

1. PURPOSE

This SOP has been developed to provide practical guidance to ensure the health and safety of all EGW employees and contractors engaged in works in a road reserve, which includes on a road or roadside. This SOP has been developed to conform to the Road Management Act 2004 Worksite Safety – Traffic Management Code of Practice.

2. APPROVAL

Managing Director

3. DEFINITIONS:

Emergency Works are works required urgently to protect:

- the integrity of road or non-road infrastructure and include works needed to restore an appropriate required level of service to customers;
- a person's health or safety;
- the environment; or
- property.

Infrastructure Manager means, in relation to road infrastructure, the responsible road authority, or in relation to non-road infrastructure, the person or body that is responsible for the provision, installation, maintenance or operation of the non-road infrastructure (eg. a State road authority, a municipal council, utility).

PPC&E means Personal Protective Clothing and Equipment

Long Term Works means works where a traffic management plan is required to operate both day and night and may be left unattended.

Minor Works. The Road Management (Works and Infrastructure) Regulations 2005 describe minor works (relevant to EGW) as being:

- Works consisting of the excavation of –
 - any part of a road other than a roadway, pathway or shoulder; or
 - an area of roadway, pathway or shoulder not exceeding 8.5 square metres.
- Works consisting of using an access hole for the purpose of accessing, repairing or maintaining infrastructure under a road.
- Works consisting of pruning or removing a tree or other vegetation by a utility or an agent of a utility in accordance with an Act other than the Road Management Act 2004.
- Works other than works referred to above, conducted for the purpose of repair, inspection, operation or testing of an asset or for the purposes of a survey.

Minor works does not include works that consist of, or include, the excavation of an area of roadway, pathway or shoulder that exceeds 8.5 square metres.

Mobile Works are works that entail vehicles moving along the roadway continually at a speed significantly lower than other traffic and obstructing or partially obstructing traffic lanes.

Road Reserve means all of the area of land that is within the boundaries of a road.

Roadside means any land that is within the boundaries of a road (other than the shoulders of a road) which is not a roadway or a pathway and includes nature strips, forest, bushland, grassland or landscaped area within the road reserve.

Roadway means the areas of a road that is used for driving or riding of motor vehicles.

Short Term Works are works where a traffic management plan is required only while work personnel are in attendance and generally limited to the duration of a single shift or lesser period where road conditions are returned to normal when the shift or lesser period ends.

Traffic Impact Works (relevant to EGW) means works conducted:

- on a freeway; or
- on an arterial road and that require the deviation of vehicular traffic into an on-coming traffic lane; or
- in a clearway when it is in operation; or
- on, or partly on, or that affect, a bridge or other structure; or
- that require the closure to vehicular traffic of a part of a roadway for continuous period of more than 12 hours or for more than 24 hours in 7 days; or
- that have significant impact of road safety, traffic or other infrastructure.

Traffic Management Plan means the details of proposals for the management of traffic during the conduct of works on roads (whether on the roadway or roadside).

Very Short Term are works that take no longer than five minutes to complete.

Worksite means an area which includes the work area(s) and any additional length of road required for advance signing, tapers, side-tracks, or other areas needed for associated purposes.

Works Manager is any person or body that is responsible for the conduct of works in, on, under or over a road.

4. RESPONSIBILITIES

4.1 The Manager Business Risk and Compliance (through the OHS Officer) is to:

- undertake regular review of this SOP;
- maintain field staff training records and arrange relevant traffic management training for field staff as required; and
- program and conduct random audits of EGW staff and contractors with regard to worksite safety - traffic management.

4.2 Depot superintendents are to:

- ensure that EGW staff follow the requirements of this procedure;
- ensure that only trained and competent staff perform duties associated with traffic management;
- ensure that copies of traffic management plans (or completed Forms 048) are maintained for at least 12 months;
- where required, obtain consents from VicRoads and East Gippsland Shire for the conduct of works; and
- ensure all signage and other traffic management equipment is in good order by arranging periodic inspections.

4.3 Operations staff and contractors are to:

- follow the instructions contained in this SOP;
- only perform traffic management tasks for which they are trained and competent;
- report any faulty or defective signage or other traffic management devices to their supervisor; and
- complete either the traffic management section of Form 048 or other relevant traffic management plan as required.

4.4 Contract managers are to ensure that contract documents adequately reflect the requirements of this SOP wherever contractors are to work on roads, roadsides or in road reserves. MBRC is to be consulted for advice as required.

5. PROCEDURE

The procedures dealing with road traffic management are detailed in Appendix 1.

6. TRAINING

All supervisors and relevant staff will be trained in regard to this SOP. In addition, to accord with the Road Management Act 2004 Worksite Safety - Traffic Management Code of Practice, all staff who are involved in traffic management will complete relevant training conducted by a Registered Training Organisation accredited under the Australian Qualifications Framework. Refresher training will be conducted every three years following receipt of an initial training certificate.

7. REFERENCES

- Occupational Health and Safety Act 2004
- Occupational Health and Safety Regulations 2007, Part 5.1
- Road Management Act 2004
- Road Management (General) Regulations 2005
- Road Management (Works and Infrastructure) Regulations 2005
- Road Management Act 2004 Worksite Safety – Traffic Management Code of Practice
- Road Management Act 2004 Code of Practice Management of Road and Utility Infrastructure in Road Reserves

- AS 1742.3-2002: Manual of Uniform Traffic Control Devices, Part 3: Traffic Control Devices for Works on Roads
- Standards Australia Field Guides for Traffic Control at Works on Roads, HB 81.1, HB 81.2 and HB 81.4
- AS/NZS 1906.1-1993: Retroreflective Materials and Devices for Road Traffic Control Purposes, Part 1: Retroreflective Materials
- AS/NZS 1906.4-1993: Retroreflective Materials and Devices for Road Traffic Control Purposes, Part 4: High Visibility Materials for Safety Garments
- AS/NZS 4360-2004: Risk Management
- AS/NZS 4602-1999: High Visibility Safety Garments

8. REFERENCED FORMS AND WORKS INSTRUCTIONS

- EGW WI 041 - Process for Notification of Works in a Road Reserve
- Form 048 - Field Work Hazard Identification and Control Checklist
- Form 068 - Road Traffic Management Safety Checklist
- Form 078 – Consent for Certain Traffic Control Devices

9. RISK MANAGEMENT

This SOP forms an integral part of East Gippsland Water's Risk Management Program.

