Worksite Safety Update

Promoting safety in road construction

No 114 December 2011

In this Edition:

Mobile Plant Safety Challenges for 2012

Plant Rollovers

The end of the decade long drought and the onset of heavy rain and floods coincided with an increase in all type of plant rollovers on project sites. Because of the increasing incidence of plant rollovers a challenge was issued to our industry early in 2011 to identify plant risks such as rollover risk areas and seek effective controls to prevent these rollovers, so far as reasonably practicable.

The movement of powered mobile plant is also classified as High Risk Construction Work under the OHS Regulations 2007 and pending National Uniform OHS Regulations. The Regulations also require hazard identification and Safe Work Method Statements for this work clearly describing the controls and how they will be implemented.

The wet weather was clearly a significant contributing factor and work practices which had proven relatively safe under dry conditions were not safe in wet ground conditions. Many younger operators had probably never operated in other than drought conditions.

Plant with high centres of gravity such as articulated dump trucks, rollers, scrapers, etc. make them more susceptible to rollovers, but the wet ground condition and sometimes the lack of experience of operators in these unfamiliar conditions contributed to the increased incidence. Even tracked plant such as excavators rolled over in the conditions.

Verge Construction

Rollovers during verge construction were the most commonly reported. Fortunately the batter edges on most verges only present the risk of a fall of about half a metres and although this still presents a risk to the operator experience has shown it may be significantly reduced if they are wearing their seat belt.

Fortunately the requirement to 'wear seat belts' became general safe operating practice on major projects sites during the year and both operators and employers are to be congratulated because this undoubtedly prevented injuries. **However, because wearing a seat belt depends on operator behaviour it needs to be positively reinforced and where necessary enforced by employers as a necessary part of the culture change and on-going behavioural safety program. Employees have a duty to wear the belts and Employers have a duty to supervise safety under the OHS Act.**

Although the wearing of a seat belt has been proven to reduce the likelihood and severity of injuries, under the hierarchy of safety controls we need to do more to eliminate the rollovers, so far as reasonably practicable. The risk increases significantly as the height of the batter increases and the rollover / fall energies increase.

Verge rollovers were eliminated once it was agreed that verge widths would be increased so that preferably 1 metre wheel / roller clearance is retained each side of the plant required to operate on the verge during construction. This provides for operator error and does not place the machine on the edge of the verge. **The solution has been identified and principal contractors now as a minimum need to ensure that SWMS include this control. However, higher level controls are encouraged for higher batters.**

It has been observed that the use of Pad foot type rollers to compact the fill does present problems in wet conditions in that the depressions can store water and does not encourage drainage of the area. Subsequently the wet surface is likely to increase the risk of plant sliding during operation and potential edge collapse.

Smooth drum rolling used to be used at the end of the days work to encourage drainage. The surfaces should also be kept level to reduce the sway of plant with high centres of gravity - a known contributing factor to rollover with some types of plant.

Plant Movement - Reversing Risks

There has been five identified road construction plant reverse over type fatalities in Australia over a 12 month period. Two in Queensland, One in New South Wales, One in Victoria (road sweeper) and more recently One in Canberra (grader). Because of the number of fatalities this is our industries major high risk area and presents a challenge to our industry to seek more effective and reliable controls to prevent such incidents in future.
If your project involves work where plant and pedestrians (workers or public) can be in close proximity then you have the potential for plant to run over pedestrians. Reverse over incidents are more common because of the large blind spots evident at the rear of some plant. The existing dependence on reversing alarms and the behaviour of works personnel is clearly not working.

The movement of mobile plant has been responsible for numerous pedestrian fatalities around the world. Because of similar experience in Australia it has been classified as High Risk Construction Work under the OHS Regulations 2007 in Victoria and under pending National Uniform OHS Regulations.

The regulations require a Safe Work Method Statement (SWMS) which identifies the hazards for this work clearly describing the controls and how they will be implemented.

The hierarchy of safety controls apply commencing with the elimination of the risk through the separation of pedestrians from mobile plant operating areas, so far as is reasonably practicable.

