



Austroads

Report for comment

**BN2019 Safety at Road Worksites:
Module 2 Temporary Traffic Management Training
Industry Consultation Paper**

BN2019 Safety at Road Worksites: Module 2 Temporary Traffic Management Training – Industry Consultation Paper

Prepared by

Judy Oswin, Geoffrey Cotton, Lyn Cundy

Project Manager

Dan Sullivan

Abstract

This paper outlines proposed changes to Temporary Traffic Management roles and training arrangements and seeks industry views

Feedback is to be provided by 16 January 2019 to austroads@solutionsintransport.com.au

Keywords

Temporary Traffic Management; Training; Traffic Controller; Temporary Traffic Management Implementer; Temporary Traffic Management Designer, Units of Competency

Austroads Project No. BN2019

Publication date November 2018

Pages 223

© Austroads 2018

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without the prior written permission of Austroads.

Publisher

Austroads Ltd.
Level 9, 287 Elizabeth Street
Sydney NSW 2000 Australia
Phone: +61 2 8265 3300
austroads@austroads.com.au
www.austroads.com.au



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:

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

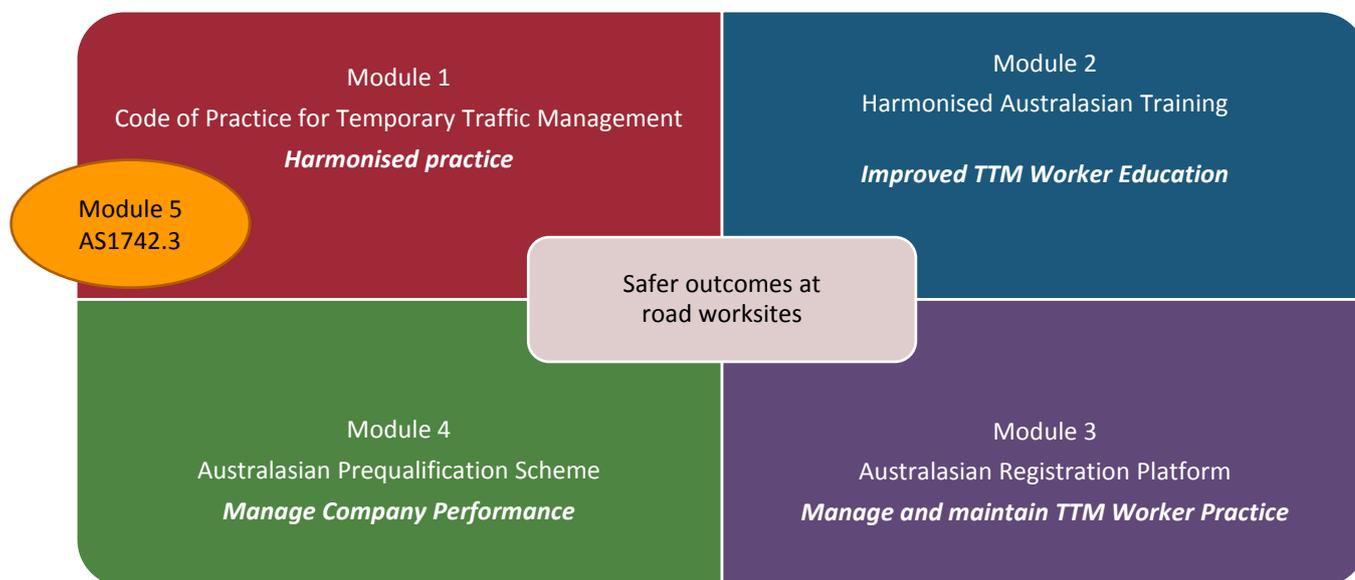
This report has been prepared for Austroads as part of its work to promote improved Australian and New Zealand transport outcomes by providing expert technical input on road and road transport issues.

Individual road agencies will determine their response to this report following consideration of their legislative or administrative arrangements, available funding, as well as local circumstances and priorities.

Austroads believes this publication to be correct at the time of printing and does not accept responsibility for any consequences arising from the use of information herein. Readers should rely on their own skill and judgement to apply information to particular issues.

Summary

The Austroads Safety at Road Worksites project consists of four main modules of work and a fifth module supporting the update to AS1742.3. These Modules are as depicted in the following figure with the objective of improving safety at road worksites (Austroads strategic Priority Project BN2019)



This document represents the first major piece of work undertaken within Module 2 – Harmonised Australasian Training and is focussed on the framework within which the future training documentation will be developed.

As part of this project, Austroads is seeking input from industry on the proposed changes to Temporary Traffic Management roles and related training.

The Austroads Working Group has developed a series of recommended positions and these are outlined. Where alternative options have been put forward these are also set out for industry consideration.

Industry is asked to provide their views on the recommendations and approaches outlined in this paper. Comments are to be provided to using the feedback form provided with this industry consultation document. Please note that feedback provided as a mark-up to this document may not be considered. All feedback forms are to be submitted by email to austroads@solutionsintransport.com.au. Feedback is due by Wednesday 16 January 2019.

Contents

Summary	i
1. Background	1
1.1 Current Work Program	2
2. Roles	4
2.1 Austroads Recommended Approach – Training and Progression	5
2.2 Alternative Approach	5
2.3 Industry Input	6
3. Working Safely Near Traffic	7
3.1 Industry Input	7
4. Traffic Controllers	8
4.1 Austroads Working Group Recommended Position	8
4.1.1 Training by Road Category	8
4.1.2 Competencies	8
4.1.3 Assessment	9
4.1.4 Progression Between Categories	10
4.2 Alternative Approach	10
4.3 Industry Input	10
5. Implementers	11
5.1 Austroads Working Group Recommended Position	11
5.1.1 Training by Road Category	11
5.1.2 Competencies	11
5.1.3 Assessment	12
5.1.4 Eligibility and Progression Between Categories	12
5.2 Alternative Approach	13
5.3 Industry Input	14
6. Designers	15
6.1 Austroads Working Group Recommended Position	15
6.1.1 Training by Road Category	15
6.1.2 Competencies	15
6.1.3 Assessment	16
6.1.4 Eligibility and Progression Between Categories	16
6.2 Alternative Approach	17
6.3 Industry Input	18
7. Practitioner and Non-Practitioner Status	19
7.1 Alternative Approach	20
7.2 Industry Input	20
8. Refresher Training	21
8.1 Industry Input	22

Appendix 1 – Draft Temporary Traffic Management Role Statements.....	23
Appendix 2 – Draft Temporary Traffic Management Training Units of Competency	36
A2-1 Overview	37
A2-2 Traffic Controller	41
A2-3 Implementer	73
A2-4 Designer	155

1. Background

Current Australian practice for the planning and design of temporary traffic management (TTM) at road worksites is documented in the Australian Standard AS1742.3 - 2009. This standard describes the process of planning for TTM, describes the available traffic control devices, and provides guidance on the design of a traffic guidance scheme. It however contains no material on training and registration of individuals or companies operating within the industry.

The NZ Code of Practice for Temporary Traffic Management (CoPTTM) was reviewed by Austroads Project BN2019 Steering Committee and found to be far more comprehensive, and in addition to addressing the technical design elements, also addresses a range of other issues including:

- Categorisation of road networks according to risk and complexity profile
- Contract and policy framework for temporary traffic management
- Training regime for industry
- Registration and accreditation of individuals and companies, including processes for de-registration in the event of poor performance.
- Audit and surveillance requirements.

Austroads Project BN2019 considered that the NZ CoPTTM provided a model template for the development of a similar guide for application by all Austroads member authorities. Austroads will over the period 2017 to 2019 publish the Austroads CoPTTM. It will provide practitioners in all roles across the TTM industry with comprehensive guidance on all aspects of the planning, design, installation, operation and management for TTM sites.

The CoPTTM is to be supported with harmonised training for TTM. Currently, adoption of the training model suggested in Austroads Project NT1919 varies across jurisdictions with little evidence of harmonised training in TTM across Australian and New Zealand. Some jurisdictions have adopted the Austroads training model in full while others have yet to implement any part of the model. Recognition of qualifications across jurisdictions remains an objective but has not been meaningfully achieved.

An Austroads Working Group was formed to oversight the development of standardised TTM requirements. Membership of this group is:

- Department of Transport and Main Roads
- Roads and Maritime Services
- VicRoads
- Department of Planning, Transport and Infrastructure
- Department of State Growth
- Department of Infrastructure, Planning and Logistics
- Department of Transport
- Australian Asphalt Pavement Association
- Traffic Management Association of Australia
- City of Yarra
- PwC Skills for Australia

In 2017, a thorough review of existing training packages was undertaken which culminated in a meeting of jurisdictional representatives in December 2017. The results of this review were as follows:

- A general scepticism within industry of the skills of those who have completed the training. There is an acceptance that individuals have sat through the course but there remain doubts as to whether the individuals have in all cases the skills to safely and correctly undertake the role for which they have been trained.
- Consequently, Road Authorities and Industry have reported being reluctant to accept individuals trained by Registered Training Organisations (RTOs) that they have not specifically approved. As out of state RTOs therefore fall into this category, this has a significant impact on the desired harmonisation outcome.
- Also as a consequence over the concerns over the lack of real skills demonstrated by individuals sitting the Resource and Infrastructure Industry (RII) skills sets, Road Authorities have been developing their own training to supplement the RII elements and also including an expanded set of information and assessment. In many cases this includes development, delivery and assessment of competencies not covered in the existing units of competency published for the national skills sets.
- There is an inconsistent approach to the practical assessment element of the units. Some jurisdictions require that individuals after completing the in-class element demonstrate a log of experience and then sit a practical assessment by the RTO. Others require just a single practical or simulated assessment immediately following the course.

Some of the reported concerns with current course delivery include:

- Concerns over the consistency of delivery by RTOs. Some RTOs appear to be able to deliver the course in very short timeframes
- Lack of robust assessment of individuals with reports that every attendee passing every unit
- The assessment tool and course delivery seem focused on ensuring participants fill out the workbook and are taught how to answer the questions, rather than ensuring they have the necessary skills.

Consequently, in many cases the previous fragmented national approach remains, with individuals from one jurisdiction having to resit the same training in order to be qualified in a second jurisdiction. Alternatively, there is the minimum need to sit any state refresh requirements which can be nearly as comprehensive as sitting the original unit. This does not apply across all jurisdictions, but there is sufficient evidence that if left unchanged, harmonisation is unlikely to be achieved.

1.1 Current Work Program

Austrroads is undertaking a range of initiatives in the area of TTM. The aim is to ensure TTM operatives are capable and ready to enter the industry, implement contemporary best practice and improve safety across the TTM industry for both workers and road users. The project, which is the subject of this discussion paper, is focused on TTM training. Other Austrroads projects on TTM, which are either already underway, or planned for the future are:

- A new Austrroads CoPTTM. This code will provide comprehensive guidance on matters relating to planning, design and implementation of TTM.
- Harmonised industry registration and prequalification schemes.
- An information technology system to manage training records of persons who have undertaken TTM training and entities who are TTM prequalified.
- Governance arrangements to support the outsourced delivery of TTM training.
- Standardised TTM training packages, based on the approved competency and assessment units.

This consultation document relates specifically to the TTM roles of Traffic Controller, Implementer and Designer and the training and assessment required for them to enter and maintain their approval status to operate. The recommended arrangements which are outlined in this document, once considered in light of industry feedback, and then approved and implemented, will be expected to cover TTM activities on state and territory controlled roads in Australia. Local governments and other road operators will be encouraged to adopt the same approach on the basis that it promotes both:

- Road safety for road workers and road users
- A consistent road user experience which is likely to improve compliance and hence safety.

The key focus for this work is to ensure that people who graduate from training have the required skills and experience to enable them to safely and competently undertake their TTM role.

This paper outlines the Austroads Working Group recommended position in relation to TTM roles and related competencies and assessment. In some cases there are possible options to the recommended Austroads position. These alternatives are outlined and industry views are sought on the preferred approach. Feedback is to be provided to austroads@solutionsintransport.com.au by 16 January 2019.

2. Roles

There are three TTM defined roles:

- Traffic Controller
- Implementer
- Designer.

Appendix 1 outlines the draft role descriptions for each of these, as contained within the CoPTTM which is under development.

Currently, if a person is qualified in any of these roles, they are able to work on all TTM related work aligned with that qualification. A key proposed change to current arrangements is that there will be a separation of TTM roles according to the road category on which they are approved to operate. Three categories of road have been defined based on the risk profile and nature of the road environment. The following table provides the 'rule of thumb' that will be applied by road agencies in determining the category of road for TTM purposes. These road categories are fundamentally agreed, however are still subject to finalisation.

Table 2.1: Characteristics of Road Categories

TTM Road Category	Category 1	Category 2	Category 3
Attributes	Any speed with 3,000 vehicles per day or less	Speeds greater than 60 km/h and greater than 3,000 vehicles per day	Any Freeway or Motorway
	60 km/h or less and up to 10,000 vehicles per day	Any speed with greater than 10,000 vehicles per day	Any grade separated road with: <ul style="list-style-type: none"> • Speed of 90 km/h or greater and • 20,000 vehicles per day or greater
		Any signalised intersection	

For each individual road work situation, the road agency will determine which category will apply. The features in the table above may be moderated after taking into account the specific features of a work site including; road users; traffic mix and infrastructure. Once the road category has been determined, only those persons with the relevant category of TTM certification will be able to undertake work on the design, implementation or control of traffic at the site.

2.1 Austroads Recommended Approach – Training and Progression

There are eight recommended categories of TTM training and approval as outlined below.

Table 2.2: TTM Role Overview by Category

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

Austroads is recommending that there is a progressive approach to approval to operate on various road categories.

The three key components of this progressive approach are:

1. Category 1 training and competency assessment is a base entry point for each individual TTM role and is a prerequisite to undertaking higher category level training in that role
2. There is also an experience requirement before a person is eligible to undertake Category 2 or 3 level training. (Proposed experience requirements are outlined in Sections 4, 5 and 6 which describe arrangements for each of the TTM roles)
3. After successful completion of Category 1 training and assessment, and verification of relevant experience, a person may choose to progress to either Category 2 or Category 3 training in the relevant role.

While training provides valuable foundational skills, experience is required to embed the capability. It is therefore recommended that, as outlined in step 2, there is a period of experience required before a person can progress to Category 2 or Category 3 training. The suitability of a person to progress to a higher category of training will be based on a portfolio of evidence to be verified by an RTO/ Approved Person.

In moving to a system of tiered approval for TTM roles, Austroads is seeking to ensure that people have the requisite skills for that road environment. New entrants to TTM roles will work on lower risk roads and build their skills over time. Individuals will choose whether they wish to undertake further training to enable them to work on either Category 2 or 3 roads. This approach also ensures that people who are working in only the lower risk road environments, therefore Category 1, will not be subject to unnecessarily onerous training requirements which would be required to build their capability to work across all road categories.

2.2 Alternative Approach

The above discussion outlines Austroads' recommended position in relation to training categories by role and the progression between categories. However, some members have proposed an approach which would allow for direct progression to Category 2 training. Instead of being required to first undertake Category 1 training in the relevant role, a person may choose to enter at the Category 2 level.

Under this option there would therefore be two entry and progression options for each TTM role as outlined in the table below.

Table 2.3: Potential Alternate Entry and Upgrade Pathways

Role	Entry Point	Category Upgrade Pathway
Traffic Controller	<i>Entry Point 1</i> • Category 1	Undertake Category 2 training if desired after suitable experience
	<i>Entry Point 2</i> • Category 2	No additional training required – able to operate on both Category 1 and 2 roads
Implementer and Designer	<i>Entry Point 1</i> • Category 1	Undertake either Category 2 or 3 training if desired after suitable experience
	<i>Entry Point 2</i> • Category 2	Able to work on both Category 1 and 2 roads. Undertake Category 3 training if desired after suitable experience.

The argument for this proposal is that it provides for a more streamlined pathway, minimising cost and administrative overhead. Further it maximises industry flexibility to apply resources across most road categories (1 and 2) with only one training requirement for the relevant TTM role.

2.3 Industry Input

Industry views are sought on the following areas.

The Austroads' recommended approach to definition of eight training units based on role and road category.

The Austroads' recommended approach to progression based on Category 1 as the entry point, with this training, along with relevant experience, a prerequisite to Category 2 or 3 training.

The alternative proposal which would allow for entry at either Category 1 or Category 2 level.

3. Working Safely Near Traffic

Austrroads has identified the need to develop an online awareness training program for people who work on or near roads (e.g. parking inspectors; maintenance staff; surveyors). This online package will be known as *Working Safely near Traffic*, and will be available to anyone who is seeking to improve their knowledge of roadwork related safety. It is anticipated that it may be voluntarily adopted by employers as a requirement for their staff.

Road regulators may mandate the completion of the training as part of road contracts or as a condition of prequalification. In addition, the completion of this training will be a mandatory prerequisite to undertaking training in any TTM role.

The development of this online awareness training is not part of the current program of work. However, it will be advanced as part of the standardised training material which will follow on from this project. Content is expected to be based around the currently available online training program 'Working in Proximity to Traffic' offered in Qld and the 'Worker on Foot' program in NSW.

3.1 Industry Input

Industry views are sought on the following areas.

Development of an online *Working Safely Near Traffic* training package.

Mandating of *Working Safely Near Traffic* as a prerequisite to all other TTM training.

4. Traffic Controllers

This section outlines Traffic Controller training and assessment requirements recommended by Austroads. It also puts forward an alternative approach to Traffic Controller training.

4.1 Austroads Working Group Recommended Position

4.1.1 Training by Road Category

As previously outlined, it is proposed that there are two categories of training for Traffic Controllers.

Table 4.1: Traffic Controller Training by Road Category

Role	Category 1	Category 2	Category 3
Traffic Controller	√	√	N/A

Traffic Controllers would be approved to operate on Category 1 and 2 roads only. Automated devices would be used to control traffic on motorway/Category 3 environments, as these environments are considered too high risk for a Traffic Controller.

4.1.2 Competencies

Austroads has developed the recommended competency requirements based on a blend of units from existing RII Skill Sets¹ as well as new units. The following table sets out training requirements. Units with a 'code' are existing Vocation and Educational Training (VET) units, and those without, are new units.

Table 4.2: Traffic Controller Units of Competency²

Role	Category 1	Category 2
Traffic Controller	RIIWHS201D – Work safely and follow WHS policies and procedures RIICOM201D – Communicate in the workplace RIIWHS205D – Control traffic with stop slow bat Position, set up and operate manually controlled portable traffic control devices ³	Control traffic – Category 2

Appendix 2, which is a separate document, sets out in detail the units of competency and provides interpretative and guidance material that will be used to support the development of training material in a subsequent Austroads project. High level assessment requirements for each competency are also outlined in the appendix.⁴

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

² Completion of the proposed new *Working Safely Near Traffic* course will be a prerequisite to enrolling in training for any TTM role

³ Based on existing unit RIIRTM 202D – Position and set up portable traffic signals

⁴ Assessment material to support the units of competency will be developed in more detail in later parts of this project and will conform with the VET sector standard templates.

4.1.3 Assessment

There are three core forms of TTM competency assessment:

1. Knowledge
2. Simulation in an on or off road environment
3. Demonstration of capability at a live worksite.

All states and territories currently require assessment of Traffic Controllers utilising the first two of these mechanisms. The extent to which demonstration of capability is required at a live worksite varies. Austroads is committed to ensuring that people receiving a TTM qualification are job ready and therefore, the recommended position is that Traffic Controllers have their capability assessed at a live worksite. This is seen as an essential component in building and ensuring capable graduates. It is expected that newly qualified persons would be monitored and progressively given exposure to more complex roles by employers.

The following table outlines the Austroads' recommended assessment approach for Traffic Controllers.

Table 4.2: Assessment Requirements for Traffic Controllers

Role and Assessment	Required
Knowledge	√
Simulation in an off road environment utilising real equipment and vehicles	√
Assessment at a live worksite	√

Austroads is proposing that the demonstration of competence at a live worksite will be able to be undertaken by the assessor, via **either**:

- visiting the site in person
- viewing of video footage (obtained via body camera or other means).

It is acknowledged that there is a time and cost impost in an assessor attending a worksite. The option to assess capability via video provides a cost effective approach, particularly for more remote worksites. It also provides a record which can be reviewed as part of audit processes. However, this form of assessment may not be considered suitable by the Australian Skills Quality Authority (ASQA) and their views would need to be considered before progressing this option.

A further practical issue in requiring live worksite experience and assessment, is access to a suitable site. In cases where TTM entities are also an RTO this is generally quite straight forward. However, where this is not the case:

- a suitable worksite may not be readily available, particularly in remote locations
- TTM entities may be reluctant to provide these opportunities for trainees who are not their employees.

While acknowledging the practical problems, Austroads members are seeking to ensure that this real life practical experience is a mandated part of training and assessment. To facilitate the availability of sites for trainee assessment, options such as requiring prequalified TTM entities to provide access to trainees as a condition of their prequalification are under consideration. TTM operators will benefit from the increased TTM staff skill and capability that will flow from more rigorous training. Austroads will engage with industry to discuss how to best achieve access to live sites for assessment purposes as part of later engagement.

4.1.4 Progression Between Categories

After completion of Category 1 training a Traffic Controller would be required to undergo a period of experience before being considered suitable to undertake Category 2 training. Experience requirements are proposed as *both*:

- A minimum period of experience as a Traffic Controller – proposed as either 3 or 6 months
- At least 100 hours experience in the preceding 3 or 6 months.

The individual will be required to present a portfolio of evidence to attest to their experience. This portfolio will be verified by an RTO/Approved Person.

4.2 Alternative Approach

The position outlined above is the Austroads Working Group recommended approach.

As an alternative, a single category of training and approval for Traffic Controllers has been proposed. Under this proposal all Traffic Controllers would be trained to a standard to enable them to operate on Category 2 roads, and by implication would therefore be skilled in Category 1 road work.

The argument for this proposal is that it reduces training overhead and ensures that all Traffic Controllers are skilled to the highest level.

4.3 Industry Input

Industry views are sought on the following areas.

The Austroads' recommended approach to two categories of Traffic Controller.

Whether the minimum period of experience before being eligible to undertake Category 2 level training should be 3 months or 6 months.

The proposed competency units, including guidance material, for Traffic Controller training. (Appendix 2)

The recommended approach to assessment which includes at a live site.

The alternative proposal of a single Traffic Controller role and training category.

5. Implementers

This section outlines the Implementer training and assessment requirements recommended by Austroads. It also puts forward an alternative approach to progression through the categories of training.

5.1 Austroads Working Group Recommended Position

5.1.1 Training by Road Category

As previously outlined, there are three categories of Implementer training proposed.

Table 5.1: Implementer Training by Road Category

Role	Category 1	Category 2	Category 3
Implementer	√	√	√

5.1.2 Competencies

Austrroads has developed the recommended competency requirements based on a blend of units from existing RII Skill Sets⁵ as well as new units. The following table sets out training requirements. Units with a 'code' are existing VET units, and those without, are new units.

Table 5.2: Implementer Units of Competency⁶

Role	Category 1	Category 2	Category 3
Implementer	RIIWS201D – Work Safely and follow WHS policies and procedures	Implement TMP and TGS– Category 2 RIIBEF301D Run on-site operations	Implement TMP and TGS – Category 3 RIIBEF301D Run on-site operations
	RIICOM201D – Communicate in the workplace		
	RIIWS302D – Implement TMP and TGS		
	RIIRIS301D – Apply risk management process		
	RIIRTM201D – Position and set up variable message signs		
	Position, set up and program portable traffic control devices		

Appendix 2, which is a separate document, sets out in detail the units of competency and provides interpretative and guidance material that will be used to support the development of training material in a subsequent Austroads project. High level assessment requirements for each competency are also outlined in the appendix.⁷

⁵ RII training units are approved within the VET Sector regulatory arrangements

⁶ Completion of the proposed new Working Safely Near Traffic course will be a prerequisite to enrolling in training for any TTM role

⁷ Assessment material to support the Units of Competency will be developed in more detail in later parts of this project and will conform with the VET sector standard templates.

Implementer Authorisation for TGS Change

Currently Implementers are governed by the Temporary Management Plan (TMP) and the Traffic Guidance Scheme (TGS). They are not authorised to make changes to the arrangements set out in these documents. A proposal has been put forward that Implementers, trained to Category 2 and 3 level, should be authorised to make minor changes to a TGS in response to site specific circumstances at the time of the work eg: moving signs when obstructed; adding additional repeater signs. They would not be able to make major changes such as undertaking additional lane or road closures, changing speed limits or adding regulatory signs.

5.1.3 Assessment

All states and territories currently require assessment of Implementers based on knowledge and simulation exercise. Austroads is committed to ensuring that people receiving a TTM qualification are job ready and therefore, the recommended position is that Implementers also have their capability assessed at a live worksite. This is seen as an essential component in building and ensuring capable graduates. It is expected that newly qualified persons would be monitored and progressively given exposure to more complex roles by employers.

The following table outlines the Austroads Working Group recommended assessment approach for Implementers.

Table 5.3: Assessment Requirements for Implementers

Role and Assessment	Required
Knowledge	√
Simulation in an off road environment utilising real equipment and vehicles	√
Assessment at a live worksite	√

As with Traffic Controllers, Austroads is proposing that the demonstration of Implementer competence at a live worksite will be able to be undertaken by the assessor, via **either**:

- visiting the site in person
- viewing of video footage (obtained via body camera or other means).

The benefits as well as practical issues associated with live site assessment, have been previously outlined in Section 4 in relation to Traffic Controllers.

5.1.4 Eligibility and Progression Between Categories

Austroads considered the potential benefits of requiring Traffic Controller training as a prerequisite for Implementer training. While there were some benefits to this approach, particularly in building knowledge of on the ground implications of directions, it was determined that this prerequisite training was not essential and would place unnecessary restrictions upon individuals and the industry overall.

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

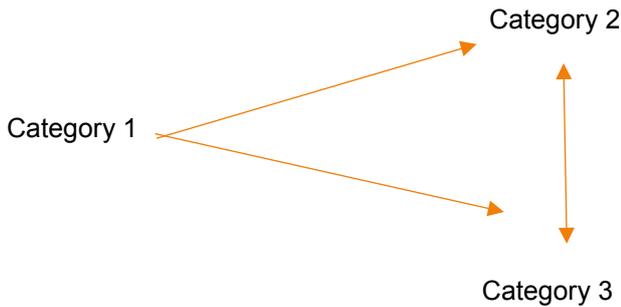
Category 2 roads can be considered more complex Category 1 roads with increased difficulty arising from higher speeds, increased road user volumes and more complex road user interfaces and infrastructure features. Motorways and high speed grade separated roads, which characterise Category 3 road environments, create their own unique risks rather than building on the risks of Category 2 roads. It is because of the fundamentally different nature of Category 2 and Category 3 roads that it has been

determined that there is not a linear progression from Category 1 through to Category 2 and ultimately Category 3 roads.

The following diagram characterises the progression options for Implementer:

- Category 1 Designer is the mandatory core initial unit
- On completion of Category 1 training, and following a suitable period of experience (see table 5.4), a person can enrol in either Category 2 or Category 3 training.

Figure 5.1



The following table outlines the proposed experience requirements that will apply, post Category 1 training, before a person is eligible to enrol in either Category 2 or 3 training. As with Traffic Controllers, the individual will be required to present a portfolio of evidence to an RTO/Approved Person for verification of competency.

Table 5.4: Levels of Experience to Support a Verification of Competency - Implementer

Role	Experience Requirements to Undertake Category 2 or 3 Training
Implementer ⁸	Minimum of 3 months experience; and Within the last 12 months, at least 12 set ups of 3 different types from the following list. <ul style="list-style-type: none"> • Pedestrian control • Construction site • Lane closure • Shoulder closure • Higher speed road • Use of portable traffic control devices • Night works

5.2 Alternative Approach

The preceding discussion describes the Austroads’ Working Group recommended approach. As outlined in Section 2.2, an alternative approach to progression has been proposed which would allow for entry at either Category 1 or Category 2. The following table outlines the entry and progression options under this alternative proposal.

⁸ These requirements will apply to any additional category of training post Category 1. For example from Category 1 to 2; from Category 3 to 2

Table 5.5: Potential Alternate Entry and Upgrade Pathways - Implementer

Role	Entry Point	Category Upgrade Pathway
Implementer	<i>Entry Point 1</i> • Category 1	Undertake either Category 2 or 3 training if desired after suitable experience
	<i>Entry Point 2</i> • Category 2	Able to operate on both Category 1 and 2 roads. Undertake Category 3 training if desired

The argument for this proposal is that it provides for a more streamlined pathway, minimising cost and administrative overhead. Further it maximises industry flexibility to apply resources across either Category 1 or Category 2 roads.

5.3 Industry Input

Industry views are sought in relation to the following areas.

The Austroads' recommended approach to three categories of Implementer.

The proposed competency units, including guidance material, for Implementer training. (Appendix 2).

The proposal to authorise Category 2 and 3 Implementers to make minor changes to a TGS based on site specific factors on the day.

The recommended approach to assessment which includes at a live site.

The Austroads' recommended approach to progression based on Category 1 as the entry point, with this training, along with relevant experience, a prerequisite to Category 2 or 3 training.

The alternative proposal which would allow for entry at either Category 1 level or Category 2 level.

6. Designers

This section outlines the Designer training and assessment requirements recommended by Austroads. It also puts forward an alternative approach to progression through the categories of training.

6.1 Austroads Working Group Recommended Position

6.1.1 Training by Road Category

As previously outlined, there are three categories of Designer training proposed.

Table 6.1: Designer Training by Road Category

Role	Category 1	Category 2	Category 3
Designer	√	√	√

6.1.2 Competencies

Austrroads has developed the recommended competency requirements based on a blend of units from existing RII Skill Sets⁹ as well as new units. The following table sets out training requirements. Units with a 'code' are existing VET units, and those without, are new units.

Table 6.2: Designer Units of Competency¹⁰

Role	Category 1	Category 2	Category 3
Designer	RIICWD503D – Prepare work zone TMP and TGS RIIRIS402D – Carry out the risk management process	Prepare work zone TMP and TGS– Category 2	Prepare work zone TMP and TGS – Category 3

Appendix 2, which is a separate document, sets out in detail the units of competency and provides interpretative and guidance material that will be used to support the development of training material in a subsequent Austroads project. High level assessment requirements for each competency are also outlined in the appendix.¹¹

⁹ RII training units are approved within the VET Sector regulatory arrangements

¹⁰ Completion of the proposed new Working in Proximity to Traffic course will be a prerequisite to enrolling in training for any TTM role

¹¹ Assessment material to support the Units of Competency will be developed in more detail in later parts of this project and will conform with the VET sector standard templates.

6.1.3 Assessment

The following table outlines the recommended approach to Designer assessment.

Table 6.3: Assessment Types - Designer

Role and Assessment	Required
Knowledge	√
Supervised in class individual and group case studies	√
Independent individual case study assessment	√

6.1.4 Eligibility and Progression Between Categories

Austrroads considered the potential benefits of requiring Implementer training as a prerequisite to enrolling in Designer training. It was considered that while there were some benefits to this, particularly in building knowledge of on the ground implications of plans and guidance schemes, it was not essential and would place unnecessary restrictions upon individuals and the industry overall.

However, it was determined that for a person to be eligible to enrol in Designer Category 1 training they must have **either**:

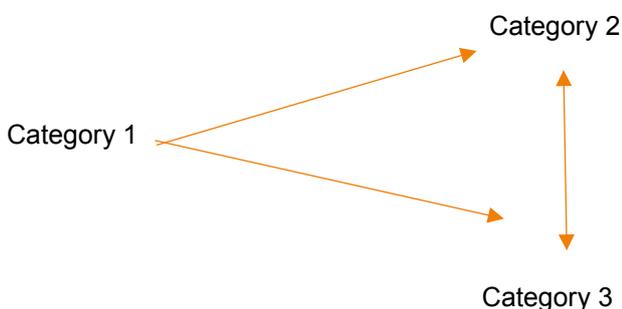
- A minimum of 12 months experience in road traffic management, which could include as an Implementer
- A qualification at a suitable level (e.g. Bachelor; Advanced Diploma) in a civil construction, traffic engineering or road design related field.

As is the case for Implementers, after completion of Category 1 training, and a suitable period of experience (see table 6.4), Designers will be eligible to enrol in either Category 2 **or** Category 3 training. Category 2 training is not a prerequisite for Category 3 training and vice versa.

The following diagram characterises the progression options for Implementer:

- Category 1 Designer is the mandatory core initial unit
- On completion of Category 1 training, and following a suitable period of experience (see table 6.4), a person can enrol in either Category 2 or Category 3 training.

Figure 6.1



The following table outlines the proposed experience requirements that will apply, post Category 1 training, before a person is eligible to enrol in either Category 2 or 3 training. As with Traffic Controller and Implementers, the individual will be required to present a portfolio of evidence to an RTO/Approved Person for verification of competency.

Table 6.4: Levels of Experience to Support a Verification of Competency - Designers

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

6.2 Alternative Approach

The preceding discussion outlines the Austroads Working Group recommended approach. As outlined in Section 2.2, an alternative approach to progression has been proposed which would allow for entry at either Category 1 or Category 2. The following table outlines the Designer entry and progression options under this alternative proposal.