Appendices:

1. Procedures Dealing With Road Traffic Management
2. Worksite Risk Management Process Flow Chart
3. Victorian WorkCover Authority Aide-Memoire
4. Table of Worksite Risks
5. Risk Control Selection Table
6. Traffic Management Plan Checklist – Short Term Works
7. Roadside Worksite Speeding Vehicle Checklist (Victoria Police)
8. Traffic Controller Incident Report Form (Victoria Police)

Appendix 1

Procedures Dealing With Road Traffic Management

1. RECORDS MANAGEMENT

The following records relating to work on a road or roadside shall be kept:

- Copy of consent or agreement from coordinating road authority to carry out works in, on, under or over a road (if applicable)
- Copy of authorisation or agreement to use traffic control devices, i.e. portable traffic signals, speed limit signs, etc. (excludes stop a stop/slow bat)
- Copy of the traffic management plan for the works (may be included on EGW Form 048)
- Notification to the coordinating road authority of completion of works
- Copy of incident reports (if applicable)
- Copy of diary notes of any changes/anomalies that may have occurred at the worksite

2. RISK ASSESSMENT

A risk assessment is to be carried out at all worksites. The risk assessment is to be used as a basis for developing a traffic management plan and must take into account all risks associated with planning, setting up, operating, changing and dismantling of the worksite. A worksite risk management flowchart can be found in Appendix 2.

2.1 Step 1 – Determine Site Risk Rating

The site risk rating shall be based on consideration of the main risk factor present at the site. A copy of the Victorian WorkCover Authority “Aide-Memoire” is at Appendix 3, and is contained in the ‘safety folders’ held in field vehicles. It contains tables that assist in determining worksite risk for both long and short term works.

2.2 Step 2 – Determine Required Level of Planning

For the purposes of roadside worksite safety – traffic management, risks shall be allocated a rating of Low (L), Medium (M), High (H) or Very High (V). This rating will be used to determine the level of planning required to eliminate or so far as reasonably practicable reduce the level of risk.

2.2.1 Level of Planning for High or Very High Risk Rating

A site specific traffic management plan is to be prepared by a person experienced and competent in traffic management. The traffic management plan is to be discussed and accepted by those on the worksite. The traffic management plan should also be reviewed by a person appropriately trained and qualified in traffic management. The traffic management plan may form part of the Form 048 completed for the works. For complex works, a separate plan may be required.

2.2.2 Level of Planning for Low or Medium Risk Rating

A site specific traffic management plan should be prepared under the supervision of a person competent and experienced in traffic management. The traffic management plan should form part of the Form 048 completed for the works, and may comprise reference to a standard diagram located within Standards Australia Field Guides for Traffic Control at Works on Roads, HB 81.1, HB 81.2 or HB 81.4

2.3 Step 3 – Consider Risks at the Worksite

A detailed consideration of all relevant risks present at the worksite should be undertaken. It is important that all risks are clearly identified so that effective controls can be chosen that so far as reasonably practicable eliminate or reduce the risk to an acceptable level.

Appendix 4 – Table of Worksite Risks may be a useful aid in determining what risks are present at the worksite.

2.4 Step 4 – Consider Risk Control Measures that Could be Used

When considering risk control measures the Hierarchy of Control should be used to help select the control that will provide the greatest amount of protection to the workers, pedestrians, cyclists and motorists.

In considering the risk control measures that could be used at the worksite, it should be recognised that there is often a need to satisfy competing objectives such as; maximising the safety of workers and all road users; minimising the delay to traffic (including public transport) and attendant costs incurred; and managing the costs of the risk control measures so that they relate to the costs of the associated works. It may be necessary to consider more than one control measure for each risk.

2.4.1 Hierarchy of Controls for Traffic Management

Elimination/Substitution – Can the hazard/risk be eliminated? Some examples are:

- divert the traffic away from the worksite;
- install a side track; or
- close the road for the duration of the works.

Engineering/Isolation – What engineering measures or protective devices can be implemented to either eliminate or control the hazard? Some examples are:

- installation of safety barriers;
- land closures;
- portable traffic signals;
- crash attenuators; or
- increasing the distance to the worksite.

Administrative/Behavioural Controls – What can be done to adjust the behaviour of traffic travelling through the worksite? Some examples are: speed restrictions;

- signage;
- traffic controllers;
- variable message signs; or
- delineation of travel path.

2.4.2 Controlling Hazards and Risks so far as Reasonably Practicable

When investigating how to manage risk and keep a safe worksite, “so far as reasonably practicable”, consideration should be given to:

- the likelihood of the hazard or risk concerned eventuating;
- the degree of harm that would result if the hazard or risk eventuated;
- what the person concerned knows, or ought to reasonably know, about the hazard or risk and any ways of eliminating or reducing the hazard or risk;
- the availability and suitability of ways to eliminate or reduce the hazard or risk; and
- the cost of eliminating or reducing the hazard or risk.

2.4.3 Risk Control Selection Table

Appendix 5 – Risk Control Selection Table provides guidelines to consider the various hazard/risk factors associated with each worksite and the measures that may be implemented to eliminate or so far as reasonably practicably reduce the risks using the hierarchy of controls.

2.5 Step 5 – Decide Risk Controls to be Implemented

In consultation with those who will be working and/or supervising workers at the worksite decide the most appropriate controls.

2.6 Step 6 – Prepare and Implement Traffic Management Plan

Section 99A(3)(a) of the Road Safety Act 1986 requires any person conducting works on a road to have in operation a traffic management plan. All traffic management plans must comply with the prescribed requirements of any relevant regulations.

Appendix 6 – Traffic Management Plan Checklist – Short Term Works provides guidance for developing traffic management plans for short term works.

2.6.1 Using Field Guides as a Traffic Management Plan

If a diagram from the Australian Standards Field Guides is used as a traffic management plan, or forms part of a traffic management plan, the diagram should clearly identify any changes that may be necessary to accommodate conditions at the worksite. (Refer para 2.2.2)

2.6.2 Considerations When Developing a Traffic Management Plan

The following dot points should be given consideration when developing a traffic management plan, particularly if the risk assessment process determines the worksite to be a high or very high risk.

- The overall strategy for the management of traffic, including traffic staging during the various phases of the work.
- Arrangement of traffic control signs and devices for each stage of the works.
- Emergency access – for both workers and any emergency vehicles travelling through the worksite.
- Any unusual hazards or job specific requirements eg. nearby school or access to shops.
- Use of alternate routes as required.
- Provision for over-dimensional vehicles.

- Provision for safe passage for pedestrians, cyclists and people with disabilities.
- Provision for, and impact on, public transport (eg. delay to buses, potential for traffic to queue across an adjacent railway crossing), including where possible, priority for public transport conveyances.
- Provision for access to abutting buildings.
- Duration and times for conducting the works (eg. day or night operation).
- Emergency contact details.
- Communication arrangements.

