Preparing for the future

• Welcome / Housekeeping
  • Joint collaboration with the CCF, TMAA & Department of State Growth
  • Appreciate the commitment to attend session
  • Mobile Phones
  • Emergency Evacuation
  • Toilets
  • Please sign the attendance sheet
Preparing for the future

• Questions during/after the session
  • We will endeavour to answer any questions raised
  • We will be taking notes of questions raised to send out post briefing FAQ correspondences
  • Make contact with Department of State Growth for any enquiries
    • State Roads WHS Team – Ben Lehner & Annie Johns
    • stateroadswhs@stategrowth.tas.gov.au
Preparing for the future

• Tasmanian Training for new Guide – The way forward

NOW
CONTINUE AS NORMAL

JULY 1, 2020
TO BE CONFIRMED

AUSTROADS TRAINING PACKAGE
IMPLEMENTATION OF AUSTROADS TRAINING PACKAGE

JUNE 30, 2020
AUSTROADS TRAINING PACKAGE RELEASED
Preparing for the future

• Tasmanian Guide for Traffic Control for Works on Roads
  • Currently being updated to capture the following:
    • 3 year fresher for workers trained prior to Jan 1 2017 to be removed
    • Transition periods for the Austroads Guide to temporary traffic management
    • Implementation plan for the when the Austroads training package is released
  
  • RTO consultation regarding training aspects occurring during Feb 2020
    • RTO’s to contact Department to be involved in consultation period
    • Inputs from consultation will assist in the period between July 1 to release of Austroads training package
Preparing for the future

• Dr Dan Sullivan
  • Austroads Guide to temporary traffic management project manager

• Outline of presentation
  • Personal introduction
  • History of the Austroads Project – Safety at Road Worksites
  • AS1742.3 – 2019 update and release
  • Overview of the 10 Part Austroads Guide to Temporary Traffic Management
  • Moving forward
  • Final questions and wrap up
Dr Dan Sullivan

- 1995 – 2001: Planning & designing TTM for major contracts
- 2001 – 2005: MRWA traffic standards manager (including TTM)
- 2001 – 2003: AS1742.3 and subsequent WA adoption
- 2009 – 2013: Operations Director major engineering consultancy
- 2013 – now: Solutions in Transport
  - QLD TMR Traffic Management Improvement Project
  - Austroads Safety at Road Worksites Project Manager
  - AS1742.3 (2019) committee
# Improving Safety at Road Worksites

## 2011 - 2013

- Substantial road network damage in QLD and reconstructive effort
  - Numerous crashes at road worksites
  - Suzanne Caudell, Traffic Controller, killed on 16 January 2013

## 2013 - 2015

- QLD TMR Traffic Management at Roadworks Improvement Project
  - Review of all guidance, specifications, training and departmental requirements
  - Project is ongoing

## 2015

- Austroads Safety at Road Worksites Project – Phase 1
  - AS1742.3 update
  - Best practice review of Australian, New Zealand and international best practice
  - Revitalisation of Austroads harmonised training materials

## 2016 – 2020

- Austroads Safety at Road Worksites Project – Phase 2/3
## Safety at Road Worksites

### Industry and Road Agencies
- **Strategically Important Issue**

### Goals
- Enhance the ability of road agencies and industry to meet their WHS requirements
- Improved safety outcomes at road worksites

### Project elements

<table>
<thead>
<tr>
<th>Standards Australia</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• AS1742.3</td>
<td></td>
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<table>
<thead>
<tr>
<th>Austroads</th>
<th></th>
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<tr>
<td>• AGTTM</td>
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<tr>
<td>• Harmonised Training</td>
<td></td>
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<tr>
<td>• Investigation into Registration and Prequalification Schemes</td>
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</table>

<table>
<thead>
<tr>
<th>Industry TMAA CCF etc</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Industry information and briefing</td>
<td></td>
</tr>
<tr>
<td>• Training in new guidance</td>
<td></td>
</tr>
</tbody>
</table>
AS1742.3

2019 update
Philosophy for AS1742.3 update

• MS-012 committee
  • Existing document covered many aspects which should not be detailed in Australian Standards.
  • Issues such as how to carry out a risk assessment, etc. should be captured in a guideline instead
  • Cover the principles, process and broad steps to consider and prepare Traffic Management Plans and Traffic Guidance Schemes.