Table 5.5: Potential Alternate Entry and Upgrade Pathways - Designer

Role	Entry Point	Category Upgrade Pathway
Designer	<i>Entry Point 1</i> <ul style="list-style-type: none"> • Category 1 	Undertake either Category 2 or 3 training if desired after suitable experience
	<i>Entry Point 2</i> <ul style="list-style-type: none"> • Category 2 	Able to operate on both Category 1 and 2 roads. Undertake Category 3 training if desired

The argument for this proposal is that it provides for a more streamlined pathway, minimising cost and administrative overhead. Further it maximises industry flexibility to apply resources across either Category 1 or Category 2 roads.

6.3 Industry Input

Industry views are sought in relation to the following areas.

The Austroads' recommended approach to three categories of Designer.

The proposed competency units, including guidance material, for Designer training. (Appendix 2)

The prerequisite experience or training requirements to be eligible to undertake Designer Category 1 training

The Austroads' recommended approach to progression based on Category 1 as the entry point with this training, along with relevant experience, a prerequisite to Category 2 or 3 training.

The alternative proposal which would allow for entry at either Category 1 level or Category 2 level.

7. Practitioner and Non-Practitioner Status

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

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

Table 7.1: Practitioner and Non-Practitioner Assessment

Assessment/Experience	Practitioner	Non-Practitioner
Implementer		
Theoretical knowledge	√	√
Simulation in an off road environment utilising real equipment	√	√
Assessment at a live worksite	√	X
Designer		
Theoretical knowledge	√	√
Supervised in class individual and group case studies	√	√
Independent individual case study assessment	√	X

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

Austrroads Working Group recommended position is that there is a non-practitioner option available for Category 1, 2 and 3. To undertake Category 2 or 3 training a non-practitioner will be required to:

- Have first undertaken Category 1 training to at least non-practitioner status
- Submit a portfolio of evidence to support a verification of competency to undertake the higher level training.

The following table outlines guidelines for a portfolio of evidence which would support an assessment of competency to undertake Category 2 or 3 non-practitioner training. As with practitioners, the verification of competency will be undertaken by an RTO/Approved Person.

Table 7.2: Indicative levels of Experience to Support a Verification of Competency to Progress from Category 1 Non-Practitioner Level to Either Category 2 or 3 Non-Practitioner Level

Role	Experience Requirements to Undertake Category 2 or 3 Non-Practitioner Training
Implementer	Minimum of 12 surveillance or review exercises, with completed performance reports, within the last 12 months
Designer	Minimum of 6 TMP/TGS surveillance or review exercises, with completed performance reports, within the last 12 months

7.1 Alternative Approach

An alternative view put forward is that there should be no option for a non-practitioner status. The argument for this approach is that, if a person is to undertake TMP and TGS reviews and issue approvals, they should have undertaken the same standard of training and assessment as practitioners.

7.2 Industry Input

Industry views are sought in relation to the following.

The Austroads Working Group recommended approach to practitioner and non-practitioner status for Implementers and Designers.

8. Refresher Training

States and territories currently have varying requirements for refresher training – some roles have specific refresher training packages maintained by the road agency; some allow an evidence pack; some have theory elements and simulated environment assessment; some require completion of the original training course.

Austrroads considered a number of options for refresher training going forward including:

- Complete retraining as already exists in some jurisdictions
- Truncated refresher training
- Verification of Competency.

Austrroads is recommending a professional development focus for those who have been active in the industry as the most appropriate approach. A verification of competency will be undertaken by an RTO/Approved person every 3 years based on the following:

- Submission of an evidence pack which demonstrates that they have been actively working in the relevant TTM role in the past 12 months.
- Signed declaration by the person to say that they have read and understood all of the update bulletins which have been issued in the past 3 years. These bulletins will be periodically issued to persons registered on the planned TTM database¹². Bulletins will cover emerging issues; new technologies and areas where audits have revealed the need for improved practice.

This approach will apply to all three TTM roles (Traffic Controller; Implementer; Designer) and applies equally to practitioners and non-practitioners.

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

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

Where a person is unable to meet the verification of competency requirements, or fails to submit these within 3 years and 3 months from completion of their training, they will be required to undertake the full course again (noting that recognition of prior learning will apply).

This approach is intended to:

- Ensure that only persons who have maintained their skills are eligible to operate in the industry
- Develop increased skill and knowledge of active TTM operatives through periodic updates
- Provide a mechanism for keeping professional development through the issue of bulletins
- Reduce the time and cost imposed of repeat training where a person has maintained their competence through work experience.

¹² The development of requirements for the TTM database is a current Austrroads project and it is anticipated that this will hold information on all TTM qualified individuals and prequalified TTM entities.

8.1 Industry Input

Industry views are sought in relation to the following.

The Austroads Working Group recommended approach to refresher training.

Appendix 1 – Draft Temporary Traffic Management Role Statements

The following tables outline the draft role descriptions as currently proposed in the Code of Practice Temporary Traffic Management (CoPTTM) Part 9. These role descriptions are still under development and will be presented for industry consultation in early 2019 once finalised. Comments on this Appendix are welcomed and will be considered in the future development of CoPTTM Part 9.

Role	Traffic Management Designer (TMD)	
Responsibility	<p>The qualified TMD is responsible for designing and drafting TMPs and TGSs that are compliant with legislative requirements and can be practically implemented.</p> <p>A TMD who prepares a TMP and TGS incorporating road safety hardware (eg barriers) and/or devices (e.g. cones, tubular delineators) is considered an Installation Designer. They must ensure the installation design will protect both workers and the public and is fit for purpose.</p>	
	Activity	Additional Information
	Select and implement a work method practice in accordance with the short term low impact works, unsealed roads and mobile works	With the appropriate risk assessments. Includes all sub clauses.
	Prepare Traffic Management Plans (TMP)	Where the TGS is relatively simple, the TMP may be in the form of a short list of notes on the TGS.
	Design Generic or Site Specific TGS in accordance with the CoPTTM	Includes developing procedures and protocols for selection and implementation of a Generic TGS. Including all notes required for implementation.
	Design a TGS without complying with a “should” or “where practicable” requirement of the CoPTTM.	In accordance with COPTTM with a supporting risk assessment.
	Design a TGS without complying with a “shall” requirement of the CoPTTM or outside the scope of the CoPTTM (innovative treatment, devices etc.)	In accordance with COPTTM with a supporting risk assessment and Engineer signoff of relevant items.
	Design a TGS with <i>Portable Traffic Control Devices</i> including: <ul style="list-style-type: none"> • Portable Traffic Signal Systems (PTSS)* • Boom Barriers • Rumble Strips • Speed Humps • Speed Awareness Devices 	Includes the design for the configuration (timing and operation) of PTSS
	Provide supervision and instruction to a person without a TMD competency preparing (designing) a TMP or TGS.	The TMD must sign off and take full responsibility for the plans prepared under their supervision and instruction.

	Activity	Additional Information
	Modify a TGS designed by another TMD in accordance with the CoPTTM.	If the original TGS was designed by another TMD, it is recommended that the original TMD be advised of the changes.
	Changes to the TGS designs or devices outside a “should” recommendation of the CoPTTM.	In accordance with COPTTM with a supporting risk assessment.
	Changes to the TGS design or devices outside the scope or “shall” requirements of the CoPTTM.	In accordance with COPTTM with a supporting risk assessment and Engineer signoff if required.
	Instruction of a person without a TMD competency to make on site changes to a TGS	The person with a TMD competency must sign off and take full responsibility for the changes made to the TGS under their instruction.
	Identify circumstances in which Event Traffic Marshals (ETM) can be used.	Specifically nominate on the TGS for a permitted Special Event: <ul style="list-style-type: none"> • The signs which may be installed by an ETM. • Traffic control positions which may be suitable for an ETM. • Other instructions for the ETM.

Traffic Management Implementer (TMI)			
Responsibility	<p>Identification of TMI The TMI must have with them suitable certified documentation as evidence of qualification. The TMI must ensure that they are readily identifiable on-site by wearing a fluorescent TMI garment in accordance with COPTTM High-visibility garments.</p> <p>Requirements of the TMI The TMI must hold a TTM qualification appropriate for the highest Category of road within the network area for which they are responsible. The TMI must be independent of the drafting of the TMP to be approved. Any relevant amendments made prior to the approval are to be recorded and summarised on the TMP. The person in charge of TTM at each worksite is the TMI.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p>The qualified staff for Category 1 roads are:</p> <ul style="list-style-type: none"> • TC; and • TMI. </td> <td style="width: 50%; padding: 5px;"> <p>The qualified staff for Category 2 and 3 roads are:</p> <ul style="list-style-type: none"> • TMI-NP (non-practising TMI) in limited situations (eg shoulder closures); and • TMI. </td> </tr> </table> <p>Authority of the TMI The TMI has the authority to:</p> <ul style="list-style-type: none"> • Postpone, cancel or modify operations due to adverse traffic, weather or other conditions that affect the safety of the worksite. • Permit visitor entry to the worksite. • Order people off the worksite for issues of non-compliance or safety. <p>Note: Where a visitor is wearing a compliant high visibility vest this will be enough to enter the worksite. The visitor may be denied entry to the working space if a higher Category of personal protective equipment (PPE), such as safety helmets, is required. The TMI cannot amend TSLs without delegated authority or prior approval of the RIM or the Engineer.</p> <p>General responsibilities The general responsibilities of the appointed TMI for each worksite are to:</p> <ul style="list-style-type: none"> • Check that the TMP is appropriate to the worksite. Where the TMP is not suitable, halt proceedings until the necessary actions have been taken. Refer [reference]. • Arrange on-site meetings for discussions concerning TTM measures at: <ul style="list-style-type: none"> ○ the start of each set-up; 	<p>The qualified staff for Category 1 roads are:</p> <ul style="list-style-type: none"> • TC; and • TMI. 	<p>The qualified staff for Category 2 and 3 roads are:</p> <ul style="list-style-type: none"> • TMI-NP (non-practising TMI) in limited situations (eg shoulder closures); and • TMI.
<p>The qualified staff for Category 1 roads are:</p> <ul style="list-style-type: none"> • TC; and • TMI. 	<p>The qualified staff for Category 2 and 3 roads are:</p> <ul style="list-style-type: none"> • TMI-NP (non-practising TMI) in limited situations (eg shoulder closures); and • TMI. 		

	<ul style="list-style-type: none"> ○ on a regular basis (eg daily); and ○ each change of a TTM measure due to a change in worksite conditions. ● Ensure all personnel and visitors on-site are wearing compliant high-visibility clothing in accordance with [reference] High-visibility garments, and any other safety equipment required by the activity. ● Ensure all personnel entering the worksite are briefed on the safety hazards and the safety procedures to be followed. Visitors are to sign confirming they have understood the briefing. ● Train Manual Traffic Controller (MTC) on how to carry out their function. ● Record and notify the RIM or engineer as appropriate within 24 hours of all crashes at the worksite and any complaints about the TTM. ● Ensure there is a copy of the approved TMP available on-site at all times when the worksite is attended and that this is available for inspection. ● Record and inform the RIM or Engineer immediately of any significant modifications (eg change of detour) to TTM measures not included in the approved TMP. All other changes are to be noted on TMP and RIM or engineer to be advised as soon as possible or no later than the following working day. <p><u>Note:</u> For Category 1 roads if:</p> <ul style="list-style-type: none"> – the TMI has been delegated authority to approve TMPs, and – the changes are not significant or are in excess of the minimum requirements, then the TMI records any changes on the TMP or the on-site record, and notification is not required. Any modifications must be in accordance with CoPTTM: <ul style="list-style-type: none"> ● Ensure contingency plans are implemented when excessive traffic delays, emergencies, weather conditions or other factors occur. ● Ensure that they can be contacted by mobile phone or two-way radio at all times, for the duration of the installation, maintenance and removal of TTM at the worksite. ● Where shift work is involved, brief the TMI for the next shift (at the worksite) on the TTM and inspection requirements before handing over responsibility. Briefing must be confirmed in writing to acknowledge the handover. ● Brief the TC on the TTM requirements of the worksite before handing control of the worksite to the TC. Briefing must be confirmed in writing to acknowledge the handover. ● Ensure that persons on the worksite operate in terms of the relevant traffic regulations [reference]. ● Complete a traffic count before setting up closure and delay set-up if traffic is too high. ● Ensure traffic is monitored for queuing and delays. Take appropriate action as required. Refer to subsection [reference] Queuing. ● Ensure worksite inspections of all TTM equipment is completed at least two-hourly or as detailed in the minimum inspection frequency table in subsection C19.5.1 Monitoring frequency for TTM measures[reference]. ● Ensure that all corrective action detailed in a notice of non-conformance is undertaken within the required time frame. ● Ensure any TTM changes required by the State/Territory Police, WorkSafe Inspector, RIM or engineer are made immediately and documented on the TMP. The TMI is to be informed within 24 hours.
--	--

Where one worksite interferes with another operation, ie any signs or other devices overlap on the same piece of road, the TMI seeking to undertake activity on the affected piece of road must meet with the TMI of the established operation. They should establish whether both worksites can co-exist under jurisdiction of one TC/TMI. If necessary, a new TMP should be drawn up by the TMI remaining in charge. If the TMI cannot resolve the matter, the issue must be referred to the Engineer or RIM for a decision.

Responsibilities of TMI on Category 1 roads

On Category 1 roads the TMI may undertake other worker roles in addition to their TMI duties. The TMI role must take priority.

The TMI is restricted to managing a maximum of six attended worksites.

The TMI, or a TC, to whom the TMI has delegated worksite control, must be on-site at all times on an attended worksite.

During the period of delegation to a TC or for unattended worksites the TMI must be able to reach the site within time requirements set by the RIM.

The TMI must limit the number of unattended worksites they are responsible for subject to their ability to satisfactorily perform all their duties to the required standards at all times.

To ensure CoPTTM requirements continue to be met any attended worksite that has been delegated to a TC must be inspected by the TMI:

- For worksites in place for a full day or longer the worksite must be inspected, at least on a daily basis.
- Where a TC is in charge of static or mobile activities that move from worksite to worksite within a day the TMI must inspect one of the worksites on a daily basis.

These worksite inspections must be documented by the TMI.

Note: The TMI does not have to undertake a worksite inspection of an activity being controlled by a TC where that activity is an inspection

For inspection activities, as defined in COPTTM, the TMI must be immediately contactable but does not have to be within 30 minutes travel time of the worksite.

For a capital project (projects funded under the capital works vote as opposed to maintenance works) an TMI is permitted to control all worksites at any one time subject to the following:

- The TMI remains within 30 minutes of all worksites.
- That a person with a minimum qualification of TC must be present and take charge of each attended worksite.
- That TC must have been briefed by the TMI and the briefing documented.

For mobile operations and short-term operations, which do not require more than five personnel in total to satisfactorily undertake the work, the TMI may also undertake other aspects of the work.

Responsibilities of TMI on Category 2 and 3 roadsWhen the Category 2/3 TMI can take another role:

On Category 2 and 3 roads the TMI responsibilities must be limited to TTM and activities of site safety officer. The only permitted exceptions to this rule are:

- Mobile operations; and
- Short-term static closures which require no more than five people to perform the activity.

In the above situations, the TMI may also perform another function within the closure, providing that this does not interfere with the duties of the TMI which must always take first priority.

When the Category 2/3 TMI must be on-site

The TMI must be present at an attended worksite at all times except during a drive-through when the TMI may need to leave the worksite to gain access to the front of the worksite. In this case the TMI may be away from the worksite for up to 30 minutes.

Exceptions to this rule are as follows:

Shoulder closures:

An TMI is permitted to control up to four attended shoulder closure worksites on Category 2 and Category 3 roads at any one time subject to the following:

- An TMI remains within 30 minutes of all worksites;
- A person with a minimum qualification of TMI-NP is present and takes charge of TTM at each attended worksite;
- That TMI-NP must have been briefed by the TMI and the briefing documented; and
- The TMI must be present for the set-up, alteration and removal for each of the worksites.

Capital projects

An TMI is permitted to control all worksites for a capital project at any one time subject to the following:

- The TMI remains within 30 minutes of all worksites;
- That a person with a minimum qualification of TMI-NP is present and takes charge of TTM at each attended worksite;
- That TMI-NP must have been briefed by the TMI and the briefing documented; and
- The TMI must be present for the set-up, alteration and removal for each of the worksites.

When the Category 2/3 TMI is not on-site*Unattended worksites:*

The TMI must limit the number of unattended worksites they are responsible for subject to their ability to satisfactorily perform all their duties to the required standards at all times.

The TMI must be within 60 minutes travel time of each worksite.

Mobile operations on Category 2 roads

On Category 2 roads where all activity is at least two metres clear of the edgeline, an TMI-NP may take the role of an TMI and set up, maintain, alter and remove TTM under the following conditions:

- The TMI must brief the TMI-NP in charge of the operation on the TTM requirements; and
- All the above actions must be documented by the TMI.

Site safety briefings

Toolbox briefing

Prior to activity commencing, everyone with an involvement with the activity at the worksite must be briefed by the TMI and/or the TC using the approved TMP to explain:

- Identified hazards;
- The TTM requirements for the worksite; and
- Safety zone requirements and limits.

Briefings are to be completed:

- At the start of each set-up;
- On a regular basis (eg daily); and
- At each new phase of the works.

Site induction briefing

All people arriving on-site must receive a worksite induction before proceeding around the worksite. This will include the following:

- Staff of subcontractors;
- Engineer and/or their representatives; and
- The principal.

The approved TMP is used to explain:

- The worksite hazards;
- Site driving and parking requirements; and
- The method of entering and leaving the worksite.

The contractor must keep a record of induction sessions held, who attended and the TTM configuration(s) explained.

	Activity	Additional Information
	Select and implement a work method practice in accordance with the short term low impact works and unsealed roads	With the appropriate risk assessments. Includes all sub clauses.
	Select and Implement an appropriate Generic TGS	Selection and implementation must be performed in accordance with the established protocol or procedure as documented by the Traffic Management Design (TMD) competent person when developing the Generic TGS.
	Implement a Site Specific TGS.	Implementation must be performed in accordance with the established protocol or procedure as documented by the TMD competent person when developing the Site Specific TGS.
	Install Portable Traffic Control Devices including: <ul style="list-style-type: none"> • Portable Traffic Signal Systems (PTSS)*^ • Boom Barriers^ • Rumble Strips • Speed Humps • Speed Awareness Devices. 	All devices must be included on a TGS prepared by a TMD and authorised by the RIM. *Includes the configuration of PTSS - Type 2 devices only when operated in timed or vehicle activated modes (as instructed by a TMD). ^The manual operation of PTSS or boom barriers shall only be performed by a Traffic Controller (TC).
	Provide direct supervision and instruction to a person without TMI competency to implement a TGS.	The person under instruction must have the Working in Proximity to Traffic - Part 1 competency. Direct supervision requires the supervisor to be present (in close proximity) and able to intervene if required.
	Display text messages or electronic signs on VMS screens (both vehicle-mounted and trailer-mounted).	In accordance with requirements and instructions on the TGS.
	Display of direction arrow(s) on vehicle mounted arrow boards.	In accordance with requirements and instructions on the TGS.
	Monitor the performance (effectiveness) of the implemented TGS (this may include driver behaviour, vehicle speeds, queue lengths and so on).	Ensure all required traffic control devices remain in place. Monitoring of any specific item as identified in the TGS by the TMD. If the TGS is not effective, contact the TMD for modification instructions.

	Activity	Additional Information
	Move signs within tolerances.	<p>As per the CoPTTM</p> <p>If required to move signs beyond these tolerances, contact the TMD for modification instructions.</p>
	In response to a long queue of traffic.	<p>Modifications to be as per the requirements of the TGS, prepared by a TMD for use with long traffic queues.</p> <p>If the TGS does not have provision for long queues and is not effective, contact the TMD for modification instructions.</p>
	Modify the TGS on site in response to an emergency or unplanned event	<p>“Initial Response”.</p> <p>Implementation of a “Interim Response” or “Follow-up Protection” may be performed in accordance with designs or instructions from a TMD or authorised person.</p>

Competent Person	Traffic Controller (TC)
Responsibility	<p>In accordance with the <i>Traffic Controller Accreditation Scheme Approved Procedure</i>, the TC,s responsibilities can be summarised as follows:</p> <p>Identification of TC The TC must have with them suitable certified documentation as evidence of qualification. The TCs must wear the fluorescent red-orange high-visibility garment detailed in [reference] High-visibility garments.</p> <p>Authority of the TC When delegated control of a worksite, the TC has the authority to:</p> <ul style="list-style-type: none"> • Postpone, cancel or modify operations due to adverse traffic, weather or other conditions that affect the safety of the worksite. • Permit visitor entry to the worksite. • Order people off the worksite for issues of non-compliance or safety. <p>Note: Where a visitor is wearing a compliant high visibility vest this will be enough to enter the worksite. The visitor may be denied entry to the closure or working space if a higher level of personal protective equipment (PPE), such as safety helmets, is required.</p> <p>When TC can take the role of an TMI For Category 1 roads a TC may take the role of a TMI and set up, maintain, alter and remove TTM for the worksite under the following conditions:</p> <ul style="list-style-type: none"> • There is an approved (and where required accepted) TMP for the worksite. • The TMI must brief the TC in charge of the worksite on the TTM requirements. • To ensure CoPTTM requirements continue to be met, the worksite is to be inspected by the TMI: <ul style="list-style-type: none"> ○ for worksites in place for a full day or longer the worksite must be inspected at least on a daily basis. ○ where a TC is in charge of static or mobile activities that move from worksite to worksite within a day the TMI must inspect one of the worksites on a daily basis. • All the above actions must be documented by the TMI. <p>The TC may also perform other duties (eg foreman, grader driver) however TTM responsibilities must take priority.</p> <p>TC’s general responsibilities for Category 1 roads The general responsibilities of the TC who has been delegated worksite control are to:</p> <ul style="list-style-type: none"> • Check that the TMP is appropriate to the worksite. Where the TMP is not suitable, halt proceedings until the necessary actions have been taken. Refer [reference].

	<ul style="list-style-type: none"> • Carry out on-site briefings as described in [reference]. The approved TMP is used to explain <ul style="list-style-type: none"> ○ The worksite hazards; ○ Site driving and parking requirements; and ○ The method of entering and leaving the worksite. • Keep a record of induction sessions held, who attended and the TTM configuration(s) explained. • Ensure all personnel and visitors on-site are wearing compliant high-visibility clothing in accordance with [reference] High-visibility garments and any other safety equipment required by the activity. • Ensure traffic is monitored for queuing and delays. • Ensure worksite inspections of all TTM equipment is completed at least two-hourly or as detailed in the minimum inspection frequency table in [reference] Monitoring frequency for TTM measures. • Ensure that persons on the worksite operate in terms of the relevant traffic regulations [reference]. • Contact the TMI immediately if there is a need to complete modifications to TTM measures not included in the approved TMP. • Ensure contingency plans are implemented when excessive traffic delays, emergencies or weather conditions or other factors occur. • Record and notify the TMI or contractor as appropriate within 24 hours of all crashes at the worksite and any complaints about the TTM (definition of a crash is provided in Austroads [reference]). • Ensure that they can be contacted by mobile phone or two-way radio at all times, for the duration of the installation, maintenance and removal of temporary traffic measures at the worksite. • Ensure that all corrective action detailed in a notice of non-conformance is undertaken within the required time frame. • Ensure any TTM changes required by the Australian Police, WorkSafe Australia, RIM or engineer are made immediately and documented on the TMP. Notify the TMI immediately. The TMI is to be informed within 24 hours. 	
	Activity	Additional Information
	Only signs and devices for TC operations	Refer clause 4.10.2 for Traffic Controller equipment. Also signs and devices for traffic signals (clause 4.11) if operated in manual mode by TC and portable boom barriers.
	Install and operate portable traffic signals systems	
	Install and operate portable boom barrier	
	Monitor the performance (effectiveness) of the implemented TGS (this may include driver behaviour and vehicle speeds on the approach to the TC and queue lengths).	Ensure all required traffic control devices for the TC remain in place. Monitor any specific item as identified in the TGS by the TMD. If the TGS is not effective (for example approach speeds to the TC or traffic queues are extending to a point where end of queue protection measures should be considered), TC is to advise the site supervisor who will contact the TMD for modification options.

	Activity	Additional Information
	In response to an emergency or unplanned event	In accordance with Appendix H, Clause H2, Initial Response only.
	Only the signs and devices for TC operations.	Install or remove, (cover or uncover) the signs or devices as required for TC operations.

Appendix 2 – Draft Temporary Traffic Management Training Units of Competency

A2-1 Overview

This Appendix lays out the draft units of competency for Temporary Traffic Management (TTM) based on:

- The three Austroads developed TTM roles –Traffic Controller; Implementer and Designer
- The three road categories (for a description of these see Table 2.1).

The following table represents the Austroads matrix of training requirements.

Table A2.1: Training Requirement Overview

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

The following table sets out the units of competency which apply to each TTM role. These units are a combination of already existing Vocational Education and Training approved units (those with unit numbers) and new units.

Table A2.2: Summary of Units of Competency by Role

Role	Category 1	Category 2	Category 3
Traffic Controller	RIIWS201D – Work safely and follow WHS policies and procedures RIICOM201D – Communicate in the workplace RIIWS205D – Control traffic with stop slow bat Position, set up and operate manually controlled portable traffic control devices ¹³	Control traffic – Category 2	N/A
Implementer	RIIWS201D – Work Safely and follow WHS policies and procedures RIICOM201D – Communicate in the workplace RIIWS302D – Implement TMP and TGS RIIRIS301D – Apply risk management process RIIRTM201D – Position and set up variable message signs Position, set up and program portable traffic control devices	Implement TMP and TGS– Category 2 RIIBEF301D Run on-site operations	Implement TMP and TGS – Category 3 RIIBEF301D Run on-site operations
Designer	RIICWD503D – Prepare work zone TMP and TGS RIIRIS402D – Carry out the risk management process	Prepare work zone TMP and TGS– Category 2	Prepare work zone TMP and TGS – Category 3

¹³ Based on existing unit RIIRTM 202D – Position and set up portable traffic signals

A2-1.1 Presentation of the Competency Units

The following table outlines how the units of competency material is laid out in Sections A2-2 – A2-4.

Table A2-3: Overview of the layout of the competency material

Element	Existing performance criteria	Proposed guidance or interpretation material	Assessment Overview
Where this is an existing VET approved unit, the current competency unit elements are outlined.	As with the discussion on 'Element' – existing unit performance criteria have been listed. Changes, where considered necessary, have been proposed.	This column describes in detail the aspects of the TTM role that should be covered in training.	This provides an overview of the assessment approach.
Where current elements are considered to be adequate, then these have been left unchanged.	Where this is a new competency unit, then new proposed criteria are outlined.	This is the basis on which the national TTM training material will be crafted. The development of the training material is a project which will be undertaken following completion and sign off of this project work.	A more detailed assessment statement will be developed in line with VET sector guidelines once the competencies and guidance material have been finalised
Where the current elements are considered to need improvement, proposed changes have been made.			
Where this is a new competency unit, then new proposed elements are outlined.			

A2-1.2 Presentation of Category 2 and 3 Units of Competency

As previously outlined some of the units of competency build from Category 1 to 3. This applies to the following units within each role.

Table A2-4: Layered Road Category Units of Competency by Role

Role	Category 1	Category 2	Category 3
Traffic Controller	Control Traffic – Category 1	Control Traffic – Category 2	N/A
Implementer	Implement TMP and TGS – Category 1	Implement TMP and TGS – Category 2	Implement TMP and TGS – Category 3
Designer	Prepare work zone TMP and TGS – Category 1	Prepare work zone TMP and TGS – Category 2	Prepare work zone TMP and TGS – Category 3

Where units build progressively, the Category 1 training will be 'foundational' training and Category 2 and 3 training will be 'add on' training. The key elements of the training undertaken in the category 1 unit will be refreshed in the Category 2 and 3 level training. However, the focus of the Category 2 and 3 training will be on the road environment in which the TTM task is to be performed

To keep the unit of competency material presented for Austroads review to a reasonable size, elements which are refreshed but not covered in the same level of detail in a Category 2 or 3 level unit has not been repeated in full. The following tables provide a summary by role, of the relevant competency elements indicating:

- Which Category the element applies to (Category 1, 2 or 3)
- Whether the element is:
 - covered in full (indicated by a ✓)
 - is a refresher only
 - is a refresher plus new material.

Table A2-5: Traffic Controller

Element	Category 1	Category 2
Plan and prepare	✓	Refresher
Maintain a safe workplace	✓	Refresher
Apply TMP as per the TMI instructions	✓	Refresher
Control traffic on category 1 roads	✓	Refresher
Operate communication devices	✓	Refresher
Clean up	✓	Refresher
Control Traffic on category 2 roads		✓

Table A2-6: Implementer

Element	Category 1	Category 2	Category 3
Prepare to implement TGS	✓	Refresher plus new material	Refresher plus new material
Set out the TGS	✓	Refresher plus new material	Refresher plus new material
Monitor the TGS	✓	Refresher plus new material	Refresher plus new material
Close down the TGS	✓	Refresher	Refresher

Table A2-7 Designer

Element	Category 1	Category 2	Category 3
Establish the context for preparation of TMP	✓	Refresher plus new material	Refresher plus new material
Select, modify or design a TGS	✓	Refresher plus new material	Refresher plus new material
Complete the TMP	✓	Refresher plus new material	Refresher plus new material
Finalise preparation process of work zone TMP	✓	Refresher	Refresher
Support and review the implementation of the work zone TMP	✓	Refresher	Refresher plus new material

A2-1.3 Remainder of Document

The remainder of this appendix sets out the competency units for each TTM role. Where a unit applies to more than one role it is covered only once. For example the unit RIICOM201D – Communicate in the workplace applies to both Traffic Controller Category 1 and Implementer Category 2. The unit is described in Section 2 – Traffic Controllers, but not repeated in Section 3 – Implementer.

