Introduction

Every year, about 800 people are killed and more than 17000 people are injured in accidents involving workplace transport. The most common causes are people falling from or being struck by a vehicle, objects falling from a vehicle, or vehicles overturning.

This document provides comprehensive advice for our employees on what they need to do to comply with the law and reduce risk. It will also be useful for managers, supervisors, employees and safety representatives, subcontractors, vehicle operators and other organizations concerned with workplace transport safety.

‘Workplace transport’ means any vehicle or piece of mobile equipment used in any work setting. It covers a very wide range of vehicles, from cars, vans, truck trailers and lift trucks, to less common vehicles and plant such as straddle carriers and rubber-tired gantries.

Vehicles moving on public roads are not usually classed as ‘workplace transport’, because road traffic laws cover any associated risks in more detail than general health and safety law. However, public roads are often used as temporary workplaces, for example during roadside deliveries, road works or breakdown assistance, so health and safety law applies.

PURPOSE AND SCOPE

The objective of this document is to provide guidance on how to implement a Land Transport Safety Management System for vehicle operations which is consistent with the DM *Guidelines for the Development and Application of Health, Safety and Environmental Management Systems* Key elements of the HSE-MS are shown in the table below.

Key Elements	**Addressing**
Leadership and Commitment	*Top down commitment and company culture, essential to the success of the system*
Policy and Strategic Objectives	*Corporate intentions, principles of action and aspirations with respect to HSE*
Organization, resources and documentation	*Organization of people, resources and documentation for sound HSE performance*
Evaluation and risk management	*Identification and evaluation of HSE risks for activities, products and services, and development of risk reduction measures*
Planning	*Planning the conduct of work activities, including planning for changes and emergency response*
Implementation and monitoring	*Performance and monitoring of activities, and how corrective action is to be taken when necessary*
Auditing and reviewing	*Periodic assessments of system performance, effectiveness and fundamental suitability*

The Land Transport Safety Management System includes:

- all company and third parties vehicles brought onto company premises or used for company business activities;
- travel on tarmac roads, graded roads and on other surfaces encountered off road; and
- transporting
- personnel or freight, or mobile plant (drilling trucks, vibrator trucks etc.).

PURPOSE AND SCOPE

These guidelines have been developed to:

- reduce the number of incidents and fatalities involving land transport;
- be relevant to the transportation activities across DM businesses;
- be sufficiently generic to be adaptable to different companies and their cultures;
- recognize, and be applicable to, the role of DM operators, and subcontractors;
- provide guidance on the development of a shared management system to control risks; and
- help management to develop consistent policies and operational criteria.

The main text of this document is targeted at senior/middle managers. The appendices give more detailed and specific guidance for land transport line managers and operators.

LAND TRANSPORT MANAGEMENT SYSTEM

The following sections of these guidelines will assist the nominated responsible managers in developing suitable land transport management systems for their operations. The main objective is to ensure that their activities are planned, carried out, controlled and directed so that risks from transportation are minimized.

Land transport management will respond to the same fundamental principles seen in all other forms of management control.

The LTSMS should conform to the national or international legal frame-work and take account of corporate transport policies within which companies conduct their business.

The senior management of DM should demonstrate their commitment to managing land transport operations in a safe, healthy and environmentally responsible manner.

Leadership and commitment is demonstrated when management at all levels:

- set a good example in terms of their own attitude and driving performance;
- allocate the necessary resources to land transportation and related logistic issues;
- put land transport safety matters high on the agenda of meetings, including board meetings;
- communicate clearly that land transport safety standards are an important company requirement;
- provide appropriate training and assessment for all drivers involved in land transport operations;
- encourage safety promotions and employees' suggestions for measures to improve safety performance, and commend safe practice;
- set plans and targets, and measure vehicle safety performance of all employees; and insist that transport contractor operations meet required standards.

There is a clear definition of delegated responsibility to nominated individual managers down through the management structure of the company.

Policy Statement

The senior management should make clear in a policy statement their commitment and expectations of good HSE management. DM and subcontractors should formulate local land transportation HSE policies compatible with the corporate HSE policy to improve the safety of land transport operations.

To operate in a safe, efficient and effective manner to reduce incidents, eliminate fatalities and to operate in an environmentally sensitive and responsible way, the policy statement should include some or all of the following features. It should:

- be publicly available in appropriate local languages and in a bold, easy to read format;
- demonstrate the DM commitment to continuously strive for improvement in land transport safety performance by minimizing risk;
- give a clear, concise and motivating message that land transport safety is as important as other business objectives and that transport incidents are avoidable;
- promote openness and the participation of all individuals in improving safety performance;
- highlight the importance and relevance of an effective organization to manage transport operations and indicate that line managers are responsible for land transport safety at all organizational levels;
- make a commitment to meet all legislative requirements and apply responsible standards and procedures where national regulations do not exist;
- challenge the requirement for land transport and consider alternatives, with the aim of minimizing exposure to the driving environment; and
- undertake all transport operations with proper regard for the environment and to strive to reduce the consumption of fuel, emissions and discharges.

The Land Transport Safety Policy Statement is:

- handed to each employee by their line manager and the implications of the policy fully explained in practical terms;
- displayed on notice boards, transport staff offices, drivers' meeting rooms and other prominent locations;
- given to subcontractors as part of any tender documentation;
- included in driver's handbook; and
- discussed and explained on training courses.

The LTSMS policy statement is regularly reviewed by management with emphasis on its intent, scope and adequacy.

Strategic Objectives

The Land Transport HSE policy statement provides the starting point for establishing strategic land transport objectives.

Such objectives should aim to:

- reduce the number of incidents and fatalities;
- minimize the number of journeys and personnel exposure;
- minimize the total number of kilometers driven;
- establish driver selection, testing and training programs;
- establish and support safe land transport working procedures and practices and to strive for an incident-free activity;
- ensure that the company will employ only transport assets, facilities and equipment which conform to acceptable standards and that they are maintained in a safe and secure condition; and
- specify the need to develop an emergency response capability in cooperation with authorities and emergency services.

DM overall management structure for land transportation and its relation to the implementation of the transport policy within the DM is in place and made widely available. It is clearly identify those people who have an active responsibility for land transport management, and should state what those responsibilities are. All employees who make use of, or are affected by land transportation (i.e. everybody) is continually made aware of their individual responsibilities.

The structure should describe the relationship between:

- different operations;
- operating units and supporting services;
- DM and sub-contractors; and
- partners in joint ventures.

Land transport safety is a line management responsibility with safety advisers/trainers etc. assisting line management in the development, implementation and maintenance of the program. The following are general but fundamental points concerning LTS-MS organization.

