DRAFT

TRAFFIC MANAGEMENT IN WORKPLACES

Code of Practice

JULY 2013

safe work australia

safe work australia

Safe Work Australia is an Australian Government statutory agency established in 2009. Safe Work Australia consists of representatives of the Commonwealth, state and territory governments, the Australian Council of Trade Unions, the Australian Chamber of Commerce and Industry and the Australian Industry Group.

Safe Work Australia works with the Commonwealth, state and territory governments to improve work health and safety and workers' compensation arrangements. Safe Work Australia is a national policy body, not a regulator of work health and safety. The Commonwealth, states and territories have responsibility for regulating and enforcing work health and safety laws in their jurisdiction.

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TABLE OF CONTENTS

This draft Code has been provided to the Select Council on Workplace Relations (Ministerial Council) for agreement. This Code will become a model WHS Code of Practice under the Inter- Governmental Agreement for Regulatory and Operational reform in OHS when it is agreed by the Ministerial Council.

FOREWORD

This Code of Practice on managing health and safety risks associated with traffic in the workplace is an approved code of practice under section 274 of the *Work Health and Safety Act* (the WHS Act).

An approved code of practice is a practical guide to achieving the standards of health, safety and welfare required under the WHS Act and the Work Health and Safety Regulations (the WHS Regulations).

A code of practice applies to anyone who has a duty of care in the circumstances described in the code. In most cases, following an approved code of practice would achieve compliance with the health and safety duties in the WHS Act, in relation to the subject matter of the code. Like regulations, codes of practice deal with particular issues and do not cover all hazards or risks which may arise. The health and safety duties require duty holders to consider all risks associated with work, not only those for which regulations and codes of practice exist.

Codes of practice are admissible in court proceedings under the WHS Act and Regulations. Courts may regard a code of practice as evidence of what is known about a hazard, risk or control and may rely on the code in determining what is reasonably practicable in the circumstances to which the code relates.

Compliance with the WHS Act and Regulations may be achieved by following another method, such as a technical or an industry standard, if it provides an equivalent or higher standard of work health and safety than the code of practice.

An inspector may refer to an approved code of practice when issuing an improvement or prohibition notice.

This Code of Practice has been developed by Safe Work Australia as a model Code of Practice under the Council of Australian Governments' *Inter-Governmental Agreement for Regulatory and Operational Reform in Occupational Health and Safety* for adoption by the Commonwealth, state and territory governments.

SCOPE AND APPLICATION

This Code of Practice provides practical guidance for persons conducting a business or undertaking on how to manage the risks associated with traffic in the workplace. It applies to all businesses or undertakings where there is a risk of vehicles and powered mobile plant colliding with people in the workplace.

This Code does not provide guidance for managing traffic related risks when working on or near a public road. Persons conducting a business or undertaking should contact the local road authority for the relevant traffic management requirements and guidelines.

Persons conducting a business or undertaking should contact their local mining regulator for information on traffic management requirements for mines.

HOW TO USE THIS CODE OF PRACTICE

In providing guidance, the word 'should' is used in this Code to indicate a recommended course of action, while 'may' is used to indicate an optional course of action.

This Code also includes various references to provisions of the WHS Act and Regulations which set out the legal requirements. These references are not exhaustive. The words 'must', 'requires' or 'mandatory' indicate a legal requirement exists and must be complied with.

1. INTRODUCTION

Managing traffic is an important part of ensuring the workplace is without risks to health and safety.

Traffic at a workplace can include:

- vehicles like cars, trucks, vans, buses and powered mobile plant like forklifts
- cyclists, and
- pedestrians including workers, visitors to the workplace and members of the public.

Vehicles moving in and around a workplace, reversing, loading and unloading are often linked with death and injuries to workers and other people. Effective traffic management can help keep a workplace safe by ensuring traffic moves safely and efficiently within, through and around the workplace.

1.1 The meaning of key terms

Plant includes any machinery, equipment, appliance, container, implement and tool, any component of any of those things and anything fitted or connected to any of those things. Examples of plant include lifts, cranes, computers, machinery, conveyors, forklifts, vehicles, power tools and amusement devices.

Powered mobile plant means plant that is provided with some form of self-propulsion that is ordinarily under the direct control of an operator.

1.2 Who has health and safety duties in relation to traffic management?

A person conducting a business or undertaking has the primary duty to ensure, so far as is reasonably practicable, workers and other people are not exposed to health and safety risks arising from the business or undertaking.

This duty requires the person to manage risks by eliminating health and safety risks so far as is reasonably practicable, and if it is not reasonably practicable to eliminate the risks, by minimising the risks so far as is reasonably practicable of people being injured by moving vehicles at the workplace.

A person conducting a business or undertaking who has management or control of a workplace must ensure, so far as is reasonably practicable, the workplace, the means of entering and exiting the workplace and anything arising from the workplace is without health and safety risks to a person.

The person conducting a business or undertaking with management or control of powered mobile plant at a workplace must ensure it does not collide with pedestrians or other powered mobile plant. Without limiting this requirement, if there is a possibility of the plant colliding with pedestrians or other powered mobile plant, the person must ensure the plant has a warning device alerting anyone nearby who may be at risk from its movement.

A principal contractor for a construction project where the cost of the construction work is $250 000 or more has duties including:

- preparing a written work health and safety management plan for the construction project, and
- managing health and safety risks associated with traffic in the vicinity of the workplace that may be affected by construction work carried out in connection with a construction project.

