

# Managing Vehicle Risks in Construction

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# Vehicle operations risks in construction

On site	Site/ Public road interface	On the road
Materials reception Materials dispatch Loading/unloading Parking Vehicle manoeuvres Trucks and Vans Fuel deliveries Specialised construction vehicles Deteriorating roadways	Vehicles entering and exiting sites Vehicle queuing Vehicle reversing Roadway contamination Loading/unloading on roadway Working on the roadway  Parking Visibility	Driving for work Working on or near the road Loading/unloading Vehicle manoeuvres Other Vulnerable Road Users (VRU)  Trucks Vans Specialised vehicles Grey fleet

# Profile of vehicle related injuries

- Fatal and non-fatal reported to HSA
- Fatal and non-fatal in construction.
  - Typical recurring accidents and examples
- Work related road collision profile
  - Construction vehicles involved in WRRCs

# Work Related Vehicle Deaths 2009-2015



152 Work related  
vehicle deaths (43%)

Average of 22 work  
related vehicle deaths  
each year



July most dangerous  
month

## Tractors involved in 30 fatalities



## The Victims



## Most Dangerous Sectors



## Main Causes of Death

- 
1. Hit or run over by a vehicle
  2. Crushed or trapped by vehicle
  3. Vehicle overturn
  4. Fall from a vehicle

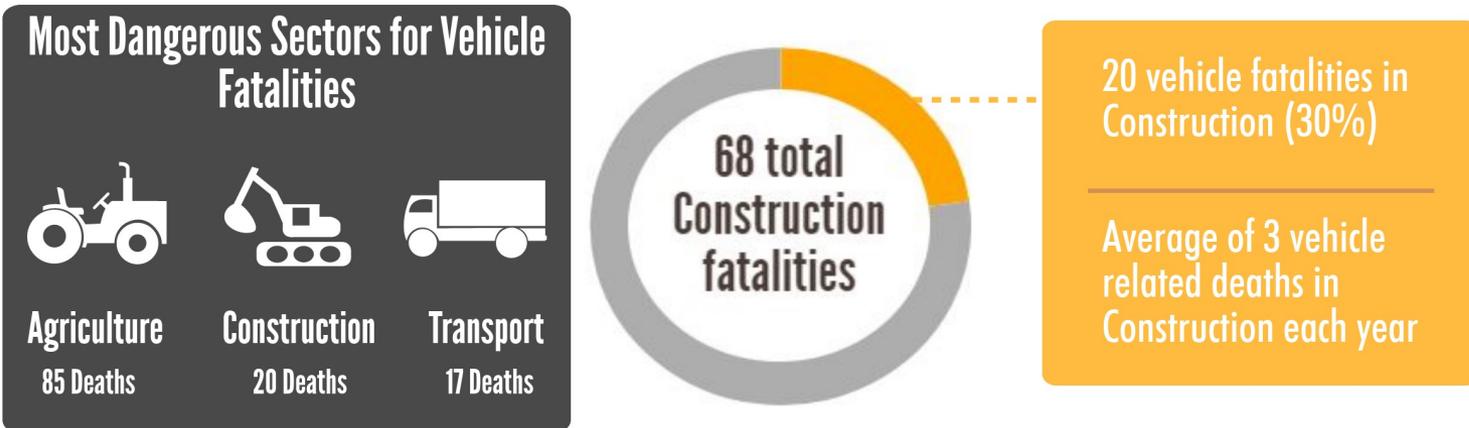


Most fatalities happened in:

- Cork (27)
- Tipperary (9)
- Dublin (13)
- Clare (8)
- Galway (9)

# WRVS – Construction sector

## Fatalities in the Construction Sector 2009 - 2017



Vehicle Types Involved				
 <b>4</b>	 <b>3</b>	 <b>3</b>	 <b>2</b>	 <b>2</b>
 <b>2</b>	 <b>1</b>	 <b>1</b>	 <b>1</b>	 <b>1</b>



# Workplace Fatalities Involving Vehicles

2017

Total workplace fatalities

48

46%  
involved a  
workplace  
vehicle (22)