• AS1742.3 to detail
  • Broad principles for TTM and the difference between the TMP and the TGS
  • Details for signs and devices for use at TTM – standards application only
AS1742.3 – section 1

- **Contents**
  - Scope
  - References
  - Terms and Definitions
  - Responsibility for safety at work sites

- **This general content of this section is not substantially changed**
- **Some material moved to the Preface**
- **Section relating to the old field guides (pre 2010) has been removed.**
AS1742.3 – section 2 & 3

• Traffic Management Plans
  • General
  • Preparation of the TMP
  • This section is just a very brief summary on the topic of the TMP and points to the AGTTM

• Traffic Guidance Schemes
  • General
  • Preparation of the TGS
  • Implementation of the TGS
  • Creating temporary speed zones
  • This section is substantially reduced from the previous version with much of the material now moved to the AGTTM
AS1742.3 – section 4

- Contents
  - Functions of devices
  - Selection and Use
  - Installation and removal
  - Format and size of signs
  - Sign mountings
  - Signs and devices

- This general content of this section is not substantially changed from that in the old section 3
AS1742.3 – section 4

• New material
  • MMS
    • multiple formats for sizes. Allows for 900mm high panels
    • Sign panels now included in the Standard – designated TM, GM, WM etc

(a)  \(A\text{ size} \) — 600 mm square.
(b)  \(B\text{ size} \) — 1200 mm wide by 300 mm high.
(c)  \(C\text{ size} \) — 1200 mm wide by 600 mm high.
(d)  \(D\text{ size} \) — 600 mm wide by 900 mm high.
(e)  \(E\text{ size} \) — 600 mm wide by 300 mm high.
AS1742.3 – section 4

• New material
  • Signs for Boom Barrier control of traffic

• New formats for Lane Status

• Signs and devices for managing cyclists
AS1742.3 – Appendices

• Appendix A
  • Additional multi-message signs

• Appendix B
  • Examples of MMS combinations

• Old Appendices – content moved to AGTTM
  • Daily routine tasks & record keeping  Part 6
  • Emergency and unplanned works  Part 10
  • Instructions for traffic controllers  Part 7
  • Delineation of Excavations  Part 3
Following content is a summary of webinars prepared for Austroads and available at www.austroads.com.au
AGTTM Part 1 - Introduction

• Safety at Road Worksites project
• Background to edition 1.0
• Guide structure
• Reading the Guide
• Definitions
• Principles
• Future governance
# Part 1 - Introduction

## Structure

<table>
<thead>
<tr>
<th>Overview</th>
<th>Part 1: Introduction</th>
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</thead>
<tbody>
<tr>
<td>Planning</td>
<td>Part 2: Traffic Management Planning</td>
</tr>
<tr>
<td>Design</td>
<td>Part 3: Static Work Sites</td>
</tr>
<tr>
<td>Field</td>
<td>Part 6: Field Staff – Implementation and Operation</td>
</tr>
</tbody>
</table>
Part 1 - Introduction

Development of the Guide

• Based on existing documented practice
  o AS1742.3 and NZ CoPTTM
  o Jurisdictional practices

• Project Temporary Traffic Management Working Group (TTMWG)
  o All States and Territories
  o New Zealand Transport Agency (NZTA)
  o Local Government
  o Industry – TMAA, RIAA, AAPA