- Management representatives have been assigned responsibility, authority and accountability for coordinating implementation and maintenance of the LTS-MS.
- All employees involved in land transport should be made aware of their individual LTS-MS role, accountabilities and responsibilities.
- DM ensures that personnel performing specific assigned LTS-MS activities and tasks are competent.
- DM ensures and increase competence through the identification of training needs and the provision of appropriate training for its personnel, both drivers and supervisors.
- DM ensures that its subcontractors operate a land transport management system. Subcontractors is visited and supported at regular intervals during the contract period to assist them with the integration of their LTS-MS. Joint reviews at regular intervals should occur to ensure LTS-MS objectives are achieved.

DM maintain procedures to ensure that its employees and those of its subcontractors, partners and others involved with land transport at all levels are aware of the requirements of the LTS-MS program. The focus of communication should be on bridging local language and cultural understanding.

What does this document cover?

This document includes advice on your general legal duties and information on health and safety management. This is followed by more specific advice on controlling risks associated with workplace transport, grouped into three main areas:

1. safe site activity;
2. safe vehicle;
3. safe driver.

'Safe site – activity' covers activities on a site such as reversing operations, coupling and uncoupling, loading and unloading, tipping and sheeting.

'Safe vehicle' covers identifying and choosing the most appropriate vehicle for the tasks and environment and the people who will use it, as well as how it will be maintained.

'Safe driver' covers the competence and behavior of those who operate vehicles.

Health and safety law – general duties

We must ensure that the health and safety of our employees, contractors and members of the public are not put at risk as a result of the work we do;

We have a written health and safety policy assessing the risks to the health and safety of anyone affected by what we do (including employees and members of the public) and would be recording the significant findings in writing;

DM have arrangements in place for effective planning, organization, control, monitoring and review of preventive and protective measures identified by the risk assessment; and provide personal protective equipment where there are risks to health and safety that cannot be adequately controlled in other ways;

DM provides information, instruction, training and supervision to ensure employees' health and safety at work;

DM maintains in a 'safe condition' (without risks to health or safety) any workplace and work equipment under our control;

DM consult with employees on health and safety matters; co-operate and co-ordinate where DM share a workplace.

Employees also have duties to look after their own health and safety and that of anyone who might be affected by their work.

Risk assessment

DM controls the risks in workplace. Risk assessment is about identifying and taking sensible and proportionate measures to control these risks. DM already taking steps to protect employees, but our risk assessment will help us decide whether we should be doing more.

Think about how accidents and ill health could happen and concentrate on real risks – those that are most likely and which will cause the most harm. DM monitors workplace activities involving vehicles (including visiting vehicles) over a reasonable period to build up a clear picture of vehicle and pedestrian traffic movements including, for example, loading and unloading.

Generally, we need to do everything reasonably practicable to protect people from harm.

Managing health and safety

Managing health and safety is an integral part of managing our businesses.

DM ensures responsibilities for health and safety management are clearly allocated before any work starts so that all employees, subcontractors, visiting drivers, maintenance staff and other workers understand what they need to do to maintain a safe workplace.

It is important to have strong lines of communication to ensure any changes can be quickly put into practice. A clear and simple incident-reporting procedure can help to identify problems early, prevent serious accidents and show how effective your control measures are.

DM monitors safe working and it reflects the level of risk and the abilities of employees carrying out the work. However, even where risks are low there will still DM keeps some supervision to make sure safety standards are being maintained.

DM has the practice to consult all your employees, in good time, on health and safety matters.

Consultation involves not only giving information to employees, but also listening to them and taking account of what they say before making health and safety decisions.

Consultation includes:

- ✓ Risks arising from their work;
- ✓ Proposals to manage and/or control these risks; ˜
- ✓ The best ways of providing information and training.

DM management involves employees when carrying out and reviewing risk assessments as it is a good way of helping to manage health and safety risk. DM asks employees what they think the hazards are, as they may notice things that are not obvious and may have some good, practical ideas on how to control the risks.

DM through hiring process ensures new recruits are competent, have the relevant knowledge and experience to be able to do their jobs safely, and have the ability to gain knowledge through training, also ensures existing employees are competent. Management provides information, instruction and training to maintain or improve employees' competence, particularly where changes in staff, equipment or procedures are planned, taking into account of employees' abilities and experience.

When DM engages subcontractors or agency workers, as per process we clearly establish their competence before they do any work. The same health and safety standards that apply to permanent employees also apply to agency workers and subcontractors. They are likely to need specific job and familiarization training, and some supervision and monitoring.

The department manager gives the subcontractor appropriate health and safety information about, for example:

- ˜ The workplace;
- ˜ The routes to be used;
- ˜ The vehicles and equipment on site;
- ˜ Risks from the activities on site and the controls in place;
- ˜ Other people on site, such as other subcontractors or visiting drivers.

The department manager and subcontractors agrees the safety arrangements before they start work. Subcontractors have to be fully aware of any penalties if they fail to follow safe working practices.

Where two or more suppliers share a workplace (whether temporarily or permanently), they need to:

- co-operate with the other employers so they can meet their health and safety duties;
- take all reasonable steps to co-ordinate the measures they take to meet their legal duties with those taken by other suppliers;
- take all reasonable steps to tell the other suppliers about risks to their employees' health and safety as a result of their work activities.

Normally, the department manager takes responsibility for coordinating health and safety measures by:

- discussion with the suppliers;
- asking other suppliers to agree to wide arrangements;
- liaising with other suppliers to help ensure they take responsibility and cooperate.

Where employees enter a different workplace (for example, to make a delivery or collect goods), consider that workplace as shared.

Vehicles on which employees of more than one company are working are also considered shared workplaces, even if it is only for a brief period (for example, during loading and unloading). All subcontractors/suppliers are responsible for the safety of their own employees and those of other companies. Those involved in managing this work should agree, preferably in writing, the safety arrangements before work starts.

SITE INSPECTION

Vehicles especially articulated and drawbar combinations often need to perform complicated maneuvers to turn safely, because the trailer swings out behind the tractor unit. If large goods vehicles are using sites, one needs to make routes wide enough for them to maneuver safely.

Visibility needs to be good enough to allow drivers to see and avoid hazards. It is related to the speed that vehicles are travelling, and affects the distance they need to avoid hazards by stopping or changing direction safely. It is also affected by, for example, poor light, bad weather and dust.

Avoid sharp or blind bends on vehicle routes as far as possible. Where you cannot avoid them, there should be enough visibility at junctions and bends to allow drivers and pedestrians to see each other and any additional hazards. Consider measures such as convex mirrors to help achieve this.

