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Preface

This Works on Road Manual (WORM) has been based on the Austroads Guide to Temporary Traffic Management (AGTTM) (QGTTM Amened).

It updates the specification of traffic control devices for roadworks previously given in 2003 Manual of Uniform Traffic Control Devices and departmental document Works on Roads. It deals with the principles of signing at roadworks and provides typical diagrams for placement of signs and devices for various work site configurations. It is intended as a field guide for short term low impact works and the installation, operation, and removal of Traffic Guidance Schemes.

Version Updates Reviewed Temporary Traffic Management Update including Changes in the July 11 2024 publication cycle. 1. Added section 4.3 TTM Road Categories Map for Queensland from QGTTM 2. Section 5.1.1 updated requirements of uses from QGTTM Section 5.4 added information and criteria tables from QGTTM Section 5.6 added criteria table from QGTTM 5. Section 6.1.1 added additional approved pedestrian signage from AS1742.3 Added section 7.2 Star Pickets from QGTTM 7. Section 9 added Table 9.8 Sight Distance to both the vehicle mounted warning device and worker from QGTTM 8. Updated TGS selection guide Reviewed Temporary Traffic Management Update Changes in the November 2023 10 publication cycle. 1. Section 4 - Minor updates to wording to align to intent of Queensland Guide to Temporary Traffic Management (QGTTM) (e.g., Competent Person, Direct supervision, reference updates) Reviewed Temporary Traffic Management Update Changes in the March 2023 9 publication cycle. 1. 5.3 Works Outside of Traffic Lane – Conditions for omitting workers signs for situations that are frequently changing or progressively moving 2. Change to Table 9.3 Minimum Lane Widths – For Shuttle flow operations minimum lane width changed form 3.5 m to 3.0 m Reviewed Temporary Traffic Management Update Changes in the November 2022 8 publication cycle. Updated to align to the Department of Transport and Main Roads Temporary Traffic 7 Management Changes, July 2022 publication cycle. Table in Section 10.1 updated. Number in Section 5.7 updated. 6

Principal variations from the previous version are as follows:



5	Format update on footer
4	Traffic cones and temporary bollards requirements in Section 7 – Static Work Sites
3	 Entire manual and its clauses have been updated to meet the new AGTTM standards released November 2020.
	 Dimension 'D' is no longer the defining distance for placement of devices and has been removed from Section 2: Definition, Abbreviations and Acronyms, and all references to Dimension 'D' have been removed from all clauses.
	 Removed Clauses 4.3 Short term low impact works – open roads and clause 4.4 Short term low impact works – Built-up areas, Replaced with 4.3 Short Term Low Impact Works. AGTTM has moved away from separating this clause into 2 sub types and now covers all roads under Part 5 of the AGTTM.



1 Overview

1.1 Purpose and Scope

The Working on Roadways Manual (WORM) has been developed to provide guidance on how to manage the risks of working on or near a road corridor. The clauses, tables and diagrams used in this manual are based on the new Austroads Guide to Temporary Traffic Management (AGTTM). When directed to a particular clause, table, or diagram in this WORM, please refer to the AGTTM (QGTTM) for the direct reference.

2 References

2.1 Legislation, Regulations, Rules, and Codes

Document	Туре
Manual of Uniform Traffic Control Devices (MUTCD): Part 3 Traffic Control for Works on Roads	Reference
Queensland Guide to Temporary Traffic Management (QGTTM) (Harmonised) Austroads Guide to Temporary Traffic Management (AGTTM)	Reference
Manual of Uniform Traffic Control Devices (MUTCD): Part 3 Traffic Control for Works on Roads	Reference

2.2 Controlled Documents

Document	Туре
Roadways and Railways SWMS R322 - 1887542	R322
Standard for Fatigue Management S009 - 692143	S009

3 Definitions, Abbreviations and Acronyms

Term	Definition
AADT	Annual Average Daily Traffic
AGTTM	Austroads Guide to Temporary Traffic Management: Parts 1 – 10. This document is to be read in conjunction with the QGTTM, AS1742.3 2019, and the MUTCD part 3.
Barrier Line	A single or double continuous line to prohibit crossing movements from one or both directions – note a single line may be crossed if entering or leaving the roadway
Contraflow	A temporary arrangement in which traffic travelling in both directions uses one side of the road with controls in place
MUTCD	Manual of Uniform Traffic Control Devices: Part 3 Traffic Control for Works on Roads. Although still a relevant document, A lot of it contents is now found in the QGTTM/AGTTM
QGTTM	Queensland Guide to Temporary Traffic Management converts the AGTTM to Queensland 'Best Practice' regarding Traffic Management for works on road.



Short Term Works	Works where personnel are in attendance and are generally limited to the duration of a single work shift or lesser period as per Part 5 of the AGTTM(QGTTM)
Static Worksites	Work Sites which often involve complex traffic arrangements, a TMP and/or a TGS detailing signage and devices is required
Shoulder	A sealed or unsealed part of the road outside the edge line, or inferred edge line, which is trafficable, adjacent to the traffic lane and flush with the surface of the pavement.
High-Volume Road	Roads with a posted speed limit greater than, or equal to 60 km/h and traffic volume greater than, or equal to 3,000 or Roads with any speed limit with traffic volumes greater than, or equal to 10,000 vehicles per day AADT.
Road Categories	Cat 1: Most urban streets and lower volume rural roads Cat 2: High-volume roads Cat 3: Expressways = high-volume & high-speed roads
TGS	Traffic Guidance Scheme, is a detailed diagram used by Traffic Management Implementors for the placing of Signs and Devices on roadways, and managing the flow of traffic through, past, or around the work area/hazard.
Verge	The verge is the area of land between the shoulder and the property boundary. The purpose of the verge is to provide an area where public utilities/services such as power, gas and telecommunications can be located.
VPD	Vehicles per Day
VPH	Vehicles per Hour
Worksite hazard assessment	EQL's hazard identification and management process is HazChat. The process provides a tool for managing the hazards of work activities and addresses EQL compliance requirements. The relevant HazChat Form is selected as ap-propriate to the work task
WORM	Working on Roadways Manual, referred to in this document as the Manual



4 Traffic Management Overview

4.1 Competent Person

1. Lookout Person		
Activity	Additional Information	
Perform lookout activity as required in Section 5.	Must have good eyesight, hearing and be competent to perform lookout activities.	

2. Working in Proximity to Traffic Awareness – Part 1		
Activity	Additional Information	
Install or remove signs under direct supervision and instruction by a Working in Proximity to Traffic Awareness – Part 2 Competent Person, where these devices are part of a work method practice or TGS developed in accordance with the short-term, low-impact works in QGTTM Part 5, excluding works involving: Grading, or	Direct supervision requires the supervising Working in Proximity to Traffic Awareness – Part 2 Competent Person to be present (in close proximity) and able to intervene if required.	
Protection by a shadow vehicle with (or without) a truck-mounted attenuator, or		
The use of sections 4.1, 4.4, or 4.5		
Install or remove signs and other devices included on a TGS under direct supervision and instruction by a TMI Competent Person.	Direct supervision requires the supervising TMI to hold the Traffic Management Implement competency at the appropriate road category and be present (in proximity) and able to intervene if required.	
Cover or uncover signs	Generally, at the end or start of a shift.	
	Instruction must be included on the TGS that the signs can be covered or uncovered and at what times or under what conditions.	
Record Keeping	Daily record of installed traffic management signs and devices in accordance with Section 4.4	
Modify the TGS onsite in response to an emergency event.	In accordance with Section 8.3 Initial Response only.	



3. Competent person – Working in Proximity to Traffic Awareness – Part 2

All the Tasks and Activities for a Working in Proximity to Traffic Awareness Part 1 Competent Person, in addition to the following.

Activity	Additional Information
ActivitySelect, design and implement a work method practice (including the installation or removal of signs) in accordance with the short-term, low impact works in QGTTM Part 5, excluding works involving:Grading, orProtection by a shadow vehicle with (or without) a truck-mounted attenuator, orThe use of sections 4.1, 4.4, or 4.5	Develop a simple sketch as part of the on-site record keeping requirements for short-term low impact works in accordance with QGTTM Part 5.
accordance with the short-term, low impact works in QGTTM Part 5, excluding works involving: Grading, or Protection by a shadow vehicle with	Signs applicable for installation or removal by a Working in Proximity to Traffic Awareness – Part 2 Competent Person are only those required for compliance with the relevant sections of the short-term low-impact works in QGTTM Part 5, including:
(or without) a truck-mounted	Workers (symbolic)
attenuator, or	SURVEYORS AHEAD
The use of sections 4.1, 4.4, or 4.5	LINE MARKERS AHEAD
	MOWING AHEAD or Mowing (symbolic)
	ROAD PLANT AHEAD
	NEXT x km / NEXT 500m

4. Traffic Management Implementer (TMI)		
All activities for a Working in Proximity to Traffic Awareness Part 2 Competent Person and:		
Activity	Additional Information	
Selection and implementation of TMP and TGS	Selection and implementation in accordance with the established protocol or procedure as documented by the TMD competent person.	
Adjust or modify a TMP and TGS	Move signs within tolerances or modify a TGS in line with TMD documented provision for long traffic queues.	
Monitor the performance of the TGS	Ensure all required traffic control devices remain in place.	
Modify the TGS on site in response to an emergency event	In accordance with Section 8.3 Initial and Interim Response only.	



4.2 Road Categories

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

- **Category 1** (most urban streets and lower volume rural roads) includes single carriageway roads with a posted speed limit of:
 - Less than 60 km/h where the Annual Average Daily Traffic (AADT) is less than 10,000, or
 - 110 km/h or less where the AADT is less than 3000
 - The characteristics of these roads are generally recognised as:
 - roads (with or without a centre line), sealed and unsealed
 - two lanes two way, and sections including one-way single lane, and overtaking lanes.
- **Category 2** (high-volume roads) comprises anything not in Category 1 or 3, and include roads with:
 - Any signalised intersection
 - Multiple lanes in a single direction (excluding overtaking and turn lanes)
 - This Category of road:
 - may include major urban streets in the central business district, some arterial roads
 - generally requires larger signs
 - generally requires signs on both sides of the road
 - Stringent criteria for mobile operations apply to this Category of TTM
- **Category 3** (expressways = high-volume & high-speed roads) includes:
 - Expressways (that is freeway, motorway or tunnel-type roads) and associated onramps or off-ramps, or
 - Posted speed limit greater than or equal to 90 km/h, and
 - AADT greater than 20,000
 - For this Category, TMA's shall be used when setting up or removing static worksites.

4.3 TTM Road Categories Map for Queensland

TTM road categories for roads across Queensland have been determined and are available on Queensland Globe. This map only shows Category 2 or 3 roads, with all other roads being Category 1.

The TTM Road Categories map layer on Queensland Globe is accessible by following these steps:

- Click on 'Layers'.
- Click on 'Add Layers'.
- Scroll down to the 'Transportation' category and expand the layer list using the dropdown arrow.
- Select the 'Temporary traffic management road categories' layer by checking the tick box.



Please note that:

- A list of Local Government Authorities (LGAs) and their Queensland Globe map status is available on the QGTTM webpage. If no roads are displayed for the LGA in Queensland Globe, please check the LGA map status document and, if 'not included', contact the LGA directly, noting that only Category 2 and 3 roads are displayed on Queensland Globe. Additional road category information will be added to Queensland Globe by Transport and Main Roads for LGAs as this information becomes available.
- The road category layer is only visible at certain zoom levels, so navigate to your area of interest and zoom in to view the current TTM Road Categories.
- To enhance the visibility of the TTM category layer, deselect other road network layers and use the 'Queensland basemap grey' layer in place of the imagery layer. You can toggle them on and off as required.

