

INSPECTION PACK

WORKPLACE TRANSPORT

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1 Background information

(NB: throughout this document, bold text is to aid scanning of the document when used as a memory-jogger).

Workplace Transport (WT) covers the use of all types of **vehicles and powered mobile work equipment in workplaces**. It does not include vehicles travelling on the public highway. Vehicles are a part of everyday life, not only at work but elsewhere, and as a result the associated dangers are often overlooked - **complacency** is a real problem. WT is the **second biggest cause of fatal accidents** in HSE enforced workplaces (after falls from a height).

In 2004/5 there were 70 fatal and 2021 major injuries in HSE/LA enforced workplaces. The main cross-industry causes of WT fatalities and major injuries are:

- being **struck by** a moving vehicle (60% of WT fatalities, 37% MI)
- **people falling off** a vehicle or its load (17% WT fatalities, 42% MI)
- **loads falling off** vehicles (14% WT fatalities, 10% MI)
- vehicles **overturning** (9% WT fatalities, 3% MI)

It is likely that WT will be a **significant hazard for many** duty holders. Any workplaces where a fork lift truck is used or where large goods vehicles make or pick up **deliveries** certainly warrant detailed examination of WT control measures. Even apparently low risk premises such as offices may well have associated staff car parking areas, and may receive deliveries by lorry or van. Risks from these WT activities are easily overlooked by duty holders and inspectors alike, but may be significant.

WT is one of the most "multi-factorial" risk control issues duty holders have to cope with. Adequately controlling the risks from WT, especially the vehicle movement risks, depends on duty-holders establishing and **sustaining** control over a wide range of matters which could contribute to accidents, broadly falling into the 3 categories of safe site, safe vehicle and safe driver. These 3 categories are reflected in the 3 Risk Control Indicators (RCIs) for Workplace Transport :-

Safe site: "Well defined traffic routes free from obstruction, firm and even surfaces. Every effort made to separate pedestrians from vehicles. Pedestrian crossing points. Effective one-way system for HGVs".

Safe vehicle: "Effective maintenance of steering, brakes and lights. ROPS and seat belts fitted when appropriate. Reversing aids fitted when appropriate".

Safe driver: "Fork lift truck drivers trained and competent in accordance with ACoP, similar training for drivers of other types of vehicle. Active supervision of driver behaviour".

Neglecting any one of these controls may result in a fatality, even if most other aspects of WT control are reasonable - even the best driver in the best laid out workplace is likely to have a serious accident if his vehicle's brakes fail due to **lack of preventative maintenance**. Similarly, even if a workplace is well designed and laid out, vehicles are properly selected and maintained, and drivers receive adequate

training, if there is **inadequate supervision and monitoring** of actual working practices, bad practices are likely to develop.

The financial costs to a business of an incident involving WT can be very high, even if no-one is hurt. If a reversing lorry hits a support pillar in a yard, damage can easily run into thousands when the costs of vehicle parts, labour and downtime, building repair costs including labour and downtime, disruption etc are added up. It is worth reminding duty holders of these economic incentives.

Key reference - HSG 136 “Workplace Transport Safety” and HSE website

2 Guidance on the management of the topic area

Many industrial sectors have their own particular WT problems which may differ from most other industries these are described in the Section 4. However, certain themes are common to a wide range of industrial Sectors, and this section outlines those cross-industry issues which it will be most worthwhile considering at visits where WT matters are to be addressed.

Appendix 1 gives a 2-page summary of **causal factors** in workplace transport accidents from a 2 year study. These are:

no or inadequate risk assessment ;

poor workplace design & layout, especially poor vehicle / pedestrian segregation;

poor system for detecting & correcting unsafe behaviour (linked to people knowingly not following rules / procedures);

poor driver training.

The above causal factors give rise to the **four principal accident types** (12 year aggregate statistics – 1993/4 – 2004/5):

people struck by vehicle (about 76% WT fatalities, 42% of WT major injuries);

people falling from vehicles (7% WT fatalities, 42% WT major injuries);

people hit by object falling from vehicle (8% WT fatalities, 11% WT major injuries); and

collapse / overturn of vehicles (6% WT fatalities, 2% WT major injuries)

2.1 Management

2.1.1 Assessment of WT risks and control measures

Failure to adequately assess and control WT risks contributed to 70% of WT accidents in a recent HSE study (Appendix 1). Many SMEs remain completely unaware of risk assessment requirements for this topic. Even employers who know they must assess risks often overlook assessing WT risks, especially from vehicle movements. Carrying out a risk assessment with the aid of HSE guidance should focus the duty holder's mind on potential WT risks not only to people, but to valuable vehicles, stock, storage racking, buildings etc. The WT **Checklist** in Section 7 will help duty holders assess WT risks.

2.1.2 Supervising & monitoring workplace transport issues

Duty holders often fail to monitor standards and detect and correct unsafe behaviour of their own employees as well as visiting drivers. Employers often assume that if they train their drivers, maintain their vehicles and install some pedestrian / vehicle separation measures, they have complied. They fail to set up any simple system for checking whether people actually follow the site rules and procedures expected eg on vehicle / pedestrian segregation, loading, speeding (though for some vehicles a simpler solution to speeding is possible, by mechanically restricting their speed).

Employers in control of sites need a simple system for monitoring behaviour, investigating underlying reasons for unsafe actions, and correcting unsafe behaviours, including appropriate disciplinary procedures. Sections 1 & 6 of the Checklist contain useful pointers. A template IN is included in the pack for situations where most WT issues appear reasonable, but there are inadequate arrangements for controlling / supervising / monitoring the behaviour of drivers and others in relation to moving vehicles at the site.

“Individuals violating known rules” is a contributory factor in a significant proportion of WT accidents. If employers have taken reasonable steps to enforce sensible WT precautions but some individuals (especially drivers, but sometimes pedestrians) still create dangers by for instance refusing to follow known site rules on pedestrian / vehicle segregation, employers should follow appropriate **disciplinary procedures** (ultimately including dismissal). For flagrant disregard of sensible, clearly understood and enforced rules, prosecution of individuals under s7 HSWA should be considered (HSE see OC 130/8(Rev 2006) Prosecution of individuals). For background on some of the complex "human factors" involved, see HSG65 "Successful health and safety management" at Appendix 5, box 11 on monitoring, and HSG48 "Reducing error and influencing behaviour" pages 16-18 on rule breaking.

Good monitoring of housekeeping standards should also help control WT and many other risks. Many work sites now use fixed site (as opposed to vehicle) CCTV cameras for security and other purposes. There is potential for using site CCTV to help monitor safe behaviour by drivers and pedestrians e.g. in showing “offenders” what they did wrong and why it was dangerous. They can also be used for monitoring speeds by marking a measured distance on the roadway. The time for travelling this distance at the speed limit can be calculated and then drivers timed with a stop-watch.

2.1.3 Deliveries and (un)loading

Many premises have to deal with lorries and other delivery vehicles and the accident rate for people employed in haulage and distribution is higher than that for agriculture or construction. **This is a key area for action by Inspectors. See “Delivering Safely”** which is now Information Sheet WPT06 as well as the **checklist in Section 7.**

The **inspection template and technical guide** produced for the “Struck by” project in 2006/7 is reproduced at Appendix 3 which may also be helpful. Additional information on inspecting deliveries as part of a supply chain can also be found in [SIM 05/2007/01](#).

Useful guidance on site design is also contained in the Hazardous Installations Directorate (HID) Technical Measures document "[Roadways / site traffic control / immobilisation of vehicles](#)" on the web.

WT accidents often occur during (un)loading operations, as they often bring together movement of the vehicle being unloaded and the FLT unloading it; danger from passing vehicles if segregation is poor; potential for people (often the driver) to fall off the load/vehicle if he goes onto it; potential for loads which may have moved in transit falling off etc. (Un)loading activities are high risk activities and give a good

indication of how well WT risks are being managed. " Any (un)loading activities involving WT near or on **the public highway or pavement** just outside a workplace involves a high risk interface with the public (both pedestrians and vehicles) and **requires particular attention**. See OM 2003/103 "Work related road traffic incidents: an explanation of circumstances where HSE may have a role to play", especially boxes 1 and 2 of the Appendix to the OM. Employers should be asked to justify the need for any (un)loading involving WT taking place on or near the public highway or pavement (by risk assessment). Risks can usually be reduced by requiring (un)loading to take place within the premises, away from the public, in a designated, demarcated, supervised area. Freeing-up such space may require significant reorganisation of the site (for instance sacrificing some coveted staff car parking spaces?). OC 789/5 "Risks to the public from un/loading vehicles on the highway" contains more detailed advice.

Drawing up and enforcing simple **written site rules for (un)loading** can make it clear to all what's expected. Such site rules (perhaps one A4 sheet) may be copied by fax/electronically to suppliers when ordering goods, or to customers when taking orders for deliveries. The Freight Transport Association (FTA) have produced some example forms in their Health and Safety Compliance Guide "Managing visitors, visiting vehicles and deliveries" due to be published in 2007. They can then be passed to the delivery driver with the other in-cab paperwork for a delivery/collection. These simple, practical procedures can help site controllers and haulage companies fulfil their duties to co-operate in ensuring safety.

2.2 Safe site

2.2.1 Pedestrian/vehicle separation

76% of WT deaths (12 year aggregate) are "struck by vehicle" accidents, and inadequate pedestrian / vehicle segregation is a contributory factor to a large proportion. The main vehicle groups involved are lorries, construction vehicles, tractors, forklift trucks.

On some sites complete separation of vehicles and pedestrians will be achievable (apart from the need, for example, for drivers themselves to get to and from their vehicles), but not on all. Reg 17 of the Workplace Regulations applies. See also PUWER ACoP paras 45 to 48 concerning the need to control risks to pedestrians and establish traffic rules where self-propelled mobile work equipment (paras 318 and 319) operates. **IEE (Initial enforcement expectation) - If at a particular site pedestrian / vehicle segregation is clearly inadequate, consider enforcement by IN.** The IN in the Notice Templates section gives one possible form of wording. For main issues to be considered, see paras 159 to 182 of the Workplace Regs ACoP / guidance in booklet L24, and the WT Checklist.

2.2.2 Access by members of the public (MoPs)

Retail and wholesale premises obviously have the additional problem of access by MoPs. Every effort should be made to provide separate delivery areas. This is not always possible at existing sites and vehicles may have to reverse through the shop car park - it may be possible to time deliveries outside opening hours. If there is no alternative, adequately trained banksmen should be used as a last resort.

MoPs should not be permitted in lift truck operating areas (see HSG 76). Where a lift truck needs to access the shop floor during opening hours there should be a written procedure outlining precautions to be taken – barricading off aisles used by the truck and giving broadcast announcements warning the shoppers.

Where delivery vehicles have to (un)load on the public highway see section 2.2.1 above.

2.2.3 Eliminating / minimising reversing

Reversing causes about a 12% of all WT deaths. All reasonably practicable steps should be taken to eliminate reversing in workplaces (Workplace Regs ACoP para 167) or, where elimination is not feasible, to reduce the need for reversing. Reversing can be eliminated or reduced by one-way systems and eg. drive through loading / unloading areas. Some practical ways of reducing workplace reversing risks are listed HSG136 paras 666 to 698.

Vehicle routes and points of delivery should be **assessed** to determine where reversing has to take place and what needs to happen to either minimise or control the activity eg bin lorries and pub deliveries.

When considering reversing, inspectors should not forget that there are important links with the vehicle's design and whether any **vision aids** such as mirrors etc have been maintained and kept clean, as these affect the driver's ability to see danger areas. Also see HSG 136 paras 550 to 567. Reversing is intrinsically dangerous because **rearwards visibility is often very restricted**. In the longer term, improvements in international standards should lead to workplace vehicles being better designed in terms of visibility from the driver's position. At present Inspectors need to be aware that technical and legal aspects of driver visibility on workplace vehicles such as telehandlers and earth moving machinery design are complex and undergoing change. For more detail on the "initial integrity" aspects, see the summary of WT supply law at the end of Section 4.

Many reversing accidents involve large road going vehicles, especially articulated and rigid lorries. Reversing such vehicles is both potentially dangerous and very costly (the cost of replacing a large rear light cluster crushed whilst reversing with inadequate vision can exceed the cost of fitting a **CCTV** system to avoid such incidents). CCTV can pay for itself within a year by drastically reducing reversing incidents and associated damage costs. Inspectors should consider requiring the provision of on-vehicle CCTV where the site specific risks justify it – this is likely to be necessary where pedestrians are not segregated from frequent reversing

movements. For more detail see OC 803/70 "Closed circuit TV on roadgoing vehicles". Radar or sonar based rear-scanning devices on the rear of vehicles can reduce reversing risks in some situations, but have limitations. In most situations, a well set up CCTV system used by a driver instructed in its proper use will be preferable to such scanning devices.

In considering visibility from the driver's position Inspectors should not forget the simple things. Site and vehicle **lighting** should be adequate – see HSG38 "Lighting at work" Tables on p38 and p41. See **possible IN template in Section 6**. Site rules requiring the wearing of **high visibility clothing** should help reduce risks. Adequate mirrors need to be provided, kept properly adjusted (specific instruction on proper adjustment is beneficial), and kept clean. Modern convex mirrors can significantly improve a driver's ability to see some areas. Windscreen wipers and washers need to work properly.

Fork lift drivers should not have to travel with loads so large that they obscure forward vision. Inspectors should also challenge circumstances where drivers routinely reverse long distances to overcome this problem, asking duty holders to demonstrate by risk assessment that such practices are justified. Some FLT manufacturers have innovative FLT designs aimed at reducing these risks eg rotating 210^o cabs, raised seats, seats which turn through 45^o.

2.2.4 Speed limits

Speed limits should be imposed on larger industrial sites to limit the possibility and severity of accidents. Suitable site speed limits should be determined based upon consideration of what is a safe speed on-site accounting for the type of vehicles using the roadway and its layout, bends, visibility at junctions etc. Limits of 10, 15 or 20 mph may be appropriate. Where pedestrians cannot be segregated, lower speed limits may be needed, near to the **average pedestrian walking speed of 3mph**. To be effective the limits should be clearly signed and enforced by site security and supervisors. Speed limits should be included in the Site Rules with appropriate disciplinary action taken as necessary.

2.3 Safe driver

2.3.1 Training

Driver training was a significant factor in 21% of the accidents in a recent study (App 1). Even safe vehicles in a well laid out workplace are likely to seriously injure people if those driving them are not competent. The employer's risk assessment should help determine competence requirements and hence the level and amount of training needed.

No-one should be allowed to drive (operate) a workplace vehicle unless their employer has **authorised them in writing** to drive that type of vehicle. The employer should not authorise a driver unless they are satisfied that the driver is competent for that vehicle type. For fork lift trucks see the FLT driver training ACoP in booklet L117, OC 790/16 on the ACoP, HSG6 "Safety in working with lift trucks"

and the template **IN on FLT driver (and other) training** in Section 6. **For other vehicle types training should be to a similar standard** using the AcoP as a benchmark.

Some industries have industry-specific driver competence schemes, and inspectors should consider any such schemes if concerned that a duty holder's arrangements for ensuring competence are inadequate. HSE Sector staff should be able to advise on any Sector specific schemes. Employers should have considered the need for periodic reassessment and refresher training if needed, though there is no set frequency - see para 17 of OC 790/16. Key reference on driver training - HSG 136 paras 642 to 665.

2.3.2 Drivers as a vulnerable group

Risks to drivers of vehicles in workplaces warrant particular attention as drivers themselves are often the victims of WT accidents. Frequently drivers are hurt when their vehicle overturns or strikes something, or when they fall off it. They may be struck by their own vehicle after it runs away (see section above). In particular, lorry drivers may be struck by FLT's (un)loading their lorry as they "assist" or watch, or by other passing vehicles as they secure or sheet their load. All non-essential people should be excluded from (un)loading areas whilst other vehicles are operating there. If observation of loading is essential (it usually isn't) a safe area for the driver to stand should be designated and the FLT driver instructed remain stationary if the LGV driver moves out of it. The lorry cab may be a safe place to stay as long as the loading activity does not endanger the cab.

The best place for drivers is a rest area with access to toilets and refreshments.

2.3.3 Work-related road safety

The DfT/HSE leaflet INDG382 "Driving at work" gives detailed advice on this.

2.4 Safe vehicle

2.4.1 Vehicle selection and maintenance

Vehicle **selection** is vital - a vehicle must be suited for the actual conditions of use. No amount of maintenance can make a conventional FLT suitable for operation on rough terrain.

The extent and complexity of vehicle maintenance required for safety will depend on the type of vehicle and its conditions of use, but should generally be in accordance with the manufacturer's instructions. Some potentially dangerous vehicle faults may not become apparent until they cause an accident. Duty holders therefore need a **simple documented system** for checking each workplace vehicle's mechanical condition at specified intervals of time, mileage or hours used, using manufacturer's instructions as a guide. If there is confusion between the requirements for inspection, maintenance and thorough examination Inspectors can use the analogy of servicing and the MOT system for cars – the difference between defect spotting and integrity. Usually involves a checklist for completion by a competent mechanic.

Inspectors should also be aware that if the dutyholder has an Operators or "O" licence for their vehicles, that under the terms of the licence a regime of vehicle maintenance will also be imposed. More information on this aspect can be found in [SIM 5/2007/02](#).

IEE - HSWA and Reg 5(1) of PUWER may be used to prohibit the use of any workplace vehicle which is evidently unsafe (Stark v The Post Office can be used to support enforcement if challenged - absolute nature of duty to maintain in a safe condition). **IEE - If an employer has no system for maintaining vehicles in a safe condition, inspectors should consider enforcement by IN** (see a possible template in the pack). Inspectors and duty holders are sometimes confused by the various maintenance / inspection / examination requirements under PUWER and LOLER for lift trucks. The BITA Guidance Note 28 is an example of a pragmatic way of dealing with these issues.

Drivers often do not see it as "their job" to help ensure that the vehicles they drive are kept in a safe condition. Duty holders therefore need to **explicitly require drivers to report any defects** they become aware of using a defect reporting system which can then be actioned. A **driver's daily checklist** (with a copy in the cab for easy access) can help, together with checks by management that such checklists are in fact used. Encouraging the right attitude is important - drivers should be confident that if they find and report serious vehicle defects, their employer will take the report seriously and support them even if this means that the vehicle is immediately taken out of use pending repair. It is wise for employers to have a contingency plan for dealing with this sort of foreseeable problem. A spare on-site vehicle may not be a realistic option, but quick, easy access to a competent mechanic for repairs and/or prior arrangements with a local hire company for an alternative vehicle can reduce the risk of employers "taking a chance" by using unsafe vehicles in order to keep production running. Key reference on vehicle maintenance: HSG 136 paras 601 - 610.

Provision of safe access to vehicles – legal summary

Roadgoing vehicles:

Section 6 HSWA and PUWER can be applied to road-going vehicles although their design and manufacture is largely governed by the Road Vehicle (Construction & Use) Regulations which Department for Transport (DfT) have the lead for. New vehicle type standards will be introduced in 2008, but these will not cover access to vehicles. This area must be covered by risk assessment by suppliers/users under health and safety requirements. It is important to note that the EHSRs do not apply to vehicles designed for normal road use (Schedule 5 of SMSR - vehicles mainly travelling on the road are exempted from SMSR with the exception of those vehicles used in the mineral extraction industry).

- **Manufacturers** of road-going vehicle bodies, trailer units etc often do not give adequate thought to providing safe means of access and slip resistant surfaces on parts of their vehicles/bodies where people have to work (see RR437 listed below). If access onto the vehicle is unavoidable, the means of access, including pedestrian walk ways should be safe.
- **Persons responsible for purchasing vehicles** should specify appropriate means of access where necessary. If drivers have no choice but to clamber

up on the wheel or perhaps the under-run protection bars to access the load areas of artic trailers, flatbeds or box vans the **NEE is that an IN** should be considered. Simple solutions / aids such as designed hand and footholds, fixed / hinged / sliding / stowable steps or ladders are available and cheap compared to the total vehicle cost, but are often not specified by the user and as a result they are not provided.. Similarly, unless the purchasing haulier / user specifies them, vehicle bodybuilders may supply vehicle bodies lacking mechanical sheeting aids etc.