## Sectors with Vehicle Fatalities

14   
Agriculture

5   
Transport &  
Storage

1   
Construction

1   
Support  
Services

1   
Wholesale &  
Retail Trade

## Vehicle types involved



Other

11

2

2

4

1

2

All   
male victims

1   
child victim

11

self-employed  
victims

# Work Related Vehicle Fatalities

**2018\***

\*As of 30th September

Total Reported Fatalities

**37**

**15**  
involved a  
vehicle  
(41%)

## Sectors

**10** 

Agriculture

**2** 

Manufacturing

**1** 

Construction

**1** 

Wholesale & Retail Trade

**1** Maintenance & Repair of Motor Vehicles 

## Vehicle Types Involved



**6**

**3**

**2**

**2**

**1**

**1**

## Victim Profile

**14** 

Male

**1** 

Female

**11** 

Workers

**4** 

Non - Workers

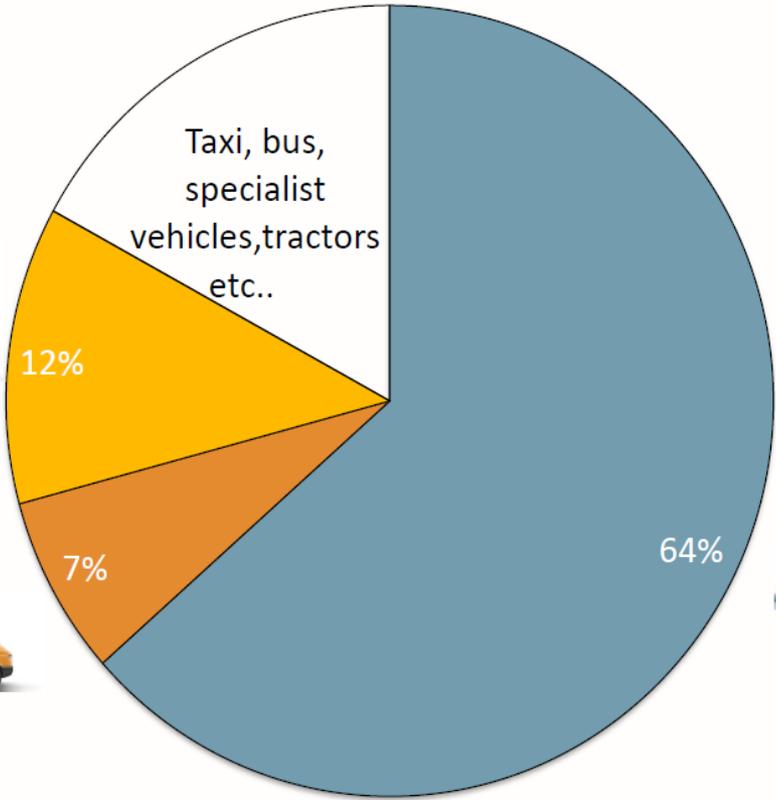
**12**

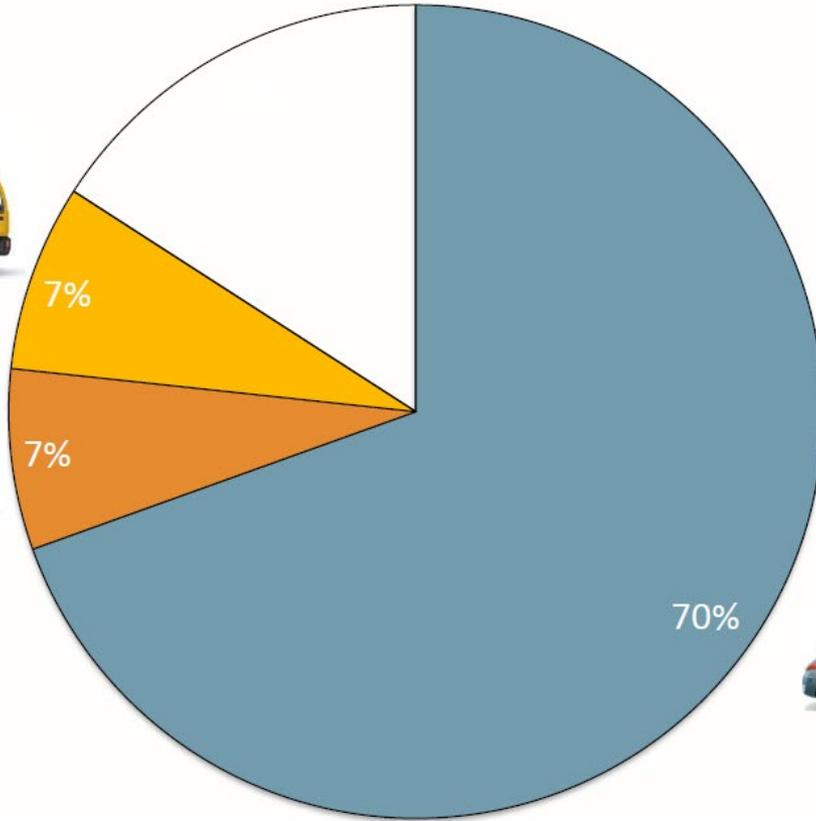
Killed in a workplace

**3**

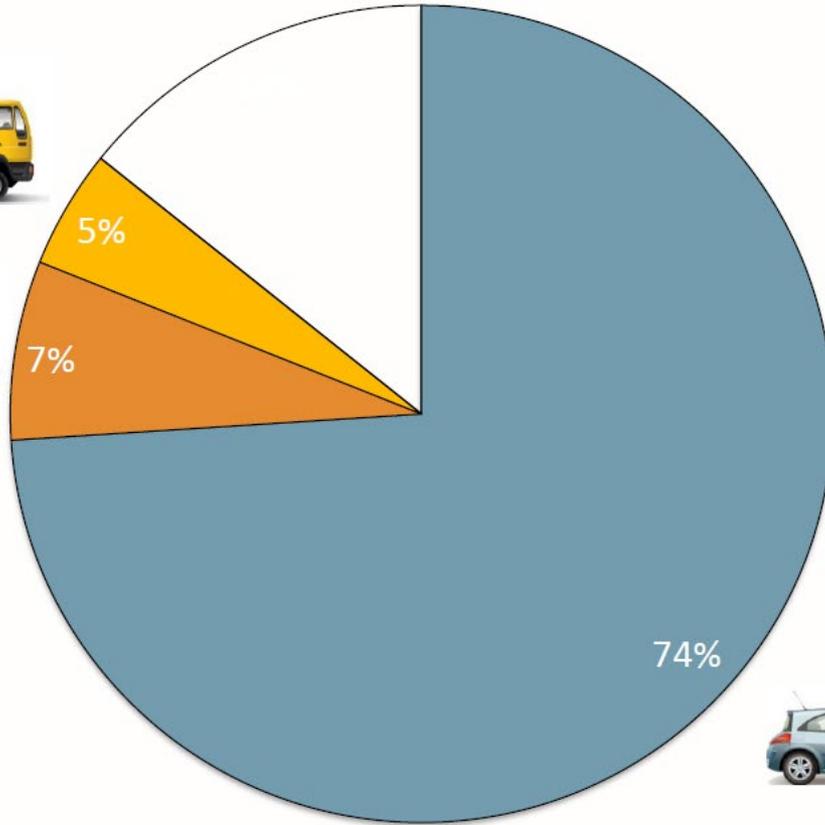
Killed on a public road  
(all non-workers)

# Fatal Collisions





## Serious Collisions



## Minor Collisions

# Vehicle related harm in Construction 2009-2013

- Construction **2<sup>nd</sup> highest rate** of **vehicle related deaths** at work
- **4<sup>th</sup> highest rate** of reported **WRV injuries**
- What vehicles more likely to be involved in WRV deaths?
  - Trucks
  - Vans
  - Specialised construction vehicles [Site Dumper, MEWP, Teleporter]

# Main Killers



People being struck by vehicles



Work Related Road Collisions



People falling from vehicles



Vehicle impact & overturning



Loads falling from vehicles

# Main causes of injury



People struck by vehicle



Physical Strain



Slip, trips and falls



Items falling onto people

# What activities need to be better managed?

- Reversing and slow speed manoeuvres
- Entering and exiting sites
- Loading and unloading vehicles on site/roadway

# The Legal Imperative

**89/391/EEC**

**[Safety Health & Welfare at Work Act 2005]**

Employer duty of care

Employee  
duty of care

Safe place  
of work  
[Vehicle]

Safe  
systems of  
work

Assess and  
Control Risks  
[Risk  
assessment]

Policy  
Procedures

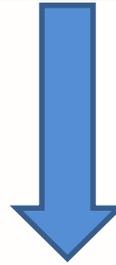
Instruction  
Information  
Training

Safe  
work  
equipment

Work  
Safely

# Safe Systems Approach

Occupational Health & Safety Legislation  
Road Safety Legislation  
Road Traffic Act and Regulations  
Standards



**Employees**

**Employers**

**Safe  
Vehicles**

Safe, suitable and fit  
for purpose for every  
journey every day

**Safe  
Drivers**

**Managing &  
Monitoring Driver  
Behaviour**

**Safe  
Operations**

Reversing  
Parking  
Loading/unloading

**Safe  
Journeys**

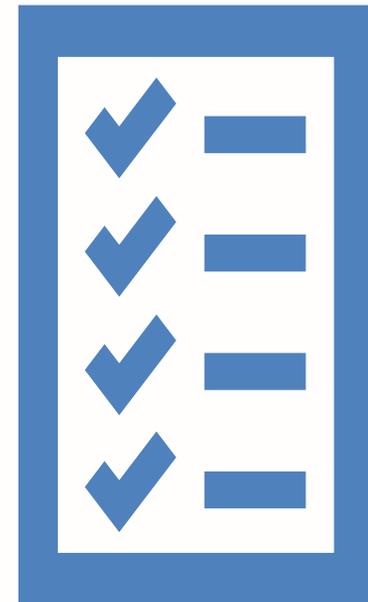
Optimising  
interactions with  
other road users

# Why vehicle accidents happen

- Lack of management control
- Lack of safe systems of work for vehicle operations
- Lack of awareness
- Lack of training
- Deliberate unsafe acts
- Killer behaviours
  - Speed
  - Intoxicants
  - Distraction
  - Fatigue
  - Non-wearing of safety belts

# Vehicle-related Procedures

- Your organisation must consider all activities in the workplace and develop procedures and rules specific to the business and the working environment
- Procedures must be in place that clearly outline how, when and where and involving who, vehicle-related activities are to be carried out, including:
  - Driving
  - Deliveries and collections
  - Loading & unloading (not overloading)
  - Reversing
  - Parking
  - Manoeuvring
  - Coupling & uncoupling
  - Vehicle checks & maintenance