If you are new to Queensland Globe, there is a range of tutorial videos available under the 'Help' section.

The TTM road categories map on the Queensland Globe will be maintained and updated by Transport and Main Roads periodically. Please email <u>TrafficEngineering.Support@tmr.gld.gov.au</u> with any requested changes.



Figure 4.3: Road categories for TTM applications (Part 8 AGTTM – Figure 2.1)

Posted Speed Limit (km/h)



4.4 Risk Assessment

Before conducting any works, it is mandatory that a worksite hazard assessment be undertaken to consider if the works can be performed under Short Term Low Impact Works or if a Static Setup is required.

Typical risk categories to consider:

- Road Worker Safety
- Road Users (general behaviour)
- Vulnerable road users
- Site Conditions
- Parked vehicles
- Work Vehicles
- Adverse Weather conditions
- Volume and speed
- Road geometry and width

4.5 Recording and Monitoring

When Traffic Control Devices such as Signs and Cones are used on a Static Worksite, regular inspections of these traffic control devices SHALL be carried out a minimum of twice daily and recorded in a Daily Traffic Diary. These records SHALL be available for inspection during the project. These records will be held on site by The Client. Details of all changes in traffic movements shall be recorded and maintained throughout the construction period and submitted within 7 days from the date of practical completion. In the event of a traffic related incident within the site, The Client SHALL immediately notify the principal's representative, the police, and any necessary emergency services.

5 Short Term Low Impact Works (Part 5: AGTTM)

5.1 General

Short term, low impact works are carried out without the use of a fully protected static worksite; or a mobile works convoy. Cones/bollards may be used to delineate plant/equipment and 'No Go Areas' in accordance with Work Site setup procedures.

Work sites that do not meet the requirements for Short Term Low Impact Works must be set out as a static work site to protect workers from oncoming or passing traffic, and road users from hazards within the site. (See Section 7.)

Short term, low impact works comprise of the following activities:

- works that involve minimal plant, equipment and road workers
- works involving a frequently changing work area (e.g. grass cutting, shoulder grading, minor pavement maintenance and survey work)
- works that are of a short duration (less than a single shift but generally much shorter)
- works located sufficiently clear of traffic that only minimal warning is required to advise road users of the presence of workers.

Low impact works must not involve the following:



- speed limit changes, except when the work is protected by specialist vehicles
- tapers
- traffic controllers
- aftercare signs or unattended worksites
- redirecting pedestrians off their normal path of travel, including the following:
 - if the footpath is closed and pedestrians need to be redirected onto the road past the site or across the road (or elsewhere e.g. detour)
 - if pedestrians are directed off the footpath and onto another area (on the same footpath) which is still clear of the road but not the same type of surface (e.g. off a concrete path onto a grass or other type of surface next to the concrete path)

Low impact works may involve redirecting pedestrians off their normal path of travel, with consideration to the following:

- if pedestrians are not impacted (can still use the footpath) but delineation (e.g. traffic cones and fencing) is required to ensure that pedestrians stay out of harm's way
- if the pedestrians are directed off the footpath onto another area (on the same footpath) which is still clear of the road and has the same type of surface.

All road workers, materials and plant should be able to be quickly moved onto or off the roadway in a short period without the need for extensive signage, traffic control devices or traffic controllers.

Road workers and plant are generally positioned close to live traffic with minimal protection so a sitespecific risk assessment must be undertaken prior to commencement of works to determine if a short-term low impact worksite is suitable.

5.1.1 Vehicle Mounted Warning Device

In most cases a Vehicle with a Vehicle Mounted Warning Device will be required. A vehicle mounted warning device provides advance warning and information to road users regarding works being carried out and any hazard.

A vehicle mounted warning device shall consist of one of the following options:

- 1. A single flashing yellow lamp
 - a) for emergency or other infrequent use on a vehicle not normally used for roadworks purposes
 - b) for use on a plant item working within a work area
- 2. A pair of flashing yellow lamps or LED assemblies (placed as far apart as practical)
 - a) for use on work vehicles on all roads without the protection of a static work site
 - b) positioned on the vehicle so that at least one (preferably both) lamps are visible to all road users from any direction, and
 - c) additional flashing yellow lamps or LED assemblies may be required to be added on the vehicle to ensure visibility is provided to all road users in any direction.
- 3. An illuminated flashing arrow sign on a vehicle parked clear of traffic lanes
 - a) for any situation where option 1 or 2 is not appropriate
 - b) for any type of work



c) mount supplementary signs (static or variable message signs) in conjunction or elsewhere in a prominent position on the vehicle. Ensure they are capable of being removed from view (for example, covering, folding, or turning off) when not needed.

The minimum required sight distance to the vehicle mounted warning devices for approaching road users is:

- Works between gaps in traffic (Clause 5.2)
 - With a lookout person refer table 9.6
 - Without a lookout person refer table 9.5
- Frequently changing work area (Clause 5.6)
 - 150m if the speed is 60 km/h or less
 - 250m if the speed is more than 60 km/h
- Road lighting works (Clause 5.5)
 - 75m Residential streets
 - Refer to Table 9.6 all other locations
- Works outside the travelled path/ traffic lane (Clause 5.3 and Clause 5.4),
 - refer table 9.6
- Short term Works in Traffic (Clause 5.7)
 - 150m if the speed is 60 km/h or less
 - 250m if the speed is more than 60 km/h

5.1.2 Restrictions on Use

Subject to a risk assessment not indicating otherwise, treatments for short term low impact works may be applied to works on unsealed roads.

Regardless of any risk assessment, if the speed limit, traffic volume, traffic clearance or occupation time constraints specified in table 5.1 cannot be met, treatments of a fully protected static worksite or mobile works convoy SHALL be applied.



Description	Work / Task Performed but not limited to:	Key factors for considerationAdditional criteria may need tobe met refer tospecific clauseIf risk cannot be tolerated, refer toStatic Works	WORM Clause reference for criteria
Work between gaps in traffic	 Raise lower services/conductors Measure conductors Slewing of EWP 	 Work vehicles and equipment are parked clear of moving traffic lanes, or parked where parking would be legal, and the safety of other road users is not compromised Look out person with site distance as per Table 9.4 Sight distance to Vehicle Mounted Warning Device as per Table 9.6 	5.2
Works outside the traffic lane – shoulders, medians, verges, and footpaths	 Work / task performed but not limited to: Fitting of poles Survey Work HV & LV Switching Scoping visual inspections Pole replacement/installation works Street light maintenance 	 Max. Duration one working shift. (in accordance with fatigue management guidelines) Min. clearance from the traffic lane Outside lane if traffic speed ≤ 60km/h, or 1.2m if traffic speed > 60km/h but ≤ 80/kmh, or 3m if traffic speed > 80km/h Sight distance to Vehicle Mounted Warning Device as per Table 9.6 	5.3
Works outside the travelled path	 Work / task performed but not limited to: Fitting of poles Survey work HV & LV switching Scoping visual inspections Pole replacement /installation works Street light maintenance 	 Max. Duration 5 min if within 1.2m of traffic lane, or 20 min if > 1.2m from traffic lane Lookout person where workers on foot within 1.2m The work vehicle shall be located clear of traffic, or parked where parking would be legal, and the safety of other road users is not compromised and adjacent to, or on approach (within 40m) to the worksite 	5.4

Table 5.1: Types of Short-Term Low Impact Works



Description	Work / Task Performed but not limited to:	Key factors for consideration Additional criteria may need to be met refer to specific clauseWORM
		4 Sight distance to Vehicle Mounted Warning Device as per Table 9.6
Works in traffic (Road Lighting and signals)	 Work / task performed but not limited to: HV & LV switching Scoping visual inspections Minor works Maintenance and installation of power poles, lights, wires etc 	Max. Duration • 5 min if parked within 1.2m from traffic lane, or • 20 min if parked 1.2 to 3.0m from traffic lane, or • 60 min if parked where nominally permitted Min. sight distance to vehicle mounted warning device • 75m or end of road – Residential streets, or • Refer to table 9.6 – all other locations



Description	Work / Task Performed but not limited to:	Key factors for consideration Additional criteria may need to be met refer to specific clause If risk cannot be tolerated, refer to Static Works	WORM Clause reference for criteria
Frequently changing work areas outside the traffic lane	 Work / task performed but not limited to: Fitting of poles Survey work HV & LV switching Scoping visual inspections Minor works 	 Max. Duration Traffic speeds ≤ 70km/h 20 min at any traffic volume, or 40 min at traffic volumes ≤ 150 vph, or 1 hr at traffic volumes ≤ 40 vph Traffic speeds > 70km/h 5 min if workers on foot within 1.2m of moving traffic 20 min if there are large plant items only with 1.2m 20 min if outside 1.2m of moving traffic The work area is outside of traffic Site distance to Vehicle Mounted Warning Devices 150m if the speed is 60 km/h or less	5.6
Short Term Works in Traffic	 Work / task performed but not limited to: Survey work HV & LV switching Scoping visual inspections Street light maintenance 	 Max. Duration 5 min if within 1.2m of traffic lane, or 20 min if > 1.2m from traffic lane Look out person with site distance as per Table 9.4 Site distance to Vehicle Mounted Warning Devices 150 m if the speed is 60 km/h or less 250 m if the speed is more than 60 km/h Works do not reduce the overall lane width to the centreline to less than 3.5 m or if the volume is less than 50vpd, less than 3.3m 	5.7



5	5	Works do not reduce any traffic lane width adjacent to a barrier line to less than that needed to allow vehicles to proceed without crossing the line	
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5.2 Works in Gaps in Traffic (AGTTM Part 5 – 4.2)

This clause covers works that are undertaken in short durations such that the work can be carried out within gaps in traffic, without advance warning signs or delineation. Typically, this work is carried out by a single worker with basic tools and materials accompanied by a lookout person. Examples of this type of work include (but are not limited to):

- removal of obstructions or debris
- retrieving tools/equipment from the traffic side of a work vehicle parked at the roadside
- traffic investigation
- visual inspections, photos and video carried out by workers on foot
- pavement spotting and marking for repairs
- minor pothole repairs
- survey works
- setup or removal of temporary signs / devices

Prior to undertaking these work activities, a risk assessment/Hazchat must be undertaken to ensure the works can be safely completed.

The typical Temporary Traffic Management (TTM) features of working in gaps in traffic is illustrated in Figure 5.2. and include:

- a lookout person
- a works vehicle with a vehicle mounted warning device



Figure 5.2: Works between gaps in traffic (Part 5: AGTTM, Figure 4.2)



Road worker

Note: The works vehicles placement should consider the impact on vulnerable road users including cyclists.

Note: The road worker should always have a clear exit path from the road and ensure that this is not blocked by the placement of the work vehicle.

This type of traffic management arrangement may only be used when all the criteria below have been answered "Yes".

	Criteria	Yes/No
1	The work area is within a traffic lane	
2	The works can be undertaken safely with road workers entering and exiting the road in gaps in traffic	
3	Traffic is not impeded in any way	
4	The road surface can remain trafficable without hazard to traffic	
5*	A lookout person is available to warn workers on foot to vacate the roadway before the arrival of approaching traffic. <i>If the requirements of Table 9.5 are met answer 'Yes'</i>	
6	A vehicle mounted warning device is displayed on the work vehicle and not obscured when the vehicle can be parked adjacent to the worker location	
7	Work vehicles and equipment are parked clear of moving traffic lanes. If the work vehicle and equipment in criteria 7 are parked where parking would be legal and the safety of other road users is not compromised, answer 'yes' to this criteria	

*Note: The lookout person may be dispensed with if the work task takes 10 seconds or less to complete and the sight distance of approaching traffic to the vehicle mounted warning device is a minimum distance as shown in Table 9.5. The worker shall be required to be aware of the approaching vehicles within the distance if no lookout person is required.