Workplace vehicles supplied for use mainly off the road, section 6 HSWA and the Supply of Machinery (Safety) Regulations 1992 (SMSR) apply, and hence such workplace vehicles are subject to the Essential Health and Safety Requirements (EHSRs). The following EHSRs are relevant to falls from vehicles:

1.5.15 re risks of slipping, tripping or falling (as on any other machine)

3.4.5 re ergonomics of handholds and steps, avoiding accidentally operating controls

3.2.3 for access by people other than the driver,

(Note that SMSR do not apply to agricultural tractors).

Two **standards** are relevant to vehicle access on off road plant, and should be taken into account by designers, namely BS 5395-3:1985 and BS 4211:2005. BS EN ISO 2867: 2006 is aimed specifically at access to earth moving machinery, but has much relevance to other mobile plant.

In summary, **work vehicle users** should consider the need for safe access and include this in their vehicle specification. **Work vehicle manufacturers and bodybuilders** should similarly ensure that their products are provided with safe means of access to reduce foreseeable fall risks, irrespective of whether they are specifically asked by the purchaser.

2.4.2 Overturning vehicles

Vehicle overturns cause 6% of WT deaths (12-year average see Section 2). Vehicles commonly involved are FLT's, compact dumpers and tractors. The increasingly widespread provision and use of **Roll Over Protective Structures (ROPS)** is reducing the risk of injury following an overturn, but ROPS is not fully effective unless the driver is wearing an appropriate seat belt or other restraint. ROPS is normally fitted to vehicle with a risk of 180 degree or more overturn.

The two key risk control measures are:

a) **reduce the likelihood of overturn**. Vehicles should only operate where the ground conditions are suitable. Excessive gradients, potholes, edges and slippery substances may cause drivers to lose control, increasing both overturn and collision risks. Select stable vehicle designs and train drivers.

b) **mitigate the consequences if an overturn occurs.** Ensure any vehicles which have to operate in areas/conditions where overturn is likely have ROPS and restraint fitted, and monitor the wearing of restraint (seat belt etc).

Inspectors (and duty holders) are sometimes confused by the legal requirements on ROPS & restraint, due to their risk-based nature. To summarise a complex legal area, **if using a vehicle (whether it's old or new, owned or hired) on a particular site presents significant risks of overturn, the vehicle needs ROPS and a seatbelt / restraint**, unless this would not significantly reduce the risk of injury from overturn (for instance ATVs). **IEE - PN is appropriate** – see notice template 5 in Section 6. If it's not technically feasible for a particular vehicle (for instance an old dumper) to have ROPS and seatbelt retro-fitted, that vehicle must **ONLY** be used on sites and in ways where there is no significant risk of overturn

Drivers of dumpers and other common vehicles have been killed when their vehicle with ROPS and seat belt overturned because they were not wearing the seat belt provided. In many situations, the seat belt / restraint is simply to prevent the driver trying to jump off an overturning vehicle. Where ROPS and restraint are needed, employers need simple arrangements for **monitoring the wearing of restraint**, and appropriate disciplinary procedures (see section 2.4.2). If employers have taken reasonable steps to enforce the wearing of restraint in high risk areas, but some drivers still refuse to wear it, prosecution of drivers under s7 HSWA should be considered.

Note: Masted lift trucks are unlikely to go over more than 90 degrees and are not fitted with ROPS, any frame above the seat is normally a Falling Object Protective Structure (FOPS). For full details of the legal complexities on ROPS and restraint, see para 360-363 of the PUWER 98 AcoP, the Note on PUWER part III in Section 4.7.2 of this Pack and the following free HSE Information Sheet:

MISC 175 “Retrofitting of roll-over protective structures, restraining systems and their attachment points to mobile work equipment”, and MISC 241 “Fitting and use of restraining systems on lift trucks”.

2.4.3 Falls from vehicles

Falls from vehicle accidents occur across a range of industry sectors where goods are transported and delivered. 42% of WT major injuries and 7% fatals are due to falls from vehicles (12-year average see Section 2). Work at height is often viewed as incidental to the main activity and so the risks are not properly considered. More than 75% of major falls from vehicles incidents occur during loading and unloading activities.

There is a “Falls from vehicles campaign” included as a workstream of Moving Goods Safely 3 and workplace transport campaign in October 2007 (see LAC 85/13 or SIM 05/2007/01 Appendix 6). There are 6 Information sheets:

WPT01 Preventing slips, trips and falls from vehicles: The basics

WPT02 Safe access to road-going vehicles: Specifying the right equipment

- WPT03 Selecting flooring materials to avoid falls from vehicles
- WPT04 Selecting the right footwear to avoid falls from vehicles
- WPT05 Managing work to avoid falls from vehicles
- WPT06 Delivering Safely: co-operating to prevent workplace vehicle accidents

Also 12 case studies and more information, all on the [campaign website](#) from mid September 2007 .

Fall prevention must be an integral part of the risk assessment for (un)loading. Vehicle selection and specification will play a part in this, see section 2.4.1.

Work at height – the basics

The principles for working at height on a vehicle are the same as those followed for any other work at height as defined in the Work at Height Regulations 2005. Work at height means “work in any place where a person could fall a distance likely to cause personal injury if no precautions are taken”. It includes gaining access to or egress from a place of work.

There is no distinction between high and low falls. 90% of the injuries reported to

HSE resulting from falls from vehicles were as a result of a fall from below head

height. The most common areas of the vehicle for people to fall from is the load area,

followed by the cab access steps and then the fifth wheel catwalk. Maintenance

activities e.g. maintenance of over-cab mounted refrigeration units is also a fall from

vehicle risk activity.

Those in control of the work must:

- Avoid the need for work at height where they can;
- Use work equipment to prevent falls where work at height cannot be eliminated.
 - ✓ First choice – vehicle-based systems
 - ✓ Second choice – site-based systems
- Where the risk of a fall cannot be eliminated, use work equipment to minimise the distance and consequences of a fall should one occur;
- Always consider measures that protect all those at risk ie collective protection measures (eg platforms/scaffolds, gantries, nets, soft landing systems) before measures that only protect the individual, ie personal protection measures (eg safety harness.)

For some work at height on a vehicle there may not be a single, simple solution, but a range of options will have to be considered as part of the process of planning the loading/unloading activity or maintenance operation. Using the hierarchy as the basis, the best solution or combination of solutions in the specific circumstances can be applied. Selection of the most appropriate vehicle for the task or specification of essential access equipment may reduce the need for working at height and reduce the risk of falls.

The Work at Height Regulations are looking for the application of the hierarchy to provide **reasonably practicable** solutions to manage the risk of work at height on a vehicle. (NEE template INs 9 & 10.)

Some practical examples of solutions within the hierarchy of controls:

- **Avoid working at height unless it is essential** - positioning of plant controls for equipment such as lorry loader cranes, refrigeration units (see case studies 3 and 4) and tanker controls at ground level to avoid the need to climb up; the use of ground based sheeting systems instead of manually sheeting. Use of palletised loads that can be unloaded by lift truck, and loading facilities, e.g. loading bays. In many cases installing such systems not only reduces risks, it increases efficiency and in the long term saves money.
- **Prevent falls by using work equipment**
 - (a) **that protects all those at risk** – Working with delivery vehicle and equipment suppliers to determine the optimum design and means of access. Platforms with handrails and access steps - vehicle based controls are better than site based controls as they travel with the vehicle and are reliably available (guardrailed platforms for accessed areas on vehicles eg tanker tops). Site based platforms may prevent falls or mitigate against the effect of a fall depending on their height. (eg Case study 10 William Hare)
Assessment of loading and delivery locations to determine where site-based controls exist or where vehicle-based controls will be needed.
There may be problems guaranteeing such off-vehicle equipment will always be available when access is needed, especially as vehicles usually visit sites controlled by other duty holders on a one off basis.
 - (b) **that protects the individual** – work restraint systems ie a harness and lanyard that make it impossible for a person to get to a fall position.
- **Mitigate falls by using work equipment to minimise the distance and consequences of a fall**
 - (a) **that protects all those at risk** – soft landing systems, nets
 - (b) **that protects the individual** – a personal fall arrest system with the anchorage point sited above the head. Any PPE solution relies heavily on good training, instruction and supervision. A company who distribute concrete products trialled a vehicle based PPE system, but found it interfered with the operation of the lorry mounted crane and so did not take the solution forward in the long term.
- **Mitigate falls through training, instruction or other means** eg ensure access equipment is inspected regularly, apply sensible housekeeping

measures, adopt safe working practices to cover work at height activities eg un/loading, cleaning and maintenance. Providing training to drivers in the basics of safe access eg ensuring three points of contact when climbing can be helpful. (See toolbox talk for drivers on [Falls from vehicles campaign](#) website.) Supervision to make sure fall precautions are actually taken is important.

Preventing slips and trips on vehicles

A significant number of falls from vehicles are as a result of an initial slip or trip. If access to a vehicle is unavoidable, then consideration must be given to preventing slips and trips. There are many reasons why people slip, trip and fall at work. The main causes are :

- 1 **Flooring**- including slipperiness of the surfaces of load areas and ramps, poor design of access steps and changes of level (see Information sheet WPT03 and Case study 2, Multiserve – improved access to flat bed and fifth wheel)
- 2 **Contamination** such as rainwater, diesel, oil, mud or ice getting on to surfaces and not being cleaned up properly - making surfaces slippery or poor house keeping on the vehicle.(e.g.Case study 3, 3663 refrigerated vehicles)
- 3 **Footwear** – selecting the right sole for the surface and contamination type can prevent many slips. Conversely, inappropriate footwear can increase the risk of slips and trips.(See Information sheet WPT04; Case study 5, Shanks waste, and [Slips and trips](#) website).
- 4 **Environment** – such as poor lighting or glare, working in high winds, condensation on surfaces, or even loud noises can contribute to slip or trip injuries.
- 5 **Human Factors** – tiredness, lack of concentration or rushing about can make things worse. Job design (for example, task and finish etc) can play an important part in the emphasis on speed of operations. Also the way the job is done – e.g. having to lift, carry, push/pull loads etc. (See Human factors toolbox.)

There is detailed information on selection of slip-resistant materials in Research Report 437 some of which is summarised in the Information Sheets produced to support the campaign (Information sheets 1-6). See also further information and the [Slips and trip topic pack](#) for enforcement guidance.

Topic pack Section 2.4.1 gives a summary of the supply requirements for access on vehicles

Specific examples of cross-cutting problems

1 Cleaning or maintenance of vehicles

The WAH hierarchy should be applied to the cleaning or maintenance of vehicles where there is a risk of injury as a result of a fall eg. repair of roof mounted beacons or air conditioning units, routine servicing of refrigeration units. Dutyholders should be looking for the safest way to do the job. Positioning plant at ground level (Case study 4, Morrisons underslung refrigeration units) may be a longterm solution, but interim solutions may be necessary. The available solutions will depend on the type of vehicle, eg 55 tonne excavator compared with a roadgoing vehicle, and where the activity is being carried out:

- a) **Service depot based** - They should have access to something like aircraft steps or even a decent stepladder which could be worked from. A mobile tower or podium step with guard rails would be better. A simple scaffold system may be used back at base, creating a gantry which goes over the top of the vehicle.
- b) **Customer depot based** - as above, but will involve communications/co-operation with the site operator if equipment is needed regularly and will be kept on site. If visits are less frequent then equipment will need to be portable and suitable for use by the engineer possibly on his own.
- c) **Roadside or emergency repair** - If a roadside repair can't be done safely ie no access equipment suitable or available, then it should be done back at base.

Modern earthmoving machines are often equipped with guardrails, which prevent falls, but for older machines simple tower scaffolds, podium steps or aircraft steps may be able to be used. The relevant plant should be positioned on good ground capable of supporting such equipment prior to the engineer's visit. Can the engineer utilise an existing loading bay or platform with guardrails, which the equipment could be parked alongside?

If guardrails are not available, could **work restraint**, which prevents the user reaching an edge from which they could fall be used? This has benefits over fall arrest equipment in that it prevents a fall.

Consider also the trivial types of maintenance which involve risk of falling – for example, we have had falls from earth moving machines whilst adjusting mirrors.

Fall protection systems should only be used if the anchorage point can be mounted above the worker, which may not possible out on site (See Falls topic pack).

Access/egress to large plant (eg cranes) on low loaders where the vehicle fills the space on the trailer and the steps finish in open space are likely to be a problem that may require guardrails or access walkways built on, or need mobile steps/platform.

2. Work on Tanker tops –

Access to tanker tops (and other vehicles such as tipper lorries) has been a concern for many years and will be relevant to those in the food, agriculture and manufacturing sector as well as Hazardous Installations Directorate (HID). As always the rule is risk assessment with the hierarchy of controls outlined in the WAH regulations to be followed.

All of this should be backed up by training, and where needed cooperation between carrier and site managers.

In addition inspectors may see an increased use of tank containers. HSE has been working with the International Tank Container Organisation (ITCO) to develop a protocol illustrating the key requirements for reducing the risks of working at height on tank containers.

Containers are traded world wide, and owned / managed by companies who could be based anywhere. Tank Containers also present more challenges to the engineering of access and fall prevention. The hierarchy is still valid though and is part of the ITCO protocol.

The protocol is currently being revisited and will be slightly revised in due course.

The enforcement expectation for HID inspectors is outlined in SPC/Tech/Gen/04. The references are outdated but the advice for tankers and tank containers remains sound.

3. Delivering freight containers or Portacabins to site

The practice of climbing on the container roof to attach slings is not acceptable. (See Case Study 8, Shepherd Group)

There are a number of points to consider:

- If this is a regular drop, then some form of gantry around the vehicle might be appropriate to prevent falls when attaching the chains.
- If it is a frequent operation then a dedicated container reachstacker would be safer and more efficient, though careful consideration is required on WT issues.
- With a less frequent drop, the chains could be attached from alongside the container (e.g. using MEWP, wheeled step-platform or similar)
- Fixing the chains from a ladder might be acceptable, though they would struggle to do this whilst maintaining a secure handhold and securing the ladder would be difficult.
- If the container is full it should not be lifted by a four legged sling (see table 4 of ISO 3874: 1997)

- There is a better method of unloading a freight container that involves a purpose built trailer with two cranes one on each end and attaching the lifting chains to the bottom corner castings - see demo at [Containerlift](#) website.

4. Use of unsuitable working platform on Fork truck

(NEE is PN for unsuitable working platform in use see Notice 7 in section 6 and also [Falls topic pack](#).)

5. Tail lifts – The relevant European Standard (BS EN 1756 -1) requires that tail lifts that lift over 2 m in height must be fitted with suitable handrails to prevent falls. There is also some guidance in Tail lift: Specification guide for road vehicles via [SOE](#).

For other tail lifts, the risk of falls must be assessed and appropriate preventive measures taken. Many manufacturers have handrail options that can be customised to the delivery requirements of the user. When fitted, edge protection has the additional benefit of preventing the load from falling off the tail lift during the lifting and lowering of the platform and injuring others in the vicinity. Bolt-on slip-resistant fibreglass sheets can sometimes be used to improve the slip resistance of the lift, but be aware that the edges can create a trip hazard.

6. Double decker trailers Some trailers have double decks and consideration of access to the second deck should be made.

Responsibilities on site

There is sometimes uncertainty regarding the legal duties of site and vehicle operators (and vehicle manufacturers) regarding falls from vehicles. The following paragraphs summarise HSE Services, Transportation & Safety Unit's (STSU) understanding.

For **all parties**, **HSWA** and **MHSWR** will obviously **apply**. HSE Solicitors advice on MHSW Reg 11, Co-operation and co-ordination where two employers share a workplace, is that it will not apply when one company visits another for a short period to perform one task such as delivery. Nevertheless co-operation and co-ordination are both essential features of safe delivery operations. Reg 12 on workers from outside undertakings will apply, as well as the requirement for both employers to carry out Reg 3 risk assessments. What should be clear is that **it is unacceptable to pass risks off site** eg drivers should **not** be made to correct insecure loads in a lay-by or be sent off site to trim a load or manually sheet a lorry etc.

Re the **vehicle operator**, PUWER will apply. See especially reg 4 re suitability of equipment for the work – this means in effect that vehicle operators should ensure that the vehicle is selected and equipped so that fall risks are adequately controlled. There should be management of off-site risks to employees.

Work at Height Regs See section 4.7.6. OC 200/31 contains some general guidance as do the training presentations on the Regs which can be found on the falls website. If no assessment of this risk has been carried out the **NEE is an IN 9**, or if the assessment has not used the hierarchy appropriately use **IN 10**. Also look at the [Falls Topic Pack](#) Section 6 notice 1)

If the vehicles involved stay in one duty-holder's premises, the legal issues are relatively straightforward. Where vehicles leave the vehicle owner/operator's site and travel elsewhere, disagreements often occur about which duty holder will provide fall protection measures. Where vehicle fall risks could be significant, inspectors should examine whether the parties involved have agreed what fall prevention/protection measures will be taken, and by whom. Some site controllers have contractually required all vehicles delivering to their site to be equipped with automatic sheeting aids or other fall prevention equipment.


Further information

Supply issues - See Section 2.4.1 of the WT Topic pack

Falls from height [topic pack](#) and [web pages](#)

Slips and trips [topic pack](#) and [web pages](#)

Information sheets 1-6 I and Case Studies 1-12 in support of WT campaign 2007 on [Campaign website](#)

Contract Research Report [305/2000](#)  "Sheeting and unsheeting of non-tipper lorries - a health and safety scoping study" (115 pages) on HSE's Website

Research Report RR437 – "[The underlying causes of falls from vehicles associated with slip and trip hazards on steps and floors](#)"

SIM 05/2007/03 "[Car transporters](#)"

HID semi permanent circular SPC/Tech/Gen/04 sets out the enforcement expectation for HID inspectors. The references are outdated but the advice for tankers and tank containers remains sound and includes some draft INs.

FTA/ HSE leaflet [Preventing Falls from vehicles](#) (2005)

[IRTE Tail lifts: Specification Guide for Road vehicles](#)

[The Carriage of Dangerous Goods Manual](#)

2.4.4 Objects (including the load) falling off vehicles

Objects (usually the load) falling from vehicles cause about 8% of WT deaths and 11% of WT major injuries. Loads can fall from FLT's - poor ground conditions with potholes may dislodge loads, or wide loads may be carried on FLT's without properly adjusting fork spacing (vehicle selection is also important - for regular handling of wide loads a sideloader should be considered). Instruction & training in **load security** is important for FLT operations and for those loading vehicles, especially

road-going vehicles. Insecure loads on vehicles cause danger in workplaces and, perhaps more importantly, when the vehicle is on the road.

The security of loads on vehicles on the public highway is a matter for the police but Inspectors should ensure that employers have safe systems of work for preventing loads falling off vehicles in workplaces, and in particular for dealing with any loads which arrive in an insecure state. The security of loads on roadgoing vehicles is addressed in the Dept of Transport publication "Safety of loads on vehicles" (Free download from DfT website). Following the guidance in booklet HSG 6 "Safety in working with lift trucks" should minimise the risk of loads falling off FLT's. There is also some sector specific guidance see section 4.

2.4.5 Parking vehicles and trailers

Accidents occur due to drivers leaving vehicles and trailers in an unsafe condition; usually due **to drivers failing to set brakes properly**, especially on articulated tractors and trailers. Drivers of workplace vehicles should be instructed on how to park each vehicle type they use, as there can be significant differences and misunderstandings are common. **Trailer parking and cab hand brakes should always be used** – there have been a number of fatal accidents recently caused by not using these. See "Code of Practice – Coupling or uncoupling & parking of large goods vehicle trailers SOE IRTE 2006.

Immobilisation should usually involve removing any ignition or starter switch key to help prevent unauthorised use, especially by younger staff who often find excuses to move vehicles if keys are left in. More innovative solutions such as PIN code vehicle access systems linked to training databases are becoming more common in bigger employers.

2.5 Further advice

LA Inspectors can often access specialist traffic engineers within their own local authority: the Highways section can advise on road layouts, signs, appropriate speed limits for sites etc; the Road Safety section can advise on traffic calming and normally has a speed gun available.

HSE Inspectors requiring specialist advice on site layout issues to minimise workplace transport risks should submit a request to their local SG Civil Engineering discipline. Vehicle and driver training issues should request help from SG Mechanical Engineering discipline.

LA Inspectors can also access specialist HSE advice via their Enforcement Liaison Officer (ELO).

3 Aide-memoire on inspection

This section can be used in conjunction with the more detailed **Checklist** (section 7) to guide especially newer inspectors in one way of approaching WT at a site visit. **Bold text** is to aid scanning the document as a memory-jogger.

