 2.9: Approved signals for traffic controllers



Source: Traffic Controller's Handbook, Eighth Edition 2014, Main Roads Western Australia

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2.9.4 Periods of darkness

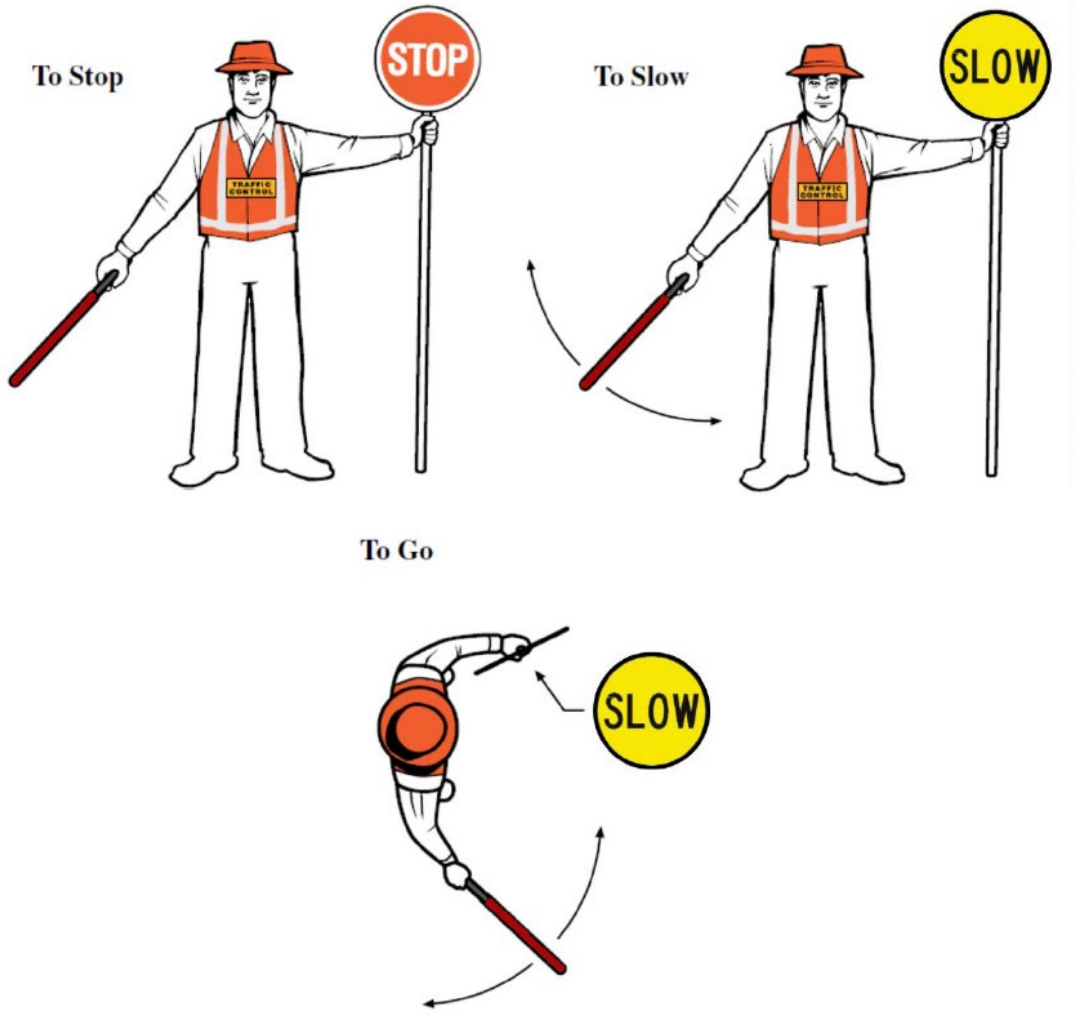
Works are more hazardous in 'periods of darkness' (any period where daylight is inadequate, and visibility is adversely affected). This includes night time, dusk or dawn, and in times of inclement weather when there is poor visibility.