• Industry Consultation for all technical content
# Part 1 - Introduction

## Reading the Guide

<table>
<thead>
<tr>
<th>Part</th>
<th>Traffic management worker</th>
<th>Traffic controller</th>
<th>Traffic management implementer</th>
<th>Traffic management designer</th>
<th>RIM / project manager / contractor / TM company</th>
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</thead>
<tbody>
<tr>
<td>Part 1</td>
<td>General knowledge</td>
<td>General knowledge</td>
<td>General knowledge</td>
<td>General knowledge</td>
<td>General knowledge</td>
</tr>
<tr>
<td>Part 2</td>
<td>General knowledge</td>
<td>General knowledge</td>
<td>Intermediate knowledge</td>
<td>Lead role</td>
<td>Supporting role</td>
</tr>
<tr>
<td>Part 3</td>
<td>General knowledge</td>
<td>Intermediate knowledge</td>
<td>Intermediate knowledge</td>
<td>Lead role</td>
<td>Supporting role</td>
</tr>
<tr>
<td>Part 4</td>
<td>General knowledge</td>
<td>General knowledge</td>
<td>Intermediate knowledge</td>
<td>Lead role</td>
<td>Supporting role</td>
</tr>
<tr>
<td>Part 5</td>
<td>Intermediate knowledge</td>
<td>Supporting role</td>
<td>Supporting role</td>
<td>Lead role</td>
<td>Supporting role</td>
</tr>
<tr>
<td>Part 6</td>
<td>Intermediate knowledge</td>
<td>Intermediate knowledge</td>
<td>Lead role</td>
<td>Supporting role</td>
<td>Supporting role</td>
</tr>
<tr>
<td>Part 7</td>
<td>General knowledge</td>
<td>Lead role</td>
<td>Supporting role</td>
<td>Supporting role</td>
<td>Supporting role</td>
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<tr>
<td>Part 8</td>
<td>General knowledge</td>
<td>General knowledge</td>
<td>Supporting role</td>
<td>Lead role</td>
<td>Supporting role</td>
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<tr>
<td>Part 9</td>
<td>General knowledge</td>
<td>General knowledge</td>
<td>Intermediate knowledge</td>
<td>Lead role</td>
<td>Supporting role</td>
</tr>
<tr>
<td>Part 10</td>
<td>General knowledge</td>
<td>General knowledge</td>
<td>Supporting role</td>
<td>Lead role</td>
<td>Supporting role</td>
</tr>
</tbody>
</table>
Part 1 - Introduction

Planning and Design
• Safety of workers
• Safety of the public
• Creating efficient TTM
• Maintain the customer experience

Principles
• Uniformity
• Fit for purpose
• Design principles
• The safe system
• Design for the driver
• Work in accordance with TMP & TGS
• Road categories and training
Part 1 - Introduction

Future Governance

• Industry practices continue to evolve rapidly
  o Innovations
  o New design practices
  o New implementation practices

• Maintained as a live document
  o Ongoing reviews and updates
  o Working Group
  o Ongoing consultation and industry input

• Email all of your comments, questions and requests to
  austroads@austroads.com.au
AGTTM Part 2 – Traffic Management Planning

- Objectives of traffic management planning
- Risk
- The hierarchy of control
- Relevant policy and legislation
- Preparing a traffic management plan
Part 2 – Traffic Management Planning

Objectives
1. Confidence
2. Means to do the job
3. Travel needs of public
4. Integration with community

Risk Assessment
• the presence of risk
• the source of the risk
• the subject and potential impact of the risk
• risk treatments required.
• Evaluate identified risks - likelihood, consequence (using historical data, experience etc)
Part 2 – Traffic Management Planning

Hierarchy of Control

- Around
- Through
- Past
Part 2 – Traffic Management Planning

TMP Requirements

• Common components and associated risks

• There are four guiding principles to be considered as part of the preparation and review of TMPs:
  1. safety
  2. accessibility
  3. amenity
  4. asset.
Part 2 – Traffic Management Planning

Preparation of the TMP

• Introductory activities
• Risk assessment
• Plan and design
• Ongoing activities
Part 2 – Traffic Management Planning
Part 2 – Traffic Management Planning

Stage B1 – Eastern Pier
Lane closed for deliveries

- Traffic diverge (left lane opens) – located to retain left turn lane to shopping centre
- Lane closed for delivery
- Traffic merge (left lane closed)
- Cyclists encouraged to use path
- Hotel access not affected
- Path diversion (temporary ramp to carpark)
- Bus stop retained (merge taper with break for buses)
- Works area / depot relocated to retain ramp from footpath
AGTTM Part 3 – Static Worksites