Before the visit:

Note: HSE Safety Unit recommend that inspectors usually wear suitable **high visibility clothing** at workplace visits (even if any HSE industry-specific Health & Safety Policy Supplements do not “require” it), **unless** in their judgement risks from moving vehicles during the visit are unlikely to be significant. Routinely wearing high visibility garments reduces risks to the inspector, sets a good example, and should help encourage duty holders to view high visibility clothing as the “norm” where workplace vehicles are used. In many cases a lightweight high visibility tabard will suffice.

- Inspectors should be familiar with the:
 - 1 duty holder **Checklist** (section 7)
 - 2 [Delivering safely](#) – on the HSE website) and
 - 3 the Technical guide and template produced for the “Struck by” project in 2006/7 (Appendix 3).

On arrival at the premises:

- **Immediately on arrival** outside a workplace you can form a valuable impression of WT control measures. This will help you decide from the outset whether / how deeply you may need to examine WT controls. For instance:
- As a site visitor, **is it clear to you where you should go** (whether in your car or on foot)? Are there clear signs telling you where to go, where you should park, where you can / cannot walk, where vehicles/pedestrians are not allowed, any speed limit, where any Reception is etc?
- Would an **unfamiliar delivery driver** arriving at the site with a load know where to go, where to safely park, how to make contact with someone at the premises?
- Are pedestrian visitors kept **segregated from vehicles**?
- Are there any obvious **signs of vehicle damage** to structures / workplace vehicles?
- Clear one-way system, pedestrian/vehicle entrance/exit, or **blank expanse of potholed, patched tarmac** with pedestrian / vehicle “free-for-all”?
- What categories of goods are being carried? Is Carriage of Dangerous Goods (CDG) an issue?

During the visit:

- **Does WT need addressing here?** Remember - **safe site, safe vehicles, safe drivers**.
- Ask the **manager in control** of the site / activity for a **verbal explanation** of whether/how they have assessed and are controlling WT risks.
- Ask to see the **assessment of WT risks** (if there are 5 or more employees). Use this pack and in particular the **Checklist** to help decide whether their controls are adequate. Is there a **risk assessment for deliveries**?

Workplace aspects

- Get any **site map or plan**, to help discussion of vehicle / pedestrian areas, potential for possible one-way systems etc.
- Use any map / plan as a lead-in to questions about internal and external **traffic movements and pedestrian interfaces** (section 2 of the Checklist).

Maintenance issues

- In **warehouses** is there a procedure for closing aisles to FLT's when racking is being repaired
- How are **contractors** controlled when they visit to repair FLT's, tail-lifts etc? Is a **traffic free** area designated for maintenance?

Vehicle aspects

- Make a list of **vehicle types & vehicle tasks**. List any vehicles on site **at present**, then **any other vehicles** which may visit. Pay particular attention to high risk vehicles such as FLT's and lorries
- Use this list of vehicle types and tasks as a lead-in to the questions in **sections 3, 4 & 5 of Checklist**.
- Pick an **individual workplace vehicle** and run through **sections 3, 4 & 5 of Checklist**.
- Is there any **daily/pre-use checklist** in the vehicle or elsewhere? If so has it been properly completed? Have any evident faults been reported?
- Note the vehicle details & **follow its maintenance record trail**

Driver aspects

- Get any **list(s) of authorised drivers** for particular vehicle types. Use the list (or lack of) as a lead-in to questions **sections 1, 6 & 7 of the Checklist**, especially about the **system for supervision & monitoring**.
- **Pick a driver** of a workplace vehicle. Remind them drivers are a vulnerable group. Check:
 - **authorised in writing** to drive / operate that vehicle?
 - **training history** including refresher training?
 - system of “before use” / daily **vehicle checks**?
 - knowledge of **site rules** on WT?
 - system for **dealing with breaches** of WT rules?
 - Is driver confident that **faults they report** will be dealt with?
 - Do they have **any ideas** for reducing workplace vehicle risks?

4 Sector enforcement guidance, legal requirements, references and national enforcement expectations

4.1 Agriculture and Food Sector

4.1.1. Agriculture

"**Struck by vehicle**" is the **largest single cause** of fatal injuries (35% in 2004/5) in agriculture and forestry.

Targets for action

Extensive advice in EMM guidance section on **following pages**.

Agriculture - WT References

Priced:

Tractor Action - Video and Training guide.

Fatal Traction - Video.

Safe driving on slopes - Video and training guide.

Riding for a fall - ATV video

Free Leaflets:

AIS 33 Safe use of all-terrain vehicles in agriculture and forestry

AIS 36 Carriage of passengers on farm trailers

AIS 37 Operator seat restraints for mobile work equipment in agriculture and forestry

AS22 Prevention of tractors overturning.

INDG 185 Tractor Action

INDG 279 Fatal Traction

MISC 165 Farmwise

SIM:

SIM 01/2004/08 – Farm self assessment software

Industry guidance:

BAGMA/NFU code of practice for vehicle maintenance (issued to all band 2's and is freely available from the BAGMA website in PDF format).

Agricultural Vehicles on the road - a guide to legislation by Andrew McMahon (issued to all inspectors dealing with agriculture as at June 2001)

Safety on farms: a shared responsibility - Industry guidance for farmers, growers, drivers, contractors and other commercial visitors. UKASTA guidance leaflet.

Machinery	Risk Gap (Bench Mark)	Targets of Action	National Enforcement Expectation	Mitigating / Confounding Factors
Activityand				Examples of factors which may suggest particular courses of action

1. Transport - site					
1.1 Machines used capable of contacting overhead power lines	inadequate regard to risk	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor	PN/PR	Where immediate danger exists i.e. stacking bales under OHPLs, lorry tipping areas under OHPLs, Forest machinery operations
1.2 Machines used capable of contacting overhead power lines	inadequate regard to risk	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor	PN	Where no action has been taken to eliminate/control the risk and/or where no planning, training, instruction or consideration of vehicle heights has taken place.
1.3 Moving vehicles and loading/unloading vehicles	inadequate traffic/pedestrian control	Moderate (Bench Mark = SPI/R)	Farmer, Manager, Contractor at his own premises /worksite	IN	Where foreseeable hazards exist e.g. around potato grading lines, control of the public at forest work sites, child access to farm yards, materials handling areas including timber and bale stacking/de-stacking.
1.4 Moving vehicles and loading/unloading vehicles	inadequate maintenance of traffic routes	Moderate (bench Mark = SI/R)	Farmer, Manager	IN	Significant surface defects in areas of high traffic use e.g. loading areas, silage clamp aprons, timber stacking areas, forest roads to active sites
1.5 Grain store/drier intake pit	no grid over grain intake pit	Extreme (Bench Mark = NIL)	Farmer, Manager,	PN	a) no grid to allow safe opening and closing of trailer doors b) Where pit has no effective means of preventing access by children or of preventing them sinking into the pit far enough to sink under the grain.

1.6 Slurry store	No vehicle barrier at scraping in points/ramps	Extreme (Bench mark = NIL)	Farmer Manager	PN (deferred for animal welfare reasons if necessary)	Absent or ineffective barrier to prevent scraper tractor driving over edge into slurry store
2. Transport - driver					
2.1 Carrying passengers on mobile equipment	no provision for carrying passengers safely	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor, Operator	PN + PR	Where risk of serious personal injury is probable eg passenger on trailer drawbar, tractor linkage, cab steps or forks/buckets of materials handling equipment, single seat quad bikes
2.2 ATV, FLT or Telescopic handler use	lack of formal training for new users or others in need of training	Moderate (Bench Mark = SPI/R)	Farmer, Manager, Contractor	IN	Where an operator can be shown by lack of experience or accident to be in need of formal training. e.g. cannot explain how to use load indicator chart on telescopic loader / only recently started using an ATV /doesn't know ATV tyre pressures etc
2.3 ATV use	lack of head protection	Extreme (Bench Mark = NIL)	Farmer, Manager,	PN	Where no head protection is provided.
2.4 ATV use	lack of head protection	Extreme (Bench Mark = NIL)	Farmer, Manager	PN/PR	Where no head protection provided and ATV in use
2.5 ATV use	lack of head protection	Extreme (Bench Mark = NIL)	operator	PN	Head protection provided but not used
2.6 Operating vehicles on steep slopes	inadequate training	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor	PN	Where a driver can be shown to have had little or no previous experience of driving on slopes, has had no training for driving on slopes and is, or will shortly be expected to, have to drive on slopes where, due to the slope or operations involved, overturning is possible e.g fertiliser spreading, forest operations
2.7 Operating vehicles on steep slopes	inadequate training	Substantial (Bench Mark = NIL)	Farmer, Manager, Contractor	IN	As above but operations are not imminent.

3. Transport – Vehicle					
3.1 Vehicle brakes	inadequate hand and foot brake maintenance	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor	PN/PR	Where maintenance can be shown to be inadequate from simple physical examination and by lack of evidence of a program of maintenance or where braking systems are absent e.g. road-going trailers
3.2 Visibility – Telehandlers and tractors towing large trailers	Broken or missing visibility aids	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor	PN	Includes mirrors and windscreen wipers. Consider PR if vehicles are normally operating in vicinity of pedestrians
3.3 Visibility – all vehicles	inadequate visibility aids or audible warning aids on vehicle	Moderate (Bench Mark = SI/R)	Farmer, Manager, Contractor	IN	Where foreseeable hazards exist which could be reduced by the fitting of such aids.
3.4 Operating mobile PTO driven equipment (1)	inadequate PTO or PIC guards	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor	PN + PR	PTO shaft is easily accessible and there is foreseeability of leaving machine with shaft running, eg for static use or blockage (slurry tanker, baler etc).
3.5 Operating mobile PTO driven equipment	inadequate PTO or PIC guards	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor	PN (deferred if necessary)	PTO shaft is not easily accessible and little foreseeability of leaving machine for blockage. eg close fitting linkage mounted sprayer.
3.6 Operating mobile PTO driven equipment	inadequate PTO or PIC guards	Extreme (Bench Mark = NIL)	Operator	PN + PR	No justifiable grounds for working with an unguarded shaft. PTO shaft is easily accessible and there is foreseeability of leaving machine with shaft running, eg for static use or blockage (slurry tanker, baler etc).
3.7 Operating mobile PTO driven equipment	inadequate PTO or PIC guards	Extreme (Bench Mark = NIL)	Operator	PN	If damaged guard already reported to management and employee required to continue work (PR employer)

3.8 Operating vehicles on steep slopes	no operator roll over protection	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor	PN/PR	To prohibit the use of the vehicle where there is significant risk of roll over until a roll over protective structure and a restraining device have been fitted. PR especially if Tractor Cabs Regulations breached (Some vehicles will require specialist advice regarding suitability of ROPS)
3.9 Operating vehicles on steep slopes	only a roll bar or incomplete cab is fitted	Moderate (Bench Mark = SI/R)	Farmer, Manager, Contractor	IN	To require the fitting of a restraining device.
3.10 Supply of equipment	Tractors over 560 kg not fitted with approved cab supplied/hired to agriculture	Substantial (Bench Mark = SI/R)	Manufacturer, Importer, Supplier	PN(supply) PR if cab fails to meet required standard for approval	Clear breach of Agriculture (Tractor Cabs) regulations 1974.
3.11 Supply of equipment	Inadequate hardware on other mobile equipment	Substantial (Bench Mark = NIL)	Manufacturer, Importer, Supplier	PN (supply) /PR	Hazards relating to mobility not adequately addressed e.g. visibility, ROPS, controls and contact with dangerous parts.
4. Transport – Child safety					
4.1 Driving tractor	1. Under age of thirteen	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor, Employee	PN/PR	PACAR and ACOP apply
4.2 Driving tractor over age of thirteen	1. Lack of formal training 2. Using trailed equipment prohibited by PACAR 3. Vehicle exceeds their capability 4. No close Supervision	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor, Employee	PN/PR	PACAR and ACOP apply

4.3 Carrying Passengers on tractor	1. Child under thirteen is the passenger 2. Child over 13 is the driver	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor, Employee	PN/PR	PACAR and ACOP apply
4.4 ATV use at work	1. Non-Adherence to manufacturers age restrictions 2. Under age of thirteen 3. No formal training 4. Lack of head protection 5. Passengers on sit astride ATVs or in trailed equipment	Extreme (Bench Mark = NIL)	Farmer, Manager, Contractor, Employee	PN/PR	PACAR and ACOP apply

4.1.2 Food

Targeting

In the food industry, all the usual WT hazards occur but particular additional problems in this industry are:-

- **overturning of tipping lorries** (tipping grain, flour etc)
- tipping lorry **tailgate accidents** when loads stick and suddenly slide violently, forcing the gate open or removing it altogether
- **FLTs falling off loading bays**

Milk delivery staff fall from vehicles occasionally.

Sector specific references

Food Information Sheet 21 “Workplace transport safety in food and drink premises”.

NIGM 05/B/1997/13 “Access to the top of milk tankers - update” (not current - copy available by request from Food and Entertainment Sector - Food Section) and

NIGM 05/B/1997/21 “Access to the top of tank containers and swap tanks used for the transport of milk and milk products” (not current - copy available by request from Food and Entertainment Sector - Food Section) both give advice on milk tankers, and similar principles can be applied to oil tankers.

4.2 Services, Transportation & Safety Unit (STSU) - Transportation section

Transportation section shares all the common cross-sector WT issues, but has the following Sector-specific WT targets for action :

4.2.1 Air transport industry

Aircraft turnaround

The highest risks at airports occur during aircraft turnaround, when large numbers of vehicles and workers may be around the aircraft, and there is pressure on all concerned to ensure the aircraft is not delayed. Vehicles include baggage carts and tugs, catering high loaders, fuelling vehicles, cleaners vans etc.

The key areas are:

- Traffic control and speed limits on ramps and roadways – should be enforced by airport bye-laws and aerodrome operator;
- Driver training and airside permits – overseen by aerodrome authority;
- Vehicle maintenance – responsibility of vehicle owner or operator;
- Airport layout and design, vehicle and pedestrian routes, signage and lighting – responsibility of aerodrome operator;
- Co-ordination and communication in aircraft turnaround involving service providers, airline and aerodrome operator;
- Supervision of passengers on the ramp.

Key guidance is in **HSG209 Aircraft Turnaround** – A guide for aerodrome operators, airlines and service providers on achieving control, cooperation and coordination.

CAA also have responsibilities for aircraft safety and there is further guidance on aspects of training, vehicle maintenance and safety management in [CAP642 Airside Safety Management](#).

GoSkills are the Sector Skills Council for passenger transport and they have developed [training and National Occupational Standards \(NOSs\)](#) for the aviation industry

Enforcement responsibilities of HSE and CAA in relation to health and safety at airports is explained in a [Memorandum of Understanding between HSE and CAA](#)

Links to CAP642 and a wide range of guidance and information relevant to airports can be found on the HSE Air Transport web pages and the Air Transport Community of Interest (Col) , where there are also sample Notices and letters. If you are not a member of the Col, contact the Transportation Section.

Falls from vehicles

Access to aircraft is governed by design and the emphasis on avoiding damage to the aircraft. There is a risk of falls from vehicles and equipment such as catering high loaders, Ambulifts, access steps, fuelling and de-icing vehicles, as well as during maintenance.

References.

SIM 05/2002/52	Preventing falls from height during aircraft maintenance
SIM 05/2003/58	Preventing falls from height during maintenance of helicopters
SIM 05/2004/13	Safe access to aircraft for catering operations
SIM 05/2004/53	Designing in health and safety at airports
SIM 05/2004/55	Leader Ports and airports (2004/05 project)
SIM 05/2005/05	Preventing falls from height from, or when opening or closing, aircraft doors
SIM 05/2005/07	Aircraft turnround inspection

4.2.2. Docks

Inspectors are encouraged to introduce themselves to their local Maritime and Coastguard Agency (MCA) surveyor to establish local liaison. In 2004-2006 there was a successful inspection initiative on joint visits with HSE inspectors and MCA surveyors targeting workplace transport and falls from height and problem ships. Although there are now no specific targets for HSE inspectors for joint visits, contact is encouraged, and joint visits may be useful where issues of common interest are identified.

Information on the responsibilities of HSE, MCA and MAIB in docks, at the water margin and offshore can be found in the Memorandum of Understanding (MoU). Contact details for local MCA offices can be found in the Annex to the [MoU](#) or from the Sector.

Industry information on training of casual/contract workers or Non-permanent employees can be found on the [Port Skills and Safety Ltd \(PSSL\)](#) website

PSSL represent the industry on skills, training and health and safety issues and have also published National Occupational Standards (NOSs) for Port Operations, which can also be found on the above website.

General guidance on inspection of ports can be found in **SIM 05/2007/05**

Loading and unloading of vehicles. This is a high risk activity in docks. Concerns include:

- safe areas for sheeting and securing of loads, access to tankers etc;
- pedestrian access and segregation for drivers and others around trailer parks and loading areas;
- falls from vehicles during sheeting and securing of loads;
- loads secured during movement around the dock;
- parking and coupling/uncoupling in trailer parks;
- Control and restricted access at container terminals.

General guidance in the WPT and Work at height Topic Packs will apply. Guidance on specific loads such as paper reels, steel or timber is available from relevant sectors.

Tank containers cannot be fitted with permanent guard rails as they have to comply with container design requirements for stacking on board ships. The ITCO guidance referred to in the section on work on tanker tops is relevant where drivers have to access tank containers in ports. The port should provide a safe area for any access, and the general guidance applies. Specific guidance on work at height on car transporters is in **SIM 05/2007/03**

Traffic flow management.

Issues include:

- segregation in high risk areas;
- marked and signposted walkways;
- restricted access for private vehicles, delivery vehicles, taxis etc ;
- driver training for on-site mini-buses etc.;
- adequacy of lighting;
- vehicle visibility.

Ship/shore interface.

- Control and supervision of vehicle/ pedestrian access to Ro-Ro bridge and vessel ramp.
- Pedestrian segregation and gangway/ ladder or ramp access.

Ro-Ro vessels.

- Pedestrian routes marked and segregated; restricted pedestrian access to internal ramps during vehicle movements; signalling system.
- Tween deck lifts not for pedestrian use when loaded; vehicle drivers to remain in cab with brakes applied during descent/ ascent; edge protection at openings; interlocked gates or barriers; audible warnings.
- Problems on decks due to congestion on decks and reversing vehicles; High noise levels; poor lighting levels. Need signaller for each gang; whistle stop system as part of safe system of work; high quality PPE and high vis with retro reflective strips on jacket and legs.

Vehicle issues.

- Target areas include FLTs, clamp trucks etc moving between dockside/ MAFFIS/ sheds including moving inside sheds and eg timber stacks. General guidance on workplace transport safety applies, including adequacy of control measures, lighting etc.
- Drivers of large vehicles should have adequate visibility from the driver's position. Risk assessments for each kind of vehicle are required. Visibility aids to be used in conjunction with good practice. **SIM 05/2004/55** refers to a 2004/05 project on use of new technology in ports. Guidance for other sectors such as quarries may be applicable.
- The Sector is currently working with PSSL and IRTE on assessing systems for work for coupling and uncoupling of tugs. In some cases the IRTE guidance (Code of Practice on

coupling and uncoupling large goods vehicles can be accessed via WPT site) may not be applicable – if you encounter issues in this area please contact the Sector.

References

HID SLC/2006/04 The prevention of falls from ISO tank containers

Sector has copies of International Container Handling Coordination Association (ICHCA) guidance on Safe working at Ro-Ro terminals and Container Terminal safety.

The ILO Code of Practice on Safety and Health in Dockwork is available on loan from the HSE Library.