Works between gaps in traffic is not recommended on multi-lane roads where traffic volumes exceed 100vph per lane, unless significant gaps are being created by upstream traffic control devices such as intersection traffic signals.



5.3 Works Outside of Traffic Lane (AGTTM Part 5 – 5.1)

5.3.1 Shoulders, Medians, Verges and Footpaths with Workers on Foot or Small Plant Items Only

These works may be carried out without any support vehicle on the roadway. Examples of this type of work include (but are not limited to):

- Fitting of poles
- Survey work
- HV & LV switching
- Scoping visual inspections
- Pole Replacement/installation works
- Street light maintenance

Prior to undertaking these work activities, a risk assessment must be undertaken to ensure the works can be safely completed. When undertaking any works on medians, the median must be a minimum width of 1.2m for this clause to apply.

If all workers are exclusively behind a safety barrier, are clear of the deflection zone for the safety barrier system and not visible to traffic, temporary traffic management may not be required.

The typical TTM features of works on shoulders, medians, verges and footpaths include the following.

- advance signs
- vehicle mounted warning device on the works vehicle.

Advance warning signs MAY be displayed up to 2km in advance of each work location or item of moving plant. The first work area SHALL be at least a distance equal to the sign spacing in Table 9.2 found in Section 9 of this manual. A maximum distance of 2km between advance warning signs for opposing directions of travel SHALL NOT be exceeded.

If works are frequently changing or progressively moving, at each advance warning sign location, the following signs shall be used:

- Workers (symbolic) sign
- NEXT 2km sign, NEXT 1km, NEXT 500m sign (sign as appropriate to length of work area).

The Worker (symbolic) sign may be omitted when workers on foot are either:

- 1. Not visible to traffic, or
- 2. Visible and located greater than 6 m clear of traffic, or
- 3. Located outside the road reserve.



Figure 5.3.1: Works on medians, verges or footpaths with workers on foot or with small items of plant (Part 5: AGTTM, Figure 5.1)



Note: The works vehicle placement and location of signs and plant should consider the impact on vulnerable road users including cyclists

5.4 Criteria

This type of traffic management arrangement may only be used when all the criteria outlined in the below Table have been met.

	Criteria	Yes/No
1	The work area is outside of traffic lanes.	
2	Clearance from the work area is one of the following:	
	 if the speed is 60km/h or less, the work area does not encroach into the live traffic lane if the speed is more than 60 km/h but equal to or less than 80km/h, the work area is at least 1.2 m clear to the edge of the traffic lane if the speed is more than 80 km/h, the work area is at least 3m clear to the edge of the traffic lane 	
3	A vehicle mounted warning device is displayed on the work vehicles (as per 5.1.1 of this WORM), is not obscured and meets recommended sight distance requirements for approaching vehicles as shown in Table 9.6.	

If any of the above criteria cannot be achieved, alternative treatments detailed in this Part, the treatments of a fully protected static worksite or mobile works convoy must be applied.

The recommended sight distance of approaching traffic to the vehicle mounted warning device is a minimum distance as shown in Table 9.6.

If you can not comply with the requirements in 5.3 of this manual, refer to section 5.4 of the QGTTM Part 5.



The preferred location of the work vehicle is parked adjacent to the works with the vehicle mounted warning device activated and parked clear of traffic lanes or parked where parking would be legal, and the safety or other road users is not compromised.

5.5 Works Outside the travelled path (QGTTM Part 5 – 5.4)

Workers may work near the road without the use of advance warning signs, provided that the criteria listed in section 5.4.2 are met.

Prior to undertaking these work activities, a risk assessment shall be undertaken to ensure the works can be safely completed

The typical TTM features of short-term working outside a traffic lane include:

- a lookout person.
- a works vehicle with a vehicle mounted warning device.

Figure 5.4.1(a) illustrates an example of short-term works outside a traffic lane (for works within 1.2 m of a traffic lane) and Figure 5.4.1(b) illustrates an example of short-term works outside a traffic lane (for works greater than 1.2 m from a traffic lane). The works vehicle placement should consider the impact on vulnerable road users including people riding bikes and the road worker should always have a clear exit path from the road and ensure that this is not blocked by the placement of the work vehicle or other obstacles.

Figure 5.5.1(a): Short-term works outside a traffic lane (works within 1.2m of a traffic lane)



This type of traffic management arrangement shall only be used when all the criteria outlined in the below Table (a) and Table (b) have been met.



Figure 5.5.1(b): Short-term works outside a traffic lane (works greater than 1.2m from a traffic lane)



5.5.1 Criteria

This type of traffic management arrangement shall only be used when all the criteria outlined in the below Table (a) and Table (b) have been met.

	Criteria	Yes/No
1	The work area is outside but within 1.2m of a traffic lane	
2	Works take 5 minutes or less.	
3*	A lookout person is available to warn workers on foot to vacate the roadway before the arrival of approaching traffic and meets the sight distance requirements of Table 9.5 If there are no workers on foot answer 'yes' *If the requirements of Table 9.5 are met answer 'Yes'	
4	Work vehicles and equipment are parked adjacent to the worker location and parked clear of moving traffic lanes or parked where parking would be legal and the safety of other road users is not compromised	
5	A vehicle-mounted warning device is displayed on the work vehicle and has a minimum sight distance for approaching road users.	

Table (a): Short term works outside a traffic lane – but within 1.2m of a traffic lane

*Note: The lookout person may be dispensed with if the work task takes 10 seconds or less to complete and the sight distance of approaching traffic to both the vehicle-mounted warning device and worker is a minimum distance as shown in Table 5.8. The worker shall be required to be aware of the approaching vehicles within the distance if no lookout person is required.



Table (b): Short term works outside a traffic lane – greater than 1.2m of a traffic lane

	Criteria	Yes/No
1	The work area is greater than 1.2m of a traffic lane	
2	Works take 20 minutes or less.	
3	Work vehicles and equipment are parked adjacent to the worker location and parked clear of moving traffic lanes or parked where parking would be legal and the safety of other road users is not compromised	
4	A vehicle-mounted warning device is displayed on the work vehicle and has a minimum sight distance for approaching road users.	

If any of the criteria stated previously cannot be achieved or alternative treatments detailed in this Part cannot be used, the treatments of a fully protected static worksite (see AGTTM Part 3) or mobile works convoy (see AGTTM Part 4) shall be applied.

The work vehicle shall be located clear of traffic, or parked where parking would be legal, and the safety of other road users is not compromised and adjacent to, or on approach (within 40 m), to the worksite in the primary direction of travel to the works if undertaking works in a single location. The works vehicle is the primary traffic management warning device for short-term works outside a traffic lane. If it is not possible to locate the work vehicle as described, for example due to inability to find an appropriate area to park the vehicle, then this works practice shall not be used.

The vehicle mounted warning device shall be on at all times while work is in progress.

The lookout person (for works within 1.2 m of a traffic lane) shall be positioned adjacent to the worker so that they can view approaching traffic in time to warn workers to vacate the roadway before arrival of traffic. The recommended sight distance at which the lookout person should be able to see approaching traffic are as per Table 9.4. This distance allows for the worker to respond to a warning and vacate the roadway.

At all times when conducting these activities, the lookout person (for works within 1.2 m of a traffic lane) and worker shall be within a reasonable proximity (no more than 40 m) of the vehicle with a vehicle mounted warning device, which is parked clear of traffic lanes and the safety of other road users is not compromised.

A lookout person is not required if the requirements of Table 9.5 are met.

5.6 Road Lighting or Signal works (QGTTM Part 5 - 6.2)

Road lighting or signal works may be undertaken by workers on foot with a vehicle equipped with a vehicle mounted warning device in accordance with clause 5.1.1 without the use of advance warning signs under the following conditions:

The works vehicle placement should consider the impact on vulnerable road users including people riding bikes and the road workers should always have a clear exit path from the road and ensure that this is not blocked by the placement of the work vehicle.

- A. where the vehicle is positioned where parking is legal and the safety of other road users is not compromised, and the vehicle does not obstruct the traffic flow:
 - i. the maximum work period at any one location shall be one hour, and
 - ii. a minimum clearance of 5.5m must be maintained above the road surface to any part of the maintenance vehicle that encroaches upon the open traffic lane, or



- B. where the vehicle is positioned other than outlined in Item a):
 - i. the maximum work period at any one location shall be:
 - a) five minutes if on the roadway or within 1.2m of moving traffic, or
 - b) 20 minutes if within 3m of moving traffic but more than 1.2m from moving traffic, and
 - ii. the following sight distance to the vehicle-mounted warning device for approaching drivers shall be:
 - a) in a residential street 75m or to the end of the street, or
 - b) in all other locations, a minimum as per Table 9.4, and
 - iii. the vehicle-mounted warning device shall not be obscured by either overhanging vegetation or a raised truck body, and
 - iv. the work shall not reduce:
 - a) The overall width to less than required for safe passage for two-way traffic (or one way traffic if the volume is less than 50 vehicles per day), or
 - b) the running lane width adjacent to a barrier line to less than that needed to allow vehicles to proceed without crossing the line.
- C. A lookout person shall be posted to warn workers on foot of the approach of any vehicle whose size or speed may constitute a safety threat. The lookout person is not required if the works are more than 1.2m clear of moving traffic. The works vehicle placement should consider the impact on vulnerable road users including people riding bikes and the road workers should always have a clear exit path from the road and ensure that this is not blocked by the placement of the work vehicle



5.7 Frequently Changing work area outside the Traffic Lane (AGTTM Part 5 - 5.3)

These are works that move frequently between successive locations within the work area, which do not encroach onto a moving traffic lane and satisfy the criteria listed in table 5.1.1 above.

The preferred location of the work vehicle is adjacent to the work area with the vehicle mounted warning devices activated and parked clear of the traffic lanes or parked where parking would be legal, and the safety of other road users is not compromised.

The typical TTM features of frequently changing work area include:

- advance and intermediate warning signs as per Section 5.6.1
- a works vehicle positioned as per Section 5.6.2
- vehicle mounted warning device on the works and shadow vehicles as per Section 5.1.1

Figure 5.6.1 illustrates a frequently changing work area outside of a traffic lane. It is important to note that as the work areas progressively move so shall the work vehicle. When undertaking works of this nature, consider the impact on vulnerable road users and the impact the works have on their maneuverability around the frequently changing work area.



Note: The works vehicle placement and location of signs and plant should consider the impact on vulnerable road users including cyclists.



5.8 Criteria

This type of traffic management arrangement shall only be used when all the criteria outlined below have been met.