- Guidance on the design of temporary traffic guidance schemes at Static worksites
- Process to decide what worksite set up is appropriate
Part 3 – Static Worksites

Risk Categories

- Road worker safety
- Road users
- Vulnerable road users
- Site condition
- Parked vehicles
- Adverse weather conditions
- Unattended vehicles
- Your worksite?
Part 3 – Static Worksites

Design steps

Step 1: Identify method of control
From TMP (refer to ADTTM Part 2) and risk assessment

- Around the Worksite
  - Step 2: Define worksite layout
  - Step 3: Separate the work area
  - Step 4: Road closures & property access
  - Step 5: Establish safe traffic speed
  - Safety buffer
  - Additional warning area
  - Advance warning area
  - Detour design
  - Termination area
  - Protect vulnerable road users

- Through the Worksite
  - Step 2: Define worksite layout
  - Step 3: Separate the work area
  - Step 4: Delineate the route
  - Step 5: Establish safe traffic speed
  - Safety buffer
  - Additional warning area
  - Advance warning area
  - Termination area
  - Protect vulnerable road users

- Past the Worksite
  - Step 2: Define worksite layout
  - Step 3: Separate the work area
  - Step 4: Delineate the route
  - Step 5: Establish safe traffic speed
  - Safety buffer
  - Additional warning area
  - Advance warning area
  - Transition area
  - Termination area
  - Protect vulnerable road users

Where protection for vulnerable road users is required, repeat the process from Step 2 to Step 13 for each road user group to be managed.

Design for additional issues (e.g., night works, public transport etc.)
Part 3 – Static Worksites

Around the worksite

• Hazard elimination

• Entire work area (including all vehicles and plant) is located 6m or more from the nearest clear edge of a traffic lane or separated with a permanent rigid road safety barrier

• Typical layout for around the worksite
Part 3 – Static Worksites

Through the worksite

• Methods of hazard separation, where the passage of traffic through a worksite is permitted during pauses in work activity.

• This method is most practicable on Category 1 and 2 roads
Part 3 – Static Worksites

**Past the worksite**

- Methods of hazard separation, when the entire work area (including all vehicles and plant) is located within 6 m from the nearest edge of a traffic lane.
Part 3 – Static Worksites

Sign spacing and sight distance

• Dimension D no longer is used

• Perceive and react to hazardous situation

• Number of factors influencing sight distance
Part 3 – Static Worksites

**Speed**
- Establish safe traffic speed
- Setting the speed limit
- Posted speed limit

**Traffic Controllers**
- Consider Portable Traffic Control Device (PTCD)
  - Safety
  - Capacity
  - Efficiency
- Additional detail in Part 7
Part 3 – Static Worksites

**Design for additional issues**
- Vulnerable road users
- Pedestrians
- Consider in Traffic Management Plan (TMP) development
- Public Transport

**How to implement the TGS**
- Installation
- Maintenance
- Removal
- Additional guidance in Part 6
AGTTM Part 4 – Mobile Works

- Guidance on the design of temporary traffic guidance schemes at Mobile works
- Process to decide what worksite set up is appropriate
Part 4 – Mobile Works

1. Is this part appropriate
   • Consider whether mobile works are appropriate
   • If requirements cannot be met, use a static worksite treatment
   • TMP and TGS are required

   • Questions that must be a “YES” includes:
     o Nature of the activity – can a mobile works operation be used
     o Sight distance – is it achievable
     o Vehicle mounted warning devices – are these clearly visible
     o Availability of equipment – are resources available

1. Confirm the works can be defined as mobile works
2. Identify the works location
3. Determine the needs of the work convoy
4. Determine the work convoy spacing
5. Determine the signs and devices to use
6. Identify the operational procedures to be followed
7. Design the TGS and document the notes for field staff
Part 4 – Mobile Works

2. Identify the works location

- Shoulder / Verge
- Edge Lane
- Straddle Lane
- Left Lane
- Lane 2
- Centreline
Part 4 – Mobile Works