NEE for Ports and Airports on following page

National enforcement expectations for ports and airports

Activity	Issue	Bench mark	Risk gap	NEE
Airports				
Catering high loader at aircraft	a) guard rails on platform not in place and/or b) Loose bridge plate across gap between platform and aircraft such that there is a risk of operative falling a distance likely to cause injury.	SPI/R	Substantial	PN/Pr
Ambulift at aircraft	Inadequate guard rails or guard rails not in place	SPI/R	Substantial	PN/Pr
High level access from refuelling/ deicing etc vehicles	Inadequate guard rails or guard rails not in place	SPI/R	Substantial	PN/Pr
Lack of management of turnaround activities (consider airline, airport and ground handler responsibilities)	Poor control of vehicle movements and access	SPI/R	Moderate	IN
Vehicle maintenance	Evidence of no/poor maintenance, including operator checks	SPI/R	Moderate	IN
Ports				
Load being transported around dock	Load not secured	SPI/R	Substantial	PN
Control of access to container terminal	No/inadequate precautions to prevent/control pedestrian access	SPI/R	Substantial	IN
Working in container terminal	No safe place for driver	SPI/R	Substantial	IN
Sheeting/securing loads: tank container access.	No safe area/ no means of access provided.	SPI/R	Substantial	IN
Access to ro-ro ramp	No controls/supervision	SPI/P	Moderate	IN

4.2.3 Road haulage

In the 2004/05 workyear, there were 11 fatalities, 1487 major injuries and 6654 over-3 day reports. The total accident rate in this industry is worse than both the construction and agriculture sectors. In addition, accident rates have worsened significantly over the past 3 years.

The **Moving Goods Safely** project is the main initiative aimed at tackling the high accident rates within the haulage industry. Further information on MGS can be found in SIM 05/2006/03 & [SIM 05/2007/01](#). STSU Transportation Sector is also engaged with other industry work, including through the HSE-run safety forum, the Road Distribution Action Group (previously known as the Road Haulage Liaison Group).

A Sector Information Minute providing further background information on the road haulage industry is now available ([SIM 05/2007/02](#)).

Health and Safety legislation (apart from the Workplace Regulations) applies whilst the vehicles is driving on the road as well as whilst it is involved in operations at the workplace. However road risk is largely dealt with by the Police, so inspectors should focus efforts on risks at the workplace. You may draw attention to the Driving at Work document INDG382. OM2003/103 and OM2003/109 give more details on work-related road risk.

More information on [road haulage](#) can be found on the HSE website.

Carriage of dangerous goods (CDG) issues

Carrying goods by road or rail involves the risk of traffic incidents. If the goods carried are dangerous, there is also the risk of an incident, such as spillage of the goods, leading to hazards such as fire, explosion, chemical burn or environmental damage.

Whilst most goods are not considered sufficiently dangerous to require special precautions during carriage some do have properties which mean they are potentially dangerous if carried.

There are regulations to deal with the carriage of dangerous goods, the purpose of which is to protect everyone either directly involved (such as consignors or carriers), or who might become involved (such as members of the emergency services and public). Regulations place duties upon everyone involved in the carriage of dangerous goods, to ensure that they know what they have to do to minimise the risk of incidents and guarantee an effective response.

Further details may be found at the following site:

<http://www.hse.gov.uk/cdg/index.htm>

References

INDG379 Health and safety in road haulage

SIM 5/2001/16 Passenger Transport will be revised and updated in 2007

SIM 5/2001/5 (SSP3) has been withdrawn

[SIM 05/2007/02](#) The road haulage and distribution industry – overview

[SIM 05/2007/03](#) Car transporters

[The Carriage of Dangerous Goods Manual](#)

4.3 Construction

Every year, construction vehicle incidents cause about 15 deaths and more than 200 major injuries. Compact site dumpers, excavators and goods delivery vehicles feature prominently in accidents. The Sector emphasise the need for transport risks to be properly addressed during the design and planning of construction work, and for contractors to put in place robust site transport controls which they then vigorously enforce.

Particular problems in the industry include:

- lack of or inadequate site specific transport management plan / transport risk assessment;
- inadequate pedestrian/vehicle segregation;
- Poor standards of fall prevention when unloading vehicles;
- Lack of adequate driver training;
- inadequate precautions for vehicles working near overhead lines;
- poor edge protection to prevent vehicles going over edges;
- lack of ROPS / FOPS / driver restraint;
- poorly maintained vehicles;
- inadequately prepared ground to support the movement of cranes, MEWPs, piling rigs etc.

The Construction Transport Campaign is aimed at promoting **effective planning** and management of construction transport risks. Sector guidance is available in **HSG 144 The safe use of vehicles on construction sites**. Advice can be sought from the Construction Sector where inspectors experience difficulties or have specific questions.

During site visits inspectors should consider the influence exerted by relevant duty holders on site transport operations and, if applicable, whether or not they have complied with their duties under Construction Design and Management Regulations 2005 (CDM). The majority of immediate enforcement action often falls on the Principal Contractor; however where the inspector believes that other duty holders have failed to comply, back tracking to designers, planning supervisors and clients should be followed up.

There are four main parties that have duties under CDM. If these duties are not fulfilled correctly they could influence work place transport safety on the site.

(1) Principal contractor: Where site vehicle movements present significant risks, measures to reduce them should be set out in the Health and Safety Plan (CDM reg 23). Site rules should ensure compliance with the requirements of CDM regarding the separation of pedestrian and vehicles and the provision of suitable traffic routes (Reg 36); and the safe use of vehicles (Reg 37). The plan should also state how this information is to be passed on to other contractors. Where the need for reversing vehicles has not been eliminated, then the risk assessment required by MHSW Reg 3 and associated method statements should define safe systems of work to be followed including the fitting of reversing aids. Where there is serious risk of injury a PN should be considered under CDM regs 36 & 37. The PC should ensure that ground where cranes, MEWPs, piling rigs are used or manoeuvred is adequately prepared. Where the transport related information in the plan is inadequate then an IN under CDM Reg 23 should be considered. The PC should also give a suitable induction to every worker on their site, (this should include delivery drivers) under CDM reg 22 (2).

(2) Client: Most Clients, particularly those who only occasionally commission construction work, will not be experts in the construction process and for this reason they are not required

to take an active role in managing the work. However, clients must check that, arrangements that the contractor agreed to make to control key issues on site such as producing a transport management plan, have been implemented. Also, particularly on occupied sites, clients need to provide information (reg 10) on their own undertaking which will affect construction work. Such as:

- traffic routes,
- visibility,
- segregation,
- delivery times, etc. Therefore co-ordinating their own work with the construction work.

If contact is before the construction phase begins, then an IN could be considered if important information is lacking. If the construction phase has begun and the site conditions are poor, a PN may be warranted. However, this would have to be under CDM Regulations 36 or 37 in relation to the site, or the Workplace (Health, Safety and Welfare) Regulations 1992 Reg 17 in respect of the client.

(3) Designer: Designers are required under CDM to avoid foreseeable risks, therefore transport issues should be considered during the design process. Issues that should be considered include:

- location of site access;
- associated driver visibility;
- size of materials used;
- how they will be delivered;
- phasing of build program in order to segregate workers from the majority of vehicle movements; and
- allowing adequate room for traffic routes around the site (see HSG 144).

The hierarchy set out in CDM Reg 11(4) should be followed and information provided as required by CDM Reg 11(6). Failings resulting from the lack of suitable management systems should result in an IN under the MHSW Reg 4 requiring arrangements to be introduced for complying with their duties under CDM, or an IN under MHSW Reg 11 requiring training of the designer. Information for designers can be found in the CIRIA Publication CDM Regulations-Work sector guidance for designers and Designing for Health and Safety in Construction.

CDM Co-ordinator: Has duties to assist the client in complying with their duties under CDM Reg 10, (& 15 where the project is notifiable), including that they ensure the client has provided the Principal Contractor and Designer with pre-construction information. The Co-ordinator has a duty to identify and collect this information and ensure that it is provided in a convenient form (CDM Reg 20 (2)) and then liaise with the Principal Contractor regarding the contents of the Health & Safety Plan and File for the project. If the relevant information is not provided because of poor management systems then an IN could be considered under MHSW Reg 4 or the above CDM Regs.

References on WT in construction

HSG 144 The safe use of vehicles on construction sites.

HSG150 Health & Safety in Construction (2006) 3rd Edition, pages 38 – 44.

CIRIA Publication CDM Regulations-Work sector guidance for designers
Designing for Health and Safety in Construction.

SIM 2/2007/02 Assessing field of vision for operators of earth moving machinery on construction sites

L144 Managing Health & Safety in Construction- Construction (Design & Management) Regulations 2007.

4.4 Local Authority Sector

4.4.1 Leisure

See Agriculture and Food Sector information (Section 4.1) for advice on use of agricultural-type vehicles. In addition at leisure sites segregation of pedestrians members of the public from vehicles is important. Speed limits should be set and enforced (eg by speed bumps) where necessary.

Golf courses

Targets for action:

- unsafe tipping operation during sand replenishment of steep sided bunkers
- ensure safe working practices near to water features such as lakes/ponds/reservoirs
- adequacy of training to green keeping staff who undertake in house maintenance of transport machinery
- safe usage of golf buggies by club members and visiting golfers
- training provision for use of ATV's as personal transport or specific work activity (spraying) on golf course

Leisure references

Priced

HSG79 Health and safety in golf course management and maintenance

LA Guidance

Holiday Caravan Parks – Workplace transport campaign - Gwynedd Council

Industry guidance

- **Health and safety on your park** - British Holiday & Home Parks Association (Available free to members only)
- **National Code of Practice and Guidance for operators of tractors and machinery in the amenity and horticultural sector** - [British Agricultural & Garden Machinery Association](#) (BAGMA)
- [Vehicle health check scheme](#) downloadable from BAGMA web site
- [Greenkeepers Training Committee](#) (GTC)

4.4.2 Warehousing

HSG76 "Health and Safety in Retail and Wholesale Warehouses" is out of print. This publication is under review and it is expected that a second edition will be published in 2007. In the mean

time, the Sector consider the content of the first edition of HSG76 to still be current when read in conjunction with HSG136 'Workplace Transport Safety - An Employers Guide'.

Reference

Health and Safety at Work – Warehouse Safety - London Borough of Barking and Dagenham

Mobile (un)loading ramps

These ramps are commonly used at warehouses which do not have a loading bay – which is a safer way of unloading. They are most often used for (un)loading containers situated on the back of a LGV. They may be used frequently throughout the day and the question can be raised as to whether a loading bay may be required as a reasonably practicable measure.

Concerns with ramps are:

1 Selection issues

- (i) Width of ramp needs to be sized in relation to the width of the trailer, to reduce or minimise the likelihood of the FLT misaligning with the ramp
- (ii) Maximum ramp height – to ensure the slope is not too steep. A slope of about 15% or less is recommended as this is the parking brake limit on most FLT's
- (iii) Means by which ramp is raised / lowered. Most modern ramps use a hand-operated hydraulic pump and jacks to raise the ramp to the required height.
- (iv) Means of attachment of the ramp to the vehicle or loading bay. The ramp should be secured in position either by chains or wheel chocks.
- (v) Movement of the ramp - if intended to be towed then this should be with a suitably designed tow bar.

2 Operational issues

- (i) Pedestrians should be kept out of the area where lorries are manoeuvring and unloading is taking place.
- (ii) A safe system of work or physical restraint mechanism should be provided to prevent the lorry from driving away before (un)loading is completed eg keys from HGV driver
- (iii) FLT operator instruction and training eg the FLT should be driven with the heaviest end facing up the slope
- (iv) Suitability of the trailer / container for the FLT – floor loadings see paras 104-105 of HSG 6 “Safe working with lift trucks”. Note: trailer safety jacks are available to support the front of uncoupled trailers

3 Maintenance of ramps

The ramps should be subject to:

- (i) Pre-use daily checks

(ii) Periodic maintenance and inspection of all parts

4.5 Manufacturing Sector

4.5.1 Engineering

Engineering Sector shares all the common cross-sector WT issues. The additional Sector-specific WT target for action is:

Safety in the storage and handling of steel (and other metal) stock

Fatal and major accidents occur during loading and offloading of steel and other metal stock, as well as vehicle movements, in metal stockholders, metal stock haulage operators and engineering premises that use steel and other metal stock.

Industry specific guidance is available in HSE leaflet **INDG313 'Safety in the Loading/Unloading of steel stock'** and in more recent guidance issued by the National Association of Steel Stockholders '**Safe delivery and unloading of steel products**' (January 2007) which updates and supersedes INDG 313. The NASS guidance is available as a free download from the [NASS website](#) and/or the [UK Steel website](#). **HSG 246 'Safety in the storage and handling of steel/other metal stock'** also contains useful information on handling and lifting.

Particular attention should be paid to:

- the preparation of written Safe Delivery Plans;
- that stockholders have adequate arrangements in place to ensure safe deliveries of stock and safe loading/offloading of vehicles in accordance with the Safe Delivery Plans;
- the responsibilities and competencies of those who prepare the Safe Delivery Plans;
- that drivers are adequately instructed and trained;
- that suitable offloading equipment and facilities are available so that "barring off" of loads and manual offloading of loads can be avoided;
- how they make sure Safe Delivery Plans are followed.

Where Stockholders use **contract hauliers**, inspectors should, additionally ensure that stockholders and hauliers co-operate in the preparation of written safe delivery plans and that such plans accompany the load at all times.

There are particular difficulties, due to the nature of metal stock with load security on vehicles, which may affect safety during vehicle movement and at the commencement of offloading. Guidance is given in Section 8 of the DfT Code of Practice 'Safety of Loads on Vehicles'.

References

- INDG313** 'Safe unloading of steel stock'.
'Safe delivery and unloading of steel products' (NASS / UK Steel Guidance see above)
HSG 246 'Safety in the storage and handling of steel/other metal stock'
'Safety of Loads on Vehicles' DfT Code of Practice (Section 8)
SIM 03/2002/34 'Safe Delivery of metal stock – Written Delivery Plans'

4.5.2 Concrete and brick factories - sheeting & unsheeting

In common with many other industries, there is a need for securing and covering loads in the concrete and brick industries. The risks of falling from the loads are similar. Load securing and covering may be undertaken by employees or non employees (independent hauliers) and for every loading operation there is a corresponding unloading operation at the end of the journey, frequently on a construction site.

Factors which may differentiate concrete and brick industries from others include

- A large number of simultaneous loading operations taking place (which can limit the applicability of sheeting gantries);
- The complexity of some loads (mixed products with different dimensions which can limit the applicability of automatic sheeting systems).

The reasonably practicable measures to be taken will differ according to the load, site circumstances and the vehicle being used. Some measures include specially designed vehicles, lorry mounted lifting aids, automated sheeting systems and the provision of gantry / harness systems.

Work is currently underway to examine the overall problem, and to identify reasonably practicable measures and industry best practices for the various types of load and produce industry specific guidance.

References

CRR 305/2000 "Sheeting and unsheeting non-tipper lorries"

Cement

[Mobile Plant Reversing & Visibility Aids](#) published by British Cement Association in Jan 2006.

Concrete blocks

SIM 03/2002/53 (previously 6/2002/09) "Securing and Covering Loads in the Concrete Products Industry"

[Code of Practice: For producers, hauliers and customers on the safe loading, consignment and offloading of concrete blocks](#) published by the Concrete Block Association in April 2006.
(Details responsibilities of the players)

[Good Practice Guide: For producers, hauliers and customers on the safe loading, consignment and off-loading of concrete blocks](#) published by the Concrete Block Association in April 2006.
(Provides practical advice)

Concrete pipelines

[Recommendations for load security of concrete drainage products](#) published by the Concrete Pipeline Systems Association.

[Guide for offloading deliveries from CPSA members](#) published by the Concrete Pipeline Systems Association.

4.5.3 Paper

Please note INDG 386 “Transporting paper safely” has been withdrawn please see **SIM 03/2006/14** for an explanation of why the leaflet was withdrawn and important information on how dutyholders should operate in the interim before new guidance is produced.

4.5.4. Quarries

High-risk processes/equipment

1. Visibility for drivers of mobile plant

Reasonably practicable measures

Fit CCTV, wide angle mirrors, radar to try and achieve 1mX1m around equipment

Sector and other guidance

SIM 2/1999/05 Visibility for operators of mobile earth moving equipment. (no longer on intranet - paper copies available from Sector on request)

[Hard Target: Quarry Health and Safety, Cutting Accidents by 50%](#)

2. Road widths

1) Single track roadways should be 2X width of largest vehicle using the road

2) Two way roads should be 3.5X the width of the largest vehicle using the road.

OR

Traffic lights/passing places with effective management and an action plan set out in the health and safety document to achieve the above standard in a set time frame.

Quarry Fact File 33, June 2005

[Hard Target: Quarry Health and Safety, Cutting Accidents by 50%](#)

3. Brake failure

Daily/weekly testing using check sheets and standard road length/speed on level ground (10m / 8mph; 12m /15 mph) and static test of park brake on ramp and periodic (e.g. after 250 running hours) test using electronic device such as Beaumonk or Simret meter, as set out in H&S document.

QPTC Brake testing guidance available from EPIC and currently (10/06) being revised and updated for republication

Inspectors should note that a Simret meter is available for their use in RSG offices.

[Hard Target: Quarry Health and Safety, Cutting Accidents by 50%](#)

4. Vehicles going over tip and road edges	Edge protection 1.5m or radius of largest wheel on compacted ground, as set out in H&S document. Look for minimum distance of edge protection on tips set out in tip rules.	See edge protection guidance in Quarry Factfile no. 25, December 2001, Quarry Fact File 33, June 2005 Hard Target: Quarry Health and Safety, Cutting Accidents by 50%
5. Overturn	Seat belts fitted to all vehicles, Full harness belts preferred. Check control measures set out in H&S document.	Seatbelts/overturn guidance is given in Quarry Factfile no. 17, June 1997. Hard Target: Quarry Health and Safety, Cutting Accidents by 50%
6. Access to mobile plant	Provision and maintenance of suitable access for a daily workplace – ideally staircase access to ground level or a plan to achieve this in short to medium term (plant modification and replacement programme). Handrails and platforms for drivers and maintenance activities. Ground based maintenance points. Control measures set out in the H&S document .	HSE Research Report 406 Don't fall for bad access, Quarry Factfile no. 19, June 1998 Ten ways to vehicle safety, Quarry Factfile no. 20 December 1998 Falling from vehicles, Quarry Factfile no. 16, December 1996 Hard Target: Quarry Health and Safety, Cutting Accidents by 50%

4.5.5 Scrap metal, recovered paper and waste management sites (land fill etc)

INDG359 “Waste industry safety and health: Reducing the risk”
<http://www.hse.gov.uk/pubns/indg359.pdf>

Particular WT risks in these industries include:-

Scrap - sheeting / unsheeting of vehicles; site layout especially vehicle / pedestrian segregation; large vehicle use. See British Metals Federation Health and Safety Manual. See **SIM 03/2002/56** (previously SIM 6/2002/13) “Vehicle sheeting at scrap metal yards”

Landfill - similar vehicle risks to quarries - apply similar standards. See **SIM 03/2002/57** (previously SIM/2002/12) “Vehicle sheeting at waste management sites”.

Recovered paper – see “Guidance for the recovered paper industry” **INDG392**

4.5.6 NEE for workplace transport issues in woodworking premises

Targets for action

Effective segregation of pedestrians and vehicles

Effective management of unavoidable reversing activities

Effective management of delivery and despatch activities

Training provision for FLT and side loader operators

Presence of rear facing CCTV on large plant such as shovels, grabs etc

Activity	Issue (s)	Benchmark	Risk gap	NEE
Operation of FLTs – especially in warehouses	Uncontrolled pedestrian access to these areas	SPI/ Remote	Moderate	IN*
Reversing of HGVs	1) Absence of one way system where one is possible, 2) No SSOW for unavoidable reversing, 3) Uncontrolled pedestrian access to these areas	SPI/ Remote	Moderate	IN*
Operation of FLT/ side loader	No operator training	NIL	Extreme	PN/ IN
Operation of mechanical loading shovels/ grabs, all FLTs over 6 tonnes and other relevant vehicles that reverse during work activities	Absence of rear facing CCTV to cover the blind spot	SPI/ Remote	Moderate	IN
Loading/ unloading during delivery/ despatch	Absence of SSOW including control of pedestrians including the vehicle driver	SPI/ Remote	Moderate	IN*
Vehicle movements	Inadequate segregation of pedestrians and vehicles	SPI/ Remote	Moderate	IN
Vehicle movements	Inadequate signage, road markings, crossings etc	SPI/ Remote	Moderate	IN
Deliveries to site	Absence of effective cooperation/ coordination of work activities between the site and visiting hauliers	SPI/ Remote	Moderate	IN*

* A PN may also be appropriate depending on the circumstances and the immediacy of the risk of injury.