Safety Alert 97a previously circulated to VicRoads Projects and our Contractors in 2011 has been updated to reflect the more recent Victorian and Canberra Incidents and has been appended to this Update for the information of our industry, with the objective of preventing these incidents in future. Our industry associations are encouraged to circulate to their members because this has been identified as the highest risk area in our industry at present.

Truck Mounted Attenuators – Recent Developments

The Securing of Ballast to TMAs

For optimum performance it is essential that any specified TARE weight (truck, attenuator, arrow board, VMS, cabin fit out, generators, etc) required by the US Federal Highway Administration in their letters of crash test acceptance and performance are achieved for safe performance of the product. Ballast has been extensively used for this purpose and it is essential that the ballast is safely secured to the TMA (usually the truck tray).

Engineering calculations need to be conducted to ensure the adequacy of these attachments. One attenuator manufacturer states that: "the force on the tie down straps could be 20 times the weight of the ballast".

Webbing tie down straps may not be adequate particularly if no other restraint exists to prevent the ballast shifting under the impact.

Concrete blocks and water filled containers of one or two tonnes are frequently used for ballast. If they break free under impact they could go through the windscreen of an impacting vehicle which may otherwise have been successfully cushioned / retarded by the attenuator, particularly under a high energy impact.

A frame to prevent sliding and chain type tie downs observed during a recent site visit as an example of a ballast restraint device currently in use.

Truck Mounted Attenuator (TMA) Guidelines

After extensive and on-going consultation with TMA Operators in Victoria the VicRoads TMA Guidelines are being revised to take into account stakeholder needs.

We have standardised the TMA functional specifications where practical, taking into consideration the significant dependence on hired and traffic management contractor provided TMAs in Victoria as detailed in the November edition of this newsletter.

At this time very few TMAs of 15 tonne GVM are available in Victoria because the previous focus has been on achieving the recommended TARE weights to comply with the crash testing and US Federal Highway Administration (FHWA) acceptance letter weight requirements and attenuator manufacturer specifications. Many TMAs are relatively new and it would impose a significant cost to our Operators if the transition period was less than 5 to 7 years.

At this time based on recent industry association survey results there are at least 34 TMAs currently deployed in Victoria with access to more as necessary, 14 of which have been identified within the Line Marking Industry.

Recent TMA Incident

A Truck Mounted Attenuator (TMA) was recently impacted by a light vehicle during night works. The impact was severe enough to completely crush the attenuator indicating a high speed impact. The TMA brakes were not applied at the time of the impact and the operator had driven forward to reduce impact severity. The lack of initial braking resulted in a shunt forward distance of approximately 30 metres.

The TMA was protecting a traffic management crew removing a lane closure, an activity known to increase traffic management risks, justifying the TMA deployment. Visibility was good on a relatively straight section of the freeway and speed restrictions were still in place. The vehicle was observed to run straight into the TMA with no evasive action or braking indicated. No one was injured but the safety of the traffic management crew and the driver of the crashing vehicle would have been seriously compromised if the TMA had not been protecting the activity.

Based on the investigation report fatigue is considered to be a significant contributing factor, reinforcing the need for physical protection such as TMAs for short term works. Should drivers fall asleep or fail to observe and act on advance warning devices such as signs and flashing lights then the TMA will attenuate the impact protecting both traffic management personnel and the occupants of the crashing vehicle.

Although it is unlikely that the driver of the impacting vehicle in the above incident would have observed advance warning signs and lights, operators are reminded that TMA advance warning is required where TMAs occupy traffic lanes on high traffic volume high speed roads such as urban freeways.

VMS displays are required to warn drivers of approaching vehicles that the lane ahead is closed and to merge right or left as applicable. Whether the VMS display is trailer, vehicle or TMA mounted should be subject to a risk assessment and consider the presence of a wide verge or emergency lanes and whether the VMS can be deployed not intruding into traffic lanes – if not TMA protection for any advance warning vehicle operator would be a consideration.

