



mainroads
WESTERN AUSTRALIA

Guide to the Preparation of Traffic Management Plans

July 2019

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Document Control

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Amendments

Revision Date	Description of Key Changes	Section / Page No.
August 2006	Extensive amendments throughout	All
December 2006	Amendments to site inspection requirements	3.0, 3.1.5, 3.2.1, 3.4.2
June 2014	Extensive amendments throughout	All
July 2019	Extensive amendments throughout	All

1. Introduction

This Guide has been prepared primarily to assist the preparation of submissions to conduct works on roads that are under the care, control, and management of MRWA and may be used for arterial roads under Local Government control. It generally meets the Traffic Management requirements of MRWA Specification 202 – Traffic.

Traffic Management Plans (TMPs) for roadwork sites provide a means of planning and implementing how all likely road users will be safely and efficiently guided through a roadworks site and ensure the network performance is not unduly impacted, for the duration of the works.

Road users are not limited to motorists - they include pedestrians, such as school children and people with disabilities, cyclists and emergency vehicles. Management of work on roads requires consideration of all road user needs and obligations and attention should not focus just on the management of vehicular traffic through, past or around the work site.

Main Roads has adopted the Safe System approach to the management of the road network, recognising that humans make mistakes which can lead to death or serious injury. The Safe System philosophy demands that we make changes to the road network to prevent road trauma and reduce crash forces to survivable limits. This approach should be applied to all traffic management at worksites.

Traffic Management is the management of occupational safety and network performance risks associated with work activities undertaken in a traffic environment. Risk Management and the elements of the risk management process form the basis of this Guideline. In Western Australia (WA) TMPs are prepared and implemented by those who have gained relevant accreditation under the Main Roads Western Australia's (MRWA) training programs. TMPs are prepared in advance of the works being conducted and should be subject to reviewing and/or auditing before and after implementation.

To review or endorse TMPs involving “complex traffic arrangements” Main Roads requires use of an accredited Roadworks Traffic Manager (RTM). Suitability and compliance audits are only conducted by RTMs however; suitability and operational checks can be done by people with Advanced Worksite Traffic Management accreditation (or equivalent experience). Onsite inspections can be done by people holding Basic Worksite Traffic Management accreditation. Components of these checks, audits and inspections can be found on the MRWA Website at www.mainroads.wa.gov.au (Go to “Our Roads” > “Temporary Traffic Management > “Plan Preparation” > “Reviewing and Auditing Traffic Management”).

All TMPs shall be based on the requirements of the current MRWA Traffic Management for Works on Roads Code of Practice (the Code of Practice) as displayed on the MRWA website at www.mainroads.wa.gov.au (Go to “Our Roads” > “Temporary Traffic Management” > “Workzones on Roads”). This Code of Practice supplements the Australian Standard AS 1742.3; however, it also outlines additional requirements and variations from AS1742.3 that are applied in WA.

This Guide is intended to provide general information about the components and format of a TMP. It does not provide technical information on how to prepare a TMP. Such technical information should be detailed by accredited practitioners, by referring to the Code of Practice, AS1742.3 and other related documents.

For works undertaken through contract for Main Roads, the MRWA Specification 202 “Traffic” provides information to contractors about Main Roads’ specific requirements in developing a TMP.

2. Preparation of Traffic Management Plans

As each roadwork site is unique, individual TMPs are required for each site and may also be required for individual work activities during the term of the works (Note: for some routine/repetitive type works a generic TMP may be appropriate, see CoP). It needs to be remembered that the Traffic Management Plan is a Risk Management Plan and consists of:

- Documentation of the risk assessment for the project and the procedures and practices that will be utilised to manage the risk exposure. Importantly, the risk assessment process should be undertaken as the first step in the preparation of a TMP and the outcomes from the risk assessment used to develop appropriate strategies for managing and mitigating risks.
- Traffic guidance schemes (TGSs) which outline signage and devices and their placement. TGSs should be drawn clearly and unambiguously indicate all traffic controls required for each stage of the works.

A worked example of a TMP containing the essential components for road construction on a Main Road, considered acceptable to Main Roads can be found on the MRWA website at www.mainroads.wa.gov.au (Go to “Our Roads” > “Temporary Traffic Management” > “Plan Preparation” > “Work Zone Traffic Management Plans examples”).

TMPs shall only be prepared by those persons who have completed the MRWA Advanced Worksite Traffic Management course and have current accreditation. Traffic management planners must have the required knowledge, qualification and experience necessary to design traffic management schemes for the environment they will operate in. This may require specialist advisers or a team approach in some circumstances. For TMPs involving “complex traffic arrangements” an accredited Road Works Traffic Manager (RTM) shall be engaged to review and endorse the TMP (once deemed suitable), in accordance with the requirements of the Code of Practice.