SPEED LIMITS

Limiting the speed of vehicles in the workplace is an important part of controlling traffic. The best way to do this is to use fixed traffic-calming measures such as speed humps, narrowed routes (using bollards, raised kerbs or chicanes), and ‘rumble’ devices (such as rumble strips, rumble areas or jiggle bars). Any measures you use should be signed and clearly visible and, where appropriate, illuminated or reflective.

Decide on the type of traffic-calming measure to use, be aware that they can sometimes increase risks, for example by affecting the stability of some vehicles.

Speed humps are a proven way to limit the speed that vehicles move around a site. They are only suitable for routes where vehicles can go over the humps safely. Most industrial lift trucks are not designed to go over them and some emergency vehicles, such as ambulances, need to avoid them. It is often possible to include some type of bypass to allow these vehicles to avoid going over the humps.

Sometimes speed cushions can be used instead of speed humps. They work in a similar way, but do not stretch across the whole road. Instead, they leave some space clear for certain types of vehicle to drive through or straddle the raised areas, for example cyclists or larger emergency vehicles.

Speed limits are used widely, but they have to be practical, or drivers will be inclined to break them. To be effective, they should:

- be appropriate for the size and type of vehicle, bearing in mind some vehicles do not have speedometers;
- be based on informed data, by measuring the actual speeds of vehicles across the site;
- take account of the type of load being transported; ˜
- take account of the driving surface and the site layout; ˜
- be appropriately enforced;
- be clearly signed at appropriate intervals.

Reversing

Many deaths and serious injuries involving vehicles at work happen during reversing, with poor visibility being the main cause. There are several measures that can help to reduce the risk of reversing accidents, but removing the need for reversing is the most effective.

Adopting a one-way system is one of the best ways to reduce reversing operations.

Where vehicles reverse up to structures or edges (for example on construction and refuse sites), barriers, buffers, bollards and wheel stops can be used to warn drivers where they need to stop.

Coupling and uncoupling

Most accidents during coupling and uncoupling involve drivers or other people being run over, hit or crushed by moving vehicles or trailers. Drivers are often injured or killed while trying to get back into the cab of a tractor unit to apply the parking brakes.

Coupling and uncoupling areas

DM or subcontractors ensure that coupling and uncoupling areas are level, firm and well lit. During uncoupling, the trailer will move from being supported by the tractor unit to bearing its own full weight. If ground conditions are poor this can cause it to sink or tip over.

Lighting is especially important where coupling or uncoupling happens away from natural daylight as drivers need plenty of light to check that locking pins and safety clips are in place, and cables and hoses have been properly attached. There is also a risk of the driver falling when carrying out coupling or uncoupling operations in poor light. Site operators should provide suitable lighting on site.

Vehicle lighting may also be required, especially behind the cab. DM and subcontractors will provide wheel-stops and handholds where appropriate.

Parking brakes

When coupling or uncoupling hoses, always turn off the engine, apply the parking brakes on both the tractor unit and trailer and, where possible, remove the keys.

Never rely on disconnecting the red supply airline (‘dropping the red line’) as a way of applying the parking brake. Always apply the trailer parking brake using the control button on the trailer.

Look at Safety in docks: Approved Code of Practice and guidance for advice relating specifically to transport in docks.

Access to ‘fifth wheel’ area

There should be safe access to the ‘fifth wheel’ (the area behind the cab, where the trailer connects to the tractor unit), for example steps, a handrail and a suitable platform that provides good grip. This area should be kept clean and clear to make slipping or tripping less likely. On articulated trailers the Suzie connections can be fitted on a sliding connector block, allowing the driver to make connections from ground level, without having to access the fifth wheel area.

It is sometimes not possible to connect hoses after coupling, for example in ‘close-coupled’ combinations such as temperature-controlled ‘reefer’ trailers, where the temperature control unit fixed to the front of the trailer means no one can get access to the fifth wheel area. A risk assessment should take account of the risks involved in connecting the hoses before coupling (‘split coupling’), and a safe system of work should be established.

Loading and unloading

Loading and unloading are among the most hazardous transport activities in the workplace. People can be hit by objects falling from vehicles, struck by lift trucks, or fall from vehicles.

Deliveries and collections

Good communication, cooperation and planning are crucial for safe deliveries and collections because there are usually several people involved, often working for different employers and sometimes speaking different languages. Where possible, agree safety arrangements when the order is placed. These should be confirmed in writing, making it clear who has responsibility for what during loading and unloading. Include details of the load being transported.

It is important to remember that drivers are not the only people responsible for the safety of the vehicle and the load. The consignor (the person or company who actually places the load onto the vehicle) and those in control of sites must ensure the loading is carried out safely and that the load will remain in a safe and stable condition until it reaches its destination. Those in controls of sites where unloading takes place must also ensure unloading is carried out safely. DM is responsible for ensuring the correct equipment and vehicles are used and their drivers are properly trained and monitored.

Drivers are often injured during deliveries and collections. So DM ensures they are given adequate safety information beforehand. Simple delivery safety checklists may help them decide whether there are sufficient precautions in place, and to establish criteria for when they can reasonably refuse to continue with a particular delivery or collection. Drivers (including agency staff) should be made aware that they are authorized to refuse or stop loading or unloading for safety reasons. This should be confirmed with the recipient when organizing the delivery or collection.

When organizing deliveries and collections, DM and site supervisor should also make sure:

- drivers know what to expect when they arrive at a site, for example any restrictions on vehicle size or type, or when goods should be delivered or collected;
- there is a safe system of work for deliveries and collections;
- there is a safe place for drivers to wait during loading and unloading;
- suitable equipment is available to allow safe loading and unloading, for example for drivers delivering at retail outlets;
- there is enough time allowed for drivers to check loads are secure and sheeted properly;
- Instructions (in writing) are provided for all those involved.

On large sites, consider scheduling collections and deliveries to avoid the start and end of shifts so that large numbers of pedestrians and passenger cars do not conflict with HGV traffic. Also, consider avoiding the times when buildings near your site may be busy, e.g. the start and end of a school day.

Subcontractors / Visiting drivers

Subcontractors / Visiting drivers should report to the site operator for any relevant instructions such as the workplace layout, which route to follow, and where to park, load and unload. They may not have visited the site before and may not be fluent in English so consider, for example, providing a plan of the workplace at the entrance with clear and concise instructions in several languages, possibly including pictures.

It is important for site operators to cooperate with the subcontractors / visiting drivers, to coordinate the measures required to help them both meet their health and safety responsibilities.

Case study – Deliveries

A site employee suffered severe injuries when he was trapped against a doorframe by a lift truck, driven by an untrained operator.