Designers, manufacturers, suppliers and importers of plant or structures must ensure, so far as is reasonably practicable, the plant, substance or structure they design, manufacture, import or supply is without risks to health and safety. For example, designing workplaces so vehicle and pedestrian routes are separated by an overhead walkway or designing mobile plant so the operator can see easily and the plant has speed limiters and warning devices. This duty includes carrying out testing and analysis as well as providing specific information about the plant or structure. The risk of an operator being ejected from the powered mobile plant should also be managed, for example by installing seat restraints.

Officers, such as company directors, have a duty to exercise due diligence to ensure the business or undertaking complies with the WHS Act and Regulations. This includes taking reasonable steps to ensure the business or undertaking has and uses appropriate resources and processes to eliminate or minimise risks from traffic at the workplace.

Workers have a duty to take reasonable care for their own health and safety and to not adversely affect other people's health and safety. Workers must co-operate with reasonable policies or procedures relating to health and safety at the workplace and comply, so far as they are reasonably able, with reasonable instructions.

Other persons at the workplace, like visitors, must take reasonable care for their own health and safety and must take reasonable care not to adversely affect other people's health and safety. They must comply, so far as they are reasonably able, with reasonable instructions given by the person conducting the business or undertaking to allow that person to comply with the WHS Act.

1.3 What is involved in managing risks associated with traffic hazards?

Chapter 2 of this Code provides guidance on how to manage the risks associated with traffic management at the workplace by following a systematic process which involves:

- identifying hazards – find out what could cause harm
- assessing risks if necessary – understand the nature of the harm that could be caused by the hazard, how serious the harm could be and the likelihood of it happening
- controlling risks – implement the most effective control measures that are reasonably practicable in the circumstances, and
- reviewing control measures to ensure they are working as planned.

Further guidance on the risk management process is in the Code of Practice: *How to manage work health and safety risks.*

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CONSULTING YOUR WORKERS

Section **47(1)**

The person conducting a business or undertaking must, so far as is reasonably practicable, consult with workers who carry out work for the business or undertaking who are, or are likely to be, directly affected by a matter relating to work health or safety.

Section **48(2)**

If the workers are represented by a health and safety representative, the consultation must involve that representative.

Consultation involves sharing information, giving workers a reasonable opportunity to express views and taking those views into account before making decisions on health and safety matters.

Consultation with workers and their health and safety representatives is required at each step of the risk management process. By drawing on the experience, knowledge and ideas of your workers you are more likely to identify all hazards and choose effective control measures.

You should encourage your workers to report hazards and health and safety problems immediately so the risks can be managed before an incident occurs.

CONSULTING, CO-OPERATING AND CO-ORDINATING ACTIVITIES WITH OTHER DUTY HOLDERS

Section **46**

If more than one person has a duty in relation to the same matter, each person with the duty must, so far as is reasonably practicable, consult, co-operate and co-ordinate activities with all other persons who have a duty in relation to the same matter.

There is often more than one business or undertaking involved in managing traffic in the workplace.

In these situations you should share information to find out who is doing what and work together in a co-operative and co-ordinated way so all risks are eliminated or minimised so far as is reasonably practicable.

For example, a transport company should consult with goods suppliers and the businesses having the goods delivered about how the risk of collision with workers and others will be controlled. This may involve discussing site-specific requirements including entering and exiting the site, vehicle parking, delivery areas and scheduling suitable times for loading and unloading.

Further guidance on consultation requirements is in the Code of Practice: *Work health and safety consultation, co-operation and co-ordination*.

2. THE RISK MANAGEMENT PROCESS

Effectively managing risks associated with traffic moving in and around a workplace should start with identifying the hazards and assessing the risks so effective control measures can be implemented.

2.1 Identifying traffic hazards

The first step in the risk management process is to identify every hazard that could potentially cause harm to people. Traffic management hazards generally come from the interaction between vehicles and pedestrians. The following can help you identify potential hazards:

- Check the floor plan or sketch a site layout.
- Ask your workers, pedestrians and visiting drivers about traffic management problems they encounter at your workplace.
- Review your incident and injury records including near misses.
- Review security footage and observe the workplace to identify areas where pedestrians and vehicles interact.

You should consider:

- Which vehicle types including powered mobile plant use the same area as pedestrians?
- How do vehicles, delivery drivers and pedestrians move around the area? Are they separated? Are there physical barriers to stop them interacting? It can be difficult to see pedestrians when plant is reversing, moving at speed or has a load.
- Do vehicles queue in a way that could create risks to pedestrians, for example crossing walkways or obstructing people's view of vehicles?
- Are routes wide enough to separate vehicles and pedestrians?
- How often and where do vehicles and pedestrians interact? Can work be scheduled to minimise interaction, for example loading and unloading at night, before businesses open or when people leave the work area e.g. during meal breaks for manufacturing process lines? Are activities done close to public areas, for example schools during peak traffic periods?
- When are traffic volumes higher, for example pick-up and delivery times and vehicles arriving and leaving? Are there certain times when there are more people moving around the workplace, for example break times and the ends of shifts?
- Where are potential collision locations? For example:
  - intersections and bottleneck areas around driveways and entrances
  - 'blind' or convex corners
  - where vehicles work close to other vehicles or pedestrians
  - lack of disabled access to and within a workplace, and
  - where a person in a wheelchair shares a ramp used by forklifts.
- Are workers and visitors safe from vehicles when hitching and unhitching trailers, carrying out maintenance, getting on and off vehicles and securing loads?
- Is contact with stationary objects possible? For example, overhead structures, stationary plant or stored or discarded items.

