



Safety by design

Eliminating manual handling
injuries in road transport

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1. Introduction

The transportation of goods plays a major role in Australia's national and international activities. With so much of our wealth on the move, transport related activities contribute significantly to Australia's work injury toll.

More than 80% of severe injuries among transport workers are sustained while not driving. These injuries are related to manual handling. Severe sprains and strains can happen when loading and unloading a truck as well as slips, trips and falls that occur when getting on and off a vehicle.

Many of these injuries are serious and disabling, and in some cases, fatal. But there are ways to reduce the risks.

This booklet helps to identify some of the potential risks and provides solutions and tips to help reduce injuries in the transport industry.

Increasing the demand for innovations also helps to generate change for the future.

2. Good design helps

One way to make sure work is safe and efficient is to design equipment and processes so they are adapted to human capacities and limitations.

Good design means reduced injury risks and more efficient ways to perform strenuous tasks. Poor design not only contributes to the risk of injury but also makes return to work more difficult for people who have been injured.

Unfortunately, the fit between humans and work is rarely developed to its full potential.

Never expect good design to be automatically included in the price you pay for new equipment and implements. This is not to say that good design is complicated or necessarily expensive. But unless you carefully specify what is needed, you may get the 'cheap' and ordinary solution, not the best.

The best time to demand good design is before the equipment is bought. Your best chance of influencing design is as the potential buyer. Requirements and specifications need to be discussed and negotiated in the buying process. It pays for the customer or user to be well-informed and precise in describing exactly what is required in terms of safety and productivity.

Manufacturers and suppliers usually want to produce quality products that meet the client's needs. However, it is largely up to you as the client and user of the product to specify what your needs are and where improvements are required. Increasing the demand for innovations also helps to generate change for the future.

This booklet is a starting point. It highlights the areas to consider in good design for safety and manual handling work in the transport industry. Additional information, useful contacts and legislative requirements can be found at the back of the booklet.

Use this booklet to help identify areas in your operations that can be improved to reduce the risk of injury.

3. The cab

Seating

Good suspension and an ergonomically correct seat with adjustable height, position and lumbar support are essential for all truck drivers. If different drivers use the vehicle it is important for them to be able to easily adjust the seat and steering wheel to suit the individual driver's working posture.

One simple way of helping to ensure that the cab, controls and seating are suitable and comfortable is to get the proposed driver to test drive the vehicle.

Also, consider the option of power steering to reduce the effort of turning and manoeuvring the vehicle.



Figure 3.1 Very basic operator seating that lacks adjustment capabilities.



Figures 3.2 and 3.3 Examples of seating with good adjustment and support features. However, keep in mind that seating needs to be appropriate for the particular vehicle's ride characteristics and head clearance of the cabin.

Replace seats when the springing in the seat no longer does its job. If a seat sags or fails to retain its shape when no-one is sitting in it the springs have worn out. Good seating is also essential for forklift operations. Forklifts often have no suspension. The seat should be designed in such a way that it will reduce the effects of any vibrations.

Rear-end collisions are frequent in urban traffic. A well-designed head restraint (see **figure 3.4**) is essential in any professional vehicle, as this will decrease the likelihood of a whiplash injury.



Figure 3.4 A well-designed head restraint is essential in any professional vehicle, as this will decrease the likelihood of a whip-lash injury.

Cab access

It is important that getting in and out of the cab is easy and reasonably safe. Modern cab over design has pushed the cab to the front of the truck in order to make more room for cargo. **Climbing in and out of the cab is often associated with poor steps and handholds and slipping risks.**



Figures 3.5 and 3.6 The access ladder and step for a cab over design. Although this is an improvement over the single bar rung ladder from earlier models it suffers from very narrow rungs and a well-worn step under the door (potentially quite slippery, particularly when wet).

Figure 3.7 shows better access steps (and grab handles), while **figure 3.8** illustrates very good steps for access to the cab and other parts of the vehicle. An example of well-designed access provisions (steps and grab bars) is shown in **figure 9.7(b)**, with the Metropolitan Fire and Emergency Service Board's general purpose pumper truck.