A2-2 Traffic Controller

Mandatory assessment requirements applying to Category 1 and 2

1. Theoretical knowledge (participants required to have at least functional level 2 literacy)
2. Simulation that must involve road like environment and real vehicles
3. Live site in a road category suitable to the training level

A2-2.1 Traffic Controller Category 1

There are four units of competency applicable to the Traffic Controller Category 1:

- RIIWHS201D Work safely and follow WHS policies and procedures (unchanged)
- RIICOM201D Communicate in the workplace (unchanged)
- RIIWHS205D Control traffic with stop-slow bat (minor changes)
- Control traffic with portable traffic control device and temporary traffic signs (new unit although based on existing unit RIIRTM 202D – Position and set up portable traffic signals)

A2-2.1.1 RIIWHS201D Work safely and follow WHS policies and procedures

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
1. Access and apply site safety procedures	<p>1.1 Access, interpret and apply work health and safety procedures and ensure the work activity is compliant</p> <p>1.2 Carry out isolation of energy sources and immobilisation of potential energy sources</p> <p>1.3 Locate destinations by interpreting and applying site plans, transport rules and signage</p> <p>1.4 Identify, act on, and report breaches in site safety</p>		<p>All training and assessment should be customised to reflect site-specific:</p> <ol style="list-style-type: none"> 1. Risks and hazards 2. Equipment and machinery 3. Processes and procedures, including reporting and recording procedures 4. Standards and requirements
2. Apply personal safety measures	<p>2.1 Select and wear personal protective equipment</p> <p>2.2 Establish and maintain a clean and tidy safe working area</p> <p>2.3 Obtain permits and clearances before specialised work is carried out</p>		

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	2.4 Apply safe manual handling procedures 2.5 Identify and apply site procedures for conducting high-risk activities		
3. Apply operational safety measures	3.1 Recognise and respond to alarms 3.2 Identify and clarify responsibility in responding to emergency situations 3.3 Apply basic firefighting techniques 3.4 Identify emergency escape route(s) and procedures		
4. Maintain personal wellbeing	4.1 Identify risks to personal wellbeing and recognise preventative strategies 4.2 Identify, act on, and report situations which may endanger others 4.3 Access and explain verbally or in writing the requirements for fitness for duty		

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	4.4 Comply with all work health and safety policies including smoking, alcohol and drug use		
5. Identify and report incidents	5.1 Recognise and communicate incident and injury statistics 5.2 Report and prepare written records of incidents and injuries 5.3 Contribute to and participate in incident investigations		

A2-2.1.2 RIICOM201D Communicate in the workplace

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
1 Plan and prepare for workplace communication using equipment and systems	1.1 Access, interpret and apply communication site documentation and ensure the work activity is compliant 1.2 Identify and access communication equipment and system components 1.3 Establish and maintain communication with others 1.4 Access and apply communication equipment and systems safety procedures		All training and assessment should be customised to reflect site-specific: <ol style="list-style-type: none"> 1. Risks and hazards 2. Equipment and machinery 3. Processes and procedures, including reporting and recording procedures 4. Standards and requirements
2 Communicate using communication equipment and systems	2.1 Identify and select the most appropriate method of communication 2.2 Use communication equipment and systems 2.3 Acknowledge and respond to communication 2.4 Take, confirm and pass messages on promptly to the others		

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	<p>2.5 Pass communications in a clear and concise manner</p> <p>2.6 Follow safety procedures, including the passing of reports and observance of local communications and emergency procedures</p> <p>2.7 Identify and report faults in communication equipment</p>		
3 Carry out face-to-face routine communication	<p>3.1 Speak clearly and listen carefully to promote understanding</p> <p>3.2 Ask questions of the audience and confirm meaning of information</p> <p>3.3 Maintain communication processes with others to assist flow of work activities</p> <p>3.4 Use site approved signalling methods to convey information</p> <p>3.5 Participate in discussion to obtain information and clarify meaning</p>		

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	3.6 Communicate cooperatively and effectively with others		
4 Complete written documentation	4.1 Complete written documentation clearly, concisely and on time 4.2 Use approved documents 4.3 Pass on written information to others		

A2-2.1.3 RIIWHS205D Control traffic with stop-slow bat

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
1. Plan and prepare	1.1 Wear appropriate safety and personal protective equipment	<p>Requires Traffic Controllers to wear appropriate safety clothing and footwear:</p> <ol style="list-style-type: none"> 1. high visibility clothing for Traffic Controllers must comply with AS/NZS 1906.4 and AS/NZS 4602 for Types D, N or D/N 2. appropriate hat and a safety helmet at certain roadwork sites 3. safety footwear that complies with AS/NZS 2210 – Occupational Protective Footwear 4. tinted safety glasses, sun screen and lip cream to protect yourself from the sun. 	<p>Element 1 Plan and prepare</p> <p>Best assessed in context of participants' work environment by a combination of:</p> <ol style="list-style-type: none"> a) knowledge and understanding of documentation relating to work instructions, safety requirements, environmental protection, and emergency procedures b) participation in risk assessment and management processes in a simulated road like environment with real vehicles c) participation in risk assessment and management processes in a real live setting understanding supervision <p>PC 1.1 Participants to identify appropriate safety clothing and footwear</p>
	1.2 Clarify and confirm roles and responsibilities	<p>Requires Traffic Controllers to:</p> <ol style="list-style-type: none"> 1. attend pre-start meeting 2. understand activities that are occurring on the site 3. be clear about responsibilities and roles of each person working on the site 4. participate in on site risk assessment and management processes 5. ensure the appropriate safe working process has been implemented by the responsible person on site. 	<p>PC 1.2 Participants to attend simulated pre-start meeting and participate in risk assessment and management processes.</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to describe the risk assessment process and the hierarchy of control</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>Matters covered in the pre-start meeting include:</p> <ol style="list-style-type: none"> 1. direct briefing of traffic controller’s role 2. details of traffic guidance scheme 3. contact numbers and details of relevant people 4. breaks 5. traffic monitoring instructions 6. incident management procedures 7. record keeping requirements. 	<p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to identify the type and scope of hazards and their impact, and recommend risk control measures</p>
	<p>1.3 Read and interpret work instructions and plan work activity accordingly</p>	<p>Requires Traffic Controllers to understand where the work instructions for a specific role have come from and how to read and understand these instructions and apply them to their work activity.</p> <p>Instructions for traffic control work are outlined in the following documents:</p> <ol style="list-style-type: none"> 1. Austroads COPTTM – Part 8 Traffic Controller Instructions 2. Traffic Management Plan (TMP) 3. Traffic Guidance Scheme (TGS) 4. Standards for Traffic Control 5. Safe Work Method Statements (SWMS) and Safe Operating Procedures (SOPs) 6. Environmental Management Plan 7. Company policy and procedures 8. Manufacturer’s guidelines and specifications. 	<p>PC 1.3 Participants to understand work instructions and demonstrate ability to plan work according to instructions</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to interpret the work instructions and describe how they would plan their work</p> <p>Performance evidence</p> <p>Practical assessment requiring participants to locate and apply work instructions by developing work plan</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	<p>1.4 Read, confirm and apply jurisdictional safety requirements</p>	<p>Traffic Controllers are required to understand and apply jurisdictional safety requirements:</p> <ol style="list-style-type: none"> 1. Work Health and Safety Legislation and Regulations 2. Codes of Practice/Compliance Codes 3. Australian Standards. 	<p>PC 1.4 Participants to be familiar with jurisdictional safety requirements and understand how they are applied in a simulated setting</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to describe the relevant jurisdictional safety requirements</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to identify key safety issues in a real live road setting and describe appropriate solutions under supervision</p>
	<p>1.5 Read, confirm and apply environmental protection requirements</p>	<p>While Traffic Controllers are not directly responsible for the implementation of the Environmental Management Plan on a traffic control site, each person working on site has responsibility to ensure that site operations are not unduly damaging the environment.</p> <p>Some potential areas of harm include:</p> <ol style="list-style-type: none"> 1. noise and vibration from works 2. contamination of water 3. creation of dust from the work site 4. contamination of local environment from waste, rubbish, or hazardous materials. 	<p>PC 1.5 Participants to understand responsibilities in relation to environmental protection requirements</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to describe the relevant environmental protection requirements</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
			<p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to identify key environmental protection issues and describe appropriate solutions in real live road setting under supervision</p>
	<p>1.6 Apply site emergency procedures</p>	<p>Requires Traffic Controllers to be familiar with the correct emergency procedures. An incident 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.</p> <p>Should an incident occur on the worksite:</p> <ol style="list-style-type: none"> 1. never leave your post (unless your own safety is threatened) 2. warn co-workers and your immediate supervisor as soon as possible 3. where a fatal or serious injury occurs ensure all aspects of the incident is preserved until police or Worksafe arrive. <p>If an incident occurs during a shift, an incident report is to be completed and submitted to the supervisor at the end of the shift.</p>	<p>PC 1.6 Participants to be familiar with site emergency procedures and understand how they apply in a simulated setting</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to describe the relevant site emergency procedures</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to locate and complete an incident report in a real live setting under supervision</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	1.7 Select tools and equipment, check for serviceability and rectify or report any faults	<p>Requires Traffic Controllers to check for serviceability and rectify or report any faults in tools and equipment. Tools and equipment include:</p> <ol style="list-style-type: none"> 1. radio 2. stop-slow bat 3. high visibility vest 4. traffic cones 5. signage 6. warning lights and beacons 7. arrow boards. 	<p>PC 1.7 Participants to identify relevant tools and equipment and demonstrate ability to check for serviceability and to rectify or report any faults</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to describe the relevant tools and equipment including operational and maintenance procedures</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to identify the relevant tools and equipment and demonstrate ability check for serviceability and rectify or report any faults in a real live road setting</p>
2. Control traffic	2.1 Direct traffic correctly	<p>Requires Traffic Controllers to:</p> <ol style="list-style-type: none"> 1. confirm traffic control warning signs are in place 2. have a basic understanding of driver reaction time and vehicle stopping distances, and understand how this relates to your work as a traffic controller 3. know when one, two or three traffic controllers should be used 4. know how and where to position self in relation to traffic and the workzone 	<p>Best assessed in context of participants' work environment by a combination of:</p> <ol style="list-style-type: none"> a) knowledge and understanding of relevant documentation including Codes of Practice, policies, procedures, regulations and work instructions etc. b) practical activity in a simulated road like environment with real vehicles

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>5. understand the requirements of traffic controllers around railway crossings.</p>	<p>c) practical activity in a real live road environment under supervision</p> <p>PC 4.1 Participants to understand the principles underpinning traffic control on Category 1 roads and be able to demonstrate how to direct and control traffic correctly in the context of the Traffic Controllers work environment</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to identify and describe traffic control requirements and procedures that comply with the TGS</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to direct and control vehicle traffic on a real live road setting under supervision</p>
	<p>2.2 Control vehicles and ensure pedestrian safety</p>	<p>Requires Traffic Controllers to ensure that pedestrians, including school children and people with disabilities or visual impairment and bicycles, use the suitably constructed and protected temporary footpaths and crossing points provided for pedestrians or formal pedestrian crossings, or refuges if warranted.</p>	<p>PC 2.2 Participants to understand the principles underpinning traffic control and be able to demonstrate how to direct and control pedestrian traffic to ensure safety in the context of the Traffic Controllers work environment</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
			<p>Knowledge evidence</p> <p>Written assessment requiring participants to identify and describe pedestrian traffic requirements and procedures that comply with the TGS</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to direct pedestrian traffic and ensure safety on a real live road setting under supervision</p>
	<p>2.3 Monitor traffic and make adjustments for changing conditions and position waiting vehicles for smooth traffic flow</p>	<p>Requires Traffic Controllers to:</p> <ul style="list-style-type: none"> • monitor the length of the queue on the approach and communicate with colleagues to advise when it is time to change the direction of traffic moving through the workzone. • monitor radio for any approaching wide vehicles, in order to make appropriate adjustments to allow them to pass the worksite safely. <p>Traffic Controllers must consider the impact that the weather and/or time of day will have on visibility on the roadway where they are positioned. TCs should ensure they can be seen, even when:</p>	<p>PC 2.3 Participants to understand the principles underpinning traffic flow and be able to demonstrate ability to make adjustments for changing conditions and position waiting vehicles for smooth traffic flow</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to explain the effects of travel speed and vehicle mass on stopping distances</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<ol style="list-style-type: none"> 1. working in low-light (such as dawn or dusk) or night-time conditions 2. in line with a low morning or evening sun, especially on roads that run east-west, where the glare from the sun may obstruct the driver's vision 3. standing in shadow on a sunny day or 4. dust, haze or fog limit the visibility of road users 5. in night conditions 	<p>Practical assessment requiring participants to monitor the length of the queue on the approach and communicate with colleagues to advise when it is time to change the direction of traffic moving through the workzone and to make adjustments for changing conditions on a real live road setting under supervision</p>
	<p>2.4 Use hand held stop-slow bats</p>	<p>Requires Traffic Controllers to use hand held stop-slow bats to communicate effectively with road users, in accordance with regulatory authority approved procedures.</p>	<p>PC 2.4 Participants to demonstrate how to use hand held stop-slow bats to communicate effectively with road users, in accordance with regulatory authority approved procedures</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to describe the approved procedure for use of a hand-held stop-slow bat and identify equipment types, characteristics, technical capabilities and limitations to communicating with a hand-held stop-low bat</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to direct and control traffic using a stop-slow bat on a real live road setting under supervision</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	<p>2.5 Use visibly clear and unobstructed hand signals</p>	<p>Requires Traffic Controllers to use hand signals to advise traffic only in conjunction with a stop-slow bat. Traffic Controllers have no authority to control or direct traffic by hand signals alone or by giving oral instructions to drivers. At night time an illuminated wand shall be used when making the hand signals.</p>	<p>PC 2.5 Participants to demonstrate how to use visibly clear and unobstructed hand signals in conjunction with a stop-slow bat</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to describe the approved procedure for use of hand signals in conjunction with a hand-held stop-slow bat</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to direct and control traffic using hand signals in conjunction with a stop-slow bat on a real live road setting under supervision</p>
	<p>2.6 Report traffic offenders</p>	<p>Requires Traffic Controllers to report offenders if a driver disobeys the direction. The traffic controller has no power at law. The legal authority rests with the STOP sign and speed limit signs, which means that motorists must comply when these signs are displayed.</p>	<p>PC 2.6 Participants to understand their legal authority and how to complete a report should a driver disobey their direction</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to understand their legal authority</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
			<p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to complete a report in a real live road setting under supervision</p>
<p>3. Operate communication devices</p>	<p>3.1 Adjust communication device controls for optimum reception/transmission results</p>	<p>Requires Traffic Controllers to be familiar with the frequencies or channels being used and how to adjust the volume to a level that allows messages to be heard over any worksite noise.</p>	<p>Element 3 Operate communication devices</p> <p>Best assessed in context of participants' work environment by a combination of:</p> <p>a) knowledge and understanding of relevant documentation including Codes of Practice, policies, procedures, regulations and work instructions etc.</p> <p>b) practical activity using approved communication devices such as hand-held radios or phones to transmit message and report of offenders in a simulated road like environment with real vehicles</p> <p>c) practical activity in a real live road setting under supervision</p> <p>PC 3.1 Participants to demonstrate how to adjust communication device controls for optimum reception/transmission results in a real live road setting</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	3.2 Transmit messages clearly and concisely	<p>Requires Traffic Controllers to communicate clearly and concisely with others to receive and clarify work instructions.</p> <p>When transmitting messages using a two-way radio remember the site communication protocols:</p> <ol style="list-style-type: none"> 1. Use a call sign when trying to contact somebody 2. Sign off each time you have finished speaking 3. Speak clearly and concisely <p>Be aware of privacy issues. There is no privacy when using a 2-way radio.</p>	PC 3.2 Participants to demonstrate how to transmit messages clearly and concisely in a real live road setting
	3.3 Maintain communication device power supply	Requires Traffic Controllers to check the amount of charge in the battery before the start of the shift. At the end of work check how much charge is left and recharge if required.	PC 3.3 Participants to demonstrate how to check the battery and recharge as required in a real live road setting
	3.4 Check communications contact after nominated period of non-contact	Requires Traffic Controllers to maintain contact with other Traffic Controllers or supervisors or to receive updates on work progress or anticipated delays.	PC 3.4 Participants to demonstrate understanding of communication protocols in a real live road setting
4. Clean up	4.1 Confirm the sequential removal or covering of signs and devices	Requires Traffic Controllers to ensure the work site is cleaned and signage removed or covered in a safe and appropriate manner at the end of work activities.	Best assessed in context of participants' work environment by a combination of:

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
			<p>a) knowledge and understanding of relevant documentation including Codes of Practice, policies, procedures, regulations and work instructions etc.</p> <p>b) practical activity involving a simulated road like environment with real vehicles</p> <p>c) practical activity in a live road setting under supervision</p> <p>Some aspects of this element could also be assessed in a realistic computer-based simulation.</p> <p>PC 4.1 Participants to confirm the sequential removal of signs and devices during shutdown in a real live road setting</p>
	4.2 Clean, check, maintain and store tools and equipment	1. Requires Traffic Controllers to clean, check, maintain and store tools and equipment at the end of work activities.	PC 4.2 Participants to identify where the tools and equipment are stored and how they are maintained in a real live road setting
	4.3 Report any environmental damage or potential for damage	Requires Traffic Controllers to report any environmental damage or potential for damage to their supervisor.	PC 4.3 Participants to understand responsibilities in relation to environmental protection requirements and how to report any damage in a real live road setting

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>While Traffic Controllers are not directly responsible for the implementation of the Environmental Management Plan on a traffic control site, each person working on site has some responsibility to ensure that site operations are not unduly damaging the environment.</p> <p>Some potential areas of harm include:</p> <ol style="list-style-type: none"> 1. noise and vibration from works 2. contamination of water 3. creation of dust from the work site 4. contamination of local environment from waste, rubbish, or hazardous materials. 	

A2-2.1.4 Position, set up and operate manually controlled portable traffic control devices

This unit is based on the existing unit RIIRTM 202D – Position and set up portable traffic signals and been reworked to ensure it covers:

- Temporary traffic signs
- Portable boom barriers
- Type 1 and type 2 portable signals

In all cases focus is to be on the principles of the operation of these devices (not proprietary products)

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
1. Plan and prepare	1.1 Identify and consider the type of work to be undertaken and the conditions in which the work will be carried out	Requires Traffic Controllers to identify and consider the type of work to be undertaken and the conditions in which work will be carried out, including: <ol style="list-style-type: none"> 1. location of the worksite 2. clearance between the traffic stream and the work site 3. speed limit 4. traffic volume and composition geometry of the road approaching and past the work site (e.g. site distance) 	<p>Element 1 Plan and prepare</p> <p>Best assessed in context of participants' work environment by a combination of:</p> <p>a) knowledge and understanding of documentation relating to work instructions, safety requirements, environmental protection, and emergency procedures</p> <p>b) practical activity in a simulated road like environment with real live portable traffic control devices (PTCD)</p> <p>c) practical activity in a real live road setting under supervision</p> <p>PC 1.1 Participant to understand the onsite conditions and the type of work to be undertaken</p>
	2.2 Participate site specific risk assessment	Requires Traffic Controller to: <ul style="list-style-type: none"> • participate in site specific risk assessment • identify type and scope of hazards and their impact • identify and recommend risk control measures 	<p>PC 1.2 Participants required to participate in a site-specific risk assessment</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to explain the risk assessment process and the hierarchy of control</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
			<p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to identify the type and scope of hazards and their impact, and recommend risk control measures</p>
	<p>1.3 Select equipment, signs and devices, check for serviceability and rectify or report any faults</p>	<p>Requires Traffic Controllers to select equipment, signs and devices required for the type of work and conditions as per TGS. Equipment, signs and devices include:</p> <ol style="list-style-type: none"> 1. static and electronic signs 2. channelizing and delineation devices including temporary barrier systems, bollards and cones 3. portable traffic control devices (PTCD) include manually-operated portable traffic signal systems (PTSS), and portable manually-operated boom barriers 4. communication devices include 2-way radios and mobile phones (only in an emergency when radio fails) <p>Traffic controllers must also implement other hazard and risk management strategies identified in the SWMS and/or risk assessments.</p> <p>Traffic Controllers are required be accredited, trained and competent in the use of manually controlled PTCD.</p> <p>This competency unit covers the use of:</p> <ul style="list-style-type: none"> • Manually operated PTCD including type 1 and type 2 portable traffic signals and portable boom barriers 	<p>PC 1.3 Participants to select equipment, signs and devices required for the type of work and demonstrate ability to check for serviceability and rectify or report any faults</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to identify equipment, signs and devices that comply with the TGS and the type of work being undertaken</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to select relevant temporary traffic signs and traffic control devices on a real live road setting under supervision</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
<p>2. Position or confirm portable traffic control devices (PTCD) and temporary traffic signs as per TMI instructions</p>	<p>2.1 Position or confirm PTCD and temporary traffic signs as per TMI instructions</p>	<p>Requires Traffic Controllers to position relevant signage as TMI instructions:</p> <ul style="list-style-type: none"> • position signs in sequence • position signs promptly to minimise disruption to road users • position or confirm PTCD as per TMI instructions <p>Key considerations in confirming the safe location for PTCD, boom barriers and temporary traffic signs include:</p> <ul style="list-style-type: none"> • site geometry • sight distance • roadside terrain/vegetation • background effects impacting on PTCD (e.g. flashing yellow lights from construction vehicles, other traffic signals and VMS signs) • the type of PTCD used • vehicle mix and approach speeds • environmental factors (for example fog, rain, dust or smoke) and time of day/night • Manual handling also needs to be considered (PTCDs are very heavy to manoeuvre if they are not on vehicles that have a deployment mechanism) 	<p>PC 2.1 Participants to position PTCD and temporary traffic signs as per TMI instructions</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to identify key considerations in determining a safe location for PTCD and temporary traffic signs</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to identify a safe location for PTCD and position temporary traffic signs in sequence under TMI supervision</p>
	<p>2.2 Ensure Traffic Controllers are in a safe location when operating PTCD</p>	<p>Requires Traffic Controllers to ensure they are in a safe location when operating PTCD.</p> <p>TCs should occupy a position which:</p> <ul style="list-style-type: none"> • 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 	<p>PC 2.2 Participants to identify a safe location for Traffic Controllers operating PTCD</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to identify key considerations in determining a safe location when operating PTCD</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> • has appropriate sight distance of approaching traffic • ensures drivers focus on the PTCD, and not take cues from the TC • enables effective communication to both site workers and other TC (if applicable). If a single TC is operating two PTCD, an added consideration is to ensure the operating range of the hand-held remote controller is not exceeded • enables the TC to identify the last vehicle before changing to STOP • is close enough to the PTCD to allow the TC to commence STOP/SLOW bat duties in the event of a system failure. In the case of a single TC operating two PTCDs, the TC 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 TC operating two PTCD's, the TC should be located to have visibility of both devices and traffic queues for each approach. <p>Other safety considerations include:</p> <ul style="list-style-type: none"> • planning the site arrangements so that, where possible, one hand-held remote controller can be used to operate the PTCDs • using an elevated location (to maximise sight distance) • positioning the TC behind safety barrier (clear of deflection zone) 	<p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to identify a safe location for Traffic Controllers operating PTCD</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> • parking vehicles clear of the traffic control station • using shade to reduce sun exposure and heat stress wherever appropriate • managing fatigue; for example, if a suitable position is available, the TC may be seated while performing TC duties 	
3. Control traffic	3.1 Monitor traffic flow to ensure that PTCD are operating as intended	Requires Traffic Controllers to monitor traffic flow to ensure that PTCD are operating as intended and do not cause unnecessary delays to traffic including: <ul style="list-style-type: none"> • delays to vehicles (and pedestrians) on each approach • the number of vehicles left in a queue at the termination of the green period, and the number of vehicles stopped more than once in each queue, are not at satisfactory levels • vehicle detectors are not detecting traffic as intended, in both the passage and presence mode • unusual vehicles are being missed by detectors, and in sufficient numbers to justify special detection techniques 	PC 3.1 Participants to monitor traffic flow to ensure that PTCD are operating as intended and are not causing unnecessary delays to traffic <p>Knowledge evidence</p> Written assessment requiring participants to demonstrate understanding of traffic flow and the interaction between all road users <p>Performance evidence</p> Practice activity in a simulated road like environment with real vehicles <p>Practical assessment requiring participants to monitor traffic flow to ensure PTCD is operating safely and effectively in a real live road environment under supervision</p>
	3.2 Control signal sequence of manually operated PTCD to ensure they are effectively deployed are not causing unnecessary delays to traffic	Requires Traffic Controller to control the signal sequence of manually operated PTCD to ensure they are effectively deployed in the following control situations: <ul style="list-style-type: none"> • shuttle control – is generally used on a two-lane two-way road, where one lane is closed for maintenance and the other is shared by traffic from both approaches. Shuttle control uses two PTSUs or boom barriers. 	PC 3.2 Participants to monitor traffic flow and control signal sequence of manually operated PTCD to ensure they are effectively deployed and are not causing unnecessary delays to traffic <p>Knowledge evidence</p> Written assessment requiring participants to demonstrate understanding of traffic flow and the interaction between all road users

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> • plant crossing control – one PTSU shall be used on each road approach to temporarily stop traffic at a road work site where plant needs to cross the roadway. Manual operation is safer and more effective in preventing delays to vehicles on both the road and plant crossing. • gating control – is the control of traffic from a single approach. When a Type-2 PTSS is being used for gating control on a two-lane one-way road, two units are required. During manual operation, the Traffic Controller controls the sequence and time for which the green signals are displayed. The Traffic Controller cannot override the configured minimum green time and all-red time after initial configuration and operation has commenced. 	<p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to monitor traffic flow to ensure PTCO is operating safely and effectively are not causing unnecessary delays to traffic in a real live road environment under supervision</p>
	<p>3.3 Monitor site conditions and ensure temporary traffic signs remain in place and are operating safely and effectively are not causing unnecessary delays to traffic</p>	<p>Requires Traffic Controllers to monitor site conditions and ensure temporary traffic signs remain in place and are operating safely and effectively and are not causing unnecessary delays to traffic.</p> <p>If the TGS is not effective (for example approach speeds or traffic queues are extending to a point where end of queue protection measures should be considered), the TC is to advise the site supervisor who will contact the TMD for modification options.</p>	<p>PC 3.2 Participants to monitor site conditions and ensure temporary traffic signs remain in place and are operating safely and effectively and are not causing unnecessary delays to traffic</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to demonstrate understanding site condition and the type of work being undertaken</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to monitor site conditions and ensure temporary traffic signs remain in place and are operating safely and effectively and are not causing</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
			unnecessary delays to traffic in a real live road environment under supervision
4. Clean up	4.1 Ensure temporary traffic signs and PTC D are removed sequentially to provide warning to motorists during shutdown	Requires Traffic Controllers to ensure the work site is cleaned and PTC D and temporary traffic signs are removed sequentially or covered in an appropriate manner at the end of work activities.	<p>Element 4 Clean up</p> <p>Best assessed in context of participants' work environment by a combination of:</p> <ul style="list-style-type: none"> a) knowledge and understanding of documentation relating to work instructions, safety requirements, environmental protection and emergency procedures b) practical activity in a simulated road like environment with real PTC D c) practical activity in a real live road setting under supervision <p>PC 4.1 Participants to demonstrate the sequential removal of temporary traffic signs and PTC D during shutdown.</p>
	4.2 Clean, check, maintain and store PTC D	Requires Traffic Controllers to clean, check, maintain (ensure they are put on charge) and store PTC D at the end of work activities.	PC 4.2 Participants to identify where the PTC D are stored and how they are maintained.

A2-2.2 Traffic Controller Category 2

There is one unit of competency for the Traffic Controller Category 2:

- Control Traffic – Category 2 Roads (new unit)
- The Category 2 course would be expected to be relatively short (e.g. 1 day). It would cover work in the following situations:
 - Signalised intersections (where signals had been turned off)
 - Multi-lane roads
 - Higher speed/higher volume roads
 - Understanding how to work with a pilot vehicle in a shuttle flow work arrangement

Mandatory assessment requirements

1. Theoretical knowledge (participants required to have at least functional level 2 literacy)
2. Simulation that must involve road like environment and real vehicles
3. Live site in a road category suitable to the training level

A2-2.2.1 Control Traffic – Category 2 Roads

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
1. Control Traffic on Category 2 roads	1.1 Control traffic at traffic signals (where signals have been turned off)	<p>Requires Traffic Controllers to ensure the relevant authority to switch traffic signals to flashing amber or off is in place. Worksite supervisors must first gain the written approval of the relevant jurisdiction or local government representative to switch traffic signals to flashing amber or off.</p> <p>At traffic signals, TCs are required to:</p> <ol style="list-style-type: none"> 1. never direct traffic differing to that indicated by traffic signals 2. if the works are expected to interfere in any way with the operation of the traffic signals, ensure that appropriate approvals have been provided by the relevant authorities. 	<p>Element 1 Control traffic on Category 2 roads</p> <p>Best assessed in context of participants' work environment by a combination of:</p> <ol style="list-style-type: none"> a) knowledge and understanding of relevant documentation including Codes of Practice, policies, procedures, regulations and work instructions etc. b) practical activity in a simulated road like environment with real vehicles c) practical activity in a real live road setting under supervision

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>3. if traffic is required to move different to a traffic signal display, then the 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</p> <p>4. switching of traffic signals to flashing amber or modification to traffic signal operation settings is only to be undertaken by the relevant authority</p> <p>5. 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 is to be stationed at the approach of the signals (from the works), to display a hand-held “STOP” sign when the traffic signals display red</p> <p>6. if you are using a double-sided STOP/SLOW bat to control traffic at an intersection, you must have the “SLOW” sign covered or removed to ensure that vehicles on other approaches do not proceed into the intersection</p> <p>7. if control at signals has more than one lane, then one TC per lane will be required, or approaching traffic needs to be merged down to one lane before they reach the TC point.</p> <p>Traffic control functions do not include pedestrian management. Therefore, traffic controllers cannot use STOP/SLOW bats to conduct pedestrian management as this is not a recognised traffic control device for pedestrians.</p>	<p>Some aspects of this element could also be assessed in a realistic computer-based simulation.</p> <p>PC 1.1 Participants to understand the principles underpinning traffic control at traffic signals and to demonstrate how to correctly assist pedestrians and control traffic at traffic signals</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to identify and describe traffic control requirements, procedures and authorisation that comply with TGS in respect to controlling traffic at traffic signals</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to direct and control vehicle traffic at traffic signals on a real live road setting under supervision</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		Traffic controllers may however assist pedestrians past the worksite as and when necessary. However, in doing so, they are not undertaking the role of a traffic controller at that time.	
	1.2 Control traffic on multi-lane roads	<p>Requires Traffic Controllers to:</p> <ol style="list-style-type: none"> 1. take extra caution when controlling traffic on multi-lane roads where there is a concrete barrier dividing the road to ensure their escape path is not blocked 2. ensure one traffic controller is allocated for each lane open to traffic at all times. 3. ensure a third controller is operating when: <ul style="list-style-type: none"> • 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 • controlling traffic at a T-junction. In this situation, it is essential that all three traffic controllers be in two-way communication • when it is evident that continuous Stop/Slow traffic control is required, and a break is needed • traffic is approaching too fast 	<p>PC 1.2 Participants to understand the principles underpinning traffic control on Category 2 roads and to demonstrate how to correctly direct and control traffic on multi-lane roads</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to identify and describe traffic control requirements and procedures that comply with the TGS with respect to multi-lane roads</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to direct and control vehicle traffic on a real live multi-lane road environment under supervision</p>
	1.3 Control traffic on higher speed (speed limit of 80 km/h and above) / higher volume roads	<p>Requires Traffic Controllers to understand traffic flow and the interaction between all road users and the impact of:</p> <ol style="list-style-type: none"> 1. queues in traffic 	<p>PC 1.3 Participants to understand the principles underpinning traffic control on Category 2 roads and to demonstrate how to direct and control traffic correctly on higher speed/higher volume roads</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<ol style="list-style-type: none"> 2. traffic speeds 3. volume of traffic 4. traffic delays 5. merging behaviour of drivers <p>At roadwork sites where stopping sight distance cannot be met due to road geometry and approach speeds to the roadwork site are high, or high-speed approaches to roadworks where there is potential that drivers would benefit from an additional warning device, for example an enhanced queued traffic warning sign may be installed. The TC/TMI needs to be able to identify when an additional warning device might be required and request TMD input/approval.</p>	<p>Knowledge evidence</p> <p>Written assessment requiring participants to demonstrate understanding of traffic flow and the interaction between all road users with respect to multi-lane roads</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to direct and control vehicle traffic on a real live higher speed/higher volume road environment under supervision</p>
	<p>1.4 Work with a pilot vehicle</p>	<p>Requires Traffic Controllers to work with a pilot vehicle where there is a need to manage speed or the driver's travel path through the worksite. This form of assistance to traffic management may be required where:</p> <ol style="list-style-type: none"> 1. part of the length of the work site is out of view of the supervisor, work gang and the Traffic Controller 2. the hazard to workers requires the traffic speed to be reduced to less than 40 km/h 	<p>PC 1.4 Participants to understand the principles underpinning traffic control on Category 2 roads and be able to demonstrate how to work with a pilot vehicle in a shuttle flow work arrangement</p> <p>Knowledge evidence</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>3. the traffic speed is required to be kept low to minimise damage to the works</p> <p>4. traffic needs to follow a particular path through the site which may not be obvious unless a pilot vehicle is used</p>	<p>Written assessment requiring participants to demonstrate understand the principles of working with a pilot vehicle in a shuttle flow work arrangement</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to work with a pilot vehicle in a shuttle flow work arrangement on a real live Category 2 road environment under supervision</p>

A2-3 Implementer

Mandatory assessment requirements applying to Implementer Category 1, 2 and 3

1. Theoretical knowledge (participants required to have at least functional level 2 literacy)
2. Simulation that must involve road like environment and real vehicles
3. Live site in a road category suitable to the training level

A2-3.1 Implementer Category 1

There are six units of competency for an Implementer Category 1:

- RIIWHS201D – Work Safely and follow WHS policies and procedures (unit already described under Traffic Controller Category 1)
- RIICOM201D – Communicate in the workplace (unit already described under Traffic Controller Category 1)
- RIIWHS302D – Implement TMP and TGS
- RIIRIS301D – Apply risk management process
- RIIRTM201D – Position, set up and operate variable message signs
- Position, set up and operate portable traffic control devices (based on existing unit RIIRTM 202D – Position, set up and operate portable traffic signals. This unit is also utilised for Traffic Controllers as Control traffic with portable traffic control devices and temporary traffic signs. The guidance material has been contextualised for the Implementer role)