The person preparing the TMP (or someone under his/her direction) shall inspect the site at least once prior to preparation of the TMP (Note: this may not apply to Generic TMPs). The site inspection is required to identify specific site conditions such as pavement condition, road layout, road geometry, sight distance, vulnerable road user facilities, existing signs, lighting, abutting accesses, adjoining road networks and other possible constraints. Inspections should be carried out during hours of the day similar to the proposed works scheduling to identify matters specific to the site.

A Traffic Management Plan is a key workplace document that has legal standing. As such, it is critical that the structure and content of the Plan is sufficient to explain the potential hazards, the assessed risks and the proposed treatments for the proposed work activities and work site. The TMP should include all of the following. Where any of the following sections are not applicable, the TMP should indicate this accordingly.

Introduction

- Purpose and Scope
- Objectives and Strategies

Project Overview

- Project Location
- Project Details, Site Assessment and Site Constraints/Impacts
- Existing Traffic and Road Environment
- Overview of Proposed TTM
- Project Representatives

Risk Management

- Risk Classification Tables
- Risk Register

Traffic Management Planning and Assessment

- Traffic Assessment and Analysis
 - Traffic and Speed Data
 - Traffic Flow Analysis
 - Temporary Speed Zones
 - Existing Traffic Signals
 - Impact to Adjoining Network
 - End of Queue Treatment
 - Temporary Traffic Signals
- Road Users
 - Pedestrians
 - Cyclists
 - Public Transport
 - Heavy and Oversized Vehicles
 - Existing Parking Facilities
 - Access to Adjoining Properties / Businesses
 - Rail Crossings
 - School Crossings
 - Special Events or Other Works
 - Emergency Vehicle Access
- Night Works Provisions
- Road Safety Barriers
- Consultation and Communication / Notification
 - Other Agencies
 - Public

Site Assessment

- Provision to Address Environmental Conditions
 - Adverse Weather
 - Sun Glare
 - Fog, Dust or Smoke
 - Road Geometry, Terrain, Vegetation and Structures
- Existing Traffic and Advertising Signs

Safety Plan

- Occupational Safety and Health
- Roles and Responsibilities Communicating TMP requirements

- Personnel Protective Equipment
- Plant and Equipment
- Trip Hazards

Implementation

- Traffic Guidance Schemes
- Sequence and Staging
- Traffic Control Devices
 - Sign Requirements
 - Tolerances on Positioning of Signs and Devices
 - Flashing Arrow Signs
 - Delineation
- Site Access for Work Vehicles
- Communicating TMP Requirements

Emergency Arrangements and Contingencies

- Traffic Incidents Procedures
 - Serious Injury or Fatality
 - Minor Incident or Vehicle Break Down within Site
- Emergency Services
- Dangerous Goods
- Damage to Services
- Failure of Services
 - Failure of Traffic Signals
 - Failure of Street Lighting
 - Failure of Power
- Emergency Contacts

Monitoring and Measurement

- Daily inspections
- TMP Audits and Inspections
- Records
- Public Feedback

Management Review

- TMP Review and Improvement
- Variations from Standards

- Approvals

Appendices

A – Notification of Roadworks

B – Variation to Standards

C – Record Forms

- Daily diary
- Incident Report form

D – Traffic Analysis and Volume Counts

E – Roadway Access Authorisation

F – Traffic Guidance Schemes

3. Components of a Traffic Management Plan

The TMP shall incorporate appropriate document control details specific to the TMP in accordance with the organisation's internal control procedures to ensure that approved documentation can be clearly identified. Information relating to who prepared the TMP and their AWTM accreditation details, details of initial site inspection and sign-off by an RTM where required should be provided on the cover of the TMP. The TMP shall be authorised by an accredited person other than that who prepared the TMP. The MRWA TMP template, found on the MRWA website at www.mainroads.wa.gov.au (Go to "Our Roads" > "Temporary Traffic Management" > "Plan Preparation" > "How to prepare a traffic management plan"), should be used and along with this guide will help ensure that no TMP requirements are missed (for the majority of worksites).

3.1 Traffic Management Administration

The TMP should provide contact details for the designer of the TMP and the person responsible for the implementation of the TMP.

This is considered essential information in the event of an incident or emergency.

Details of the persons responsible for the administration of the traffic management are best presented in a tabular format. This will enable contact with the persons responsible and may need to be read by personnel not familiar with the job or the organisations conducting the works.

3.2 Approvals

The TMP should provide evidence of how road, utility and service authorities have been consulted with and their requirements complied with. Contact details shall be provided.