Use PPE, devices, signs and signals that are appropriate for 'periods of darkness' and ensure that the traffic controller is well illuminated.

Refer to Section 2.5.2 for further information about appropriate personal protective equipment (PPE) for periods of darkness.

Figure 2.10 provides a visual representation of the approved signals for night-time activities.

Figure 2.10: Luminous wand signals for night-time traffic control



Source: Traffic Controller's Handbook, Eighth Edition 2014, Main Roads Western Australia

2.9.5 What to watch

Traffic controllers can only be responsible for a single lane of traffic in one direction.

Traffic controllers must primarily watch for approaching traffic (e.g. assess changes in traffic patterns, look for drivers who do not see or appear not to be following signs or directions) and to facilitate emergency vehicles through the site.

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There are other factors that may impact the functions of a traffic controller and the traffic controller may need to:

- be aware of job progress (including any plant or machinery operating within the site) and any problems within the work area
- communicate with the other traffic controller(s) by appropriate means
- advise the site supervisor before moving the PREPARE TO STOP sign in case other supporting signage needs to be moved with that sign or additional signage is required to support the PREPARE TO STOP.

If there are long queues, the position of the PREPARE TO STOP sign may need to be adjusted to provide adequate warning. It is not the responsibility of the traffic controller controlling traffic to move this sign. The traffic controller must notify another appropriate person on site to move the sign.

2.9.6 Two lanes, two-way roads

Where more than one traffic controller is working at a particular location, the responsibility for changing the direction of traffic flow rests with the controller who is the next to stop the traffic (this being the traffic controller who has the SLOW sign facing the traffic).

The following method must be used by traffic controllers to control traffic:

Changing from SLOW to STOP

- to stop vehicles the traffic controller must turn the bat to the STOP sign and face oncoming traffic while remaining outside the travel path (e.g. on shoulder, closed lane/s or footpath)
- the traffic controller must raise their free hand into the stop signal position with the palm towards the traffic.

Holding vehicles

- the traffic controller must continue facing the stationary vehicles and where possible allow 2-3 vehicles to stop before stepping in front of the stationary lane of traffic
- the traffic controller must be positioned approximately 6 m in front of stationary vehicles just stopped
- the traffic controller must ensure that the bat's "STOP" sign continues to face the stationary traffic.

Changing from STOP to SLOW

- to allow the stopped traffic to go slow, the traffic controller must wait until all traffic from the other end of the worksite has passed
- the traffic controller must move to the side of the road (on shoulder, closed lane/s or footpath) and clear of all traffic
- recheck the work area is still clear, check with the other traffic controller prior to sending traffic through work area
- the traffic controller must turn and stand in a sideways position so as all traffic can be visually monitored, then turn the bat to the "SLOW" sign
- with their free hand the traffic controller must give the TO GO signal
- to slow traffic further if required, the traffic controller must continue to show the SLOW side of the bat, and facing the traffic, give the TO SLOW signal moving their free arm up and down but not above shoulder level.

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To detour traffic

- to detour traffic where stopping is not needed, the traffic controller must move to the side of the road (on shoulder, closed lane/s or footpath) and clear of all traffic
- the traffic controller must show the “SLOW” sign of the bat to the traffic
- facing the traffic, extend their free arm and give the TO GO signal indicating the intended direction of travel.

Traffic controllers must remain at the control station until directed by their supervisor to leave or until they are relieved by another traffic controller.