	Criteria	Yes/No	
1	The work area is outside of traffic lanes.		
2	Works move frequently between successive locations.		
3	The maximum work period at any one location is:		
	 For traffic speeds 70 km/h or less 20 min at any traffic volume 		
	- 40 min at traffic volumes of 150 vph or less		
	 1 hour at traffic volumes of 40 vph or less 		
	 For traffic speeds greater than 70 km/h Within 1.2m of traffic 		
	- 5 min if there are workers on foot		
	- 20 min if there are large plant items only		
	- 20 min if outside 1.2m of moving traffic		
4	A vehicle-mounted warning device is displayed on the work vehicle and not obscured.		
5	There is a minimum sight distance from approaching road users to the vehicle mounted warning device of:		
	• 150m if speed is 60km/h or less		
	 250m if the speed is more than 60km/h 		

5.8.1 Advance Warning Signs

Advance warning signs shall be displayed up to 2 km in advance of each work location or item of moving plant. A maximum distance of 2 km between advance warning signs for opposing

directions of travel shall not be exceeded at any time by progressively changing their location as the work location changes. At each advance warning sign location, the following signs shall be used:

- Workers (symbolic) where there are workers on foot, or ROAD PLANT AHEAD where there is moving road plant only
- NEXT 2km sign, NEXT 1km, NEXT 500m sign (sign as appropriate to length of work area)

5.8.2 Installation (TGS Instructions)

Should a TGS be required for the setup, all signs and devices must be placed as shown on the TGS by a; or under the supervision of a TMI qualified person(s). Advance signs are to be located a distance as per Table 2.3 from the start of the worksite or hazard. Vehicles used to install signage and equipment must have a yellow flashing lamp(s) that is visible to all approaching road users.

Before any equipment or materials are brought onto the work area it is recommended that a drive through check of the worksite traffic management set up be made in all directions, including all side



roads if required. This is to confirm that the work area is safe for all workers and road users, and signs and devices are placed as indicated on the TGS.

5.9 Short Term Works in Traffic (AGTTM Part 5 - 4.3)

Workers may work on the road without the use of advance warning signs provided that the criteria listed in section 5.7.1 are met.

Prior to undertaking these work activities, a risk assessment shall be undertaken to ensure the works can be safely completed. Risk considerations are outlined in section 4.4.

The typical TTM features of short-term working in traffic include:

- a lookout person as per Table 9.6
- a works vehicle:
 - positioned as per Section 5.7.2, and
 - vehicle mounted warning device as per Section 5.1.1



Figure 5.9: Illustrates a Short-Term Work Area in Traffic

Note: The works vehicles placement and location of workers should consider the impact on vulnerable road users including cyclists

5.9.1 Criteria

This type of traffic management arrangement shall only be used when the criteria outlined in Table 5.9.1 or Table 5.9.2 (as relevant) have been met.

Criteria	
1	The work area is within 1.2m of a traffic lane or partially within a traffic lane.
2	Works take 5 minutes or less.
3	A lookout person is available to warn workers on foot to vacate the roadway before the arrival of approaching traffic which is not altering path to pass the worksite

Table 5.9.1(a): \$	Short term works i	n traffic criteria	-within 1.2m or	[,] partially within a lane



4	A vehicle mounted warning device is displayed on the work vehicles and not obscured.
5	There is a minimum sight distance from approaching road users to the vehicle mounted warning device of:
	 150m if the speed is 60km/h or less
	 250m if the speed is more than 60 km/h.
6	Works do not reduce the overall lane width to a centreline to less than 3.5m or if the volume is less than 50 vpd, less than 3.3m.
7	Works do not reduce any traffic lane width adjacent to a barrier line to less than that needed to allow vehicles to proceed without crossing the line.

The criteria in Table 5.9.2 apply when:

- works are in one lane of a multi-lane road but the remaining lane(s) remain open to traffic
- where the lane width is greater than 4.5m and the work area is in the lane but is more than 1.2m from the remaining traffic flow
- where the works are on a road with parked vehicles adjacent to the kerb and the worker is effectively more than 1.2m from the nearest line of moving vehicles.

Table 5.9.2(b): Short term works in traffic criteria – between 1.2 m and 3 m of traffic

Criteria	
1	The work area is between 1.2m and 3m of moving traffic.
2	Works take 20 minutes or less.
3	A lookout person is available to warn workers on foot to vacate the roadway before the arrival of approaching traffic.
4	A vehicle mounted warning device is displayed on the work vehicles and not obscured.
5	There is a minimum sight distance from approaching road users to the vehicle mounted warning device of:
	 150m if the speed is 60km/h or less
	 250m if the speed is more than 60km/h.

If any of the above criteria cannot be achieved, alternative treatments detailed in this Part, the treatments of a fully protected static worksite (see AGTTM Part 3) or mobile works convoy (see AGTTM Part 4) shall be applied

5.9.2 Installation (operation)

Equipment or materials which are brought onto the work area should be unloaded from the nontraffic side of a stationary work vehicle, or the rear of a stationary work vehicle with a lookout person or shadow vehicle in place.

The work vehicle shall be located adjacent to, or on approach (within 40m), to the worksite in the primary direction of travel to the works if undertaking works in a single location. The works vehicle is the primary traffic management warning device for short term works in traffic. If it is not possible to locate the work vehicle as described, for example due to inability to find an appropriate area to park the vehicle, then this works practice shall not be used.

The vehicle mounted warning device shall be on at all times while work is in progress.



The lookout person shall be positioned adjacent to the worker so that they can view approaching traffic in time to warn workers to vacate the roadway before arrival of traffic. The recommended sight distance at which the lookout person should be able to see approaching traffic are as per Table 9.4. This distance allows for the worker to respond to a warning and vacate the roadway.

At all times when conducting these activities, the lookout person and worker shall be within a reasonable proximity (no more than 40m) of the vehicle with a vehicle mounted warning device, which is parked clear of traffic lanes, or parked where parking would be legal, and the safety of other road users is not compromised.

5.10 Extended Short-Term Works due to Unforeseeable Circumstances

Due to unforeseeable circumstances; there will be times when the works will take longer than the allowed time constraints outlined in table 5.1.1 above. This could be due to a number of factors like equipment malfunction or damage for example. In the event the works extend past these allowed times, a documented on-site risk assessment (HazChat) SHALL be performed; if the risk has not increased or there are no additional hazards due to the prolonged works, then the works can continue past the allowed time constraints above.

These continued works are carried out under clause 6.3 - Power Supply Authorities Emergency and Unplanned Works (as per Part 10 – AGTTM (QGTTM)) and should only be used to rectify the problem which caused the works to be extended, if this can not be achieved then the site should be made safe to workers and public until a more permanent worksite can be set up.

6 Pedestrian Management

6.1 Pedestrian Control

Pedestrians can pass by, be escorted through or detoured around the worksite subject to appropriate controls and direction. Consideration is required for effective pedestrian management such as:

Identifying pedestrian routes and volumes;

- Selection of an appropriate pedestrian management option based on availability of space on footpath or space on shoulder adjacent to the footpath;
- Full footpath closures on major arterial roads may require special consideration if the above cannot be achieved;
- Where applicable stop traffic flow and escort along carriageway; and
- Where pedestrians require escorting through the work site, stop work and escort them through.



6.1.1 Signs for Pedestrian Control

Sign	Sign Number	Size mm
Pedestrians Watch Your Step	T8-1	900 x 600
	TM8-1C	1200 x 600
Pedestrians (arrow)	T8-2 (L or R)	1200 x 300
	TM8-2B (L or R)	1200 x 300
Use Other Footpath	Т8-3	900 x 600
	TM8-3A	600 x 600
Footpath Closed	T8-4A	900 x 600
	TM8-4A	600 x 600
Look both ways – Two-way	T8-5A	900 x 600
traffic	TM8-5C	1200 x 600
	TM8-6A	600 x 600
Watch Your Step	TM8-7A	600x 600
Symbolic Pedestrians	TM8-8A	600 x 600
Footpath Closed Ahead	TM8-9A	600 x 600
Narrow Footpath Ahead	TM8-10A	600 x 600
Path Closed Ahead	TM8-11A	600 x 600
Path Closed	TM8-12A	600 x 600
Pedestrian Hazard	TM8-13A	600 x 600
	TM8-13B	1200 x 300

6.1.2 Pedestrian Management Diagrams

Should the work site require pedestrian controls and direction, refer to an appropriate EQL Generic Traffic Guidance Scheme (TGS), i.e., EQL02-01 to EQL02-04.

7 Static Work Sites (Part 3: AGTTM)

Where the Short-Term Low Impact clause(s) in section 5 are not appropriate; a Static work site will be required for additional protection. All static worksites SHALL be setup as per an approved TGS(s). Implementation of a TGS must be undertaken by a competent person who holds a current Traffic Management Implementation (TMI) qualification.

(Ensure that the TGS Reference Number (EQLXX-XX) is recorded on Risk Assessment)

7.1 Speed Reduction Requirements

Static worksite requirements differ depending on specific site conditions, including road speed, geometry and width as well as the distance of the worksite from the travel path. These distances are:

- Work sites that are 6m or greater from the travelled path, do not require speed reduction.
- Work sites greater than 3m but less than 6m from the travelled path, require a traffic speed of 80km/h.
- Work sites greater than 1.2m but less than 3m of the travelled path, require a traffic speed of 60km/h.



• Work sites less than 1.2m of the travelled path, require a traffic speed of 40km/h.

To ensure the correct Generic TGS is chosen for a particular worksite, refer to the TGS selection guide on Page 30 of this document.

Traffic only needs to be reduced to 40km/h when WORKERS ON FOOT are within 1.2m of the trafficable lane. Accessing trucks, etc. does not count as work area and should be done under Part - 5.2 Work Between Gaps in Traffic.

Traffic cones and temporary bollards required for indicating the travel path:

- Traffic Cones (minimum height per application)
 - 450mm for road applications where traffic speed does not exceed 60km/k including footpaths, shared paths, and bicycle paths
 - 700mm for road applications where traffic speeds exceed 60km/h
 - 900mm may be used on category 3 roads in lieu of 700mm cones.
- Temporary Bollards (minimum height per application)
 - 900mm for all applications in lieu of traffic cones.

7.2 Star Pickets (QGTTM Part 3 Clause 6.12)

Star pickets have many uses at roadwork sites, including:

- as supports for temporary fencing and flagging
- as supports for delineators (reflectors), and
- as sign supports or to stabilise temporary signs.

It is important that careful consideration is given to how star pickets are used because if used incorrectly they may present a safety hazard.

The use of star pickets must be supported by a risk assessment In addition, the use of star pickets is subject to the following:

- Star pickets must be fitted with end caps to reduce the potential of piercing injuries.
- Star pickets must be inspected regularly as per the inspection requirements for temporary traffic management devices, and if they are bent or damaged, they must be replaced or repaired immediately.
- Star pickets must be installed vertically, as installing them at an angle may result in a spearing hazard.
- Star pickets are generally black but may be any colour.
- The presence of underground services must be checked before installing star pickets.
- Star pickets must not be used to support standard signposts by placing a post over the top of an installed star picket.



7.3 Multi Message Signage

All multi frames must now be completely filled, consisting of two 600x600 panels and one 1200x300 panel or: one 1200x600 panel and one 1200x300 panel. Up to ONE BLANK YELLOW RETRO-REFLECTIVE PANEL may be used. Where only one panel is needed such as a workman; a Standalone sign is the preferred method. *Examples below:*



8 **Power Supply Authority Specific**

8.1 Short Term Works for Power Supply Authorities

8.1.1 Raising or lowering overhead wires between poles across a road with very light traffic

- a) A site-specific hazard assessment is required to be performed at each site and documented on the appropriate HazChat Form to determine the most appropriate traffic management process to be adopted.
- b) In some instances where this work is being performed on roads with very light traffic or residential streets it may be performed between gaps in traffic, provided work vehicles and equipment are parked clear of moving traffic lanes and a look out person is posted to warn workers on foot of approaching traffic with sufficient notice for the workers to vacate roadway before its arrival.

If the hazard assessment deems it not safe to use the proposed adoption, then the appropriate Traffic Guidance Scheme utilising Traffic Controllers must be selected and implemented.

8.2 Energy Mobile Generators

Generally, mobile generators will be placed adjacent to or off the road at a worksite the day prior to scheduled work and will be included in the worksite's traffic control plan once work commences.