- Are there blind spots at the workplace caused by stationary equipment and vehicles and other areas of poor visibility or low lighting levels? Consider how well the driver can see when their vehicle is moving.
- What other hazards could arise when routing pedestrians, for example noise, emissions or falling objects?
- What impact does the physical environment have on health and safety, for example road surfaces, poor drainage, flooding, lighting levels and visibility, shade and light glare at different times of day?
- Are pedestrian routes designed so pedestrians will not take short cuts?
- Are workers and visitors aware of the hazards and what procedures are in place to manage risks? Have workers and visitors had site induction and training? Are contractors and new people to the site supervised?

2.2 Assessing the risks

Most vehicle incidents at the workplace are from collisions between pedestrians and vehicles reversing, loading and unloading. People who work with or near vehicles are most at risk. Customers and visitors may also be at risk.

A risk assessment involves considering what could happen if someone is exposed to a hazard and the likelihood of it happening. A risk assessment can help you determine:

- how severe a risk is
- whether existing control measures are effective
- what action you should take to control the risk, and
- how urgently the action needs to be taken.

Many hazards and their associated risks are well known and have well established and accepted control measures. In these situations, the second step to formally assess the risk is unnecessary. If after identifying a hazard you already know the risk and how to control it effectively, you can implement the control measures.

Further guidance on assessing risks is in the Code of Practice: *How to manage work health and safety risks*.

2.3 Controlling the risks

Some control measures are more effective than others. Control measures can be ranked from the highest level of protection and reliability to the lowest. This ranking is known as the *hierarchy of control*.

ELIMINATING THE RISK

This means removing the hazard or hazardous work practice from the workplace. This is the most effective control measure and must always be considered before anything else. For example, eliminate the risk of collisions between people and powered mobile plant by physically separating pedestrian routes from vehicle areas with overhead walkways, physical barriers or conducting activities at times when pedestrians are not present.

Eliminating risks is often cheaper and easier to achieve when initially designing the layout of the workplace.

If eliminating the risk is not reasonably practicable, you must consider using substitution, isolation or engineering controls, or a combination of these control measures to minimise the risk so far as is reasonably practicable.

MINIMISING THE RISK

Substitution

Minimise the risk by substituting or replacing a hazard or hazardous work practice with a safer one, for example:

- Replace forklifts with other load shifting equipment like a walker stacker or pallet jacks.
- Replace vehicles that have poor visibility with vehicles that have reversing sensors, cameras and fixed safety mirrors.

Isolation

Minimise the risk by isolating or separating the hazard or hazardous work practice from people. Vehicles and mobile plant can be physically separated by distance or barriers, for example by creating a delivery area away from other pedestrians or work activities.

Engineering controls

Engineering controls are physical control measures to minimise risk, for example installing speed limiters to forklifts, presence sensing devices or interlocked gates.

If a risk then remains, the duty holder must minimise the remaining risk, so far as is reasonably practicable, by using:

Administrative controls

Administrative controls should only be considered when other higher order control measures are not reasonably practicable or to increase protection from the hazard. These are work methods or procedures which are designed to minimise the exposure to a hazard. Examples include:

- creating clearly delineated or colour coded exclusion zones and safety zones
- schedule delivery times to avoid or reduce the need for pedestrians and vehicles to interact
- use signs and devices like mirrors to alert drivers and pedestrians to each other, and
- provide training and supervision to workers.

Any remaining risk must be minimised, so far as is reasonably practicable, by providing and ensuring the use of:

Personal protective equipment

Personal protective equipment (PPE) is the lowest order control measure in the hierarchy of controls. PPE should only be considered when other higher order control measures are not reasonably practicable or to increase protection from the hazard, for example high visibility or reflective clothing.

COMBINING CONTROL MEASURES

In most cases a combination of control measures will provide the best solution to minimise the risk to the lowest level reasonably practicable. You should check your chosen control measures do not introduce new hazards.

2.4 Maintaining and reviewing control measures

The control measures put in place to protect health and safety should be regularly reviewed to make sure they are effective.

For example, control measures should be reviewed:

- when an injury or illness occurs because of a hazard the risk assessment addressed or failed to consider
- before making changes to work procedures
- if new information becomes available to indicate a control measure may no longer be the most effective, and
- when there are changes to who is engaged to carry out work.

Control measures should be reviewed in consultation with workers and their health and safety representatives. Workers are often able to quickly identify and propose solutions to problems when they occur.

Control measures should be checked by using the same methods as the initial hazard identification and risk assessment. If a hazard is not eliminated or minimised by the chosen control measures, go back through the risk management steps, review the information and make further decisions about risk control.

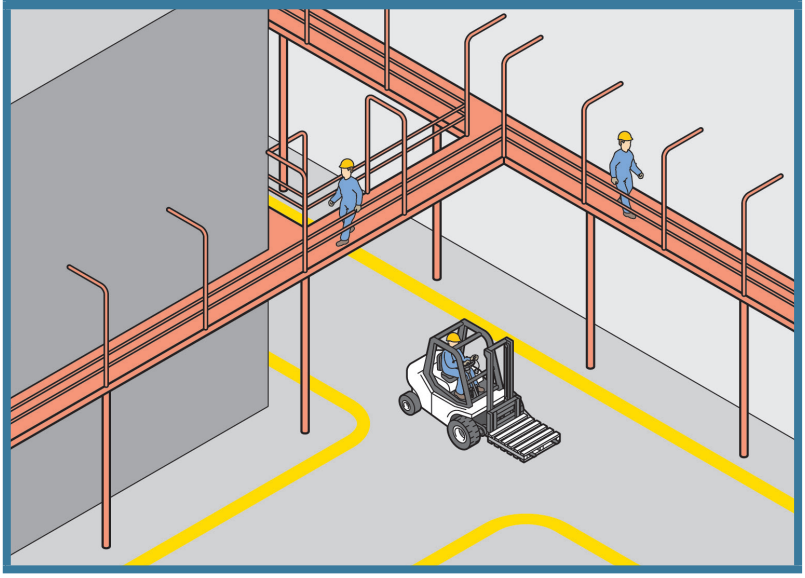
A Traffic Control Measures Checklist is at Appendix A.