A2-3.1.1 RIIWHS302D – Implement TMP and TGS

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
<p>1. Prepare to implement traffic guidance scheme</p> <p>(Prev 1.1 Plan and prepare to implement traffic management plan)</p>	<p>1.1 Determine works requirements and scope of TGS and TMP</p> <p>(Prev 1.1 Access, interpret and apply traffic management documentation and ensure the work activity is compliant</p> <p>and</p> <p>1.2 Obtain, read, interpret, clarify and confirm work requirements)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Locate all relevant works project and traffic management documentation 2. Interpret documentation in the context of the proposed roadworks requiring traffic management 3. Clarify and confirm TGS requirements with TMP Designer as needed 4. Clarify and confirm roadworks activities and TTM roles and responsibilities with key roadwork project personnel to ensure consistent understanding of TMP/TGS and co-ordination with work project activities <p>Works project documentation includes:</p> <ul style="list-style-type: none"> ○ Project plans, contracts & specifications governing the work to be conducted in the works area/s <p>Traffic management documentation includes:</p> <ul style="list-style-type: none"> ○ generic TMP/TGS documentation ○ site-suitable TMP/TGS documentation ○ national, state/territory and local regulations, codes and standards applying to road works and traffic management; ○ supporting documentation such as safety, environmental/planning and quality management regulations, standards and codes 	<p>Element 1 Prepare to implement traffic guidance scheme</p> <p>Best assessed by:</p> <p>a) providing the learner with:</p> <ul style="list-style-type: none"> • a range of documents relating to a real TGS, • access to the real road area covered by the TGS for assessment of roads-based aspects (undertaking on-ground hazard & risk assessment • access to a range of vehicles, equipment & devices (including signs) necessary for implementing the TGS <p>b) requiring the learner to step the assessor through the process of analysing the documentation, undertaking site assessment of hazards and preparing risk assessment document/s, validating the suitability of the TGS, resourcing the TGS (including checking of vehicles, equipment & devices) and completing liaison/communications activities.</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
			<p>Alternatively, assessment of on-road aspects could occur in a realistic simulated setting such as a closed road area of category-appropriate characteristics that ideally includes simulated live traffic (e.g. by having other RTO staff drive vehicles through the assessment area)</p> <p>PC 1.1 Practical activity set against a real or realistic simulated TTM project.</p> <p>Trainee to identify required documentation, source this, analyse, identify implications for TGS & TMP (orally and/or in writing) and clarify as appropriate to confirm understanding</p>
	<p>1.2 Identify, assess and report potential risks, hazards and environmental issues and determine control measures</p> <p>(Prev 1.3 Identify, address and report potential risks, hazards and environmental issues and implement control measures)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Inspect work site/s prior to implementation to identify both documented and undocumented potential hazards and risks and environmental issues 2. Assess risks arising from hazards 3. Record and report undocumented hazards, risks & issues to relevant parties for treatment including revision to TMP/TGS if required 4. Request stop work if required. <p>Inspection may include:</p> <ul style="list-style-type: none"> ○ personal inspection ○ inspection by a qualified delegate ○ viewing satellite or other imagery 	<p>PC 1.2 Practical activity on a real piece of roadway containing a wide range of hazards, supplemented where possible by imagery (satellite &/or drone photos, maps).</p> <p>Trainee to walk through the site and view images where available and identify all hazards, assess risks these create, record these and report to all parties involved in remediation</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>Documented hazards & risks are those which have been included in writing in the TMP/TGS, following completion of risk analysis</p> <p>Undocumented hazards include:</p> <ul style="list-style-type: none"> ○ hazards not present or not identified during preparation of the TMP/TGS, and ○ hazards that arise during the course of works <p>Hazards include:</p> <ul style="list-style-type: none"> ○ complex/compromised road profile & geometry ○ uneven, slippery, dusty & unstable surfaces ○ limited access, entries/exits ○ limited sight distances ○ traffic volumes, vehicle types and speeds ○ stopping, starting and moving traffic in close proximity to personnel ○ turning & reversing plant ○ overhanging vegetation, overhead power lines, underground utilities ○ confused, frustrated, impatient and non-compliant road users ○ signs/devices blocking sight lines, footpaths or cycle lanes ○ excavations or non-frangible items in close proximity to traffic / pedestrians ○ impacts to pedestrians and cyclists ○ impacts to adjoining properties <p>Risks may affect:</p> <ul style="list-style-type: none"> ○ workers and road users including vulnerable users 	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ road assets ○ surrounding natural environment, built environment including heritage ○ cost-effectiveness of work and TTM <p>Assessing risks involves:</p> <ul style="list-style-type: none"> ○ evaluating consequences (seriousness of impact) against likelihood of occurrence using simple checklists and risk assessment tools <p>Reports may include:</p> <ul style="list-style-type: none"> ○ verbal reports ○ completed checklists ○ formal reports and notifications <p>Relevant parties may include:</p> <ul style="list-style-type: none"> ○ overall site manager ○ TMP Designer <p>Treatment may be governed by:</p> <ul style="list-style-type: none"> ○ Austroads and/or RIM requirements ○ procedures specified in TMP <p>Stop work may be required if life is endangered</p>	
	<p>1.3 Validate suitability of the traffic guidance scheme (TGS)</p> <p>(Prev 2.1 Select traffic guidance scheme to suit site conditions, traffic volumes and work activities)</p>	<p>This requires the Implementer to:</p> <ol style="list-style-type: none"> 1. Confirm the appropriateness of the TGS based on reference to the TMP, work/access permit operation type, principles, objectives and standards, work plans, observation of the site and approaches, & data obtained from traffic counts etc. 	<p>PC 1.3 Practical activity based on a real or realistic TGS, preferably related to roadway environment used in 1.2 above</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>2. If required and authorised, make minor modifications to address identified shortcomings</p> <p>3. Record in writing on the TGS, any changes made and the reasons for these</p> <p>4. Refer TGS requiring moderate or significant modifications to TMP Designer</p> <p>TGS may be:</p> <ul style="list-style-type: none"> ○ generic (applicable to generally similar work zones and/or work operations) ○ site-suitable, or ○ specific to a particular work zone/work operation <p>Appropriateness of a TGS includes considering:</p> <ul style="list-style-type: none"> ○ whether the TGS continues to meet all principles and objectives ○ mitigation of any risks identified subsequent to preparation of TMP <p>The assessment of appropriateness may involve:</p> <ul style="list-style-type: none"> ○ using checklists, templates, tables or similar <p>Operation type may be:</p> <ul style="list-style-type: none"> ○ short-term, low impact not requiring lane closure (e.g. shoulder / off-shoulder) ○ static works involving relatively straightforward part-roadway closures <p>Principles and objectives for a TGS include:</p> <ul style="list-style-type: none"> ○ safety of road users and work personnel 	<p>Trainee to assess whether the TGS is suitable, justify his/her assessment by reference to factors listed opposite, identify any minor or major modifications required and refer major modification requirements back to TMP Designer for rectification</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ minimisation of disruption to road users, including vulnerable users ○ specific objectives determined by TMP Designer <p>Standards for a TGS include:</p> <ul style="list-style-type: none"> ○ standards prescribed in AS 1742.3 and derivatives ○ standards prescribed by RIM or other authority <p>Minor modifications may include:</p> <ul style="list-style-type: none"> ○ small changes to positioning of signs to address issues of road user visibility ○ selected addition of duplicate signs <p>NOTE: In some jurisdictions, the Implementer is not authorised to modify a TGS or to do so only in specified circumstances</p>	
	<p>1.4 Resource the implementation of the TMP/TGS</p> <p>(Prev 1.5 Identify, obtain and implement traffic control signage and devices)</p> <p>and</p> <p>1.6 Select, and check for faults, tools and equipment to carry out tasks)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Ensure availability of qualified personnel sufficient to provide prompt installation & removal of traffic control devices and to provide coverage of breaks for traffic controllers 2. Ensure all traffic management vehicles, equipment, signs and devices specified in TTMP/TGS are available at work zone as required 	<p>PC 1.4 Real or realistically simulated activity (role play in off-road setting)</p> <p>Trainee to specify in writing all requirements (personnel, vehicles, devices etc) required to implement TGS used in 1.3 above and negotiate for these in real or realistic role-play setting.</p> <p>Trainee to check a range of vehicles, devices etc including substandard vehicles & devices, determine suitability of each and identify faults of substandard items, and negotiate (role play) for repairs and replacement</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>3. Ensure traffic management equipment, signs and devices are in good working order and take remedial action including replacement if required</p> <p>4. Ensure the Job Pack is complete</p> <p>Qualified personnel includes:</p> <ul style="list-style-type: none"> ○ roads labourers with relevant licence/s ○ traffic controllers with relevant licence/s <p>Traffic management vehicles includes:</p> <ul style="list-style-type: none"> ○ pilot vehicles ○ trucks to transport signs & devices ○ shield/shadow vehicles fitted with warning signs <p>Equipment, signs and devices include:</p> <ul style="list-style-type: none"> ○ static and electronic signs ○ programmable electronic variable message signs (VMS) ○ channelizing and delineation devices including temporary barrier systems, fences, bollards & cones ○ signalling devices including bats, manually-operated portable traffic signals, manually-operated booms ○ communication devices including 2-way radios and mobile phones <p>Good working order means:</p> <ul style="list-style-type: none"> ○ equipment, signs and devices are undamaged, and functioning effectively ○ signs are clean, legible and of specified reflectivity as per AS1742.3 	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	1.5 Ensure liaison and communication activities occur as planned	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Co-ordinate planned TTM activity with roadworks activity 2. Co-ordinate TTM activity with other TTM activity occurring in adjacent areas or stages 3. Ensure communication activity directed at road users, adjacent residents & visitors, public transport authorities, police & emergency services occurs as and when directed by TMP 4. Ensure the TMP/TGS and all associated documentation including records of issues arising, accidents & incidents, requests for assistance, changes etc are communicated on handover to next TMI <p>'As and when directed' includes:</p> <ul style="list-style-type: none"> ○ activities required to occur well ahead of TGS implementation (public notices, consultations, placement of advance warning signs etc) ○ activities required to occur shortly before TGS implementation (confirmation contact with residents and business, service & facility operators in affected area) ○ activities required to occur during progress of the works 	<p>PC 1.5 Best assessed in a real work activity. Alternatively assessed via a realistic simulation (role play/s), supplemented by log book/report from a qualified TM Implementer overseeing the trainee's first implementation activities</p> <p>Trainee to identify co-ordination and communications requirements arising from implementation activity described in 1.3 above, then conduct required co-ordination activity and communications activities (real or role play)</p>
	1.6 Prepare TGS implementation personnel for work	Requires Implementer to:	PC 1.6 Best assessed in a real work setting; alternatively in a realistic simulated setting (role play)

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	<p>(Prev 1.8 Check the designated traffic controllers' training and qualifications for currency</p> <p>and</p> <p>1.4 Select and wear personal protective equipment appropriate for the work activity</p> <p>and</p> <p>1.9 Advise traffic controllers of the traffic flow requirements)</p>	<ol style="list-style-type: none"> 1. Confirm all personnel have required skills and licences and refuse entry to unqualified personnel 2. Confirm all personnel are wearing specified personal protective equipment (PPE) 3. Brief all personnel on the overall works plan, the TMP and applicable TGS requirements including all WHS measures and sequencing of installation and removal, the location of the site copy of the TMP/TGS and contact numbers for key personnel including Implementer 4. Advise TGS personnel on arrangements for breaks, handovers, emergency/contingency procedures and communications 5. Confirm all personnel understand TGS requirements, their own role & responsibilities and the roles & responsibilities of other persons engaged in WHS and traffic control in the work zone. <p>Briefing:</p> <ul style="list-style-type: none"> ○ may occur off-site and onsite ○ must occur at the start of each shift and as required in response to changes and trigger events such as incidents ○ must include induction to the work site, including site entry, exit, driving and parking requirements 	<p>Trainee to check quals/licences of implementation personnel, confirm correct wearing of PPE and carry out a briefing as per 3, 4 & 5 opposite</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ must identify where the site copy of the TMP/TGS is located and how the Implementer may be contacted at any time <p>Applicable TGS requirements include:</p> <ul style="list-style-type: none"> ○ setup and close-down protection arrangements e.g. shadow vehicle ○ sign & device types, quantities, layouts and sequencing ○ applicable work methods documentation (SOPs, Work Method Statements, equipment manufacturer’s manuals, materials safety data sheets etc) ○ contact protocols including callsigns, TMI and site safety officer mobile phone numbers ○ special provisions applying to vehicles including over-dimension vehicles, bicycles and mobility scooters and to pedestrians including wheelchair users <p>Roles & responsibilities of TTM personnel include:</p> <ul style="list-style-type: none"> ○ setting out the signs and devices in specified sequence, keeping them in place and removing as per TGS ○ managing personal safety (JSA) ○ controlling traffic ○ monitoring scheme effectiveness including road user behaviour and reporting issues & incidents 	
2 Set out the traffic guidance scheme	2.1 Ensure signs and devices are positioned and installed correctly	Requires Implementer to:	1. Set out the traffic guidance scheme

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	<p>(Prev 2.3 Ensure signs and devices are correctly positioned on the approaches to the work area</p> <p>2.4 Ensure that signs and devices are positioned and displayed on each approach</p> <p>2.5 Ensure signs and devices are positioned and displayed laterally)</p> <p>2.6 Ensure traffic is controlled effectively to protect the work crew)</p>	<ol style="list-style-type: none"> 1. Deploy warning/protective vehicle/s to ensure workers are protected during placement of signs & devices 2. Ensure signs and devices are placed in sequence and position as per TGS 3. Ensure signs and devices are placed promptly as per work schedule to minimise disruption to road users 4. Ensure work crew members do not encroach onto roadway unnecessarily, cross road on foot or otherwise place themselves in danger 5. Monitor work crew communications to ensure adherence to protocols <p>Sequence of installation of devices is dictated by TMP/TGS and follows general sequence of:</p> <ul style="list-style-type: none"> ○ side streets first ○ non-working lane ○ working lane last <p>Warning/protective vehicles include:</p> <ul style="list-style-type: none"> ○ pilot vehicles ○ trucks to transport signs & devices ○ shield/shadow vehicles fitted with warning signs 	<p>Best assessed in a real live road setting under supervision.</p> <p>Alternatively, assess in a realistic simulated setting such as a closed road area of category-appropriate characteristics that ideally includes simulated live traffic (e.g. by having other RTO staff drive vehicles through the assessment area)</p>
	<p>2.2 Inspect TGS and authorise roadwork to proceed</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Conduct drive-through inspection as required of every approach (including from side roads, property entrances and other potential breach points) 	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	<p>(Prev 2.3 Ensure signs and devices are correctly positioned on the approaches to the work area</p> <p>2.4 Ensure that signs and devices are positioned and displayed on each approach</p> <p>2.5 Ensure signs and devices are positioned and displayed laterally)</p>	<ol style="list-style-type: none"> 2. Confirm that all signs & devices are positioned (including lateral positioning) at the points described in the TGS and consistently with MUTCD or equivalent requirements 3. Ensure barriers and delineation devices are secure 4. Ensure tapers are correct and ends of barriers are made safe 5. Ensure signs are positioned so as to be easily visible by approaching traffic and sufficiently clear laterally from the travel path as to minimise risk that a vehicle will strike the sign 6. Ensure temporary signs provide consistent messages and do not conflict with permanent signs 7. Check safety of routes for cyclists, pedestrians & other vulnerable road users by walk-through inspection 8. Specify and direct any other required remedial action 9. Record all observations (including images), amendments, requests for changes on TGS and/or work diary/log 10. Advise roadworks project supervisor that roads works may commence <p>Drive-through inspections should be undertaken:</p> <ul style="list-style-type: none"> ○ at posted speeds ○ at night with low beam headlights <p>Inspections are required:</p>	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ before works commence ○ during operation of the scheme ○ at evening shutdown ○ at TGS shutdown ○ following trigger events (incidents etc) <p>Lateral positioning includes consideration of:</p> <ul style="list-style-type: none"> ○ distance between edge of sign and trafficked path ○ line-of-sight visibility ○ possible impact of glare, shading and other visual disruptions <p>Remedial action may include:</p> <ul style="list-style-type: none"> ○ minor adjustments to positioning ○ if required and allowed, placing additional (duplicate) signs to remedy reduced visibility e.g. where parked cars or roadside objects, or deep shading might reduce visibility of signs in locations specified in TGS ○ halting work 	
<p>3 Monitor traffic guidance scheme</p>	<p>3.1 Monitor traffic flow and determine effectiveness of guidance scheme</p> <p>(Prev 3.1 Ensure traffic flow is monitored and effectiveness of guidance scheme determined)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Monitor traffic flow characteristics according to schedule 2. Assess whether TGS is meeting intended objectives and relevant standards <p>Monitoring may involve:</p> <ul style="list-style-type: none"> ○ direct observation and simple counts ○ drive-through inspections ○ reports from traffic management workers and from others working on the site/zone 	<p>3. Monitor traffic guidance scheme</p> <p>Best assessed in a real live road setting under supervision.</p> <p>Some aspects of this element (e.g monitoring of traffic flow – judging speed, queue lengths etc) could be assessed in a realistic computer-based simulation.</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>Traffic flow characteristics include:</p> <ul style="list-style-type: none"> ○ speed of approach to slow/stop points ○ stopping within indicated stop zones ○ queue lengths & delay times ○ speed through work zone ○ vehicle bunching/separation through work zone ○ adherence by users to trafficable path; risky behaviour by users <p>Schedule may be outlined in:</p> <ul style="list-style-type: none"> ○ TMP/TGS ○ other applicable standards such as CoPTTM part 7 	<p>Leadership components (e.g. guidance & correction of a TC; consultation with Designer to remedy problems) could be assessed using a role-play.</p>
	<p>3.2 Monitor work activities and remedy non-conformance</p> <p>(Prev 3.2 Monitor work activities and provide guidance to adjust scheme, and</p> <p>3.3 Apply process for dealing with traffic controllers who fail to adhere to approved procedures)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Monitor work activities occurring in the work zone and its approaches for their impact on the design and effectiveness of the TGS 2. Provide guidance and correction to TTM personnel as required 3. Liaise with site work supervisors as required to adjust roadworks/construction crew activities 4. Arrange minor adjustment of TGS within delegated authority, if applicable 5. Consult with TM Designer regarding more significant changes <p>Work activities requiring particular attention include:</p>	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ adherence by TTM personnel to safe work methods and TGS requirements ○ entry & exit of construction vehicles & road plant ○ movement, location & swing paths of construction plant adjacent to trafficable zone ○ encroachment of vehicles & plant onto roadway resulting from obstacles & hazards in the work zone ○ activities occurring at night or at times of poor visibility <p>Guidance and correction may include:</p> <ul style="list-style-type: none"> ○ directing errant TC on correct procedure and monitoring subsequent performance ○ removing TC from work site and simultaneous replacement by another TC, ensuring that the TC post is staffed continuously. 	
	<p>4.3 Apply procedures to deal with offending motorists</p> <p>(Prev 3.4)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Receive reports from traffic control workers regarding offending motorists and ensure reports are complete and documented (including photos) as required by Roads Authority 2. Pass reports to relevant authorities including police as required 	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>3. Assess whether the TGS has unnecessarily contributed to offences by motorists and act accordingly to remedy faults</p>	
<p>4 Close down traffic guidance scheme</p>	<p>4.1 Direct the safe covering or removal of the TGS equipment, signs and devices</p> <p>(Prev 4.1 Ensure traffic is controlled to protect work crew removing traffic control devices</p> <p>and</p> <p>4.2 Ensure signs are removed in sequence to provide maximum warning during removal)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Initiate covering/removal activity 2. Deploy warning/protective vehicle to ensure workers are protected during covering or removal of signs & devices 3. Ensure devices are covered, laid flat or removed in sequence as per TGS requirements 4. Ensure work crew members do not encroach onto roadway unnecessarily, cross road on foot or otherwise place themselves or road users in danger 5. Inspect work area to ensure all equipment, signs and devices employed during the operation of the TGS have been removed. <p>Covering of signs and devices may occur:</p> <ul style="list-style-type: none"> ○ when workers are not present on work site (unattended site) <p>Removal of signs and devices may occur:</p> <ul style="list-style-type: none"> ○ when workers are not present on work site (unattended site) ○ on completion of work stage ○ on completion of roadworks project 	<p>4. Close down traffic guidance scheme</p> <p>Best assessed in a real live road setting under supervision.</p> <p>Alternatively, assess in a realistic simulated setting such as a closed road area of category-appropriate characteristics that ideally includes simulated live traffic (e.g. by having other RTO staff drive vehicles through the assessment area)</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>TGS requirements specify the sequence for removal of equipment, signs and devices. This sequence differs in different roads categories.</p>	
	<p>4.2 Ensure tools and equipment are cleaned, checked, maintained and stored</p> <p>(Prev 5.2)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Brief TTM crew on cleaning, checking and storage requirements 2. Check & confirm actions 3. Arrange for necessary maintenance and/or replacement <p>consistent with traffic management organisation policy and practices</p>	
	<p>4.3 Finalise traffic work zone close-down</p> <p>(Prev 5.1 Ensure work area is appropriately cleared)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Inspect work area to ensure all devices employed during the operation of the TGS have been cleared and site remediation is complete 2. Debrief TTM personnel 3. Undertake handover/handback. <p>Clearing of work area may be undertaken:</p> <ul style="list-style-type: none"> ○ at end of shift (generally for short term works) or 	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ at end of project stage <p>Handover/handback may be required when:</p> <ul style="list-style-type: none"> ○ Implementer’s shift ends ○ Implementer is required to leave site 	
	<p>4.4 Complete all reporting</p> <p>(Prev 4.3 Ensure guidance scheme details are recorded and reported as required</p> <p>and</p> <p>4.4 Ensure incidents are recorded and reported as required)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Ensure that original TGS, bearing signed annotations of any changes made (where applicable and allowable), together with daily logs and other required records are passed immediately to required party/s 2. Report findings from review and debrief to TMP Designer and to TTM contract supervisor 3. Ensure that incidents including road traffic misbehaviour are reported to appropriate authorities 4. File documentation as per company policy 	

A2-3.1.2 RIIRIS301D – Apply risk management process

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
1. Plan and prepare for risk management	1.1 Access, interpret and apply risk management documentation and ensure the planned work activity is compliant	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Locate all relevant risk management documentation 	<p>1. Plan and prepare for risk management</p> <p>Best assessed by:</p> <p>a) providing the learner with:</p>

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	<p>(Prev 1.1 Access, interpret and apply risk management documentation and ensure the work activity is compliant)</p>	<p>2. Interpret documentation and apply it to determine apparent compliance of proposed traffic guidance scheme (TGS)</p> <p>3. Verify that roles and obligations and required qualifications/licences of project personnel with responsibility for risk management are documented and comply with national and jurisdictional requirements</p> <p>Risk management documentation includes:</p> <ul style="list-style-type: none"> ○ Risk analysis in traffic management plan (TMP) & associated risk registers/checklists/inspection reports ○ special requirements identified by the RIM or works contractor ○ Australian & international risk management standards, particularly AS/NZ ISO30001 ○ Australian & international traffic management standards particularly AS1742.3; ○ commonwealth & state/territory legislation, regulations, codes & guidelines, in particular those relating to workplace health & safety, roads & traffic management, temporary traffic management operations (MUTCD etc) <p>Apparent compliance of a TGS includes consideration of:</p>	<ul style="list-style-type: none"> • a range of documents relating to a real TGS, • access to the real road area covered by the TGS for assessment of roads-based aspects (undertaking on-ground hazard & risk assessment <p>b) requiring the learner to step the assessor through the process of analysing the documentation, undertaking site assessment of hazards and preparing risk assessment document/s, with specific attention to the identification and control of identified and not-already-identified hazards and their associated risks.</p> <p>Alternatively, assessment of on-road aspects could occur in a realistic simulated setting such as a closed road area of category-appropriate characteristics that ideally includes simulated live traffic (e.g. by having other RTO staff drive vehicles through the assessment area.</p>

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ whether the TGS matches the classification of the road/works ○ identified/known hazards & risks ○ additional hazards & risks identified during site inspection etc <p>Traffic guidance scheme (TGS) includes:</p> <ul style="list-style-type: none"> ○ generic TGS ○ site-suitable TGS ○ site-specific TGS <p>Personnel with responsibility for risk management include:</p> <ul style="list-style-type: none"> ○ those with special responsibilities (project managers, designated WHS managers, TMP Designer, TGS Implementer) and ○ those with general responsibilities (personnel engaged in setting out, staffing & monitoring impact of TGS) <p>National and jurisdictional requirements include:</p> <ul style="list-style-type: none"> ○ training & licensing requirements; ○ contractor works requirements; ○ roads/work categorization; 	
	<p>1.2 Inspect and analyse work area conditions regularly and systematically to identify potential hazards</p>	<p>Requires Implementer to:</p> <p>1. Inspect potentially affected areas before work starts and during progress of work</p>	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<p>2. Identify potential hazards using a systematic approach, including by reference to Traffic Management Plan/TGS</p> <p>3. Record inspections</p> <p>Potentially affected areas include:</p> <ul style="list-style-type: none"> ○ the work site requiring TTM; ○ the work zone where TGS will be installed; ○ areas adjacent to TTM zone, including premises, services and facilities; ○ surrounding road network, particularly if traffic may divert over these; <p>Potential hazards include:</p> <ul style="list-style-type: none"> ○ vehicles failing to stop as/where directed; ○ vehicles moving off the indicated traffic path and colliding with workers, barriers etc; ○ signs/devices displaced into traffic path; 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ traffic control workers moving into traffic stream; ○ traffic control workers having insufficient escape path; ○ weather conditions exceeding allowable limits or adversely affecting visibility of signs & devices; etc ○ high-risk premises within TGS zone, including fuel service stations ○ entries to properties/premises within the TTM zone ○ road & rail crossings <p>A systematic approach may include:</p> <ul style="list-style-type: none"> ○ using documentation such as checklists, self-assessment tools; ○ consulting with TTM field workers and other workers onsite <p>Records of inspections may include:</p> <ul style="list-style-type: none"> ○ standard-form records (checklists etc); ○ notations on the TMP or TGS; ○ photographs or video records. <p>Records should be signed, dated and distributed/filed as required by organization or authority</p>	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	<p>1.3 Access, interpret and apply existing procedures to control identified hazards</p>	<p>Requires Implementer to:</p> <p>1 Control identified hazards by accessing, interpreting and applying existing procedures</p> <p>Procedures to control identified hazards act to (in order of preference)</p> <ol style="list-style-type: none"> 1. Eliminate the hazard 2. Substitute the hazard with one having lesser consequences/risk 3. Isolate the hazard from people, including by use of barriers 4. Engineer the hazard, 5. Apply administrative controls, including including by signage, wearing of PPE, supervision, induction & training of personnel <p>In the TTM context, procedures may include:</p> <ul style="list-style-type: none"> ○ procedures specified in the TMP for rerouting traffic via a detour or bypass and/or stopping traffic temporarily ○ procedures specified in the relevant TGS for the selection, placement & removal of traffic control signs & devices to calm & control traffic flow and isolate workers from traffic; ○ procedures to fine-tune TGS by allowing minor amendments to the positioning of signs & devices, within limit of authority, and to allow duplication of signs to improve visibility, if required & authorised; 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ undertaking pre-work and during-work inspections and monitoring of work zone and traffic control zone; ○ procedures applying to responses by TTM workers to abusive road users and to record, report & manage disobedient road users: 	
	<p>1.4 Identify hazards not controlled by existing procedures</p>	<p>Requires Implementer to:</p> <p>1. Identify hazards not controlled by existing procedures, by using personal observation/inspection, feedback from others</p> <p>Hazards not controlled by existing procedures are:</p> <ul style="list-style-type: none"> ○ hazards that remain after specified control measures (eliminate, substitute, isolate, engineer, administer) have been applied and ○ hazards arising from unforeseen events (incidents). <p>These uncontrolled hazards generate residual risk. Example uncontrolled hazards include vehicle collision, rollover and associated spills within the works area</p> <p>Personal observation/inspection may involve pre-work and during-work inspections and monitoring of work zone and traffic control zone, including monitoring of:</p> <ul style="list-style-type: none"> ○ vehicle approach speeds, queue lengths, road user frustration; ○ location, condition & visibility of signs & devices; ○ work zone environment 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<p>Feedback from others may include:</p> <ul style="list-style-type: none"> ○ feedback from traffic controllers & other workers; ○ incident reports; ○ formal inspection/audit reports 	
	<p>1.5 Classify uncontrolled hazards and assess their likely impact</p> <p>(Prev. Recognise the type and scope of unresolved hazards and their likely impact)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Classify each uncontrolled hazard 2. Assess likely impact of each uncontrolled hazard <p>Uncontrolled hazards may be classified by their nature:</p> <ul style="list-style-type: none"> ○ physical hazards (trips, slips & falls; collisions between road traffic & TTM workers; collisions by road traffic queued for/traversing the work zone; exposure of TTM workers to uncomfortable/dangerous weather conditions, including heat/cold, glare, UV, wind, dust; exposure to noise ○ ergonomic hazards (lifting, twisting etc) ○ chemical hazards (exhaust fumes; gases; flammable materials etc) ○ biological hazards (bites from insects, venomous animals etc; exposure to pathogens, moulds etc; exposure to harmful plants, pollens etc) <p>At this level, the process of classifying hazards may involve observation</p> <p>Likely impact involves assessing the consequences of each hazard as:</p>	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ insignificant ○ minor ○ moderate ○ major ○ catastrophic <p>where <i>major</i> and <i>catastrophic</i> indicate possible loss of life</p>	
<p>2. Assess and identify unacceptable risk</p>	<p>2.1 Consider and determine the likelihood of an event</p>	<p>Requires Implementer to:</p> <p>1. Assess the likelihood of each event</p> <p>Likelihood may be categorized as:</p> <ul style="list-style-type: none"> ○ rare ○ unlikely ○ possible ○ likely ○ almost certain <p>At this level, likelihood may be assessed by techniques including use of a simple tool (risk rating matrix, checklist) and may require consideration of:</p> <ul style="list-style-type: none"> ○ how & where the risk could happen ○ causes: why the risk could happen 	<p>2. Assess and identify unacceptable risk</p> <p>Best assessed by identifying an event having significant consequences (e.g. a vehicle failing to stop as directed by a TC; a vehicle crashing into the rear of another queued vehicle; a vehicle striking a worker who steps onto the roadway) and requiring the learner to conduct and document a risk assessment and associated controls and talk the assessor through the learner’s decision-making processes.</p> <p>Supplement with questioning regarding events that are unlikely but have serious consequences e.g vehicle rollover, failure of TC radio, pedestrian intrusion onto the roadway.</p>
	<p>2.2 Evaluate and determine the consequence of the event</p>	<p>Requires Implementer to:</p> <p>1. Assess the consequence of the event</p> <p>Consequences – see 1.5 above</p>	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	<p>2.3 Consider and determine the risk level (likelihood and consequence combined)</p>	<p>Requires Implementer to:</p> <p>1. Consider and determine the risk level using appropriate method</p> <p>Risk level aligns likelihood against consequence in a table/matrix. Risk levels are usually categorised as:</p> <ul style="list-style-type: none"> ○ Very Low ○ Low ○ Moderate ○ Very High ○ Critical <p>Appropriate method at this level usually involves using appropriate risk assessment tool such as risk matrix</p>	
	<p>2.4 Identify or source the criteria for determining the acceptability/unacceptability of the risk</p>	<p>Requires Implementer to:</p> <p>1. Obtain criteria for determining acceptability/unacceptability of the risk (risk tolerance)</p> <p>Criteria may be determined by reference to standards, protocols etc specified by:</p> <ul style="list-style-type: none"> ○ the organisations responsible for preparing the TMP/TGS and for implementing the TGS; ○ roads authority or other agency with ultimate control over work on the site; ○ WHS authority 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	2.5 Evaluate the risk and identify 'unacceptable risk' status	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1 Evaluate the risk and identify 'unacceptable risk' status 2. Estimate the likely effectiveness of each control in eliminating or reducing the risk <p>Unacceptable risk status refers to risks whose consequences are Very High or Critical</p> <p>Estimating the likely effectiveness of controls may require using informed prior experience of individuals or groups, or use of tools such as fault trees, event trees etc</p>	
3. Review risk management documentation	3.1 Monitor and review working instructions	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Monitor working instructions to determine ongoing applicability and effectiveness 2. Review working instructions to suggest improvement <p>Working instructions includes primarily:</p> <ul style="list-style-type: none"> ○ the TGS ○ associated Job Safety Analysis (JSAs), material safety data sheets (MSDS) and manufacturer's documentation for equipment; 	<p>3. Review risk management documentation</p> <p>Best assessed by requiring learner to review a real TGS/TMP and associated safety-related documents in a real live work situation.</p> <p>Alternatively:</p> <ul style="list-style-type: none"> • a specially-prepared (case study) TGS/TMP could be used • the live work situation could be replaced by a realistic, simulated setting such as a closed road area of category-appropriate characteristics that ideally includes simulated live traffic (e.g. by having other RTO staff drive vehicles through the assessment area)

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	<p>3.2 Seek authority and approval to amend and action the working instructions</p> <p>(Prev. 3.2 Seek authority and approval to amend in writing the working instructions)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Seek authority and approval to amend in writing the working instructions 2. Seek authority and approval to action amendments <p>Authority and approval may be defined within the TMP/TGS, organisational policies etc and may arise from RIM, WHS authority or other source</p> <p>Working instructions – see 3.1 above</p>	
	<p>3.3 Seek authority and approval to action amendments to the working instructions</p>	<p>Delete: Incorporated in above</p>	
<p>4. Identify and recommend controls</p>	<p>4.1 Identify the range of controls which may eliminate or minimise the risk</p>	<p>Requires Implementer to:</p> <p>1 Identify possible controls additional to those in TGS to manage risk</p> <p>Identification of possible controls may require consultation with:</p> <ul style="list-style-type: none"> ○ traffic control personnel ○ personnel responsible for the work occurring within the work zone ○ original Designer of TMP/TGS <p>In this context (Category 1), possible controls may include:</p>	<p>4. Identify and recommend controls</p> <p>Best assessed by requiring learner to review a real TGS/TMP and associated safety-related documents in a real live work situation, and identify, analyse & recommend appropriate controls.</p> <p>Alternatively:</p> <ul style="list-style-type: none"> • a specially-prepared (case study) TGS/TMP could be used