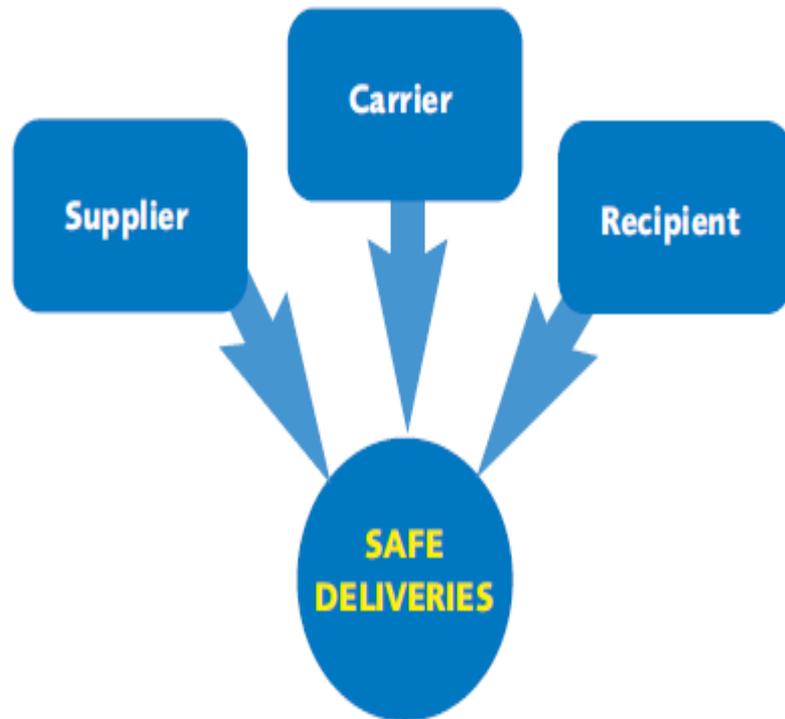


# Deliveries and Collections



- Essential to business, but can be some of the most dangerous activities you and your staff have to deal with.
- Many delivery and collection incidents could be prevented if there was better cooperation between the parties involved.

# Joint Responsibility



Individuals (mostly drivers) are often unfairly blamed for accidents which could have been prevented if duty holders had co-operated with one another.

The **three key duty holders** are:

- the **supplier** sending the goods
- the **carrier** - the haulier or other company carrying the goods
- the **recipient** - the person receiving the goods

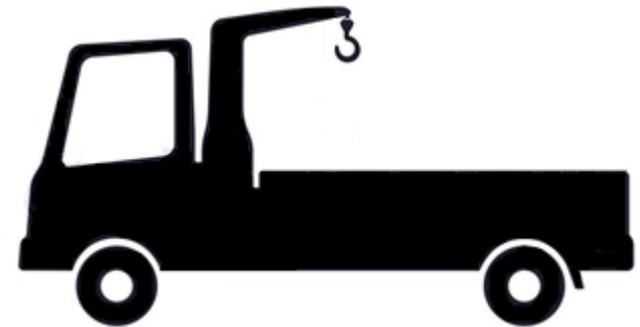
# Loading/delivery areas

- Designated areas (on the site if possible)
- Instructions for visiting drivers
- Clear ground markings
- Clear Signs
- Authorised personnel only
- Site liaison person
- Well lit



- **Vehicle instability** due to **overloading**
- Partial or complete **loss of load**
- **Failure** of the crane, attachment or lifting accessories
- **Overturning**
  - inability of the ground to take load
  - failure to use or the incorrect use of vehicle stabilizers or spreader plates.
- Loader crane **striking**:
  - pedestrians,
  - other vehicles, and
  - overhead power lines.

## Lorry loader crane incidents



# Lorry loader crane legal requirements

- **thoroughly examined** by a competent person every 12 months
- a **report of thorough examination**
- any **lifting equipment** or **lifting accessory** (e.g. grapple, grab, slings, chains) is **thoroughly examined every 6 months**
  - marked with a safe working load (except for ropes and rope slings),
- **must be examined and tested any alteration or repair, before** the equipment is returned to service
- operated by **trained** competent persons, - such training to cover:
  - the controls,
  - instruments,
  - working load limits,
  - load assessments and load charts,
  - awareness of the environment, ground conditions, obstacles, etc.
  - safe working procedures for slinging and lifting, including hand-signals,
  - operating limitations of each type of crane and accessory they operate,
  - in-service checks.

# Safe Lorry Loader Crane Operations

## Information Sheet

April 2018



This information sheet deals with the set-up, use, maintenance and thorough examination of lorry loader cranes (LLCs), also known as lorry loaders, to make sure that lifting operations are carried out safely.

It is aimed at employers, the self-employed, employees and anyone who works with LLCs which are used for operations involving lifting of smaller loads such as building materials, (blocks, timber, bags, logs), small containers, general waste, etc.

**It does not cover loader cranes operating with rope and winch systems, or where they are being used as an alternative to conventional mobile cranes, or situations involving the lifting of persons.**

All lifting operations are potentially hazardous and should be planned to make sure that they are carried out safely and that all foreseeable risks have been taken into account and effectively controlled. Poor planning is one of the major causes of accidents arising from lifting operations.

### What is an LLO

An LLC is a crane mounted on a vehicle for the purpose of loading and unloading that vehicle. In construction and utility works LLCs are used widely for loading and unloading and are commonly fitted with **clam-shell bucket or grab attachments**. In general transport and haulage they can be used with a crane hook and lifting accessories. A crane should only be mounted to a vehicle in accordance with the vehicle manufacturer's bodybuilding guidelines by a person competent to do so.

### Training Requirements

LLCs must be operated by trained competent persons. A person is deemed to be competent if they are trained and experienced, and know how to safely carry out LLC operations, having regard to the nature of the hazards involved.

Training should cover, as a minimum:

- the controls,
- instruments,
- working load limits,
- load assessments and load charts,
- safe working procedures for slinging and lifting, including hand-signals,
- operating limitations of each type of crane and accessory they operate, and
- in-service checks.

Documented procedures must also be followed for maintenance and use of the crane.

### What causes LLO accidents

The most common causes of LLC accidents are:

- Vehicle instability caused by overloading
- Partial or complete loss of load through:
  - incorrect handling methods, and
  - lifting of loads in excess of lifting capacity of the loader crane.
- Failure of the crane, attachment or lifting accessories

[http://www.hsa.ie/eng/Publications and Forms/Publications/Information Sheets/Safe Lorry Loader Crane Operations.pdf](http://www.hsa.ie/eng/Publications_and_Forms/Publications/Information_Sheets/Safe_Lorry Loader_Crane_Operations.pdf)

# Load securing

- estimated that up to 25% of accidents involving trucks can be attributable to inadequate cargo securing
- It's easy to assume that a heavy load or a very light load either won't move or won't cause a problem if it does
- During transport, all cargo items should be prevented from
  - sliding,
  - tipping,
  - rolling,
  - wandering or substantial deformation and rotation in any direction
- by methods such as
  - locking,
  - blocking (local/overall),
  - direct lashing and top-over lashing,
  - or combinations of these methods.

# Load Securing

- Typical high risk loads found in construction
  - Structural steel and steel wire
  - Precast concrete
  - Site cabins and prefab accommodation
  - Plant and machinery
  - Concrete blocks
  - Timber and timber framework
  - Cable drums
  - Scaffolding
  - Roofing materials
  - Pipes
  - Overloaded loads



January 2011

# Load Security Information Series - The Basics of Vehicle Load Security

This sheet gives basic information on securing loads on or in vehicles driven on the road. In this context, the term 'load' means any objects, tools, equipment, goods or cargo. The information is aimed at anyone who transports loads in any type of vehicle for work purposes.



### Introduction

Loads carried in any vehicle, whether a motorbike, car, van, lorry, truck or trailer, should be secured so that they cannot move or fall off or out of the vehicle. Loose items such as a computer laptop on the rear car seat or tools in a vehicle cab are all potential missiles especially in a collision and can cause serious injury to the vehicle occupants, other road users and pedestrians. Loads must be secured even if the vehicle is only travelling a short distance or at low speeds.

### What is Load Security?

Load security is a term used to cover load restraint and load containment.

- **Load restraint** means preventing the movement of the load in any direction in relation to the vehicle load bed.
- **Load containment** means preventing goods falling from the vehicle.

Unsecured loads can move in any direction (forward, backwards, sideways and even upwards). The weight of the load and the friction between the load and the vehicle are never enough to keep the load in place. Unsecured loads may become unstable during a journey and fall from a vehicle during unloading.