Figure 3.7 Better access steps and grab handles.



Figure 3.8 Very good steps for access to the cab and other parts of the vehicle.

Getting in and out of the cab should be easy and safe.

4. Access to the tray and cargo area

You need safe access to the tray and cargo area, for getting on or off, or while carrying or moving the load onto or off the vehicle.

Many of the severe manual handling injuries associated with transport work are sustained when lifting, carrying and stepping down from or onto the cargo area.

Appropriate steps and handholds are always difficult to retrofit. It is better to include them in the design from the start. Steps and doors should also be wide enough to allow the operator to move safely when carrying loads.

Consider the conditions the vehicle will be used in. In refrigerated or freezer trucks, the flooring and steps need to be designed so that water or ice do not increase the risk of slipping.

For vehicles used in transporting grain, powdered materials or in earth moving operations, the steps and access need to be designed to minimise trapping of material to reduce the risk of slipping.

Examples of typical, but inadequate, access provisions to the load area are shown in **figures 4.1 to 4.6**.



Figure 4.1 Access to rear of concrete mixer is inadequate. The first step is too high and too small, the rung ladder could be improved by increasing the width and using larger bars.



Figures 4.2 and 4.3 The rear access steps to a van, which though good in principle, are in fact hazardous due to poor design. The too narrow bottom step presents a high risk of slipping particularly whilst exiting carrying goods (wet weather would increase the slipping risk).



Figures 4.4 and 4.5 These photographs illustrate inadequate, but typical steps and grab handles provided for access to vans. Note the effort required to enter the doorway. Exiting is even more difficult.

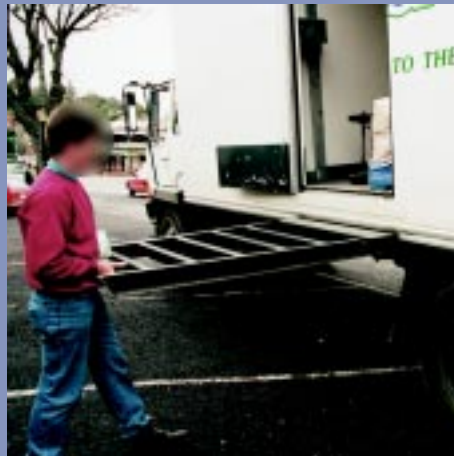
Well designed access steps and grab handles can reduce injuries.

There are many different ways you can improve access to trucks and their cargo.



Figure 4.6 *The side door opening to a van used for handling newsprint and magazines. In this case the issue of access and good ergonomics for the operator has essentially been ignored.*

Some examples of good design features are given in **figures 4.7 and 4.8**.



Figures 4.7 *Reasonably good access steps that are stored and pull out from the side of the vehicle.*



Figures 4.8 The rear of a Police “booze bus” where the well-designed access steps are stored and fold out from the rear compartment.

There are a number of different ways of adding steps and handholds to a truck when they have not been included in the initial design. If you have to accept a second-best solution, don’t accept a retrofit that creates problems (for example, small shallow rungs, poor handles, jamming risks or instability).

The purpose of the vehicle needs to be taken into account when the dimensions and design of access steps are considered. **The likelihood of injuries is much greater when employees need to climb up or jump off a jacked up truck.**

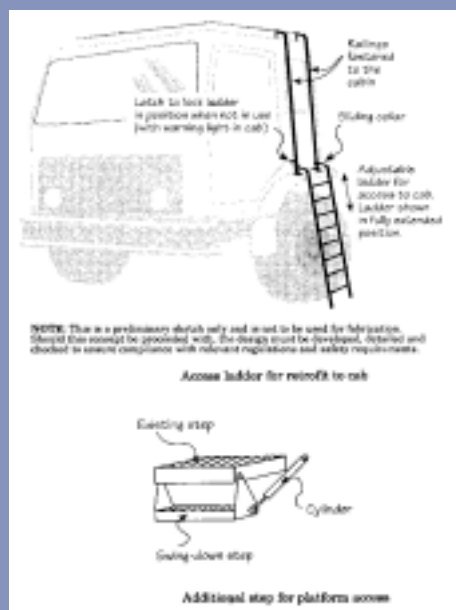


Figure 4.9 Suggested improvements (retrofit) to access cab and body area of vehicle in Figures 4.10 and Figures 4.11 (from Larsson, 1994)

Talk with drivers and operators - they may have good ideas to reduce injuries.