When a delivery arrived earlier than expected, there wasn't a trained lift truck operator available on site. The delivery driver decided to operate the site lift truck himself to unload. He reversed into pallets, over-corrected and reversed into the site employee.

The site operator should have made sure that only authorized people could use the lift truck. The site operator and the driver's employer should have liaised and agreed procedures for unloading deliveries, including fixing a time for vehicles to arrive with deliveries. The driver should not have tried to operate a site vehicle without authorization.

Loading and unloading areas

When deliveries and collections are made, loading and unloading areas should:

- be in designated places, clear of passing traffic, pedestrians and other people who are not involved in loading or unloading;
- be clear of overhead power cables or pipework so there is no chance of fouling them, or of electricity jumping to 'earth' (arcing) through machinery, the load or people;
- be on firm, level ground, free from potholes and debris;
- have a safe area for drivers to wait that allows them to rest between driving shifts, especially if they may be waiting for several hours, with easy and safe access to toilet, washing and refreshment facilities and shelter in case of bad weather.

Although everyone involved in loading a vehicle is responsible for the vehicle being loaded safely, drivers need to make sure their vehicle has been properly loaded, because they drive on public roads. Where drivers need to observe the loading, this should be from a clearly marked, safe position, for example away from moving vehicles, or places where loads could fall.

Loading bays

Loading bays are dedicated areas where goods can be transferred from vehicles to a building, such as a distribution center, and vice versa. They should have at least one exit point from the lower level. Wide loading bays should have at least two exit points, one at each end. Alternatively, a refuge should be provided which can be used to avoid being struck or crushed by a vehicle.

The edges of loading bays need to be clearly marked. Some platforms or bays in loading areas may need to be fenced, for example by secure guard rails, to prevent people falling. If fencing is not feasible, other safeguards may be needed.

Dock levelers

There is often a difference in height between the loading bay and the vehicle load platform. Choosing the most appropriate type of vehicle will help to reduce this gap.

'Dock levelers' are adjustable ramps that can cover this height difference. They should

not be extended to a steep slope either downwards or upwards, as this can mean anything crossing the surface is difficult to control. Anyone using a dock leveler with a hinged lip to connect the ramp to the vehicle load platform should be competent to do this safely as there is a trapping hazard whenever the lip unfolds or folds.

Preventing vehicles moving

Vehicles should be prevented from moving while they are being loaded or unloaded. This can reduce:

- 'driveaway' incidents, when the driver of a vehicle being loaded drives off from the loading bay unexpectedly. These can have serious consequences, especially if lift trucks are involved;
- 'creep' incidents, when gaps are created between the loading bay and the vehicle, caused by equipment such as lift trucks moving between the loading bay and the vehicle.

There are a number of ways to prevent vehicles from moving during loading and unloading at loading bays including:

- vehicle or trailer restraints, such as wheel chocks; ˜ traffic lights, barriers or other 'stop'-type signals;
- various systems for controlling access to vehicle keys or the cab;
- safe systems of work to make sure the driver knows when it is safe to leave;
- fitting four-wheel braking systems or other effective methods to make sure vehicles cannot move;
- alarm systems that go off if the driver tries to leave the vehicle cab without applying the handbrake.

The vehicle transporting the load should be able to take the full weight of everything it is required to carry, including any loading or unloading equipment, such as a lift truck.

No vehicle should ever be loaded beyond its 'rated capacity' (the manufacturer should provide this information) or its legal limit of maximum permitted axle and gross weight limits if it is to be used on public roads. Overloaded vehicles can become unstable, difficult to steer, and have less efficient braking.

Where a part of the load is to be picked up or removed in the course of a journey, the effect on gross weight, individual axle weights and on the securing and stability of the load must be taken into account. Although removal of part of the load will reduce the gross vehicle weight, the change in weight distribution may cause individual axles to become overloaded (often referred to as the diminishing load effect).

It is important to remember that the weight of the load itself will not be enough to prevent it moving – even heavy loads can move during transport. Friction alone cannot be relied on to keep the load in place.

Anchor points

When loads are secured to a vehicle, the places where the load straps are attached are known as anchor points. They should:

- be designed to distribute the forces they receive into the main chassis frame of the vehicle;
- if they have moving parts, move as little as possible to prevent lashings losing tension in transit;
- be compatible with the securing equipment to be used.
- be firmly attached either directly to the chassis or to a metal crosspiece or outrigger (those secured only to wooden members are unlikely to be strong enough).

Load-securing equipment

When using load-securing equipment, take account of the following:

- Avoid using sheeting hooks to secure loads as they are only designed to secure a tarpaulin over the load for weather protection.
- Lashings (such as webbing, chains, cables or clamps) should be in serviceable condition and be checked for damage at regular intervals to ensure their tension has not been lost. Use sleeves and/or corner protectors to prevent damage to both the load and the lashing or sheet if it passes over a sharp edge or corner.
- Ropes and buckle straps suspended from a roof rail and/or the curtains of a standard curtain-sided vehicle are generally not suitable for securing a load.

Curtain-sided vehicles

A curtain is a thin, flexible sheet, and even when it is reinforced it can usually only resist a moving load by bulging outwards, which can make the vehicle unstable when it is moving. Goods carried in curtain-sided vehicles not constructed to at least UAE RTA ‘XL’ standard or equivalent should therefore be secured as if they were being carried on an open flatbed vehicle.

‘XL’ trailers are reinforced trailers built to the UAE RTA ‘XL’ standard and tested for body strength. They should come with a test certificate explaining the conditions for using them and there should be stickers on the trailer itself to verify its status.

Multi-deck vehicles

Multi-deck vehicles are increasingly used because they can transport more goods than normal box or curtain-sided vehicles. There are additional risks with these vehicles, so ensure:

- vehicles are loaded so most of the weight of the load is carried on the lower deck, as a top-heavy load could make the vehicle unstable and lead to rollover;
- only light pallets (weighing less than 400 kg) are placed on the upper deck, with an inner curtain (or equivalent) to retain them;
- heavier pallets and stacked, light pallets are on the lower deck, secured as they would be on a single-deck vehicle.

Pallets

When loads are placed on pallets, the driver or consignor will need to check that:

- the pallets are serviceable and of the correct rating;
- the load is shrink-wrapped or properly secured to the pallets in another way; ˜ the pallets are securely attached to the vehicle, for example by webbing lashings.

Packing

Pack individual parts of a load closely together to prevent them moving, but if this is not possible, use suitable packing (known as dunnage) to fill any gaps, for example timber, folded cardboard, hardboard, high-density foam or air bags. Dunnage should take up as much of the empty space as possible.