2.9.7 Multi lane roads

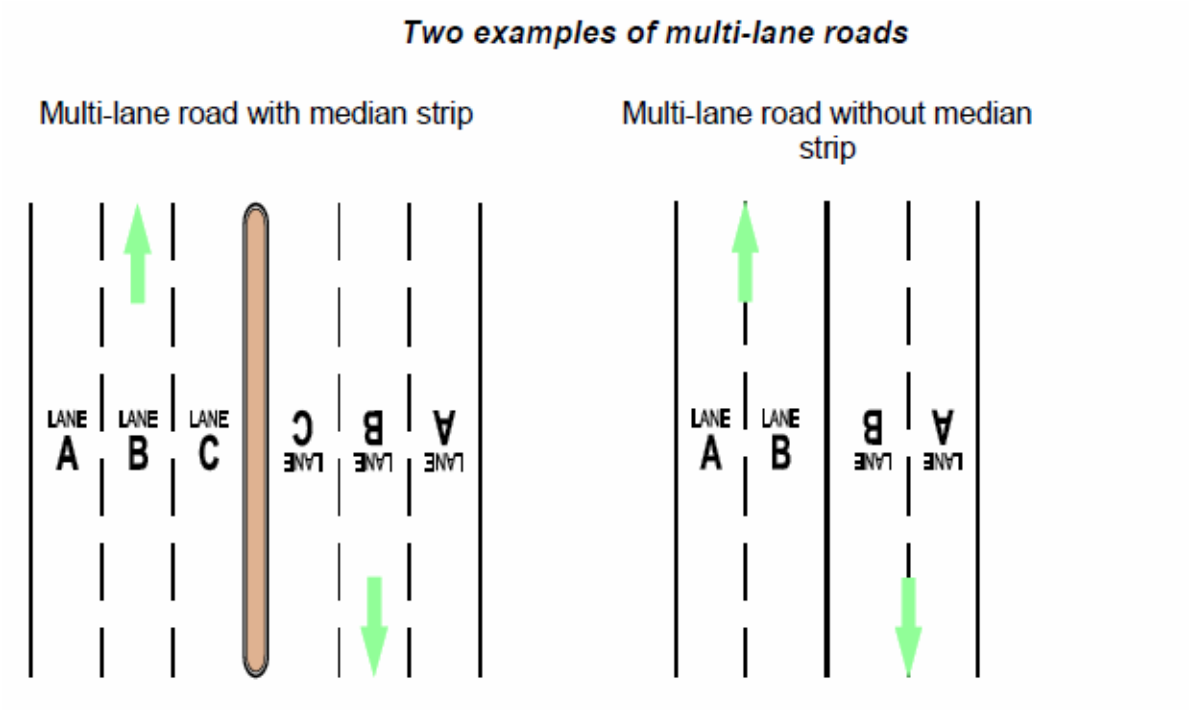
Multilane roads are constructed with two or more lanes in one direction. This scenario will not apply on Category 3 roads and speed must be posted speed at the location of the traffic controller must be 60 km/h or less.

Multilane roads that require traffic control must have one (1) traffic controller allocated for each lane open to traffic at all times.

There is often a median strip or concrete barrier dividing the road at the centre. To operate on multi-lane roads, traffic controllers must comply with the relevant competency requirements outlined in AGTTM Part 8. In some situations, lane closures can be implemented downstream from the control point to reduce to one lane for the traffic controller to manage.

Where there is a concrete barrier dividing the road, there may be no escape path for the traffic controller, so extra caution must be taken when operating on such roads. Careful planning should first seek to mitigate circumstances where traffic controllers are placed on a worksite without an escape path.

Figure 2.11: Examples of multi lane roads



Note: the lanes in these diagrams are designed as LANE A, LANE B and LANE C for explanatory purposes only. They are all assumed to be open lanes for these explanatory purposes.
Source: Traffic Controller Accreditation Scheme Approved Procedure, Transport and Main Roads, December 2017

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The following method must be used by traffic controllers to control traffic on multilane roads:

Changing from SLOW to STOP in LANE A

- to stop vehicles in LANE A, the first traffic controller must turn the bat to show the “STOP” sign and, while remaining outside the travel path (on shoulder, closed lane/s or footpath), face the oncoming traffic
- the first traffic controller must raise their free hand into the stop signal position with the palm towards the traffic.