3. Determine the work convoy needs
   • Lead vehicle
   • Work vehicle
   • Shadow vehicle
   • Advance warning vehicle
   • Vehicle positioning

*Figure 3.5: Vehicle Positioning*
Part 4 – Mobile Works

4. Determine the work convoy spacing

<table>
<thead>
<tr>
<th>Speed (km/h)</th>
<th>Distance between convoy vehicles (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤45</td>
<td>50</td>
</tr>
<tr>
<td>46 - 55</td>
<td>70</td>
</tr>
<tr>
<td>56 - 65</td>
<td>90</td>
</tr>
<tr>
<td>66 - 75</td>
<td>110</td>
</tr>
<tr>
<td>76 - 85</td>
<td>140</td>
</tr>
<tr>
<td>86 - 95</td>
<td>160</td>
</tr>
<tr>
<td>96 - 105</td>
<td>200</td>
</tr>
<tr>
<td>≥106</td>
<td>230</td>
</tr>
</tbody>
</table>
Part 4 – Mobile Works

5. Signs and devices to use

• Advance Warning
• Signs mounted on vehicles
• Works within a shoulder
• Works within a lane
Part 4 – Mobile Works

6. Operational procedures & 7. Design the TGS

- Reduced sight distance
- Mobile temporary zone
- Maintaining traffic flow
- Road marking and line marking
- Signs
- Workers on foot
- Communication
- Kerbside collection and street sweeping
- Advance warning
- Work convoy arrangements
- Pedestrians and cyclists
- Rolling blocks
- Unsealed roads
AGTMM 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 worksite set up is appropriate
Part 5 – Short term low impact worksites

Risk assessment
• Departure from accepted practices within Part 3
• Requires robust risk assessment

Use of specialist vehicles
• TMAs

Essential design principles
• Sight distance
• Signs
• Road categories
• Lane width
• Traffic volumes
• Speed
Part 5 – Short term low impact worksites

**Practices**

**Works on road – within a traffic lane**

- Works protected by specialist vehicles
- Works between gaps in traffic
- Short term works in traffic
- Frequently changing work areas – in lane
- Constantly moving work area – in lane

**Works off road – outside of traffic lane**

- Shoulders, medians, verges and footpaths with workers on foot or small plant items only
- Shoulders, medians, verges and footpaths with large plant items only
- Frequently changing work area outside of a traffic lane
Part 5 – Short term low impact worksites

Works between gaps in traffic

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  The work area is within a traffic lane</td>
<td></td>
</tr>
<tr>
<td>2  The works can be undertaken safely with road workers entering and exiting the road in gaps in traffic</td>
<td></td>
</tr>
<tr>
<td>3  Traffic is not impeded in any way</td>
<td></td>
</tr>
<tr>
<td>4  The road surface can remain trafficable without hazard to traffic</td>
<td></td>
</tr>
<tr>
<td>5* A lookout person is available to warn workers on foot to vacate the roadway before the arrival of approaching traffic. If the requirements of Table 4.2 are met answer “Yes”</td>
<td></td>
</tr>
<tr>
<td>6  A vehicle mounted warning device is displayed on the work vehicle and not obscured when the vehicle can be parked adjacent to the worker location</td>
<td></td>
</tr>
<tr>
<td>7  Work vehicles and equipment are parked clear of moving traffic lanes</td>
<td></td>
</tr>
<tr>
<td>8  The volume of traffic does not exceed 100 vph per lane (unless significant gaps are created by upstream traffic control devices such as intersection traffic signals)</td>
<td></td>
</tr>
</tbody>
</table>
Part 5 – Short term low impact worksites

Frequently changing work area

- Shadow vehicle
- Lookout person
- Work vehicle

Constantly moving work area

- Shadow vehicle
- Work vehicle
AGTTM Part 6 – Field Staff

- Implementation and Operation
- On-site risk assessment
- Installation and removal of TTM
- Operation and monitoring
- Record keeping
Part 6 – Field Staff

Fundamental Principles
• Apply for all works and include
• There shall be a TMP and associated TGS for all activities
• Safety for road workers and road users shall be an integral part of all activities carried out
• Activities shall be planned to cause as little disruption to road users as possible without compromising safety.