3. SPECIFIC CONTROL MEASURES

3.1 Separating pedestrians and vehicles

The best way to protect pedestrians is to eliminate the hazard. This can be achieved by not allowing vehicles to be used in pedestrian spaces or not allowing pedestrians in vehicle operating areas, for example providing separate pedestrian only routes or using overhead walkways (see Figure 1).

Figure 1 Overhead walkways



Where this is not reasonably practicable other risk minimisation options should be used. For example, consider using:

- barriers or guardrails at building entrances and exits to stop pedestrians walking in front of vehicles (see Figure 2)
- high impact traffic control barriers (see Figure 3), and
- interlocking, chicaned or hinged gates so they open towards the pedestrian—these methods create a stop or pause in the pedestrian's movement before entering a vehicle area to increase their awareness of vehicle movement.

Figure 2 Guardrail

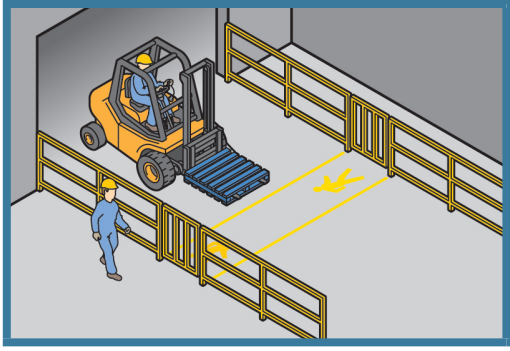
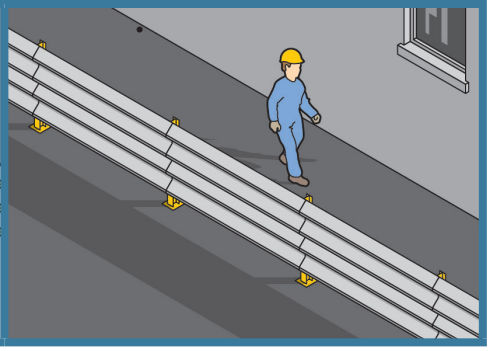


Figure 3 High impact barrier



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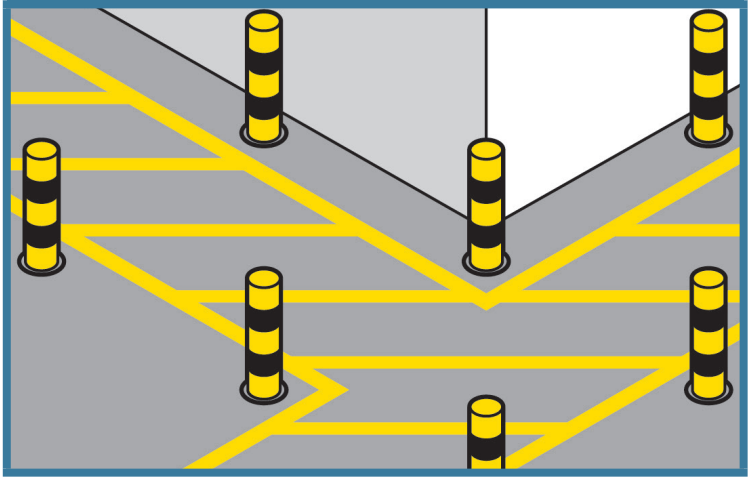
If it is not reasonably practicable to implement one of the above control measures and a risk remains consider using:

- bollards to identify 'blind' or convex corners of buildings or other hazards
- vision panels in pedestrian doors entering vehicle areas
- mirrors for both pedestrian and vehicle use
- separate, clearly marked footpaths or walkways e.g. using lines painted on the ground or different coloured surfacing (see Figure 4)
- pedestrian routes which represent paths people would naturally follow to encourage pedestrians to stay on designated safe routes and avoid taking potentially hazardous shortcuts
- speed humps to reduce vehicle speed
- truck driver safety zones, and
- staging areas.

Figure 4 Walkway marked with lines and bollards



Pedestrian routes should be clearly marked, unobstructed, well maintained, well lit and have signage identifying hazards.

3.2 Vehicle routes

Where possible vehicle routes should:

- be one-way with enough passing space around stationary vehicles
- be wide and high enough for the largest vehicle using them including their load, taking into account turning circles, stopping distances and the need to reverse
- manage queuing vehicles with enough space so queues do not impact on other traffic or block emergency exits. For entry to workplaces with a large number of trucks like container parks consider a queuing time slot system

- use a gatehouse to control traffic time slots
- separate areas for tarping, load restraint, load splitting, maintenance and clean down
- separate entry and exit points for large vehicles
- have flat or only small slopes—steep gradients which cannot be avoided should be clearly signposted and guarded. Powered mobile plant like forklifts should operate on gradients only if the manufacturer specifies they are able to do so
- be surfaced with bitumen, concrete or other suitable material to provide a smooth, non-slip surface
- be clearly sign-posted to indicate speed limits, traffic calming measures like speed humps, restricted parking, visitor parking, headroom, vehicle movement and other route hazards
- be well drained, maintained and lit, and
- be free from obstructions, grease, slippery substances, surface damage and pot holes.