Holding vehicles in LANE A

- the first traffic controller must keep facing the stationary vehicles and where possible allow 2-3 vehicles to stop before stepping in front of the stationary vehicles in LANE A
- the first traffic controller must be positioned approximately 10 m in front of the first stationary vehicle in LANE A
- the first traffic controller must ensure that the bat’s “STOP” sign continues to face the stationary traffic in LANE A.

Stopping vehicles in LANE B

- the second traffic controller must move to a position alongside the first traffic controller who is situated in front of the traffic in LANE A. The second traffic controller must be nearer to the lane to be stopped next
- the second traffic controller must ensure that the bat is indicating “STOP” to the stationary traffic in LANE A
- while remaining outside the travel path of vehicles in LANE B, the second traffic controller raises their free hand into the stop signal position with the palm towards the traffic in LANES A and B.

Holding vehicles in LANE B

- where possible, the second traffic controller allows 2-3 vehicles to stop before stepping in front of the stationary vehicles at LANE B
- the second traffic controller must keep facing the stationary vehicles with the bat displaying the “STOP” sign to the stationary vehicles in LANE B
- the second traffic controller must be positioned approximately 10 m in front of the first stationary vehicle in LANE B
- the second traffic controller must ensure that the bat’s “STOP” sign continues to face the stationary traffic.

Stopping vehicles in LANE C

- the third traffic controller must move to a position alongside the second traffic controller who is situated in front of the traffic in LANE B. The third traffic controller must be nearer to the lane to be stopped next
- the third traffic controller must ensure that the bat is indicating “STOP” to the stationary traffic in LANE B
- while remaining outside the travel path of vehicles in LANE C, the third traffic controller raises their free hand into the stop signal position with the palm towards the traffic in LANES B and C.

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Holding vehicles in LANE C

- where possible, the third traffic controller allows 2-3 vehicles to stop before stepping in front of the stationary vehicles at LANE C
- the third traffic controller must keep facing the stationary vehicles with the bat displaying the “STOP” sign to the stationary vehicles in LANE C
- the third traffic controller must be positioned approximately 10 m in front of the first stationary vehicles in LANE C
- the third traffic controller must ensure that the bat’s “STOP” sign continues to face the stationary traffic.

Changing from STOP to SLOW

- each traffic controller must check that the work area is clear behind them and that no vehicles or persons are turning into or approaching the respective lanes
- while keeping the “STOP” sign facing the stationary vehicles:
  - the traffic controller in LANE C then moves to a position outside the travelled path and positions the bat so that the drivers cannot see the STOP / SLOW bat
  - the traffic controller in LANE B then moves to a position outside the travelled path and positions the bat so that the drivers cannot see the STOP / SLOW bat
- the traffic controller in LANE A then moves to a position outside the travelled path, and facing the traffic, the traffic controller turns the bat to the “SLOW” sign and gives the TO GO signal, thus indicating to the drivers of the vehicles in all LANES that they may proceed slowly.

2.9.8 At or near traffic signals

When a traffic controller is operating at or near traffic signals, it is recommended the following conditions apply:

- traffic signals must be turned off (or turned to flashing amber) when traffic controllers are operating at a signalised intersection, or near, being within 50 m of a signalised intersection
- if the works are expected to interfere in any way with the operation of the traffic signals (i.e. turning them off, to flashing amber, masking displays, moving traffic lanes so that detectors are no longer functional, generating traffic queues through the intersection), ensure that appropriate approvals have been provided by the relevant authorities
- signals must be switched off or covered and traffic controlled manually by traffic controllers stationed at each intersection approach, releasing traffic one approach at a time
- switching of traffic signals to flashing amber or modification to traffic signal operation settings is only to be undertaken by the relevant authority
- if there is a risk of motorists departing the traffic-controlled section and ignoring nearby traffic signals after reading the hand-held “SLOW” sign, an additional traffic controller must be stationed at the approach of the signals (from the works), to display a hand-held “STOP” sign when the traffic signals display red
- if the conditions only allow one traffic controller to work on a multilane road, the approach should be reduced to a single lane
- if traffic controllers are using a STOP / SLOW bat to control traffic at an intersection, they must have the “SLOW” sign covered or removed to ensure that vehicles on other approaches do not proceed into the intersection.