The crash attenuator was fully compressed by the high speed impact

TMA Deployment and Advance Warning

Review of approved TMA operating practices around the world and in other states show that for works outside of the traffic lanes they uniformly require the TMA to be located in the shoulder or emergency lane (where available). This practice avoids unnecessary exposure to traffic by being located outside of traffic lanes and therefore reduces the likelihood of TMA impact.

Naturally where works are conducted in the traffic lanes it is then necessary to place a TMA in that lane to protect works personnel but exposes the TMA to an increased likelihood of impact. The New Zealand TMA Best Practice Study demonstrated the need for advance warning and both Victoria, Queensland and New South Wales are now deploying advance warning particularly on high traffic volume high speed urban freeways and where curves restrict driver forward visibility on other high speed roads.

This advance warning is usually via VMS and is located clear of traffic either in the verge or emergency lane or behind barriers. For longer term static works the VMS may be trailer mounted and for short term progressively moving or mobile works it may be mounted in a suitable vehicle or on another TMA for the protection of the operator.

For longer term static works formal lane closures should be established as soon as possible. Under lane closure the TMAs are moved closer to the work crews for optimum protection, rather than left at the beginning of the lane closure.

Diagram 1. TMA Deployment in Emergency Lane or Verge

The TMA, works vehicle or works personnel shall not intrude into trafficked lanes. Short term works may be conducted without speed reduction. Speed reduction shall comply with the Worksite Safety - Traffic Management Code of Practice 2010.

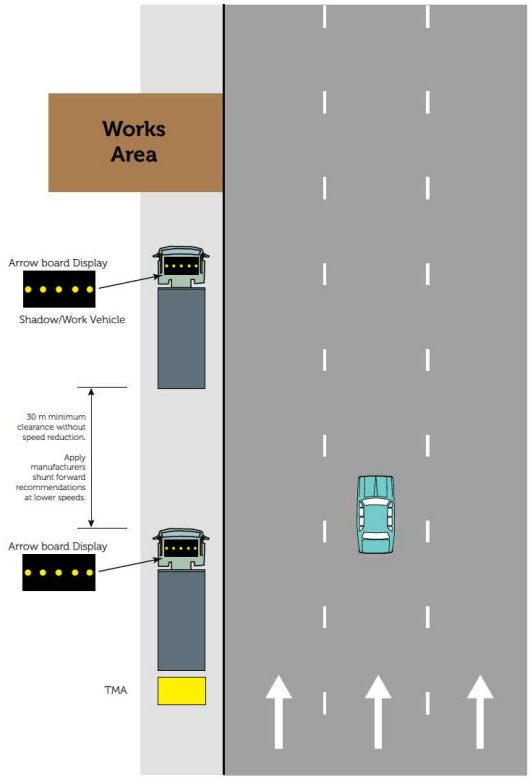
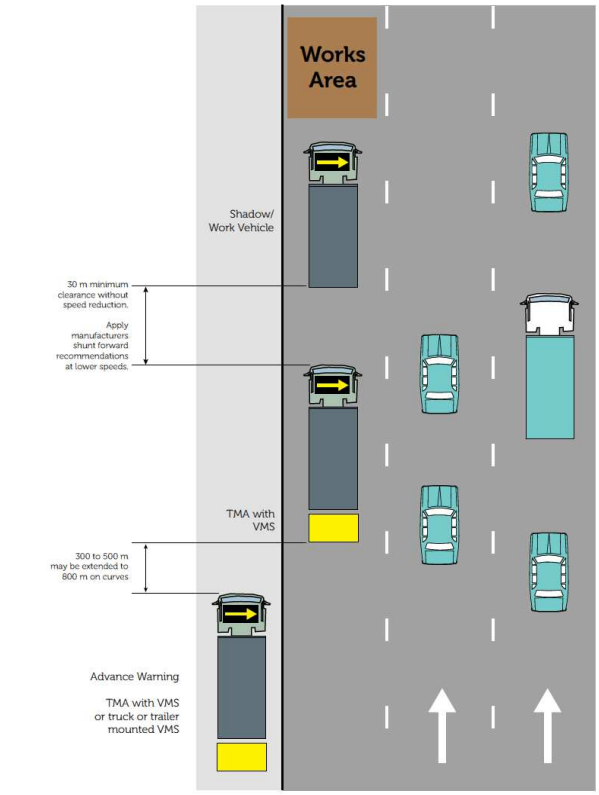