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ repositioning personnel further away from live traffic ○ introducing an additional Traffic Controller to provide pre-warning ○ installing additional signs & devices ○ cessation of work; 	<ul style="list-style-type: none"> ● the live work situation could be replaced by a realistic, simulated setting such as a closed road area of category-appropriate characteristics that ideally includes simulated live traffic (e.g. by having other RTO staff drive vehicles through the assessment area)
	<p>4.2 Conduct a detailed analysis of feasible options including the identification of resource requirements</p>	<p>Requires Implementer to:</p> <p>1. Analyse possible controls to determine feasibility</p> <p>Feasibility includes consideration of:</p> <ul style="list-style-type: none"> ○ ease of implementation, including consideration of human factors (e.g. need for additional personnel, training, supervision, communication) ○ cost-effectiveness of options ○ potential of options to create additional hazards/risks 	
	<p>4.3 Select the most appropriate control for dealing with the situation</p>	<p>Requires Implementer to:</p> <p>1. Select the most appropriate control</p> <p>At this level, choices of control may be limited to those available within the Implementer’s authority</p>	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
5. Contribute to the implementation of controls	5.1 Write up the risk management plans selected control in detail, including resource requirements	Requires Implementer to: 1. Document risk management plans At this level , documentation may be limited to simple notes made on TGS, risk analysis checklist/form or in daily diary	5. Contribute to the implementation of controls Best assessed by requiring learner to review a real TGS/TMP and associated safety-related documents in a real live work situation, and: <ul style="list-style-type: none"> • develop risk management plans • seek authorization verbally or in writing. Alternatively, a specially-prepared (case study) TGS/TMP could be used, supplemented by role-play.
	5.2 Gain authorisation for selected control	Requires Implementer to: 1. Identify whether a selected control requires authorisation 2. Request and gain such authorisation Authorisation may be provided by: <ul style="list-style-type: none"> ○ Designer of TMP/TGS, for changes to TMP/TGS ○ TTM contractor supervisory or management personnel, for changes involving TTM personnel ○ Roads authority/RIM 	
	5.3 Document and review controls for the job	Deleted – covered in 5.5 below	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	<p>5.4 Apply procedures to control recognised hazards</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Apply approved procedures, following acceptable methods and standards 2. Advise all affected personnel of the changes and confirm understanding of and ability to carry out additional/changed procedures <p>Affected personnel may include:</p> <ul style="list-style-type: none"> ○ TTM team personnel ○ Personnel working in the work zone ○ General public, including nearby residents and users of businesses, services & facilities in work zone and surrounding areas 	
	<p>5.5 Review and report on the control and its implementation</p> <p>(Prev. 5.5 Communicate information on the control and its implementation)</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Monitor implementation and impact of controls 2. Report on implementation and impact <p>Monitoring may involve:</p> <ul style="list-style-type: none"> ○ personally observing/inspecting implementation and ongoing impact of TTM controls ○ obtaining feedback from TTM personnel and other personnel in the work zone <p>At this level, Reports may include:</p> <ul style="list-style-type: none"> ○ verbal reports to supervisors ○ pro-forma written reports 	

A2-3.1.3 RIIRTM201D Position, set-up and operate a variable message sign

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
1. Plan and prepare to position, set-up and operate variable message sign (VMS)	1.1 Access, interpret and apply relevant TGS / VMS documentation and ensure the work activity is compliant	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Locate all relevant TGS / VMS documentation 2. Interpret documentation in the context of the proposed roadworks requiring traffic management 3. Clarify and confirm TGS requirements with TMP Designer as needed 4. Clarify and confirm roadworks activities and TTM roles and responsibilities with key roadwork project personnel to ensure consistent understanding of TMP/TGS and co-ordination with work project activities <p>Implementers are required be accredited, trained and competent positioning set-up and operation of VMS.</p>	<p>Element 1 Plan and prepare</p> <p>Best assessed in context of participants' work environment by a combination of:</p> <ol style="list-style-type: none"> a) knowledge and understanding of documentation relating to work instructions, safety requirements, and variable message sign (VMS) b) practical activity in a simulated road like environment with real live variable message sign (VMS) c) practical activity in a real live road setting covered by the TGS for assessment of roads-based aspects <p>PC 1.1 Clarify and confirm roadworks activities and TTM roles and responsibilities with key roadwork project personnel to ensure consistent understanding of TMP/TGS and co-ordination with work project activities</p>
	1.2 Participate in site specific risk assessment	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. Inspect work site/s prior to implementation and conduct site-specific risk assessment 2. Record and report hazards, risks and issues to relevant parties for treatment including revision to TMP/TGS if required 3. Request order to stop work if required. 	<p>PC 1.2 Participants required to undertake site-specific risk assessment</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to articulate the risk management process and the hierarchy of control</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
			<p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to undertake site specific risk assessment, identify the type and scope of hazards and their impact, and recommend risk control measures</p>
2. Position, set-up and operate variable message sign (VMS) as per traffic guidance scheme (TGS)	2.1 Position and set-up VMS as per TGS	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. deploy trucks to transport VMS 2. ensure VMS are placed in position and set-up as per TGS 3. ensure VMS is visible to road users 4. provide safe travel path for cyclists and pedestrians past variable message sign <p>Key considerations in determining a safe location for VMS, include:</p> <ol style="list-style-type: none"> 1. site geometry 2. sight distance 3. roadside terrain/vegetation 4. the type of VMS used 5. vehicle mix and approach speeds 6. environmental factors (for example fog, rain, dust or smoke) and time of day/night also need to be considered 	<p>PC 2.1 Participants to position and set-up VMS as per TGS</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to identify key considerations in determining a safe location for VMS</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to identify and set-up VMS in a safe location in accordance with the TGS</p>
	2.2 Operate VMS as per TGS	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. select, apply and/or change messages 2. confirm the variable message sign displays the appropriate message 3. ensure the variable message sign is legible to road users 	<p>PC 2.2 Participants to select, apply and/or change message on VMS, ensure message is legible and visible to road users and does not conflict with existing signage</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>4. confirm message does not conflict with existing signage</p>	<p>Knowledge evidence</p> <p>Written assessment requiring participants to demonstrate understanding manufacturer’s specifications</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to select, apply and/or change message on VMS and ensure it is operating safely and effectively and in accordance with the TGS in a real live road environment under supervision</p>
	<p>2.3 Monitor VMS to ensure it is operating in accordance with the TGS and manufacturers specifications</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. monitor the VMS for legibility and to 2. make changes to the message within delegated authority, as required 3. consult with VMS owner/operator for specialised assistance 	<p>PC 2.3 Participants to monitor operation of VMS to ensure it is operating in accordance with the TGS and manufacturers specifications</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to demonstrate understanding of VMS manufacturer’s specifications</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to demonstrate understanding of how make changes to the message and when to consult with VMS owner/operator for specialised assistance</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
<p>3. Shut-down and remove variable message sign (VMS) from site</p>	<p>3.1 Ensure shut-down procedures are conducted in accordance with manufacturer's specifications</p>	<p>Requires Implementer to ensure shut-down procedures are conducted in accordance with manufacturer's specifications and organisational requirements.</p>	<p>PC 2.1 Participants to ensure shut-down procedures are conducted in accordance with manufacturer's specifications and organisational requirements.</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to demonstrate understanding shut-down procedures, manufacturer's specifications and/or organisational requirements</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to ensure shut-down procedures are conducted in accordance with manufacturer's specifications and/or organisational requirements</p>
	<p>3.2 Ensure variable message sign is safely removed from site, observing relevant road rules, site and traffic management requirements</p>	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. initiate covering/removal activity 2. deploy trucks to transport VMS 3. ensure VMS are removed as per TGS requirements 4. ensure work crew members do not encroach onto roadway unnecessarily, cross road on foot or otherwise place themselves or road users in danger 5. inspect work area to ensure VMS employed during the operation of the TGS have been removed. 	<p>PC 4.2 Participants to ensure VMS is safely removed from site, observing relevant road rules, site and traffic management requirements</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to demonstrate understanding of relevant road rules, site and traffic management requirements</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
			Practical assessment requiring participants to ensure safe removal of all VMS employed during the operation of the TGS
4. Clean up	4.1 Ensure inspection and fault finding is conducted in accordance with manufacturer's specifications and/or organisational requirements	Requires Implementer to ensure inspection and fault finding is conducted in accordance with manufacturer's specifications and organisational requirements.	PC 5.1 Participants to ensure inspection and fault finding is conducted in accordance with manufacturer's specifications and organisational requirements.
	4.2 Ensure minor routine maintenance is carried out in accordance with organisational procedures	Requires Implementer to ensure minor routine maintenance is carried out in accordance with organisational procedures.	PC 5.2 Participants to ensure minor routine maintenance is carried out in accordance with organisational procedures.
	4.3 Ensure tools and equipment are cleaned, checked, maintained and stored in accordance with organisational procedures.	Requires Implementer to: <ol style="list-style-type: none"> 1. brief TTM crew on cleaning, checking and storage requirements 2. check and confirm actions 3. arrange for necessary maintenance and/or replacement consistent with traffic management organisation policy and practices 	PC 5.3 Participants to ensure tools and equipment are cleaned, checked, maintained and stored in accordance with organisational procedures.

A2-3.1.4 Position, set-up and operate portable traffic control devices

A similar unit is utilised for Traffic Controllers. The guidance material has however been contextualised for the Implementer role.

This unit is based on existing unit RIIRTM 202D – Position, set up and operate portable traffic signals. It has been reworked to ensure it covers:

- Portable boom barriers
- Type 1 and type 2 portable signals

In all cases focus is on the principles of the operation of these devices (not proprietary products)

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
1. Plan and prepare to position, set-up and operate portable traffic control devices (PTCD)	1.1 Access, interpret and apply relevant TGS / PTCD documentation and ensure the work activity is compliant	<p>Requires Implementer to:</p> <ol style="list-style-type: none"> 1. locate all relevant TGS / PTCD documentation 2. interpret documentation in the context of the proposed roadworks requiring traffic management 3. clarify and confirm TGS requirements with TMP Designer as needed 4. clarify and confirm roadworks activities and TTM roles and responsibilities with key roadwork project personnel to ensure consistent understanding of TMP/TGS and co-ordination with work project activities <p>Implementers are required be accredited, trained and competent in the use of manually controlled PTCD.</p> <p>This unit covers the use of:</p> <ul style="list-style-type: none"> • Portable boom barriers • Type 1 and type 2 portable signals 	<p>Element 1 Plan and prepare</p> <p>Best assessed in context of participants' work environment by a combination of:</p> <ol style="list-style-type: none"> a) knowledge and understanding of documentation relating to work instructions, safety requirements, and portable traffic control devices (PTCD) b) practical activity in a simulated road like environment with real live portable traffic control devices (PTCD) c) practical activity in a real live road setting covered by the TGS for assessment of roads-based aspects <p>PC 1.1 Clarify and confirm roadworks activities and TTM roles and responsibilities with key roadwork project personnel to ensure consistent understanding of TMP/TGS and co-ordination with work project activities</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	1.2 Undertake site specific risk assessment	Requires Implementer to: <ol style="list-style-type: none"> 1. inspect work site/s prior to implementation and conduct site-specific risk assessment 2. record and report hazards, risks and issues to relevant parties for treatment including revision to TMP/TGS if required 3. order stop work if required 	PC 1.2 Participants required to undertake site-specific risk assessment Knowledge evidence Written assessment requiring participants to articulate the risk management process and the hierarchy of control Performance evidence Practice activity in a simulated road like environment with real vehicles Practical assessment requiring participants to undertake site specific risk assessment, identify the type and scope of hazards and their impact, and recommend risk control measures
2. Position and set-up portable traffic control devices (PTCD) and temporary traffic signs as per traffic guidance scheme (TGS)	2.1 Position and set-up manually controlled PTCD and temporary traffic signs as per TGS	Requires Implementer to: <ol style="list-style-type: none"> 1. deploy trucks to transport signs and PTCD 2. ensure PTCD is positioned and set-up as per TGS 3. ensure signs are placed in sequence and in position as per TGS 4. ensure signs and PTCD are placed promptly as per work schedule to minimise disruption to road users Key considerations in confirming the safe location for PTCD and temporary traffic signs include: <ol style="list-style-type: none"> 1. site geometry 2. sight distance 3. roadside terrain/vegetation 4. background effects impacting on PTCD (e.g. flashing yellow lights from construction vehicles, other traffic signals and VMS signs) 	PC 2.1 Participants to position and set-up manually controlled PTCD and as per TGS Knowledge evidence Written assessment requiring participants to identify key considerations in determining a safe location for PTCD and temporary traffic signs Performance evidence Practice activity in a simulated road like environment with real vehicles Practical assessment requiring participants to identify and set-up PTCD in a safe location while ensuring signs are placed in sequence

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		5. the type of PTCD used 6. vehicle mix and approach speeds 7. environmental factors (for example, fog, rain, dust or smoke) and time of day/night also need to be considered	
	2.2 Ensure Traffic Controllers are in a safe location when operating PTCD	Requires Implementers to ensure Traffic Controllers are in a safe location when operating PTCD. TCs should occupy a position which: <ul style="list-style-type: none"> • is clear of the travel path (the risk of being struck by passing vehicles is significantly reduced as the offset distance is increased) • is clear of work vehicles and plant • has an escape path • has appropriate sight distance of approaching traffic • ensures drivers focus on the PTCD, and not take cues from the TC • enables effective communication to both site workers and other TC (if applicable). If a single TC is operating two PTCD, an added consideration is to ensure the operating range of the hand-held remote controller is not exceeded • enables the TC to identify the last vehicle before changing to STOP • is close enough to the PTCD to allow the TC to commence STOP/SLOW duties in the event of a system failure. In the case of a single TC operating two PTCDs, the TC should be located at the end which is on approach to the closed section of road (as this is the critical 	PC 2.2 Participants to ensure a safe location for Traffic Controllers operating PTCD Knowledge evidence Written assessment requiring participants to identify key considerations in determining a safe location for PTCD Performance evidence Practice activity in a simulated road like environment with real vehicles Practical assessment requiring participants to identify a safe location for Traffic Controllers operating PTCD in a real live road environment under supervision

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<p>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 TC operating two PTCD's, the TC should be located to have visibility of both devices and traffic queues for each approach.</p> <p>Other safety considerations include:</p> <ul style="list-style-type: none"> • planning the site arrangements so that, where possible, one hand-held remote controller can be used to operate the PTCDs • using an elevated location (to maximise sight distance) • positioning the TC behind safety barrier (clear of deflection zone) • parking vehicles clear of the traffic control station • using shade to reduce sun exposure and heat stress wherever appropriate • managing fatigue; for example, if a suitable position is available, the TC may be seated while performing TC duties 	
<p>3. Commission portable traffic control devices (PTCD)</p>	<p>3.1 Select, apply or change signal sequence of manually operated PTCD</p>	<p>Requires implementer to select, apply or change the signal sequence of manually operated PTCD to ensure they are effectively deployed in the following control situations:</p> <ul style="list-style-type: none"> • shuttle control – is generally used on a two-lane two-way road, where one lane is closed for maintenance and the other is shared by traffic from both approaches. Shuttle control uses two PTSUs or boom barrier. • plant crossing control – one PTSU or boom barrier shall be used on each road approach to 	<p>PC 3.2 Participants to select, apply or change signal sequence of manually operated PTCD to ensure it is effectively deployed and is not causing unnecessary delays to traffic</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to demonstrate understanding of traffic flow and the interaction between all road users</p> <p>Performance evidence</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		temporarily stop traffic at a road work site where plant needs to cross the roadway. Manual operation is safer and more effective in preventing delays to vehicles on both the road and plant crossing. <ul style="list-style-type: none"> • gating control – is the control of traffic from a single approach. When a Type-2 PTSS is being used for gating control on a two-lane one-way road, two units are required. 	Practice activity in a simulated road like environment with real vehicles Practical assessment requiring participants to select, apply or change signal sequence of manually controlled PTCD and ensure it is operating safely and effectively are not causing unnecessary delays to traffic in a real live road environment under supervision
	3.2 Monitor changing conditions to ensure PTCD is operating as intended and does not cause unnecessary delays to traffic	Requires Implementer to monitor operation of the site to ensure PTCD is operating as intended and does not cause unnecessary delays to traffic including: <ul style="list-style-type: none"> • delays to vehicles (and pedestrians) on each approach • the number of vehicles left in a queue at the termination of the green period, and the number of vehicles stopped more than once in each queue, are not at satisfactory levels • vehicle detectors are not detecting traffic as intended, in both the passage and presence mode • unusual vehicles are being missed by detectors, and in sufficient numbers to justify special detection techniques 	PC 3.3 Participants to monitor operation of site to ensure that PTCD is operating as intended and does not cause unnecessary delays to traffic Knowledge evidence Written assessment requiring participants to demonstrate understanding of traffic flow and the interaction between road users and PTCD operation Performance evidence Practice activity in a simulated road like environment with real vehicles Practical assessment requiring participants to demonstrate understanding of how PTCD operation is impacting on traffic flow in a real live road environment under supervision
	3.3 Provide guidance and correction to TTM personnel and make adjustments to the signal sequence within delegated authority	Requires Implementer to: <ol style="list-style-type: none"> 1. monitor changing conditions and provide guidance and correction to TTM personnel as required 	PC 3.3 Participants to monitor changing conditions and provide guidance and correction to TTM personnel as required Knowledge evidence

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		<ol style="list-style-type: none"> 2. make adjustments to the signal sequence within delegated authority, as required 3. consult with PTCO owner/operator for specialised assistance 	<p>Written assessment requiring participants to demonstrate understanding of the impact of signal sequence on traffic flow</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to make adjustments to the signal sequence to ensure PTCO is not causing unnecessary delays to traffic and to provide guidance and correction to TTM personnel in a real live road environment under supervision</p>
<p>4. De-commissioning and remove portable traffic control devices from site</p>	<p>4.1 Ensure shut-down procedures are conducted in accordance with manufacturer's specifications</p>	<p>Requires Implementer to ensure shut-down procedures are conducted in accordance with manufacturer's specifications and/or organisational requirements.</p>	<p>PC 4.1 Participants to ensure shut-down procedures are conducted in accordance with manufacturer's specifications and/or organisational requirements.</p> <p>Knowledge evidence</p> <p>Written assessment requiring participants to demonstrate understanding shut-down procedures, manufacturer's specifications and/or organisational requirements</p> <p>Performance evidence</p> <p>Practice activity in a simulated road like environment with real vehicles</p> <p>Practical assessment requiring participants to ensure shut-down procedures are conducted in accordance with manufacturer's specifications and/or organisational requirements.</p>

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
	4.2 Ensure portable traffic control devices are safely removed from site, observing relevant road rules, site and traffic management requirements	Requires Implementer to: <ol style="list-style-type: none"> 1. initiate covering/removal activity 2. deploy trucks to transport signs and PTC D 3. ensure signs and PTC D are covered, laid flat or removed in sequence as per TGS requirements 4. ensure work crew members do not encroach onto roadway unnecessarily, cross road on foot or otherwise place themselves or road users in danger 5. inspect work area to ensure all equipment, signs and PTC D employed during the operation of the TGS have been removed. 	PC 4.2 Participants to ensure PTC D are safely removed from site, observing relevant road rules, site and traffic management requirements Knowledge evidence Written assessment requiring participants to demonstrate understanding of relevant road rules, site and traffic management requirements Performance evidence Practice activity in a simulated road like environment with real vehicles Practical assessment requiring participants to ensure safe removal of all PTC D employed during the operation of the TGS
5. Clean up	5.1 Ensure inspection and fault finding is conducted in accordance with manufacturer's specifications and/or organisational requirements	Requires Implementer to ensure inspection and fault finding is conducted in accordance with manufacturer's specifications and/or organisational requirements.	PC 5.1 Participants to ensure inspection and fault finding is conducted in accordance with manufacturer's specifications and/or organisational requirements.
	5.2 Ensure minor routine maintenance is carried out in accordance with organisational procedures	Requires Implementer to ensure minor routine maintenance is carried out in accordance with organisational procedures.	PC 5.2 Participants to ensure minor routine maintenance is carried out in accordance with organisational procedures.
	5.3 Ensure tools and equipment are cleaned, checked, maintained and stored	Requires Implementer to: <ol style="list-style-type: none"> 1. brief TTM crew on cleaning, checking, charging batteries and storage requirements 2. check and confirm actions 	PC 5.3 Participants to ensure tools and equipment are cleaned, checked, maintained (including putting battery on charge) and stored in accordance with organisational procedures.

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible assessment approach
		3. arrange for necessary maintenance and/or replacement consistent with traffic management organisation policy and practices	

A2-3.2 Implementer Category 2

There are two units of competency for Implementer Category 2:

- Implement TMP and TGS – Category 2
- RIIBEF301D – Run on-site operations

A2-3.2.1 Implement TMP– Category 2

(Based on RIIWHS302D)

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible Assessment Approach
1. Prepare to implement traffic guidance scheme	1.1 Determine works requirements and scope of TGS	As for Category 1, plus: Traffic management documentation includes: <ul style="list-style-type: none"> ○ more complex site-specific TMP/TGS documentation 	1. Prepare to implement traffic guidance scheme As for Cat 1, plus: <ul style="list-style-type: none"> • Extend range of hazards to include those in 2.4 opposite • Extend range of environments to include multi-lane roads etc as for 1.3 opposite • Extend range of resources as for 1.4 opposite • Include a requirement for learner/assessment candidate to co-ordinate with another TMP Implementer (possibly via role-play based on case study).

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible Assessment Approach
	<p>1.2 Identify, assess and report potential risks, hazards and environmental issues and determine control measures</p>	<p>As for Category 1, plus:</p> <p>Hazards include:</p> <ul style="list-style-type: none"> ○ complex/compromised road profile & geometry ○ reduced number of lanes / size of lanes ○ multiple entries/exits ○ intersections, including signalised intersections ○ turning lanes ○ roundabouts ○ other forms of transport sharing roadway e.g. trams, light rail ○ moderately fast – fast traffic ○ moderate – high traffic volumes ○ impacts to pedestrians (including pedestrians with disabilities) and cyclists ○ impacts to adjoining properties <p>Assessing risks involves:</p> <ul style="list-style-type: none"> ○ evaluating consequences (seriousness of impact) against likelihood of occurrence using detailed checklists and risk assessment tools 	
	<p>1.3 Validate suitability of the traffic guidance scheme (TGS)</p> <p>(Prev 2.1 Select traffic guidance scheme to suit site conditions, traffic volumes and work activities)</p>	<p>As for Category 1, plus:</p> <p>TGS may be:</p> <ul style="list-style-type: none"> ○ specific to a particular work zone/work operation <p>Appropriateness of a TGS includes considering:</p> <ul style="list-style-type: none"> ○ whether the TGS co-ordinates with TGS in operation in nearby locations 	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible Assessment Approach
		<p>The assessment of appropriateness may involve:</p> <ul style="list-style-type: none"> ○ applying basic principles, standards and more complex criteria developed by Austroads, Roads Authority/RIM or other authority ○ evaluating cost-effectiveness <p>Operation type may be:</p> <ul style="list-style-type: none"> ○ static works involving multiple lane closures and/or signalised intersections and/or multiple TGS ○ mobile/convoy works 	
	1.4 Resource the implementation of the TMP/TGS	<p>As for Category 1, plus:</p> <p>Traffic management vehicles includes:</p> <ul style="list-style-type: none"> ○ truck-mounted attenuators <p>Equipment, signs and devices include:</p> <ul style="list-style-type: none"> ○ programmable electronic variable message signs (VMS) ○ channelizing and delineation devices including semi-permanent concrete barriers, temporary barrier systems, fences, bollards & cones ○ signalling devices including programmable traffic lights 	
	1.5 Ensure liaison and communication activities occur as planned	<p>As for Category 1, plus:</p> <p>Requires Implementer to:</p>	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible Assessment Approach
		5. Co-ordinate TTM activity with other traffic management activity controlled by roads/traffic control manager	
	1.6 Prepare TGS implementation personnel for work	As for Category 1.	
2 Set out the traffic guidance scheme	2.1 Ensure signs and devices are positioned and installed correctly	As for Category 1, plus: Warning/protective vehicles include: ○ truck-mounted attenuators	2. Set out the traffic guidance scheme As for Cat 1, plus: • Include usage of TMA
	2.2 Inspect TGS and authorise roadwork to proceed	As for Category 1.	
3 Monitor traffic guidance scheme	3.1 Monitor traffic flow and determine effectiveness of guidance scheme	As for Category 1, plus: Monitoring may involve: ○ use of remote monitoring systems (cameras, radar, drones etc)	3. Monitor traffic As for Cat 1, plus: • Extend monitoring to include usage of remote monitoring • Extend range of environments to include signalised intersections etc as for 3.2 opposite
	3.2 Monitor work activities and remedy non-conformance	As for Category 1, plus:	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible Assessment Approach
		<p>Work activities requiring particular attention include:</p> <ul style="list-style-type: none"> ○ work activities occurring nearby to other forms of transport (trams, light rail, rail) or activity sharing or closely adjacent to the road space ○ work activities occurring within or adjacent to intersections, especially signalised intersections ○ traffic control of pedestrians, cyclists, wheelchair and mobility scooter users using paths adjacent to or across the TTM work area ○ traffic control requiring co-ordination of multiple stop-slow controllers within TTM work area (e.g. where multiple entries/exits exist) 	
	Apply procedures to deal with offending motorists	As for Category 1.	
4 Close down traffic guidance scheme	4.1 Direct the safe covering or removal of the TGS equipment, signs and devices	As for Category 1.	<p>4. Close down traffic guidance scheme</p> <p>As for Cat 1.</p>
	Ensure tools and equipment are cleaned, checked, maintained and stored	As for Category 1.	
	4.3 Finalise traffic work zone close-down	As for Category 1.	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible Assessment Approach
	4.4 Complete all reporting	As for Category 1.	

A2-3.2.2 RIIBEF301D Run on-site operations

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
<p>1 Ensure the work health and safety requirements are adhered to by all</p>	<p>1.1 Access, interpret and apply policy and procedure documentation and ensure the work activity is compliant</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Locate all relevant works project and traffic management documentation 2. Interpret documentation in the context of the proposed roadworks requiring traffic management 3. Clarify and confirm TGS requirements with TMP Designer as needed 4. Clarify and confirm roadworks activities and TTM roles and responsibilities with key roadwork project personnel to ensure consistent understanding of TMP/TGS and co-ordination with work project activities <p>Works project documentation includes:</p> <ul style="list-style-type: none"> ○ Project plans, contracts & specifications governing the work to be conducted in the works area/s ○ WHS Plan <p>Traffic management documentation includes:</p> <ul style="list-style-type: none"> ○ generic TMP/TGS documentation ○ site-suitable TMP/TGS documentation ○ national, state/territory and local regulations, codes and standards applying to road works and traffic management; ○ supporting documentation such as safety, environmental/planning and quality management regulations, standards and codes 	<p>Element 1 Ensure the work health and safety requirements are adhered to by all</p> <p>Best assessed by:</p> <ol style="list-style-type: none"> 1. Providing the learner with: <ol style="list-style-type: none"> a) a range of documents relating to a real TGS, b) access to the real road area covered by the TGS for assessment of roads-based aspects (undertaking on-ground hazard & risk assessment c) access to a range of vehicles, equipment & devices (including signs) necessary for implementing the TGS 2. Requiring the candidate to: <ol style="list-style-type: none"> a) step the assessor through the process of analysing the documentation, undertaking site assessment of hazards and preparing risk assessment document/s, validating the suitability of the TMP/TGS, resourcing the TGS (including checking of vehicles, equipment & devices) and completing liaison/communications activities b) undertake a hazard analysis, identify and assess risks including equipment-related risks, particularly uncontrolled or

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	<p>1.2 Communicate safety rules and regulations, legislation and specific site instructions to others, and monitor compliance</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Communicate general safety laws, regulations and rules and site-specific instructions to others 2. Monitor compliance <p>Safety laws, regulations and rules include:</p> <ul style="list-style-type: none"> ○ National and state/territory WHS Acts, regulations, codes etc ○ Industry-specific regulations, codes, guidelines & licencing requirements ○ Organisational rules/codes of practice <p>Site-specific instructions include:</p> <ul style="list-style-type: none"> ○ Traffic Management Plan (TMP) including Traffic Guidance Scheme (TGS) ○ Manufacturer’s instructions for operation of equipment ○ Overall site WHS Plan <p>Communication may include group and individual communication including:</p> <ul style="list-style-type: none"> ○ Face-to-face communication such as toolbox talks ○ Provision of written instructions such as Job Safety Analyses (JSAs), Standard Operating Procedures (SOPs), Safe Work Method Statements (SWMS), manufacturer’s operational safety instructions etc ○ Electronic communication via mobile phone, radio or other device 	<p>inadequately controlled risks not identified in existing documentation (TMP/TGS) and determine control measures, identifying which measures would require referral to others (e.g. Designer) for review or authorisation</p> <ol style="list-style-type: none"> c) conduct a team briefing on implementation of TGS, ensuring all safety-related aspects are covered, including: selection and use of PPE; emergency drills/contacts* d) complete relevant documentation, including annotation of changes to TGS, record of team briefing, personnel/training records. <p>Alternatively:</p> <ul style="list-style-type: none"> • assessment of on-road aspects could occur in a realistic simulated setting such as a closed road area of category-appropriate characteristics that ideally includes simulated live traffic (e.g. by having other RTO staff drive vehicles through the assessment area) • assessment of conduct of a briefing session could be undertaken in a simulated setting (case study & role play) <p>* NOTE: This assessment activity also covers aspects of briefing duplicated in PC 2.1 and 2.6</p>