4.6 Education, nursery schools and play schemes

Significant risks can arise on school premises due to inadequate segregation of vehicles and pedestrians. Inspectors should always query the practice in some schools (particularly rural schools) of **using parts of the playground area or site roads for car parking**. Whatever systems are said to be in place to ensure children are not in the vicinity when cars enter and leave the premises it is likely they will not be followed in practice.

Some schools may have significant numbers of **coaches and buses** delivering children direct onto the site. Reversing should be avoided. The **design and layout of suitable drop off and collection areas** will require considerable thought and investment and **supervision** of the loading areas may be required. Schools and bus operators should have systems in place to **ensure reversing, where unavoidable, is supervised** by a trained banksman. Arrangements should be in place to deal with **late arrivals**.

Inspectors should not become involved in assessing the risks to pedestrians off the school site but should be sympathetic to legitimate concerns that are raised by employees and parents. Such concerns should be directed to the relevant Road Safety officer at the Local Authority. If the behaviour of motorists causes problems e.g. poor parking on public roads, such matters should be referred to the Police.

See **OM 2003/103 regarding work-related road traffic incidents**

4.7 Legislation on workplace transport

The general requirements of HSWA, MHSWR, PUWER, and the Workplace Regs apply to controlling WT risks. However there are some regulations and ACoPs aimed specifically at workplace transport topics. This section highlights the most useful general regulations and gives some guidance on WT-specific requirements.

4.7.1 Workplace Health, Safety & Welfare Regulations 1992 & ACoP (L24)

Regulation 8 – Lighting “Every workplace shall have suitable and sufficient lighting”

Regulation 12 - Condition of floors & traffic routes. Keep vehicle routes in a safe condition i.e. no holes, slippery areas, not too steep. Keep clear of obstructions.

Regulation 17 - Organisation etc of traffic routes. Adequate traffic routes for both vehicles and pedestrians. Sufficient separation between vehicles and pedestrians. Signing. See detailed ACoP re layout etc.

4.7.2 Provision & Use of Work Equipment Regulations 1998 and ACoP (L22)

Regulation 4 – Suitability of Work equipment

Regulation 5 – Maintenance

Regulation 9 – Training - Paragraph 194 of ACoP refers to driver training

Regulation 21 - Lighting

The whole of Part III of PUWER Regulations 26 to 30 relates to " mobile work equipment", –and are now in force

The requirements in Part III deal, for the most part, with the risks due to its mobility which arise when mobile work equipment is travelling. The requirements of Part III are in addition to the other requirements of PUWER (L22 para 314). .

Vehicles designed primarily for use on the public roads will normally comply with Part III, if they comply with the Road Vehicles (Construction and Use) Regulations 1986, where these contain similar provisions (L22 para 317).

The actual risks during use need to be considered when determining the precautions necessary for mobile work equipment.

The regulations in part III for the most part refer to ‘employees’. Where members of the public are at similar risk, HSW Act can be applied.

Regulation 25 - Employees carried on mobile work equipment. Vehicles should not carry people unless suitable - possible need for seats, cabs, falling object protective structures (FOPS), restraint, limiting speed, wheel / track guards.

Regulation 25(a) is an explicit and absolute requirement to ensure that employees are not carried on mobile work equipment unless it is suitable for carrying persons. Any measures to reduce other risks to employees when equipment is travelling are covered by reg 25(b).

Regulation 26 - Rolling over of mobile work equipment. Minimise roll over risks, by maximising stability. Provide Roll Over Protective Structure (ROPS) and restraint eg seat belt where overturn a significant risk (see detail of regulation).

Measures should always be taken to reduce the risk of mobile work equipment rolling over, but where such risks cannot be eliminated, reg.26 requires risks **from** the equipment rolling over to be minimised. (Note: stabilising the equipment, in fact, reduces the risk **of** rolling over.)

There are certain **classes** of mobile work equipment which, experience shows, are particularly likely to roll over, (though this does not mean that they will be at risk in all circumstances of use). For the following, ROPS are the most practical solution:

- (1) tractors (where no cab is/can be fitted);
- (2) compact dumpers;
- (3) all-terrain vehicles (sit-in type); and
- (4) rough terrain variable reach trucks (telehandlers).

However, even for these classes of equipment, the risks when they are in use may not be sufficiently serious to justify formal enforcement or other action.

There are also situations in which individual items of mobile work equipment are at risk of rolling over, because of where and how they are being used, eg grass cutting machines used on steep slopes. For the sit-astride type of all-terrain vehicle (ATV or quad bike), see guidance in Agriculture Information Sheet No 33 The safe use of all-terrain vehicles (ATVs) in agriculture and forestry.

In practice, with most vehicle types, the most likely measure to take to reduce the consequences of roll over will be provision of a roll-over protective structure (ROPS). For tractors this will normally take the form of a cab, but for some small or very old tractors, the only structure available will be a roll bar.

Where a ROPS cage or roll bar is used, rather than a cab, there is usually a risk of anyone on the mobile equipment being crushed in event of its rolling over. In such cases, reg 26(2) requires a **restraining system in addition** to a ROPS, or other device, and this will most often be a seat belt.

There may be situations where there is a serious risk of rolling over because of the location and conditions under which the mobile work equipment is in use. In such situations only equipment that complies with reg.26 should be used.

For **new** equipment, there should be no difficulties regarding the provision of ROPS for most of the classes listed above. However, for new compact dumpers, supplied without ROPS, or any second-hand CE-marked dumpers which are not capable of having a ROPs fitted and which are in use where there is a serious risk of rolling over, **NO FORMAL ENFORCEMENT ACTION** should be taken without first consulting HSE Safety Unit so that any necessary safeguard action can be put in hand at the same time.

For several years, new rough terrain variable reach trucks (telehandlers) should have been supplied with ROPS. Where a ROPS is fitted to a telehandler, then seat restraints will also be required and this should be enforced where there is a risk of rolling over.

Counter-balanced, seated, centre-controlled, fork-lift trucks do not need ROPS (because they have a mast), however, seat restraints will be required where this is necessary because of the risk of overturning. However there may be some difficulties in fitting restraints to certain older fork-lift trucks, particularly those that are battery powered.

Regulation 27 - Overturning of fork lift trucks. Forklifts with vertical masts or ROPS to have restraint eg seat belt where appropriate, to prevent crushing driver.

Regulation 27 requires restraining systems to be fitted to certain fork-lift trucks if there are risks (particularly crushing between the truck and the ground), should the truck overturn. This applies in particular to seated, centre-control, counterbalanced fork lift-trucks. Where such a counterbalanced truck is to be used in a high risk situation but, because of the age and design of the truck, there are technical difficulties in fitting attachment points for a restraining system, the selection of suitable **alternative** equipment may be the only solution. This may be a particular problem with some older battery powered fork-lift trucks. For further information on the fitting and use of restraining systems on fork lift trucks, see HSE Information Sheet MISC 241.

Regulation 28 - Self propelled work equipment. Vehicle controls including brakes; adequate vision for driver, provide vision aids (eg extra mirrors, CCTV) where needed; vehicle lights.

It deals with a variety of additional measures on self-propelled work equipment, ie equipment that has its own engine or motor. However, little, if any, action may be needed for vehicles used primarily for travel on public roads where they comply with similar provisions in the Road Vehicles (Construction and Use) Regulations 1986. The extent of any such overlap (and also the gaps) is being looked into and the action necessary is under consideration.

Regulations 28(e) and 17 (3) (a) Driver vision

There is an overlap between the requirements in reg 17(3)(a) and those in reg 28(e) driver direct field of vision. For self-propelled mobile work equipment, the same measures, for example additional mirrors or CCTV, can be used to meet the requirements of both regulations (see also para 64 regarding on-the-road use).

Regulation 17(3)(a) can be used in relation to 'a driver's direct field of vision' where there is a significant risk resulting from the use of mobile work equipment, particularly where this is established sector policy. Inspectors should be aware however that in some situations it may be more appropriate to use reg 28(e) as this permits risk to be reduced by means other than improving the driver's vision, for instance the use of radar or other sensing aids to assist safe vehicle manoeuvring (this may be relevant for example where very dusty conditions severely limit the usefulness of visual systems).

For visibility issues on earth moving equipment, see SIM 02/2007/02 "Assessing field of vision for operators of mobile earth moving machinery used on construction sites". See OC 803/70 "Closed circuit TV on road going vehicles" for guidance on the application of CCTV to lorries and other large road going vehicles.

Regulation 28(g) - The requirement for appropriate fire-fighting appliances should only be applied where escape from self-propelled work equipment cannot be achieved easily.

Regulation 29 - Remote controlled self-propelled work equipment. Rare equipment - if encountered see ACoP.

Regulation 30 - Drive shafts. Safeguard any drive shafts (though not strictly a WT topic).

4.7.3 Supply of Machinery (Safety) Regulations 1992

The legal requirements for the initial integrity of workplace vehicles are not simple, but are summarised below.

For **workplace vehicles** supplied for use mainly off the road, section 6 HSWA and the Supply of Machinery (Safety) Regulations 1992 (SMSR) apply, and hence such workplace vehicles are subject to the Essential Health and Safety Requirements (EHSRs). The main EHSRs regarding vehicle movements are contained in SMSR Schedule 1, section 3 "EHSRs to offset the

particular hazards due to the mobility of machinery". (Note that SMSR do not apply to agricultural tractors).

However, **roadgoing vehicles** such as lorries also come into workplaces, and it is important to note that the EHSRs do not apply to vehicles designed for normal road use. Schedule 5 of SMSR specifically excludes from the requirements of SMSR "...vehicles and their trailers intended solely for transporting passengers by...road...as well as means of transport...designed for transporting goods on public road...networks", though "vehicles used in the mineral extraction industry shall not be excluded". Therefore, vehicles mainly travelling on the road are exempted from SMSR with the exception of those vehicles used in the mineral extraction industry (Metals & Minerals Sector can advise on vehicle safety issues in this industry).

4.7.4 Health and Safety (Safety Signs & Signals) Regulations 1996

Regulation 4(6) - where a sign is needed to control risks from vehicle movements on a work a work site, and a "public highway" design of sign exists for that purpose, such a "public highway" sign should be used rather than any alternative design (it is more likely to be understood). Information on signs for the public highway can be found in the Traffic Signs Regulations and General Directions 1994 (SI 1994/1519) and the Highway Code.

4.7.5 Work at Height Regulations 2005

Regulation 3 – Application - these regulations apply to all work at height where there is a risk of a person falling a distance liable to cause personal injury. **In workplace transport this is most likely to arise during (un)loading when people have to access the load area of vehicles.**

Regulation 4 – Organisation and planning -every employer should ensure that work at height is properly planned, appropriately supervised and so far as is reasonably practicable safe.

Regulation 4(3) – the effect of weather eg strong winds, should be taken into account when working at height eg (un)loading activities outside if there is a risk of injury due to adverse weather conditions.

Regulation 6 – Requires a risk assessment so that risks are avoided when working at height. Reg 6 includes a hierarchy of precautions which should be applied to vehicles:

- avoid the need to work at height where possible (eg provide ground -based systems for sheeting, valves etc);
- where work has to be carried out at height on a vehicle, where reasonably practicable provide platforms, guard rails and suitable ladders on the vehicle or if impracticable provide them at the site;
- where measures do not eliminate the risk of a fall, equipment should be provided to minimise the distance and consequences eg mats, airbags, fall protection PPE or where this is not reasonably practicable;
- provide additional training instruction or take other additional and suitable measures to prevent so far as is reasonably practicable, any person falling a distance liable to cause injury

Regulation 10 – Falling objects –eg items falling when (un)loading vehicles

Suitable and sufficient steps should be taken to prevent items from falling on people.

There is other Sector specific legislation applicable to WT including the Docks Regulations 1988, the Quarry Vehicles Regulations 1970, the Agriculture (Tractor Cabs) Regulations 1974 and the Agriculture (Avoidance of Accidents to Children) Regulations 1958. For detailed advice on Sector specific WT law contact Sector staff.

4.8 National Enforcement Expectations – General

(See also sector specific guidance in Section4). Numbers in final column refer to template notice numbers in section 6

Activity	Issue	Bench Mark	Risk Gap	NEE *
Driving vehicles (inc shunters)	Lack of formal training	SPI/R	Moderate	IN 4 / 6
Moving vehicles & pedestrians in same area	a) Inadequate segregation b) Insufficient lighting	SPI/R	Moderate	IN a) 1 b) 8
Manoeuvring vehicles, pedestrians not excluded	Vehicles have inadequate visibility or devices for improving vision indirectly	SPI/R	Moderate	IN
Raising person on unsuitable platform or forks of FLT	No suitable working platform (for exceptional use only)	SPI/R	Substantial	PN/ PR 7
Unsafe driving behaviour observed (inc driver using hand held mobile phone)	Behaviour unchallenged by management ie inadequate supervision	SI/R	Moderate	IN 2
No maintenance schedule for vehicles	No system	SI/R	Moderate	IN 3
Driving vehicle where there is a significant risk of overturn	No ROPS or restraint fitted	SI/R	Substantial	PN 5
ATV use	Lack of head protection	SI/R	Moderate	IN 6
Use of lifting parts eg FLT, tail lift	No thorough examination	Admin - Defined standard / Absent		IN
Poorly loaded vehicle	Inadequate strapping	SI/R	Moderate	IN
Carrying passengers on vehicle	No adequate seats	NIL	Extreme	PN
Unloading vehicle on highway	No safe plan for delivering in a public area	SI/R	Moderate	IN
Access to trailers	No safe means of access	SI/R	Moderate	IN 9 /10
(Un)coupling articulated lorries	No safe system, unchecked by management	SI/R	Substantial	IN
5th wheel area	Cluttered with ropes, tarps etc	SI/R	Moderate	IN
Pedestrian surface on vehicle slippery	Poor / contaminated surface	NIL	Moderate	IN

* NB: This does not preclude prosecution where appropriate

5 Cross-sector references on workplace transport

Note: Sector specific references are generally given in Section 2

- Workplace transport safety - An employers' guide HSG 136 HSE Books 2005 ISBN 0-7176 -6154-7
- Workplace transport safety - An overview INDG 199(rev1) HSE Books 2005, ISBN 0 7176 0982 0
- Driving at work INDG382 HSE Books 2003

HSE Information sheets (on website from mid Sept 2007):

- WPT01 Preventing slips, trips and falls from vehicles: The basics
- WPT02 Safe access to road-going vehicles: Specifying the right equipment
- WPT03 Selecting flooring materials to avoid falls from vehicles
- WPT04 Selecting the right footwear to avoid falls from vehicles
- WPT05 Managing work to avoid falls from vehicles
- WPT06 Delivering Safely: co-operating to prevent workplace vehicle accidents
- Health and safety in road haulage INDG 379 HSE Books 2003
- Safety in working with lift trucks HSG6 HSE Books 2000 0-7176-1781-5
- Health and safety in retail and wholesale warehouses HSG76 HSE Books (revision due Spring 2007)
- Rider operated lift trucks - operator training Approved Code of Practice and guidance L117 HSE Books 1999 ISBN 0-7176-2455-2
- Rider-operated lit trucks: Operator training Approved Code of Practice L117 HSE Books 2000
- [Tail lift: Specification guide for road vehicles](#) SOE IRTE 2005, 22 Greencoat Place, London, SW1P 1PR
- [Code of practice: Coupling or uncoupling & parking of large goods vehicle trailers – Guidance for managers, supervisors & trainers](#) SOE IRTE, 22 Greencoat Place, London, SW1P 1PR
- Health and safety in motor vehicle repair HSG67 HSE Books 1991 ISBN 0-7176-0483-7
- Lighting at work HSG 38 HSE Books 1997 ISBN 0-7176-1232-5
- ["Preventing falls from vehicles"](#) Freight Transport Association (FTA) 2005
- [Code of Practice - Safety of Loads on Vehicles](#) (third edition) 2002 Department of Transport ISBN 0 11552547 5 - free download at website:
- HSE Info Sheet MISC 175 "Retrofitting of roll-over protective structures, restraining systems and their attachment points to mobile work equipment".
- HSE Information Sheet MISC 241 "Fitting and use of restraining systems on lift trucks"

- Contract Research Report 305/2000 "[Sheeting and unsheeting of non-tipper lorries - a health and safety scoping study](#)" on HSE Website
- Research Report RR 038 "[Review of workplace control measures to reduce risks arising from the movement of vehicles](#)"
- Research Report RR437 – "[The underlying causes of falls from vehicles associated with slip and trip hazards on steps and floors](#)"
- BS 5395-3:1985 "Code of practice for the design of industrial type stairs, permanent ladders and walkways"
- BS 4211: 1994 "Specification for ladders for permanent access to chimneys, other high structures, silos and bins"
- BS EN ISO 2867 – 1999 "Earth-moving machinery - access systems"
- [Guidance from HSE Hazardous Installations Directorate on site traffic control and related issues](#)
- Safety Signs and signals - The Health and Safety (Safety Signs and Signals) Regulations 1996 Guidance on Regulations L64 ISBN 0-7176-0870-0, HSE Books
- The Highway Code 2004 DfT DSA ISBN 0-11-5526986
- The Traffic Signs Regulations and General Directions 2002, SI 2002 No. 3113, Road Traffic, HMSO. (TSR & GD)
- The Highways Act 1980
- The Road Traffic Regulation Act, 1984 and amendments
- The Building Regulations 1991 – Approved Document K "Protection from falling, collision and impact", section K3 contains requirements on vehicle barriers and loading bays. See [Communities and local government](#)
- BS 6180: 1999 "Barriers in and about buildings Code of practice"
- Metric Handbook Planning and Design Data – 2nd edition. Edited by David Adler, 1999
- Stokvis - "The Loading Bay Design Handbook" (for use by designers, see [Steril-Stokvis website](#))
- "Designing for Deliveries - including a planner's guide to truck turning and manoeuvring" [Freight Transport Association](#) 1998 (£80 FTA members, £100 non-members) ISBN 0 902991 66 3. Tel 01892526 171

"Safety inspections of industrial lift trucks - BITA Guidance Note 28"

HSE internal cross-industry guidance (available to LA Inspectors on HSE extranet)

- FOD / HID Band 4 self-study "Training Topic Pack on Workplace Transport" useful. It can be found on the HSE intranet Personnel / FOD Learning and Development.
- OM 2003/103 "Work related road traffic incidents: an explanation of circumstances where HSE may have a role to play"
- OC 789/5 "Risks to the public from un/loading vehicles on the highway"

- OC 790/16 "Rider operated lift trucks : operator training Approved Code of Practice"
- OC 803/70 "Closed circuit TV on road going vehicles".
- HID Semi Permanent Circular SPC/Technical/General/04 "Prevention of falls from road tankers - enforcement standards".

6 Notice templates

This section contains possible outlines for Notice templates on common workplace transport topics, as listed below.

For Sector guidance see Section 4, for general NEE guidance see end of that Section.

These are only suggestions please take care to make them relevant to individual circumstances and consider changes in legislation which may post-date this guidance.