Basic principles for the TMI
• Signs and devices shall be placed before work begins and removed as soon as they are no longer required.
• Workers are protected
• Adequate instruction is given to road users for their safe guidance
• Records shall be kept of all signing and delineation
Part 6 – Field Staff

Role of the TMI

• TMI is responsible for
  o The traffic management within a temporary traffic management (TTM) worksite
  o Temporary traffic management workers under their direction
  o Safety of motorists, pedestrians and vulnerable road users.

• Only work on roads for the category to which they have been trained (Category 1, 2, or 3)

Day to Day activities

• Implement the job pack
• Conduct toolbox talks
• Review and assess risks
• Select / adjust a Generic TGS
• Liaise with TMD if changes are outside TMI responsibility
• Oversee and manage the TTM workers under their responsibility
• Monitor the effectiveness and operation of the TTM
Part 6 – Field Staff

**Pre-shift**
- Vehicle Check
- Job Pack Check
- Equipment and Devices
- Condition of Devices
- Cleanliness
- Colour of Fluorescent Signs
- Low light Visibility
- Resources

**Pre-start**
- TMP and TGS development - residual risk register
- On site safety analysis and risk assessment
- Toolbox Talks
- TTM Staff
- Construction Workers/Visitors
Part 6 – Field Staff

TGS Installation

• General procedure for setting up a site:
  o locate the work area using GPS, landmarks, side streets, chainage
  o install devices as outlined in the TGS for side streets first
  o install devices as outlined in the TGS for the non-working lane (un-affected direction)
  o install devices as outlined in the TGS for the working lane (affected direction) to complete installation.
Part 6 – Field Staff

TGS Operation and Maintenance

• A daily routine to allot specific TTM tasks to TTM personnel, including TMI’s, so that:
  - signs and devices are always adequate for the safety of personnel and road users
  - the surface of the travelled path is maintained in a satisfactory condition
  - plant operations are not disrupted
  - loss of production time is minimised
  - accessibility for pedestrians and cyclists is maintained.

TGS Removal

• The general procedure for removing a site is the:
  - work area (devices in reverse order)
  - non-affected side of roadway (signage and devices in direction of travel)
  - affected side of roadway (signage in direction of travel)
  - side roads (closure devices then signage in direction of travel)
  - detours (in direction of travel).
AGTTM Part 7 – Traffic Controllers

- Training competencies
- Traffic controller instructions
- Traffic Control devices
Part 7 – Traffic Controllers

Authority and accreditation

Supervisory requirements

Medical fitness
Part 7 – Traffic Controllers

Responsibilities
• Functions
• Responsibilities
• Communicating effectively
• Behaviour and attitude
• Give definite and clear signals
• Breaks

What to wear and use

STOP
White reflectorised legend and border, red reflectorised background.

SLOW
Black legend and border, yellow reflectorised background.
Part 7 – Traffic Controllers

What to do when arriving at site

• Activities at commencement of a shift.
• Attending a pre-start meeting
• Everyone understands activities occurring and everyone’s responsibilities and roles
• TC station set up and positioning.
• Safety of traffic controllers & road users,
• Visibility, escape path, ability to use relevant equipment, cones and signs, speed limits and sign locations.

Controlling traffic

To Stop

To Go
Part 7 – Traffic Controllers

When things don’t go to plan

• Incidents
• Reporting
AGTTM Part 8 – Processes and Procedures

- Processes and procedures
- Road categories
- Roles & responsibilities
- Training competencies
- Forms / Model spec.
Part 8 – Processes and Procedures

Road Categories

• Form a broad framework for the purpose of applying TTM practices.

