

**Safe movement of
vehicles at workplaces**



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Guidance notes

A guidance note is an explanatory document issued by the Commission for Occupational Safety and Health (the Commission) providing detailed information on the requirements of legislation, regulations, standards, codes of practice or matters relating to occupational safety and health.

Guidance notes are developed within the tripartite setting of the Commission, with input from representatives of employer organisations, unions, the state government and experts.

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Authority

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Introduction

Vehicles and mobile plant moving in and around workplaces are a cause of occupational injuries and deaths in Western Australia.

This guidance note provides information and assistance on the safe movement of vehicles and mobile plant in workplaces.

Everyone who has a duty to prevent, as far as practicable, hazards at workplaces should use this guidance note. This includes employers, employees, self-employed people and people in charge of workplaces.

Hazards and risks

Traffic and pedestrian movement at workplaces should be designed, planned and controlled so traffic can circulate safely.

Improving workplace traffic safety systems, in addition to reducing work-related injuries, can also improve workplace efficiency and productivity.

Where are the hazards?

Workplace hazards involving vehicles and mobile plant may occur during:

- pedestrian movement;
- vehicles or plant reversing and manoeuvring;
- arrivals or departures;
- loading or unloading;
- hitching or unhitching of trailers;
- mounting or dismounting from vehicles;
- securing of loads;
- movement of materials; and
- maintenance work.

Reversing, loading, unloading and pedestrian movement are the activities most frequently linked with workplace vehicle accidents.

Who is at risk?

People who work with, or near vehicles and mobile plant, such as cars, vans, forklifts, trucks, semi-trailers, trailers, tractors, loaders, buses and utilities are most at risk.

People also at risk may include other workers, management, self-employed people, customers and visitors at workplaces.



Controlling the risks


The *Occupational Safety and Health Act 1984* states that employers have a duty to ensure, as far as practicable, that employees and other people at the workplace are not exposed to hazards. This can be done through a regular risk management process involving three steps:

- identify hazards;
- assess the risks of injury or harm; and
- control the risks through the implementation of control measures to eliminate or reduce them.

More information can be found in the WorkSafe publication *The First Step*.

There is a preferred order of control measures to eliminate or reduce the risks of injury or harm ranging from the most effective to the least effective. This is outlined in the table on the next page.

Table 1**Preferred order of control measures to eliminate or reduce the risk of injury or harm**

<p>Elimination — removing the hazard or hazardous work practice from the workplace. For example, eliminating vehicle movement where possible, or removing the need for reversing.</p>	<p>Most effective control measure</p> 
<p>Substitution — substituting or replacing a hazard or hazardous work practice with a less hazardous one. For example, substituting unsafe vehicles, loading facilities, road signage or road surfaces with safer ones.</p>	
<p>Isolation — isolating or separating the hazard or hazardous work practice from people involved in the work or people in the general work area. For example, isolation of vehicles from pedestrians at traffic areas or vice versa.</p>	
<p>Engineering controls — if the hazard cannot be eliminated, substituted or isolated, an engineering control is the next preferred measure. For example, installing pedestrian barriers, handrails and separate access ways for pedestrians and vehicles.</p>	
<p>Administrative controls — this includes introducing work practices that reduce the risk, such as implementing measures to ensure procedures, instruction and training are provided. For example:</p> <ul style="list-style-type: none"> • providing information, training, supervision and safe procedures on vehicle movement at workplaces; • restricting pedestrian access in certain areas or at certain times; • preventing reversing in certain areas or at certain times; • providing designated parking for work and private vehicles; and • monitoring risks to ensure they remain as low as possible. 	
<p>Personal protective clothing and equipment — these should be considered only when other control measures are not practicable or to increase protection. While essential for some work practices, these should be the last in the list of priorities. For example, providing safety boots, helmets and reflective jackets.</p>	
<p>In some instances, a combination of control measures may be appropriate.</p> <p>Other means of reducing the risk may be more appropriate to a particular case than the ones mentioned above, if they can eliminate or reduce the risk of injury or harm.</p>	<p>Least effective control measure</p>

Traffic routes

Safe design

Workplace routes should be:

- safe for both vehicles and pedestrians at the workplace;
- wide enough for the largest vehicle using them, including the load;
- one-way if possible, with adequate passing space around stationary vehicles;
- clearly sign-posted to indicate restricted parking, headroom, speed limits, vehicle movement and other route hazards;
- surfaced with bitumen, concrete or other suitable material that is well drained; and
- free from excessive gradients, with steep gradients that cannot be avoided clearly sign-posted.