Diagram 4. TMA Deployment in Traffic Lanes – High Traffic Volume

Short term emergency works may be conducted without speed reduction but a formal lane closure shall be established to the Worksite Safety – Traffic Management Code of Practice as soon as practical. Advance warning TMA with VMS deployed in verge or emergency lane.



Deployment of TMAs & Work Vehicles for work out of and in traffic lanes

Traffic Management Vehicles

Another Traffic Management Vehicle has been sighted designed to permit personnel to safely ride in the rear of the vehicle at walking speed within a roadwork worksite.

The objective of such a vehicle design is to eliminating potential exposure of personnel to a direct impact by a vehicle. This Evolution Traffic Control design includes additional platform door protection reinforcement in case of a glancing impact to the side of the vehicle and a harness system to restrain personnel within the vehicle.

Platform door open showing reinforcing to protect personnel

It is good to see the on-going safety innovation in our industry, which also supports work efficiencies. Developments associated with traffic management are particularly outstanding when one considers where we were ten years ago with eight road related fatalities in Victoria during one 26 month period at that time.

Well done - keep up the excellent safety innovation. Work on or adjacent to trafficked roads is still a high risk activity but our controls today tend to provide much greater physical protection (positive protection as our colleagues in USA call it). The hierarchy of safety controls introduced by VicRoads in 2004 for worksite traffic management and later supported by the OHS Regulations 2007 has both facilitated and acted as a catalyst for improvement and innovation.

VicRoads Worksite Traffic Management – Sign Spacing & Taper Lengths Guide

Traffic Management Note No 33 – Sign Spacing & Taper Lengths Guide has been produced by VicRoads. It is available on the VicRoads web site and a copy has been provided with this Update for your convenience.

Worksite Site Safety Update is produced monthly by VicRoads Major Projects Division to communicate industry safety information and initiatives within VicRoads and to our contractors. It is also circulated via the WorkSafe Safety Soapbox to industry. The content reflects civil road construction and maintenance safety and includes works conducted on or beside operational roads. The editor may be contacted at: michael.rose@roads.vic.gov.au

DECEMBER 2011

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TRAFFIC MANAGEMENT NOTE

No. 33 - Worksite Traffic Management
Sign Spacing and Taper Lengths Guide

How to use the Sign Spacing and Taper Lengths Guide

This guide is a reference document to be used in conjunction with the Victorian Worksite Safety – Traffic Management Code of Practice.

It is only a guide and not a substitute for the formal guidelines for setting out traffic guidance schemes for works on roads in Victoria – see the references below.

This guide has primarily been produced to provide the recommended nominal spacing between signs and taper lengths at worksites. These recommended distances should be used in preference to those recommended in AS 1742.3.

This guide should be used as a template to determine the nominal position of various signs. This guide is **not** a definitive resource on the signs to be used. Which warning signs are used will depend on the circumstances, in accordance with the Code of Practice and AS 1742.3.

Any signing layouts that comply with the Code of Practice are also acceptable.

Modifications due to site conditions

The plates shown in the multi-message boards must be altered to meet site conditions. For example:

- if there are no workmen on site, then the symbolic worker sign should not be shown
- if there is no traffic controller with a STOP/SLOW bat, then the symbolic traffic controller sign should not be shown
- if there is no expectation that the traffic will have to stop then the 'PREPARE TO STOP' sign should not be shown
- lane status signs must accurately reflect the actual lane closures in place
- additional warning signs may be necessary.

The nominal distances shown in this guide may need to be amended due to site conditions. For example:

- the location of advance signs may need to be further upstream to ensure they are beyond the expected maximum queue length
- adjustments must be made if there is a sight obstruction at the nominal point.