If approvals have not been obtained at the time of preparing the TMP, details of approvals to be obtained should still be included.

3.3 Risk Management

Management of risk is central to a TMP. A risk assessment must be conducted for every activity undertaken on a road work site, and reflected in a TMP. This is essential to determine:

- the presence of risk
- the source of the risk (for example, from traffic, or from worksite activities)
- the subject and potential impact of the risk (for example, does the risk originate from traffic and potentially impact on workers)
- risk treatments required.

This involves the identification and analysis of all risks likely to arise during works on roads including during the setting up, operating, changing and ultimate dismantling of traffic guidance schemes, followed by the determination of appropriate measures to mitigate those risks.

3.4 Traffic Management Planning and Assessment

For works on roads, it is important to conduct the works with minimum disruption and inconvenience to road users. The following details should be determined / considered:

- types road users, including pedestrians
- existing traffic volumes
- acceptable traffic flow volumes
- lane dimension and configuration requirements
- lane and intersection capacity
- existing speed limit
- public transport impacts
- impact to adjoining properties
- impacts to the adjoining road network
- the need to maintain a safe workplace with the introduction of lane closures, road closure and lower speed limits

- work hours
- project stages

3.5 Public Notification

Depending upon the nature of the works and prevailing traffic conditions it may be necessary to provide advice to the public of the proposed works and traffic management arrangements in advance of the works commencing.

Notice will generally take the form of on-site advance roadwork notification signs, state/local newspaper notices, radio and television announcements, social media announcements and written notification to specific commercial or residential premises.

Notifications to be provided including details of proposed wording and locations of signage together with the wording of newspaper notices, should be documented within the TMP.

Notification to relevant agencies will also need to be given using the 'Notification of Roadworks' form.

3.6 Communication

The Code of Practice prescribes the use of the "Notification of Roadworks" form in Appendix 4 to the relevant agencies. This notification of the impending roadworks should be made at least seven (7) days prior to the works and should not be confused with contacting the relevant authorities to obtain approval for the works which should be done earlier in the process.

The TMP shall include a copy of the "Notification of Roadworks" form, contained in Appendix 4 of the Code of Practice with all the required contact details duly completed. A copy of the form in Word format is available on the Main Roads website at www.mainroads.wa.gov.au (Go to "Our Roads" > "Temporary Traffic Management" > "Forms and Publications").

3.7 Monitoring and Measurement

Monitoring and review is important throughout the TMP process (both preparation and implementation) to ensure that the TMP remains current and addresses all risks at the worksite. After the TMP has been implemented, a review should be undertaken to ensure that it is operating as expected. Schedule further reviews as the works progress, to ensure that the plan continues to operate as expected. If a variation is made to the TMP, specify the period within which a review should be undertaken.

3.7.1 Daily Inspections

All temporary signs, devices and controls need to be maintained at all times. To achieve this, the TMP should outline suitable monitoring procedures to meet the requirements of Appendix A of AS 1742.3.

The monitoring program should generally incorporate inspections:

- Before the start of work activities on site;
- During the hours of work;
- Closing down at the end of the shift period; and
- After work hours.

A daily record of the inspections should be kept. This should include:

- When traffic controls were erected;
- When changes to controls occurred and why the changes were undertaken;
- Any significant incidents or observations associated with the traffic controls and their impacts on road users or adjacent properties.

Where significant changes to the work or traffic environment or adverse impacts are observed, the controls should be reviewed as a matter of urgency.

3.7.2 TMP Auditing

To ensure compliance with the requirements of the Code of Practice, it may be necessary to conduct audits of TMPs depending on the nature of the TMP. Formal auditing of TMPs takes two forms, namely Suitability Audits (pre-implementation) and Compliance Audits (during works).

The TMP should also make provision for internal audits by supervising personnel at the work site.

A checklist for auditing TMPs, based on the Austroads Road Safety Audit Guide is available on Main Roads' website at www.mainroads.wa.gov.au (Go to "Our Roads" > "Temporary Traffic Management" > "Plan Preparation" > "Reviewing and Auditing Traffic Management").

MRWA Traffic Management for Works on Roads Code of Practice requires that Suitability or Compliance Audits of the TMPs involving complex traffic arrangements are required to be carried out by an accredited RTM.

Where there are non-compliances identified the audit procedure should have a mechanism for the issuing of a formal corrective action. Corrective actions should be closed out and registered as such in accordance with the organisations normal practice.

3.7.3 Records

A daily diary recording all inspections including variations to the approved TMP shall be kept using the Daily Diary.

The Traffic Supervisor is to record all inspections made on a daily basis and at those times prescribed by the Traffic Management Implementation Standards. Upon completion of each day the Traffic Supervisor shall provide copies of the daily diary record to the Project Manager.