2.7 Step 7 – Review the Traffic Management Plan in Practice

After the traffic management plan has been implemented, a review should be undertaken to ensure that it is operating as expected.

2.8 Step 8 – Carry Out The Work

If all of the above steps have been followed it should now be as safe as reasonably practicable to conduct the works.

3. SIGNAGE AND PPC&E

3.1 Requirements for Traffic Signs

All traffic signage is to conform to *AS 1742.3 - 2002 Manual of uniform traffic control devices, Part 3: Traffic control devices for works on roads*. All roadwork signs shall be Class 1 retro-reflective.

3.2 Positioning of Signs and Devices

Signs should be positioned and erected so that they:

- are properly displayed and securely mounted;
- are within the line of sight of the intended road user;
- cannot be obscured from view either by vegetation or parked cars;
- do not obscure other devices from the line of sight of the intended road user;
- do not become a possible hazard to workers, pedestrians or vehicles; and
- do not deflect traffic into an undesirable path.

Signs should generally be placed at least one metre clear of the travelled path.

3.3 Sequence of Erection of Signs and Devices

Before work commences, signs at the approaches to the work area should be erected in accordance with the traffic management plan in the following sequence:

- Advance warning signs.
- All intermediate advance and positional signs required in advance of the taper or start of the work area.
- All delineating devices required to form the taper.
- Delineation past the work area of into a side track.
- All other required warning and regulatory signs.

NOTE: A vehicle displaying a flashing light(s) and/or a vehicle mounted warning sign shall be used in advance of the taper position to protect workers setting out or retrieving the taper, or reinstating it if displaced or knocked out.

3.4 High Visibility Clothing

High visibility clothing that conforms to AS/NZS 4602 - 1999 shall be worn by all persons working in or adjacent to traffic, including traffic at worksites.

4. ENVIRONMENTAL IMPACTS

Any works undertaken in, on, under or over a road or roadside shall take into account the rights of the community and reasonable care shall be taken to avoid conduct that may harm the environment of the road or roadside.

5. TIMING OF WORKS

When planning future works the following points should be considered.

- Safety considerations eg. works conducted at night can be more dangerous than work during daylight hours.
- Isolations of other services (gas, electricity, water), day/night implications.
- Inconvenience and disruption to all road users.
- Impacts on abutting residents.
- Impacts on businesses and their customers.
- Generating of excessive noise eg. in a business district it may be better to conduct the works after hours.

6. TRAFFIC MANAGEMENT PLAN

The traffic management plan is an essential requirement of any work undertaken on roads (whether roadway or roadside). The objectives of traffic management plans are to;

- provide a safe environment for all persons working on, and traffic travelling along, roads;
- minimise the impact of the works on traffic (and where possible, give priority to public transport conveyances) and adjacent landowners/occupiers;
- cater for the needs of all road users; and
- communicate the arrangements for, and impacts of, any activities affecting traffic.

Section 2 of this SOP provides guidance for the development of a traffic management plan.

7. CONTRACTORS

All elements of this SOP apply equally to EGW contractors. Contract Managers are to ensure that traffic management issues are satisfactorily addressed in contract health and safety plans, risk assessments, and other relevant contract documents.

8. AUDITING

The Manager Business Risk and Compliance or OHS Officer will program and conduct random audits of EGW staff and contractor works to accord with the requirements of clause 14 of the Worksite Safety – Traffic Management Code of Practice). EGW Form 068 is to be used for this purpose.

8.1 When to Audit

Having regard to the nature and complexity of the works and associated safety risks, consideration should be given to undertaking audits at the following stages of the works.

- At the start of the works.
- At each major change to the traffic management plan.
- During both day and night for long term works.
- Whenever the operation of a traffic management plan results in unexpected significant disruption to traffic.
- At the request of a Health and Safety Representative.

8.2 Items to Consider When Auditing

When auditing compliance with a traffic management plan, and having regard to the nature and complexity of the works and associated safety risks, consideration should be given to the following.

- Safety of workers on the worksite, road users and the public.
- Signs, road markings, temporary safety barriers, lighting, and facilities for pedestrians and cyclists.
- Traffic compliance with the implemented traffic management plan.
- Access to abutting properties.
- Affect of the works on surrounding land use eg. residential, commercial/industrial, car parking, etc.
- Difference in weather conditions.

9. CONSENT AND NOTIFICATION

9.1 Consent

The Road Management Act 2004 (clause 16 of schedule 7) requires any person proposing to carry out works in, on under or over a road to obtain consent of the coordinating road authority, except where exemptions under the Act apply.

9.2 Exemption to Obtain Consent for Minor Works

Consent is not required for minor works other than traffic impact works (see Section 3 [page 1] for definitions of “minor works” and “traffic impact works”).

9.3 Notification of Completion of Works

The Road Management Act 2004 (clause 13 of schedule 7) requires that the works manager must within seven days of completing any works, including reinstatement works, notify the relevant coordinating road authority that the works have been completed.

9.4 Exemption to Give Notice of Completion of Minor Works

Notice to the relevant coordinating road authority is not required for the completion of minor work, other than traffic impact works and works consisting of, or including, the excavation of any part of a roadway, pathway or shoulder, other than an excavation associated only with the repair, maintenance, installation or replacement of a pole.

9.5 The process for notification of works in a road reserve is included in EGW WI 041.

9.6 Agreements

The Road Management Act 2004 (clause 18 of schedule 7) allows the coordinating road authority and the works or infrastructure manager to enter into agreements with respect to proposed works on roads. East Gippsland Water has no agreements in place at the time of writing this SOP.

10. CONSENT FOR CERTAIN TRAFFIC CONTROL DEVICES

An application for Consent to Erect Certain Traffic Control Devices is required to be submitted to VicRoads for all planned works where traffic control devices such as, speed limit signs, end speed limit signs, traffic signals (including portable traffic signals) and stop here on red signal sign (excluding a stop/slow bat) are to be used on any worksite. This application is to be submitted on EGW Form 078.

For emergency works where traffic control devices are required to be erected, contact VicRoads on 131170 and inform them of the changed traffic conditions.

11. REINSTATEMENT WORKS

The works manager must after the works have been completed reinstate the roadway, pathway or area of roadside to the standard before the works were commenced:

- as promptly as is reasonably practicable; and
- as close as is reasonably practicable to an equivalent standard of quality and design; and
- so as to ensure that any feature to assist persons with a disability is restored.