Figure 4.10 The function of the vehicle needs to be taken into account when the dimensions and design of access steps are considered: when the vehicle is in the elevated working position access to the cab is extremely difficult and risky.



Figure 4.11 Good access steps are provided for normal operational, with the truck is in its elevated, the access points are at least 30 centimetres higher off the road, with the first step now being too high.

Climbing on the truck

There are a number of common reasons for climbing on the truck; securing or adjusting the load, tarp or straps; opening or closing containers; fixing lights or wiper blades and so on. **Trucks are not normally built for such access, and therefore each year a large number of severe injuries are sustained when drivers fall performing such tasks.**

The safest option is for the driver to secure or adjust the load, tarps or straps and open or close containers from the ground or a platform or loading dock at the height of the tray or cargo area. If it is not practicable to perform the task in this manner then look into equipping the truck with appropriately positioned and well-designed footsteps and handholds to improve access and make maintenance tasks safer. The transport operator/driver knows what is needed and should define what needs to be added before delivery of the vehicle.

Tarping

Handling tarpaulins (tarps) on top of bulky loads is a major hazard. A safety system for tarping at the terminal can prevent fatalities and severe injuries. The use of drive-through access platforms at transport yards and depots improves access to the load for tarping. If trucks are going to be loaded at sites where there are no safe systems for fitting tarps, alternatives should be considered; taut-liners or trucks that don't need tarps at all are options.

The use of tarping aids will save time and also improve the quality of load transport security, that is, they can reduce the risk of cargo shifting or being damaged during transport.

5. Loading and unloading

Severe injuries usually occur while the driver is handling the load, assisting a forklift driver during loading or unloading or using a pallet mover or hoist. They also occur when the driver lifts, shifts, pushes or carries a load, or when accessing the tray, tailgate, gates, steps or ladder.

Handling of cargo

Various different options for loading and unloading should be planned depending on the use of the vehicle. It is natural to demand flexibility and low cost, but if this means that handling equipment is not provided, many tasks will have to be performed manually.

Designing the cargo hold to save the driver time and labour increases productivity. If the driver must sort, pick and shift cargo manually on the truck at every delivery point each stop takes more time. A good order and picking system in the warehouse, standardised transport containers, and a cargo hold equipped with rollers, conveyors, hoist/lift or rear tailgate loader, will not only result in increased efficiency, it will also reduce the risk of injuries.

Some illustrations of good features of cargo holds and loading areas are set out in **figures 5.1 to 5.6**.



Figure 5.1 A well-organised customised cargo hold for handling 'palletised' loads. Note the easily movable gate is hinged on the side and also runs on a track mounted on the van's ceiling.



Figure 5.2 A tailgate loader used to move the trolley mounted into the cargo hold.

More than 80% of severe injuries among truck drivers are sustained while not driving.

Conveyor systems are a very efficient way to load and unload cargo holds and reduce manual handling.

Many methods can be used to reduce manual effort in moving loads.



Figures 5.3 and 5.4 A 'Longreach' telescopic conveyor is used to load cargo into a semi-trailer. The conveyor length can be easily adjusted by the operator handling the cargo, as the loading progresses.



Figure 5.5 A good system for unloading from vehicles directly onto a fixed roller conveyor system (used in a freight terminal).

Many methods can be used to reduce manual effort in moving loads. An example from a road freight terminal is given in **figure 5.6**.