Loads must be secured so that they are unlikely to shift, fall, be

dislodged or blown from the vehicle both during the journey and when the vehicle is being unloaded.

### Why should loads be secured?

Unsecured or inadequately secured loads can injure and even kill people. Failure to secure a load properly can also result in financial losses due to damaged goods, vehicles, property and roads. Financial losses may also result from lost working time, clean up costs, time delays during unloading, legal costs and damage to company reputation.

Loads that are unsecured or inadequately secured often begin to move when the driver is accelerating, braking, going around corners or roundabouts, entering or exiting motorway slip roads or taking evasive action such as avoiding a collision. Sudden steering movements can also cause the load to move. Loads can move even at low speeds.

Drivers, vehicle occupants, other road users, pedestrians and anyone who may be involved in loading and unloading the vehicle may be at risk of injury.

- As well as being a distraction to the driver, shifting loads can make the vehicle unstable, result in loss of control of the vehicle and may cause the vehicle to overturn.
- Unsecured loads or objects may fall on or hit people and can cause road obstructions, traffic disruptions and collisions especially if drivers swerve to avoid fallen items.

# Load securing information

*The Health & Safety Authority working in partnership with An Garda Síochána and the Road Safety Authority has developed a series of Load Safety information sheets, dealing with high-risk loads.*



www.hsa.ie



www.garda.ie



Udarás Um Shábháilteacht Ar Bhoithre  
Road Safety Authority

www.rsa.ie

[https://www.hsa.ie/eng/Publications and Forms/Publications/Information Sheets/load%20Security%20Information.pdf](https://www.hsa.ie/eng/Publications_and_Forms/Publications/Information_Sheets/load%20Security%20Information.pdf)

# Guidance for specific loads

March 2016

## LOAD SAFETY SERIES

### Information Sheet

## Safe Load Securing of Precast Concrete Loads

**What the Law requires**

Under Health and Safety Legislation, a vehicle is a place of work. The law requires that workplaces are maintained in a condition that is safe and without risk to safety and health. Employers have duties under the Safety, Health and Welfare at Work Act 2005 to ensure, so far as is reasonably practicable, the health and safety of their employees and others who may be affected by their work activities (other road users). This includes providing systems of work that are planned, organised, performed, maintained and revised.

**Road Traffic law requires**

Every load carried by a vehicle in a public place shall be of such a weight and size and so distributed, packed, adjusted and attached to the vehicle that, so far as can reasonably be foreseen, no danger is liable to be caused and that there is no interference with the stability of vehicle. In the case of mechanically propelled vehicles and trailers, no load carried shall exceed a reasonable weight, having regard to the vehicles capability; brakes, tyres and general construction of the vehicle.<sup>1</sup>

So, vehicle owners and operators need to ensure compliance with both health and safety and road traffic legislation if they are involved in loading, unloading or transporting loads of any type on their vehicles.

**Pre-cast Concrete Loads**

Precast Concrete products are high-risk loads and the consequences of load shift can be extremely serious. Loads that are not firmly anchored to the load bed may shift during transport. This can make them unsafe. Movement of the load endangers:

- The driver, if the load slides forward during the journey or shifts sideways and causes the driver to lose control of the vehicle.



- Other road users including pedestrians, if the load shifts sideways or slides backwards and falls off the vehicle.
- Unloading personnel, if the load has become unstable during the journey and collapses during unloading.

**Load Restraint Methods**

Loads can be restrained by two basic methods, either indirectly or directly using 'Tie-down' or 'Direct restraint' methods respectively.

**Tie-down** is when the load is prevented from moving by friction only, also called a 'frictional lashing'.

**Direct restraint** is when the load is prevented from moving by containing, blocking or attaching it to the vehicle.

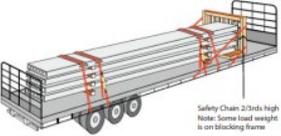


Figure 1. Example of correctly secured Precast Concrete load using chains

<sup>1</sup> S.I. No. 190/1963: ROAD TRAFFIC (CONSTRUCTION, EQUIPMENT AND USE OF VEHICLES) REGULATIONS, 1963, Reg 96



HEALTH AND SAFETY AUTHORITY  
[www.hsa.ie](http://www.hsa.ie)



[www.garda.ie](http://www.garda.ie)



Road Safety Authority  
[www.rsa.ie](http://www.rsa.ie)

March 2016

## LOAD SAFETY SERIES

### Information Sheet

## Safe Load Securing of Structural Steel Loads

**What the Law requires**

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**Structural Steel Loads**

Steel is a high-density, high-risk load and the consequences of load shift can be extremely serious. Loads that are not firmly anchored to the load bed can shift during transport. This can make them unsafe. Movement of the load endangers:

- the driver, if the load slides forward during the journey or shifts sideways and causes the driver to lose control of the vehicle;
- other road users or pedestrians, if the load shifts sideways or slides backwards and falls off the vehicle; and
- unloading personnel, if the load has become unstable during the journey and collapses during unloading.





<sup>1</sup> S.I. No. 190/1963: ROAD TRAFFIC (CONSTRUCTION, EQUIPMENT AND USE OF VEHICLES) REGULATIONS, 1963, Reg 96



HEALTH AND SAFETY AUTHORITY  
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[www.garda.ie](http://www.garda.ie)



Road Safety Authority  
[www.rsa.ie](http://www.rsa.ie)

[www.loadsafe.ie](http://www.loadsafe.ie)

# Guidance for specific loads

## LOAD SAFETY SERIES

### Information Sheet

#### Safe Load Securing of Plant and Machinery

March 2018

##### What the Law requires

Under Health and Safety Legislation, a vehicle is a place of work. The law requires that workplaces are maintained in a condition that is safe and without risk to safety and health. Employers have duties under the Safety, Health and Welfare at Work Act 2005 to ensure, so far as is reasonably practicable, the health and safety of their employees and others who may be affected by their work activities (other road users). This includes providing systems of work that are planned, organised, performed, maintained and revised.

##### Road Traffic law requires

Every load carried by a vehicle in a public place shall be of such a weight and size and so distributed, packed, adjusted and attached to the vehicle that, so far as can reasonably be foreseen, no danger is liable to be caused and that there is no interference with the stability of the vehicle. In the case of mechanically propelled vehicles and trailers, no load carried shall exceed a reasonable weight, having regard to the engine capacity, brakes, tyres and general construction of the vehicle<sup>1</sup>.



##### Plant and Machinery Loads

Due to their size and weight, plant and machinery are considered to be high-risk loads where the consequences of load shift or load shed can be extremely serious. Loads that are not firmly anchored to the load bed can shift during transport. This can make them unsafe. Movement of the load endangers:

- The driver, if the load slides forward during the journey or shifts sideways and causes the driver to lose control of the vehicle;
- Other road users or pedestrians, if the load shifts sideways or slides backwards and falls off the vehicle;
- Unloading personnel, if the load has become unstable during the journey and moves uncontrolled during unloading.

<sup>1</sup> S.I. No. 190/1963: ROAD TRAFFIC (CONSTRUCTION, EQUIPMENT AND USE OF VEHICLES) REGULATIONS, 1963, Reg 96



Udairis Uim Shúsháilteach ar Bhóthar  
Road Safety Authority

## LOAD SAFETY SERIES

### Information Sheet

#### Safe Load Securing of Site Cabins and Prefabricated Accommodation Units

February 2017

Due to their size, weight and configuration, consignments of site cabins and prefabricated accommodation units are high-risk loads. The consequences of load shift or load shed can be extremely serious. It is essential that units are not loaded in such a way that the vehicle or load could become unstable or the load could fall off the vehicle.

##### What the Law requires

Load securing is covered specifically by Road Traffic legislation, which requires that loads carried by vehicles must be properly secured at all times. It is an offence for a vehicle to be overloaded or to discharge material onto the public road<sup>1</sup>.