12. EMERGENCY WORKS

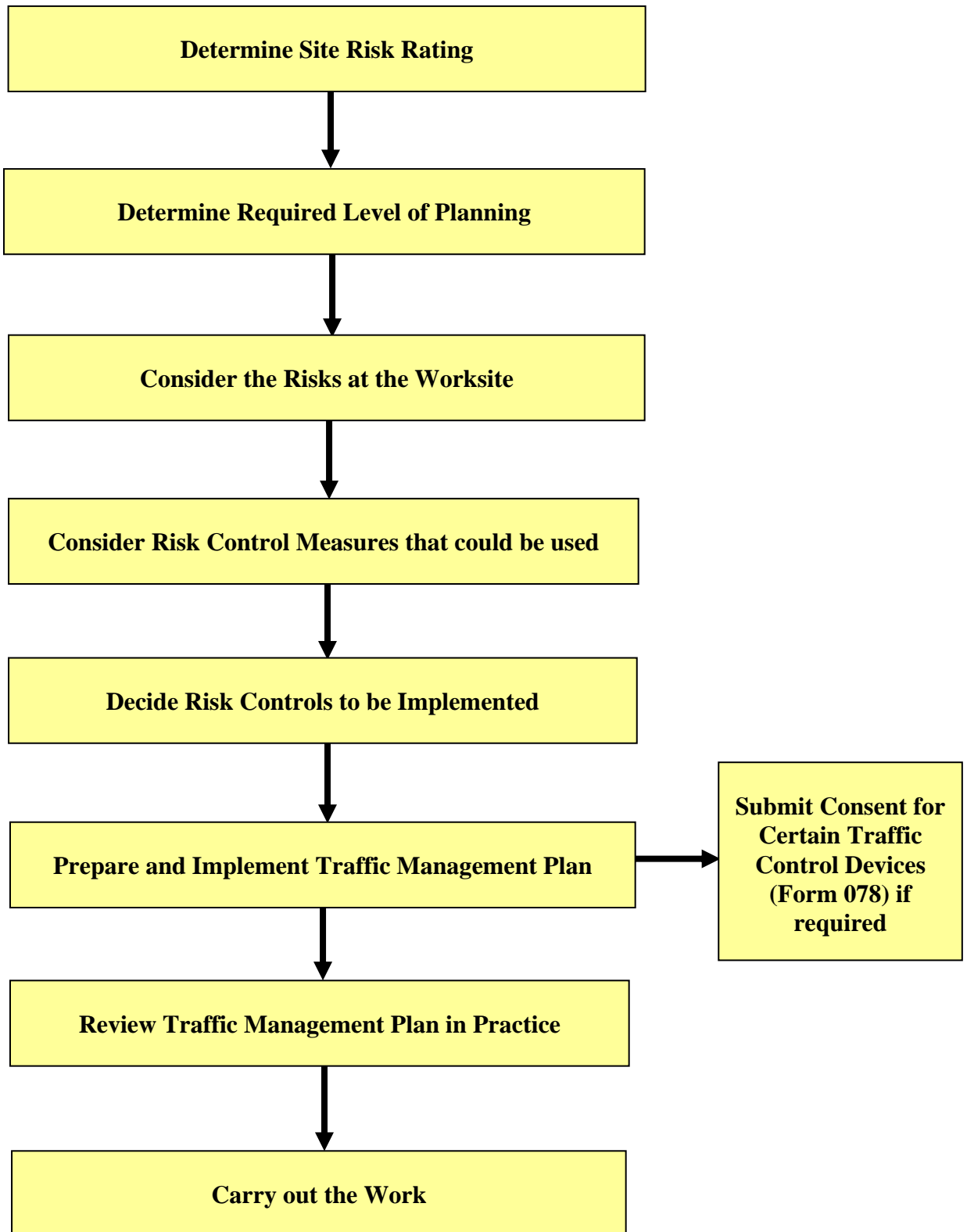
Emergency works are defined in section 3 of this SOP. Unless expressly referenced in this SOP the term “works” does not include emergency works.

13. INCIDENT REPORTING

In addition to EGW OHS Incident Reporting referred to in EGW SOP104, forms exist to report motorists who have disobeyed legally set up traffic controls. Samples are included at Appendices 9 and 10. These forms should be completed and forwarded to Victoria Police Traffic Management Unit in Bairnsdale, with a copy to the Executive Manager Operations and OHS Officer.

Worksite Risk Management Flow Chart

Appendix 2



Victorian WorkSafe Authority Aide-Memoire Appendix 3

Roadside Worksite Safety & Traffic Management

PLANNING

For both a short or long term site, note the following:

- Posted speed limit, and
- Look on Melways to see what colour the road is, and
- Determine the clearance between traffic and workers.

Then use this information to determine the appropriate risk rating and traffic speeds, or traffic treatment.

In all planning tables below, the Code of Practice uses these road types:

Melways colour	Road sign prefix	Road type
BROWN	* thin black line in country directory	Local Traffic Road
ORANGE	'C' prefix	Collector Road or Rural Arterial 'C' Road
RED	'A' or 'B' prefix	Secondary Road or Rural Arterial 'A' and 'B' Road
BLACK	'M' prefix	Arterial Road (urban area) and Rural 'M' Road
GREEN or BLUE		Freeway (Urban)

PLANNING – LONG TERM SITE

Greater than one shift, or where signs may need to be left out overnight.

Determine risk rating:

Clearance to Traffic	Clearance Between Traffic and Workers			
	< 1.2 m	1.2 m – 3.0 m	3.0 m – 9.0 m	> 9.0 m
40 km/h				
Local Traffic Road	L	L	L	L
Collector Road or Rural Arterial 'C' Road	M	L	L	L
Secondary Road or Rural Arterial 'A' and 'B' Road	M	L	L	L
Arterial Road (urban area) and Rural 'M' Road	M	M	L	L
Freeway (Urban)	H	M	L	L
50 km/h				
Local Traffic Road	L	L	L	L
Collector Road or Rural Arterial 'C' Road	M	L	L	L
Secondary Road or Rural Arterial 'A' and 'B' Road	M	L	L	L
Arterial Road (urban area) and Rural 'M' Road	H	M	M	L
Freeway (Urban)	H	M	M	L
60 km/h or 70 km/h				
Local Traffic Road	L	L	L	L
Collector Road or Rural Arterial 'C' Road	M	L	L	L
Secondary Road or Rural Arterial 'A' and 'B' Road	H	M	L	L
Arterial Road (urban area) and Rural 'M' Road	H	M	M	L
Freeway (Urban)	V	H	M	L
80 km/h or 90 km/h				
Local Traffic Road	M	L	L	L
Collector Road or Rural Arterial 'C' Road	H	M	L	L
Secondary Road or Rural Arterial 'A' and 'B' Road	V	H	M	L
Arterial Road (urban area) and Rural 'M' Road	V	H	M	M
Freeway (Urban)	V	V	H	M
100 km/h or 110 km/h				
Local Traffic Road	H	M	M	L
Collector Road or Rural Arterial 'C' Road	V	H	H	M
Secondary Road or Rural Arterial 'A' and 'B' Road	V	H	H	M
Arterial Road (urban area) and Rural 'M' Road	V	V	H	M
Freeway (Urban)	V	V	V	M

(Extract from Code of Practice December 2004, table 5)

How detailed should the traffic management plan be?:

Low or Medium risk	Plan must be prepared under supervision of person suitably competent and experienced in traffic management.
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	May use standard diagram, safe operating procedure or site specific plan.
High or Very High risk	Plan must be site specific, prepared by a competent and experienced person, discussed with workers on the site, and reviewed by a competent and experienced person once controls are in place.