When the generator is not in use and parked legally, no signage is required. For all other situations where the generator is not in use, refer to the TGS selection guide for a suitable TGS.

8.3 Power Supply Authorities Emergency and Unplanned Works

8.3.1 General (Part 10: AGTTM)

For workers attending emergency work sites it is recognised that it will generally not be possible to set up TTM that is fully compliant with the design guidance provided in Part 3. In these situations, there remains a requirement to ensure the safety of road workers and the public as much as is reasonably practicable.

This section specifies procedures to make an environment as safe as possible for road workers and road users prior to fully compliant TTM being installed.



In the AGTTM works conducted in an emergency are those:

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

Situations which typically require the use of these procedures include those situations involving:

- Live power or Gas leaks.
- Critical repairs to essential services.
- Substantial road damage.

8.3.2 Initial response (Part 10: AGTTM, Clause 5.2)

While initial attendance at an incident site will often be by police, fire or emergency services personnel trained and equipped for incident management; there are some cases where you may be the first responder.

When first arriving to the emergency the following steps should be actioned as soon as possible:

- Assess the area for any risks/hazards you can identify.
- Delineate and isolate the hazard to minimise any risk to traffic and pedestrians.
- Once the hazard is isolated, place out any advance notification you can to help warn approaching public of the working area.
- Maintain a safe area until Interim Responders arrive.

The initial response will typically be achieved using whatever equipment/devices are available to the first responders. This treatment should be increased as quickly as possible to those recommended in section 5.3.3 as further equipment and resources are available at the site.

8.3.3 Interim response (Part 10: AGTTM, Clause 5.3)

Where an electrical entity work crew, with a TMI authorisation and appropriate road signage, is to provide the initial attendance or is to take over from police or other emergency service units, the following shall apply to Category 1 and Category 2 roads:

8.3.3.1 Minor partial road closure

For closures where traffic can continue to flow in both directions (two-way road) or at least one lane in each direction is open (divided road) a vehicle that has a pair of yellow beacon lamps or an illuminated flashing arrow sign (Part 5: Clause 3.4) is required.

• Refer to TGS EQL01-01.

8.3.3.2 Major partial road closure

For closures where traffic is restricted to one-way movement past the incident site, the vehicle as per (a) above and Traffic Controllers shall be provided at both ends of the site. Where the posted speed limit is more than 60km/h, high priority shall be given to the provision of advance signs.

- i. Traffic Hazard; or Electric Wires Down; and
- ii. once traffic control is available, Traffic Controller Ahead / PREPARE TO STOP
- Refer to TGS EQL01-02



8.3.3.3 Complete road closure

The requirements of (b) above together with barricades across the entire roadway shall be provided. As far as practicable, the positioning of the closure point in (b) and the barricade position in (c) should be at least a distance in metres equivalent to the posted speed from the incident site (e.g. in a 80km/h zone the distance should be 80m from the incident site), and Traffic Controller positions placed so as to be visible to approaching traffic for a distance in metres equivalent to at least twice the posted speed.

• Refer to TGE EQL01-03

On Category 3 roads it is expected that the initial response may be similar to that detailed in Section 5.2, but the higher level of resources and devices typically available would mean that for the interim and follow up response, there would generally be detailed contingency plans in place. This is due to these higher risk environments supporting the increased availability of emergency responders, the earlier visibility of any incident through constant monitoring, and pre-developed contingency plans. Reference to the RIM should be made for the appropriate emergency response for Category 3 roads.

8.3.4 Follow up protection (Part 10: AGTTM, Clause 5.4)

Follow-up protection shall comprise the setting up of a static work site TGS.

Follow-up protection is necessary for sites where it is clear that the closure or part closure will be required for a period longer than 4 hours, and appropriate resources shall be deployed.

Should the extent of the emergency / event require extended periods for the restoration of supply and the unavailability of traffic control resources subject to the hazard assessment process, a static

9 Common Tables referred to in this Manual

9.1 Sign Spacing (Part 3: AGTTM, Table 2.2)

Speed (km/h)	Distance (m)
≤55	15
56-65	45
≥66	Equal to the speed (km/h)

9.2 Recommended Site Distances to a traffic control device (Part 3: AGTTM, Table 2.3)

Speed (km/h)	Distance (m)	
≤45	50	
46-55	70	
56-65	90	
≥66	Equal to the speed (km/h)	

9.3 Minimum Lane Widths (Part 3: AGTTM, Table 2.5)

Criteria	Lane Width (m)	
General Lane Widths		
≤60 km/h	Minimum 3.0*	
70, 80 or 90 km/h	Minimum 3.2*	


≥100 km/h	Minimum 3.4*
Curve with radius 100-250m	Add curve widening of 0.5m per lane.
Curve with radius <100m	In addition to the curve widening of 0.5m per lane, consider the swept path of long vehicles (e.g., buses, trams)
Two-way residential street	Minimum of 5.5 (sum both ways)
Shuttle flow operation	
Shuttle flow with active control (by traffic controllers or PTCDs)	Minimum 3.0*
Shuttle flow, without active control on residential streets, include no control or the use of GIVE WAY and ONE WAY signs	Minimum 3.0* and Maximum 3.5 to ensure vehicles take turns using a single lane

*Temporary minimum lane widths are not to be greater than existing lane widths. This minimum Temporary Lane with does not apply to curves of radius 250m or less, or locations where there are fixed vertical obstructions such as fences or safety barriers with 30cm of the edge of the lane on one or both sides. Where these conditions apply, consider widths wider than those listed previously to accommodate large vehicles. The speed to be used when considering lane width requirements is the speed limit (permanent or reduced) which is applicable to that length of road.

9.4 Sight distance for lookout person (Part 5: AGTTM, Table 4.3)

Speed (km/h)	Distance (m)*
≤45	80
46-55	100
56-65	120
66-75	140
76-85	160
86-95	180
96-105	200
≥106	220

Note: *These distances are based on a maximum distance of 3.5 m between road workers' location and their escape to a shoulder or median. For longer escape routes additional sight distance will be required and the sight distance provisions for the Lookout Protection Method, in the Guideline for Traffic Management at Works on Roads shall be applied.

9.5 Sight distance to the vehicle mounted warning device – lookout person not required (works in travel path) (Part 5: AGTTM, Table 4.2)

Speed (km/h)	Distance (m)*
≤45	225
46-55	275
56-65	335
66-75	390



76-85	445
86-95	500
96-110	555
≥111	A lookout person is required

9.6 Sight distance to the vehicle mounted warning device (Part 5: AGTTM, Table 5.2)

Speed (km/h)	Distance (m)*
≤45	80
46-55	100
56-65	120
66-75	140
76-85	160
86-95	180
96-105	200
≥105	220

9.7 'Past' spacing of traffic cones, bollards, and post-mounted delineators (Part 3: AGGTM, Table 5.3)

Purpose and usage	Speed (km/h)	Recommended maximum spacing (m)
For traffic cones and	bollards**	
All Purposes	≤55	4
	56-75	12
	≥76	18
Protecting freshly painted lines	56-75	24
	≥76	60
Centreline on approach to a traffic controller position	All speeds	4
Crossover for contraflow (e.g. through the median)	All speeds	2
Taper at traffic control station	All speeds	4
For post-mounted d	elineators	
All purposes	≤75	24
	≥76	60

**Consider whether cyclists are using the road shoulder or bike lane and whether an appropriate alternative facility be provided before installing traffic cones or bollards in the area. Where possible, place bollards to maintain a safe cycling facility.



9.8 Sight distance to both the vehicle mounted warning device and worker - short term works outside a traffic lane – but within 1.2m of a traffic lane – lookout not required (Part 5: QGTTM, Table 5.4.5(b))

Speed (km/h)	Distance (m)*
≤45	140
46-55	180
56-65	210
66-75	250
76-85	280
86-95	320
96-110	350
≥110	A lookout person is required



10 Generic TGS Selection Tables

10.1 Main TGS Selection Tables

				PLANNED W	ORKS				
						40km/h	EQL08-01		
						50km/h	EQL08-02		
					VEC	60km/h	EQL08-03		
				Are workers on	TES	70km/h	EQL08-04		
			YES	foot or small items of plant within		None of the Above	A site specific TGS is required for works		
				1.2m of the travel					
				path?		40km/h	EQL07-01		
		Can two way			NO	50km/h	EQL07-02		
	YES	traffic be maintained?			NO	None of the Above	A site specific TGS is required for works		
		1		Is the work areas		40km/h	EQL09-01		
				Is the work area.	VEC	50km/h	EQL09-02		
	NO traffic volume	TES	None of the Above	A site specific TGS is required for works					
				40vph or less, with					
	clear visibility for 150m min?	NO	A site specific TGS is required for works						
Travelled Path?	YES Lane								
				1		40km/h	EQL05-01		
						50km/h	EQL05-02		
						60km/h	EQL05-03		
						70km/h	EQL05-04		
					Within 1.2m	80km/h	EQL05-05		
		Are works						90km/h	EQL05-06
		moving				100km/h	EQL05-07		
	NO	hetween		Usur for from the		110km/h	EQL05-08		
		between	NO	How far from the					
		locations?	NO	the works?	Retween 1.2m	40-50km/h	EQL04-04		
		rocations:		die works:	& 3m	60-70km/h	EQL04-05		
					a sin	80-110km/h	EQL04-06		
					Between 3m &	40-50km/h	EQL04-01		
					6m	60-80km/h	EQL04-02		
						90-110km/h	EQL04-03		
					om or greater	EQI	.03-01		

	GENERA	TOR PLACEMEN	F		
	YES	40km/h	EQL06-01		
		50km/h	EQL06-02		
is the Conceptor norked		60km/h	EQL06-03		
Is the Generator parked within the shoulder or verge?		None of the above	A site specific TGS is required for works		
	NO	A site specific	TGS is required for works		

	INCIDENT RESPONSE	
How much of the	Part Lane	EQL01-01
Roadway is affected by	One Lane	EQL01-02
the incident?	All Lanes	EQL01-03



10.2 Side Road TGS Selection Table

SIDE ROADS								
						40km/h	EQL11-02 Option 12	
						50km/h	EQL11-02 Option 11	
						60km/h	EQL11-02 Option 10	
					NO	70km/h	EQL11-02 Option 9	
					NO	Unposted (Rural)	EQL11-02 Option 8	
						100km/h	EQL11-02 Option 7	
						None of the	A site specific TGS is	
			YES located on the same side as the closure?			above	required for works	
						40km/h	EQL11-02 Option 6	
					50km/h	EQL11-02 Option 5		
		Is the Side Road				60km/h	EQL11-02 Option 4	
	YES	located within the			YES	70km/h	EQL11-02 Option 3	
		closure?				Unposted (Rural)	EQL11-02 Option 2	
					100km/h	EQL11.02 Option 1		
						None of the	A site specific TGS is	
Is there a speed					above	required for works		
					10km/b		EQL 11.02 Option 19	
						50km/h	EQL 11-03 Option 17	
						50km/h	EQL11-03 Option 16	
main selected TGS?						70km/h	EQL11-03 Option 15	
main selected 100:				NO	Unp	osted (Rural)	EQL11-03 Option 14	
						100km/h	FQI 11-03 Option 13	
						<i>c.u.</i> 1	A site specific TGS is	
						e of the above	required for works	
						40km/h	EQL11-04 Option 24	
						50km/h	EQL11-04 Option 23	
					60km/h		EQL11-04 Option 22	
				NO	70km/h		EQL11-04 Option 21	
					Unp	osted (Rural)	EQL11-04 Option 20	
		ls the works for			100km/h		EQL11-04 Option 19	
	NO	Generator Storage	, Γ		Non	e of the above	A site specific TGS is	
	NO Generator Storage				NOI		required for works	
	TG	IGS?				101 //		
						40km/h	EQL11-05 Option 27	
				VEO		50km/h	EQL11-05 Option 26	
				YES	60km/h		EQL11-05 Option 25	
					None of the above		A site specific TGS is	
						-	required for works	