Figure 5.6 A “roller-ball” floor (in a road freight terminal) that allows easy manual moving of airline-type containers, in preparation for loading (the spacing of the roller-balls helps people to walk safely on this type of floor).

Provide options

Drivers tend to be pressed for time. When much needed lifting equipment is not available they often substitute it with brute strength and a strong back. This leads to injury. The clever transport operator can easily foresee most situations when the ideal equipment (for example, a forklift truck) is not at hand and should provide several different options for the driver. Such options can include customised trolleys (**figures 5.7 and 5.8**) and dolleys, portable conveyors and pallet movers (**figure 5.9**). Some of these can be carried onto the truck, while others can be specified and held at customers’ sites.



Figures 5.7(a) and (b) show a trolley that provides the option of converting to a table trolley. This is used to move loads at waist level to reducing lifting.

The clever transport operator can foresee when the ideal equipment is not at hand and be able to provide solutions.



Figure 5.7(c) A versatile trolley for handling heavier loads.



Figure 5.8(a) Use of a customised trolley for moving specific loads. This type of trolley is well-designed to suit the vehicle and particular item, thus removing the need to lift the object.



Figure 5.8(b) The trolley is lightweight, and portable, the top slides off the trolley and slides into the vehicle.



Figure 5.9 The combination of a tail gate loader and a pallet lifter can provide a good equipment combination for efficient loading.

Options, which are less than ideal can still be better than work practices that are likely to create injury.



Figure 5.10 A portable, height adjustable conveyor can be set up easily to move items out of a truck. (from 'Manual Handling in the Retail Industry - common problems and solutions' - Victorian WorkCover Authority).

Discuss options with the supplier regarding suitable packaging.

6. Product packaging and containers

Containers have made a great change to the transport industry. Special purpose vessels and containers along with packaging featuring integrated handling properties are becoming more common.

Re-distribution at transport terminals becomes more practical if non-palletised (small) goods are containerised. Distribution to order in the service and hospitality industries also becomes safer and more efficient when some form of standardised and well-designed transport container is used.

When packaging is a problem for the transport operator (for example, weight, bulk, form) it is almost certainly a problem for the receiving customer. The size, weight or form of packaging can be an important issue when the transport contract is being negotiated. Solutions that might save the backs of drivers and end users are of benefit to all involved.

Packaging can be modified and improved by the manufacturer, particularly if several transport operators and customers insist there is a problem!

7. Forklift trucks and traffic management

It is common to see forklift trucks operating in close proximity to unprotected workers. This is dangerous and can contribute to severe injuries occurring in the workplace.

Forklift trucks and pedestrians should not operate in the same area at the same time. Any system of vehicle loading and unloading, where an operator or driver on foot works together with a forklift should be changed.

If forklift trucks operate in proximity to workers a short term solution is to define a painted work zone (around each vehicle) and create working rules that do not allow the forklift and pedestrians to be in the same zone at the same time.



Figure 7.1 A forklift loading a van that is isolated from pedestrian personnel.



Figure 7.2 An 'Armco' barrier used to separate offices and pedestrians from vehicle traffic.



Figure 7.3 A good barrier system for separation of pedestrians from vehicle traffic.

Good barrier systems can separate pedestrians from traffic.

Good traffic management is important for all site traffic not just forklifts. A traffic management system for the site (around and *within* buildings) helps to provide both improved vehicle movement and reduces the risk of serious injury to workers. A good system should include: clearly defined pathways for all vehicle types; separated pedestrian and vehicle traffic; large vehicles segregated from small vehicles; wearing of high visibility vests by workers; and clearly defined rules regarding traffic speed, routes and right of way.

For a traffic plan to work, it is essential that everybody is informed and follows the rules. Supervision is required and the rules need to be enforced. An effective traffic system should be based on the road rules. This increases credibility and ensures that site users are operating in an environment that is familiar and similar to what they are used to outside the site.

8. The receiving end

Who is responsible?