- 1 IN on separation of vehicles and pedestrians
- 2 IN on supervision & monitoring of workplace vehicle use
- 3 IN on vehicle maintenance arrangements
- 4 IN on fork lift truck driver training
- 5 PN on lack of ROPS / restraint where overturn likely
- 6 IN(s) on ATV training and ATV head protection
- 7 PN person on forks of FLT (no working platform)
- 8 IN for inadequate lighting for movement of people and vehicles
- 9 IN to identify work at height risks and appropriate precautions
- 10 IN on poor planning and application of hierarchy for work at height on vehicles

1. IN on separation of vehicles and pedestrians

...you are contravening ... the following statutory provisions:

Health and Safety at Work etc Act 1974 sections 2 (1) and 3 (1) , Management of Health and Safety at Work Regulations 1999 regulation 5 (1), Workplace (Health, Safety and Welfare) Regulations 1992 regulations 4(1) and 17

...the reasons for my said opinion are:

the (..... area of the) workplace is not organised in such a way that pedestrians and vehicles can circulate in a safe manner

Schedule:

To comply with this Notice you should complete

EITHER items 1 AND 2 AND 3 AND 4 AND 5,
OR item 6

1. You should provide a system in the workplace which, so far as is reasonably practicable, restricts the movement of vehicles to areas which are **demarcated** from areas where pedestrians have access. So far as is reasonably practicable, vehicles should be prohibited from entering the pedestrian accessed areas, and pedestrians should be prevented from entering the vehicle movement areas. Vehicle movement areas should preferably be demarcated from pedestrian accessed areas by physical barriers such as railings. If providing physical barriers such as railings is not reasonably practicable, other measures such as vehicle exclusion bollards, kerbing, pedestrian pavements or a system of painted lines on the floor, combined with appropriate signing, should be used.
2. So far as is reasonably practicable, **separate traffic routes** should be provided for pedestrians and vehicles. Where separate routes are not reasonably practicable, and vehicles and pedestrians use the same route, the route should be wide enough to enable any vehicle likely to use it to pass pedestrians safely (for any routes in existence before 1 January 1993 where it is not practicable to make the route wide enough, passing places or traffic management systems should be provided as necessary).
3. Where pedestrian and vehicle routes have to cross, appropriate **designated crossing places** should be provided. Where necessary, barriers or rails should be provided to prevent pedestrians crossing at any particularly dangerous points, and to guide them to designated crossing places. At designated crossing places there should be adequate visibility for pedestrians and vehicle drivers.
4. You should draw up and implement a system for **informing and instructing employees and other people** who come onto the site, including visitors (both pedestrians and people in vehicles) about the site rules concerning pedestrian / vehicle separation.
5. You should set up a **system for checking compliance** with your site rules for pedestrian / vehicle separation. The system should include reference to:
 - **which named individual(s)** is/are responsible for monitoring compliance,
 - **how** (including how often) they should monitor compliance,
 - **what they should** do if non-compliance is found (including investigating any reasons for non-compliance; any need for further precautions including further information, instruction, training and supervision; reference to any disciplinary procedures),

-what **records** they should keep of non compliance

OR

6. Any other **equally effective** means of complying with the Notice may be used.

2. IN on supervision & monitoring of workplace vehicle use

...you are contravening ... the following statutory provisions:

Health and Safety at Work etc Act 1974 sections 2 (1) and 3 (1) , Management of Health and Safety at Work Regulations 1999 regulation 5 (1)

...the reasons for my said opinion are:

you have not made and given effect to such arrangements as are appropriate for the effective control and monitoring of preventive and protective measures necessary for safe vehicle movement at the above location

Schedule:

To comply with this Notice you should complete EITHER item 1 OR item 2.

1. You should set up a **system for checking the extent to which vehicle drivers and pedestrians** on your site are complying with safe practices (including your own site rules) in relation to risks from vehicle movements on the site.

The system should include a description of arrangements for checking the behaviour of:

- **vehicle drivers** (including drivers employed by you and other drivers, including visiting drivers).

- **pedestrians** (including your own employees and other pedestrians, including visitors to site)

The system should address in particular arrangements for checking :-

- whether drivers and pedestrians are **staying within any designated areas** (and, if not, any reasons for this)

- whether any site rules or prohibitions on **vehicle reversing** are being followed (and, if not, any reasons for this)

- whether a **seat belt or other restraint** is being worn where necessary (and, if not, any reasons for this)

- whether vehicle drivers are following the safe working practices they have received **training and instruction** in (and, if not, any reasons for this)

The system should include reference to:

- **which named individuals** (or post-holders) are responsible for carrying out checks on workplace driver and pedestrian behaviour

- **how (including how often)** the named individuals / post holders should monitor compliance

-what action the named individuals / post holders should take **if non-compliance is found** (including arrangements for investigating any reasons for non-compliance; any need for further precautions including further information, instruction, training and supervision; reference to any disciplinary procedures),

-**what records** should be kept of the checks made, especially any non-compliance.

OR

2. Any other **equally effective** means of complying with the Notice may be used.

3. IN on vehicle maintenance arrangements

...you are contravening ... the following statutory provisions:

Health and Safety at Work etc Act 1974 sections 2(1) and 3(1) , Provision and Use of Work Equipment Regulations Regulation 5(1)

...the reasons for my said opinion are:

you have not ensured that work equipment namely (vehicle).is maintained in an efficient state , in efficient working order and in good repair.

Schedule:

To comply with this Notice you should complete EITHER item 1 OR item 2.

1. You should establish a system for maintaining those parts of workplace vehicles under your control where failure or deterioration could lead to safety risks.

The system should take account of any instructions from the manufacturer about maintaining the vehicle in a safe condition.

The system should, so far as is reasonably practicable, detect significant deterioration or failures before they lead to danger.

The system should address in particular how deterioration or failures in the following vehicle components and systems will be detected and dealt with:-

-braking system

-tyres

-steering

-mirrors and any other driver vision aids including lights

-windscreen washers and wipers

-warning devices

-any specific safety systems such as interlocks to prevent unintended movement of the vehicle and / or the equipment on it

OR

2. Any other **equally effective** measures may be used to comply with the Notice.

4. IN on driver training

(READ 4.1 AND 4.2 BEFORE TAKING ACTION)

...you are contravening ... the following statutory provisions:

Health and Safety at Work etc Act 1974 sections 2(1) and 3(1)

Provision and Use of Work Equipment Regulations 1998 regulation 9(1)

...the reasons for my said opinion are:

persons using the (.....vehicles) at the above location have not been adequately trained in their safe use

4.1 Schedule for FLT drivers:

To comply with this Improvement Notice, EITHER complete items 1 AND 2 AND 3, OR item 4:-

EITHER

1. All operators of the fork lift truck(s) should be assessed as to their competence and adequately trained to operate the types of lift truck used.

AND

2. Training should be in accordance with the Approved Code of Practice - Rider-operated Lift Trucks: Operator Training.

AND

3. A record should be kept for each person who has satisfactorily completed basic training and testing in accordance with the Approved Code of Practice - Rider-operated Lift Trucks: Operator Training.

OR

4. Any other **equally effective** means of complying with the Notice may be used.

4.2 For drivers of vehicles other than FLTs

Ask for support eg Specialist Group (SG) Mechanical Inspector, to give an opinion and report on **existing** driver training within the company. If they will support it, issue **IN** based on front of notice detailed above with **no** schedule.

In an **accompanying letter** detail any SG recommendations and include a paragraph such as: "A review of the training programme, content and duration for (.....vehicle) operators should be undertaken to ensure that it is of sufficient length to enable trainees to acquire the basic skills and knowledge required for safe operation. The model being applied to training of operators on counterbalanced lift trucks should be used as the basis for comparison. Typically courses of X days (get SG advice) duration are provided for novices on these types of vehicle by other organisations. Further information on operator training of rider-operated lift trucks is contained in the Approved Code of Practice and Guidance, titled, "Rider-operated lift trucks: operator training," ISBN 0-7176-2455-2. The publication is available from HSE Books. "

5. PN on lack of ROPS / restraint where risk of overturn significant

...hereby give you notice that I am of the opinion that the following activities namely:

operation (including driving) of the (manufacturer) (vehicle type eg site dumper), serial number / identifying mark...

...which are being carried on by you etc...

at the above location

...involve or will involve a risk of serious personal injury, and that the matters which give rise to the said risks are:

the vehicle is being used on a site in conditions where there is a significant risk of it overturning, and no Roll Over Protective Structure (ROPS) is provided and / or effective operator restraint is not provided for use with the Roll Over Protective Structure

...and that the said matters involve contravention of the following statutory provisions:

Health and Safety at Work etc Act 1974 Section 2(1), Provision and Use of Work Equipment Regulations 1998 Regulations 4, 25 and 26 (and for forklifts with masts or ROPS, reg 27)

...because

there is a significant risk of the vehicle overturning on this site, and the driver of the vehicle may be fatally crushed by parts of the vehicle if it overturns. (No Schedule)

6. IN(s) on ATV training and ATV head protection

...you are contravening ... the following statutory provisions:

Health and Safety at Work etc Act 1974 Section 2(1)

(& then use as required:

Provision and Use of Work Equipment Regulations 1998 regulation 9(1) (**training**) and/or Personal Protective Equipment Regulations 1992 regulation 4 (**head protection**)

...the reasons for my said opinion are:

that persons are using an all terrain vehicle (ATV) (brand and model number) without having been adequately trained in the safe use of the vehicle **and/or** without the provision of adequate head protection.

Schedule:

To comply with this notice:

AMEND SCHEDULE AS APPROPRIATE TO COVER TRAINING / HEAD PROTECTION / OR BOTH

EITHER

1. Ensure attendance on a recognised training course on the safe operation of ATVs by all employees who ride an ATV. The course should be to the standard of those provided by Lantra

(Lantra National Training Organisation, Lantra House, NAC, Kenilworth, Warwickshire, CV8 2LG, Tel: 024 7669 6996, Fax: 024 7669 6732, www.lantra.co.uk/nto).

AND

2. Provide adequate head protection on an individual basis to every employee who uses an ATV. The head protection should be to a standard giving at least 90J protection to both the top and sides of the head e.g. BSEN 1384:1997 or BS 6658:1985

OR

Take other equally effective measures to ensure compliance with the legislation.

7 PN for employee raised on forks of a lift truck with no suitable working platform

...I am of the opinion that the following activities namely:

(describe activity.....) whilst standing on the raised forks of a lift truck

...which are being carried on by you etc...

at the above location

...involve or will involve a risk of serious personal injury, and that the matters which give rise to the said risks are:

risk of a person falling a distance likely to cause personal injury

...and that the said matters involve contravention of the following statutory provisions:

Health and Safety at Work etc Act 1974 Section 2(1), Work at Height Regulations 2005, Regulations 4, 6 & 7

...because

no steps have been taken to prevent a fall whilst working at height

NB This may also be appropriate for a **proactive prosecution** particularly if there is no suitable risk assessment for the activity. **See also Falls from Height Topic Pack**

8 IN Inadequate lighting where pedestrians and vehicles are moving in the same area

...you are contravening ... the following statutory provisions:

Health and Safety at Work etc Act 1974 Section 2(1), Workplace (Health, Safety and welfare) Regulations 1992 Regulation 8(1)

...the reasons for my said opinion are:

Suitable and sufficient lighting is not provided for the safe movement of people and vehicles in (describe area)

No schedule. I accompanying letter refer to relevant light levels for area - see the Table on p38 of *Lighting at work* HSG38. Slightly modified extract reproduced here for convenience:

Activity	Typical locations/type of work	Average illuminance (lux)	Minimum measured illuminance (lux)
Movement of people, machines and vehicles	Lorry park, corridors, circulation routes	20	5
Movement of people, machines and vehicles in hazardous areas, rough work not requiring any perception of detail	Construction site clearance, excavation, loading bays	50	20
Work requiring limited perception of detail	General warehouse operations	100	50
Work requiring perception of detail	Offices	200	100
Work requiring perception of fine detail	Drawing office, assembly of small components, textile production	500	200

9. IN - Identify work at height risks and appropriate precautions

Youare contravening the following statutory provisions:

Health and Safety at Work Etc Act 1974 Sections 2 and 3 (*delete as appropriate*);
 Work at Height Regulations 2005, Regulation 6;
 Management of Health and Safety at Work Regulations 1999, Regulation 3.

The reasons for my said opinion are:

that a suitable and sufficient assessment of the risk to the safety of your employees (and others not in your employment - delete / add as appropriate) of falling a distance liable to cause personal injury when working on vehicle XXX has not been made to identify the preventive and protective measures needed to ensure their safety so far as is reasonably practicable.

Schedule:

To comply with this Notice:

Either

1. Assess the risk to employees (and non employees - delete / add as appropriate) of falling a distance liable to cause personal injury. The assessment should;

- (a) Identify who is at risk - consider all people (e.g. your employees, contractors, agency workers, maintenance and cleaning staff, managers, members of the public (delete / add any others, relevant to the vehicle))
- (b) Identify any people who may be particularly vulnerable (eg people who may be unfamiliar with your premises and any risks posed by your premises and activities).
- (c) Identify how people are at risk - look at all work done or likely to be done on vehicles, in the future at heights from which a person could fall a distance liable to cause personal injury (e.g., loading and unloading, cleaning high surfaces, repairing and maintaining should also be considered (delete / add as appropriate)). Look at how the work is actually done, not how you think it is being done. Use previous incidents/near misses as well as the law, Approved Codes of Practice, and other guidance to help your identification process. See covering letter for details of relevant publications. (provide details of relevant publications in covering letter)
- (d) Identify existing preventive/protective measures.
- (e) Identify what further action, if any, needs to be taken to reduce risk sufficiently.

And

- 2** Record the significant findings of the assessment under 1 above.

Or

- 3** Use any other equally effective means for complying

The following paragraph to be included in the covering letter:

The assessment should consider the hierarchy of controls:

- plan to avoid work at height where you can;
- where you can't, make sure you use work equipment to prevent falls:
 - first choice – vehicle-based systems;
 - second choice – on-site systems;
- where the risk of a fall can't be eliminated, use work equipment to minimise the distance and consequences of a fall;
- always consider measures that protect everyone at risk (eg platforms and guardrails) before measures that only protect the individual (eg safety harness).
- provide additional training or instruction or take other additional suitable and sufficient measures to prevent a fall.

The assessment should also consider arrangements for planning work at height, selecting, using and maintaining suitable work equipment, ensuring the people doing the work are competent, and arrangements for managing and supervising the work.

10 IN on poor planning and application of hierarchy for work at height on vehicles

Youare contravening the following statutory provisions:

Health and Safety at Work Etc Act 1974 Sections 2, 3 or 4 (delete as appropriate);

Work at Height Regulations 2005, Regulation 4, 6 and 7;

Management of Health and Safety at Work Regulations 1999, Regulation 3.

The reasons for my said opinion are:

You have neither planned nor implemented reasonably practicable precautions to prevent or arrest persons falling from the bed of the xxxx vehicle/load whilst working or whilst accessing the bed of the vehicle/load.

OR

The hierarchy for work at height has not been properly applied or considered in relation to work on the xxxxx vehicle during (describe the circumstances).

OR

The most appropriate work equipment and method of work has not been considered for access/egress or work on the xxxx vehicle bed/load. (delete as applicable)

No Schedule

Or base a schedule on that used for IN 9 above.

The following paragraph to be included in the covering letter:

The assessment should consider the hierarchy of controls:

- plan to avoid work at height where you can;
- where you can't, make sure you use work equipment to prevent falls:
 - first choice – vehicle-based systems;
 - second choice – on-site systems;
- where the risk of a fall can't be eliminated, use work equipment to minimise the distance and consequences of a fall;
- always consider measures that protect everyone at risk (eg platforms and guardrails) before measures that only protect the individual (eg safety harness).
- provide additional training or instruction or take other additional suitable and sufficient measures to prevent a fall.

The assessment should also consider arrangements for planning work at height, selecting, using and maintaining suitable work equipment, ensuring the people doing the work are competent, and arrangements for managing and supervising the work.

7 Checklist for dutyholders



Site inspection - workplace transport checklist

- The following checklist has been prepared as a guide to what employers should consider when trying to reduce the risk from vehicles in the workplace. It will not necessarily be comprehensive for all work situations
- If the answer to a question is 'No', the references under the section heading indicate where further advice can be found.
- If the question is not relevant to your workplace leave the boxes blank.

1 MANAGEMENT AND SUPERVISION OF WORKPLACE TRANSPORT RISK.

See references 1, 2, 3, 4, 5

Check, in consultation with your employees, that your level of management control/supervision is adequate

- Are site rules documented and distributed? Yes No
- Are your supervisors, drivers and others, including contractors and visiting drivers, aware of the site rules? Are they aware of their responsibilities in terms of helping to maintain a safe workplace and environment? Yes No
- Has a risk assessment been completed for all workplace transport hazards? Yes No
- Is the level of supervision sufficient to ensure that safe standards are maintained? Yes No
- Are sanctions applied when employees, contractors, etc., fail to maintain these standards? Yes No
- Are adequate steps taken to detect unsafe behaviour of drivers of both site and visiting vehicles as well as pedestrians? Are the underlying reasons investigated to correct unsafe behaviours? Yes No
- Is there good co-operation and liaison on health and safety matters between your staff and those who collect or deliver goods? Yes No

Check what your drivers and other employees actually do when undertaking their work activities

- Do drivers drive with care, e.g., use the correct routes, drive within the speed limit and follow any other site rules? Yes No
- Do your drivers and other employees have enough time to complete their work without rushing or working excessive hours? Do you monitor "job and finish" work to ensure drivers are not rushing to cut corners? Yes No
- Are your employees using safe work practices, e.g., when (un)coupling, (un)loading, securing loads, carrying out maintenance etc.? Yes No
- Do managers and supervisors routinely challenge and investigate unsafe behaviours they may come across? Yes No
- Do managers and supervisors set a good example, for instance by obeying vehicle/pedestrian segregation instructions, and by wearing high visibility garments where these are needed? Yes No

2 SITE LAYOUT AND INTERNAL TRAFFIC ROUTES.

See references 1, 2, 6, 7, 8, 9, 10

Check that the layout of routes is appropriate

- Are the roads and footways suitable for the types and volumes of vehicular traffic and pedestrian traffic using them? Yes No
- Are vehicles and pedestrians kept safely apart? Yes No
- Where necessary are there suitable pedestrian crossing places on vehicle routes? Yes No
- Is there a safe pedestrian route that allows visiting drivers to report for instructions when entering the site? Yes No
- Are there adequate numbers of suitable parking places for all vehicles and are they used? Yes No
- Is there a properly designed and signed one-way system used on vehicle routes within the workplace? Yes No
- Is the level of lighting in each area sufficient for the pedestrian and vehicle activity? Yes No

Check that vehicle traffic routes are suitable for the type and quantity of vehicles, which use them.

- Are they wide enough? Yes No
- Do they have firm and even surfaces? Yes No
- Are they free from obstructions and other hazards? Yes No
- Are they well maintained? Yes No
- Do vehicle routes avoid sharp or blind bends? Yes No

Check that suitable safety features are provided where appropriate.

- Are roadways marked where necessary, e.g. to indicate the right of way at road junctions? Yes No
- Are road signs, as used in the Highway code, installed where necessary? Yes No
- Are features such as fixed mirrors (to provide greater vision at blind bends), road humps (to reduce vehicle speeds), or barriers (to keep vehicles and pedestrians apart) provided where necessary? Yes No

3 VEHICLE SELECTION & SUITABILITY

See references 1 & 2.

Check that vehicles are safe and suitable for the work for which they are being used.

- Have suitable vehicles and attachments been selected for the tasks which are actually undertaken? Yes No
- Do vehicles have good direct visibility or devices for improving vision where reversing can't be eliminated and where significant risk still remains eg external and side mirrors; vision aids such as CCTV; sensing device? Yes No
- Are they provided with horns, lights, reflectors, reversing lights and other safety features as necessary? Yes No
- Do they have effective service and parking brakes? Yes No
- Do they have seats and seatbelts where necessary? Yes No
- Are there guards to prevent access to dangerous parts of the vehicles, eg power take-offs, chain drives, exposed exhaust pipes? Yes No
- Do drivers have protection against bad weather conditions, or against an unpleasant working environment, ie the cold, dirt, dust, fumes and excessive noise and vibration? Yes No
- Is there a safe means of access to and exit from, the cabs and other parts that need to be reached? Yes No
- Are surfaces, where people walk on vehicles, slip resistant? Yes No
- Is driver protection against injury in the event of an overturn, and measures in place to prevent the driver being hit by falling objects, provided where necessary? Yes No
- Are operators involved or consulted on vehicle selection? Yes No

4 VEHICLE MAINTENANCE

See references 1 & 2.

Check the level of vehicle maintenance is adequate.

- Is there a regular preventative maintenance programme for every vehicle, carried out at predetermined intervals of time or mileage? eg in accordance with manufacturers instructions Yes No
- Is there a system for reporting faults on the vehicle and associated equipment and carrying out remedial work? Yes No
- Where vehicle attachments lift people or objects, are thorough examinations undertaken by a competent person (e.g. your insurance company)? Yes No
- Do the drivers carry out basic safety checks before using the vehicle? Yes No

5 VEHICLE MOVEMENTS

See references 1 & 2.

Check that the need for REVERSING is kept to a minimum, and where reversing is necessary that it is undertaken safely and in safe areas.

- Have drive-through, one-way systems been used, wherever possible to reduce the need for reversing? Yes No
- Where reversing areas are needed are they marked to be clear to both drivers and pedestrians? Yes No
- Are non-essential personnel excluded from areas where reversing occurs? Yes No
- If risk assessment shows site controls cannot be improved further and you need a banksman to direct reversing vehicles, are they adequately trained and visible? Yes No

6 UN(LOADING) ACTIVITIES

See references 1, 2, 4, 11, 12.

Check that there are safe systems for LOADING and UNLOADING operations.