Loading vehicles safely

Anyone responsible for loading should be given clear instructions and training on how to distribute loads safely on the vehicle so it is safe to drive. Follow these principles where possible:

- Spread loads as evenly as possible during loading, moving and unloading as unbalanced loads can make the vehicle or trailer unstable, or overload individual axles.
- Place the load as close as possible to the bulkhead or headboard. Fill any gap with appropriate dunnage where this is not possible. However, avoid loading drawbar trailers too far forwards – this can lead to a snaking effect as the combination moves.
- Avoid loading to the back of the trailer, because this can cause the trailer to tip backwards (especially for single-axle trailers), reducing the vehicle's grip on the road surface.
- Arrange loads close to the middle of the trailer and slightly forward of it to place enough downward force on the tow bar to keep the trailer coupled, but not putting too much pressure on the tow vehicle suspension or hitch.
- Balance loads across the axle (or axles) of a drawbar trailer so that coupling or uncoupling can be managed easily and safely, and the trailer remains stable.
- Load in a way that will allow for efficient unloading (for example in reverse delivery order) and reduce double handling.

Multi-site deliveries

Delivering to more than one site is more complicated than delivering to just one site because:

- it increases the number of times people have to rearrange the load between deliveries;
- it increases the number of times tasks have to be performed, for example repeatedly sheeting and unsheathing a load;
- each site will have a different layout and different site rules.

Vehicles are often loaded in drop order. As this can have an impact on unloading after the first drop, consider:

- who will unload the vehicle at each drop;
- whether the load needs to be rearranged so the vehicle axles are not overloaded, and who will do this;
- how the diminishing load will be secured, and who will do this;
- the fall-prevention measures required for those who have to repeatedly climb onto to the load bed of a flatbed vehicle, often with no controls (like gantries) at the sites they visit.

Shifted loads

Loads that have shifted while being transported can fall from a vehicle. Every driver needs to know how to deal with a load that has moved into an unsafe position. If the load appears to have shifted:

- assess the safety, stability and security of the load before any restraints are removed;
- quarantine the vehicle in a safe area, away from other work, until a competent person has decided on a safe system of work for unloading (a competent person is someone with the necessary skills, knowledge and experience to do the work safely);
- do not open a bulging curtain on a curtain-sider as the load could fall out. Access the load compartment using another route, such as the back door or the curtain on the other side of the vehicle;
- ask for help from the receiver or site operator if necessary.

Preventing vehicles from overturning

Nearly a fifth of all workplace transport deaths are caused by vehicles overturning. Lift trucks, tractors, compact dumpers, tipper trucks, forestry and all-terrain vehicles, multi-deck vehicles and cranes are all more likely to overturn. Ways of making overturns less likely are to:

- plan out suitable routes, avoiding slopes that are too steep, and uneven or slippery surfaces, kerbs or sharp turns;
- maintain traffic routes;
- consider speed restrictions and enforce them where appropriate; ˜
- load evenly according to the loading capacity of the vehicle;
- use vehicles suitable for the task;
- transport loads on lift trucks with loads carried as close to the ground as practicable;
- make sure vehicles are well maintained
- only allow properly trained operators to drive vehicles;
- keep surfaces well-repaired, free of obstructions (such as cables) and clear of debris.

Driving on slopes

To help avoid overturns when driving on a slope, drivers should do the following:

- Check the manufacturer's instructions for stability limits and other recommendations for use.
- If driving across a slope cannot be avoided, try to drive forwards up the slope. ˜ Never turn across a slope while already on it.
- If driving down a slope cannot be avoided, drive down the shallowest part of the slope. It is usually better to drive forward down the slope rather than diagonally, to maintain the stability of the vehicle.
- Never drive a lift truck diagonally down a slope.
- Always drive loaded lift trucks up or down slopes with the forks facing uphill. Without a load, ensure the forks face downhill when driving up or down slopes;
- Keep speed to a minimum on slopes.

Many vehicles are more stable going uphill than downhill. Being safe to drive up a slope does not mean it will be safe to drive down it.

Driver protection and restraints

The severity of a driver injury as a result of a vehicle overturn will be significantly reduced if the vehicle is fitted with driver protection measures and the driver uses them and stays in the cab or seat.

Tipping

Many tipping vehicles (including rigid-body trucks, tipping trailers and tankers) overturn each year. Consider using vehicles that avoid the need for tipping, for example those with 'walking floor' load bodies and single-door containers with side-release locking mechanisms.

Tipping vehicle overturns can be caused by:

- poorly maintained tipping vehicles; ˜
- poorly trained operators;
- imbalanced loads or loads becoming stuck in the tipping body ('freezing'), making vehicles unstable;
- loads shifting around and settling while being transported;
- uneven tipping surfaces putting a vehicle off balance, or unsuitable ground; ˜
- vehicles reversing too far;
- turning with a raised body;
- striking overhead obstructions;
- high winds.

Planning

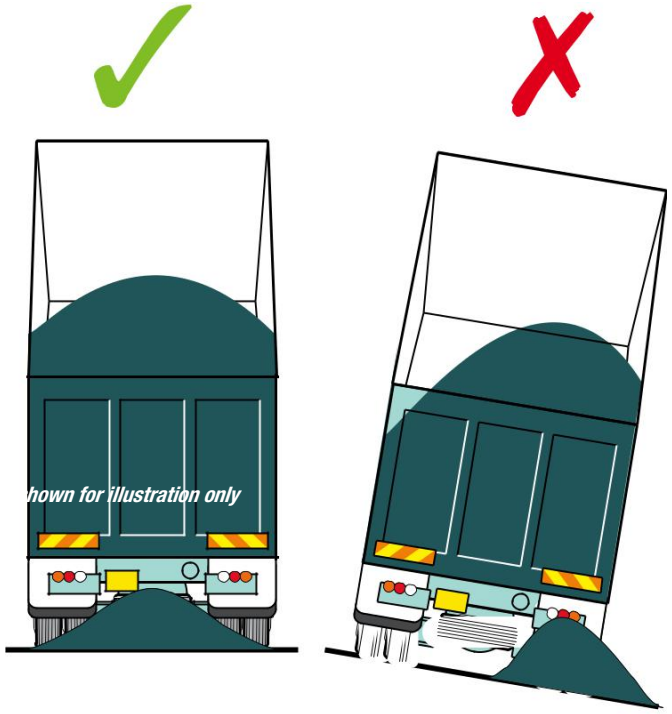
When tipping is being organized, it is important that the DM and the person or organization receiving the load exchange written information, including details of the load, safe tipping procedure, characteristics of the site (for example uneven ground and overhead cables) and where the load should be tipped. They should also agree their responsibilities and make those who will actually do the work aware of this information.