(Extract from Code of Practice December 2004, cl 49)

Determine appropriate traffic speed past worksite:

Where the worksite speed limit determined below is higher than the posted speed limit on the road, then the posted speed limit should remain.

Clearance to Traffic (metres)	Road Type	Safety Barrier in place	Worksite Speed Limit (km/h)
Within 1.2 m	All	No	40
1.2 m to 3.0 m	Local traffic road	No	60
	Collector Road or Rural Arterial 'C' Road	No	60
	Secondary Road or Rural Arterial 'A' and 'B' Road	Yes	Speed limit
	Arterial Road (urban area) or Rural 'M' Road	No	40
	Freeway (urban)	Yes	80
	Freeway (urban)	No	40
3.0 m to 9.0 m	Local traffic road	No	80
	Collector Road or Rural Arterial 'C' Road	No	80
	Secondary Road or Rural Arterial 'A' and 'B' Road	Yes	Speed limit
	Arterial Road (urban area) or Rural 'M' Road	No	80
	Freeway (urban)	Yes	Speed limit
	Freeway (urban)	No	60
> 9.0 m	All	Yes	80
	All	No	100 or 110

(Extract from Code of Practice December 2004, table 6)

PLANNING – SHORT TERM SITE

One shift or less.

Determine traffic management treatment:

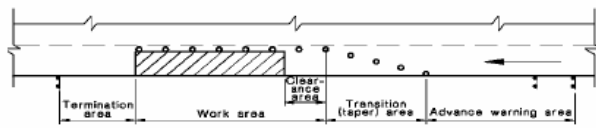
Clearance between traffic and Workers	Clearance			
	< 1.2m	1.2m – 3.0m	3m – 9m	>9m
40 km/h				
Local Traffic Road				
Collector Road or Rural Arterial 'C' Road				
Secondary Road or Rural Arterial 'A' and 'B' Rd				
Arterial Road (urban area) and Rural 'M' Road				
50 km/h				
Local Traffic Road				
Collector Road or Rural Arterial 'C' Road				
Secondary Road or Rural Arterial 'A' and 'B' Rd				
Arterial Road (urban area) and Rural 'M' Road				
60 km/h or 70 km/h				
Local Traffic Road				
Collector Road or Rural Arterial 'C' Road				
Secondary Road or Rural Arterial 'A' and 'B' Rd				
Arterial Road (urban area) and Rural 'M' Road				
Freeway (Urban)				
80 km/h or 90 km/h or 100 km/h or 110 km/h				
Local Traffic Road				
Collector Road or Rural Arterial 'C' Road				
Secondary Road or Rural Arterial 'A' and 'B' Rd				
Arterial Road (urban area) and Rural 'M' Road				
Freeway (Urban)				

Use:

Green	Posted speed limit and vehicle mounted warning devices
Yellow	Posted speed limit, vehicle mounted warning devices and advance warning signs
Orange	Speed limit of 60 km/h, vehicle mounted warning devices and advance warning signs
Red	Speed limit of 40 km/h, vehicle mounted warning devices and advance warning signs

(Extract from Code of Practice December 2004, table 4)

ADVANCE WARNING / SIGNAGE



CALCULATING 'D'

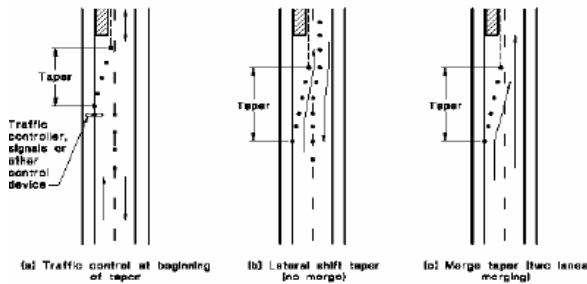
The approach speed is the speed immediately prior to the roadside worksite speed. For example:

- 100 km/h to 80 to 60 through worksite, so D=80.
- 100 km/h to 80 to 60 to 40 through worksite, so D=60.

ADVANCE WARNING

As a general rule, the advance warning distance for motorists should be at least 2D.

TAPER DISTANCE



(Extract from AS1742.3-2002, figure 4.6)

Required taper length:

30 metres	Greater than or equal to 1D	Greater than or equal to 2D
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CLEARANCE AREA

- Recommended clearance area length 20 to 30 metres.
- A 'clear' area – not a parking area.
- AS 1742.3 – "shall be provided where approach speeds are 60 km/h or more".

RECOMMENDED SIGN PLACEMENT

- Lateral spacing 1 metre from traffic paths.
- Clearance of lowest edge of sign above ground:

Short term: 200mm above ground	Long term: Rural – 1.5 metres Urban – 2.2 metres
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CONTROLS

HIERARCHY OF CONTROL EXAMPLES

Hazard elimination / substitution	Divert traffic; close road; install a side track.
Engineering controls / isolation	Close lanes; install barriers; shadow/pilot vehicles.
Administrative / behavioural controls	Speed restrictions; night works; traffic controllers; variable message signs (VMS); portable traffic signals.

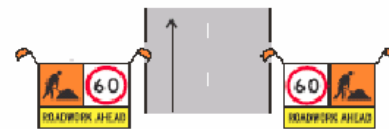
(Part extract from Code of Practice December 2004, table 2)

MULTI-MESSAGE SIGN CHECKLIST

- Not to be used on urban freeways (eg Monash Fwy), unless the speed has been reduced to 60 km/h or less.
- Flags should be displayed on the first MMS, and each displaying a speed reduction sign.
- All frame sections should be filled (with a blank sign if no message).
- At least one section of the sign should be a symbol.
- Ideally the two square signs should be on top of the rectangular sign, and the speed limit plates should be closest to traffic (see drawing below).
- Signs should preferably be displayed on both sides of the road on high volume roads with speeds > 60 km/h.