Occupational Health and Safety legislation<sup>2</sup> also applies to load securing. Employers have a legal duty to:

- make sure systems of work are planned, performed and maintained for securing and transporting loads;
- provide drivers and loading / unloading staff with instruction, information and training about securing loads;

- make sure that adequate equipment is provided and maintained for securing loads; and

- have appropriate plans and procedures in place in the event of an emergency such as a load shift or load shed during transport.

The law also requires that employers co-operate, so where several parties are involved in ensuring the safe transport of a load, there should be adequate co-ordination and co-operation between the parties and clear responsibilities laid down.

##### Restraint Equipment

##### Requirements for site cabins and prefabricated accommodation units

Even though these load units can be heavy, the weight of the load alone cannot not be relied on to hold it in place. If the load lifts off the bed, even momentarily, static friction is lost. Therefore friction alone cannot be relied on to hold the load in place. For this type of load the use of the 'tie-down' method on its own, is not recommended, as it relies on the combined friction generated by the weight of the load and the 'tie-down' force of the lashings alone.



Figure 1. Prefabricated building transport

<sup>1</sup> S.I. No. 190/1963: ROAD TRAFFIC (CONSTRUCTION, EQUIPMENT AND USE OF VEHICLES) REGULATIONS, 1963, Reg 96

<sup>2</sup> Safety, Health and Welfare at Work Act 2005 (No.10 of 2005)



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Road Safety Authority

[www.loadsafe.ie](http://www.loadsafe.ie)

# Parking Areas

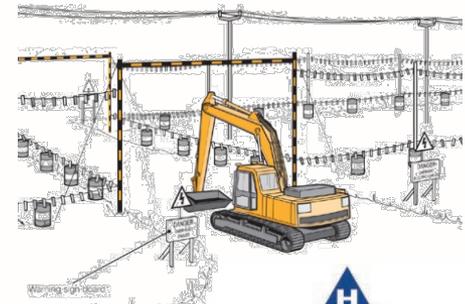
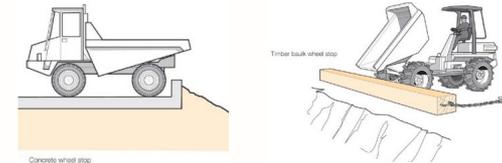
Ensure:

- Suitable & sufficient parking areas for work and private vehicles
- Arranged to avoid crossing traffic routes
- Assigned delivery and collection areas
- Parking areas well lit and sign-posted
- Adopt 'Reverse-in, Drive-out' rule



# Safe Workplace - Design & Layout

- Right for own and visiting vehicles
- Entrances/gateways wide enough
- Banksman on gate duty
- Routes marked and controlled
- Pedestrian walkways crossing vehicle routes
- One way systems where necessary
- Turning areas to eliminate reversing
- Workplace signs
- Sensible speed limits
- Wheel stops
- Overhead lines barriers



# Reversing Vehicles

- Remove need for reversing of trucks and vans
- One way systems
- Identify & mark reversing areas
- Exclude non-essential personnel from areas
- Use banksmen and recognised signals
- Install stop blocks or buffers to prevent vehicles reversing onto people/structures
- Reversing aids

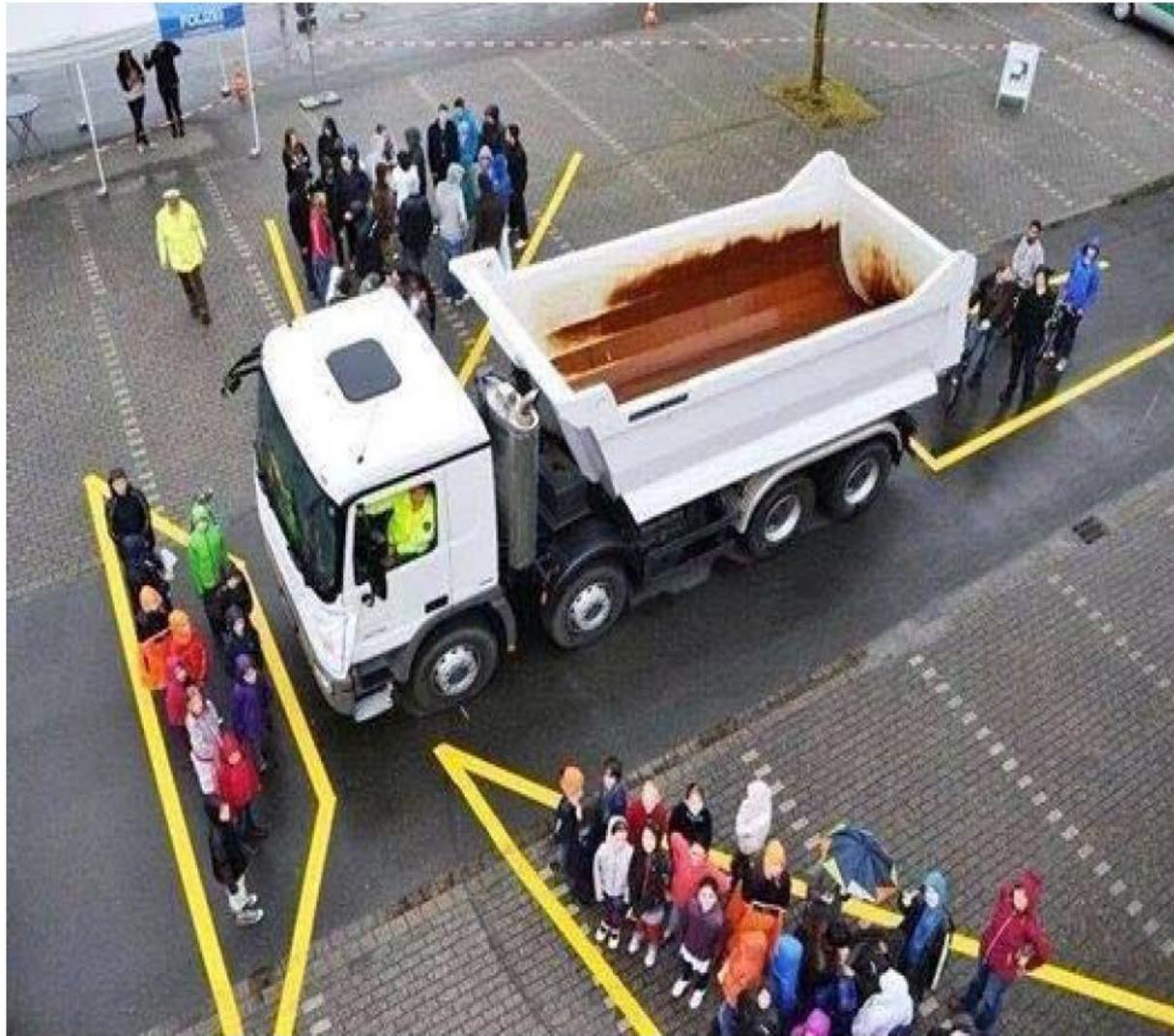


# Managing pedestrian movement

- Control entry
- Accompany visitors
- Separate routes for pedestrian workers
- Barriers or rails at entrances/exits and traffic route crossings
- High visibility PPE
- Pedestrians to be made aware of drivers' restricted visibility and understand blind spots