The design, type and size of equipment in the loading bay on the receiving end of the transport is crucial to sensible, safe and efficient cargo handling. However, competition among transport providers, and lack of funds on the part of small businesses, can delay much needed improvements.

It is important to raise matters of productivity, safety and liability when transport contracts are negotiated. The transport provider needs to discuss the quality and standard of facilities provided for the reception of goods with the party responsible (single business proprietor, group of businesses in a mall, shire council, and so on). The transport operator, depending on the load, may need to encourage the dispatcher and receiver to coordinate load size, packaging and presentation to reduce risk for all parties concerned.



Figure 8.1 A delivery point that does not have a loading bay exposes the operator to unnecessary risk.



Figure 8.2 Lack of facilities for receiving goods. In this case the access steps do not quite fit because the terrain at the delivery point makes it more difficult to use the steps.

Design is crucial to safe and efficient cargo handling.

Receiving docks for manufacturing facilities can involve a large variety of different goods. Provision has to be made for all the likely sizes, shapes and weights of goods delivered.



Figures 8.3 Receiving points can be forgotten areas in terms of providing adequate space and appropriate equipment. In this case the area is cramped and lacks an overhead hoist for moving heavy and awkwardly shaped items.



Figure 8.4 A typical beer barrel delivery truck and an example of one of the many manual handling risks associated with trucks of this kind.



Figure 8.5 A well-designed levelling dock, illustrating the extreme range of its adjustment (Note: ramps should not be used at this angle).

Equipment

The safest option for loading and unloading is to have a well-designed loading bay or dock in the first place. However, if major improvements (such as the building of a proper bay or dock) are not practicable, there are a number of useful tools that can greatly reduce manual handling and increase safety in unloading tasks. Such equipment and logistics could be negotiated with the goods receiver, who might consider this in relation to his or her in-house manual handling tasks.

It is important to keep the slope of access ramps at a minimum, as the force needed to push or restrain pallet jacks and other aids increases greatly on slopes.

Some examples of suitable equipment and devices have been presented earlier in this booklet, with two additional examples given in **figures 8.6 and 8.7**.

Overhead hoists can help to safely unload awkward cargo.



Figure 8.6 An overhead electric hoist used to unload a truck.

Figure 8.7 A manual hoist used to

A variety of important improvements can be made to special purpose vehicles.

9. Special purpose vehicles

There are a number of important improvements that can be made to common special purpose vehicles to make them safer.

Concrete and tanker trucks

If nozzles, hoses and other accessories are made in a lightweight material some of the heavy manual handling associated with the delivery of concrete, petrol and other bulk materials is reduced.



Figure 9.1 This shows the chute on a concrete truck that is made of lightweight material, replacing a heavier metal component and thereby making manual handling easier.

The fitting of well-designed and safe steps and handholds is of particular importance for some types of trucks, for example, where equipment used in delivery needs to be continuously cleaned.

A common problem for all drivers delivering building materials, is access to, and unloading at, the point of delivery. This is where drivers tend to sustain severe injuries.

Messy construction sites, and tight spots close to high-speed traffic, require strict policies on the part of the transport operator. Policies should include describing how safe delivery should be accomplished; what equipment (and procedures) need to be used (for example, witches hats, fences and people to direct traffic; and what should be carried on the truck.

Trucks for transporting barrels (beer, chemicals, etc.)

Special cargo requires special implements and the loading and unloading of drums and barrels can be arranged in smart, back-saving ways with the help of conveyors and customised hooks, stillages and forklift attachments.



Figure 9.2 Handling and loading empty drums is still done manually. A good drum handling conveyor would assist.



Figure 9.3 A forklift truck with drum handling attachment. It is used mainly to move full drums.

Vehicles for the transport of people with disabilities

Drivers of vehicles transporting people in wheelchairs tend to run a high risk of suffering severe back injuries. Lifting and moving people with disabilities and wheelchairs into and out of vehicles and buildings can be made much safer if:

- ramps rather than steps are provided and the angle of any ramp in the building or vehicle is less than seven degrees
- no manual lifting of a person or wheelchair is ever required

A specialised van with a foldaway wheelchair lifter is shown in **figure 9.4**. Although this facility on the vehicle is very good, the operator of this vehicle is still faced with the hazardous task of having to move the wheel chair up steps, as few venues have ramp facilities.