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2.9.9 Third traffic controller

During single lane shuttle control, a third traffic controller is required when:

- the two traffic controllers cannot see each other, and two-way radios are not available
- a traffic queue gets so long that it approaches a blind corner or crest. Vehicles may not have sufficient chance to stop in time
- controlling traffic at a T-junction. In this situation, it is essential that all three traffic controllers be in two-way communication
- traffic is approaching too fast. The third traffic controller will signal to slow down by using "SLOW" sign facing the traffic, extend the free arm and wave it up and down but not extended above shoulder level
- when it is evident that continuous STOP / SLOW traffic controlling is required, and a break is needed.

2.10 When Things Don't Go to Plan

2.10.1 General

An incident or near miss is an occurrence that in the opinion of the traffic controller affects the operational safety and/or effectiveness of a traffic controller at a worksite or at roadworks and could be caused by anyone interacting with the worksite, including road users, pedestrians and construction workers. This is summarised as:

- incident when actual damage occurred
- near miss when no damage occurred but could have.

Examples of incidents can include:

- accidents occurring within the designated worksite or roadworks
- physical contact or impact with a traffic controller, worker, other road user or equipment, vehicles or the worksite
- assault directed towards a traffic controller by road users
- unsafe or dangerous actions of other road users within a worksite or at roadworks if causing impact or injury
- difficulties experienced with stopping certain vehicle types where damage or impact is caused
- other actions that result in physical contact or injury to a traffic controller.

Examples of near misses can include:

- abusive/insulting/threatening language directed towards a traffic controller
- road users disobeying a direction or signal given by a traffic controller at a designated worksite
- unsafe or dangerous actions of other road users within a worksite or at roadworks
- difficulties experienced with stopping certain vehicle types where no damage is caused
- speeding through a worksite or past a traffic controller.

Near misses are a measure of perception of risk. Reporting near misses assists with identifying events that may result in a future incident (e.g. serious injury or fatality) and can lead to improved practices to prevent this occurring. It is important that any reports of near misses have a description of the 'potential damage scenario,' e.g. a vehicle has run past a traffic control station and may possibly have resulted in actual or potential injury to people, damage to plant/equipment, environment, reputation or the project.

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Incident or near miss reports can occur in a matrix, for example, a near miss for people damage can be an occurrence of damage for equipment/plant/vehicles/environment. An incident can be a combination of the following:

Table 2.4: Combinations of incidents

	People	Plant/ Equipment	Environment	Reputation	Process / Project
Actual damage to …	✓ or ✗	✓ or ✗	✓ or ✗	✓ or ✗	✓ or ✗
Potential damage to …	✓ or ✗	✓ or ✗	✓ or ✗	✓ or ✗	✓ or ✗

2.10.2 Incident management

If a driver disobeys a traffic control instruction:

- prioritise personal safety
- use the pre-determined escape route, if necessary
- warn other members of the crew as early as possible. A warning system must be agreed beforehand such as shouting, whistles etc. Use the two-way radio to communicate with the other traffic controllers.

Take the following actions if a minor incident occurs within the traffic controller's designated worksite or traffic control operational area:

- call for assistance if needed
- notify the worksite supervisor or team leader
- maintain effective traffic control
- if necessary. move the traffic control station to a suitable location that includes the accident site within the traffic control operational area
- record sufficient notes of the incident, including their observations, in order to complete an incident report.

If the incident is more serious or poses further risk of injury to persons or damage to property, the traffic controller must:

- contact, or ensure another person contacts, the relevant emergency service (by calling 000 or 112 by phone)
- notify the worksite supervisor immediately
- if the situation requires evacuation of the area, inform road users of the situation and direct them to turn around and find an alternative route
- if necessary, relocate the traffic control station to a safe position clear of any real or potential danger
- record sufficient notes of the incident including their observations and complete an incident report.