Drivers should be able to refuse to begin tipping if they are not satisfied that it would be safe, with the confidence that their decision will be supported by DM.

Tipping sites

Tipping should take place in well-lit areas on ground that is level and stable and clear of overhead hazards such as power lines and pipework. There should be sufficient clearance between the top of the tipped trailer and any obstacle overhead.

At sites where level and stable ground conditions cannot always be guaranteed (such as waste disposal sites), make sure tipping faces are suitable and safe, for example well compacted with no steep side slopes.



Reduce the need to reverse as much as possible and use suitably sized wheel stops to help position vehicles correctly. If other machinery (e.g. an excavator) is handling the tipped load, make sure the tipper driver is not exposed to risks from that machinery or load.

Before tipping

Before tipping starts, the driver should check that the load is distributed evenly across the vehicle. This is particularly important where:

- the load might have slipped sideways or too far forwards, as this may overload the tipping gear;
- the load has shifted sideways or backwards, which could make the vehicle topple over;
- there is a risk of the load ‘freezing’ down one side as a result of movement or settling, which could cause an imbalance.

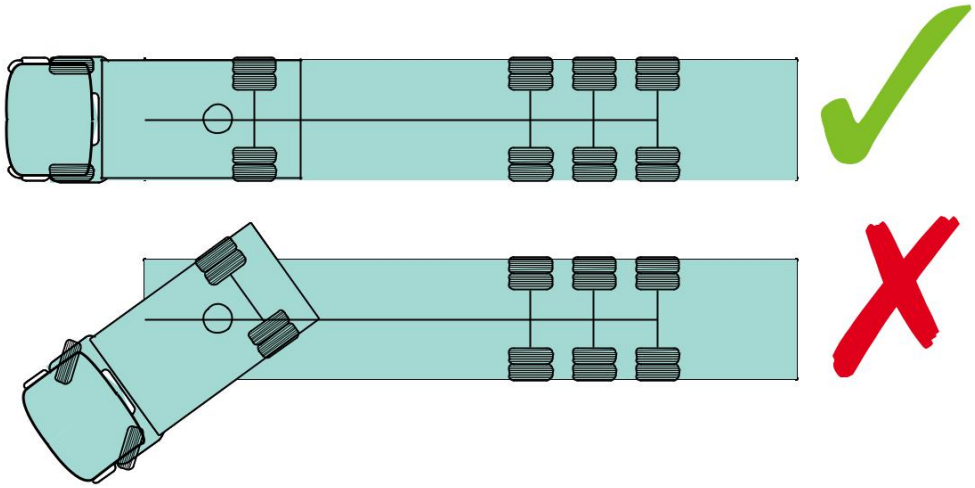
Make sure only those who need to be there are in the tipping area.

Unloading

When tipping, take account of the following:

- If the vehicle has not been properly prepared, discharging loads while tipping can damage parts such as hatches or tailgates.
- Make sure the tractor unit and trailer of articulated vehicles are aligned. ˜ Make sure there is enough space for a vehicle to maneuver.
- If loads are tipped too quickly a vacuum can be created behind the load, damaging both the sheeting and the vehicle. Loosen sheets enough to make sure a vacuum does not form.
- If a load is too high for the bar across the discharge area, it can stick or break the bar.
- Open the tailgate before tipping and remove it if necessary. If a load strikes the tailgate it could break it, or force the tipping body to break away from the tipping ram and be thrown backwards.
- Secure rear doors of the ‘barn door’ type safely in the open position before tipping as they can move uncontrollably in the wind.
- For grain or other similar deliveries, where a ‘grain hatch’ allows the driver to release a certain amount of the load before opening the tailgate, open the hatch and allow the flow to stop completely before continuing to open the tailgate. Some dusts, such as malt and grain dust, are hazardous to health so make sure precautions are in place.
- Static electricity can be created when a load is released though a sleeve, pipe, chute or nozzle, increasing the risk of a fire, electrocution, or explosion for some materials (such as powders or refined oil products). To avoid this, use suitable equipment, such as earthing straps. Never use parts of the delivery equipment as an improvised earthing route.

Some tipper vehicles have partitioned bodies to keep sections of the load separate. If a vehicle with partitioning doors has a load which takes up more than one compartment, always use the doors and lock them to control the weight in accordance with the design. If this is not done, the rear doors can spring open under the pressure of the load. Never release partitions while the body is being tipped.



Articulated vehicles should be parked straight

Drivers should:

- never use the ‘power take-off’ (PTO), which shifts power to the tipping pump if the vehicle is in gear;
- not leave the control position when raising or lowering the body and not apply straps to hold controls in position;
- be able to tell when the body is fully tipped and stop the tipping pump as soon as possible before releasing the tipping gear;
- drive a few metres forward to make sure the load is clear, after checking that the load is at the bottom of the tipped body. If they have to leave the cab to carry out this check, they should fully apply the brakes, turn off the engine and (if possible) remove the keys;
- never stand or walk immediately behind the vehicle when the body is raised during tipping;
- never go beneath a tipped trailer unless it has been securely propped with a suitable body prop;
- never jump out of a lorry that is falling over.

Freeing stuck loads

When the load becomes stuck while tipping, create a safe zone around the vehicle in case a stuck load suddenly moves. Never:

- try to dislodge the load without lowering the body first; ~ drive the vehicle and stop it suddenly (‘jogging’);
- enter the body of a tipper lorry while it is raised.

Overhead power lines

The most effective way to prevent vehicles coming into contact with overhead lines is by not carrying out work where there is a risk of contact with, or close approach to, the wires. The law requires that work may be carried out in close proximity to live overhead lines only when there is no alternative and only when the risks are acceptable and can be properly controlled.

If a vehicle makes contact with an overhead power line and the situation cannot be made safe immediately, drivers should:

- leave the vehicle by jumping as far clear as possible;
- never make contact with the ground and the vehicle (or anything touching the vehicle) at the same time as this could complete an electrical circuit and may cause serious injury or death;
- immediately make sure no one else comes into contact with the vehicle, or anything touching it, while it is still touching the power line and make sure the surrounding area is cordoned off;
- contact the local electricity supplier to arrange for the power supply to be cut off. If you don't know the electricity supplier's number, call 999.

Work at height on vehicles

Falls from vehicles are very common and account for around a third of all workplace transport injuries, many while loading and unloading. They are often caused by:

- slipping while walking on loads;
- tripping on ropes or torn sheets, causing overbalancing; ˜
- wearing inappropriate footwear;
- poor working surfaces made worse by bad weather; ˜
- poor means of access onto and off the vehicle;
- a lack of awareness and training.