The Traffic Supervisor is to record all variations made to the approved Traffic Management Plan on a daily basis and indicate clearly the nature of the variations and the reason for the variations. Upon completion of each day the Traffic Supervisor shall provide copies of the variation record to the Project Manager.

Where an incident associated with the site is observed or reported, the incident reporting and investigation procedures should be undertaken. Annexure 202D “Traffic incident Reporting Form” from Specification 202 should be used.

3.7.4 Public Feedback

The TMP should detail mechanisms that ensure comments and complaints received from the public are registered. The procedure should ensure there is regular monitoring of the register by management and appropriate action taken.

3.8 Traffic Management Implementation

3.8.1 Traffic Guidance Schemes

A TGS is an arrangement of temporary signs and devices to warn traffic and guide it around, through or past a worksite or temporary hazard. The TMP should include a schedule of TGSs required for the project.

Where the situation requires that there are several TGSs to be developed for different work activities, detail the sequence of work and provide the links to the respective TGS for each stage, in the TMP. The TGS details all works necessary for the effective implementation of each traffic management scheme for each stage.

Ensure that each TGS:

- is consistent with the TMP
- is sufficiently detailed and clearly dimensioned to enable a third party to install the devices without constant referral for additional information or interpretation

3.8.2 Communicating TMP Requirements

The TMP should outline how the requirements of the TMP and the associated procedures and practices will be communicated to works personnel who will enter the site. This may be undertaken in conjunction with other site induction mechanisms. Visitors to the site must also receive suitable instruction and wear the required personal protection equipment.

3.9 Management Review

3.9.1 TMP Review and Improvement

For long term projects (greater than 6 months) management should incorporate procedures into the TMP that involve a formal review of the Traffic Management Plan as part of a continuous improvement approach to ensure its continuing suitability, adequacy and effectiveness.

The management review process should ensure sufficient information is gathered over the term of the project to allow management to undertake an effective review.

3.9.2 Variations to Standards and Plans

Prior approval from the relevant Road Authority shall be obtained where the recommendations of the Traffic Management for Works on Roads Code of Practice or AS 1742.3, with respect to levels of service or safety, cannot be satisfied. This approval, inclusive of conditions imposed by the Road Authority shall be documented in the TMP.

Before seeking the Road Authority's approval it is imperative that risk analyses are carried out by a RTM where there are variations to the Code of Practice or AS 1742.3. Risks of a lower level of service resulting in traffic congestion and subsequent delays should be addressed. The countermeasures (treatment) to address the lower service levels and the residual risk shall be clearly documented. Any variations to the Code of Practice or AS 1742.3 which result in a lower level of safety should be similarly addressed and documented.

The Road Authority may direct the Project Manager to implement countermeasures which can result in varying the work sequence, limiting the extent of the active work site, working hours or requiring the cessation of work if the levels of traffic congestion exceed specified parameters.

The Project Manager shall continuously assess the levels of safety to workers and road users where the variations compromise levels of safety. Work shall cease immediately and

the work site made safe for all road users. Work is not to recommence until the levels of safety are compliant with the requirements of the Code of Practice and AS 1742.3.

The TMP should also contain provision for recording variations to the TMP, subsequent to obtaining approval and/or during implementation of the TMP. Such variations should be approved and recorded properly.

3.10 Submission of TMPs

Work within the road reserve of a public road requires prior approval from the relevant road authority. A Traffic Management Plan usually forms a part of the formal submission to the relevant road authority.

Main Roads has prepared 'Application to Undertake Work on Roads' guidelines to assist in preparation of submissions to undertake works within a Main Roads' road reservation. These are available on the Main Roads website at www.mainroads.wa.gov.au (Go to "Our Roads" > "Conducting Works on Roads" > "Applications to Undertake Works"). There are separate application kits for Complex Works, Low Complexity Works and for Utility Service Providers.

For Local Government roads, the relevant Local Government should be contacted for approval.

4. Other Documents

TMPs shall be based on the requirements of the Traffic Management for Works on Roads Code of Practice and Australian Standard 1742.3; the following documents found on the Main Roads WA website www.mainroads.wa.gov.au (Go to "Our Roads" > "Temporary Traffic Management" > "Plan Preparation" > "How to prepare a traffic management plan") may assist in the TMP process:

- Example Traffic Management Plan
- TMP Template
- Compliance Audit Checklist
- Suitability Audit Checklist
- Suitability Check Checklist
- Operational Check and Onsite Inspection Checklist
- Traffic Management Daily Diary Template
- Generic Work Zone Traffic Guidance Schemes