References

- Worksite Safety – Traffic Management Code of Practice (August 2010)
- Australian Standard 1742.3–2009 Manual of uniform traffic control devices, Part 3: Traffic control for works on roads
- Road Safety (Traffic Management) Regulations 2009

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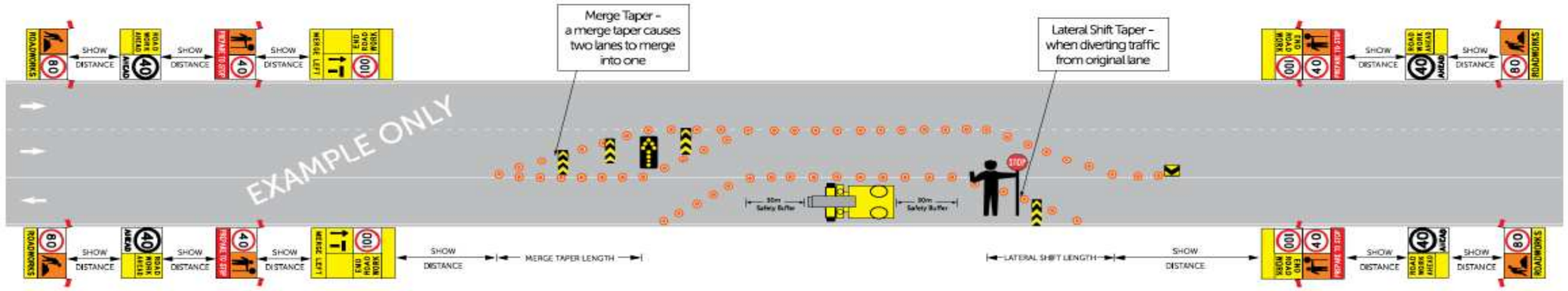
Posted Speed		Reduced Worksite Speed											Merge		Lateral shift
110	to	80	Speed Limit Ahead sign is optional	ROAD WORK AHEAD 80 AHEAD	200 m			80 ROADWORK AHEAD	110 m	MERGE RIGHT	110 m	145 m	220 m to safety buffer if lane status not required	or	90 m
110	to	60		ROAD WORK AHEAD 60 AHEAD	150 m		150 m	60 PREPARE TO STOP	110 m	MERGE RIGHT	110 m	130 m	220 m to safety buffer if lane status not required	or	80 m
110	to	40		80	200 m	ROAD WORK AHEAD 40 AHEAD	200 m	40 PREPARE TO STOP	90 m	MERGE RIGHT	80 m	115 m	160 m to safety buffer if lane status not required	or	70 m
100	to	80	Speed Limit Ahead sign is optional	ROAD WORK AHEAD 80 AHEAD	150 m			80 ROADWORK AHEAD	100 m	MERGE RIGHT	100 m	145 m	200 m to safety buffer if lane status not required	or	90 m
100	to	60		ROAD WORK AHEAD 60 AHEAD	125 m		125 m	60 PREPARE TO STOP	100 m	MERGE RIGHT	100 m	130 m	200 m to safety buffer if lane status not required	or	80 m
100	to	40		80	200 m	ROAD WORK AHEAD 40 AHEAD	200 m	40 PREPARE TO STOP	90 m	MERGE RIGHT	80 m	115 m	160 m to safety buffer if lane status not required	or	70 m
90	to	80						80 ROADWORK AHEAD	90 m	MERGE RIGHT	90 m	130 m	180 m to safety buffer if lane status not required	or	80 m
90	to	60		ROAD WORK AHEAD 60 AHEAD	90 m		90 m	60 PREPARE TO STOP	90 m	MERGE RIGHT	90 m	115 m	180 m to safety buffer if lane status not required	or	70 m
90	to	40		ROAD WORK AHEAD 40 AHEAD	125 m		125 m	40 PREPARE TO STOP	90 m	MERGE RIGHT	90 m	115 m	180 m to safety buffer if lane status not required	or	70 m
80	to	60	Speed Limit Ahead sign is optional	ROAD WORK AHEAD 60 AHEAD	80 m	ROAD WORK AHEAD	80 m	60 PREPARE TO STOP	90 m	MERGE RIGHT	80 m	115 m	160 m to safety buffer if lane status not required	or	70 m
80	to	40		ROAD WORK AHEAD 40 AHEAD	100 m		100 m	40 PREPARE TO STOP	90 m	MERGE RIGHT	80 m	60 m	160 m to safety buffer if lane status not required	or	30 m
70	to	60	Speed Limit Ahead sign is optional	ROAD WORK AHEAD 60 AHEAD	70 m	ROAD WORK AHEAD	70 m	60 PREPARE TO STOP	70 m	MERGE RIGHT	70 m	60 m	70 m to safety buffer if lane status not required	or	30 m
70	to	40	Speed Limit Ahead sign is optional	ROAD WORK AHEAD 40 AHEAD	70 m	ROAD WORK AHEAD	70 m	40 PREPARE TO STOP	70 m	MERGE RIGHT	70 m	60 m	70 m to safety buffer if lane status not required	or	30 m
60	to	40	Speed Limit Ahead sign is optional	ROAD WORK AHEAD 40 AHEAD	60 m	ROAD WORK AHEAD	60 m	40 PREPARE TO STOP	50 m	MERGE RIGHT	60 m	60 m	60 m to safety buffer if lane status not required	or	30 m
50	to	40				ROAD WORK AHEAD	50 m	40 PREPARE TO STOP	50 m	MERGE RIGHT	50 m	30 m	50 m to safety buffer if lane status not required	or	15 m