DM will take suitable and effective measures to prevent anyone from falling a distance that is likely to result in injury. This includes getting on and off a vehicle trailer or climbing into and out of a vehicle cab. Before working at height, work through these simple steps:

- Avoid work at height where it is reasonably practicable to do so.
- Where work at height cannot be avoided, prevent falls using either an existing place of work that is already safe or the right type of equipment.
- Minimize the distance and consequences of a fall by using the right type of equipment where the risk cannot be eliminated.

Do as much as you can from the ground, for example by using gauges and controls that are accessible from the ground.

If work at height cannot be avoided, collective control measures should always take priority over personal control measures. Collective measures protect everyone who is at risk (i.e. more than one person at any one time), for example gantries or platforms fitted with guard rails, and they usually require no action by the user to work effectively.

Personal control measures rely upon personal protective equipment (PPE) and only protect the individual, for example a personal fall-protection system. They usually require the user to do something for them to work effectively, such as putting on a safety harness correctly and connecting it via an energy-absorbing lanyard onto a suitable anchor point.

Platforms and gantries

Where vehicles have their own access system and working platform, such as on tankers and tipper trucks, these may be used in preference to site-based systems. However, the working platform should be suitable for the work being carried out and the edge protection to the working platform should be suitable and sufficient. Edge protection would typically include a rigid upper and intermediate guard rail which incorporates a self-closing gate. Some vehicle-based systems, such as those found on many tankers, only have one side rail, so permanent site facilities may offer increased protection. Operators of vehicles which have their own access system and working platform should ensure:

- the platform and access area are adequately maintained, kept clean and free of debris;
- employees have had suitable training, for example to erect collapsible guardrails on platforms;
- they are only used by authorized personnel.

Most site-based platforms are simple drive-through or drive-past structures. They should be designed so that drivers are able to pull up closely alongside the platform to prevent falls between the vehicle and the edge of the platform. Most platforms are a fixed height and width, so cannot be adapted to accommodate vehicles of different sizes.

Gantries can be used where many different-sized vehicles are expected and normally consist of a platform with an overhead beam that extends over the vehicle. A personal fall-protection system is attached to the beam. They provide greater flexibility in terms of vehicle size, but rely on the user being trained, and monitoring to make sure they are used properly.

Platforms and gantries should have a safe way for people to get on and off them. Stairs are preferable to ladders on site-based platforms.

Getting on and off vehicles

People climbing onto and off vehicles, trailers or other structures should use a well-constructed ladder or the vehicle’s steps and maintain at least three points of contact (with their hands and feet) at all times. Never use parts of the vehicle which are not designed as hand or footholds (such as mudguards, bumpers, tracks or hooks).

Never jump down from a vehicle, as this is much more likely to lead to injury. The exception to this is jumping clear of vehicles when you have contacted an overhead power cable where there is a risk of electric shock if you climb down

Where possible, use steps in preference to ladders but both should:

- be level and comfortable to use, with sufficient tread;
- have the same features as those on site-based ladders or stairs; ˜
- be well built, properly maintained and securely fixed;

- have a slip-resistant surface;
- not allow material such as mud, grease or oil to build up (for example, use grating to allow mud etc. to pass through a step);
- have the first rung or step positioned so that it can be easily reached, ideally approximately 40 cm from the ground, and no more than 70 cm.

Select vehicles which incorporate proper handrails or handholds. Handrails are preferable to individual handholds as they can be used without having to let go of the rail.

Where possible, walkways should be made of slip-resistant grating or another slip-resistant material. Walkways, steps, ladders and handrails should be away from wheels if possible, to prevent thrown mud making them slippery.

Walking on vehicles

If you have to stand on a load or on a vehicle, there is a risk of a fall, so:

- always make sure there are suitable measures in place to prevent a fall;
- do not walk or lean backwards, especially near the back or open sides of a vehicle (for example during sheeting);
- never stand on a load once it is attached to lifting equipment (for example a crane or a lift truck).

Trimming, sheeting and netting

Trimming

Some loads will need trimming to make sure they are properly balanced before being transported, sheeted or netted. Trimming is common where loading using a bucket or hopper has left a load unevenly spread.

Avoid walking on loads while trimming. As well as the risks of falling from height, they are often uneven or unstable. They may appear to be solid even though there are gaps or ‘voids’ under the surface (common with aggregate loads). Use the working platform of a vehicle or a site-based working platform instead.

Covering loads

There are a number of reasons to cover a load, including:

- keeping materials hot, such as bitumen or asphalt; ˜ keeping materials dry, such as quicklime;
- to protect the environment and comply with the Environmental Protection
- to prevent loss of load during transit and comply with road traffic legislation;32, 33 ˜ protection from the weather.

Sheeting and netting can involve risks from working at height and manual handling. To reduce these risks, consider other ways of covering the load, such as protecting each unit separately, using pre-packed loads, or using alternative vehicles such as curtain-siders or closed containers that do not require sheeting.

When covering a load, consider, in order of preference:

- automated or mechanical sheeting systems which do not require people to go up onto the vehicle;
- manual sheeting systems which do not require people to go up onto the vehicle;
- work platforms to provide safe access to carry out sheeting from the platform without having to access the load;
- a gantry with a work-restraint system to prevent a fall.

Seat restraints and driver protection

Most workplace vehicles manufactured recently will already be provided with the measures required by the law. However, one should still ensure that people only use vehicles with features to reduce risks (so far as reasonably practicable) such as safe and comfortable seats, restraints and rollover protection.

Where there is a risk of overturning, vehicles should be fitted with a structure such as a ROPS (rollover protective structure). A suitable restraint system should always be provided, unless such a system would:

- increase the overall risk to safety;
- make the equipment significantly more difficult to operate (and so not be reasonably practicable);
- not be reasonably practicable to install.

Lift trucks with either a mast or ROPS should, if not already fitted, be provided with restraint systems (such as a seat belt) where appropriate, if such systems can be fitted to the equipment. If worn, they prevent workers being crushed between the truck and the ground in an overturn.

DM management should check that operators are wearing seat restraints. Where seat restraints are fitted, they should be worn at all times, unless a risk assessment concludes otherwise. Exceptions might be a warehouse lift truck operator picking orders in a warehouse (or similar work), where the surface is good, vehicles move slowly, and operators need to get in and out of the truck frequently. Where this is the case, instructions should be clear and enforced.

Vehicles should be fitted with additional protection for those working outdoors in bad weather or in an inhospitable working environment (such as cold stores or foundries).

Where there is a risk of being struck by falling objects, the vehicle should be fitted with a falling-object protective structure (FOPS).

Passengers should only be allowed on a vehicle if it is designed to accommodate them safely, with suitable seating and restraints.