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<p>Communication should occur:</p> <ul style="list-style-type: none"> ○ Before workers or visitors enter the work site ○ At beginning and end of day ○ Before changes to procedures etc are made ○ When clarification is requested by team members ○ When trigger events such as accidents & incidents occur 	
	<p>1.3 Conduct equipment safety audits</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Obtain, or develop, a schedule for equipment safety audits 2. Undertake equipment safety audits as per schedule and <p>Schedule for equipment safety audits may call for audits:</p> <ul style="list-style-type: none"> ○ before implementation work commences ○ following TGS close-out ○ when trigger events occur such as accidents, incidents, near-misses etc <p>Audits may be undertaken by:</p> <ul style="list-style-type: none"> ○ Implementer ○ Competent team members, under direction 	
	<p>1.4 Identify and document work hazards <u>and assess associated risks</u></p>	<p>Requires Implementer, as team leader, to:</p>	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	(Prev 1.4 Identify and document work hazards)	<p>1. Inspect work site/s prior to implementation to identify both documented and undocumented potential hazards and environmental issues</p> <p>2. Assess risks associated with each hazard</p> <p>Inspection may include:</p> <ul style="list-style-type: none"> ○ personal inspection ○ inspection by a qualified delegate ○ viewing satellite or other imagery <p>Documented hazards & risks are those which have been included in writing in the TMP/TGS or site WHS Plan, following completion of risk analysis</p> <p>Undocumented hazards include:</p> <ul style="list-style-type: none"> ○ hazards not present or not identified during preparation of the TMP/TGS, and ○ hazards that arise during the course of works <p>Hazards include:</p> <ul style="list-style-type: none"> ○ complex/compromised road profile & geometry ○ uneven, slippery, dusty & unstable surfaces ○ limited access, entries/exits ○ stopping, starting and moving traffic in close proximity to personnel ○ turning & reversing plant ○ overhanging vegetation, overhead power lines, underground utilities ○ confused, frustrated, impatient and non-compliant road users 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<p>Risks may affect:</p> <ul style="list-style-type: none"> ○ workers and road users including vulnerable users ○ road assets ○ surrounding natural environment, built environment including heritage ○ cost-effectiveness of work and TTM <p>Assessing risks involves:</p> <ul style="list-style-type: none"> ○ evaluating consequences (seriousness of impact) against likelihood of occurrence using simple checklists and risk assessment tools <p>Reports may include:</p> <ul style="list-style-type: none"> ○ verbal reports ○ completed checklists ○ formal reports and notifications <p>Relevant parties may include:</p> <ul style="list-style-type: none"> ○ overall site manager ○ TMP Designer ○ Specialist WHS personnel <p>Stop work may be required if life is endangered</p>	
	<p>1.5 Determine a range of preventative measures for potential work hazards (e.g. Job Safety Analysis)</p>	<p>Requires Implementer, as team leader, to:</p> <p>1. Determine a range of control measures for potential work hazards</p> <p>The process to determine control measures involves:</p>	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ Referring to control measures specified in TMP/TGS and site WHS Plan and associated documentation including Safe Work Method Statement (SWMS) ○ Referring to TMP/TGS to determine scope of authority to modify or supplement control measures specified in TMP/TGS ○ If no control measures are specified, or the specified control measures appear no longer suitable, determining whether to seek modification by TMP Designer or other authorised person or to determine additional control measure/s within limits of authority ○ Documenting findings and decisions <p>Control measures may include accepted and innovative actions that aim to apply the hierarchy of risk management:</p> <ul style="list-style-type: none"> ○ eliminate the hazard/risk (e.g. via detour) ○ substitute the high-risk activity with a lower-risk activity (e.g. provide traffic controller with manual traffic light) ○ isolate the hazard (e.g. use barriers to separate workers from traffic) ○ apply engineering solutions (e.g. replace traffic controller with automatic portable signals) ○ apply administrative solutions (e.g. modify work method statements; apply personal protective solutions e.g. reflective clothing) 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	<p>1.6 Communicate procedures for the correct use of personal protective equipment and installed safety equipment</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Explain and demonstrate correct use of PPE and installed safety equipment 2. Confirm person can correctly use PPE etc <p>Correct use of PPE etc includes:</p> <ul style="list-style-type: none"> ○ knowing the purpose, capability and limitations of items ○ wearing PPE when required ○ knowing how to obtain spares or replacements ○ reminding fellow workers of correct usage 	
	<p>1.7 Provide clear and concise instructions to others in emergency drills and their application</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Explain and demonstrate emergency drills 2. Confirm person can correctly respond to emergency drills <p>Emergency drills may occur in response to:</p> <ul style="list-style-type: none"> ○ Accidents or incidents on site ○ Threats against property or people <p>Correct response to emergency drills includes:</p> <ul style="list-style-type: none"> ○ knowing the purpose, capability and limitations of drills ○ knowing the signals to drills, communications methods and assembly points ○ wearing PPE when required ○ moving to assembly points using permissible routes 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	<p>1.8 Establish methods for contacting all necessary medical services</p>	<ul style="list-style-type: none"> ○ assisting fellow workers to respond <p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Establish methods for contacting all necessary medical services 2. Record contact methods and make available to all team members <p>Methods for contacting all necessary medical services may include:</p> <ul style="list-style-type: none"> ○ Direct methods such as use of mobile phone, site emergency telephone ○ Indirect methods such as advising designated site personnel <p>Records of contact methods may include:</p> <ul style="list-style-type: none"> ○ Bulletins ○ Notices posted in prominent locations such as crib rooms ○ Emergency contact numbers entered into team members' mobile phones 	
	<p>1.9 Provide safety induction training to new personnel and all visitors to the worksite</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Provide safety induction training to new personnel and all visitors to the worksite <p>Providing Safety induction training includes:</p> <ul style="list-style-type: none"> ○ Clarifying the authorisation the worker/visitor to be on the site, their purpose/role, their possession of relevant licences/competencies, areas of the site they need to access and ○ Determining what safety induction training the person requires ○ Providing required training 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ Checking to confirm the person can comply with requirements ○ Monitoring compliance with requirements ○ Providing corrective coaching as required <p>Safety induction training includes:</p> <ul style="list-style-type: none"> ○ Introduction to overall site WHS Plan ○ Introduction to specific WHS requirements in TMP/TGS ○ Use of PPE ○ Emergency procedures & contacts 	
	<p>1.10 Complete written work health and safety records</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Complete written work health and safety records 2. Distribute and file records as required <p>Work health & safety records include:</p> <ul style="list-style-type: none"> ○ Daily inspection logs, diaries, checklists ○ Individuals' personnel records including induction & training records and visitor logs ○ Accident, incident and other records including police reports ○ Non-compliance reports ○ Notations relating to changes to TMP/TGS 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
<p>2 Communicate regularly with client, personnel, and other relevant parties</p>	<p>2.1 Brief personnel and other relevant parties verbally and in writing regularly of up to date scope of activities</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Keep informed of progress against relevant plans, operational changes and other developments that may affect implementation actions 2. Brief personnel and other relevant parties verbally and in writing regularly of up to date scope of activities <p>Relevant plans include:</p> <ul style="list-style-type: none"> ○ TMP/TGS ○ Site WHS Plan ○ Team plans <p>Operational changes include:</p> <ul style="list-style-type: none"> ○ Changes made to work methods or other aspect of TMP/TGS ○ Changes in the type or operation of equipment such as traffic control devices, PPE ○ Changes in personnel, roles or responsibilities ○ Changes in emergency response mechanisms <p>Briefing may occur:</p> <ul style="list-style-type: none"> ○ At regular meetings such as start-of-day toolbox talk ○ At special meetings ○ Out-of-session, at individual level 	<p>Element 2 Communicate regularly with client, personnel, and other relevant parties</p> <p>Best assessed by:</p> <ol style="list-style-type: none"> 1. Providing the learner with: <ol style="list-style-type: none"> a) a range of documents relating to a real TMP/TGS, including the relevant communication plan b) a case study outline containing several situations typical of those encountered by Implementers and requiring sensitivity in communication with outside parties 2. Requiring the candidate to: <ol style="list-style-type: none"> a) step the assessor through the process of analysing the communication plan, to: identify items/issues that require attention and referral to others; determine an appropriate method for dealing with these (who/what messages & media/where/when) b) demonstrate a face-to-face communication task based on above (possibly using ‘rolling’ role play)
	<p>2.2 Maintain a good working relationship with landholder/client</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Become familiar with the community/communications plan within TMP 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<p>2. Use opportunities to build relationship with representatives of client and members of the community affected by implementation of the TMP/TGS</p> <p>Community/communications plan is that component of the TMP/TGS that outlines actions to be taken to communicate, to affected parties, the changes to arise from implementation of the TGS, its potential impacts, and measures to minimise or compensate for these impacts.</p> <p>Affected parties include:</p> <ul style="list-style-type: none"> ○ Internal parties, such as the road owner (RIM), works client, key staff involved in the construction project being protected by the TMP/TGS ○ External parties, such as road users (including cyclists and pedestrians), nearby residents, business owners and facility operators, and the wider public <p>Building relationship may involve:</p> <ul style="list-style-type: none"> ○ Seeing the works and their impacts from the other person’s viewpoint ○ Communicating early, honestly and often ○ Seeking feedback from the other person, and acting on this ○ Establishing mechanisms for the airing, discussion and resolution of problems/concern 	
	<p>2.3 Honour confidentiality clauses in contract</p>	<p>Requires Implementer, as team leader, to:</p> <p>1. Maintain confidentiality as directed by works contract</p>	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	2.4 Communicate regular progress and problems encountered/anticipated to client/ supervisor	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Communicate with key personnel regarding progress, problems and other events 2. Request assistance or other intervention as required <p>Key personnel may include:</p> <ul style="list-style-type: none"> ○ Client representatives including contract manager, site manager & supervisors, project engineer, designated WHS officer ○ TMP Designer, manager, auditor ○ Roads authority (RIM) & traffic systems control representatives ○ Police, emergency services <p>Communication may occur:</p> <ul style="list-style-type: none"> ○ As per schedules ○ In response to trigger events (accidents, incidents, near misses, problems arising etc) <p>Communication may be undertaken using:</p> <ul style="list-style-type: none"> ○ Written reports (pro-forma reports including checklists; formal reports; notifications etc) ○ Communications media (radio, telephone, other electronic media) 	
	2.5 Maintain regular communication by radio/telephone to report progress and/or request information or assistance	Covered in 2.4 above	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	<p>2.6 Follow standard work procedures and communicate these requirements to personnel</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Follow standard work procedures 2. Communicate standard work procedures to personnel 3. Ensure personnel are able to apply standard work procedures <p>Standard work procedures are described in:</p> <ul style="list-style-type: none"> ○ Traffic Management Plan (TMP) including Traffic Guidance Scheme (TGS) and associated SWMS, JSAs, SOPs ○ Manufacturer’s instructions for operation of equipment ○ Overall site WHS Plan 	
<p>3 Diagnose and solve routine problems</p>	<p>3.1 Confirm the existence and immediate effects/potential effects of the problem by investigation</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Identify problems as they arise 2. Determine by investigation the actual and potential effects of problems <p>Identifying problems may involve:</p> <ul style="list-style-type: none"> ○ establishing systems/procedures to warn of actual and potential problems, referring to the TMP/TGS, WHS Plan and related documentation ○ briefing team members regarding possible problems and action they should take upon encountering a problem, including: <ul style="list-style-type: none"> - action to preserve safety of themselves, fellow workers and members of the public within the TTM zone and surrounds 	<p>Element 3 Diagnose and solve routine problems</p> <p>Best assessed by use of a realistic simulation (e.g. off-road simulation) of a TGS implementation activity in which one or more problems requiring prompt resolution arises. This will enable the assessor to modulate the problem/s and reduce exposure of the candidate to unpredictable live traffic.</p> <p>It will require the candidate to:</p> <ol style="list-style-type: none"> 1. Describe the range of problems, including personnel-related problems, likely to be encountered by Implementers/Implementation teams during key stages: <ol style="list-style-type: none"> a) Preparation for setup b) Setup

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> - action to communicate the problem to team leader (Implementer), site supervisor, police & emergency services etc o monitoring key performance indicators <p>Investigation of problem and its effects may involve:</p> <ul style="list-style-type: none"> o Direct exploration by personal inspection, aided by checklists, data, images o Indirect exploration by seeking information from team members and others 	<ul style="list-style-type: none"> c) Operation d) Aftercare e) Removal <p>2. Describe the system/s used to identify problems and alert key personnel</p> <p>3. In response to the problems presented by the assessor, to:</p> <ul style="list-style-type: none"> a) Describe the presentation of the problem b) Investigate possible causes, using appropriate tools and information sources including implementation team members c) Develop possible solutions and select and justify best solution/s d) Identify the range of resources, including people, required to implement the solution
	<p>3.2 Identify a clear and accurate definition of the problem</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Investigate scope, effects and causes of problems or other non-conformances 2. Document the definition of the problem <p>Definition of the problem should include:</p> <ul style="list-style-type: none"> o How the problem presents – what, where, when o Who might be affected o How they might be affected 	
	<p>3.3 Consider options and confirm decision after an analysis of available information</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Analyse available information 2. Develop options/solutions 3. Document the definition of the problem <p>Analysis of available information may involve:</p> <ul style="list-style-type: none"> o using the hazard & risk analysis procedures described above in 1.4 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ using investigative tools such as root cause analysis <p>Development of options/solutions may involve:</p> <ul style="list-style-type: none"> ○ using the process for development of control measures described above in 1.5 ○ using less formal and/or participatory methods to generate solutions, such as brainstorming 	
	<p>3.4 Gain approval to proceed with the preferred option from the appropriate party</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Gain approval to proceed with the preferred option from the appropriate party <p>Appropriate party may be:</p> <ul style="list-style-type: none"> ○ site supervisor ○ TMP Designer ○ WHS officer ○ Roads authority manager (RIM), traffic systems manager or other authority 	
	<p>3.5 Seek additional equipment and/or help/advice if problem is too complex</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Identify when assistance is needed to resolve a problem and where this assistance may be obtained 2. Seek such assistance from appropriate source <p>Appropriate source may include:</p> <ul style="list-style-type: none"> ○ For technical problems: 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> - Subject matter experts such as WHS officers, project engineers, manufacturers' representatives - Databases & documents <ul style="list-style-type: none"> o For people-related problems: - supervisors, workplace trainers, WHS officers, counsellors 	
4 Monitor work program	4.1 Monitor work progress regularly and note deviation from program	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Establish a system to monitor work progress 2. Undertake monitoring activity 3. Record deviations/non-compliances <p>Systems to monitor work progress include:</p> <ul style="list-style-type: none"> o Formal systems based on key performance indicators and hard data o Less formal systems based on observational activity and feedback <p>Monitoring activity may include:</p> <ul style="list-style-type: none"> o Personal observation o Use of team meetings to discuss achievements, problems, concerns etc o Use of reports and records such as daily logs, progress reports, accident & incident reports, equipment checks, etc o Use of feedback from team members, other supervisors & workers on the site, members of general public 	<p>Element 4 Monitor work program</p> <p>Best assessed by:</p> <ol style="list-style-type: none"> 1. Providing the learner with: <ol style="list-style-type: none"> a) a range of documents relating to a real TGS, including stock control records of traffic control devices and personnel records b) access to a real TGS implementation activity (alternatively, a realistically-simulated TGS setup) 2. Requiring candidate to address task allocation aspects by: <ol style="list-style-type: none"> a) allocating tasks according to personnel capability, development needs and other considerations

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	4.2 Check availability of consumable items and equipment is consistent with work schedules, the requirements of the task and delivery times for replacement items	Requires Implementer, as team leader, to: 1. Ensure equipment, consumables and other 'hard' resources are available as specified and scheduled in TMP/TGS Ensuring resources area available may involve: <ul style="list-style-type: none"> ○ Personally checking ○ Requesting stock control data ○ Delegating checks 	b) briefing personnel on task requirements, monitoring and reporting, using a simulated setting (role play) 3. Requiring candidate to address progress monitoring aspects by: <ul style="list-style-type: none"> a) outlining the basis of a progress monitoring system, including key aspects to be monitored, and relevant monitoring methods
	4.3 Implement alternative plans as required	Requires Implementer, as team leader, to: 1. Identify when alternative plans/contingency plans are required 2. Implement alternative/contingency plans	b) undertaking a monitoring activity, including monitoring the use and treatment of equipment and consumables
	4.4 Allocate specific tasks to make effective use of others	Requires Implementer, as team leader, to: 1. Allocate specific tasks to make effective use of others Allocation of tasks may involve: <ul style="list-style-type: none"> ○ Deciding which tasks can be delegated, within limits of authority and expertise ○ Deciding who a task can be delegated to, taking into account both the existing skills and qualifications of personnel and their need for development ○ Briefing the person regarding task, desired outcomes, procedures and WHS, and providing associated SWMS, JSA or other documentation ○ Providing training, coaching or other support to enable the delegated person to carry out the task 	c) identifying and/or documenting concerns requiring referral to others

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ Seeking feedback to confirm the person understands and is able to carry out the delegated task 	
	<p>4.5 Report issues beyond scope of authority and then carry out directed actions</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Determine when an issue is beyond scope of authority and must be referred upwards 2. Report issues upwards 3. Implemented actions as directed <p>Scope of authority may be defined in:</p> <ul style="list-style-type: none"> ○ The TMP/TGS ○ Organisational policies & procedures ○ National or state/territory legislation, including WHS 	
	<p>4.6 Maintain cost effective operations by minimising damage to equipment and excessive use of consumable items</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Minimise cost of operations by attention to selection, use and maintenance of equipment and consumables <p>Selection of equipment & consumables may involve:</p> <ul style="list-style-type: none"> ○ Ensuring scale and capability of equipment matches but does not significantly exceed the requirements of the job ○ Considering ‘total life cycle’ costs rather than ‘up front’ costs ○ Seeking quotes from several suppliers <p>Use of equipment & consumables may involve:</p> <ul style="list-style-type: none"> ○ Optimising time-in-use 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ Ensuring operators are trained to operate equipment efficiently and to recognise incipient maintenance needs by performing checks and monitoring operation ○ Establishing a reporting system for faults etc ○ Ensuring maintenance schedules are adhered to <p>Maintenance of equipment may involve:</p> <ul style="list-style-type: none"> ○ Establishing a maintenance schedule ○ Using scheduled down-time to perform maintenance ○ Using diagnostic maintenance services (e.g. oil sampling) where appropriate ○ Ensuring maintenance schedules and procedures are adhered to 	
5 Coordinate work	5.1 Make all personnel aware of their roles and responsibilities in the work plan	<p>Requires Implementer, as team leader, to:</p> <p>1. Make all personnel aware of their roles and responsibilities in the work plan</p> <p>Making all personnel aware of roles/responsibilities involves:</p> <ul style="list-style-type: none"> ○ Ensuring that roles & responsibilities are defined clearly, in duty statements, work plans and other personnel documents ○ Briefing personnel regarding general and specific responsibilities ○ Checking that personnel understand roles & responsibilities and are able to execute them satisfactorily ○ Arranging further development (training, coaching) where required 	<p>Element 5 Coordinate work</p> <p>Best assessed by extending the team briefing task described above in Element 4.2 (b), to include use of a participative process</p>

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ Advising personnel of consequences of non-compliance <p>Work plan includes:</p> <ul style="list-style-type: none"> ○ TMP/TGS ○ Team-specific work plans 	
	<p>5.2 Set and check at regular intervals operational targets in consultation with personnel</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Develop operational targets using participative processes 2. Check performance regularly using appropriate methods <p>Operational targets may cover:</p> <ul style="list-style-type: none"> ○ The extent and nature of work to be done ○ Schedules and timelines ○ Resource utilisation and cost ○ Achievement of secondary aims such as training or assessment of team members <p>Participative processes involve:</p> <ul style="list-style-type: none"> ○ Selecting a familiar/neutral environment (e.g. crib room) in which to hold meeting ○ Outlining to the group the objectives, process to be used and the roles of participants in developing plans, targets etc ○ Checking that participants feel sufficiently comfortable to participate, and offering to assist those not yet feeling comfortable ○ Modelling good participation by listening, checking for understanding, not talking over others, respecting alternative viewpoints 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ Using open-ended questions; restating participant’s contribution to confirm understanding; affirming participant’s response; recording participant’s response e.g. on whiteboard ○ Using agreed decision-making processes e.g. majority, consensus ○ Agreeing on processes for monitoring progress against agreed plans ○ Recording decisions and distributing written copies as soon as possible to all participants 	
	<p>5.3 Provide assistance when requested, to meet operational targets</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Establish a mechanism for team members and others to raise requests for assistance 2. Act on requests appropriately and promptly, including by providing and discussing reasons where requests cannot be met at that time 3. Providing alternative solutions when reasonable requests cannot be met <p>Mechanism to raise requests for assistance may be:</p> <ul style="list-style-type: none"> ○ Informal, such as through discussions in passing or at break meetings ○ Formal, such as through workplace delegates, WHS officers, written requests etc <p>Appropriate responses must:</p> <ul style="list-style-type: none"> ○ Not endanger workers, road users or others in or near the work area ○ Align with the intent of the work plan (TMP/TGS etc) 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	<p>5.4 Acquire resources required to support changing work requirements</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Identify required resources to accommodate change 2. Develop a case for acquiring necessary resources 3. Acquire resources <p>Resources may include:</p> <ul style="list-style-type: none"> ○ Physical resources – equipment and devices, including traffic control devices, communications equipment, PPE ○ Human resources – sufficient and suitably qualified team members <p>Developing a case to support acquisition of resources may involve:</p> <ul style="list-style-type: none"> ○ Identifying shortfalls with existing resources, using quantitative and qualitative data where possible ○ Describing the costs (financial, human, WHS) likely to be incurred by withholding additional/new resources, and the benefits to be gained by providing additional/new resources, including technologically advanced resources 	
	<p>5.5 Allocate workloads and required resources in accordance with modified work plans</p>	<p>Requires Implementer, as team leader, to:</p> <ol style="list-style-type: none"> 1. Allocate workloads and required resources in accordance with modified work plans <p>Modified work plans may include:</p>	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ TMP/TGS affected by: changes to work processes, equipment, personnel; revision of work schedules in response to accidents, incidents, inclement weather etc; ○ WHS Plan for the site, in response to changes in legislation, safety equipment etc ○ Other work plans 	
	5.6 Communicate agreed time lines for tasks	Covered in 5.2 above	
6 Maintain operating records	6.1 Determine range of operating records and reports and their required frequency	<p>Requires Implementer, as team leader, to:</p> <p>1. Determine what reports and records are required, and the schedule for preparation and submission</p> <p>Reports and records include:</p> <ul style="list-style-type: none"> ○ The TMP & TGS and any amendments & notations thereon ○ Records of requests for amendments to TMP/TGS ○ Checklists, work diaries, logs etc relating to TMP/TGS implementation ○ Implementation team work plans ○ audits ○ personnel records, particularly those relating to training & assessment and work performance, including time sheets ○ WHS records, including accident & incident reports, induction training etc ○ Police reports 	<p>Element 6 Maintain operating records</p> <p>Best assessed by requiring the candidate to submit all records made during the assessment for this unit and other units in the Implementer – Cat 1 skill set, which will include preliminary risk management documentation, TMP/TGS including notes/annotations, work diaries/logs, records of team meetings, sample completed police reports etc</p>

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	6.2 Keep written daily running records to facilitate the completion of necessary documentation	Requires Implementer, as team leader, to: 1. Keep written daily running records to facilitate the completion of necessary documentation Daily running records include: <ul style="list-style-type: none"> ○ Work diaries, logs, checklists ○ Induction & training records 	
	6.3 Complete written records and reports	Requires Implementer, as team leader, to: 1. Complete written records and reports Reports and records are listed above in 6.1	
	6.4 Note variations to contract requirements on reports and discuss with originator and management	Requires Implementer, as team leader, to: 1. Record any variations to contract requirements 2. Discuss variations with originator, management and authorised others Variations to contract requirements may be triggered by: <ul style="list-style-type: none"> ○ Modifications made to the TMP/TGS within the Implementer's limits of authority ○ Modifications made to the TMP/TGS by the Designer, at the request of the Implementer, in response to changes in the risk assessment ○ Audits, inspections, critical incident reports, police reports 	
	6.5 Submit accurate reports	Requires Implementer, as team leader, to:	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		1. Submit accurate reports , in the prescribed format and on time Reports may include: <ul style="list-style-type: none"> ○ Progress reports ○ Reviews of the operation of the TMP/TGS ○ Reports on personnel ○ WHS reports 	
	6.6 Take and record accurate measurements as required	Requires Implementer, as team leader, to: <ol style="list-style-type: none"> 1. Take and record accurate measurements as required Measurements may include measurements of: <ul style="list-style-type: none"> ○ Distances related to the placement of traffic control devices & signs ○ Distances describing the location of vehicles, people, devices etc involved in accidents or incidents in the TTM zone ○ Temperature and other weather conditions affecting worker safety ○ Approach and drive-through speeds of traffic 	

A2-3.3 Implementer Category 3

There are two units of competency for Implementer Category 3:

- Implement TMP and TGS – Category 3
- RIIBEF301D – Run on-site operations (This unit has already been described in Implementer Category 2)

A2-3.3.1 Implement TMP and TGS – Category 3

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible approach to assessment
<p>1. Prepare to implement traffic guidance scheme</p>	<p>1.1 Determine works requirements and scope of TGS</p>	<p>As for Category 2, plus:</p> <p>Traffic management documentation includes:</p> <ul style="list-style-type: none"> ○ complex site-specific TMP/TGS documentation 	<p>1. Prepare to implement traffic guidance scheme</p> <p>As for Cats 1&2, plus:</p> <ul style="list-style-type: none"> • Extend range of hazards to include those in 2.4 opposite • Extend range of environments to include motorways etc as for 2.6 opposite • Extend range of consultations to include consultation with roads systems managers • Extend range of resources as for 1.4 opposite • Include a requirement for learner/assessment candidate to co-ordinate with another TMP Implementer (possibly via role-play based on case study).
	<p>1.2 Identify, assess and report potential risks, hazards and environmental issues and determine control measures</p>	<p>As for Category 1, plus:</p> <p>Hazards include:</p> <ul style="list-style-type: none"> ○ limited opportunity to provide detour or diversion ○ on-ramps and off-ramps requiring turning across lanes or having significant knock-on effects if closed or compromised ○ very high traffic volumes 	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible approach to assessment
		<ul style="list-style-type: none"> ○ very fast traffic <p>Assessing risks involves:</p> <ul style="list-style-type: none"> ○ evaluating consequences (seriousness of impact) against likelihood of occurrence using detailed specialised checklists and risk assessment tools 	
	<p>1.3 Validate suitability of the traffic guidance scheme (TGS)</p> <p>(Prev 2.1 Select traffic guidance scheme to suit site conditions, traffic volumes and work activities)</p>	<p>As for Category 1, plus:</p> <p>TGS may be:</p> <ul style="list-style-type: none"> ○ specific to a particular work zone/work operation with sophisticated characteristics <p>The assessment of appropriateness may involve:</p> <ul style="list-style-type: none"> ○ applying basic principles, standards and complex criteria developed by Austroads, Roads Authority/RIM or other authority <p>Operation type may be:</p> <ul style="list-style-type: none"> ○ mobile/convoy works involving multiple vehicles 	
	<p>1.4 Resource the implementation of the TMP/TGS</p>	<p>As for Category 1, plus:</p> <p>Traffic management vehicles includes:</p> <ul style="list-style-type: none"> ○ multiple truck-mounted attenuators ○ trucks with programmable variable message signs <p>Equipment, signs and devices include:</p>	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible approach to assessment
		<ul style="list-style-type: none"> ○ channelizing and delineation devices including semi-permanent guard rails, ○ access to signalling devices including Intelligent Transport Systems controlled by traffic control authority 	
	1.5 Ensure liaison and communication activities occur as planned	As for Category 1	
	1.6 Prepare TGS implementation personnel for work	As for Category 1.	
2 Set out the traffic guidance scheme	2.1 Ensure signs and devices are positioned and installed correctly	As for Category 1, plus: Warning/protective vehicles include: <ul style="list-style-type: none"> ○ multiple truck-mounted attenuators 	2. Set out the traffic guidance scheme As for Cats 1 & 2, plus: <ul style="list-style-type: none"> • Extend assessment activity to include use of multiple TMAs
	2.2 Inspect TGS and authorise roadwork to proceed	As for Category 1.	
3 Monitor traffic guidance scheme	3.1 Monitor traffic flow and determine effectiveness of guidance scheme	As for Category 1, plus: Monitoring may involve: <ul style="list-style-type: none"> ○ use of remote monitoring systems (cameras, radar, drones etc) 	3. Monitor traffic guidance scheme As for Cats 1 & 2, plus: <ul style="list-style-type: none"> • Extend monitoring systems to include remote monitoring systems • Extend monitoring activities to include multiple monitoring points

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible approach to assessment
	3.2 Monitor work activities and remedy non-conformance	As for Category 1, plus: Work activities requiring particular attention include: <ul style="list-style-type: none"> ○ work activities having an impact on road user access to ramps, tunnels and other exits/entries ○ traffic control requiring co-ordination of multiple traffic signals within TTM work area (e.g. where multiple entries/exits exist) ○ co-ordination with Traffic Management Centre regarding Intelligent Transport Systems impacts 	
	3.3 Apply procedures to deal with offending motorists	As for Category 1, plus: 1. Liaise with police regarding speed compliance action	
4 Close down traffic guidance scheme	4.1 Direct the safe covering or removal of the TGS equipment, signs and devices	As for Category 1, however the removal sequence differs from that used on Category 1 and Category 2 roads.	4. Close down traffic guidance scheme As for Cats 1 & 2
	Ensure tools and equipment are cleaned, checked, maintained and stored	As for Category 1.	

Element	Existing performance criteria	Proposed guidance/interpretation material	Possible approach to assessment
	4.3 Finalise traffic work zone close-down	As for Category 1.	
	4.4 Complete all reporting	As for Category 1.	

A2-4 Designer

Mandatory assessment requirements applying to Designer Category 1, 2 and 3

1. Theoretical knowledge
2. Independent individual case study assessment

A2-4.1 Designer Category 1

There are two units of competency for Designer Category 1:

- RIICWD503D – Prepare work zone TMP and TGS
- RIISIS402D – Carry out the risk management process

A2-4.1.1 RIICWD503D – Prepare work zone TMP

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
Establish the context for preparation of traffic management plan (Prev 1. Plan for the preparation of work zone traffic management plans)	1.1 Determine works requirements and document context of plan (Prev: 1.1 Access, interpret and apply traffic management documentation and ensure the work activity is compliant and 1.2 Obtain, read, interpret, clarify and confirm work requirements)	Requires Designer to: <ol style="list-style-type: none"> 1. Obtain and consider works documents that describe the works to be undertaken in the roadwork area, including the nature, extent, staging and scheduling of project activities 2. Identify and consult with key project personnel to clarify and confirm planned work activities and implications for temporary traffic management (TTM) 	1. Establish the context for preparation of traffic management plan Best assessed by a real/realistic practical activity involving: <ol style="list-style-type: none"> a) providing the learner with: <ul style="list-style-type: none"> • a range of documents relating to a real works project requiring a TMP • access to key project personnel • access to the real road area covered by the TMP&TGS for assessment of roads-

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<p>3. Identify the implications for TTM of applicable national, state and local legislation, standards, codes, protocols, practices etc</p> <p>4. Document the context of the plan, including location, scope of works, key personnel and contact details</p> <p>Works documents may include:</p> <ul style="list-style-type: none"> ○ project briefs and proposals including project contracts, work descriptions & schedules ○ drawings, maps & site photographs including aerial photos ○ site and environment analyses and management plans ○ traffic analyses ○ safety and risk analyses and management plans ○ quality and conformance management plans ○ Austroads and RIM codes, standards & requirements <p>Key project personnel may include:</p> <ul style="list-style-type: none"> ○ engineers and other technical specialists ○ site managers/supervisors/team leader ○ project administrators ○ auditors/inspectors 	<p>based aspects (undertaking checks of road characteristics, site constraints, on-ground hazard & risk assessment)</p> <p>b) requiring the learner/assessment candidate to:</p> <ul style="list-style-type: none"> • analyse project documentation and document key aspects of the project that require consideration during preparation of TMP • undertake and document site assessment of physical & social characteristics, constraints, hazards etc and prepare risk assessment document/s • document the scope, objectives & requirements of the TMP, including staging and co-ordination • step the assessor through the process of analysing the documentation and explain/justify decisions, inclusions & omissions <p>Alternatively, assessment of road-related aspects could occur in a realistic simulated setting such as a closed road area having category-appropriate characteristics that ideally includes simulated live traffic (e.g. by having other RTO staff drive vehicles through the assessment area)</p>

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<p>Works activities may include:</p> <ul style="list-style-type: none"> ○ installation, modification, repair or removal of existing roads & associated channelisation and delineation devices (barriers, fences, kerbs & islands, road markings, pavement reflectors etc) ○ installation, modification, repair or removal of signs ○ roadside furniture maintenance (including installation, repair, removal of shelters, seats, etc) ○ beautification/maintenance works on verges & medians (including verge & median strip mowing, rubbish removal, tree pruning) <p>Applicable national, state and local legislation etc may be related to:</p> <ul style="list-style-type: none"> ○ risk management ○ workplace health & safety ○ roads & traffic management, including Levels of Service ○ land & environment planning ○ contract management ○ quality management ○ industrial relations/human resource management etc 	
	1.3 Identify the characteristics, constraints and hazards applying to worksite	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Obtain information about the physical and social characteristics and constraints of the worksite that may affect TTM 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	(Prev 1.2 Access, interpret and apply traffic management documentation and ensure the work activity is compliant)	<p>2. Obtain, undertake or commission traffic studies</p> <p>3. Inspect the site to identify all site hazards</p> <p>Physical characteristics may include:</p> <ul style="list-style-type: none"> ○ site geography/topography ○ roads geometry including ramps, intersections, exits/entries ○ road profile including shoulders, adjacent drainage, adjacent vegetation ○ adjacent built and natural environment ○ parking ○ existing traffic controls including signs, signals and hard & soft delineations <p>Social characteristics may include:</p> <ul style="list-style-type: none"> ○ presence of businesses, services and facilities whose users may be affected by roadworks and Traffic Management Plan (TMP) ○ occupational and recreational use of vehicles and public transport services within affected area <p>Constraints may include:</p> <ul style="list-style-type: none"> ○ limits on site accessibility & availability of detours/alternative routes ○ limits on placement of devices and personnel and queueing space resulting from roads geometry, profile, foundation, surface etc ○ limits on seasons/days/hours when work may be undertaken, including RIM requirements to maintain peak hour flows 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ul style="list-style-type: none"> ○ conflicting events, activities & requirements ○ planning & environmental/heritage issues ○ requirements to maintain or provide access to certain properties/facilities/services affected by the works ○ requirements to maintain access by public transport, vulnerable road users, over-dimension, overweight & dangerous goods vehicles and emergency services vehicles <p>Worksite includes:</p> <ul style="list-style-type: none"> ○ area in which roadworks will occur, and ○ area in which Traffic Guidance Scheme (TGS) will be installed <p>Traffic studies may examine:</p> <ul style="list-style-type: none"> ○ primary parameters such as: volume, speed and density <p>At this level, they may require simple counts and calculations</p> <p>Site hazards may include (in addition to constraints listed above):</p> <ul style="list-style-type: none"> ○ site/location hazards: length of worksite; site orientation producing exposure to glare, shadowing and other restrictions on visibility ○ traffic impacts hazards: collisions between vehicles and persons; collisions between vehicles and other vehicles, road plant, barriers etc ○ projections, excavations, choke points 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ul style="list-style-type: none"> ○ limited safety escape routes ○ exposure of personnel to environmental factors including adverse weather, pollution etc ○ trips, slips & falls ○ exposure to live services 	
	<p>1.4 Complete risk assessment of proposed worksite and works</p> <p>(Prev. 2.2 Interpret and analyse data and make a recommendation for the preferred option)</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Assess risks using appropriate methodology and information from project documentation and site hazard assessment 2. Identify and evaluate treatment options 3. Select treatment options 4. Identify uncontrolled hazards and residual risk 5. Document the assessment including methodology and rationale <p>Risks include risks to:</p> <ol style="list-style-type: none"> 1. safety of road users and the road work crew/s, 2. safety of the built, natural, economic and social environments in the work zone and 3. the performance of the road network in the work zone and in adjacent areas that may be affected by the works 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<p>4. the works project occurring in the work zone, including budget impacts</p> <p>Assessing risks includes:</p> <ol style="list-style-type: none"> 1. for each hazard, identifying possible harms (risks) or benefits that might arise 2. assessing the consequence of the harm and the likelihood that the harm will occur 3. comparing the consequence and likelihood to categorise the risk <p>Appropriate methodology includes methodologies specified by Roads Authorities and professional standards, particularly ISO/AS30001, AS1742.3. At this level, may involve use of simple checklists and tables.</p> <p>Treatment options include accepted and innovative actions that aim to apply the hierarchy of risk management:</p> <ol style="list-style-type: none"> 1. eliminate the hazard/risk (e.g. via detour) 2. substitute the high-risk activity with a lower-risk activity (e.g. provide traffic controller with manual traffic light) 3. isolate the hazard (e.g. use barriers to separate workers from traffic) 4. apply engineering solutions (e.g. replace traffic controller with automatic portable signals) 5. apply administrative solutions (e.g. modify work method statements; apply personal protective solutions e.g. reflective clothing) <p>Selection of treatment options includes:</p>	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ol style="list-style-type: none"> 1. applying the hierarchy of control (around, through, past) 2. applying basic principles (safety, accessibility, amenity, asset) and retaining 2-way flow where possible; for multi-lane roads, determining desirable number of lanes each direction) 3. applying treatment evaluation criteria (minimise length of road on which treatment is placed; right times to do work; minimise time road is occupied; minimise blocked lanes; have realistic alternatives for all modes of transport) 4. considering whether a treatment option might raise other risks 5. considering value-for-money <p>Uncontrolled hazards include:</p> <ol style="list-style-type: none"> 1. hazards that remain after specified control measures (eliminate, substitute, isolate, engineer, administer) have been applied and 2. hazards arising from unforeseen events (incidents) <p>Residual risk includes:</p> <ol style="list-style-type: none"> 1. risk that remains after treatment is applied 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	<p>1.5 Establish and document the scope and objectives of the work zone temporary traffic management plan (TMP)</p> <p>(Prev 1.3 Identify and confirm the work zone traffic management plan project requirements and information)</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Identify the scope of and requirements for the temporary management of traffic around, through or past the site 2. Devise monitoring systems and activities to identify problems including potential problems. These may include: <ul style="list-style-type: none"> ○ informal systems based on observation or feedback by others ○ formal systems involving structured reporting 3. Determine the need for staging of TTM activity 4. Identify, evaluate and document all risks having implications for TTM 5. Document the objectives for the Traffic Management Plan/s <p>Scope may include:</p> <ul style="list-style-type: none"> ○ physical extent of the TTM zone ○ number of traffic management plans and/or traffic guidance schemes required ○ duration of the TTM measures; <p>Requirements may include:</p> <ul style="list-style-type: none"> ○ requirements for provision of safe and efficient movement by road users, including vulnerable road users 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ul style="list-style-type: none"> ○ requirements for access to worksite and properties in the affected area ○ resources required to provide TTM, including signs, devices and people <p>Risks may include risks as above</p> <p>Objectives may be related to:</p> <ul style="list-style-type: none"> ○ safety of road workers, road users and general public ○ road network performance/Level of Service ○ safeguarding of road assets and surrounding assets ○ community awareness, engagement & satisfaction ○ cost-effectiveness ○ continuous improvement 	
<p>2. Select, modify or design a Traffic Guidance Scheme (TGS)</p> <p>(New Element - No prev equivalent)</p>	<p>2.1 Determine whether to select, modify or develop required Traffic Guidance Scheme/s (TGS)</p> <p>(New PC - No previous equivalent)</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Determine whether an existing TGS can be used in its original form or in modified form or whether a site-specific TGS must be developed 2. Document decision and rationale <p>Existing TGS includes template TGS ('standard TGS') provided by Austroads, Roads Infrastructure Manager (RIM) and TGS developed for other situations</p>	<p>2. Select, modify or design a traffic guidance scheme (TGS)</p> <p>Best assessed by a real/realistic practical activity involving:</p> <p>a) Providing the learner/assessment candidate with:</p> <ul style="list-style-type: none"> • Access to a range of existing TGS <p>b) Requiring the learner/assessment candidate to:</p> <ul style="list-style-type: none"> • Determine whether any existing TGS can be used 'as is' or by modification