Lift trucks and similar plant should operate on gradients only if they are designed to do so.

Unsealed routes at temporary workplaces, such as construction sites and forestry operations, should be designed and controlled to ensure safe vehicle movement.

Safety maintenance

Workplace routes should be well maintained and:

- free from obstructions, grease or slippery substances;
- free from damage to surfaces; and
- immediately cleaned or cleared following substance spills or items falling from vehicles.

Safe signs

Clear road markings and signage should alert vehicle operators to:

- speed limits;
- sharp bends;
- junctions;
- pedestrian crossings;
- vehicle crossings;
- blind corners;
- steep gradients; and
- road works.



Pedestrians

Safe walkways

The safest way to protect pedestrians is to provide:

- separate, clearly marked footpaths or walkways;
- pedestrian barriers at building entrances and exits to prevent pedestrians walking in front of vehicles;
- traffic routes wide enough for safety where separation is not practicable;
- marked traffic routes, for example lines painted on the floor or ground;



- separate access ways for vehicles and pedestrians into buildings or enclosures; and
- vision panels in pedestrian doors entering vehicle areas.

Safe crossings

Workplaces where pedestrians have to cross vehicle routes should have:

- clearly visible ground markings and signs;
- clear pedestrian and vehicle visibility; and
- adequate lighting.



Safe parking

Onsite parking, if provided, should enable separation between work and private vehicles. Private vehicles should be parked away from busy work areas where practicable.

Walkways leading to and from parking areas should be safely surfaced, clearly marked, adequately lit, unobstructed, sign-posted and separated from vehicle routes.

Employees and customers who bring private vehicles to workplaces should be provided with and required to comply with:

- specified safe routes;
- clear safety signs at parking areas;
- clear speed limit signs; and
- information and instruction on safe driving on workplace routes.

Safe loading bays

Loading bays should be situated in safe and suitable locations where vehicles can be manoeuvred easily, and near tarping areas. Where practicable, they should be protected from adverse weather conditions.

Raised loading platforms should be:

- provided with safe access, egress and safe bays for people working at ground level;
- clearly marked along the edges;
- if necessary, fitted with rails on the non-loading side to reduce the risk of someone falling off the edge; and
- fitted with raised wheel stop edges to prevent vehicles, such as forklifts and trolleys, rolling over the edge.



Safe lighting

All routes, manoeuvring areas and yards should be:

- adequately lit, with particular attention to junctions, buildings, plant, walkways and vehicles routes; and
- designed to avoid extreme light variation, eg drivers moving from bright sunlight into dull light or vice versa.

Where practicable, operators exposed to hazardous sun glare should be provided with suitable protection, eg sun visors or screens.

Safe reversing

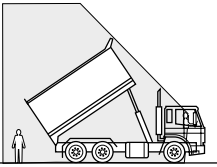
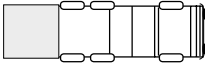
Most reversing accidents can be avoided by:

- removing the need for reversing, eg with drive-through loading and unloading systems;
- minimising the need for reversing, eg by reorganising loading and unloading procedures;
- providing clearly marked reversing areas visible to drivers and pedestrians;
- excluding non-essential personnel from the area;
- ensuring rear vision mirrors, fixed safety mirrors and windscreens are kept clean and in good repair;
- ensuring signallers wear high-visibility clothing and their signals are clearly seen;
- keeping reversing alarms in good working order and loud enough to be heard above other noises at the workplace;
- using radios and other communication systems;
- ensuring drivers have another person to direct them before reversing, if they cannot see clearly behind;
- ensuring visiting drivers are familiar with workplace routes and reversing areas;
- providing larger reversing areas;
- placing fixed mirrors at blind corners;
- fitting refractive lenses on rear windows to help drivers see 'blind spots'; and
- using flashing reversing lights on vehicles if workplace noise is too loud for reversing alarms to be heard.