Note: These examples only show distances for common set-ups. Always refer to AS1742.3-2009 and Worksite Safety - Traffic Management Code of Practice - 2010 for full details

End Road Works - Return Speed = 50 m past site or on back of first multiframe exiting the worksite - on both sides of carriageway

END ROAD WORK 80



Helpful hints

Symbolic workers MUST be shown if workers are on-site.

Symbolic Traffic Controller and PREPARE TO STOP **Prepare to Stop MUST** be used together if a Traffic Controller will be stopping traffic.

- If traffic is not going to be stopped, **REMOVE** the Symbolic Traffic Controller and **Prepare to Stop** plates
- Place **Symbolic Workers** in the multiframe with worksite speed limit sign

Flags (dual) on the first multiframe drivers come to and all multiframes with the reduced worksite speed limits.

Set the worksite speed limit to 40 if:
1) Pedestrians are within 0-1.2 m of an active traffic lane
2) A bicycle lane is closed and bicycles must share the traffic lane

The length of a 40 km/h worksite speed limit is **NOT** to exceed 500 m unless written consent is given by the road authority.

All sign frames containing speed or speed limit AHEAD signs are to be signed on both sides of the carriageway.

40 km/h repeater signs must be spaced approximately every 200 m; all other repeater speed limit signs to be spaced every 500 m.

How CLOSE a worker is to moving traffic (without safety barriers)	Reduced Worksite Speed Limit
0 to 1.2	40 km/h
1.2 m to 3 m	40 km/h*
3 m to 6 m	60 km/h
6 m to 9 m	80 km/h, but 60 km/h on arterial roads and freeways
Above 9 m	Posted speed limit * 80 km/h on freeways

* Refer Table 5, pg 55, Code of Practice for Exemptions

Where there is no lane closure, the lane status sign, arrow board and cones/bollards marking the merge taper are not required. The distance from the last sign to the start of work area (or safety buffer, if required) is marked in **blue** in the *"Sign Spacing and Taper Lengths Guide"* diagrams.

As the multi-message sign plates are smaller than the equivalent stand alone signs, they should not be used on urban freeways, except where the worksite speed limit for traffic approaching the multi-message sign is 60 km/h or less and there are no more than two trafficable lanes for that direction of travel.