EQL Generic Traffic Guidance Schemes (TGS) 11



OP S FORM-025 TRAFFIC GUIDANCE S CHEME (QLD) | BEST PRINTED IN A3 SIZE

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IMPLEMENTATION INSTRUCTIONS Before work commences, signs and devices at the approaches to and within	SITE SPECIFIC TGS NOTES Where this symbol appears, please ruler back to the coinciding notes alow.	Ongoing Activ The below table	ons Responsibilitie details ongoing actions r	s Identified	via Risk /	Assessment profinis TGS	1
the work area SHALL be implemented in accordance with the approved Traffic Guidance Schemes and the Traffic Control Companies Safe Work Method Schemester in the following sequence:	No Works are to commence on site until this Traffic Guidance Scheme is installed in full and confirmed by the Traffic Summerce	Residual Risk/s	Further Action	s Required	Re	sponsible P	erson/s
1) Traffic Controllers implementing signage are to ensure all signage is available for implementation prior to shift.	^{In announce of the second}	 Possible changes throughout works to ensure minimal delays and impact on traffic. 	 Traffic Controller to add to risk assessment and changes required prior 	d details of TGI document any to work	5	Traffic Contro Site Supervi	oller isor
2) Signs & devices in side streets leading into the works are to be implemented first. Where required, detours are to be in place before commencing any closures.	 Short-term Built up areas (<1 shift) - 200 mm above the level of the nearest lane and the sign shall be horizontal. Behind the kerb I visible to oncoming traffic and not obstructing pedestrians, otherwise on the 	- Signage / delineation being	- Signage / delineation d	hecks through	out	Traffic Contro	oiter
 All signage on arterial and main load alignments to be implemented with the flow of traffic. Signs are to be implemented in all non affected lane(s) first and ali 	pavement as near as practicable to the kerb without the sign becoming obsoured and without obstructing moving traffic. Signs should not be located in operating bicycle lanes or in shoulders if used by cyclists.	NOCKED ONLY GATING WORKS.	working order while site	a is active.		Site Supervi	sor
conflicting signs are to be covered. 5) Signs in the affected lane to be implemented; Taper, Speed Reduction, Soldtu biffer if any first the second Defensition to be implemented with the	 Short-team Rural areas (<1 shift) 200 mm above the level of the nearest lane and the sign shall be horizontal. On the road shoulder a minimum of 1 m clear of the travelled path. 	 Interaction and possible incident during works / set-up. 	- traffic Controller perfor before TGS implements	m risk assessr ation.	ine nt	Traffic Contro	ollar
Safery outer (iii applicable), and Delinearon to be implemented with the traffic flow. Conflicting signs to be covered in process. 6) Ensure signs & devices are correct before works commence. 7) Once works have finished. Traffic Control are to pick up delineation and	Installation and removal of control devices is to be carried out under "Work outside of Traffic lane" as per AGTTM Part 5, Clause 6, "Prequently changing work area outside Traffic lane" as per AGTTM Part 5, Clause 5.3 and "Frequently changing work area - In lane" as per AGTTM Part 5, Clause 4.4.	- Possible noncompliance from traffic.	 Traffic Controller to obs behavior during works, behaviour. 	ierve traffic if non complia	8.0	TMD Traffic Contro Site Supervi	oller isor
taper's in reverse. Then pick up advance warning signs with the flow of traffic.	(6) Installation Process (AGTTM Part 6, Clause 6.3) The general processure for setting up a site is to: 1) locate the work area using GPS, landmarks, side streets, chainage	- Incorrect scope of works for TGS.	- Traffic Controller and C that TGS is applicable control method will suf-	lient to ensure to works and the needs of a		TMD Traffic Contro Site Supervi	oller isor
RECORDING & MONITORING Regular inspections of traffic control devices SHALL be carried out a minimum of twice daily and recorded in The Daily Traffic Diary. These records SHALL	 install devices as outlined in the TGS for the streets this. install devices as outlined in the TGS for the non-working lane (un-affected direction) install devices as outlined in the TGS for the working lane (affected direction) to complete installation. 	- Possible noncompliance from	operational needs. - Monitor pedestrian dete	ours to ensure	that	Client Traffic Contro	officer
be available for inspection during the project. These records will be held on site by The Client. Details of all changes in training more than the recorded and maintained throughout the construction period and submitted the second of form the data of data with the construction period and submitted the second of the second of the second sec	 All sign spacings and taper lengths will be noted on the TGS and should be in accordance with AGTTM Part 3. Where indicated signs are preferred to be Multi Message signs, these SHALL be implemented as new AS 17423. 	pedestilans.	compliance is being de public.	monstrated by	the	Ste Supervi	sor
values in coder with in the sale. The site, The site of the site, the police, and any necessary emergency services.	Reforme fective material for signs SHALL meet Class 400T as specified in AS/NZS 1906.1 (as per AS 1742.3, Clause 4.4.2) Q QUEUED TRAFFIC AHEAD signage SHALL be implemented as per AGTTM Part 3, Clause 4.8 & Clause 5.10.	 Signage / delineation being knocked over during works. 	 Checks throughout was control measures are si order and have not besident and have not besident. 	ries to ensure till in good wort in	ling	Truffic Contro	oller
PEDESTRIAN & CYCLIST MANAGEMENT All pedestrian & cyclist control measures, for the duration of the construction works will be monitored as required for effectiveness & improvements.	These take into account predicted queue lengths and repeater signage. Additional information is provided in the QGTTM to allow the primary PREPARE TO STOP signage to replaced with QUEUED TRAFFIC AHEAD. PTSS Type-1 should be used in lieu of raffic controllers using a Stop / Stow bat on at roads with an AADT of	- Excessive pedestrian traffic past, through or around the	- Extra caution should be peak times as increase	e taken around in foot traffic	Un.	Traffic Contro Site Supervi	oller iso <i>r</i>
Appropriate warning signage and directional signage will be in place and monitored throughout the works as per the provided TGS's attached to this document. Where current documented control measures are ineffective. A	over 500 vpd and a speed limit of 70km/h or greater (As per AGTIM Part 3, Cause 5.0.1). Irafic controllers to be positioned away from the live traffic tare with a clear, safe and defined escape route. In the event of signal failure manual control to be used, this will require another traffic controller to change signage on	works. - Signage not being clearly	may change conditions	sure that light	ng.		
TMD qualified person(s) should be contacted to suggest changes.	approach una signals are twee or alternare signals arrive on site. (1) "Workman" symbolic signage SNALL be covered or removed when workers are not visible to traffic. (2) "Workman" & "Ablanth" signage to be removed after works hours unless there is a traffic safety reason, this will be documented and signade of the a TMD.	visible to oncoming traffic.	shade and other condit clear visibility.	ions stil allow	for	Traffic Contro	aller
GENERAL NOTES - The TMD preparing this plan has ensured it complete with the Queensland	I Local Access SHALL be considered during each closure, access to local residents and businesses will be kept available throughout the al stages of works unless there is prior written approval. (3) Site societic risk assessment shall be performed before any implementation to ensure that works are	- Traffic parking in front of signage.	 Ensuring that cars part being operational does to signage. 	ung during site nat hinder sigi	vt	Traffic Contro Site Supervi	aller Bor
AND FCD Parts (Nov 2020). AGT IM (Dec 2019), GGT IM (Nov 2020) & AS 1742 (Dec 2019), Any unapproved variations to the design will negate their liability. Variations and amendment to this TGS are to be recorded on this TGS with the changes noted, along with the date and time of the change and the acceditation details of the TMD making the change.	applicable to the Traffic Guidance Scheme and selection process has been successful, if the selection process does not select the correct dosure type or road conditions a TMD shall be contacted for a site specific TGS to be designed for the works. Minimum lane width shall be 3m and when delineation is present a further 0.3m to the delineation device /am rore ACTIM, Devi 3, Table 2.5, Table 5.2.	- Obstacles or vegetation blocking signage placement.	Changing signage place (confirmation from TMD tolerance) if signage is oncoming traffic.	amant) if outside not visible to		Traffic Contro	oller
 The attached TGS's SHALL be read in conjunction with this notes page and the associated risk assessments and an on site risk assessment SHALL be performed before any implementation works takes place. 	(a) Device the first of the shall be - 3.5m and when defineation is present a further 0.3m to the defineation device (as per AGTTM, Part 3, Table 2.5 & Table 5.2) (2) Cone spacing shall be 4m spacing as per AGTTM. Part 3, Table 5.3	- Locals entering / exting driveways	 Traffic Controllers to ma local access throughout 	onitor and assi tworks.	st	Traffic Contro Site Supervi	aller isor
 T is the Clients responsibility to ensure they have a copy of the permits (in date) for the closure being implemented. Trits TGS SHALL only be implemented by a competent person(s) with a memory Turation Measurement being the CMM excellence for an ensure threading the second second	Cone spacing shall be 12m spacing as per AGTTM, Part 3, Table 5.3 Cone spacing shall be 12m spacing as per AGTTM, Part 3, Table 5.3 Traffic Controller AheadPrepare to Stop sign SHALL be used when a traffic controller is attending traffic. It	- Local access to driveways and / or street parking.	 Workers to be aware d block driveway access. 	uring works no	f to	Traffic Contro Site Supervi	oller isor
 A toolbox talk is to take place before works commencing. Work Ste Safety Traffic Management Checklist to be filled out prior to implementation, and uson completion. 	SHAL be installed at the greater value of 20 in advance of the traffic control position. The sign SHALL NOT be displayed when the traffic controller is not in attendance controlling traffic. (QGTTM Part 3 Clause 4.8 & Part 6 Clause 7.3 d)	Local access during peaks times Eg. School children.	 Extra care to be taken as there will be a increa- requirements. 	during peak tin ase of access	1425.	Traffic Contro Site Supervi	oller isor
 Traffic Controllers to identify and make note of escape routes prior to commencement of works. 					Likelihood		
 mand neid umm radios are to be utilised where required to communicate between traffic control & site vehicles. Principal Contractor to notify local Emergency Services in advance of 			Almost certain	Likely	Possible	Unlikely	Rare
commencing works. - QDTMR TMC are to be contacted 1 hour before any works commence within a CDTMR control 13 19 40	LEGEND: ACCREDITED TRAFFIC CONTROLLER See UPERAL INZARO NARIER ADD TO UPERAL INZARO	Catastrophic	: Very High	Very High	High	High	Medium

- within a QDTMR corridor 13 19 40. Advance signs SHALL be mounted at a minimum height of 200mm displayed as prominently as possible by selecting the longitudinal location of the sign for best sight distance for approaching traffic. Signs continuously required for works which will be in progress for periods longer than 2 weeks should be excited in a permanent manner, e.g. on posts surk into the ground, and duplicated on the right side of the road. Traffic volumes should be monitored throughout the implementation of the TGS(s). In the event queue lengths become umanageable, works should cease if possible and traffic cleared before recommencing.