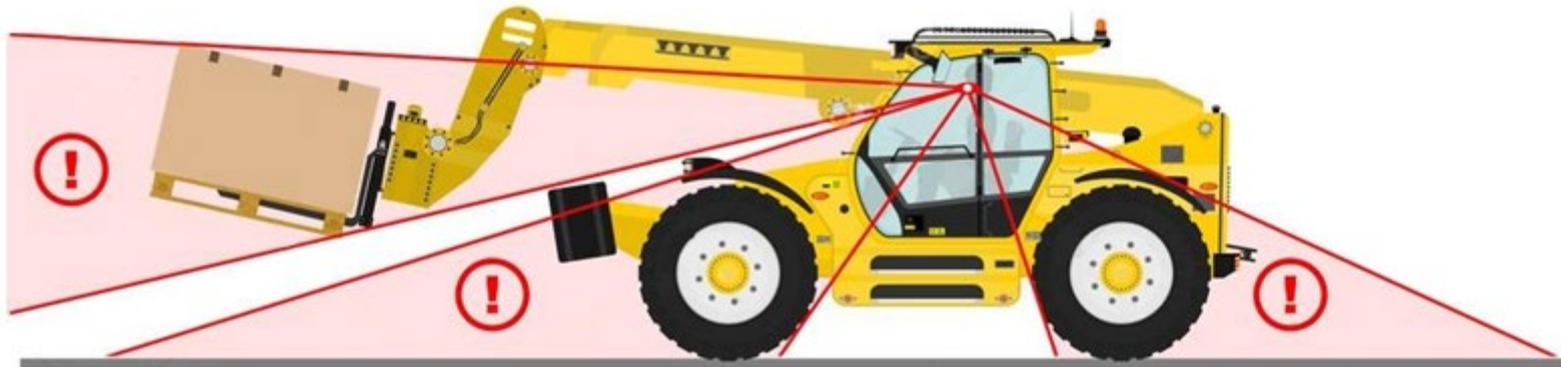


# Keeping Pedestrians Safe



This picture shows the driver's potential blind spots of nearby pedestrians.

# Blind spots awareness applies for all types of vehicles



# Pedestrian Safety in the Workplace

## Information Sheet

November, 2013

This information sheet deals with pedestrian safety in fixed and temporary workplaces. It is aimed at employers, self-employed people and people in control of places of work. It explains the importance of managing pedestrians in workplaces where vehicles, mobile plant or machinery operates.

Pedestrians can be exposed to potential harm in their own workplaces from vehicle movements, falling objects, or slips, trips and falls. Particular attention should be paid to visitors and visiting workers, e.g delivery drivers, who are unfamiliar with workplace operations. It is very important that visitors are supervised and controlled from the time they enter a workplace to the time they leave.

### Who is at risk?

On average twenty people a year are killed by being run over, crushed or otherwise injured by vehicles in Irish workplaces. Many others suffer serious injuries.

Pedestrians are people who travel on foot in the workplace. They can be employees, members of the public or visiting workers. Where vehicles operate, people can be particularly vulnerable. This is why proper controls must be put in place to keep them from harm. Visitors especially can create risks for themselves and others because they are not familiar with the premises and the work activities.

### What the law requires

By law pedestrians and vehicles must be able to circulate safely both in indoor and outdoor places of work. Pedestrian routes must be clearly identified and be of appropriate dimensions for the number of users and the work activities. Vehicle routes must have sufficient clearance from doors, gates and routes used by pedestrians. Where vehicles and pedestrians share routes, there must be adequate safety clearance between the vehicles and the pedestrians. Where self-propelled work equipment is in use, procedures must be in place to prevent pedestrians from entering the work area. If employees must enter the work area, appropriate procedures must be in place to protect the employees from harm.



[http://www.hsa.ie/eng/  
Publications and Forms/  
Publications/Information  
Sheets/pedestrian-safety-in-  
the-workplace.pdf](http://www.hsa.ie/eng/Publications_and_Forms/Publications/Information_Sheets/pedestrian-safety-in-the-workplace.pdf)

# “Watch Your Step”

## Preventing Vehicle Related Slips, Trips and Falls

MAY 2016

Vehicle related slips, trips and falls (STFs) are a leading cause of worker injury in Ireland. Workers who drive or work with trucks and vans are most affected. Drivers and transport workers climb in and out of their cabs hundreds of times a week, and routinely access the rear and sides of their vehicles using platforms and tail lifts. Transport operations often involve substances that can lead to slippery surfaces. Oil, grease, diesel, rain, snow and ice can make the conditions even more dangerous.

This information sheet will help you understand the causes of vehicle STFs and what you can do to prevent them. It is aimed at employers, the self-employed, employees, suppliers, buyers, fleet managers and anyone who drives or works with vehicles.

According to injury reports to the HSA, trucks, vans and trailers are most commonly associated with vehicle related STFs. 40% happen between the hours of 9am and 1pm. Victims are predominantly male and aged between 25 and 54. Exiting vehicles was a factor in 45% of vehicle STF injuries.

24% of vehicle related slips, trips and falls lead to an absence from work of over one month. This can have a profound impact on the individual concerned and also a negative impact on business operating costs. The average employer liability claim cost for a vehicle related STF is €25,000.

### Where do vehicle STFs happen?

HSA analysis shows that the areas most associated with vehicle STFs are:

- entering and exiting vehicles, particularly HGVs and vans,
- load platforms and load area of trucks and vans,
- trailer platforms,
- 5th wheel area of HGVs,
- vehicle steps and ladders,
- vehicle tail lifts,
- road tanker platforms, and
- uneven ground and damaged surfaces where vehicles are parked.

*“34 year old driver and father of two jumped from the lowest step of his HGV cab, landed on a small rock and completely blew out his knee. He wore a cast from thigh to ankle for six months, and had a chronic limp after that – all from a 3 foot jump from his cab that landed wrong.”*

<sup>1</sup> EU OSHA

<sup>1</sup> European Agency for Safety and Health at Work. Extract from “A review of accidents and injuries to road transport drivers”



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Open the Door, Check the Floor

Check footwear is slip-resistant

Check if surfaces slippery underfoot when wet

[https://www.hsa.ie/eng/Publications\\_and\\_Forms/Publications/Information\\_Sheets/Watch\\_Your\\_Step\\_Infosheet.pdf](https://www.hsa.ie/eng/Publications_and_Forms/Publications/Information_Sheets/Watch_Your_Step_Infosheet.pdf)

# Safe Use of Site Dumpers on Construction Sites

## Information Sheet

This information sheet provides an overview of the key safety aspects when operating or managing the use of site dumpers. For the purposes of this information sheet the term site dumper includes all self-propelled wheeled forward tipping machines, which transports, dumps or spreads materials. There are three key factors for the safe operation of site dumpers:



**'SAFE DRIVER, SAFE MACHINE & SAFE SYSTEMS OF WORK'**

In the five years leading up to 2010 there were seven fatalities in the Irish construction industry involving site dumpers. Six were caused by overturning machines and one was caused by a dumper hitting a pedestrian. It is obvious from these figures that the operation of a site dumper is a high risk activity and must be carried out with extreme care.

Safe systems of work must be in place to control the risks and all on site have a role in this. Site management must ensure that systems are in place to provide training, to ensure only competent authorised persons operate machines, that safe traffic routes are in place, stop blocks are used for tipping over embankments or into water, work is planned and risk assessed and that workers are

provided with and wear appropriate PPE. The dumper operator has a duty to take care of his/her safety and the safety of others that may be affected by his/her actions. They must comply with management's control measures on site and operate the machine in accordance with the safety training they received and within the limitations of the manufacturer's manual. All site workers have a responsibility too and must wear high visibility clothing when in vicinity of site plant machinery and obey traffic management plans.