Note: This is a guide only and must be used in conjunction with AS1742.3-2009 and Worksite Safety - Traffic Management Code of Practice - 2010 for full details

Safety Alert

WORKING AROUND MOBILE PLANT DURING ROAD CONSTRUCTION

The recent five fatal incidents: New South Wales (1), Queensland (2), Victoria (1) and Canberra (1) highlight the reason why the Movement of Powered Mobile Plant at a Workplace is considered high risk construction work. For good reason Safe Work Method Statements (SWMS) are required for this activity which highlight the very high risk of pedestrians being run over by mobile plant.

Most of the fatal incidents occur during plant reversing operations when the operator / driver does not see a pedestrian in the large visual blind spots evident on most plant. For this reason it is essential that this high risk activity hazard be highlighted in site SWMS and effective hazard controls clearly stated and implemented.

The hazard controls are required to follow the hierarchy of hazard / safety control and the obligation is to apply the highest control practical:

1. **ELIMINATION of the hazard must be the first objective and this can be achieved through eliminating pedestrians from plant movement areas, wherever practicable.**
2. **SUBSTITUTION**
3. **ISOLATION**
4. **ENGINEERING**
5. **ADMINISTRATIVE**

The attached Safety Alert has been produced by WorkSafe Queensland specifically for working around plant during the construction of roads and related infrastructure as the result of the two recent fatalities from plant reversing over Traffic Controllers.

The control measures recommended are equally valid in Victoria with an emphasis on the elimination of pedestrian plant contact wherever practicable.

More information is available from WorkSafe Victoria:
http://www.worksafe.vic.gov.au/wps/wcm/connect/wsinternet/worksafe/home/forms+and+publications/alerts/powered+mobile+plant+on+construction+sites

PLEASE COMMUNICATE THIS INFORMATION TO ALL RELEVANT ROAD CONSTRUCTION & MAINTENANCE STAFF AND CONTRACTORS

SAFETY ALERT

Working around mobile plant during construction of roadworks and related infrastructure

The purpose of this alert is to highlight the hazards and risks to workers performing traffic management and road construction work on roadways, following two recent fatalities. The information provided is designed to assist employers, self employed people, principal contractors, clients and project managers to meet their obligations under the *Workplace Health and Safety Act 1995*.

Background

Two traffic controllers were fatally injured in separate locations on 15 November 2010 when they were struck by reversing trucks at civil construction roadwork sites.

The first instance involved a traffic controller working on a site near Mackay. The traffic controller was positioned on the pavement area at an intersection to direct traffic around the bitumen spray seal operations. Trucks carrying pre-coated screenings were reversing along the road to the stockpile area for reloading. The worker was struck and suffered fatal injuries.

The second incident involved a traffic controller who was struck and fatally injured by a reversing tipper truck. The truck was delivering asphalt for road surfacing operations on Stafford Road north of Brisbane at night. The truck was fitted with an operating reverse beeper and reversing light at the time of the incident. The truck was also fitted with an external rear mounted reverse camera that was not operating at the time of this incident.

Contributing factors

These incidents are associated with the hazard of plant coming into contact with traffic control workers and other workers sharing the same work zone on road construction sites.

The risk to workers increases when mobile plant operators fail or are unable to see workers in close proximity. Risk also increases when the operator's line of sight is impaired due to direction of travel or size and shape of plant.

Action required

Control measures should be selected in accordance with the hierarchy of controls. Higher order controls that substitute, isolate or engineer out the risk should be selected in preference to an administrative control. In practice, a combination of higher and lower order controls will normally be adopted to appropriately manage the risk.

Elimination

This involves controlling the hazard at the source. Examples may include:

- removing plant and people from the same work area by changing work processes
- using traffic lights instead of a traffic controller to control traffic at roadwork sites.

Substitution
This involves replacing the hazard with another that has a lower risk. An example may include replacing an item of mobile plant, which has a restricted field of vision to one that has a clear field of vision.

Isolation
This involves removing or separating people from the source of the hazard. Examples may include:

- using physical barricades
- using exclusion zones that are enforced and clearly marked
- segregating the work processes through distance and time; for example allowing earthworks to finish before survey begins.