(Part extract from Code of Practice, December 2004, appendix D)

Figures D1 to D4 (in appendix D) of the Code of Practice show example multi-message sign layouts.



VERY SHORT TERM WORKS

For works carried out between gaps in traffic or which take < 5 minutes, advance warning signs are not required, but the following are:

- Look out person / motorists need very good sight distance (eg. up to 250 metres for traffic speed above 60 km/h, at least 150 metres for traffic speed below 60 km/h).
- Vehicle mounted warning device in use.
- Work vehicle must not encroach on to roadway.
- Must be safe for traffic to pass.

(Part extract from Code of Practice, December 2004, cl 33 - 35)

FREQUENTLY CHANGING WORK AREA

Frequently changing worksites (eg grass mowing, shoulder grading) should display start and end signage as per figure 3 in the Code of Practice.

SAFETY BARRIER "NO GO ZONES"

The following were calculated using theoretical analysis only. If the manufacturers instructions are available, they take precedence over the information below.

Safety barrier type	Maximum Speed Limit (km/h)	Recommended Clearance or No-Go Zone (metres)
Precast Concrete Barrier (6 metre Units) – with Units not connected.	30	Not recommended for use
Precast Concrete Barrier – with Units connected by steel pin or equivalent and a 30 metre minimum length.	100	1.6
	80	1.0
	60	0.6
Plastic Water Filled Barrier – with TL3 compliance.	100	6.0
	80	4.0
	60	2.5

(Part extract from Code of Practice, December 2004, table 7)

HANDY MEASURING HINT

Distance between cats eyes: 24 metres
Length of white line: 3 metres
Gap between lines: 9 metres

(On standard VicRoads roads.)

Reference note: "Code of Practice" is the Road Management Act 2004 Worksite Safety – Traffic Management Code of Practice. Available at <http://www.gazette.vic.gov.au/GazArchFrame.htm>

Appendix 4

Table of Worksite Risks

Consequence	Event	Cause
Injury to Worker	Penetration of worksite by a vehicle	<ul style="list-style-type: none"> • Failure to observe work signs • Failure to navigate through the worksite • Inadequate controls • Failure to comply with controls
	Worker straying onto roadway or clear zone	<ul style="list-style-type: none"> • Inadequate delineation • Inadequate clearance • Inadequate procedures
Injury to motorist or motorcyclists	Obstacles on worksite	<ul style="list-style-type: none"> • Untidy worksite • Worksite left unattended • Improper attention given to motorist or motorcyclists
	Failure to navigate through worksite	<ul style="list-style-type: none"> • Poor signing • Inappropriate signing • Inadequate delineation
	Works vehicle impacting on motorist or motorcyclist	<ul style="list-style-type: none"> • Inadequate signing • Inadequate delineation • Inadequate instructions for workers
Injury to pedestrians or cyclists	Obstacle on worksite	<ul style="list-style-type: none"> • Untidy worksite • Worksite left unattended • Improper attention given to the needs of pedestrians/cyclists
	Failure to navigate through worksite, or poor route through/past worksite	<ul style="list-style-type: none"> • Poor or inappropriate signing • Inappropriate route through or past worksite • Inadequate delineation or separation from other traffic

Risk Control Selection Table

Appendix 5

SAFETY HAZARD/RISK FACTORS	HIERARCHY OF CONTROLS Consider the practicability of controls, from left to right. Select the most practicable given the circumstances and level of risk. Record the reason if a higher-level control is not considered practicable.		
	ELIMINATION/ SUBSTITUTION	ENGINEERING/ ISOLATION	ADMINISTRATION/ BEHAVIOURAL
Clearance to Traffic (Lateral clearance between the nearest edge of a lane carrying traffic and the entire worksite, including all roadworks vehicles or equipment, and pedestrian workers.)	<ul style="list-style-type: none"> • Road Closure • Detour • Side Track 	<ul style="list-style-type: none"> • Safety Barriers • Lane Closure • Vehicle Crash Attenuators 	<ul style="list-style-type: none"> • Speed Reduction • Warning signs / VMS • Delineation of travel path
High speed traffic through worksite	<ul style="list-style-type: none"> • Road Closure • Detour • Side Track 	<ul style="list-style-type: none"> • Safety Barriers • Lane Closure • Portable Traffic Signals • Vehicle Crash Attenuators 	<ul style="list-style-type: none"> • Speed Reduction • Warning Signs / VMS • Traffic Controller
Poor advance sight distance to worksite (<200 metres)	<ul style="list-style-type: none"> • Road Closure • Traffic Diversion 	<ul style="list-style-type: none"> • Vehicle Crash Attenuators • Lead and/or Tall Vehicle(s) 	<ul style="list-style-type: none"> • Extra advance warning signs / VMS • Speed Reduction • Delineation of travel path
Poor observance by motorist of directions/instructions	<ul style="list-style-type: none"> • Road Closure • Traffic Diversion 	<ul style="list-style-type: none"> • Lane Closure • Portable Traffic Signals 	<ul style="list-style-type: none"> • Speed Reduction • Police Presence on Site • Extra Signs / VMS • Re-Assessment of Information Provided
Narrow pavement width with no escape route (<2.9 metres width)	<ul style="list-style-type: none"> • Road Closure • Traffic Diversion 	<ul style="list-style-type: none"> • Safety Barriers 	<ul style="list-style-type: none"> • Speed Reduction • Delineation of Travel Path
Presence of workers at the worksite	<ul style="list-style-type: none"> • Road Closure • Traffic Diversion 	<ul style="list-style-type: none"> • Safety Barriers • Increased Separation from Vehicular Traffic 	<ul style="list-style-type: none"> • Speed Reduction • Warning Signs • Delineation of Travel Path and Worksite