- Are loading/unloading operations carried out in an area away from passing traffic, pedestrians and others not involved in the loading/unloading operation? Yes No
- Are the load(s), the delivery vehicle(s) and the handling vehicle(s) compatible with each other? Yes No
- Are loading/unloading activities carried out on ground that is flat, firm and free from potholes? Yes No
- Are parking brakes always used on trailers and tractive units to prevent unwanted movement, eg when coupling vehicles? Yes No
- Are the vehicles braked and/or stabilised, as appropriate, to prevent unsafe movements during loading and unloading operations? Yes No
- Are systems in place to prevent trucks driving away while they are still being (un)loaded? Yes No
- Are lorry drivers and others kept in a safe place away from the vehicle while (un)loading is carried out? Yes No
- Is there a safe area marked where drivers can observe loading (if necessary)? Yes No
- Has the need for people to go on to the load area of the vehicle been eliminated where possible and if not is safe access provided and used? Yes No
- Is appropriate lifting equipment available for (un)loading vehicles? Yes No
- Is loading/unloading carried out so that, as far as possible, the load is spread evenly to avoid the vehicle or trailer becoming unstable? Yes No
- Are checks made to ensure the load is adequately secured in line with the Department for Transport Code of Practice and not loaded beyond their capacity before the vehicle leaves the site? Yes No

7 DRIVER COMPETENCE.

See references 1, 2, 13.

Check that your selection and training procedures ensure that your drivers and other employees are capable of performing their work activities safely and responsibly.

- | | | |
|---|------------------------------|-----------------------------|
| Do drivers possess the necessary licences or certificates for the vehicles they are authorised to drive e.g. FLT's, shunt vehicles, site dumpers etc.? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Do you check the previous experience of your drivers and assess them to ensure they are competent? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Do you provide site specific training on how to perform the job, and information about particular hazards, speed limits, the appropriate parking and loading areas, etc.? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Do you have a planned programme of refresher training for drivers and others to ensure their continued competence? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

See over the page for Section 8 (Un)sheeting and Section 9 Tipping

References

- 01) Workplace Transport Safety: Guidance for employers HSG 136 HSE Books 2005 ISBN 0-7176-6154-7
- 02) Workplace transport safety : an overview Leaflet INDG 199(rev1) HSE Books 2005
- 03) Five steps to risk assessment INDG 163 (rev 2) Leaflet HSE Books 2006
- 04) HSE Information Sheet WPT06 Delivering Safely - free download at HSE Website
- 05) Health and safety in road haulage INDG379 Leaflet HSE Books 2003
- 06) The Highway Code. Department for Transport 2004 ISBN 0-11-5526986
- 07) Designing for Deliveries Freight Transport Association 1998 ISBN 0 90299166 3 (£80 to members £100 to non-members from FTA phone 01892 526171)
- 08) Lighting at work HSG 38 HSE Books 1997
- 09) Safety Signs and Signals – Guidance on the Regulations L64 HSE Books 1996
- 10) The Traffic signs Regulations and general directions 2002
- 11) Code of Practice: Coupling or uncoupling & parking of large goods vehicle trailers 2006 Institute of Road Transport Engineers (IRTE) Society of Operations Engineers (SOE), 22 Greencoat Place, London, SW1P 1PR phone 020 7630 1111 website: www.soe.org.uk
- 12) Code of Practice - Safety of Loads on Vehicles (third edition) 2002 Department of Transport ISBN 0 11552547 5 (free download at website: http://www.dft.gov.uk/stellent/groups/dft_roads/documents/page/dft_roads_506864.pdf)
- 13) Rider-operated lift trucks: operator training Approved Code of Practice HSE Books L117

8 (UN)SHEETING
See references 1, 2

Check that sheeting and unsheeting operations are carried out safely

- Do you use ground based sheeting methods? Yes No
- Are sheeting and unsheeting operations carried out in safe parts of the workplace, away from passing traffic and pedestrians and sheltered from strong winds and bad weather? Yes No
- Are the vehicles parked on level ground with their parking brakes on and the ignition key removed? Yes No
- Are gloves, safety boots and, where necessary, eye and head protection provided, and used by those engaged in the sheeting/unsheeting operations? Yes No
- Where manual sheeting is unavoidable, is there a system in place which avoids the need for a person on to climb on the vehicle or load, ie by providing a platform from which loads can be sheeted? Yes No

9 TIPPING
See references 1, 2

Check that tipping operations are carried out safely

- Do visiting drivers report to the site manager for any relevant instructions prior to commencing tipping operations? Yes No
- Are non-essential personnel excluded from tipping areas? Yes No
- Are tipping operations undertaken on ground that is level and stable, and a location free from overhead hazards such as power lines, pipework, etc? Yes No
- Where sites are not level and stable, are the tipping faces safe for vehicles involved in tipping operations, eg compacted and no side slopes? Yes No
- Are suitably sized wheel-stops provided where vehicles need to reverse prior to tipping? Yes No
- Are drivers clear about when tailgates should be released or removed? Yes No
- Do drivers check that their loads are evenly distributed across the vehicle prior to commencing tipping operations? Yes No
- Are the drivers sufficiently experienced to anticipate loads sticking? Yes No
- Do drivers always ensure that the body is completely empty, and drive no more than a few metres forward to ensure the load is clear? Yes No

Appendix 1 Causal information on workplace transport incidents

Background information

- This sheet covers key points on the underlying causes of workplace transport accidents from data gathered at investigations during 1999/2000 and 2000/1 using a structured accident proforma.
- This analysis is of 577 proformas and comprises 68% struckbys, 19% vehicle overturns, 9% falls from vehicles and 4% falling objects from vehicles. This distribution is not a statistically representative sample of all accidents reported as different national and local accident selection criteria were applied across the two work years. Also fatalities are under represented because of the difficulties in collecting complete data sets of factors underpinning these incidents.
- Overall, 51% of these proformas arose from forklift truck (FLT) investigations.
- Equal numbers of vehicle drivers and site employees were injured persons (IPs).
- More of the accidents investigated were caused by vehicles moving forward¹ than those reversing (53% vs. 36%) and only 4% of all accidents involved vehicles not under power.
- Only 4% of all accidents investigated involved two vehicles colliding.
- The proformas collected specific information under 'factor' headings of Management, Vehicle, Training, Procedural, Behavioural and Workplace.

Headlines from each of the accident factors

Reasons behind each accident were complex, none were reported as having a single cause.

Management factors

- In 70% of accidents, management failed to undertake and implement risk assessments satisfactorily.
- In almost 60% of accidents management were failing to monitor standards and detect and correct unsafe behaviour satisfactorily.
- The management failures were similar on single and multiple-employer sites.

Workplace factors

- Workplace design and layout were significant in 75% of the accidents and 86% of the issues raised were reasonably practicable to control. "Inadequate separation of vehicles from pedestrians" was cited most frequently in these accidents (at 37%).
- In 41% of the investigations where workplace design and layout were significant contributors to the accident, control measures were in place but had failed. Mainly this was due to inadequate use of these controls.

Vehicle factors

- The predominant issue was all round visibility, with deficiencies being mainly due to poor design and how the vehicle was used.

¹However as vehicles spend proportionately more time going forward than reversing, the injury rate per unit time spent reversing is higher

Behavioural factors	<ul style="list-style-type: none"> • Behaviour of individuals at the time of the accident was significant in just over 80% of all accidents. "Driving without due care and attention", "inappropriate action by the IP" (where this is not the driver) and "not following established Systems Of Work (SOW)" were most frequently cited, in a third or more of all accidents. These three failings were mainly due to individuals violating known rules in the workplace rather than them not having the appropriate knowledge.
Procedural factors	<ul style="list-style-type: none"> • In nearly 80% SOW existed for the task being undertaken, inferring that accidents occurred during routine/familiar activities in these workplaces. In half of these accidents the SOW was being followed at the time of the accident. 64% of all SOW were not written down, rather they were adopted through 'custom and practice' (this includes the regular performance of a task in a set manner, adopted by default as the SOW).

Associations between factors	
<ul style="list-style-type: none"> All accidents had their own combination of factors which had contributed to why the accident had happened, therefore each can be considered as an individual case study. However two main associations accounted for 70% of the accidents investigated. These were “pedestrian separation” (54%) and “loss of control due to ground conditions” (24%). The key points raised in these associations are shown below (with the % frequency at which they are cited given in brackets): 	
Pedestrian separation associations²	
Primary risk	To pedestrians being struck by forward moving and reversing powered vehicles
Main management deficiencies	Risk assessment and its implementation (80%) Monitoring and detecting/correcting unsafe behaviour (60%)
Key behavioural issues for pedestrians and drivers	Key workplace and vehicle issues
<ul style="list-style-type: none"> Inappropriate action by pedestrian site employees (51%) Driving without due care and attention (48%) Not following established SOW (25%) Selection of inappropriate route (20%) 	<ul style="list-style-type: none"> Separation of vehicles from pedestrians (71%) Areas of specific hazard to pedestrians (50%) Traffic routes (43%) Designated manoeuvring areas (33%) Reduced driver visibility due to workplace layout (28%) All round visibility from the vehicle driving position (40%) Vehicle warning devices (19%)
Note: Where the actions of pedestrian site employees is an issue, pedestrian workplace transport awareness training could be considered.	
Loss of control due to ground conditions associations²	
Primary risk	To drivers through vehicle overturns during powered movement
Secondary risk	To drivers and pedestrians involved in struck by accidents
Main management deficiencies	Risk assessment and its implementation (70%) Monitoring and detecting/correcting unsafe behaviour (60%)
Key behavioural issues for drivers	Key workplace and vehicle issues
<ul style="list-style-type: none"> Driving without due care and attention (36%) Selection of inappropriate route (31%) Not following established SOW (25%) Driver not competent for the vehicle being used (21%) 	<ul style="list-style-type: none"> Ground conditions (57%) Gradient of the traffic route (50%) Areas of specific hazard to vehicles (40%) Stability of the vehicle being used (32%) Suitability of the vehicle for the task undertaken (18%) Seat restraints (18%) Service & parking brakes (16%) Driver protection in the event of loss of stability (14%)
Risk control must be addressed at the levels of management, drivers and pedestrians (in appropriate combinations dependent on the nature of the workplace) if it is to be effective.	
² The bullet points in this association are not in any ranking order	

Appendix 2 Reporting of good practice

Good practices

LA inspectors can access the HELA Training Co-ord Website. “The Practice and Procedures” link is an area where LAs can share knowledge and examples of good practice. It contains examples of LA initiatives, campaigns, guidance documents and legal case studies, all compiled by LAs.

HSE Safety Unit invites inspectors to report examples of good practices in relation to workplace transport. The **HSE “Workplace Transport Website”** is being developed. This should give anyone with Internet access the ability to search for practical ideas and examples of good practices concerning workplace layout, segregation schemes, novel vehicle designs, vehicle management schemes, sheeting devices etc. On the Website it should be possible to view “before and after” photographs and illustrations of workplaces, and video clips (if they help explain how a risk control measure works). Inspectors may assure duty holders that material will not be released without their permission. Spreading knowledge about good practices should help reduce risks to the population as a whole.

HSE Safety Unit particularly invite any information on the following:-

- “Before & after” photographs of WT controls
- Proven financial benefits of managing WT risks
- Use of CCTV
- Innovative risk reduction measures on workplace vehicles (new or retro-fits)
- Practical, easily transferable systems for supervising & monitoring WT
- “Human factors” issues in relation to WT, eg. fatigue as a contributory factor to WT accidents, and ways to counter such risks

Novel enforcement notices, prosecutions etc

Please inform / copy in HSE Safety Unit regarding novel enforcement work. Knowledge about good enforcement approaches (for instance Notice templates or enforcement initiatives) which work, and could be distributed nationally.

Appendix 3 Inspection template and technical guidance from the “Struck by” project (SIM 3/2006/08 / LAC 85/11)

During visits to SMEs Inspectors can:

Use the template to guide the inspection where the topic (in column 1) is relevant to that site

Allocate a score to the control of the topic, as described on the bottom of the form, with the score taking account of all the sub-categories under that topic.

Use the associated technical guidance where a solution is not immediately obvious. This guidance, includes much information that is available in WT topic pack but in a more accessible form. (However, some of the guidance will be more relevant to larger sites).

The scores on the inspection template can be used to derive the Risk Control Indicator (RCI) scores as follows:

Any scores in parts 2, 5 and 6 should be averaged and rounded up or down to the nearest whole number to become the 'safe site' RCI rating

Any scores in parts 3 and 4 should be averaged and rounded up or down to the nearest whole number to become the 'safe vehicle' RCI rating

The score in part 7 is the 'safe driver' RCI rating

The score in part 1 feeds into the inspector's overall assessment of H&S management

The guidance in this Appendix relates to “struck by” risks only – for a complete WT inspection don't forget the other 3 areas falls from vehicles, vehicle overturns and being hit by objects falling from vehicles.

'Look at'	'Look for'	Benchmark	'Rating'	* Legal requirements & possible content of Notices								
1) Management of the Workplace transport (WT) risk	i) A suitable and sufficient risk assessment of the site-specific WT risks.	i) Identification of vehicle type, task and suitability. Numbers of vehicles arriving on site and identification of peak times. Identification of at-risk groups (e.g. MoP, children, foreign drivers). Identification of all reversing situations and other high-risk operations and areas. Application of hierarchy to control solutions.	<table border="1" data-bbox="1435 280 1610 347"> <tr> <td><u>1</u></td> <td><u>2</u></td> <td><u>3</u></td> <td><u>4</u></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>					i) MHSWR, reg 3 requiring a suitable and sufficient RA.-NB. Referring to a specific risk, e.g. vehicle movements in the warehouse, may make compliance checking easier.
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>									

	<p>ii) Allocation of responsibility for WT and knowledge of the required standards.</p>	<p>ii) Clarity at all levels, knowledge of the control hierarchy and/or source of competent advice.</p>		<p>ii) MHSWR, reg 7- subject to reg 7(6) and 7(7) - requiring a competent person .</p>
	<p>iii) Site rules and control over adherence.</p>	<p>iii) Simple site rules brought to the attention of all drivers and pedestrians. Front line managers aware of site rules, control standards and their responsibility to ensure compliance.</p>		<p>iii) MHSWR, reg 5 requiring site rules as part of H&S management system. See below.</p>
	<p>iv) A simple means of monitoring and review to ensure continued compliance with established control measures.</p>	<p>iv) System for checking both physical and behavioural control measures are complied with. System for investigating WT incidents and demonstration of the implementation of any lessons learnt.</p>		<p>iv) MHSWR, reg 5 requiring a monitoring system as part of H&S management system</p>

2) Site layout and internal traffic routes	i)	Space for safe vehicle and pedestrian movement.	i)	<p>Pedestrian/vehicle separation with routes marked and physical barriers where reasonably practicable. Separate pedestrian /vehicle exit. Traffic routes wide enough for the largest vehicle permitted to use them and wide enough to allow vehicles to pass oncoming or parked vehicles without leaving the route- no sign of damage to verges etc.</p> <p>Traffic routes with clear sight lines and no blind areas. Open manoeuvring areas and planned vehicle parking. Where risk is high pedestrians may have to be excluded from vehicle operating areas.</p>	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	1	2	3	4					i)	HSWA, s2(1) and 3(1), MHSWR reg 5(1) and Workplace Regs, reg 17 requiring organisation of traffic routes/separation.
	1	2	3	4											
	ii)	Pedestrian/traffic routes and manoeuvring areas are free from obstruction.	ii)	Housekeeping system to ensure clear unobstructed walkways, traffic routes, manoeuvring and yard areas, both internal & external.		ii)	HSWA, s2 and Workplace Regs, reg 12. requiring system of work to maintain routes.								
	iii)	Good road, yard, and walkway surfaces.	iii)	Firm even surface, free from potholes/ruts, made from tarmacadam, concrete or other suitable material.		iii)	Workplace Regs. reg 12 requiring a suitable surface material.								
iv)	Suitable and sufficient lighting.	iv)	All roads, manoeuvring areas and yards adequately lit. All lights working and clean. Absence of glare and no strong variation of light between the inside and outside of premises.		iv)	Workplace Regs. reg 8 requiring suitable and sufficient lighting.									
v)	Clear signage of potential hazards on traffic routes.	v)	Potential hazards such as junctions, crossings indicated by suitable signs & roadmarkings complying with Traffic Signs Regs & General Directions 2002 (ie Highway Code road markings and signs)		v)	Workplace Regs. reg17(4) requiring suitable signage.									

3) Vehicle selection and suitability	i)	Vehicles have space to manoeuvre without driving onto pedestrian-only areas and are suitable for the terrain.	i)	Vehicles of a size and type which can manoeuvre and perform all site-based tasks without driving into any footway or pedestrian only area. Consider swept path of manoeuvring vehicle. Vehicle chosen with terrain in mind e.g. rough terrain, warehouse only.	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	1	2	3	4					i)	PUWER reg 4(2) requiring use of suitable work equipment .
	1	2	3	4											
	ii)	Vehicles have appropriate visibility for the range of manoeuvring they have to do.	ii)	Vehicles have good direct visibility or adequate devices for improving vision indirectly where a risk exists and the RA shows site controls cannot be improved. eg. external side and rear mirrors; vision aids such as cctv; sensing devices. (NB audible warnings are not included here as they are not the preferred option for preventing “struck by” accidents)		ii)	PUWER reg 28(e) to improve driver’s field of vision on site-owned vehicle, but not specifying any particular vision aid over any other. (see also OC 803/70)								
4) Vehicle maintenance	i)	Vehicles are well-maintained e.g. have effective brakes, clear wind- screens, effective wipers, horn and lights.	i)	Maintenance system in place: <ul style="list-style-type: none"> • Driver start-up checks carried out and defect-reporting procedures in place. • Planned preventative maintenance scheme and servicing carried out in accordance with manufacturer’s instructions. • Inspection (& thorough examination where applicable) carried out. 	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	1	2	3	4					i)	Various aspects: <ul style="list-style-type: none"> • PUWER reg 5 requiring maintenance (not start-up checks) • P/N PUWER reg 5 and HSWA s2/3 if defect gives rise to a risk of serious personal injury. • PUWER reg 6 requiring inspection (see OC 234/13)
1	2	3	4												
5) Vehicle Movements	i)	Elimination of the need to reverse, particularly in pedestrian areas, and where it cannot be avoided, minimised.	i)	Knowledge of reversing activities and sensible application of the control hierarchy. Designated reversing areas with non-essential personnel excluded. Essential personnel in high visibility clothing.	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	1	2	3	4						i) HSWA, s2&3; Workplace Regs. reg 7; MHSWR, reg 5 requiring assessment and application of the control hierarchy.
1	2	3	4												

6) Un/loading activities	i) Un/loading is carried out in a controlled manner.	i) Arrangements to control volume/timing of deliveries. Procedural or physical control over delivery vehicles. Designated areas for parking up, un/loading and un/sheeting areas.	<table border="1"><tr><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td></td><td></td><td></td><td></td></tr></table>	1	2	3	4					i) HSWA s2/3 and/or MHSWR reg 3(1) requiring system of work and planning of activity.
	1	2	3	4								
ii) Sharing information and cooperating with others.	ii) Exchanging information and any simple site rules before the delivery, eg restrictions on the type and size of vehicles which the site can safely handle, any procedures the driver needs to follow, who will be in overall charge of un/loading.		ii) MHSWR reg 12 & HSWA s3 requiring sharing information and co ordination between all parties in the delivery process.									
iii) Staff involved in un/loading have knowledge of what they should do.	iii) All people involved in un/loading know what is expected of them and what they should do – especially safe place for driver, eg in cab or refuge. Includes visiting drivers whose first language is not English. Rules are followed in practice.		iii) HSWA s2/3 requiring safe system of work for specific un/loading operations.									
7) Driver competence	i) Lift truck and other vehicles, such as shunters, tugs etc being driven by operators with appropriate licences.	i) Appropriate licences/certificates held & planned programme of refresher training.	<table border="1"><tr><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td></td><td></td><td></td><td></td></tr></table>	1	2	3	4					i)- iii) PUWER reg 9 and HSAWA, s2(1) requiring suitable training, with reference to ACOP in the case of FLT's.
	1	2	3	4								
ii) No unauthorised use of designated vehicles.	ii) Authorisation system detailing the types of vehicle that a person is competent to operate. No unauthorised use of vehicles.- look at control of keys.											

	iii) Safe driving practices followed and adequate supervision of site rules.	iii) Drivers have knowledge of the workplace, routes and higher risk operations. Site rules are complied with eg not loading if pedestrians in area, speed limits. Information and instruction on how to operate the vehicle e.g. use of any visibility aids. No obvious signs of impact damage on vehicles barriers and premises. (NB damage may also be a reflection of extensive reversing activity and poor spacing, not just competence.)		
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“Struck by” Project: Technical Guidance

Objective

To give technical advice for the inspection of workplace transport, by giving some practical options that can be used for assessing safe site, safe vehicle and safe driver issues at different premises, from a goods distribution centre to a manufacturing site, and to help judge compliance.