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
			<ul style="list-style-type: none"> • Document modifications required to make the TGS suitable (if applicable) • Modify the existing TGS (if applicable) • Develop a new TGS for a situation where an existing TGS cannot be used with or without modification • Talk the assessor through all information considered in making decisions and explain/justify decisions made, referring to relevant rules, regs & standards, site & traffic characteristics, risk management documentation etc
	<p>2.2 Modify a Traffic Guidance Scheme (New PC - No previous equivalent)</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Determine the extent of modification required 2. Undertake modification within limits of authority <p>Modification may include a change to any component of a TGS</p> <p>Limits of authority may vary between jurisdictions and work roles</p>	
	<p>2.3 Develop a Traffic Guidance Scheme (Prev 2.3 Complete the detailed work zone traffic management plan)</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Evaluate the decisions made and options chosen in the TMP to confirm they are practically implementable 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	<p>2.3.1 Describe scheme scope, objectives and staging</p> <p>2.3.2 Specify personnel, roles and responsibilities</p> <p>2.3.3 Specify arrangement of detours/bypasses if available</p> <p>2.3.4 Specify traffic paths & lane arrangements, and their dimensions</p> <p>2.3.5 Specify channelization / delineation arrangements including tapers</p> <p>2.3.6 Specify access arrangements for worksite traffic and properties affected by work zone traffic arrangements</p> <p>2.3.7 Specify changes to parking arrangements</p> <p>2.3.8 Specify provisions required for vulnerable road users, public transport, police, emergency & over dimension vehicles</p>	<ol style="list-style-type: none"> 2. Confirm required nature, location and duration of road detours/temporary bypasses 3. Confirm required nature, extent and duration of road or lane closures, taking into account Level of Service and other roads authority and client requirements 4. Determine minimum lane width and separation requirements for available lane/s 5. Determine taper lengths of lead-in and lead-out zones, using approved tables or calculations 6. Determine access arrangements to properties, facilities and services within worksite, including specifying provision of alternative access 7. Specify nature, location and duration of alternative parking and parking access arrangements in affected road areas 8. Determine requirements for speed reductions on affected roads, having regard to principles including minimisation of impacts on road users balanced with safety of road users and work crew members 9. Determine staging, scheduling and sequencing of installation, monitoring/inspection, covering and removal of traffic control signs and devices, with reference to works project scheduling 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	<p>2.3.9 Develop a speed management & enforcement plan</p> <p>2.3.10 Specify signage requirements including type, size & placement</p> <p>2.3.11 Determine measures to protect traffic control workers during installation, operation and removal of TGS</p> <p>2.3.12 Specify arrangements applying when worksite is unattended</p> <p>2.3.13 Specify requirements for illumination</p> <p>2.3.14 Specify triggers, authorities, procedures and selection criteria for modification of TGS including for emergencies & contingencies</p> <p>2.3.15 Specify inspection, monitoring, reporting & quality control measures</p>	<p>10. Specify types, extent, spatial arrangement (location) and specifications of channelization (separation) and delineation devices</p> <p>11. Specify types, extent, spatial arrangement (location) and specifications of static signs and direction devices</p> <p>12. Specify placement of temporary traffic controllers, having regard to safety considerations including</p> <ul style="list-style-type: none"> - their visibility to and of road users - exposure to road and works traffic - sightlines to other traffic controllers - personal escape routes <p>13. Graphically represent the layout of temporary traffic control devices, including dimensions</p> <p>14. Specify scheduling of installation, inspection, maintenance and removal activities</p> <p>15. Specify protective arrangements for TTM workers during installation and removal of TTM equipment</p> <p>16. Describe arrangements for managing contingencies , emergencies, accidents and incidents during the implementation of the plan, including requirements for recording and reporting</p> <p>17. Describe arrangements for modification of the TGS if required, including personnel, responsibilities and authorities</p>	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<p>18. Identify roles and responsibilities for the implementation of the TGS, including for monitoring and inspections</p> <p>19. Describe monitoring arrangements and reporting arrangements for the plan and TGS, including for provision of real-time information to Roads Authorities.</p> <p>Lane width is the width of the trafficable carriageway and minimum widths are specified by Austroads/RIM</p> <p>Separation requirements include lateral separation and vertical separation over the trafficable path</p> <p>Separation devices include kerbing/traffic islands, hard and soft fences</p> <p>Delineation devices include bollards, cones,</p> <p>Signs and traffic control devices include two-dimensional signs, portable traffic lights</p> <p>Locations include lateral and vertical offsets</p> <p>Staging, scheduling and sequencing refers to the need to match TTM activities to the time-frames of broader works project activities</p> <p>Alternative parking and parking access arrangements include:</p> <ul style="list-style-type: none"> ○ parking bans 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<p>Affected road areas include:</p> <ul style="list-style-type: none"> ○ roads within the work zone and roads that may be affected by the build up of traffic before/after the work zone or by diversion of road users to surrounding roads ○ surrounding areas <p>Existing signs and traffic controls include directional, speed, parking etc signs</p> <p>Protective arrangements can include:</p> <ul style="list-style-type: none"> ○ use of light shielding vehicles ○ use of additional traffic controllers; use of 'spotters' ○ complete stopping of traffic <p>Access arrangements may include the provision of temporary crossings, barriers etc</p> <p>Properties include residential and commercial premises</p> <p>Facilities include schools, churches, medical & sporting establishments</p> <p>Scheduling refers to the dates, times and durations of activities for installation, monitoring, inspection, covering and removal of traffic guidance devices. Traffic management activity schedules should relate to works activity schedules</p> <p>Contingencies etc include:</p>	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ul style="list-style-type: none"> ○ collisions between vehicles, workers, construction vehicles, stationary objects ○ vehicle breakdowns ○ spills or other contamination ○ damage to services (electricity, gas, water, telephone, NBN) ○ medical emergencies ○ off-site events requiring passage through work zone by police and emergency services vehicles ○ weather events ○ crew member failures <p>Monitoring arrangements include oversight activities that seek to identify ongoing compliance with planned traffic management activities and results. They may be undertaken by:</p> <ul style="list-style-type: none"> ○ TTM planning staff ○ TTM implementation staff ○ works project staff ○ roads authority staff <p>Items to be monitored include:</p> <ul style="list-style-type: none"> ○ compliance with speed restrictions ○ worker safety, in particular for traffic controllers and others exposed directly to traffic <p>Arrangements for modification of TGS include:</p> <ul style="list-style-type: none"> ○ specification of allowable modifications by TMI ○ specification of procedures for seeking modifications requiring authorisation 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
<p>3. Complete the Traffic Management Plan</p>	<p>3.1 Monitor and coordinate the progress of other team members involved in the preparation process</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Co-ordinate input into the plan by others 2. Monitor others' input against deliverables <p>Others may include:</p> <ul style="list-style-type: none"> ○ technical specialists in traffic analysis, engineering etc ○ works project designers ○ management personnel <ol style="list-style-type: none"> 3. Explain implications of noncompliance, to others involved in implementing or monitoring business activity 4. Check understanding by the recipient of communications <p>Implications of noncompliance may include:</p> <ul style="list-style-type: none"> ○ Impacts on the safety of road users traversing work zones and adjacent parts of the road network ○ impacts on safety of personnel engaged in TTM and other work site activities ○ impacts on achievement of overall works project objectives including commercial objectives ○ employment & discipline consequences for TTM workers who fail to meet performance requirements including statutory and contractor-specific employment and WHS obligations <ol style="list-style-type: none"> 5. Identify others involved in planning compliance aspects of TTM-related work 	<p>3. Complete the Traffic Management Plan</p> <p>Best assessed by a real/realistic practical activity requiring the learner/assessment candidate to:</p> <ul style="list-style-type: none"> • Determine who else to involve in preparation of the TMP, and initiate contact • Develop a communications strategy including target audiences, key messages, channels & timing • Estimate and document costs for implementation of the TMP/TGS • Assemble all components of the TMP in an acceptable standard format

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<p>6. Clarify roles and requirements for involvement in TTM-related work</p> <p>Others involved in planning compliance may include:</p> <ul style="list-style-type: none"> ○ works project personnel ○ roads authority personnel ○ WHS authorities ○ TTM device manufacturers <p>7. Document findings arising from monitoring and problem-solving activities</p> <p>8. Provide recommendations consistent with findings and permissible options</p>	
	<p>3.2 Document a TMP communications strategy</p> <p>(No previous PC)</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Determine requirements for communication to external parties, including, where appropriate, requirements for consultation with parties likely to be affected significantly by the proposed works 2. Outline requirements for communication to internal parties (those working in the project including the TTM crew) 3. Determine the content, media and timing of communications activities 4. Ensure that communications are placed on target and on time <p>External parties include:</p> <ul style="list-style-type: none"> ○ road users ○ residents 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ul style="list-style-type: none"> ○ business owners and facilities managers and their staff ○ people using services and facilities located within the affected area <p>Internal parties include:</p> <ul style="list-style-type: none"> ○ members of the project crew/s and TTM crew/s who may be involved in the delivery and/or management of TTM activities or affected by TTM activities because of their role within the work zone, such as machinery operators, drivers, labourers etc <p>Communications activities may include:</p> <ul style="list-style-type: none"> ○ personal contact ○ advertisements including public notices ○ media briefings including by press release, media interviews, use of social media platforms etc. ○ use of advance warning by fixed and electronic signs (variable message signs) in/near the proposed work zone 	
	3.3 Prepare a cost estimate for executing the work zone traffic management plan	Requires Designer to: <ol style="list-style-type: none"> 1. For typical TTM activities/services, estimate costs 2. Document overall cost estimate 	
	3.4 Assemble the plan	Requires Designer to:	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	<p>(Prev 2.6 Complete the documentation for the work zone traffic management plan <i>in</i> original unit)</p>	<p>1. Assemble all required information in a form that is clearly expressed, logical and indexed and complies with relevant document control requirements</p> <p>Required information may include:</p> <ul style="list-style-type: none"> ○ background/context information ○ risk assessment and treatments ○ traffic guidance scheme/s and implementation procedures ○ variations arrangements ○ contingency & emergency arrangements ○ communication & consultation plans ○ registers for the recording of key personnel, incidents, variations, daily inspections, complaints and consultations ○ monitoring, review, notification & reporting arrangements <p>At Category 2 level, the plan may use a simplified pro-forma format and/or brief notes attached to the TGS</p>	
	<p>3.5 Gain plan approval</p> <p>(Prev 2.5 Participate in the review of the work zone traffic management plan with peers and stakeholders</p> <p>and</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Seek feedback from key project staff regarding the appropriateness and feasibility of the Plan 2. Submit the TTM Plan for formal approval through appropriate channels to the RIM or other body with approval authority 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	3.6 Seek client feedback and contribute to the verification of the plan)	<p>3. Revise the TTM Plan in response to feedback</p> <p>Submission of plan must meet relevant Austroads/RIM time requirements</p> <p>Appropriate channels may include the hierarchy of management of the project for which the TTMP has been developed</p>	
4. Finalise preparation processes of work zone traffic management plan	4.1 Ensure filing of preparation records is completed	<p>Require Designer to:</p> <p>1. Maintain systems, written and verbal records and reporting procedures</p> <p>Systems, written and verbal records and reporting procedures may include those required by:</p> <ul style="list-style-type: none"> ○ external authorities (ATO, roads authorities, WHS authorities) and ○ internal authorities <p>Standards may exist for coverage, completeness & timeliness</p> <p>2. Ensure necessary records and reports are filed as required</p> <p>Records may include the TMP, risk assessment documents, approvals documents, costings and invoices, etc</p> <p>Reports may be to:</p> <ul style="list-style-type: none"> ○ RIM/roads authorities 	<p>4. Finalise preparation processes of work zone traffic management plan</p> <p>Best assessed as a review process between learner/assessment candidate and assessor</p>

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ul style="list-style-type: none"> ○ works project personnel 	
	4.2 Participate in performance review of the preparation process	Requires Designer to: <ol style="list-style-type: none"> 1. Initiate and respond to reviews of the planning process 2. Record and disseminate opportunities for improvement 	
5. Support and review the implementation of the work zone traffic management plan	5.1 Provide clarification and advice to those implementing the plan	Requires Designer to: <ol style="list-style-type: none"> 1. Brief the Traffic Guidance Scheme Implementer on the TMP and TGS before implementation work commences 2. Initiate and respond to opportunities to clarify the plan 3. Respond to requests by TGS Implementer for adjustments to accommodate emerging issues 	<p>5. Support and review the implementation of the work zone traffic management plan</p> <p>Best assessed using a simulation exercise in which the assessor acts as the Implementer, the overall works project supervisor and a traffic controller, posing hypothetical/what if? questions</p> <p>Ideally, confirmation of the learner's/assessment candidate's competency will be obtained from his/her supervisor, peers & team after he/she has completed at least one full planning cycle</p>
	5.2 Review the implementation of the plan and recommend changes for continuous improvement	Requires Designer to: <ol style="list-style-type: none"> 1. Collect and analyse monitoring data to determine effectiveness of implementation of the plan 2. Identify and document opportunities for remediation and improvement 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	<p>(Prev 4.2 Review the implementation application of the plan and recommend changes for continuous improvement)</p>	<p>3. Request or negotiate required improvements</p> <p>Collection of monitoring data may involve:</p> <ul style="list-style-type: none"> ○ direct observation by Designer ○ reports from TGS Implementation personnel including Traffic Management Implementer, Traffic Controllers ○ reports from works personnel, auditors/inspectors, traffic system management personnel, police and other third parties <p>Monitoring data may include data about:</p> <ul style="list-style-type: none"> ○ performance against standards for set-out, maintenance and removal of TGS ○ traffic flows ○ road user behaviour (e.g. confusion, queuing, speeding, movement off designated path) ○ accidents, incidents and other non-conformance 	
	<p>5.3 Contribute to the validation of the plan</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Initiate or contribute to review of the overall performance of the TMP 2. Document opportunities for continuous improvement 3. Report findings to support industry-wide improvement 	

A2-4.1.2 RIIRIS402D – Carry out the risk management process

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
1. Plan and prepare for implementing the risk management process	<p>1.1 Access, interpret and apply risk management documentation and ensure the <u>planned</u> work activity is compliant</p> <p>(Prev 1.1 Access, interpret and apply risk management documentation and ensure the work activity is compliant)</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Locate all relevant risk management documentation and project documentation 2. Interpret project documentation and apply it to determine apparent compliance of specifications for temporary traffic management 3. Verify that roles and obligations and required qualifications/licences of project personnel with responsibility for risk management are documented and comply with national and jurisdictional requirements <p>Risk management documentation includes:</p> <ul style="list-style-type: none"> ○ overall WHS Management Plan relating to the construction project for which TMP will be prepared ○ historical risk analysis in similar/ reference WHS plans and traffic management plans (TMP) & associated risk registers/checklists/inspection reports ○ special requirements identified by the RIM or works contractor ○ Australian & international risk management standards, particularly AS/NZ ISO30001 ○ Australian & international traffic management standards (eg AS1742.3) 	<p>Element 1 Plan and Prepare to implement the risk management process</p> <p>Best assessed by:</p> <p>a) providing the learner with:</p> <ul style="list-style-type: none"> • a range of documents relating to a real work project requiring a TMP, • access to the real work site/road area for assessment of roads-based aspects (undertaking on-ground hazard & risk assessment) <p>b) requiring the learner to undertake and document the analysis of the documentation <i>and</i> talk the assessor through the process of analysing the documentation in order to:</p> <ul style="list-style-type: none"> • determine scope/parameters of the risk assessment task • determine requirements within WHS Management Plan and construction project brief that have implications for the design of the TMP; • identify need for and specification of additional data;

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ Commonwealth & state/territory legislation, regulations, codes & guidelines, in particular those relating to: Workplace Health & Safety (WHS), roads & traffic management, temporary traffic management operations ○ Enterprise Risk Management (ERM) guidelines <p>Project documentation includes:</p> <ul style="list-style-type: none"> ○ overall construction project brief and associated WHS Management Plan <p>Apparent compliance of the work activity requiring preparation of a TMP includes consideration of:</p> <ul style="list-style-type: none"> ○ whether the overall construction project brief and associated WHS Management Plan provide sufficient information about overall works and WHS arrangements to enable the TMP to be developed ○ the classification of the road/works ○ identified/known hazards & risks ○ additional hazards & risks identified during site inspection etc <p>Personnel with responsibility for risk management include:</p> <ul style="list-style-type: none"> ○ those with special responsibilities under WHS and related laws, regulations & codes (Person Conducting Business Undertaking [PCBU], project managers, designated WHS managers, TMP Developer, TGS Implementer) and ○ those with general responsibilities (personnel engaged in setting out, 	<ul style="list-style-type: none"> ● determine how to undertake site assessment of hazards and prepare associated risk assessment document/s (including by selecting appropriate data sets and tools);

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<p>staffing & monitoring impact of TMP including TGS)</p> <p>National and jurisdictional requirements include:</p> <ul style="list-style-type: none"> ○ training & licencing requirements; ○ contractor works requirements; ○ roads/work categorization; 	
	<p>1.2 Identify and determine the process to be used for risk management</p>	<p>Requires Designer to:</p> <p>1. Identify an appropriate process for conducting risk management</p> <p>Risk management includes both:</p> <ul style="list-style-type: none"> ○ identifying and maximising opportunities, and ○ identifying, avoiding, minimising and mitigating negative impacts <p>Selecting an appropriate process for conducting risk management includes considering:</p> <ul style="list-style-type: none"> ○ the nature of the work site, the work tasks, the workers, the equipment and other resources involved, and the hazards and risks that may arise ○ the data required and its nature (qualitative, quantitative), availability and reliability ○ capacity to process risk-related data, particularly where statistical analysis is required ○ costs involved in obtaining and considering risk-related data <p>Processes for conducting risk management may include:</p> <ul style="list-style-type: none"> ○ generic processes 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ enterprise or proprietary processes 	
	<p>1.3 Identify, develop and document parameters of the risk assessment task</p>	<p>Requires Designer to:</p> <p>1. Determine and describe in writing the scope of the risk assessment task and consequent parameters</p> <p>Scope may include:</p> <ul style="list-style-type: none"> ○ activity scope – the risk aspects to be addressed, such as WHS; environment; quality; business ○ works project scope - the nature and extent of the construction/maintenance work requiring the provision of TTM; ○ geographical scope – the area/s to which the risk assessment applies, which may include the areas in which construction/maintenance activity will occur; the extended area in which the TMP and TGS will apply; surrounding areas directly impacted by the TMP/TGS; and areas indirectly impacted by the TMP/TGS, such as adjacent roads onto which traffic may divert voluntarily ○ temporal scope – the duration of the TMP/TGS; whether night work is involved; whether different arrangements may apply at different times of the day to accommodate surges and dips in traffic, etc 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ authorities scope – the duty-holders involved in managing WHS in the actual construction/maintenance activity, managing the design of the TMP/TGS, managing the implementation of the TMP/TGS, and their respective responsibilities and authorities ○ identification of out-of-scope issues <p>Parameters reflect decisions made based on scope and may relate to:</p> <ul style="list-style-type: none"> ○ objectives ○ system boundaries ○ hazard & consequence type ○ actions that may/should be taken ○ consultation, communication, recording & reporting 	
	<p>1.4 Access, interpret and apply the data required to complete the risk assessment task</p> <p>Deleted – is incorporated in multiple elements below</p>		
2. Identify hazards	2.1 Identify and confirm types of potential hazards by reference to site circumstances, history and/or precedence	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Inspect potentially affected areas before work starts and during progress of work 2. Identify potential hazards using a systematic approach, including by reference to documentation 3. Record results of inspections and research <p>Potentially affected areas include:</p>	<p>Element 2 Identify hazards</p> <p>Best assessed by using a real-world exercise requiring the candidate to:</p> <p>Apply the risk assessment strategy developed above, in order to:</p> <ol style="list-style-type: none"> 1. Identify the range of historical (documented) and actual (on-site) hazards, using appropriate tools e.g. checklists

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ the overall construction work site requiring TTM; ○ the work zone where TGS will be installed; ○ areas adjacent to TTM zone, including premises, services and facilities; ○ surrounding road network, particularly if traffic may divert over these; <p>Potential hazards include:</p> <ul style="list-style-type: none"> ○ construction site hazards – excavations, structures, mobile plant, unstable surfaces, power tools/explosives in use, energy sources (electricity/gas/combustibles) ○ road geometry hazards – short sight distances, curves, narrow/sloping shoulders, intersections ○ vehicles failing to stop as/where directed; ○ vehicles moving off the indicated traffic path and colliding with workers, barriers etc; ○ signs/devices displaced into traffic path; ○ traffic control workers moving into traffic stream; ○ traffic control workers having insufficient safety evacuation space; ○ weather conditions exceeding allowable WHS limits or adversely affecting visibility of signs & devices; etc 	<ol style="list-style-type: none"> 2. Prepare notes for briefings of others who may assist in hazard identification process 3. Undertake comprehensive hazard identification 4. Adjust the risk assessment document/s in response to changes in one or more key risk areas (see * below) 5. Document the risk assessment in a form suitable for inclusion in TMP or other approved risk management plan such as WHS Management Plan <p>* Assessor to provide case study input regarding the following and confirm candidate adjusts risk assessment strategy and/or findings appropriately:</p> <ol style="list-style-type: none"> 1. Introduction of new technology e.g. replacement of stop/slow bat traffic control by use of portable traffic signal (PTS) on manual setting 2. Changes to at least one key aspect of the works project brief <p>Alternatively, assessment of on-road aspects could occur in a realistic simulated setting such as a closed road area of category-appropriate characteristics that ideally includes simulated live traffic (e.g. by having other RTO staff drive vehicles through the assessment area)</p>

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ high-risk premises, facilities & services within TGS zone, including fuel service stations, schools, electricity, gas, water & telecoms service lines ○ entries/exits to properties/premises within the TTM zone ○ road & rail crossings <p>A systematic approach may include:</p> <ul style="list-style-type: none"> ○ referring to historic documentation – hazard registers; risk registers; accident/incident reports; site analyses; audit & inspection reports and previous TMPs; supplier/manufacturer technical documentation; product reviews; etc ○ reference to overall construction project plan ○ using documentation such as checklists, self-assessment tools to ensure thorough consideration of issues; ○ consulting with construction project principals & key staff (engineers, designers, WHS reps, specialists) ○ consulting with TTM field workers and other workers onsite regarding local conditions <p>Records of inspections may include:</p> <ul style="list-style-type: none"> ○ standard-form records (checklists etc); ○ notations on the TMP or TGS; ○ dated & geo-located photographs or video records. <p>Records should be signed, dated and distributed/filed as required by organization or authority</p>	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	<p>2.2 Establish and communicate to others the process for hazard identification</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Determine the processes for identifying hazards, including the tools to be used 2. Determine other parties to involve in the risk assessment process, and their role 3. Communicate to others the chosen processes, how they are to be undertaken, specific features to watch for and how to record & report information <p>Processes for identifying hazards may include:</p> <ul style="list-style-type: none"> ○ direct processes, including visual inspection and recording of the site and surrounds and the equipment to be used; consultation with experts and work team members; ○ indirect processes, including reference to historical documentation (previous site hazard analyses/TMPs, WHS plans, coroners' reports, Key Risk Indicators KRIs reports, reviews etc) <p>Other parties involved in risk assessment may include:</p> <ul style="list-style-type: none"> ○ designated WHS personnel ○ roadwork construction/maintenance personnel with WHS duty-of-care responsibilities ○ manufacturers/suppliers of TTM-related devices, equipment etc <p>Tools used in hazard identification may include:</p> <ul style="list-style-type: none"> ○ generic checklists such as those produced by Worksafe Australia and its state/territory equivalents, industry bodies etc 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ specific checklist applying to particular types of hazards ○ proprietary tools <p>Communication of processes may involve:</p> <ul style="list-style-type: none"> ○ verbal briefs (discussions, meetings etc) ○ written briefs, instructions etc ○ use of feedback loops 	
	<p>2.3 Undertake routine hazard identification</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Inspect potentially affected areas before work starts and during progress of work 2. Identify potential hazards using a systematic approach, including by reference to project brief, historical documentation etc 3. Record inspections <p>Potentially affected areas include:</p> <ul style="list-style-type: none"> ○ the work site requiring TTM ○ the work zone where TGS will be installed ○ areas adjacent to TTM zone, including premises, services and facilities ○ surrounding road network, particularly if traffic may divert over these; <p>Potential hazards commonly include:</p> <ul style="list-style-type: none"> ○ vehicles failing to stop as/where directed; ○ vehicles moving off the indicated traffic path and colliding with workers, barriers etc; ○ signs/devices displaced into traffic path; 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ traffic control workers moving into traffic stream; ○ traffic control workers having insufficient safety evacuation space; ○ weather conditions exceeding allowable limits or adversely affecting visibility of signs & devices; etc <p>A systematic approach may include:</p> <ul style="list-style-type: none"> ○ using documentation such as checklists, self-assessment tools; ○ consulting with TTM field workers and other workers onsite <p>Records of inspections may include:</p> <ul style="list-style-type: none"> ○ standard-form records (checklists etc); ○ notations on the TMP or TGS; ○ photographs or video records <p>Records should be signed, dated and distributed/filed as required by organization or authority</p>	
	<p>2.4 Add to the hazard identification process any potential variations from changes to work practices, systems or technology</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Identify potential variations and their sources 2. Incorporate identified potential variations into the risk assessment process <p>Potential variations may include</p> <ul style="list-style-type: none"> ○ reduced, transformed or increased hazards ○ new hazards <p>Sources of potential variations include:</p>	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ changes to the site and its characteristics arising from the construction work itself or the installation of the TGS ○ emerging work practices, systems, technology etc that may create, amplify or reduce hazards and associated risks ○ emerging work practices, systems, technology etc that may simplify or complicate the hazard identification process 	
	<p>2.5 Analyse <u>the results</u> of the hazard identification process or parts of the process, to identify and prepare written documents to communicate <u>loss or benefit</u> scenarios</p> <p>(Prev 2.5 Analyse the hazard identification process or parts of the process, to identify and prepare written documents to communicate loss scenarios)</p>	<p>Requires Designer to:</p> <p>1. Document the range of hazards identified</p> <p>Hazard identification should cover:</p> <ul style="list-style-type: none"> ○ What the hazard is ○ Where the hazard is ○ Who might be affected ○ How they may be affected (type of injury/damage/loss) ○ Why they may be affected (the circumstances under which the injury/loss may occur) <p>In the TTM context, the Designer must consider both:</p> <ul style="list-style-type: none"> ○ Hazards that might affect construction personnel (including those implementing the TTM arrangements) ○ Hazards that might affect those people (drivers, pedestrians, cyclists, public transport users etc) using the roads and adjacent facilities over which the TMP/TGS will operate 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
3. Assess risk	<p>3.1 Determine the likelihood of a loss <u>or benefit</u> scenario</p> <p>(Prev 3.1 Determine the likelihood of a loss scenario)</p>	<p>Requires Designer to:</p> <p>1. Assess the likelihood of each event occurring, using appropriate method/s</p> <p>Likelihood may be categorized as:</p> <ul style="list-style-type: none"> ○ rare ○ unlikely ○ possible ○ likely ○ almost certain <p>At this level, appropriate method/s may include:</p> <ul style="list-style-type: none"> ○ estimations based on professional experience ○ use of a simple tool (risk rating matrix, checklist) and may require consideration of how & where the risk could happen ○ use of more advanced statistical techniques such as probability analysis 	<p>Best assessed by:</p> <p>Using the data produced above, to: determine risk level associated with each risk</p>
	<p>3.2 Analyse and determine the consequence if the loss <u>or benefit</u> scenario should occur</p> <p>(Prev 3.2 Analyse and determine the consequence if the loss scenario should occur)</p>	<p>Requires Designer to:</p> <p>1. Determine the possible impacts and associated costs/benefits of each scenario, using appropriate method/s</p> <p>Impacts may include positive and negative impacts on:</p> <ul style="list-style-type: none"> ○ the wider community, including road users in affected and adjacent areas, residents, business owners and facility/service managers, general public ○ the social licence of the contractor ○ workplace health & safety of both the TTM workforce and construction project workforce 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<p>Costs/benefits may be:</p> <ul style="list-style-type: none"> ○ financial ○ environmental ○ human/social <p>Appropriate method/s may include:</p> <ul style="list-style-type: none"> ○ estimations based on experience ○ reference to documentation including loss schedules, other insurance data etc ○ reference to experts ○ consultation with overall project managers re knock-on effects ○ consultation with the wider community 	
	<p>3.3 Determine the risk level of the loss <u>or benefit</u> scenario (Prev 3.3 Determine the risk level of the loss scenario)</p>	<p>Requires Designer to:</p> <p>1. Consider and determine the risk level using appropriate method</p> <p>Risk level aligns likelihood against consequence in a table/matrix. Risk levels are usually categorised as:</p> <ul style="list-style-type: none"> ○ Very Low ○ Low ○ Moderate ○ Very High ○ Critical <p>Appropriate method at this level usually involves using appropriate risk assessment tool such as risk matrix to correlate likelihood and consequence of events (scenarios) occurring, supplemented by:</p> <ul style="list-style-type: none"> ○ Analysis, such as statistical analysis; root cause analysis ○ Consultation with others 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
4. Identify unacceptable risk	4.1 Source or determine site criteria for assessing the acceptability of risks in conjunction with the appropriate party	<p>Requires Designer to:</p> <p>1. Obtain or develop criteria for determining acceptability/unacceptability of the risk (risk tolerance)</p> <p>Criteria may be determined by reference to standards, codes of practice etc specified by:</p> <ul style="list-style-type: none"> ○ the head contractor of the construction project requiring TTM services (top-level PCBU) ○ the organisations responsible for preparing the TMS/TGS and for implementing the TGS; ○ RIM or other agency with ultimate control over work <p>Criteria may be influenced by:</p> <ul style="list-style-type: none"> ○ knowledge of risk appetite/risk tolerance of project principals (contractor’s representatives) & overseeing authorities 	<p>Best assessed by:</p> <p>Using the data produced above, to:</p> <ol style="list-style-type: none"> 1. Identify uncontrolled/unacceptable risks 2. Identify assessments that may need further evidence to confirm or adjust 3. Prepare risk control plan
	4.2 Determine the risk level or score	<p>Requires Designer to:</p> <p>Determine the risk level or score indicated by the risk matrix or other tool</p> <p>Risk level aligns likelihood against consequence in a table/matrix. Risk levels are usually categorised as:</p> <ul style="list-style-type: none"> ○ Very Low ○ Low ○ Moderate ○ Very High ○ Critical <p>Risk level or score may indicate risk is:</p> <ul style="list-style-type: none"> ○ potentially over-controlled 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ adequately controlled ○ potentially poorly controlled ○ poorly controlled (needing immediate attention) <p>Risks may be further categorised as:</p> <ul style="list-style-type: none"> ○ acceptable (requiring no further controls) ○ unacceptable (requiring controls) 	
	<p>4.3 Seek expert advice and clarify findings which are ambiguous, unclear or of doubtful accuracy</p>	<p>Requires Designer to:</p> <p>1. Seek expert advice and clarify findings which are ambiguous, unclear or of doubtful accuracy</p> <p>Expert advice may be sought from:</p> <ul style="list-style-type: none"> ○ duty-holders, as specified in WHS Act ○ WHS experts, for injury-related aspects e.g. likelihood or severity of injury for a particular hazard; availability of mitigation measures ○ technical specialists, for advice on type, effectiveness, cost & implementation requirements of engineering and other controls ○ statistical experts, for interpreting probability of events occurring 	
<p>5. Identify potential actions</p>	<p>5.1 Identify existing controls</p>	<p>Requires Designer to:</p> <p>1. Identify controls already in place on the work site</p> <p>2. Identify standard controls for selected risks</p> <p>Controls already in place include controls implemented on the construction site for which the TMP/TGS is being prepared</p>	<p>Best assessed by requiring the candidate to:</p> <p>1. Use the data produced above, to:</p> <ul style="list-style-type: none"> a) Identify existing controls b) Identify options for suitable controls for identified unacceptable risks c) Document the risk control plan