Continued/

/Continued

SAFETY HAZARD/RISK FACTORS	HIERARCHY OF CONTROLS		
	Consider the practicability of controls, from left to right. Select the most practicable given the circumstances and level of risk. Record the reason if a higher-level control is not considered practicable.		
	ELIMINATION/ SUBSTITUTION	ENGINEERING/ ISOLATION	ADMINISTRATION/ BEHAVIOURAL
Excavation adjacent to traffic (>300 mm deep within 1.2 metres of traffic)	<ul style="list-style-type: none"> • Road Closure • Traffic Diversion 	<ul style="list-style-type: none"> • Different Construction Method • Safety Barriers 	<ul style="list-style-type: none"> • Speed Reduction • Delineation of Travel Path
Presence of unprotected hazards within clear zone	<ul style="list-style-type: none"> • Road Closure • Traffic Diversion 	<ul style="list-style-type: none"> • Safety Barriers 	<ul style="list-style-type: none"> • Speed Reduction • Delineation of Travel Path
Rough or unsealed road surface due to roadworks	<ul style="list-style-type: none"> • Road Closure • Traffic Diversion 		<ul style="list-style-type: none"> • Speed Reduction • Warning Signs / VMS
High volume of traffic through worksite (>greater than 10,000 vehicles per day)	<ul style="list-style-type: none"> • Road Closure • Detour • Side Track 	<ul style="list-style-type: none"> • Safety Barriers • Lane Closure • Portable Traffic Signals 	<ul style="list-style-type: none"> • Speed Reduction
High volume of heavy vehicle through worksite	<ul style="list-style-type: none"> • Road Closure • Detour • Side Track 	<ul style="list-style-type: none"> • Safety Barriers • Lane Closure • Portable Traffic Signals 	<ul style="list-style-type: none"> • Speed Reduction
Works vehicles entering/leaving worksite		<ul style="list-style-type: none"> • Safety Barriers • Lane Closure • Portable Traffic Signals 	<ul style="list-style-type: none"> • Speed Reduction • Warning Signs / VMS • Delineation / control of access points
Cyclists/pedestrians through worksite	<ul style="list-style-type: none"> • Alternate Pathway 	<ul style="list-style-type: none"> • Adequate Separated or shared road space 	<ul style="list-style-type: none"> • Speed Reduction • Warning Signs / VMS • Delineation from Other Traffic

Traffic Management Plan Checklist – Short Term Works

Appendix 6

Work Area/Location:					
Step 1 Site Risk Rating	Traffic Volume:				
	Clearance between Workers and Traffic:				
	Traffic Speed:				
	Site Risk Rating:	V	H	M	L
Step 2 Required Level of Planning	Plans Required				
Steps 3 & 4					
Risks at Worksite and Risk Control Measures					
Safety Hazard/Risk Factors	Present at Worksite	Risk Control Measures			
Clearance to traffic					
High speed traffic through worksite					
Poor advance sight distance to worksite (<200 metres)					
Narrow pavement with no escape path (<2.9 metres)					
Presence of workers at the worksite					
Excavations adjacent to worksite					
Presence of unprotected hazards within clear zone					
Rough or unsealed road surface					
High volume of traffic through worksite (>10,000 veh per day)					
High volume of heavy vehicles					
Works vehicles entering/leaving worksite					
Cyclists/pedestrians through worksite					
Other					
Step 5 Risk Control Measures to be used					
Step 6 Traffic Management Plan Prepared and Implemented					
Step 7 Traffic Management Plan in Practice Reviewed					
Step 8 Carry Out The Works					

Roadside Worksite - Speeding Vehicles - Checklist

Check completed by:
Location:

Date:
Time:

CHECK CONTROLS IN PLACE

1 Do you have the appropriate consents?	yes	no	n/a
Consent received from the Coordinating Road Authority to complete works			
Memorandum of Consent obtained if major traffic controls are in use <i>(eg speed restriction or temporary traffic lights)</i>			
Copies of traffic management plan, consent and MOC on site			
2 Is the site set up in accordance with the consents?			
Correct signs displayed in accordance with consent			
Advance warning distances in accordance with consent			
Signs and controls in good condition			
Signs visible to motorists (do a drive by to check)			
Regulatory speed limit check (where speed has been altered)			
Where possible, speed signs duplicated on both sides of the road			
Advance warning distances correct			
Repeater speed signs in place, recommend every 200 metres			
Regulatory speed sign displaying return speed at the end of the worksite			
Side roads signed appropriately			
For long term works, 'roadwork ahead' sign in place			
Portable traffic signals (where in use)			
Advance warning of signals (symbolic sign) in place			
'Prepare to stop' sign in place			
'Stop here on red signal' sign in place			
Stopping distance appropriate			
At least 50 metres distance between signals and worksite			
Operation time of signals appropriate			
Traffic controller (where in use)			
High visibility clothing in good condition and worn correctly			
Positioned at least 30 metres from worksite			
'Symbolic worker' sign in place			
'Prepare to stop' sign in place			

If the answer to the questions above is YES and urgent assistance is required, contact the local Traffic Management Unit (TMU), as detailed in part 4 (below).

If possible, the options below in part 3 should be investigated and implemented prior to contacting the local TMU.

POTENTIAL ADDITIONAL CONTROLS

3 Investigate the practicability of the following			
Could safety at the worksite be improved by deferring the works to another time? <i>(Contact Coordinating Road Authority and request alterations to consent if required.)</i>			
Could the controls be set up differently to slow drivers down? <i>(Contact Coordinating Road Authority and request alterations to consent if required.)</i>			
Could the work process be altered so that clearance distances between workers and traffic are increased, or so that a safety barrier is installed between workers and traffic? This may allow a higher traffic speed past the worksite. <i>(Contact Coordinating Road Authority to request alteration to consent if required.)</i>			
Could any of the following controls be installed to assist with reiterating or confirming speed messages for motorists?			
Additional advanced warning signs			
Speed repeater signs			
Radar speed unit (to show motorists their speed compared to the required speed)			
Variable message sign			

4 Assistance from Victoria Police

If controls have been reviewed and upgraded but the situation with speeding vehicles is still unsatisfactory, request assistance from the local Victoria Police Traffic Management Unit (TMU).

How to request assistance

Telephone the local Victoria Police TMU which is responsible for the area in which you are working, and request that a representative visit site to investigate.

A list of contact phone numbers may be found on the reverse of this document.

This checklist was compiled by the Government Reference Group for Roadside Worksite Safety and Traffic Management. The group consists of motoring, industry and employer groups, unions and regulatory agencies. For more information about the reference group and the Safety for Workers and Traffic (SWAT) campaign please visit www.worksafe.vic.gov.au or call the WorkSafe Advisory Line on 1800 136 089. April 2006

VICTORIA POLICE TRAFFIC MANAGEMENT UNITS

NOTE TO ROADSIDE WORKSITE PERSONNEL:

Victoria Police should only be contacted after an assessment of the worksite has been completed to ensure all appropriate controls are in place (see other side of this document).

It is also important that all consent paperwork is on site and the site is set out in accordance with the consent prior to requesting assistance, otherwise delays in potential enforcement will result.