Figure 9.4 A specialised van for transporting people with disabilities and their wheelchairs. The fold-away rear lifter eliminates manual handling of the loaded wheelchairs.

Other special purpose vehicles

When the transport task is special, inventive solutions are needed. There are good examples of manual handling solutions developed by those who have special needs. Sometimes such solutions can be applied to other vehicles.

Goods handling facilities developed and provided at airport terminals are an excellent illustration of specialised equipment designed to be both efficient and reduce manual handling.



Figure 9.5 A mobile, adjustable conveyor vehicle used at airport terminals to aid loading and unloading goods from trucks.

Service trucks developed for special use can incorporate efficient safe design features. These include improved access provisions, positioning of heavy items for ease of handling and allocated places for equipment.



Figure 9.6 Service trucks developed for use by various utilities such as the old Gas and Fuel Corporation, incorporate good design features to increase efficiency and reduce manual handling and risk.

The Metropolitan Fire and Emergency Service Board's general purpose pumper is an excellent example of good design.

The Metropolitan Fire and Emergency Service Board's (MFESB) general purpose pumper is an example of a vehicle that has been specially developed and designed to address both operational and safety issues. The development of this vehicle involved close cooperation between the truck and equipment supplier, body builders and the MFESB. A 'design development advisory committee' was formed, with the objective of focussing on improvements to the design and configuration, work practices and occupational health and safety requirements (including reviewing injury records to identify problem areas).

The vehicle body was designed with cost efficiency and ergonomics in mind. Features include a full length cab, which provides excellent access, and helped solve the personnel entry/exit problems associated with earlier cab-over designs. A host of other features have also been incorporated to reduce the need to climb on top of the vehicle, and also reduce both manual handling and loads.



Figure 9.7(a) The general purpose pumper is an excellent example of a vehicle that has been specially developed and designed to address both operational and safety issues. Note the very good access steps and long grab handles. The long grab handles (outside and inside the vehicle) allow a continuous grip to be maintained during entering and exiting of the vehicle.



Figure 9.7(b) Interior view of the MFESB vehicle showing good steps, long grab handles and well-designed seats with high backrests and headrests (the seats are designed to hold a fireman's oxygen tanks and allow a quick exit from the vehicle).



Figure 9.7(c) The rear view of the MFESB truck. Note the rear access steps and the well-designed access ladder with non-slip yellow treads. The vertical T-bar on the left side of the vehicle enables the ladder unit to be pulled down from the top of the unit, removing the need to climb on top.

10. Safety of other road users

The information presented in this booklet is mainly focused on reducing the risk of injury for vehicle operators and other personnel involved in manual handling and the transport and movement of goods. However, transport activities do result in significant injury and risk to other road users, particularly in relation to road crashes involving heavy vehicles. There is a range of important and effective design features that can be built into the design of heavy vehicles to help protect other road users in the event of collisions. These include well-designed front and rear underrun barriers (see **figure 10.1**) and side skirts (see **figure 10.2**) to guard open wheel areas.



Figure 10.1 View of a well designed rear underrun barrier on a semi-trailer. The barrier shown is under test.



Figure 10.2 An example of a well-designed side skirt on a petrol tanker.

It is important to note that features such as side skirts can also help to protect personnel working around the vehicle.

For further information and suggested guidelines for the design of underrun barriers and side skirts see:

Rechnitzer, G., Scott, G. & Murray, N. W. (1993), *The Reduction of Injuries to Car Occupants in Rear End Impacts with Heavy Vehicles*, 37th STAPP Car Crash Conference, 8 – 10 Nov. 1993, San Antonio, Texas. Paper 933123, SAE Inter.