Vehicle visibility and reversing aids

It is important that drivers are able to see clearly around their vehicle, so they can see hazards and avoid them. Vehicles should also be clearly visible to pedestrians and other vehicles in the workplace, so consider fitting, for example, additional lights, reflectors and flashing (or rotating) beacons (as well as horns for drivers to warn others that they are approaching).

Some types of vehicle (such as straddle carriers, large shovel loaders and some large quarry vehicles) often have poor visibility from the cab. Visibility can be poor to the side or front of a vehicle as well as behind, and loads on vehicles can severely limit visibility from the driving position. Consider fitting extra mirrors, reversing alarms or sensors, and CCTV where visibility is reduced. Lift trucks and compact dumper vehicles in particular have reduced forward visibility when they are transporting bulky loads.

Reversing sensors and alarms

Sensing systems are increasingly being fitted to road-going vehicles as parking aids. Some workplace vehicles use laser, radar or ultrasonic sensors to slow down or stop vehicles when they sense an object or person while reversing (e.g. some lift trucks, construction and quarrying vehicles). Some systems also give an audible or visual warning to alert the driver. Sensing systems may not be as effective where they would be set off very often, although some now incorporate features to prevent unwanted alarms. It is important that they are tested regularly.

If reversing alarms are fitted they should be kept in good working order and be loud and distinct enough so they can be heard. Sometimes they may be drowned out by other noise, or may be so common on a busy site that pedestrians do not take any notice. It can also be hard to tell exactly where an alarm is coming from.

Maintenance and repair

DM and subcontractors ensure that work equipment is maintained in an efficient state, in efficient working order and in good repair. Drivers and supervisors carry out inspections of vehicles and associated equipment to ensure this happens, including daily driver checks before using the vehicle and regular preventive (planned) maintenance inspections based on time or mileage. As per standards, we always follow the manufacturer’s guidelines on regular maintenance.

DM and subcontractors give drivers a list of daily checks to be signed off before vehicles are driven. Drivers sometimes need instruction or training in how to carry out these checks and being monitored to ensure they are carrying them out properly. There is a simple system for reporting any problems and deciding if the vehicle is safe to use or if it needs to be taken out of use while waiting to be repaired.

Planned maintenance inspections comply with the manufacturer’s guidelines and include:

- the braking system. Vehicles should have suitable and effective brakes, both for general service and for parking. Brakes need to be connected and working properly and, if they are independent of one another, they need to be properly balanced;
- the steering system;
- the tyres, which should always be inflated to the correct pressure, have good tread (if designed to have tread) and generally be in good condition;

- mirrors and any fittings that allow the driver to see clearly or detect hazards (for example, CCTV cameras and sensing systems);
- windscreens, windscreen washers, wipers and lights;
- any warning devices (for example, horns, reversing alarms or lights);
- any ladders, steps, walkways or other parts that support people or make it easier for them to access parts of the vehicle;
- any pipes, pneumatic or hydraulic hoses, rams, outriggers, lifting systems or other moving parts or systems;
- regular monitoring of lubricant and hydraulic fluid levels, and pneumatic pressure levels;
- any specific safety systems, for example control interlocks to prevent the vehicle or its equipment from moving unintentionally;
- headboards, anchor points and sheeting hooks for damage or distortion, particularly welded joints;
- vehicle-mounted equipment such as lifting or delivery equipment.

Safe driver

The law states you must take account of your employees' health and safety capabilities when you give them tasks and make sure they are adequately trained:

- when they are recruited;
- when they are exposed to new hazards in the workplace.

Choosing drivers

DM procedures for recruitment, checking references, induction, training, supervision, auditing and assessing competence ensure that workers are capable of operating the vehicles and attachments they use at work, in all of the environments in which they are used.

DM while hiring people to operate a vehicle in the workplace our initial requirements is the same as those needed to drive a vehicle on a public road. With a few exceptions, people in the UK must be aged 25 or over and have passed a driving test. For large goods vehicles there are specific age limits and test requirements for different categories of vehicle.

Drivers of vehicles in a workplace will often need many more skills than those normally required when driving on a road. Many workplace vehicles have very specialized attachments to do their jobs, and there are many other skills relating to tasks like loading, unloading, trimming and sheeting. Only trained and authorized drivers are allowed to operate workplace vehicles.

Drivers should:

- be fully able to operate the vehicle and related equipment safely;
- receive comprehensive instruction and training so that they can work safely; ˜
- have a mature and responsible attitude;
- have a reasonable level of both physical and mental fitness. Fitness should always be judged individually as some less physically able people develop skills to compensate.

Where possible, match the requirements of a particular vehicle, task and situation with the levels of fitness and abilities of the driver. For example, people who operate industrial lift trucks should usually be able to fully move their whole body, to allow them to maintain a reasonable awareness of the hazards around their vehicle and climb in and out of it without difficulty.

Driver training and competence

The amount of training each driver needs will depend on their previous experience and the type of work they will be doing. DM process for risk assessment helps decide the level and amount of training needed. Where appropriate, DM validates the information drivers/new recruit provide about their previous experience is accurate, for example that references to training schemes and other qualifications are supported by certificates.

Even when trainees provide evidence of previous training or related work experience, it is advisable to test them to ensure they understand the job they have been asked to do and are capable of doing it.

The information, instruction and training provided should cover areas such as:

- how and where to report faults or hazards; ˜
- procedures for reporting accidents;
- how to use the vehicle and equipment safely;
- information about, for example, particular dangers, speed limits, parking and loading areas, and procedures;
- what personal protective equipment they need for the task they are going to do, and how to use it;
- information on the structure and level of supervision that will apply, and the penalties if they fail to follow instructions and safe working practices;
- how to follow any emergency procedures.

Even experienced people should be monitored to make sure they are working in accordance with both the training they have received and any safe systems of work.

Monitoring and refresher training

People lose skills if they do not use them regularly. An ongoing program of reassessment and refresher training will usually be necessary for all drivers and operators, to make sure their skills remain up to date. Even if drivers regularly operate vehicles, regular refresher training or reassessment will help them:

- maintain good driving habits;

- learn new skills where appropriate; ˜
- reassess their abilities.

There is no specific time period after which DM need to provide refresher training or formal assessment. However, DM may decide that automatic refresher training or a retest after a set period (for example 3–5 years) is the best way to make sure employees remain competent. If DM adopts this approach, DM will still need to monitor their performance in the interim, in case operators need extra training before the set period ends. Keeping training records will help DM to identify when refresher training might be needed.

If there are changes in the workplace which mean that employees are exposed to different risks, DM ensure everyone receives suitable safety training before they are exposed to those risks. Training is particularly important for maintenance and repair work.