2.10.3 Incident details

It is important when completing incident reports, at a minimum, the following information is considered:

- time, date and location of incident
- type of incident (e.g. a motorist fails to stop, accident, abusive/insulting/threatening language, assault, breach of approved procedures as described in this Guide by another traffic controller)

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- incident identification, including:
  - vehicle type and colour
  - vehicle registration number including registered state or territory
  - direction of travel
  - description of driver, other road users and occupants
  - full and accurate description of the incident
  - witness details.

Traffic controllers must ensure that details of incidents requiring further investigation or attention by a Police Officer or Transport Inspector are reported and forwarded to their supervisor or employer no later than the conclusion of their shift or at the resumption of duty on the following day.

It is expected that incidents are reported immediately, whereas a near miss can be reported at the end of a shift.

2.10.4 Incidents involving hazardous loads

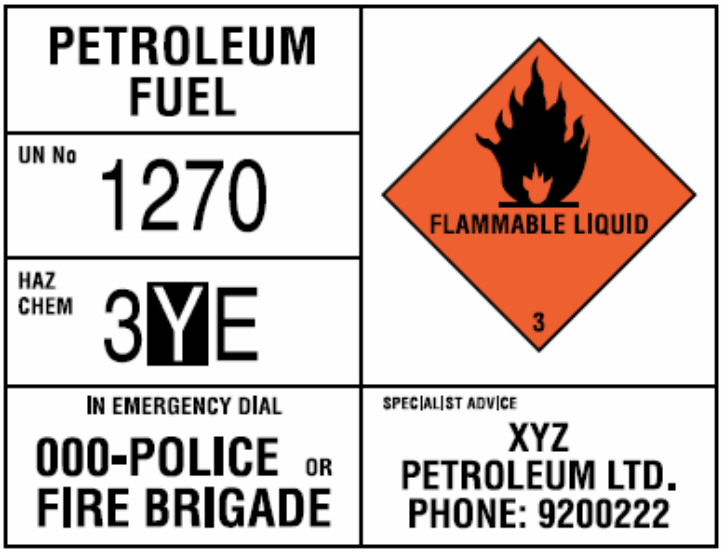
All hazardous or explosive loads are required by law to display the emergency information panel on the vehicle as, for example, as illustrated in Figure 2.12.

Take extra special care in an incident involving a vehicle carrying a hazardous load.

Evacuate the area, if in doubt of the severity of the situation.

Determine the type of load and relay the details to the site supervisor as soon as possible so that appropriate emergency action plans can be implemented.

Figure 2.12: Example emergency information to displayed on all hazardous or explosive loads



(a) Australia
Source: Traffic Controller's Handbook, Eighth Edition 2014, Main Roads Western Australia

(b) New Zealand
Source: New Zealand Transport Agency Sign Specifications

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2.11 Compliance

2.11.1 General

Traffic controllers need to ensure that they comply with the guidelines provided in this Guide. Enforcement actions or penalties relating to traffic controllers are the responsibility of each jurisdiction.

2.11.2 Compliance

Non-compliance may include:

- deviation from the clothing standard
- performing traffic control duties while not being the holder of a current traffic controller accreditation
- failing to comply with fitness for work requirements or drug and alcohol restrictions
- for an employer of a traffic controller failing to ensure that the traffic controller complies with the conditions of their accreditation.

2.11.3 Amending, suspending and cancelling an accreditation

The following are grounds for amending, suspending or cancelling a traffic controller's accreditation:

- if the traffic controller commits an offence of a serious nature where public safety has been endangered, or is likely to be endangered, or it is in the public interest
- if the traffic controller breaches their statutory conditions of accreditation
- if an accreditation was issued based on a document or statement that is false and misleading
- if the traffic controller is convicted with an offence (refer to Section 2.3.6)
- repeated and verified non-conformances with the requirements of this Guide.

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Austroads' 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 7: Traffic Controllers details traffic controller practices including information about training competencies, control instructions and devices.

Guide to Temporary Traffic Management Part 7

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