A risk assessment should be used to decide speed limits for the workplace. Reducing speed is very important where administrative control measures are the only reasonably practicable approach. Speed limits should be implemented and enforced and traffic calming devices like speed humps considered. Variations to speed limits should be clearly signposted.

3.3 Safe crossings

If pedestrians have to cross vehicle routes in the workplace consider using:

- overhead walkways
- interlocked gates or gates with warning devices
- physical barriers or rails
- traffic light systems, or
- traffic controllers to direct traffic.

If a risk then remains consider:

- using clearly visible ground markings, lights or signs
- marking pedestrian crossings
- procedures that specify who has right of way at crossings, and
- ensuring clear pedestrian and vehicle visibility e.g. no pallet goods stored adjacent to crossings which could obscure vision.

If the vehicle route to be crossed is a road or railway consider control measures that will work with those already established by the relevant authority, for example a local council or rail authority.

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3.4 Parking areas

Consider setting out the workplace so parking areas:

- are away from the flow of vehicles and pedestrians around the workplace
- for passenger vehicles—are designated areas away from busy work areas
- for staff and visitors—are close to the administration office and workplace entry so there is no interaction with vehicles
- have walkways leading to and from parking areas which are separated from vehicles or vehicle routes e.g. use physical controls like barriers or bollards to prevent vehicles from crossing into walking areas (see Figure 5)
- are easy to drive in and out of and around in e.g. try to avoid the need for reversing and consider how large vehicles will be able to use the space safely
- are clearly marked and sign-posted, well lit and unobstructed, and
- have devices to reduce vehicle speed e.g. speed humps.

To prevent parked vehicles rolling they should be parked on level ground, preferably in a designated parking area with the brake firmly applied. Where it is not possible to park on level ground, install wheel humps in parking areas to prevent vehicles rolling away.

Administrative procedures can be put in place to reinforce safe practices when temporarily parking a vehicle or powered mobile plant, for example:

- Turn the wheels towards a safe stopping place like a curb or a wall so the vehicle or equipment does not accidently roll away.
- Avoid parking light vehicles behind large powered mobile plant or in areas where the driver does not have clear visibility of the powered mobile plant.

Figure 5 Pedestrian walkway in car park

3.5 Loading and unloading vehicles

Working around powered mobile plant and other vehicles during loading and unloading activities creates a risk to vehicle drivers and other workers' health and safety.

It is important to make sure visitors including visiting drivers are aware of the workplace layout, the route they should take and safe working procedures for the workplace.

To manage loading and unloading activities safely consider using the following control measures:

- Designate pedestrian exclusion zones when loading and unloading powered mobile plant e.g. at manufacturing process lines and from pallet racking in warehouse operations.
- The plant operator should control the exclusion zone and clear operating procedures should be understood and implemented at all times.
- Unloading trucks should not be done by a powered mobile plant or crane operator unless the operator can see the truck driver is well clear of a designated exclusion zone. This may be addressed by putting in place a procedure where the truck driver remains inside the cabin during unloading.
- Unless the system of work requires the driver to remain in the cabin, designated safety zones should be located so the driver and other pedestrians are kept away from powered mobile plant and can be seen by the plant operator at all times.
- Provide drivers with safe access to amenities away from loading areas or other vehicular traffic. To reduce driver fatigue a seat should be provided for long loading times.
- Protect wherever possible safety zones with physical barriers like fences, truck gates or barricades. Where this is not possible consider using bollards, chains or tape (see Figure 6).
- Introduce clear and effective communication systems between the plant operator and the driver suitable for the nature of the loading environment and the equipment or vehicles involved. For example, a system of hand signals may be suitable for some environments but two-way radio may be needed in other environments.
- Provide effective ways to warn of loading in progress to other plant operators, drivers, and pedestrians. Warning devices can include signage, cones, lights, alarms and horns.
- Have effective ways to stop vehicles from moving during loading and unloading activities including using:
  - vehicle or trailer restraints
  - dock locks
  - air brake isolation interlock devices
  - traffic lights
  - barriers or other 'stop' signals
  - systems for controlling access to vehicle keys or the cabin, and
  - safe systems of work which make sure the driver is aware of when it is safe to leave.

If it is not possible to design your workplace so vehicles loading and unloading do not cross pedestrian routes, other control measures should be put in place to minimise the risk of the loading vehicle colliding with pedestrians.

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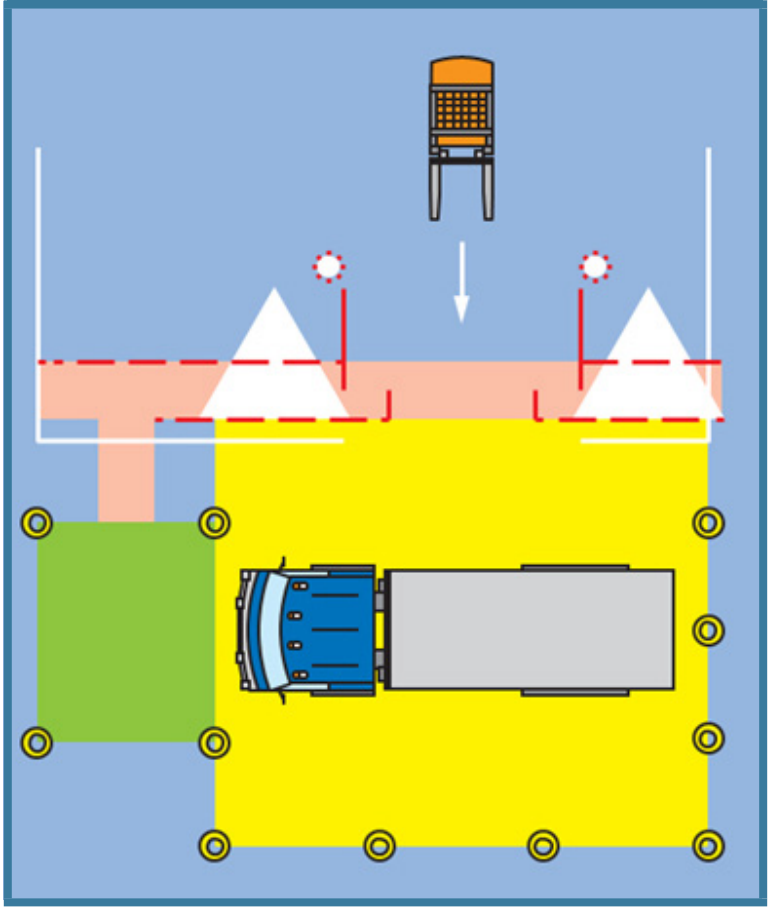
Figure 6 Example of traffic control measures for truck loading and unloading