[https://www.hsa.ie/eng/Publications\\_and\\_Forms/Publications/Construction/Safe\\_Use\\_of\\_Site\\_Dumpers\\_on\\_Construction\\_Sites.pdf](https://www.hsa.ie/eng/Publications_and_Forms/Publications/Construction/Safe_Use_of_Site_Dumpers_on_Construction_Sites.pdf)

# Site Dumper Prestart Checks

### External Walkaround Checks

- Check that the vehicle is level & check for any visible damage to the machine.
- Check that tyres are correctly inflated & are not damaged (e.g. no bulges, bars etc.)
- Ensure wheel nuts are in place, correctly fitted & secured.
- Remove any obstructions & loose material from the accelerator, footbrake & footwell (floor) area.
- Check skip for damage & ensure front skip pins are in place & undamaged.
- Check decals in place & legible.
- Check underneath the vehicle for fluid leaks.
- Check hydraulic rams & pin/hose are in good condition, secured in place & not leaking.
- Check the fuel cap & hydraulic cap are in place & in good condition.
- Check when cold engine oil, coolant, water, brake fluid, transmission oil & hydraulic oil for levels & leaks etc.
- Check steps & hand holds are in good condition.
- For dumpers with cab ensure suitable mirror(s) (including convex mirror) are secure & aligned correctly.

### Load Security

- Ensure the vehicle is loaded within load limits.
- Ensure the skip is fully lowered & the load is distributed evenly & doesn't block the driver's view of the road ahead.

### If intended to be used on Public Roads

- Check that lights & indicators are in place, undamaged, clean & in good working order (i.e. headlights, rear lamps, stop lights & number plate lights).
- Ensure registration plate is secure, clean & clearly visible.
- Ensure rear view mirrors are undamaged & clean (on dumpers with cabs).
- If the dumper capacity is less than 3000 litres you do not need a licence more than 10m on a public road to & from the site you are working on.
- If the dumper capacity is greater than 3000 litres with a travelling speed capability less than 50km/h you must have a valid Authority special permit with you when you travel any distance with a load on a public road.

### Driving Position Checks

- Ensure seat is properly secured to machine.
- Check safety belt/brace accessible in correct position & working correctly.
- Turn on engine & check all instrument gauges & warning lights working.
- Check handbrake for all hand controls are secure & that controls are working.

### Roll Over Protection

- Ensure adequate Roll Over Protection (ROP) is securely in place (retrofitted ROP's must be CE marked to EN-12118-5 & BS EN 12210).
- ROP's with a falling capability (the folded position check for bracket headroom access only in controlled conditions e.g. on a solid level surface) must have the pins & split keys securely in place.

### Check steering, handbrake & footbrake are working correctly.

- Check reversing alarm & flashing beacons are in place & in good working order.
- Ensure the windows are clean & wipers working properly (on dumpers with cab).
- Operator should wear a high visibility vest/jacket & safety helmet (on dumpers with no cab).

Note: Always consult with the manufacturer's manual and follow all checks required.

# 360 Excavator (Tracked) Prestart Checks

### External Walkaround Checks

- Check for any visible damage to the machine.
- Check track assembly for damage, tightness etc. Visually check rollers, idlers, sprockets etc. are in order.
- Check underneath machine for fluid leaks.
- Check when cold, engine oil, coolant, water, brake fluid, transmission oil and hydraulic oil for levels and leaks etc.
- Check hydraulic rams and pin/hose are in good condition, secured in place and not leaking.
- Check decals in place and legible.
- Check the fuel cap and hydraulic cap are in place and in good condition.
- Check work attachment (bucket, rock breaker etc) is properly secured and correct pins and clips are securely in place.
- Check condition of ground engaging tools (i.e. - tips, adapters not broken or excessively worn etc).

### Falling Object Protection (FOP) system in good order (where required)

- Remove any obstructions & loose materials from accelerator and foot brake.
- Check steps and hand holds are in good condition.
- Ensure check valves are in place on hydraulic system where required.
- Check pipes and cables are not frayed or broken.

### Ensure quick hitch mechanism is free from obstruction & loose materials. Ensure quick hitch springs (on most quick hitches) are in place & not damaged.

- Check all lights are in good order.
- Check reversing camera, where fitted, is in place and undamaged.

### In Cab Checks (Running Checks)

- Check driving controls are in good working order/Check all instrument gauges & warning lights are working.
- Check/Reset movement alarm & ensure it is audible and working correctly.
- Check control lever lock arm ("dead man lever") is operational.

### In Cab Checks (prior to full operation)

- Check safety belt/brace accessible, in correct position & working correctly.
- Check seat is secure and in good working condition.
- Ensure harness is in good working condition.
- Ensure windows are clean, not cracked & wipers are working.
- Check/Reset horn & ensure it is audible and working correctly.
- Turn on and check that all lights, including flashing beacons, are working.
- Check handbrake for all hand controls are secure and that controls are working.
- Check all mirrors (including convex mirror) are secured, unobscured & aligned correctly.
- Check reversing camera and camera screen, where fitted, are working.
- Check control lever lock arm ("dead man lever") is in place and not damaged.

### When used as crane

- Ensure Safe Working Load information is readily accessible.
- Ensure the vehicle/machine is loaded within limits.
- Ensure the load is not obstructing driver's view.
- Ensure a competent slinger/signaller used.
- Check the overhead warning devices are working correctly.

Note: Always consult with the manufacturer's manual and follow all checks required.

[https://www.hsa.ie/eng/Publications\\_and\\_Forms/Publications/Construction/Site\\_Dumper\\_360\\_Excavator\\_Pre-start\\_Checks.pdf](https://www.hsa.ie/eng/Publications_and_Forms/Publications/Construction/Site_Dumper_360_Excavator_Pre-start_Checks.pdf)

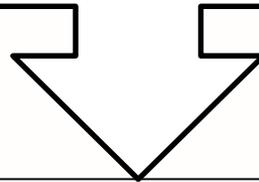


# Driving for Work

- Drivers of company cars, vans and Heavy Commercial Vehicle (HCVs) are more likely to take risks and to be at fault when a driving incident occurs.
- This is not just due to driving skills and attitudes.
- Driving for work involves specific risks because of the type of vehicles driven and the amount of time spent behind the wheel.
- The greater the time spent behind the wheel, the greater the exposure to risks associated with driving for work.

# DFW Legal requirements

Health and Safety law applies to driving for work in the same way as for all work activities.



Employers should have a safety management system in place for managing all work related risks and ensure employees are:

legally entitled to drive the vehicle they are using

using a vehicle that is safe and roadworthy

trained, competent and fit to drive their vehicle safely

using their vehicle safely

# Large Vehicles



# Vulnerable Road Users



# Managing interaction between trucks and VRUs

Key issues which employers should give attention to:

- drivers understanding of their responsibility to protect vulnerable road users,
  - slowing right down for bends and brows and in built up areas;
  - Increase observational skills at junctions, etc.
- use the latest available technology to
  - minimise blind spots,
  - monitor driver speed to ensure drivers are not putting themselves or others at risk.
- plan journeys and routes to avoid town centres, residential areas and schools.

# Some ideas

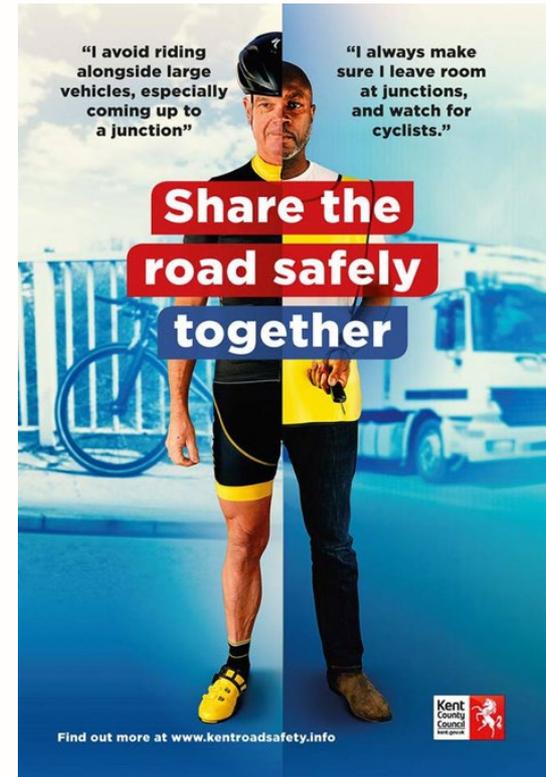


Safer vehicles



<https://www.cprsp.co.uk/campaigns/project-pictogram/>

Cab stickers



Poster campaigns

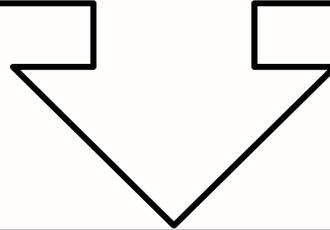
# “Grey Fleet”

The term ‘Grey fleet’ is often used to describe vehicles that do not belong to the company, but which are used for business travel. This may include any of the following:

a vehicle purchased via an employee ownership scheme

a privately rented vehicle

a vehicle privately owned by an employee



Where a vehicle is driven on company business (perhaps in return for a cash allowance or fuel expense), the vehicle may be considered part of the ‘grey fleet’ – and thus fall under the responsibility of the employer.