REGION 1	LOCATION	PHONE	FAX
Melbourne TMU	Brunswick	9380 7238	9380 7344
Yarra TMU	Brunswick	9380 7260	9380 7344
Stonnington TMU	Prahran	9510 4833	9510 6074
Port Phillip TMU	Prahran	9510 4833	9510 6074
Glen Eira TMU	Moorabbin	9556 6104	9556 6590
BaySide TMU	Moorabbin	9556 6104	9556 6590
Kingston TMU	Moorabbin	9556 6106	9556 6590
RTTU (Regional Traffic Tasking Unit)	Moorabbin	9556 6107	9556 6590

REGION 2	LOCATION	PHONE	FAX
Hobsons Bay TMU	Williamstown	9393 9553	9393 9550
Maribyrnong TMU	Melton	9747 7971	9747 7972
Brimbank TMU	Melton	9747 7970	9747 7972
Melton TMU	Melton	9747 7969	9747 7972
Wyndham TMU	Werribee	9742 9401	9742 9415
Geelong TMU	Geelong	5225 3148	5225 3308
Surf Coast TMU	Torquay	5261 3884	5261 6608
Ballarat TMU	Sebastopol	5336 1306	5336 2600
Moorabool TMU	Sebastopol	5336 1306	5336 2600
Central GoldFieldsTMU	Sebastopol	5336 1306	5336 2600
Horsham TMU	Horsham	5382 9244	5382 9257
Stawell TMU	Stawell	5358 8209	5358 8239
Ararat TMU	Ararat	5352 3880	5352 4501
Warrnambool TMU	Warrnambool	5560 1200	5560 1177
Colac TMU	Colac	5231 5599	5231 4377
Hamilton TMU	Hamilton	5572 1999	5571 1153
Portland TMU	Portland	5523 1277	5523 1910
RTTU (Regional Traffic Tasking Unit)	Corio	5273 9547	5273 9584

REGION 3	LOCATION	PHONE	FAX
Whittlesea TMU	Epping	9409 8129	9401 8180
Darebin TMU	Northcote	9403 0200	9403 0277
Moreland TMU	Brunswick	9380 7263	9386 6977
Moonee Valley TMU	Brunswick	9380 7304	9386 6977
Hume TMU	Craigieburn	9303 4433	9303 4404
Bendigo TMU	Bendigo	5441 5246	5443 1124
Macedon Ranges	Gisborne	5428 8583	5428 4045
Shepparton TMU	Shepparton	5820 5837	5820 5814
Echuca TMU	Echuca	5482 1744	5480 2590
Moira (Cobram) TMU	Cobram	5871 1977	5872 1443
Mildura TMU	Mildura	5018 9777	5023 3888
Swan Hill TMU	Swan Hill	5036 4444	5032 4663
RTTU (Regional Traffic Tasking Unit)	Epping	9409 8100	9401 8180

REGION 4	LOCATION	PHONE	FAX
Banyule TMU	Heidelberg	9450 8090	9450 2646
Manningham TMU	Doncaster	9841 0222	9842 8003
Nilumbik TMU	Eitham	9430 4555	9430 4565
Whitehorse TMU	Nunawading	9874 7000	9872 4707
Boroondara TMU	Nunawading	9874 7000	9872 4707
Monash TMU	Nunawading	9874 7000	9872 4707
Knox TMU	Wantima South	9881 7918	9881 7087
Maroondah TMU	Wantima South	9881 7921	9881 7087
Yarra Ranges TMU	Mt. Evelyn	7936 1745	9736 1847
Mitchell TMU	Seymour	5735 0244	5735 0267
Benalla TMU	Benalla	5762 2477	5762 1517
Mansfield TMU	Mansfield	5775 2374	5775 1276
Wangaratta TMU	Wangaratta	5723 0840	5723 0652
Wodonga TMU	Wodonga	02 6049 2650/1	02 6049 2605
RTTU (Regional Traffic Tasking Unit)	Boronia	9760 6649	9760 6647

REGION 5	LOCATION	PHONE	FAX
Frankston TMU	Frankston	9784 5500	9781 1656
Hastings TMU	Hastings	5979 7033	5979 3404
Rosebud TMU	Rosebud	5986 0404	5986 7206
Dandenong TMU	Dandenong	9767 7504	9767 7502
Casey TMU	Narre Warren	9705 3111	9705 3144
Cardinia TMU	Pakenham	5941 1033	5941 3906
Wonthaggi TMU	Wonthaggi	5672 5469	5672 3490
Warragul TMU	Warragul	5622 7111	5623 4276
Morwell TMU	Morwell	5132 2303	5132 2304
Bairnsdale TMU	Bairnsdale	5152 0530	5153 1111
Orbost TMU	Orbost	5154 1844	5154 1173
Sale TMU	Sale	5144 2244	5144 7753
RTTU (Regional Traffic Tasking Unit)	Dandenong	9767 7500	9767 7502

Appendix 8

Traffic Controller Incident Report Form

Use this form to record the details of motorists who have disobeyed legally set up traffic controls.
Noting as many details as possible assists Victoria Police to investigate the incident.

Incident Details

Date: **Time:** am / pm

Vehicle:

Vehicle registration: Colour:
Make and/or model: Body:

Driver:

Male / female: Other passengers in vehicle? yes / no

Description of event:

Weather conditions:

Site Details

Location:

Melway reference:

Activities underway:

If acting as subcontractor, contractor / principal name:

Sketch

If possible, provide a quick sketch showing the situation:

- * Road layout
- * Road names, including closest side street
- * Sign layout
- * Location of traffic controller
- * Location and direction of travel of motorist
- * Confirm that appropriate high visibility clothing was being worn

Your Details

Your personal details will remain strictly confidential unless you are required to attend court as a witness.
Under the Privacy Act, your personal details will not be used for any other purposes without your consent.

In signing below I declare the information in this document to be true and correct and I am willing and prepared to attend court if required.

Traffic controller name: **Contact phone:**
Company name:

Signature:
Date:

Witness name, if applicable: **Contact phone:**
Company:

Signature:
Date:

Management contact name: **Contact phone:**
Company: **Title:**

Signature:
Date:

What to do now?

Provide copy of MOC and/or road authority permit as applicable.

Fax this form (and documents noted above) to the VICTORIA POLICE TRAFFIC MANAGEMENT UNIT (TMU) nearest to the incident location.

Fax numbers for all TMU's are located on the 'Roadside Worksite - Speeding Vehicles - Checklist.

What happens next?

Victoria Police will investigate the incident. A warning may be given to the motorist.

If the case proceeds further to prosecution, then the traffic controller will be asked to provide a statutory declaration / statement and must be willing to attend court.

*This form was compiled by the Government Reference Group for Roadside Worksite Safety and Traffic Management.
The group consists of motoring, industry and employer groups, unions and regulatory agencies.
For more information on this group and the Safety for Workers and Traffic (SWAT) campaign please visit www.worksafe.vic.gov.au or call the WorkSafe Advisory Line on 1800 136 089. April 2006*