Clearly designated pedestrian walkway protected by physical barriers with staggered barriers to control approaching pedestrians.

Pedestrian exclusion zone has been established for a distance equal to the height of the load from the ground plus an additional allowance for the type of load.

The driver must be in full view of the forklift operator. All loading and unloading must stop if the driver cannot be seen or needs to enter the exclusion zone to inspect the load. Alternatively, if it is safe to do so the system of work can provide for the driver to stay in the cabin during loading and unloading.

Beam from pedestrian-sensing device.

Barriers, bollards, witches hats or paint marking the pedestrian exclusion zone.

Warning light activated by pedestrian sensors.

3.6 Forklifts and other powered mobile plant

Regulation **214**

The person with management or control of powered mobile plant at a workplace must manage risks to health and safety associated with the following:

- the plant overturning
- things falling on the operator of the plant
- the operator being ejected from the plant
- the plant colliding with any person or thing, and
- mechanical failure of pressurised elements of plant that may release fluids that pose a risk to health and safety.

Regulation **215(4) and (5)**

A person with management or control of powered mobile plant at a workplace must ensure that the plant does not collide with pedestrians or other powered mobile plant. If there is a possibility of the plant colliding with pedestrians or other powered mobile plant, the person must ensure that the plant has a warning device that will warn persons who may be at risk from the movement of the plant.

To help manage risks where powered mobile plant and pedestrians could interact consider:

- using overhead walkways or high impact physical barriers (see Figure 7)
- using boom gates and proximity devices which trigger boom gates, signals and warning signs
- providing separate entries and exits for pedestrians and mobile plant
- using staging areas to facilitate alternative load shifting equipment
- isolating pallet racking aisles
- using temporary physical barriers (see Figure 8)
- using speed-limiting devices and implementing speed limits
- using a combination of audio and visual warning devices like alarms, horns and flashing lights and ensuring these are working when the plant is operating
- creating pedestrian exclusion zones e.g. forklift-only areas in loading bays
- creating exclusion zones for powered mobile plant e.g. pedestrian-only areas around tearooms, amenities and entrances
- scheduling work to prevent mobile plant and pedestrians being in the same area at the same time
- removing or identifying blind corners and ensuring intersections are well lit
- locating signs to give advance warning to pedestrians and plant operators and to indicate who must give way
- ensuring parked powered mobile plant have the wheels chocked
- implementing and enforcing operating procedures which set out when and how mobile plant operators must give way to pedestrians
- implementing systems of work to prevent forward carrying of loads if they obstruct the operator's view
- minimising the number of mobile plant working at one time

- using competent people to direct plant operating in close proximity to workers or other plant, and
- providing high-visibility or reflective clothing for workers and plant operators and high-visibility markings for mobile plant.

Figure 7 High impact barriers separating forklifts and pedestrians

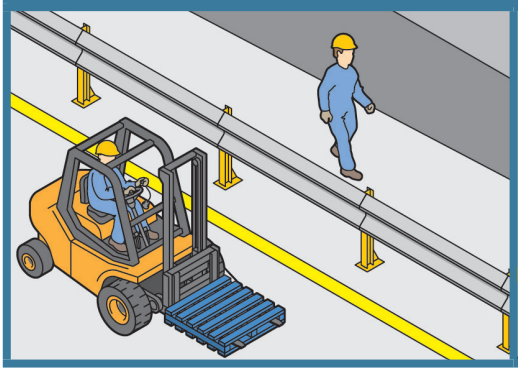
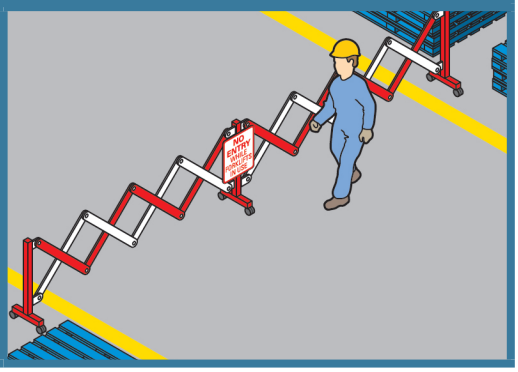


Figure 8 Temporary physical barriers separating pedestrians from powered mobile plant



Further guidance on forklifts and similar powered mobile plant is in the Code of Practice: *Industrial lift trucks*.

3.7 Reversing vehicles

If possible eliminate the need for reversing by using drive-through loading and unloading systems, multi-directional mobile plant or rotating cabins. Where this is not possible minimise the need for reversing by reorganising loading and unloading procedures.