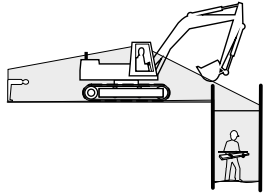
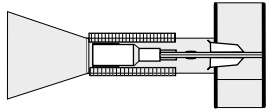


Safety near operating plant

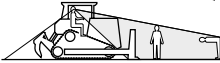
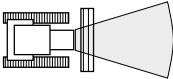
Machines have blind spots where operators may not see people nearby. The following diagrams illustrate typical examples of blind spots for some common mobile plant.



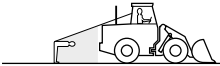
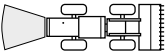
TIP TRUCK



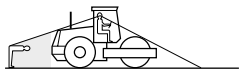
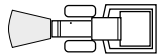
EXCAVATOR



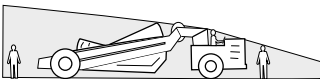
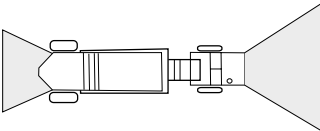
DOZER



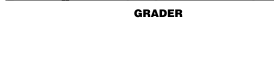
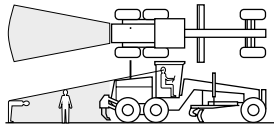
RUBBER TYRED LOADER



VIBRATING ROLLER



RUBBER TYRED SCRAPER



GRADER

Tips for employees

When vehicles are operated nearby:

- clearly understand everyone's tasks;
- look out for other vehicles or mobile plant using the area;
- remember operators cannot always see pedestrians; and
- consider wearing high visibility vests.

Safe trailer practices

Injuries can occur when people at ground level assist in the hitching of trailers or trailed implements to semi-trailer cabs, tractors and other prime movers.

Safe procedures should ensure there is a clear form of communication between the operator and the hitcher.

To prevent parked prime movers and trailers rolling, they should be parked:

- on level ground, preferably in a designated parking area;
- with brake firmly applied; and
- if necessary with wheels chocked.

Any raised attachments, such as slashers or rotary hoes on tractors, should be lowered to the ground and the engine stopped and starter key removed to prevent unauthorised use.

Safety laws

Western Australia's work safety and health laws cover all individuals at workplaces, and all workplace vehicles including mobile plant and equipment.

What does the Act say?

The *Occupational Safety and Health Act 1984* requires employers, as far as practicable, to provide and maintain a working environment in which employees are not exposed to hazards.

Employers' duties include:

- providing and maintaining safe workplaces, plant and systems of work;
- providing safety information, instruction, training and supervision;
- consulting and cooperating with safety and health representatives (if any) and employees; and
- where it is impracticable to eliminate hazards, providing protective clothing and equipment.

Employees are required to:

- take reasonable care of their own safety and health; and
- avoid adversely affecting the safety or health of others.

What do the Regulations say?

The Occupational Safety and Health Regulations 1996 include a number of sections relevant to the movement of vehicles at workplaces.

The first and most important of these is Regulation 3.1, which requires employers, main contractors, self-employed people and those in control of workplaces or access to workplaces to conduct the three-step risk management process (for more details, see the information in Section 2.3 on controlling the risks).

Regulation 3.6, 'Movement around workplaces' requires employers, main contractors, self employed people or those in control of workplaces, ensure workplaces are arranged so that:

- people are able to move safely within the workplace; and
- passages for the purpose of enabling people to move within the workplace are at all times kept free of obstructions.

Regulation 3.22 requires employers, main contractors and those in control of workplaces to ensure the movement and speed of vehicles and plant at the workplace are managed in a way that minimises the risk of injury to pedestrians and people operating vehicles.

Other information

The Commission for Occupational Safety and Health's *Code of practice: Fatigue management for commercial vehicle drivers* is available online at www.worksafe.wa.gov.au or for purchase from WorkSafe.

WorkSafe website www.worksafe.gov.au contains:

- industry specific information in transport and storage, wholesale and retail;
- WorkSafe bulletins on issues such as driver fatigue; and
- safety topics such as fatigue management, plant and machinery and forklifts.



Government of
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