_				
EG	END:			
Å,	ACCREDITED TRAFFIC CONTROLLER with Approved Stop / Slow Bat	}	LATERAL HAZARD MARHER silter TS-7 (detical) or TS-4 (dot contal)	PROPOSED WORKAREA as advandby Client
	ACCREDITED TRAFFIC CONTROLLER with Approved PTSS Type-1 (Manual)		TRAFFIC CONES/BOLLARDS per MUTODAS 1742.3	PROPOSEDLANE CLOSURE per AGTTM requirements / Client request.
1	APPROVED PORTABLE TRAFFIC SIGNALS PTSS Type-2 (White-actualid)	1	PEDESTRIAN ROUTE	EXCLUSION ZONE per AGTTM requirements
8	TRAFFIC CONTROL VEHICLE with Illuminated FlashingArrowboard	ST.	POLICE VEHICLE for Advanced Warning	EXISTING WEARRER/ GLARDRAL
8	TRUCK MOUNTED AFTENUATOR with Illuminated Flashing Arrow board	1	POLICE OFFICER for centrolling signalise di relevactions	 CONTAINMENT PENCING pt #51N23, Claum 4.12 BAG YM, Pet 3, Claum 52.3

т	- Local acce times Eg. t	ss during peaks School children.	- Extra c as ther require	care to be taken re will be a increa ments.	during peak tin ase of access	145.	Traffic Cont Site Superv	roller Asor
						Likelihood		
				Almost certain	Likely	Possible	Unlikely	Rare
		Catastrophi	ic	Very High	Very High	High	High	Medium
	a	Major		Very High	Very High	High	Medium	Low
itane.	anbas	Moderate		High	High	Medium	Low	Low
AL.	Con	Minor		High	Medium			
au 11.1		Insignific ar	nt	Medium	Low		Low	Negligib

CLIE	ENT: EN	ERGY	QLD							ENERGY QLD - WORK	KING ON ROADWAY	S MANUAL		
TGS R	EFERENCE	-		R EV.	DATE	PAGE(S) NO#	DESCRIPTION	TMD	INIT		ITION	APPROVED BY TH DESIGNER-	104	
EQLO	1 EQL02	EQL03	EQL04	00	09/12/2021	ENTIRE DOCUMENT	TRAFFIC MANAGEMENT PLAN DEVELOPED FOR ENERGY QLD	832	MA.		JTION	DOTMIN THEO PRIELD		
EQLO	5 EQL06	EQL07	EQL08	01	17/02/20 22	ENTIRE DOCUMENT	CHANGES MADE TO SELECTION GUIDE, NO TE ADDED ABOUT DUPLICATE SIGNAGE, COMTAINMENT	832	44	Evolution Traffic Management		SYGLUTION JOB NUMBER		-
EQLO	9 EQL10		1000				FENCES REMOVED, GENERATOR TGS CHANGED TO COVER VERGE AS PER CLIENT REQUEST			Unit 1/29 Armada Place, Banyo	TMR REGISTRATION NUMBER: 0323	44041	1332	0
				02	29/03/2022	PAGES 18-20	ADDITION ALTGS'S ADDED	1007	LJPT	Que ensland 4014		REFERENCED	REW PAGE	2
				03	12/09/2024	ENTIRE DOCUMENT	ANNUAL REVIEW	1007	LIPT	Email QLD plans@avolutio ngroup.com.au		NOTES EQ	03 02	of 45



PLANNING & DESIGN RISK ASSESSMENT

Road: Example Risk, Ass	essment Road Speed: Exi (Existing) Road	sting Speed Road Category:	1 or 2	S	ite Risk Ratin	g: High				Date: 28/08/2024
Risk Source	Event	Consequence	Consequence Rating	Likelihood	Risk Rating	Mitigati	ion/Controls Required	Residual Risk Rating	Further Actions Required	Responsible Person/s
Inadequate advance signage and delineation	Traffic entering work area and colliding with workers or plant	Injury and possible loss of life of workers and plant can be damaged	Catastrophic	Almost certain	Very High	Connect signage Ensure sight dis is applicable to Delineation is p Part 3, Table 52 A drive through of works to ensu	a) / delineation installed as per TGS. stance to signage and work site the control method. laced conrectly as per AG TTM, 2 "Past edge clearance". performed before commencement ure site is visible and correct.	High	 Traffic Controller to add details of TGS to itsi assessment and document any changes required prior to work common cement. Signage / delineation checks throughout wor to ensure signage is still in good working aid while site is active. 	tMD ks Site Supervisor er Traffic Controller
Inadequate advance signage and delineation	Traffic entering work area and colliding with workers or plant	Injury and possible loss of life to motorist, motorcycles or cyclists	Catastrophic	Almost certain	Very High	 Correct signage Ensure sight dis is applicable to Delineation is p Part 3, Table 52 A drive through of works to ensure 	a / defineation instalted as per TGS. stance to signage and work site the controlimenthod. laced correctly as per AGTTM, 2 "Past edge clearance". performed before commencement ure site is visible and correct.	High	 Traffic Controller to add details of TGS to its assessment and document any changes required prior to work commencement. Signage / delineation checks throughout work to ensure signage is abili in good working ord while site is active. 	t TMD ka Site Supervisor er Traffic Controller
Poor / inappropriate signing	Failure to navigate through or past the work site	Injury to motorists, motorcyclists or cyclists	Catastrophic	Likely	Very High	 Signage to be it 4.3.2, Clause 4. Signage and de working order. Constant site /signage in correct place 	Installed as per AS 1742.3, Clause 3.3 & Clause 4.3.4. alineation to be clean and in good sign checks throughout works to 8. delineation is still present and ment (from weather or vendalism).	High	 Traffic Controller perform risk assessment before TOS implementation. Traffic Controller to observe traffic behaviour during works, if non compliance behaviour. Traffic Controller and Client to ensure that T is applicable to works, and control method will will be necessional in each. 	Site Supervisor 35 Traffic Controller 1
Poor / inappropriate signing	Failure to navigate through or past the work site	Property damage and other financial losses	Catastrophic	Likely	Very High	 Signage to be it 4.3.2, Clause 4 Signage and de working order. Constant site / ensure signage in correct place. 	Installed as par AS 1742.3, Clause 3.3 & Clause 4.3.4. elineation to be clean and in good sign checks throughout works to 8 delineation is still present and ment (from weather or vandalism).	High	 Traffic Controller perform risk assessment before TGS implementation. Traffic Controller to observe traffic behavior during works, if non compliance behaviour: Traffic Controller and Client to ensure that T is applicable to works and control method wi suit the needs of all openational meeds. 	SS Traffic Controller
Inappropriately long diversions result in vulnerable road users entering road unsafely	Failure by pedestrians / cyclists to navigate through the work site, or poor route definition through / past the work site	Injury to pedestrians or cyclists	Major	Possible	High	Any diversion to practicable rout Traffic Controlle or even hold tra Clear travel pat pedestrians off - Suitable diversi	b be reduced down to the most le. This may mean adding more are onsite to assist pedestrians fifth for pedestrians to pass works. this sufficient signage to inform the detour. Ion supplements (pram ramp, etc.).	Medium	 Monifor padesitian detours to ensure that compliance is being demonstrated by the pui- Checks throughout works to ensure control measures are still in good working order and have not been diamaged/moved/menved. Extra caution should be taken anound peak it as increase in floot stills may change conditioned. 	blic. TMD Site Supervisor Traffic Controller ons.
Parked cars or vegetation restricting sight distance to signage	Traffic unable to react to advance notification signage	Motorists, Motorcycles and cyclists unaware of changed conditions and not conforming to signage	Moderate	Likely	High	Ensure placem on approach. Consider sun g parked cars wh throughout the: Consider closin signage to on a.	ent of signage is clear to traffic lare. Tree shadows and possible lie setting up as conditions change shift. Ig parking bay/shoulder in front of ure vehicles do not obscure visual.	Medium	During checks, making sure that lighting, she and other conditions still allow for clear visibl Ensuring that cars parking during sile being operational does not hinder sight to signage. - Changing signage placement (confirmation t TMD if outside tolerance) if signage is not vis to oncoming traffic.	ide lity. Traffic Controller rom ible
Parked cars or vegetation restricting sight distance to Traffic Controller	Traffic unable to react to Traffic Controllers instructions. Possible collision into other public or site.	Injury to Traffic Controller, Motorist, Motorcycle, Cyclist or workers and plant	Catastrophic	Likely	Very High	 Any diversion to practicable rout Traffic Controlle or even hold tra Clear travel pat pedestrians of t Suitable diversi 	b be reduced down to the most te. This may mean adding more ars onsite to assist pedestrians fills for pedestrians to pass works. this, sufficient signage to inform the detour. on supplements (pram ramp, etc.).	High	 During checks, making sum that lighting, shade and other conditions stal allow for deair visibility. Einsuring that cars parking during site being operational does not hinder sight to Traffic Corek Changing signage plasament (confirmation from TMD) if outside tolera noe jif sign age is not visible to oncoming traffic. 	oller. Traffic Controller
Motorists, motorcycle or pedestrians entering / exiting driveways	Traffic entering work area and colliding with workers or plant	Injury and possible loss of life to workers and public and plant can be damaged	Major	Likely	Very High	 Prior notification are aware of do Boards, Door k Extra Traffic Co assist driveway Workers advise driveways are k 	n to residents about works so they osure timing (letter drop, VMS nock, public advertisements). Introllers onsite to monitor and traffic (entry and coits). et at Toolbox to ensure all cept clear.	High	Traffic Controllers to monitor and assist local access throughout works. Workers to be aware during works not to blo driveway access. Extra care to be taken during peak times, as there will be a increase of access requirement.	ok Site Supervisor Traffic Controller 15.
Unable to duplicate signage on approach to the worksite	Traffic unaware of advance notification signage	Motorists, Motorcycles and cyclists unaware of changed conditions and not conforming to signage	Moderate	Likely	High	Use tolerances within the TMI a place in alterna - If double sign at shall be contact	provided to allow modification allowable changes to a TGS and to location. ge is unpracticable then a TMD ted to assist with amendments.	Low	 Traffic Controller to document the changes is and ensure that any modifications outside T1 ability are approved by TMD Monitor the changes and ensure signage is moved or changed from weather or vandalise 	nade dt TMD not Traffic Controller n
Flashing lights or arrow board on Ute / work vehicle failing	Traffic unaware of work vehicle or exposed workers on foot (installation of traffic arrangements)	Injury and possible loss of life of workers and plant can be damaged	Catastrophic	Likely	Very High	Prestart checks for compliance i if lights are fault if lights fail durin from the travelle wait for repairs in	on all plant and lighting to check and in good working order. by, replace plant / vehicle. ng works, safely park vehicle away ed parts in a safe position and / alternate plant or vehicle.	Medium	 Site operations are to stop if lights / beacons required bir Mose activities. Document time and place of failure and once replacement whicle / plants builtised on site. Regular chicks on vahicle / plant during shift If required, ensure battery is charged sufficie 	are Site Supervisor Traffic Controller ntry
CLIENT: ENERGY QLD	REV. DATE PAGE(S) NO	# DESCRIPTION					ENERGY	QLD - W	ORKING ON ROADWAY	MANUAL
EQL01 EQL02 EQL03 EQL0 EQL05 EQL06 EQL07 EQL0	4 00 09/12/2021 ENTIRE DOCUME 8 01 17/02/2022 ENTIRE DOCUME	NT TRAFFIC MANAGEMENT PLAN DEVEL NT CHANGES MADE TO SELECTION GUI	OPED FOR ENER DE, NOTE ADDED	GY QLD ABOUT DUPLI	CATE SIGNAGE, C	OMTAINMENT	832 AA Evolution T	VO	LUTION	Arthony Abrahamson
EQL09 EQL10	02 29/03/20 22 PAGES 18-20	FENCES REMOVED, GENERATOR TG AD DITIONAL TGS'S ADDED	S CHANGED TO C	OVER VERGE	AS PER CLIENT RE	EQUEST	Unit 1/29 An Unit 1/29 An Unit 1/29 An	mada Place, Ban Insland 4014	YO TMR REGISTRATION NUMBER: 0323	440413320
	03 12/09/2024 ENTIRE DOCUMENT ANNUAL REVIEW Risk Assessment 03 03 03 of f									Risk Assessment 03 03 of 4