Other control measures to consider include:

- fitting reversing sensors or reversing cameras including infrared systems for low light situations
- placing fixed mirrors at blind corners e.g. convex mirrors
- fitting refractive lenses on rear windows to help drivers see 'blind spots'
- using warning devices e.g. rotating lights and audible reversing alarms
- using radios and other communication systems
- providing designated clearly marked and well lit reversing areas
- excluding non-essential workers from the area
- ensuring drivers have another person to direct them before reversing if they cannot see clearly behind. The driver should maintain visual contact with the person signalling them and signallers should wear high-visibility clothing
- ensuring visiting drivers are familiar with workplace routes and reversing areas, and
- ensuring reversing sensors, reversing cameras, rear vision mirrors, fixed safety mirrors and windscreens are kept clean and in good working order.

3.8 Signs and road markings

Clear road markings like reflective paint and signs (see Figure 9) should be used to alert pedestrians and vehicle operators to traffic hazards in the workplace.

Signs may indicate:

- where to enter the workplace
- exclusion and safety zones
- parking and no parking zones
- speed limits
- where to report on arrival
- vehicle crossings
- blind corners
- steep gradients, and
- other known hazards.

Signs and road markings should be regularly checked and maintained so they can be easily seen and read and renewed when they fade.

Figure 9 Examples of signs

3.9 Lighting

Regulation **40(d)**

A person conducting a business or undertaking must ensure, so far as is reasonably practicable, lighting enables:

- each worker to carry out work without risk to health and safety
- persons to move within the workplace without risk to health and safety, and
- safe evacuation in an emergency.

You must ensure where possible all routes, manoeuvring areas and yards are:

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

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3.10 Information, training, instruction and supervision

Section **19(3)(f)**

A person conducting a business or undertaking must ensure, so far as is reasonably practicable, the provision of any information, training, instruction or supervision that is necessary to protect all persons from risks to their health and safety arising from work carried out as part of the conduct of the business or undertaking.

Regulation **39**

A person conducting a business or undertaking must ensure that information, training and instruction provided to a worker is suitable and adequate having regard to:

- the nature of the work carried out by the worker
- the nature of the risks associated with the work at the time of the information, training and instruction, and
- the control measures implemented.

The person must ensure, so far as is reasonably practicable, that the information, training and instruction provided under this regulation is provided in a way that is readily understandable by any person to whom it is provided.

Workers must be trained and have the relevant skills to carry out a particular task safely. Training should be provided to workers by a competent person.

Responsibilities for health and safety management must be clearly allocated. It is important each worker, contractor, subcontractor, visiting driver and other relevant people clearly understand their responsibilities for maintaining a safe workplace and safe work practices.

Workers including contractors who are required to perform duties associated with traffic management at the workplace should be trained to perform those duties.

You should provide supervision to ensure safety procedures are being followed, particularly if you are relying on administrative control measures to minimise risks.

You must ensure so far as is reasonably practicable, everyone who has access to your workplace including visitors are provided with information necessary to protect them from risks to their health and safety, for example instructions on designated safe routes, parking areas, pedestrian exclusion zones and speed limits. This could be addressed through an induction process at your workplace.

Visitors should report to the reception area or site office and be given information on the safety procedures for the workplace before they are allowed into areas where vehicles and powered mobile plant are used.

Other people at the workplace must comply, so far as they are reasonably able, with reasonable instructions they are given. They must also take reasonable care for their own health and safety and ensure they do not adversely affect the health and safety of other people.

You must ensure information, training and instruction are presented so it is easily understood by workers. This may require the provision of information and training material in different languages.

HIGH RISK WORK LICENCES

Certain types of plant, for example forklifts and some types of cranes, require the operator to have a high risk work licence before they can operate the plant. Schedule 3 of the WHS Regulations sets out the classes of high risk work licences and the types of plant involved. If a worker is enrolled with a Registered Training Organisation to do training for high risk work, they must be supervised by a person who holds a relevant high risk work licence for that class of high risk work.

3.11 Traffic management plans

A person conducting a business or undertaking who uses vehicles, powered mobile plant or other load shifting equipment should develop and implement a traffic management plan.

A traffic management plan documents and helps you communicate how risks will be managed at the workplace.

A planning process should be established and tasks identified and allocated together with corresponding responsibilities. Managers should also establish a permanent traffic management consultative committee. This committee should include representatives from the operators of the powered mobile plant, supervisors and from any other group sharing the traffic routes and working areas of the powered mobile plant.

In preparing the traffic management plan, a plan or sketch of the workplace and traffic area layout can help traffic designers and the traffic management consultative committee identify hazards and risks.

A traffic management plan may include details of:

- the desired flow of pedestrian and vehicle movements
- the expected frequency of interaction of vehicles and pedestrians
- control measures for each expected interaction including illustrations of the layout of barriers, walkways, signs and general arrangements to warn and guide traffic around, past, or through a work site or temporary hazard
- how short term, mobile work and complex traffic situations will be managed
- responsibilities of people managing traffic in the workplace
- responsibilities of people expected to interact with traffic in the workplace, and
- instructions or procedures for controlling traffic including in an emergency.

A traffic management plan should be monitored and reviewed at regular intervals or following an incident to ensure it is effective and takes into account changes at the workplace. In workplaces with a traffic management consultative committee, the committee should carry out the monitoring and review of the traffic management plan.

Each worker should be familiar with the traffic management plan and receive information, instruction, training and supervision on its use.

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3.12 Construction work

SAFE WORK METHOD STATEMENT

Regulation **299(1)**

A person conducting a business or undertaking that includes the carrying out of high risk construction work must, before high risk construction work commences, ensure that a safe work method statement for the proposed work:

- is prepared, or
- has already been prepared by another person.