Rechnitzer, G. (1993), *Truck Involved Crash Study: Fatal and injury crashes of cars and other road users with the front and side of heavy vehicles*, Monash University Accident Research Centre, Melbourne, Report 35.

11. Taking note of legislative requirements

This booklet provides information and ideas about designing vehicles, loads and equipment for safe manual handling in the transport industry.

There are general legal obligations (refer to the *Occupational Health and Safety Act 1985*) for the provision and maintenance of safe and healthy workplaces, plant and equipment and systems of work. These obligations extend to employers, occupiers of workplaces, designers, manufacturers, importers and suppliers as well as employees.

Whether you are an employer, host employer, manufacturer or designer in the transport industry, you have duties under occupational health and safety legislation. This critical relationship between duty holders is referred to as the *chain of responsibility*. Each duty holder forms an essential link in the chain. A worker's life could be placed at risk if any one of these duty holders should fail to meet their health and safety responsibilities, whether due to simply ignoring these duties or by trying to delegate them. It is not legally possible for any duty holder to delegate these duties.

The main legal requirements and guidance dealing with manual handling in road transport are set out in the legislation and approved codes of practice listed below:

- Occupational Health and Safety Act 1985
- Occupational Health and Safety (Manual Handling) Regulations 1999
- Occupational Health and Safety (Plant) Regulations 1995
- Occupational Health and Safety (Certification of Plant Users and Operators) Regulations 1994
- Manual Handling Code of Practice
- Code of Practice for Plant

You should also note that at as time of publication there were special regulations for regulating work done at height under development.

Under OHS legislation the duty of employers to employees also extends to independent contractors engaged by an employer. As the transport industry involves many contracting and subcontracting arrangements, you are encouraged to seek further information if necessary regarding your obligations in this regard.

If you can make something safer, then you could be held legally liable if you don't do something about it.

12. Key points to remember

1. Transport-related activities involving manual handling on and off trucks, including slips and falls, are a major contributor to workplace injuries. These risks can be significantly reduced by attention to design improvements shown in this booklet.
2. Use the points made in this booklet to review, together with your employees and operators, your facilities, vehicles and operations. Identify the areas that can be improved, including customers' workplaces, and establish an implementation plan to carry out the work.
3. For your future vehicle orders, sit down with your supplier and discuss where you would like design improvements to help reduce injury risk. If you don't specify what you require you may end up with an outdated and 'cheap' solution and not the best solution.
4. It is easier and less costly to get it right the first time. Good design pays. Poor design has to be 'lived with' for the life of the product.
5. Investigate and use modern equipment to aid loading and unloading of vehicles at dispatch and receiving points.
6. Review the facilities at the dispatch and receiving points and discuss with the owners what can be done to improve these. Get together with other suppliers if need be.
7. Seek expert assistance and advice on ergonomics, materials handling, risk assessments and legislative obligations. Contact WorkSafe Victoria for assistance and advice.

13. Checklist

Look for these important features when purchasing a transport vehicle and planning or contracting transport operations.

Do look for and specify . . .

- ☐ Ergonomic, fully adjustable seat, good cabin and seat suspension, good access steps and grab rail to cab
- ☐ Well-designed access steps and grab rails to tray and cargo areas, suitable in all aspects of vehicle use
- ☐ Equipment /options for safe loading and unloading from the tray
- ☐ Cargo hold suitable for containerised loads
- ☐ Easy to handle product packaging – size, weight, condition
- ☐ Traffic management system for all internal and external vehicle and mobile equipment
- ☐ Separation of operators and other pedestrians from forklifts and other vehicle traffic
- ☐ Safe tarping and load securing facilities that eliminate fall from height risk
- ☐ Mechanical materials handling equipment and suitable dock at loading and unloading points
- ☐ Integrated design of special-purpose vehicles – safe access to cabin, equipment and controls
- ☐ Effective underrun barriers, side skirts and other guarding fitted to the vehicle, to protect operators and other road users
- ☐ Meeting regulatory requirements

14. References

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Publications can be obtained from your nearest WorkSafe Victoria office.

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