YES Can two way traffic be maintained? YES Are workers on foot or small items of plant within 1.2m of the travel path? YES Are work area: less than 60m traffic volume 40vph or less, with clear visibility for 150m min? 40km/h EQL08-01 YES No Are works on foot or small items of plant within 1.2m of the travel path? No A site specific TGS required for work							40km/h	EQL08-01			
YES Can two way traffic be maintained? YES Are workers on foot or small items of plant within 1.2m of the travel path? YES Sokm/h EQL08-02 60km/h YES Can two way traffic be maintained? YES Are workers on foot or small items of plant within 1.2m of the travel path? YES Mone of the Above Sokm/h A site specific TGS required for work YES Can two way traffic be maintained? Is the work area: less than 60m traffic volume 40km/h 40km/h EQL07-01 Sokm/h NO Is the work area: less than 60m traffic volume 40km/h 40km/h EQL09-01 Sokm/h NO A site specific TGS required for work NO A site specific TGS required for work											
YES Can two way traffic be maintained? YES Are workers on foot or small items of plant within 1.2m of the travel path? YES 60km/h EQL08-03 YES Can two way traffic be maintained? YES Are workers on foot or small items of plant within 1.2m of the travel path? NO 40km/h EQL07-01 NO Is the work area: less than 60m traffic volume 40vph or less, with clear visibility for 150m min? YES 40km/h EQL09-01 NO A site specific TGS is required for works		1					50km/h	EQL08-02			
YES Can two way traffic be maintained? YES Are workers on foot or small items of plant within 1.2m of the travel path? None of the Above A site specific TGS required for work YES Can two way traffic be maintained? Is the work area: less than 60m traffic volume 40vph or less, with clear visibility for 150m min? YES Is the works						VEC	60km/h	EQL08-03			
YES Foot or small items of plant within 1.2m of the travel path? None of the Above A site specific TGS required for work YES Can two way traffic be maintained? YES foot or small items of plant within 1.2m of the travel path? NO 40km/h EQL07-01 NO NO S0km/h EQL07-02 None of the Above A site specific TGS required for work VES traffic be maintained? Is the work area: less than 60m traffic volume 40vph or less, with clear visibility for 150m min? YES 40km/h EQL09-01 NO A site specific TGS is required for work Fequired for work Fequired for work					Are workers on	163	70km/h	EQL08-04			
YES Can two way traffic be maintained? 1.2m of the travel path? 40km/h EQL07-01 NO 50km/h EQL07-02 None of the Above A site specific TGS required for work Is the work area: less than 60m traffic volume 40vph or less, with clear visibility for 150m min? YES 40km/h EQL09-01 None of the Above A site specific TGS required for work				YES	foot or small items of plant within		None of the Above	A site specific TGS is required for works			
YES Can two way traffic be maintained? path? NO 40km/h EQL07-01 NO 50km/h EQL07-02 None of the Above A site specific TGS required for work Is the work area: less than 60m traffic volume 40vph or less, with clear visibility for 150m min? YES 40km/h EQL07-01 None of the Above A site specific TGS required for work					1.2m of the travel						
YES Can two way traffic be maintained? NO S0km/h EQL07-02 None of the Above A site specific TGS required for work Is the work area: less than 60m traffic volume 40vph or less, with clear visibility for 150m min? YES 40km/h EQL09-01 None of the Above A site specific TGS required for work					path?		40km/h	EQL07-01			
YES traffic be maintained? Is the work area: less than 60m traffic volume 40vph or less, with clear visibility for 150m min? NO None of the Above 40km/h A site specific TGS required for work Are the works Are the works A site specific TGS is required for works			Can two way			NO	50km/h	EQL07-02			
Are the works Are the works Imaintained? Is the work area: less than 60m traffic volume 40vph or less, with clear visibility for 150m min? YES 40km/h EQL09-01 NO A site specific TGS required for work		YES	traffic be				None of the Above	A site specific TGS is			
NO Is the work area: less than 60m traffic volume 40vph or less, with clear visibility for 150m min? YES 40km/h EQL09-01 None of the Above required for work			maintained?				None of the Above	required for works			
NO Is the work area: less than 60m traffic volume 40vph or less, with clear visibility for 150m min? YES 40km/h EQL09-01 None of the Above A site specific TGS required for work											
Are the works					Is the work area:		40km/h	EQL09-01			
Are the works					less than 60m	VES	50km/h	EQL09-02			
Are the works					traffic volume	123	None of the Above	A site specific TGS is			
Are the works				NO	40vph or less with		None of the Above	required for works			
Are the works					clear visibility for						
Are the works					150m min?	NO	A site specific TGS is required for works				
	Are the works										
within the EQL10-01 - refer to section 5.6 - Frequently Changing Work Area Outside of a Tra	within the Travelled Path?			VEC	YES EQL10-01 - refer to section 5.6 - Frequently Changing Work Area Outside of a Traffic						
Travelled Path? Lane				165			Lane				
40km/h EQL05-01							40km/h	EQL05-01			
50km/h EQL05-02							50km/h	EQL05-02			
60km/h EQL05-03							60km/h	EQL05-03			
Within 1 2m 70km/h EQL05-04						Within 1.2m	70km/h	EQL05-04			
Are works 80km/h EQL05-05			Are works moving frequently				80km/h	EQL05-05			
moving 90km/h EQL05-06							90km/h	EQL05-06			
frequently 100km/h EQL05-07							100km/h	EQL05-07			
NO hequency How far from the 110km/h EQL05-08		NO			How far from the		110km/h	EQL05-08			
successive NO travelled path are			successive	NO	travelled nath are						
Jaccessive no characteristic participation 2 40-50km/h EQL04-04			locations?		the works?	Retween 1 2m	40-50km/h	EQL04-04			
I Incations/ I the works/ Retween 1.7m			iocations:		the works:	& 3m	60-70km/h	EQL04-05			
the works? Between 1.2m 60-70km/h EQL04-05						a sin	80-110km/h	EQL04-06			
the works? Between 1.2m 60-70km/h EQL04-05 & 3m 80-110km/h EQL04-05											
the works? Between 1.2m 60-70km/h EQL04-05 & 3m 80-110km/h EQL04-06						Between 3m &	40-50km/h	EQL04-01			
Incations? the works? Between 1.2m 60-70km/h EQL04-05 & 3m 80-110km/h EQL04-06 Between 3m & 40-50km/h EQL04-01						6m	60-80km/h	EQL04-02			
Initial control in the works? Between 1.2m 60-70km/h EQL04-05 & 3m 80-110km/h EQL04-06 Between 3m & 6m 60-80km/h EQL04-01							90-110km/h	EQL04-03			
Initial control in the works? Between 1.2m 60-70km/h EQL04-05 & 3m 80-110km/h EQL04-06 Between 3m & 6m 40-50km/h EQL04-01 90-110km/h EQL04-02 90-110km/h EQL04-03		1									
Initial control in the works? Between 1.2m 60-70km/h EQL04-05 & 3m 80-110km/h EQL04-06 Between 3m & 6m 40-50km/h EQL04-01 90-110km/h EQL04-03					1						



	GENERAT	OR PLACEME	NT			
		40km/h	EQL06-01			
		50km/h	EQL06-02			
is the Congrator parked	YES	60km/h	EQL06-03			
within the choulder or		None of the	A site specific TGS is			
within the shoulder of verge?		above	required for works			
verger						
	NO	A site specific TGS is required for work				

INCIDENT RESPONSE							
How much of the	Part Lane	EQL01-01					
Roadway is affected by	One Lane	EQL01-02					
the incident?	All Lanes	EQL01-03					
































































































































OPS-FORM-025 TRAFFIC GUIDANCE SCHEME (QLD) | BEST PRINTED IN A3 SIZE 60m MAXIMUM SHUTTLE FLOW LENGTH LATERAL TAPER 30n (27 - 37.5e TOLERANCE) H.S. ON TOLERAND 40km/h TWO-WAY ROAD 10km/h TWO-WAY ROAD 88 -----3 11 IS IS dough 13.0 LATERAL TAPER 30 1 (45-6m TOLERANCE) (27 - 37.5m TOLERANCE) CLIENT: ENERGY QLD EQL09-01 SHUTTLE FLOW, NO TRAFFIC CONTROL - WORKERS WITHIN 1.2m FROM TRAVEL PATH VARIOUS SHORT THIS (TOS) SHALL BE READ IN CONJUNCTION WITH LOCATION: TERM: TION . SERVICE STREET 1.00 T HAS BEEN DEVELOPED TO ALLOW THE CLIENT TO CONDUCT ROAD TYPE: LOCATIONS TWO-WAY SUBURB: WORKS AT THE LISTED LOCATION AND TO DISPLAY A COMMITMENT TO TRAFFIC AND PEDESTRIAN MARAGEMENT, REPORTING, AND REVIEWING, AN ON SITE RISK ASSESSMENT SHALL BE CONDUCTED 1ST CROSS ST. 40 km/h POSTED SPEED: 40 km/h **Evolution Traffic Management** THR REGISTRATION NUMBER: 032 440413320 SHUTTLE FLOW Unit 1/29 Armada Place, Banyo 2ND CROSS ST: TWO-WAY ROADS OPERATION: RIGR TO ERECTING ANY TRAFFIC CONTROL DEVICES. THIS PLAN IS VALID FOR 12 MONTHS FROM DATE OF REVIEW" TRAVELLED PATH: PAST **Queensland 4014** GPS/CHAINAGE: 03 37 of 45 GLDplans@evolutiongroup.com.au EQL09-01 DATE OF REVIEW: 12/09/2024 AADT: >1000











SIDE ROADS							
Is there a speed reduction on the main selected TG5?	YES	Is the Side Road located within the closure?		Is the Side Road located on the same side as the closure?	NO	40km/h	EQL11-02 Option 12
			YES			50km/h	EQL11-02 Option 11
						60km/h	EQL11-02 Option 10
						70km/h	EQL11-02 Option 9
						Unposted (Rural)	EQL11-02 Option 8
						100km/h	EQL11-02 Option 7
						None of the above	A site specific TGS is required for works
						40km/h	EOL11-02 Option 6
					YES	50km/h	EQL11-02 Option 5
						60km/h	EOL11-02 Option 4
						70km/h	EQL11-02 Option 3
						Unposted (Rural)	EQL11-02 Option 2
						100km/h	EQL11-02 Option 1
						None of the above	A site specific TGS is
							required for works
					40km/h		EQL11-03 Option 18
					50km/h		EQL11-03 Option 17
					60km/h		EQL11-03 Option 16
					70km/h		EQL11-03 Option 15
				NO		posted (Rural)	EQL11-03 Option 14
						100km/h	EQL11-03 Option 13
					None of the above		A site specific TGS is
							required for works
	NO	Is the works for Generator Storage TGS?	NO		40km/h		EQL11-04 Option 24
					50km/h		EQL11-04 Option 23
					60km/h		EQL11-04 Option 22
					70km/h		EQL11-04 Option 21
					Unposted (Rural)		EQL11-04 Option 20
					100km/h		EQL11-04 Option 19
					None of the above		A site specific TGS is
							required for works
							at the second second
			YES			40km/h	EQL11-05 Option 27
					50km/h		EQL11-05 Option 26
					60km/h		EQL11-05 Option 25
					None of the above		A site specific TGS is
							required for works
				151			



