The advice is generic and intended to assist inspectors when looking at workplace transport issues relating to preventing “struck by “ injuries. The sections on the Inspection template dealing with Vehicle movements and Un/loading have not been covered in this guide. Where technical issues are identified that require further examination then contact should be made with the relevant discipline in your Specialist Group (Safe site – civil engineering and safe vehicle/driver – mechanical engineering) or, for Local Authority Inspectors, via your Enforcement Liaison Officer.

1. Management of the workplace transport risk

Ref	Subject	Item	Technical Details of what practical options are available
1.1	Management controls	Information at site Induction inc Traffic routes Loading areas Segregation Locations where pedestrians and vehicles will conflict Speed limit-enforcement/ supervision	Nominated persons responsible for traffic movements, parking, loading /unloading. Instructions to visiting drivers at gate house and /or prior contact with goods dispatchers etc Covered in LOADING AREAS SECTION 2.11 Housekeeping-supervision and maintenance of roads and footways. Workplace Regs –Reg12 (Condition of floors and traffic routes). E.g. road sweepers/wheel wash, cleaning, internal roadways, free from potholes. Monitoring of controls-means of team communication/feedback to management. Audit of procedures review & changing system as it evolves. Evidence that vehicles comply with speed limits.
1.2	Risk assessment of all types of traffic movement – vehicles and pedestrians	Number and types of traffic movement by both pedestrians and vehicles inside and outside buildings	Detailed assessment for each type of traffic movement to determine risk to pedestrians, other vehicles and structures considering location, type and number of movements. Scaled plan of the premises showing transport routes and significant features, e.g. Loading bays, gradients, machines, racking, should be obtained or produced by the occupier as this is essential to control and manage the traffic on their premises.

2. Site Layout and internal routes

Ref	Subject	Item	Technical Details of what practical options are available
2.1	Site layout	Information: Advance warning and clear direction signing of entrance off the public highway into the premises	At entrance - rectangular sign, clearly visible at a distance, contrasting colours with directional arrows. -Site map sign with letters large enough to be read at appropriate distance -or instructional sign for drivers to report or get instructions.
2.2	Segregation of pedestrians and vehicles	Pedestrian routes.	Entrance - Segregated footways/ corridors or gates Pedestrian guardrails or barriers to vehicle routes and parking areas. Road markings showing pedestrian routes Gap between barriers and racking also improves sightlines
2.3	Vehicle containment barriers/ demarcation of routes	i) Fixed ii) Movable/temporary barriers iii) Road markings-thermoplastic road markings or road paint suitable for outside or inside use	i) Barriers -metal/concrete Kerbs- as for footways Railings/Fencing Impact barriers to protect the premises and fittings inside the premises e.g. steel columns and racking. Floor/road markings At doorways and openings or other pedestrian points of access. ii) Posts in concrete drums, plastic demountable barriers, cones and tape iii) Other types of barriers could be spray paint or sand line on highway or footway surface / tape between posts / change in surface colour
2.4	Crossing points	Traffic lights Pedestrian crossings, footbridges and underpasses	Zebra Pelican style-subject to suitable criteria Dedicated-places marked by road studs and signage/ lighting Visibility of pedestrians/sightlines-Location to suit circumstances and other access needs
2.5	Traffic routes / Layout	Entrance off public highway Roadways: - Gradients and ramps Surface and condition	Adequate radii and sight lines based on speed and category of roadway. Width: Adequate width, e.g. 5.5 metres –2 way traffic flow inc. HGV's. Radii: at junctions and changes of direction based on width of load and suitable for vehicles in use Sight lines at junctions e.g. X dimension 2.4-4.5 m, Y dimension 33m – 60m. Appropriate for road speeds. Passing places where roadway is too narrow for 2 way flow Road ways: Max gradient for type of vehicle in use e.g. pallet trucks level surface and FLT, LGV highway gradient (if appropriate),

		<p>Traffic Management</p> <p>Maintenance and drainage</p>	<p>Embankments/cuttings</p> <p>Workplace Regs Reg 12 Condition of floors and traffic routes: Types e.g. Tarmac; Concrete Paving/blocks; Hardcore; Timber; Maintenance Drainage</p> <p>One-Way systems to eliminate reversing when appropriate. Road humps, chicanes, etc to control speed Priority routing-as Highway Code signs.</p> <p>Effective draining of water with no ponding or flooding. No potholes or breaking up due to wear or abuse to road surface.</p>
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2.6	Features	<p>Height Clearances</p> <p>Car and Vehicle Parking</p>	<p>Under structures, pipe bridges, gantries, loading bays, canopies, and entrances with appropriate warning signs to Traffic Signs Regulation and General Directions (TSR & GD).</p> <p>Clearly marked and signed, adequate size with safe means for drivers to leave parking area. E.g. car spaces 2.5m wide x 4.8m deep with aisles adequate width: lorry spaces appropriate for size of LGV, i.e. 3.5m wide x max length of vehicle.</p>
2.7	Junctions	<p>Priority at Give Way</p> <p>Traffic lights</p> <p>Mirrors on fixed structures to aid drivers in vehicle i.e. mirrors</p>	<p>Junctions, crossroads and roundabouts- based on traffic flow and risk assessment. Give way on side roads, road markings, Diagram 1003, i.e. double 600mm line and 300mm gap, 100mm width of line. Signs in accordance with TSR&GD (see also Highway Code.)</p> <p>When traffic flow is heavy and needs control for safety. Seek professional advice from Traffic Engineering Consultants for installation</p> <p>At blind junctions where STOP line and sign may be appropriate but subject to deterioration with weather conditions.</p>
2.8	Turning areas	<p>Dedicated turning area using existing road system, turntable or dedicated reversing area.</p> <p>Banksman supervision</p>	<p>Based on site dimensions and layout. Occupier may need professional advice of Consultants for design.</p> <p>Where other alternative physical measures cannot be used, such as above. Using area from which pedestrians are excluded. Hand Signals to Schedule 1, Part IX of SSR Regs, 1996, and PPE.</p>

2.9	Traffic management: NB. Some measures are not suitable for FLT's and other vehicles e.g. tugs, cages, stillages, pallet trucks etc)	Speed Limits Traffic Calming	Indicative road speed limit e.g. 5MPH or 10 MPH or walking pace. Included in site rules and enforced/supervised Either temporary or permanent arrangements. Related to walking speed in pedestrian shared areas or safe vehicle speed elsewhere E.g. Road Humps, Chicanes, Narrowings
2.10	Car and lorry parking	Adequate car and lorry parking provision with suitable pedestrian access	Car parking spaces clearly marked with broken white lines, end- on or 90 degree parking spaces at a minimum 2.4m wide x 4.8m deep, but minimum 2.5mx 5.0m preferred to allow for loading at side doors. Aisle/roadway between parking spaces 5.5m – 6.0m wide. Angled parking spaces with narrower one- way aisles or road systems designs possible. Disabled parking spaces with extra width. Where car park aisles meet, give- way road markings and clear directions for routing.
2.11	Road marking and signs	Appropriate Road Markings Signs	Road markings/lines full or broken, to indicate routes and priority at junctions. Types-centre line, edge of roadway, ghost markings, parking places for LGVs and cars. Lay-bys, junction boxes (as Highway Code Markings to TSR & GD) Restricted Access Box junction markings (if justified) Priority at junctions – give way and stop lines Warning Signs –triangular, black lettering on white background with red border. Height of triangle 600mm for 30MPH. (see Annex A attached)
2.12	Loading areas	Barriers, signs /markings Safe Sheeting and Roping Area	Segregation of drivers from loading /unloading operations. Safe system may be In Cab, Not in Cab, Safe refuge Gantries, staging, access to vehicle / fall protection Immobilise vehicles- remove and control keys," DO NOT MOVE" sign in front of vehicle, wheel chocks, hydraulic bollards, captive systems.
2.13	Obstructions	Height and width clearances Natural Chicanes Natural / Artificial obstructions. Good Housekeeping	See warning signs Safely managed, inc signs, road lines, barriers and hazard marking. Maintenance of roadways, removal of debris, litter, leaves, pallets, drums, waste, etc
2.14	Lighting	Suitable lighting types for: - External Areas- Roadways, Footways Parking and Other Areas	Roads see BS on road light standards on public highway –silhouette lighting Movement of people, machines and vehicles e.g. for lorry parks, circulation routes – overall average 20 lux minimum 5 lux

		<p>Interior lighting suitable for task.</p> <p>Temporary Lighting</p> <p>Lighting on vehicles Vehicles in roadworks - according to need based on risk assessment taking into account surrounding lighting i.e. flashing amber light on top</p>	<p>In hazardous areas rough work not requiring perception of detail Average 50 lux, minimum 20 lux see HSG38</p> <p>Temporary situations only, e.g. roadworks on workplace traffic routes, illuminated for safety.</p> <p>Most on site vehicles do not have lights unless fitted at customer request as required. Road vehicles do under Road Vehicles Construction and Use Regulations.</p> <p>WP vehicles according to need, based on risk assessment.</p>
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3. Vehicle Selection and suitability

Ref	Subject	Item	Technical Details of what practical options are available
3.1	Road vehicles:	<p>Suited to site</p> <p>Vehicle can be sheeted / strapped without risk to the driver.</p> <p>Tail-lift vehicles</p> <p>Reversing</p>	<p>Vehicle can turn in the available space, and access the loading dock (vehicle deck height is within range of the dock leveller) NB Curtain sided vehicles may avoid the need for reversing, but may pose other H&S risks</p> <p>Client has risk assessed the operation of sheeting and considered proprietary systems to avoid climbing on vehicle and the operation can be carried out safely.</p> <p>Adequate means are available to prevent the load falling from tail lift platform as the tail lift is being operated (e.g. edge protection, brakes on wheeled trolleys etc.) Tail lifts should be built to BS/EN 1756 Parts 1 and 2. Guidance is available in "Tail Lifts: Specification Guide", Institute of Road Traffic Engineers Copy available in HSE area libraries or from Society of Engineers, London. (Tel 020 7630 1111)</p> <p>Where RA has considered vehicle movements and where reversing cannot be eliminated vehicle should be fitted with visibility aids to suit. Can include CCTV, mirrors and other sensing systems. See OC 803/70 or LAC 85/10 "CCTV on Road going vehicles".</p> <p>If necessary, seek technical advice from a suitably qualified Mechanical engineer e.g. in the HSE Specialist Group or via the Enforcement Liaison Officer (ELO).</p>
3.2	Site vehicles e.g. FLT's	<p>Suited to terrain</p> <p>Suited to slopes</p>	<p>Vehicle has been selected to suit ground conditions (small diameter wheels not suited to rough ground).</p> <p>Vehicle suitable to travel up and down any slopes on site (hand brake will hold, forwards or backwards, on any slope that the vehicle travels up/down). NB Not good practice to park on slopes, but vehicle must be able to be parked if necessary (e.g. running out of fuel)</p>

		Load handling	Vehicle is suited to handle the type of load. RA has considered available special purpose fixtures (e.g. barrel clamps, squeeze plates) to minimise manual handling and risk of shedding load. Any fixtures used are easily interchangeable when required to minimise chance of operators taking short cuts.
		Speed	Vehicle speed is appropriate to site conditions (Some trucks have programmable maximum speed settings).
		Operator involvement Parking	Operators are involved in selection of equipment. FLT's should be safely parked with the handbrake applied, on the level with the load lowered
3.3	Visibility	Direct visibility	Good direct visibility (bearing in mind type of load carried). Carrying excessive loads which limit visibility should be avoided. Consideration should be given to carrying less, e.g. 1 pallet instead of 2. Where large loads prevent good forward vision driving the FLT in reverse is acceptable for short distance/infrequent journeys. For long distance/frequent trips consideration should be given to using an alternative vehicle e.g. reach truck or side loader; or using an attachment e.g. for carrying roof trusses.
		Indirect visibility	Mirrors / CCTV /Radar etc fitted where direct visibility not possible
		Access for cleaning	Windows and mirrors can be cleaned without the need for acrobatics.
		Wipers / lights	Wipers / lights fitted where necessary for external work
		Reversing alarms / beacons	Elimination of reversing is the aim e.g. through site layout and vehicle selection. NB Reversing alarms and beacons are low in hierarchy of control measures as they do not allow the driver to detect the pedestrian. It can become confusing for people if there are many alarms sounding on a site. May be suitable as an additional warning for areas where MOP's are present. May conflict with environmental (noise) issues. Where alarms are fitted they should be maintained,

4. Vehicle Maintenance

Ref	Subject	Item	Technical Details of what practical options are available
4.1	General condition	Impact damage	General scuffing on some vehicles, e.g. FLT counterbalance weight is normal. Impact damage, damage to lights, cab structure may suggest inappropriate selection, misuse or lack of competence. Significant impact damage to FOPS or ROPS should require examination by service engineer or competent person (if LOLER applies) to determine if vehicle safe to continue in use. (See remarks below on damage / incident reporting).
4.2	Functional	Vehicle is functional – ask operator to demonstrate, but only if safe to do so. If in	Brakes – service and parking, wipers, horn, lights, steering, access interlocks if applicable e.g. travel seat switch, parking brakes, transmission interlock, hydraulic controls interlock across access/egress, load moment indicator and/or limiter.

		doubt ask for support from suitably qualified mechanical engineer e.g. HSE Specialist Group or via ELO.	
4.3		Damage / accident reporting	Damage / accidents are reported promptly and the vehicle inspected by a competent person for non-obvious damage. Control systems exist which isolate the truck after a collision, and which require a service technician to reset before the truck can be re-used. Ensures truck is safe to continue in use, and avoids night shift being blamed for all damage!
4.4	Maintenance	Daily checks	Daily checks carried out by operator (e.g. fuel, oil, water, hydraulic fluid levels; tyres, lights, horn; check for oil leaks and obvious damage). Checklist audited by supervision and retained for limited period
		Defect reporting	System exists for reporting any defects and client can demonstrate appropriate action on any given defect.
		Planned maintenance	A planned maintenance schedule exists for each vehicle and maintenance is carried out to the schedule by a competent service technician. Planned maintenance is recorded and any non-critical defects are noted, and appropriate action taken.
		Breakdown maintenance	A system exists for reporting breakdowns and obtaining repairs, and breakdown maintenance is recorded. Records of breakdown maintenance available for inspection.
		Emergency arrangements	In the event of a breakdown on a key vehicle, alternative arrangements are in place to enable material to be obtained from storage and vehicles loaded and unloaded without any increased risk.
4.5	Thorough examination	LOLER	Lifting equipment such as FLT's, tail lifts and HIABs are inspected at appropriate intervals by a competent person. Records are available for inspection
4.6	Information for USE	Rating plate or load charts	Information provided to enable operator to operate within stability limits. Typically information associated with lifting equipment will either have a rating plate or load charts.
		Operator Instruction handbook/manual	Manufacturers information available, if required. Handy reference for operation (dos and don'ts) and maintenance information
		Site Rules	Specific to the particular vehicle and its operation e.g. regarding use of attachments, speed limits, additional segregation – where different to general rules
		Setting Information	e.g. for visibility aids, load moment limiters, tyre pressures etc
4.7		Key Control/Authorisation	System exists to prevent unauthorised persons driving vehicles

7. Driver competence

Ref	Subject	Item	Technical Details of what practical options are available
7.1	Driver selection:	Selecting drivers for initial training	System in place for selecting drivers: ability to do job in a responsible manner, potential to become competent operators and physical and mental ability for the task. Physical ability to

		Recruiting experienced drivers	drive must be done on an individual basis. More detail on medical fitness to drive in HSG 6, pages 43-47 and L117 ACoP, page 5. DVLA website “At a Glance” guide gives good benchmark advice. System for assessing competence and fitness – does driving performance match any Certificates previously obtained by the driver? Does the evidence show they are competent to drive the FLT’s and attachments in use in the new workplace or will additional training be needed? Attitude to the job.
7.2	Driver training	Fork trucks Other vehicles	Training in accordance with ACoP. Should have the following components: <ul style="list-style-type: none"> • Basic training and test – generic • Specific job training – tailored to specific site and equipment • Familiarisation training – specific to the task, on the job and under close supervision. Similar principle should be applied to other types of workplace transport vehicle: Large goods vehicles: HGV test, but may need additional training to deal with use of reversing aids etc., safe practice for coupling/un coupling. May need refresher training to deal with changes in technology. Needs knowledge of site rules – including deliveries. Shunters & tugs: Suitable training instructions should be provided by the employer, but there are no nationally agreed training courses at present. However, the HGV licence is a good benchmark. Stand on pallet trucks: ACoP suggests similar to fork trucks used for stacking. Needs more than an hours familiarisation as these vehicles are involved in many “Struck by” accidents.
7.3	Driver authorisation	Drivers authorised in writing Key control system	Record of training should be kept by the employer. Drivers should be authorised in writing after assessing competence to drive specific vehicle types. See safe vehicle guidance. Electronic key pad systems such as Infolok may be helpful in preventing unauthorised access to FLT’s.
7.4	Safe driving practices followed	Systems for monitoring driving practice in the workplace Workload and job design	Simple site rules can be an effective tool for driver management. – need to consider a range of situations e.g., visiting drivers who do not speak English as a first language, children in cabs, unsuitable PPE. Rules need to be actively monitored: Are people following the rules – if not why not? Are the rules unworkable? Is more training needed. Appoint people to do the monitoring – Training is available for those who supervise fork truck operations – show what the key aspects of safe operations are and how to observe and how to challenge bad practices. Both these can influence driver behaviour e.g. “job and finish”, tight deadlines. Fatigue may be a factor – effects of time “on shift”, “time of shift”, shift patterns and shift handovers. Technical help on human factors can be sourced via Specialist Group or Enforcement Liaison Officer.

ANNEX A
 SUPPLEMENTARY INFORMATION: ROAD MARKINGS AND SIGNS (AS HIGHWAY CODE).

Road markings and signs	Signs	<p>Warning Signs –triangular, black lettering on white background with red border. Height of triangle minimum 600mm for 30 MPH. E.g. Height or Weight restriction, sign on pipe bridges, gantries, catenaries, foot and vehicle bridges, overhead service ducts etc and other obstructions in vehicle routes, e.g. if less than 5m (16 foot 6 inches) clearance.</p> <p>Use Mandatory or Regulatory Signs (TSR & GD) 2002 E.g. Max speed limit sign, Diagram 670. Black number (not “MPH” lettering) on white background with a red border. Diameter usually 600mm (varies between 300mm-1500mm depending on location and use) for 30MPH.</p> <p>The law requires Traffic Signs Regulations and General Directions signs to be used where there is a hazard</p> <p>Examples of other regulating signs: -</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 25%;">Sign Type</th> <th style="width: 25%;">Diagram No in TSR&GD</th> <th style="width: 25%;">Diameter</th> <th style="width: 25%;"></th> </tr> </thead> <tbody> <tr> <td>Width Limit</td> <td>629 629A</td> <td>600 750</td> <td></td> </tr> <tr> <td>Length limit</td> <td>629.1</td> <td>600mm</td> <td></td> </tr> <tr> <td>Pedestrians prohibited</td> <td>625.1</td> <td>600mm</td> <td></td> </tr> <tr> <td>No articulated vehicles</td> <td>622.4,</td> <td>600mm</td> <td></td> </tr> <tr> <td>Height limit prohibition</td> <td>629.2,</td> <td>600mm</td> <td></td> </tr> </tbody> </table> <p>Note: usual size is 600mm diameter in 30 mph limit.</p>			Sign Type	Diagram No in TSR&GD	Diameter		Width Limit	629 629A	600 750		Length limit	629.1	600mm		Pedestrians prohibited	625.1	600mm		No articulated vehicles	622.4,	600mm		Height limit prohibition	629.2,	600mm	
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