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<p>Standard controls include:</p> <ul style="list-style-type: none"> ○ industry-wide controls specified in industry codes of practice including TTM industry codes, construction industry codes ○ organisation-specific controls 	
	<p>5.2 Identify, analyse and document the range of risk controls for identified unacceptable risks</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Identify suitable control/s to manage each identified unacceptable risk 2. Document the risk controls in the TMP, TGS and any other form required by the principal contractor or authority <p>Identification of possible controls may require consultation with:</p> <ul style="list-style-type: none"> ○ duty-holders, as specified in WHS Act ○ other personnel responsible for the work occurring within the work zone ○ traffic control personnel 	
	<p>5.3 Identify risk control options using the hierarchy of controls, considering operational effectiveness</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Identify risk control options by applying the hierarchy of control 2. Analyse possible controls to determine feasibility <p>Hierarchy of control identifies, in priority order, preferred types of control:</p> <ul style="list-style-type: none"> ○ eliminate the hazard/risk (e.g. via detour) ○ substitute the high-risk activity with a lower-risk activity (e.g. provide traffic controller with manual traffic light) ○ isolate the hazard (e.g. use barriers to separate workers from traffic) 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ apply engineering solutions (e.g. replace traffic controller with automatic portable signals) ○ apply administrative solutions (e.g. modify work method statements; apply personal protective solutions e.g. reflective clothing) <p>Feasibility includes consideration of:</p> <ul style="list-style-type: none"> ○ ease of implementation, including consideration of human factors (e.g. need for additional personnel, training, supervision, communication) ○ cost-effectiveness of options ○ potential of options to create additional hazards/risks (side effects) 	
6. Decide on action	6.1 Select the most appropriate risk controls for the situation from the feasible options	<p>Requires Designer to:</p> <p>1. Select the most appropriate control</p> <p>An appropriate control should satisfy the 'reasonably practical' test and may involve considering:</p> <ul style="list-style-type: none"> ○ likely effectiveness in meeting objectives for WHS, road performance, efficiency ○ cost-effectiveness, considering likely financial, environmental, reputational and human costs ○ ease of implementation, including availability of necessary resources ○ interaction between the range of controls applied in the TMP ○ overlap/underlap with other controls applied by principal contractor for the actual works protected by TTM arrangements 	<p>Best assessed by requiring the candidate to:</p> <p>1. Use the data produced above, to:</p> <ul style="list-style-type: none"> a) Select the most suitable controls for identified unacceptable risks b) Document risk control plan, for example, as a TMP/TGS or WHS Management Plan

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
	6.2 Clarify the decision and confirm the selected course of action following analysis of resource requirements, cost, safety and welfare issues within site constraints	Requires Designer to: <ol style="list-style-type: none"> 1. Clearly document the risk analysis process and subsequent decisions regarding controls 2. Test the resource-effectiveness of the selected course of action 3. Gain approval and authorisation Resource-effectiveness may be tested as described in 6.2 above relating to appropriate controls. Resource requirements are listed in 6.4 below.	
	6.3 Prepare written document outlining the selected course of action and resources required	Requires Designer to: <ol style="list-style-type: none"> 1. Document the risk analysis and controls in the Traffic Management Plan including the Traffic Guidance Scheme 2. Describe all resources needed for implementing the TMP/TGS Controls include: <ul style="list-style-type: none"> ○ identification of duty-holders and responsibility by personnel involved 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ control measures to be taken, including the specification via the TGS of: the signs, devices and equipment to be used; the schedule for their installation, neutralisation (after-care) and removal; the number and qualifications of workers (including traffic controllers) to be engaged in implementation; hours of operation, including for after-care if required; general WHS provisions applying to the work and site; criteria and processes for modification or enhancement of any aspect of the TGS; communication to affected people, including ○ directions on contingency management <p>Resources to implement controls include:</p> <ul style="list-style-type: none"> ○ material resources: vehicles; barriers; signs & signals; ○ human: sufficient qualified workers; leadership, training & development ○ information resources: TMP/TGS; other WHS plans; device operation guides; material safety data sheets; SWMS/job safety analyses/standard operating procedures ○ communications resources ○ supplementary external resources, including police, traffic systems controllers etc 	
7. Implement or facilitate action	7.1 Implement directly, or facilitate through others, the course of action plans	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Provide the TMP/TGS to the implementation team and others requiring access, including the principal contractor 	<p>Best assessed by requiring the candidate to:</p> <ol style="list-style-type: none"> 1. Devise, document (dot points) and conduct a briefing of an Implementer/implementation team,

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		2. Brief the implementation team 3. Be available to respond to queries from those responsible for implementation 4. Provide and document details of modifications or enhancements required	regarding key features of a risk management document (TMP, WHS Management Plan) Preferably, this will involve a real Implementer/implementation team; alternatively, a role play may be used during the briefing
	7.2 Maintain the standards for safety regulations and procedures	Requires Designer to: 1. Identify, in the TMP and TGS, all safety standards and regulations applying 2. Brief personnel who will be implementing the TMP/TGS, regarding the TMP/TGS and identify authority and scope for modification of the TMP/TGS by the person/s responsible for its implementation 3. Specify and implement a monitoring and reporting process, including actions by personnel engaged in implementation 4. Establish processes for updating knowledge of developments in risk management	
	7.3 Communicate to all parties relevant information related to the new/revised work procedures and action plans	Requires Designer to: 1. Communicate to all parties relevant information related to changes in work procedures and action plans Changes may arise from: <ul style="list-style-type: none"> ○ Changes in risk management (WHS) laws, regulations, codes etc ○ Developments in technologies ○ Improvements to practices, procedures etc ○ Modifications to the TMP/TGS arising from monitoring, feedback, queries from personnel involved in or observing implementation activities 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<p>Communication methods may include:</p> <ul style="list-style-type: none"> ○ Site meetings/toolbox talks ○ Written briefings, procedures etc ○ Electronic media, including video 	
	<p>7.4 Reinforce requirements through observing the impact of information and implemented action plans</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Seek feedback from field personnel regarding implementation of the TMP/TGS and its effectiveness 2. Where warranted, undertake personal inspection of the roadwork site while the TMP is in operation 3. Provide feedback to personnel involved in implementation <p>Field personnel include:</p> <ul style="list-style-type: none"> ○ personnel installing and staffing the TMP/TGS ○ supervisory staff working on associated construction/maintenance activity, 	
	<p>7.5 Coach others to effectively carry out action plans</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Identify when coaching of implementation team members is required 2. Provide coaching, mentoring or other training/development <p>Identifying requirements for coaching may involve:</p> <ul style="list-style-type: none"> ○ ascertaining the levels of skill and confidence of implementation team members, e.g. by encouraging self-assessment; by administering training needs analyses; by observing personnel at work; 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ seeking feedback from team leaders and other observers ○ analysing reports such as incident & accident reports 	
8. Review the implementation of action	8.1 Determine and facilitate an ongoing review process to ensure implementation and application plans for risk controls	Requires Designer to: <ol style="list-style-type: none"> 1, Determine the scope, form, timing and method of a review process 2. Facilitate the review process Review processes may include: <ul style="list-style-type: none"> ○ less formal processes, such as incidental observation, informal feedback ○ more formal processes, such as structured drive-through inspections; formal review meetings with implementation team and/or designated site risk management/WHS personnel; inspection of accident & incident reports 	Best assessed by requiring the candidate to: <ol style="list-style-type: none"> 1. Devise a method for ongoing review of the implementation of the risk management plan (TMP, WHS Management Plan) 2. Facilitate a review session, and documenting and checking the outputs of the session Preferably, this will involve a real Implementer/implementation team; alternatively, a role play may be used during the review session
	8.2 Routinely review process, actions and controls to ensure continuing effectiveness in the changing work environment	Requires Designer to: <ol style="list-style-type: none"> 1. Adopt a ‘continuous improvement’ approach to review processes 2. Communicate findings and changes to team members and others affected by the TMP/TGS Review processes are as listed in 8.1 above	
	8.3 Respond to, or refer to the appropriate party for follow-up action, anomalies and shortcomings identified during the review process	Requires Designer to: <ol style="list-style-type: none"> 1. Act to address identified anomalies, shortcomings and emerging concerns Actions to address concerns may include: <ul style="list-style-type: none"> ○ ordering cessation of work ○ ordering and/or negotiating changes to personnel, procedures, equipment 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ amending or replacing the TMP/TGS ○ consulting with key construction project staff on overlapping concerns, responsibilities etc ○ reporting concerns & actions to management and/or authorities as required 	
<p>9. Audit the risk management process</p>	<p>9.1 Conduct audits of risk management processes and work procedures and amend accordingly</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Audit the risk management processes and work procedures 2. Amend processes/procedures as required 3. Communicate results of audits to relevant parties <p>Audits may be undertaken by:</p> <ul style="list-style-type: none"> ○ designated auditors, including external and/or internal specialists ○ TMP Designer or Designer-qualified person <p>Audits may cover:</p> <ul style="list-style-type: none"> ○ The scope and objectives of the TMP/TGS ○ The conduct and conclusions of the hazard & risk identification processes ○ The acceptability of the control measures proposed in the TMP/TGS ○ The initial implementation of the TMP/TGS ○ The success of the TMP/TGS in meeting objectives & standards ○ Monitoring and review procedures and schedules 	<p>Best assessed by requiring the candidate to:</p> <ol style="list-style-type: none"> 1. Select a suitable method and tools for auditing the risk management implementation activity 2. Undertake the audit, documenting findings and recommendations 3. Make necessary changes to the risk management document (TMP, WHS Management Plan) and communicating these to relevant parties <p>Preferably, this will involve a real Implementer/implementation team; alternatively, a role play may be used during the debriefing</p>

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ Recording & reporting of observations, amendments etc 	
	<p>9.2 Consult with others to identify issues <u>relating</u> to action plans</p>	<p>Requires Designer to:</p> <p>1. Consult with others to identify issues relating to action plans</p> <p>Consultation may occur with:</p> <ul style="list-style-type: none"> ○ Members of the implementation team ○ Professional & operational workers engaged in the construction activity shielded by the TGS ○ Representatives of traffic & transport organisations, police & emergency services and other road users ○ Residents, business owners etc affected by the TGS ○ Representatives of the Road Infrastructure Manager 	
	<p>9.3 Respond to changed requirements identified during audits in a systematic and timely manner</p>	<p>Requires Designer to:</p> <p>1. Respond to changed requirements identified during audits in a systematic and timely manner</p>	
	<p>9.4 Complete and retain all written risk management documentation covering the reason for, and changes made</p>	<p>Requires Designer to:</p> <p>Complete and retain all documentation relating to changes</p> <p>Documentation may include:</p> <ul style="list-style-type: none"> ○ Field notes including diagrams & images ○ Annotations (signed & dated) to the TMP/TGS ○ The original TMP/TGS ○ Other WHS reports 	

Element	Existing performance criteria	Guidance/Interpretation material	Possible assessment approach
		<ul style="list-style-type: none"> ○ Records of meetings including meetings with employee and WHS representatives ○ Revised TMP/TGS 	
10. Complete records and reports	10.1 Produce and process and [sic] all written risk management documentation and reports	Requires Designer to: <ol style="list-style-type: none"> 1. Complete all necessary documentation 2. Distribute documentation as required by reporting schedule Documentation is as described in 9.4 above	Best assessed by requiring the candidate to: <ol style="list-style-type: none"> 1. Develop the final risk management document (TMP, WHS Management Plan) 2. Enter the document into the relevant recording & reporting system
	10.2 Maintain all written risk management documentation and reports	Requires Designer to: <ol style="list-style-type: none"> 1. Enter documentation into recording and reporting systems 	

A2-4.2 Designer Category 2

There is one unit of competency for Designer Category 2:

- Prepare work zone TMP and TGS – Category 2

A2-4.2.1 Prepare work zone TMP– Category 2

Based on unit RIICWD503D

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
1. Establish the context for preparation of traffic management plan	1.1 Determine works requirements and document context of plan	As for Category 1, plus: Works activities may include: <ul style="list-style-type: none"> ○ new road/bridge/ramp/ construction ○ installation, modification, repair or removal of signals ○ works on level crossings, haul roads 	1 Establish the context for preparation of the plan As for Cat 1, plus: The works project and the roadwork site will reflect the more complex Cat 2 characteristics
	1.2 Identify the characteristics, constraints and hazards applying to worksite	As for Category 1, plus Social characteristics may include: <ul style="list-style-type: none"> ○ population makeup and density in the affected areas ○ community support for or opposition to proposed works Constraints may include: <ul style="list-style-type: none"> ○ lane numbers, arrangements, mid-block capacities and proximity to intersections ○ presence or proximity of signalised intersections 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ul style="list-style-type: none"> ○ RIM requirements to maintain specified speeds, peak hour requirements, lane numbers etc <p>Traffic studies may examine:</p> <ul style="list-style-type: none"> ○ secondary parameters, such as: vehicle composition including public transport, heavy vehicles, over dimension vehicles, dangerous goods vehicles; vehicle occupancy etc <p>At this Category level, traffic studies may require longer counts, counts of specific vehicle types and calculations</p> <p>Site hazards may include (in addition to constraints listed above):</p> <ul style="list-style-type: none"> ○ traffic impacts hazards: interference with operations of permanent traffic signals; closure of turning lanes; 	
	<p>1.3 Complete risk assessment of proposed worksite and works</p>	<p>As for Category 1, plus:</p> <p>Appropriate methodology for assessing risk includes methodologies specified by RIM and professional standards, particularly ISO/AS30001, AS1742.3. At this level, may involve use of more complex checklists and tables.</p> <p>Treatment options include accepted and innovative actions that aim to apply the hierarchy of risk management:</p> <ul style="list-style-type: none"> ○ eliminate the hazard/risk (e.g. via detour) 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ul style="list-style-type: none"> ○ substitute the high-risk activity with a lower-risk activity (e.g. provide traffic controller with manual traffic light) ○ isolate the hazard (e.g. use barriers to separate workers from traffic) ○ apply engineering solutions (e.g. replace traffic controller with automatic portable signals) ○ apply administrative solutions (e.g. modify work method statements; apply personal protective solutions e.g. reflective clothing) <p>Selection of treatment options includes:</p> <ul style="list-style-type: none"> ○ using tables to determine lane lengths, widths and numbers ○ considering whether a treatment option might raise other risks ○ considering value-for-money 	
	<p>1.4 Establish and document the scope and objectives of the work zone temporary traffic management plan (TMP)</p>	<p>As for Category 1, plus:</p> <ol style="list-style-type: none"> 1. Determine the need for staging of TTM activity <p>Requirements may include:</p> <ul style="list-style-type: none"> ○ Austroads/RIM requirements for numbers of lanes including in mid-block and near-intersection situations, minimum lane widths and other specifications 	
<p>2. Select, modify or design a Traffic Guidance Scheme (TGS)</p>	<p>2.1 Determine whether to select, modify or develop required Traffic Guidance Scheme/s (TGS)</p>	<p>As for Category 1</p>	<p>2. Select, modify or design a Traffic Guidance Scheme (TGS)</p> <p>As for Cat 1, plus:</p>

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
			The works project and the roadwork site will reflect the more complex Cat 2 characteristics
	2.2 Modify a Traffic Guidance Scheme	As for Category 1	
	<p>2.3 Develop a Traffic Guidance Scheme</p> <p>2.3.1 Describe scheme scope, objectives and staging</p> <p>2.3.2 Specify personnel, roles and responsibilities</p> <p>2.3.3 Specify arrangement of detours/bypasses if available</p> <p>2.3.4 Specify traffic paths & lane arrangements, and their dimensions</p> <p>2.3.5 Specify channelization / delineation arrangements including tapers</p> <p>2.3.6 Specify access arrangements for worksite traffic and properties affected by work zone traffic arrangements</p>	<p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Identify, evaluate and select options around/through/past 2. Determine required nature, location and duration of road detours/temporary bypasses 3. Determine required nature, extent and duration of road or lane closures, including multiple lane closures, taking into account Level of Service and other RIM and client requirements 4. Determine minimum lane width and separation requirements for available lane/s 5. Ensure requirements for minimum turning radii are met 6. Determine taper lengths of lead-in and lead-out zones, using approved tables or calculations 7. Determine access arrangements to properties, facilities and services within worksite, including specifying provision of alternative access 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	<p>2.3.7 Specify changes to parking arrangements</p> <p>2.3.8 Specify provisions required for vulnerable road users, public transport, police, emergency & over dimension vehicles</p> <p>2.3.9 Develop a speed management & enforcement plan</p> <p>2.3.10 Specify signage requirements including type, size & placement</p> <p>2.3.11 Determine measures to protect traffic control workers during installation, operation and removal of TGS</p> <p>2.3.12 Specify arrangements applying when worksite is unattended</p> <p>2.3.13 Specify requirements for illumination</p>	<p>8. Specify nature, location and duration of alternative parking and parking access arrangements in affected road areas</p> <p>9. Determine requirements for speed reductions on affected roads, having regard to principles including minimisation of impacts on road users balanced with safety of road users and work crew members</p> <p>10. Develop a speed management plan to give effect to decisions on speed reduction, including possible use of enforcement</p> <p>11. Determine staging, scheduling and sequencing of installation, monitoring/inspection, covering and removal of traffic control signs and devices, with reference to works project scheduling</p> <p>12. Specify types, extent, spatial arrangement (location) and specifications of channelization (separation) and delineation devices</p> <p>13. Specify end closure arrangements on barriers</p> <p>14. Specify types, extent, spatial arrangement (location) and specifications of static signs and direction devices</p> <p>15. Specify types, extent, spatial arrangement (location) and specifications of electronic variable message signs and direction devices</p>	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	<p>2.3.14 Specify triggers, authorities, procedures and selection criteria for modification of TGS including for emergencies & contingencies</p> <p>2.3.15 Specify inspection, monitoring, reporting & quality control measures</p>	<p>16. Determine need for production and installation of temporary street signs</p> <p>17. Specify placement of temporary traffic controllers, having regard to safety considerations including</p> <ul style="list-style-type: none"> - their visibility to and of road users - exposure to road and works traffic - sightlines to other traffic controllers - personal escape routes <p>18. Graphically represent the layout of temporary traffic control devices, including dimensions</p> <p>19. Determine need for coverage, removal or decommissioning/changing of existing signs and traffic controls (including impacted pavement marking); obtain approval from relevant authorities; and make arrangements for execution of same</p> <p>20. Specify additional provisions required for night works (e.g. work methods statements, PPE, personnel usage etc)</p> <p>21. Determine need for illumination and specifications of illumination if required, for night works</p> <p>22. Specify scheduling of installation, inspection, maintenance and removal activities</p> <p>23. Specify protective arrangements for TTM workers during installation and removal of TTM equipment</p>	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<p>24. Describe arrangements for managing contingencies , emergencies, accidents and incidents during the implementation of the plan, including requirements for recording and reporting</p> <p>25. Describe arrangements for modification of the TGS if required, including personnel, responsibilities and authorities</p> <p>26. Identify roles and responsibilities for the implementation of the TGS, including for monitoring and inspections</p> <p>27. Describe monitoring arrangements and reporting arrangements for the plan and TGS, including for provision of real-time information to Roads Authorities</p> <p>Lane width is the width of the trafficable carriageway and minimum widths are specified by Austroads/RIM</p> <p>Separation requirements include lateral separation and vertical separation over the trafficable path</p> <p>Separation devices include kerbing/traffic islands, fixed guardrails and portable barriers (including water-filled barriers), hard and soft fences</p> <p>Delineation devices include bollards, cones, raised pavement markers, painted pavement marking</p>	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<p>Signs and traffic control devices include two-dimensional signs, portable traffic lights and electronic variable message signs (VMS)</p> <p>Locations include lateral and vertical offsets</p> <p>Staging, scheduling and sequencing refers to the need to match TTM activities to the time-frames of broader works project activities</p> <p>Alternative parking and parking access arrangements include:</p> <ul style="list-style-type: none"> ○ parking bans ○ relocation of parking areas and/or access points <p>Affected road areas include:</p> <ul style="list-style-type: none"> ○ roads within the work zone and roads that may be affected by the build up of traffic before/after the work zone or by diversion of road users to surrounding roads ○ surrounding areas <p>Existing signs and traffic controls include directional, speed, parking etc signs and traffic signals</p> <p>Protective arrangements can include:</p> <ul style="list-style-type: none"> ○ use of light and heavy shielding vehicles including truck-mounted attenuators ○ use of rolling blockades ○ use of additional traffic controllers; use of 'spotters' ○ complete stopping of traffic 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<p>Access arrangements may include the provision of temporary crossings, barriers etc</p> <p>Properties include residential and commercial premises</p> <p>Facilities include schools, churches, medical & sporting establishments</p> <p>Scheduling refers to the dates, times and durations of activities for installation, monitoring, inspection, covering and removal of traffic guidance devices. Traffic management activity schedules should relate to works activity schedules</p> <p>Contingencies etc include:</p> <ul style="list-style-type: none"> ○ collisions between vehicles, workers, construction vehicles, stationary objects ○ vehicle breakdowns ○ spills or other contamination ○ damage to services (electricity, gas, water, telephone, NBN) ○ medical emergencies ○ off-site events requiring passage through work zone by police and emergency services vehicles ○ weather events ○ crew member failures <p>Monitoring arrangements include oversight activities that seek to identify ongoing compliance with planned traffic management activities and results. They may be undertaken by:</p>	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ul style="list-style-type: none"> ○ TTM planning staff ○ TTM implementation staff ○ works project staff ○ roads authority staff <p>Items to be monitored include:</p> <ul style="list-style-type: none"> ○ compliance with speed restrictions ○ worker safety, in particular for traffic controllers and others exposed directly to traffic <p>Electronic variable message signs and direction devices are devices that must be programmed to display information about road, weather and other conditions affecting road user progression around, through or past a worksite</p> <p>Arrangements for modification of TGS include:</p> <ul style="list-style-type: none"> ○ specification of allowable modifications by TMI ○ specification of procedures for seeking modifications requiring authorisation 	
3. Complete the Traffic Management Plan	3.1 Monitor and coordinate the progress of other team members involved in the preparation process	<p>As for Category 1, plus:</p> <p>Others with input into plan may include:</p> <ul style="list-style-type: none"> ○ technical specialists in traffic analysis, engineering etc 	<p>3. Complete the Traffic Management Plan</p> <p>As for Cat 1, plus:</p> <p>The works project and the roadwork site will reflect the more complex Cat 2 characteristics</p>
	3.2 Document a TTMP communications strategy	<p>As for Category 1, plus:</p> <p>External parties include:</p>	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ul style="list-style-type: none"> ○ people using services and facilities located within the affected area <p>Communications activities may include:</p> <ul style="list-style-type: none"> ○ consultation meetings 	
	3.3 Prepare a cost estimate for executing the work zone traffic management plan	As for Category 1, plus: <ol style="list-style-type: none"> 1. For specialist/atypical activities/services, seek quotations from organisations providing TTM services, via the provision of a brief 	
	3.4 Assemble the plan	As for Category 1, plus: <p>At this level, the plan may use a more complex pro-forma format or an individualised reporting structure</p>	
	3.5 Gain plan approval	As for Category 1	
4. Finalise preparation processes of work zone traffic management plan	4.1 Ensure filing of preparation records is completed	As for Category 1	<p>4. Finalise preparation processes of work zone traffic management plan</p> <p>As for Cat 1, plus:</p> <p>The works project and the roadwork site will reflect the more complex Cat 2 characteristics</p>

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	4.2 Participate in performance review of the preparation process	As for Category 1	
5. Support and review the implementation of the work zone traffic management plan	5.1 Provide clarification and advice to those implementing the plan	As for Category 1	<p>5. Support and review the implementation of the work zone traffic management plan</p> <p>As for Cat 1, plus:</p> <p>The works project and the roadwork site will reflect the more complex Cat 2 characteristics</p>
	5.2 Review the implementation of the plan and recommend changes for continuous improvement	As for Category 1	
	5.3 Contribute to the validation of the plan	As for Category 1	

A2-4.3 Designer Category 3

There is one unit of competency for Designer Category 3:

- Prepare work zone TMP and TGS – Category 3

A2-4.2.1 Prepare work zone TMP– Category 3

Based on unit RIICWD503D

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
1. Establish the context for preparation of traffic management plan	1.1 Determine works requirements and document context of plan	<p>As for Category 2, plus:</p> <p>Key project personnel may include:</p> <ul style="list-style-type: none"> ○ traffic system managers ○ specialist manufacturers <p>Works activities may include:</p> <ul style="list-style-type: none"> ○ installation, modification, repair or removal of signals including overhead variable message signs ○ works on underpasses and overpasses 	<p>1. Establish the context for preparation of traffic management plan</p> <p>As for Cats 1 & 2, plus:</p> <p>The works project and the roadwork site will reflect the more complex Cat 3 characteristics i.e. motorway setting, multiple lane closures, liaison with traffic system managers</p>
	1.2 Identify the characteristics, constraints and hazards applying to worksite	<p>As for Category 2, plus:</p> <p>Constraints may include:</p> <ul style="list-style-type: none"> ○ limited options for providing detours or bypasses ○ special constraints imposed by RIM/Roads Authority ○ presence or proximity of ramps, tunnels and other changes to grade and direction ○ presence, proximity and nature of fixed and variable signals 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ul style="list-style-type: none"> ○ roads authority requirements to maintain specified speeds, lane numbers etc ○ requirements to visually isolate works from road users <p>Traffic studies may examine:</p> <ul style="list-style-type: none"> ○ secondary parameters, such as: origin-destination; travel times etc ○ road capacities <p>At this level, traffic studies may require complex counts, analyses, calculations and modelling using appropriate analytical/predictive software or consultation of experts to design or carry out studies</p> <p>Site hazards may include (in addition to constraints listed above):</p> <ul style="list-style-type: none"> ○ site/location hazards: weaving sections, crossovers and other sources of interruption to flow and movement from path ○ traffic impacts hazards: interference with operations of permanent traffic signals including variable message signs; ○ entrances/exits and movement of heavy vehicles and plant onto/off the motorway ○ presence of large plant with large swing areas or projections above traffic (e.g. cranes) ○ lack of escape path in confined areas e.g. tunnels 	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	1.3 Complete risk assessment of proposed worksite and works	<p>As for Category 2, plus:</p> <p>Appropriate methodology for assessing risk includes methodologies specified by Roads Authorities and professional standards, particularly ISO/AS30001, AS1742.3.</p> <p>At this level, methodology may involve use of detailed checklists, tables, use of predictive software and reference to specialised input.</p>	
	1.4 Establish and document the scope and objectives of the work zone temporary traffic management plan (TMP)	<p>As for Category 2, plus:</p> <p>Requires Designer to:</p> <ol style="list-style-type: none"> 1. Liaise and co-ordinate with traffic system manager <p>Requirements may include:</p> <ul style="list-style-type: none"> ○ Austroads/RIM requirements for numbers of lanes including in mid-block and near-intersection situations, minimum lane widths and other specifications ○ Analysis of impacts on Intelligent Transport System functions and consideration of use of ITS to manage impacts of TTM 	
2. Select, modify or design a Traffic Guidance Scheme (TGS)	2.1 Determine whether to select, modify or develop required Traffic Guidance Scheme/s (TGS)	As for Category 2	<p>2. Select, modify or design a Traffic Guidance Scheme (TGS)</p> <p>As for Cats 1 & 2, plus:</p>

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
			<p>The works project and the roadwork site will reflect the more complex Cat 3 characteristics i.e. motorway setting; multiple lane closures; liaison with traffic system managers and designers/manufacturers of barriers; more extensive public communications activities</p>
	<p>2.2 Modify a Traffic Guidance Scheme</p>	<p>As for Category 2</p>	
	<p>2.3 Develop a Traffic Guidance Scheme</p> <p>2.3.1 Describe scheme scope, objectives and staging</p> <p>2.3.2 Specify personnel, roles and responsibilities</p> <p>2.3.3 Specify arrangement of detours/bypasses if available</p> <p>2.3.4 Specify traffic paths & lane arrangements, and their dimensions</p> <p>2.3.5 Specify channelization / delineation arrangements including tapers</p>	<p>As for Category 2, plus:</p> <ol style="list-style-type: none"> 1. Design, or commission design of, barrier systems, barriers and/or visual screening devices 2. Specify deployment of protective/shielding devices including truck-mounted attenuators 3. Co-ordinate with traffic system manager regarding use of variable messaging signs to ensure consistent application of speed restrictions and provision of real-time information to road users <p>Separation devices may include steel, plastic and reinforced concrete barriers with the appropriate performance rating</p> <p>Signs and traffic control devices include two-dimensional signs, portable traffic lights and electronic variable message signs (VMS)</p>	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	<p>2.3.6 Specify access arrangements for worksite traffic and properties affected by work zone traffic arrangements</p> <p>2.3.7 Specify changes to parking arrangements</p> <p>2.3.8 Specify provisions required for vulnerable road users, public transport, police, emergency & over dimension vehicles</p> <p>2.3.9 Develop a speed management & enforcement plan</p> <p>2.3.10 Specify signage requirements including type, size & placement</p> <p>2.3.11 Determine measures to protect traffic control workers during installation, operation and removal of TGS</p> <p>2.3.12 Specify arrangements applying when worksite is unattended</p> <p>2.3.13 Specify requirements for illumination</p>	<p>Alternative parking and parking access arrangements include:</p> <ul style="list-style-type: none"> ○ parking bans ○ relocation of parking areas and/or access points ○ bus stops <p>Affected road areas include:</p> <ul style="list-style-type: none"> ○ distant roads feeding into the road containing the worksite, or providing alternative paths, that may be affected by the build up of traffic before/after the work zone or by diversion of road users to surrounding roads <p>Protective arrangements can include:</p> <ul style="list-style-type: none"> ○ heavy shielding vehicles including truck-mounted attenuators <p>Electronic variable message signs and direction devices are devices that must be programmed to display information about road, weather and other conditions affecting road user progression around, through or past a worksite</p>	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
	<p>2.3.14 Specify triggers, authorities, procedures and selection criteria for modification of TGS including for emergencies & contingencies</p> <p>2.3.15 Specify inspection, monitoring, reporting & quality control measures</p>		
3. Complete the Traffic Management Plan	3.1 Monitor and coordinate the progress of other team members involved in the preparation process	<p>As for Category 2</p> <p>At this level, co-ordination with other Designers and specialists may be required.</p>	<p>3. Complete the traffic management plan</p> <p>As for Cats 1 & 2, plus:</p>
	3.2 Document a TTMP communications strategy	<p>As for category 2, plus:</p> <p>External parties include:</p> <ul style="list-style-type: none"> ○ broader public <p>Communications activities may include:</p> <ul style="list-style-type: none"> ○ provision of detailed real-time information 	<p>The works project and the roadwork site will reflect the more complex Cat 3 characteristics i.e. motorway setting; multiple lane closures; liaison with traffic system managers and designers/manufacturers of barriers; more extensive public communications activities</p>
	3.2 Prepare a cost estimate for executing the work zone traffic management plan	As for Category 2.	
	3.3 Assemble the plan	As for Category 2.	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		At this level, the plan may use a mandated format	
	3.4 Gain plan approval	As for Category 2.	
4. Finalise preparation processes of work zone traffic management plan	4.1 Ensure filing of preparation records is completed	As for Category 2.	4. Finalise preparation processes of work zone traffic management plan As for Cats 1 & 2
	4.2 Participate in performance review of the preparation process	As for Category 2.	
5. Support and review the implementation of the work zone traffic management plan	5.1 Provide clarification and advice to those implementing the plan	As for Category 2. May require briefing of multiple Traffic Management Implementers	5. Support and review the implementation of the work zone traffic management plan As for Cats 1 & 2, plus: Use of remote monitoring/sensing
	5.2 Review the implementation of the plan and recommend changes for continuous improvement	As for Category 2, plus: Collection of monitoring data may involve: <ul style="list-style-type: none"> ○ collection of data by remote sensing Monitoring data may include data about:	

Proposed Element	Proposed Performance criteria	Guidance/interpretive material	Possible Assessment Approach
		<ul style="list-style-type: none"> ○ accidents, incidents and other disruptions on feeder roads 	
	5.3 Contribute to the validation of the plan	As for Category 2.	



Austroads

Level 9, 287 Elizabeth Street
Sydney NSW 2000 Australia

Phone: +61 2 8265 3300

austroads@austroads.com.au
www.austroads.com.au