Engineering
This involves changing physical characteristics of the plant or work area to remove or reduce the risk. Examples may include:

- reversing cameras that provide clear visibility of the area behind the mobile plant
- an externally triggered emergency brake control that will stop the vehicle prior to coming into contact with an object or person
- proximity detection technology within mobile plant that allows for monitoring of ground crew at all times by the plant operator
- re-design of plant to allow for clear line of sight
- audible warning devices activated when the vehicle is reversing.

Administrative
This includes policies, procedures, signs and training to control the risk. Examples may include:

- developing and implementing a traffic management plan for any traffic control activities being undertaken
- developing and implementing a construction safety plan for the work being undertaken which addresses relevant risks on site including how control measures will be monitored and reviewed
- developing and implementing a work method statement to identify any risks and implement controls measures to prevent or minimise the risk for any construction work being undertaken
- organising, coordinating and monitoring work processes to reduce interaction between workers and mobile plant by:
  - developing a site access system or permit system that manages the movement of personnel on the worksite and that provides clear and concise communication process with all work groups in relation to risks and controls measures to be implemented
  - using an onsite controller to authorise and monitor the movement of mobile plant in all circumstances
  - using a spotter to control all reversing operations; the spotter needs to be in a position that does not place them at risk from contact with the reversing vehicle and the driver must always maintain sight of the spotter
  - implementing measures where workers have clear sight of mobile plant operating and operators of mobile plant have a clear line of sight in the direction of travel
  - providing equipment such as two way radios that allows for communication between mobile plant and ground crew. This should include communication protocols relating to the location and direction of mobile plant and measures to manage issues with poor transmission and miscommunication
  - conducting pre-start meetings prior to commencing work to discuss all specific work site hazards and risks and control measures including the allocation of safety tasks and responsibilities
  - thoroughly checking safety devices and audible working alarms of mobile plant prior to commencing any work
  - ensuring people are fit for work; consideration needs to be given to fatigue, heat stress and cognitive ability to function effectively
  - ensuring worker training, experience and competency is consistent with the nature and complexity of the tasks being undertaken.

Control measures need to be regularly monitored and reviewed to ensure they are effective in preventing or minimising the risk.

Further information

The *Workplace Health and Safety Act 1995* (the Act) requires that a person (relevant person) who conducts a business or undertaking has an obligation to ensure:

- the workplace health and safety of their workers
- any other person affected by the conduct of the relevant persons business or undertaking
- their own workplace health and safety.

This can be achieved, in part, by providing and maintaining safe plant, ensuring safe systems of work and providing information, instruction, training, supervision to ensure health and safety.

A relevant person may include the following:

- employers
- self employed persons
- principal contractors
- clients
- project managers.

If a regulation exists for specific risks at your workplace, you must follow the *Workplace Health and Safety Regulation 2008* to prevent or minimise the impact of the risk. The regulation sets out the legal requirements to prevent or control certain hazards, which might cause injury or death in the workplace.

The Regulation:

- prohibits exposure to a risk
- prescribes ways of preventing or minimising exposure to a risk
- deals with administrative matters.

The section of the Regulation that applies in this circumstance relate to Construction Work in Part 20 of the Regulation.

The movement of powered mobile plant at a workplace is considered a *high-risk construction activity* and requires a *work method statement* to be produced for the activity undertaken.

Where there is a requirement to appoint a principal contractor for the work then a written construction safety plan must be completed before construction work starts.

Codes of practice state ways to manage exposure to risks. If a code of practice exists for a risk at your workplace, you must:

- do what the code says; **or**
- adopt another way that identifies and manages exposure to the risk; **and**
- take reasonable precautions and exercise due care.

Codes that apply in this circumstance are the:

- *Plant Code of Practice 2005*
- *Risk Management Code of Practice 2007*
- *Traffic Management for Construction or Maintenance Work Code of Practice 2008*.

For practical advice on managing exposure to risk when using plant, visit the Workplace Health and Safety Queensland website for information at www.worksafe.qld.gov.au