• For purposes of planning and implementing a TMP, roads are categorised to best fit the application of TTM practices

• Set by the road authority

• May be amended up or down to reflect site or project specific risks
Part 8 – Processes and Procedures

Road Categories

Category 1

Category 2

Category 3
TGS Selection

• Traffic Guidance Schemes are described in three broad types:
  o Generic
  o Site Suitable
  o Site Specific.
Part 8 – Processes and Procedures

Training Framework
• Traffic Management Designer
• Traffic Management Implementer
• Traffic Controller

• The training framework described is published for information only to allow industry to commence consideration and planning for the future training arrangements.

• It is not in application yet.
Part 8 – Processes and Procedures

**TTM Roles and responsibilities**
- Traffic Management Designer
- Traffic Management Designer – Non-practitioner
- Traffic Management Implementer
- Traffic Management Implementer – Non-practitioner
- Traffic Controller

**Other associated roles**
- Road Infrastructure Manager
- Non-RIM Principal
- Engineer
- Project Manager
- Principal Contractor
- Traffic Management Worker
Part 8 – Processes and Procedures

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

**Model contract specs**
- Example contract specifications for TTM are provided
- Every local and state authority or territory has its own requirements for contractual specifications.
- The samples provided are examples only that can be used to prepare or adjust current jurisdictional specifications where required.
AGTTM Part 9 – Sample Layouts

- Visual guidance
- Educational guidance to traffic management designers
- Illustrative sample layouts
- Avoid the perception that examples are “standard diagrams
Part 9 – Sample Layouts

**Summary of Sample Layouts**
- Around the worksite (8)
- Through the worksite (2)
- Past the worksite (16)
- Roundabout (2)
- Mobile works (4)
- Unsealed roads (1)
- Short term, low impact (6)
- Presentation examples and a multi-stage worksite example (11)
Part 9 – Sample Layouts

Structure of Sample Layouts

- Illustrative style
- Best at A3 size
- Not to scale
- Annotated for
  - References
  - Risks
  - Designer Considerations
  - Implementor Considerations

Solutions
Transport
Part 9 – Sample Layouts

Sample Layout Details
• Layout is consistent in terms of structure and the symbolic representation.
• Real world aerials
• Shows cars, cyclists, pedestrians, vegetation and real world considerations
• Do not provide sign faces.
• Austroads expects that the designers will use other parts of the guide and the updated Australian Standard 1742.3
Part 9 – Sample Layouts

Pre-planning
Part 9 – Sample Layouts

TMP Staging Plan

Design Considerations

1. Access to the 24/7 service station needs to be maintained.
2. Everyman Medical requires access to medical businesses and a 24/7 pump station during the day.
3. The second entrance requires a local access with a right turn out of the western driveway.
4. The service station will impact on the northern and western access ways and due to the lack of a suitable barrier, this barrier needs to be considered.
5. Everyman Medical requires access to medical businesses and a 24/7 pump station in 24/7 pump station.

Disclaimer

A typical staging plan should include the general movements of all road user groups, including pedestrian vehicles and the work area including vehicle and management zones. This avoids the design to identify areas of conflict and will need to be managed within each design, and also can be used to communicate constraints and opportunities to stakeholders.
Part 9 – Sample Layouts

TGS Detailed Plan
AGTTM Part 10 – Supporting Guidance

• Supporting guidance
  • Risk management
  • Inspections & audits
  • Events
  • Emergency situations
Part 10 – Supporting Guidance

Risk Management
• Based on AS/NZS ISO 31000:2018
• Context and model process for TTM