Regulation **300(1)**

A person conducting a business or undertaking that includes the carrying out of high risk construction work must put in place arrangements for ensuring that high risk construction work is carried out in accordance with the safe work method statement for the work.

A Safe Work Method Statement (SWMS) allows supervisors, workers and other people at the workplace to understand how to safely carry out high risk construction work.

A SWMS must be prepared before high risk construction work starts. High risk construction work includes construction work carried out:

- in an area of a workplace where there is movement of powered mobile plant, and
- on, in or adjacent to a road, railway, shipping lane or other traffic corridor in use by traffic, and other than pedestrians.

The SWMS must identify the high risk construction work, specify associated hazards and describe measures to control risks and how these will be implemented.

Information and instruction for workers involved in high risk construction work should include the content of the SWMS. Workers must have easy access to the relevant SWMS at the workplace while the high risk construction work is carried out.

Further guidance on developing a SWMS is in the Code of Practice: *Construction work.*

WORK HEALTH AND SAFETY (WHS) MANAGEMENT PLAN

Regulation **309(1)**

The principal contractor for a construction project must prepare a written WHS management plan for the workplace before work on the project commences.

Regulation **310**

The principal contractor for a construction project must ensure, so far as is reasonably practicable, that each person who is to carry out construction work in connection with the project is, before commencing work, made aware of:

- the content of the WHS management plan for the workplace, and
- the person's right to inspect the WHS management plan.

The principal contractor must develop a WHS management plan before work on the construction project starts.

A WHS management plan must be in writing and document how the risks associated with a complex construction project will be managed. This is necessary to help you inform workers as there are usually multiple contractors and subcontractors working on site and circumstances can change quickly from day to day.

The WHS management plan should be easily understood by workers including contractors and subcontractors. While it may not be necessary to share the entire WHS management plan with every worker they must be made aware of the parts which apply to their work.

Further guidance on developing WHS management plans is in the Code of Practice: *Construction work*.

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APPENDIX A - TRAFFIC CONTROL MEASURES CHECKLIST

CONSIDER THE FOLLOWING	Yes	No	Comments Action
Separation			
Are separate entries and exits provided for vehicles and pedestrians including visitors?			
Do the entries and exits protect pedestrians from being struck by vehicles?			
Does the layout of the workplace effectively separate pedestrians, vehicles and powered mobile plant?			
Are systems in place to keep pedestrians and moving vehicles or plant apart like physical barriers, exclusion zones and safety zones?			
Vehicle routes			
Are the roads and pathways within the workplace suitable for the types and volumes of traffic?			
Are loading zones clearly marked?			
Do vehicle route designs take into account vehicle characteristics under all conditions, for example emergency braking, running out of fuel or adverse weather?			
Are there enough suitable parking places for every vehicle and are they used?			
Are traffic directions clearly marked and visible?			
If a one way system is provided for vehicle routes within the workplace is it properly designed, signposted and used?			
Are vehicle routes wide enough to separate vehicles and pedestrians and for the largest vehicle using them?			
Do vehicle routes have firm and even surfaces?			
Are vehicle routes kept clear from obstructions and other hazards?			
Are vehicle routes well maintained?			
Do vehicle routes avoid sharp or blind corners?			
Pedestrian routes			
Are pedestrian walkways separated from vehicles?			
Where necessary are there safe pedestrian crossings on vehicle routes?			
Is there a safe pedestrian route which allows visitors to access the site office and facilities?			
Are pedestrian walkways clearly marked?			
Are pedestrian walkways well maintained?			
Vehicle movement			
Have drive-through, one-way systems been used to reduce the need for reversing?			
Are non-essential workers excluded from areas where reversing occurs?			

APPENDIX A - TRAFFIC CONTROL MEASURES CHECKLIST

CONSIDER THE FOLLOWING	Yes	No	Comments Action
Are vehicles slowed to safe speeds, for example speed limiters on mobile plant or chicanes on vehicle routes?			
Do drivers use the correct routes, drive within the speed limit and follow site rules?			
Signs			
Are there appropriate speed limit signs?			
Are there clear warnings of powered mobile plant hazards?			
Is there clear signage of pedestrian and powered mobile plant exclusion zones?			
Is lighting adequate to ensure signs are visible, particularly at night?			
Warning devices			
Are flashing lights, sensors and reversing alarms installed on powered mobile plant?			
Information, training and supervision			
Do powered mobile plant operators have relevant high risk work licences? Are they trained in operating the particular model of plant being used?			
Have workers received site specific training and information on traffic hazards, speed limits, parking and loading areas?			
Is information and instruction about safe movement around the workplace provided to visitors and external delivery drivers?			
Is the level of supervision sufficient to check traffic movement and ensure safety of pedestrians and drivers?			
Personal Protective Equipment			
Is PPE like high visibility clothing provided and used where necessary?			
Vehicle safety			
Have vehicles and powered mobile plant been selected which are appropriate for the tasks to be done?			
Do vehicles have good direct visibility or devices for improving vision like external and side mirrors and reversing sensors?			
Are vehicles fitted with effective service and parking brakes?			
Do vehicles and powered mobile plant have seatbelts where necessary?			
Is there a regular maintenance program for all vehicles and powered mobile plant?			
Is there a system for reporting faults on all vehicles and powered mobile plant?			
Do drivers carry out basic safety checks before using vehicles?			

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THIS CODE PROVIDES PRACTICAL GUIDANCE ON HOW TO MANAGE HEALTH AND SAFETY RISKS ASSOCIATED WITH TRAFFIC IN THE WORKPLACE.