Step 1
Determine site risk rating

Step 2
Determine required level of planning

Step 3
Consider risk at the work site

Step 4
Consider risk control measures

Step 5
Select risk controls
Part 10 – Supporting Guidance

1. Determine the site risk rating
   - Road Category
   - Speed
   - Clearance from traffic

   • Considers the risk to workers

<table>
<thead>
<tr>
<th>Posted speed limit and road type</th>
<th>Site risk rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clearance between traffic lane and workers</td>
</tr>
<tr>
<td></td>
<td>&lt; 1.2 m</td>
</tr>
<tr>
<td>40 km/h Category 1 road</td>
<td>Medium</td>
</tr>
<tr>
<td>Category 2 road</td>
<td>Medium</td>
</tr>
<tr>
<td>Category 2 road (urban)</td>
<td>Medium</td>
</tr>
<tr>
<td>50 km/h Category 1 road</td>
<td>Medium</td>
</tr>
<tr>
<td>Category 2 road</td>
<td>Medium</td>
</tr>
<tr>
<td>Category 2 road (urban)</td>
<td>High</td>
</tr>
<tr>
<td>60 km/h or 70 km/h Category 1 road</td>
<td>High</td>
</tr>
<tr>
<td>Category 2 road</td>
<td>High</td>
</tr>
<tr>
<td>Category 2 road (urban)</td>
<td>High</td>
</tr>
<tr>
<td>80 km/h or 90 km/h Category 1 road</td>
<td>High</td>
</tr>
<tr>
<td>Category 2 road</td>
<td>High</td>
</tr>
<tr>
<td>Category 3 road</td>
<td>High</td>
</tr>
<tr>
<td>100 km/h or higher Category 1 road</td>
<td>High</td>
</tr>
<tr>
<td>Category 2 road</td>
<td>High</td>
</tr>
<tr>
<td>Category 3 road</td>
<td>High</td>
</tr>
</tbody>
</table>
### Part 10 – Supporting Guidance

#### 2. Level of Planning

- Low
- Medium
- High

#### 3. Consider site specific risk

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Likelihood</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Almost certain</td>
</tr>
<tr>
<td>Catastrophic</td>
<td>Very high</td>
</tr>
<tr>
<td>Major</td>
<td>Very high</td>
</tr>
<tr>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Minor</td>
<td>High</td>
</tr>
<tr>
<td>Insignificant</td>
<td>Medium</td>
</tr>
</tbody>
</table>
Part 10 – Supporting Guidance

4. Consider risk control measures

5. Select Risk Controls

Documentation of Risks

- Eliminate (Preferred)
- Substitute
- Isolate
- Engineer
- Training & Admin
- PPE (Least preferred)
Part 10 – Supporting Guidance

Review, inspection and road safety audit

• Context and model process for TTM
• Suitability review
• Compliance safety inspections
• Road safety audits
• Different roles for each
• All are important for improving safety
Part 10 – Supporting Guidance

Events on Roads
• TTM Context for Events
• Types of events
• Guidance only for developer of the Event TMP and TGS(s).

Principles
• Ensure safety
• Separation of event from traffic
• Adequate warning
• Manage the road capacity and minimise traffic impacts
• Hostile vehicle mitigation
Part 10 – Supporting Guidance

Emergency Works

• works resulting from an actual or imminent threat to the safety of persons or traffic or the disruption of an essential service, or which destroy or damage, or threaten to destroy or damage, any infrastructure, property or the environment arising from a situation relating to the presence of road infrastructure, utility services or public transport infrastructure within the road reserve

Typically apply to

• live power or gas leaks
• critical repairs to essential services
• substantial road damage
• large objects on a road

NOT

• Known repeatable maintenance activities
• regular activities at unplanned locations, for example such as traffic signal repairs..
• incident response
Part 10 – Supporting Guidance

Emergency Works
• Initial response
• Interim response
• Follow up response
Where to now?  What does this mean for you?
The context

Getting TTM right

- Enforcement
- Workers' behaviour
- Contractor influence and pressures

- Risks remain - how do we address them?
- Drivers make mistakes
- Some drivers will never listen
- Emphasis on maintaining traffic flow

- Cost - cheapest wins
- Road Authority requirements
- Form of Tender

- Driver Behaviour
Preparing for the future

• How should you respond?
  • Need to start becoming familiar with the new documents
  • Opportunity for staff to review and consider the documents now
  • Opportunity for industry expertise to support you in preparation
  • Understand the emerging needs in developing generic TMP / TGS

• Government
  • Categorise road network
  • Program transition timeframes
  • Update jurisdictional guidance
Training being delivered

- Road Categorisation
- Developing and implementing Generic TMP / TGS
- Awareness training for organisations purchasing / project managing TTM
- Design coaching and support
- Peer review services
- The role of the contractor / TTM company