# Managing Driving for Work – Five Key Steps

1. Develop a driving for work policy.
2. Risk assess driving for work hazards.
3. Put safe systems into practice.
4. Measure safety performance.
5. Review safety performance.



# EU e-guide on work-related vehicle safety risks (VeSafe)



- Home
- Themes
- Good Practices
- Roles
- Legislation
- OIRA
- About the

## Welcome to the one stop shop for vehicle safety

A guide to good practice for managing work related vehicle risks in the EU, with a specific focus on workplace transport, driving for work and working on or near a road.



### Select a vehicle type or risk

The main part of this guide are good practice examples for you to learn from. To find the good practices that are applicable to you we have tagged them by vehicle and by risk.

#### Filter by vehicle

- Bicycle >
- Bus >
- Car >
- Construction vehicle >
- Containers >
- Lift truck >
- Pedestrians >
- Taxi >
- Tractor and off-road >
- Truck >
- Two-wheeled motor >
- Van >

#### Filter by risk

- Delivery >
- Driver >
- Loading/unloading >
- Maintenance >
- Manoeuvring >
- Parking >
- Physical hazards >
- Safety culture >
- Vehicle interaction >
- Workplace >

<https://eguides.osha.europa.eu/vehicle-safety/>

# Joint agency Driving for Work portal

The screenshot shows the homepage of the Driving for Work portal. At the top, there are three logos: the Health and Safety Authority (H&A), the Garda Síochána (Irish Police), and the Road Safety Authority (RSA). Below the logos is a navigation menu with links for Home, Employer Resources, Driver Management, Vehicle Management, Learn More, Events & Seminars, and Contact Us, along with a search bar. The main content area features a large video player with a play button and the text "1 in 3 road collisions involve someone driving for work." To the right of the video, the heading "Driving For Work Information And Resources" is displayed, followed by the subtext "Helping you to Reduce Risk, Protect your Business and Save Money." Below this is a "WATCH WELCOME VIDEO" button. At the bottom of the page, there is a search filter that says "I'm an employer looking for information about vehicle management GO".

[www.drivingforwork.ie](http://www.drivingforwork.ie)

# Managing Driving for Work My Responsibilities

Information Sheet October 2016



This Information sheet will help you learn about the relevant legislation, duties of employers, and how to implement a safe systems approach to managing driving for work. It will help:

- employers who provide staff with vehicles (including powered two wheelers) to drive for work,
- employers who provide staff with bicycles to use for work,
- self-employed people who drive vehicles or ride motorcycles or bicycles for work,
- employees who drive their own vehicle for work.

This information sheet complements the Managing Driving for Work e-learning course which can be found at [www.drivingforwork.ie](http://www.drivingforwork.ie)

Driving for work involves a risk not only for drivers, but also for fellow workers and members of the public such as pedestrians and other road users who share the road space. People who drive for work have a higher collision rate than the general driving population, even after their higher mileages are taken into account.

As an employer or self-employed person, you have a legal duty to manage the risks that employees face (and create for others) when they drive for work. Businesses, employees and the community all benefit from safe driving for work.

You should have systems in place to make sure that employees comply with your driving for work policies. Employers cannot directly control road or weather conditions, but they can influence the way their employees act and behave on the road.

## What the law requires

Health and Safety law applies to driving for work in the same way as for all work activities. As an employer, you should have a safety management system in place for managing all work related risks. Driving for work risks should be managed as part of this system. You must also make sure your employees are:

- legally entitled to drive the vehicle they are using,
- using a vehicle that is safe and roadworthy,
- trained, competent and fit to drive their vehicle safely, and
- using their vehicle safely.



# Driving for Work Guidance

[http://www.hsa.ie/eng/Publications\\_and\\_Forms/Publications/Information\\_Sheets/Driving\\_for\\_Work\\_Info\\_Sheet\\_Sept\\_2016.pdf](http://www.hsa.ie/eng/Publications_and_Forms/Publications/Information_Sheets/Driving_for_Work_Info_Sheet_Sept_2016.pdf)

# On-line courses

## Managing Driving for Work



The Health and Safety Authority (HSA) has developed this course in partnership with An Garda Síochána and the Road Safety Authority (RSA).

The course objective is to inform employers how adopting a driving for work policy can assist them in complying with their legal obligations, the main risks associated with this activity and how to manage them. It will also help compliance with statutory duties in respect of safe driving for work practices.



Údarás Um Shábháilteacht Ar Bhóithre  
Road Safety Authority

**Course duration:** 30 minutes

### Learning outcomes:

On successful completion of this course you should be able to:

- Recognise the key issues to consider when managing driving for work risks
- Outline the key factors to be taken into account for managing drivers
- Outline the key factors to be taken into account for vehicle management
- Understand the importance of journey management considerations

Enter course ▶

<https://hsalearning.ie/mod/page/view.php?id=369>

# HSA E-Learning Resources

## Workplace Transport Safety - High Risk Vehicle Activities

- 1 REVERSING
- 2 PARKING
- 3 LOADING
- 4 UNLOADING
- 5 TIPPING
- 6 SHEETING
- 7 UNSHEETING
- 8 COUPLING
- 9 UNCOUPLING



## Workplace Transport Safety - Safe Vehicles



## Workplace Transport Safety - Safe Workplace



## Workplace Transport Safety - Safe Drivers and Employees



<https://hsalearning.ie/mod/page/view.php?id=28>

## Vehicles at Work



### Work Related Vehicle Safety



- › Work Related Vehicles Safety Program Plan and Priorities for 2016-2018
- › Legal Requirements
- › Vehicle Related Accident Trends
- › Vehicle Risks
- › How to Manage Work Related Road Risks
- › Online Vehicle Risk Management Resource (EU Commission)

### Driving for Work



- › Managing Driving for Work Seminars 2018
- › HSA and UCD joint webinar on Work Related Road Fatalities
- › Driving for Work TV Ad
- › Employer Responsibilities
- › Driving for Work YouTube Channel
- › Online Course
- › Summer Driving Tips
- › Driver Management
- › Driving for Work Employers Guidelines
- › Vehicle Safety Pre-Checks
- › Driving for Work Business Case Studies

### Workplace Transport Safety



- › New Guidance – Safe and Efficient Goods Reception for Road Freight
- › Managing Workplace Priority Risks
- › Workplace Transport E-Learning Courses
- › Managing Pedestrians at Work
- › Forklift Trucks
- › Safety Signs
- › Vehicle Maintenance
- › Warehousing Safety

### Load Securing



- › Overview
- › Guidance and Publications
- › Legislation
- › Load Securing Videos

### Working On or Near a Road



- › Working on Roads Guidelines
- › Safety in Road Work Zones - PRAISE Report 2011

### Transport and Storage



- › Guidance and Information
- › Overview
- › Managing Workplace Priority Risks
- › Vehicle Maintenance
- › Transport & Storage Sector Incident Trends
- › Seminars

[www.vehiclesatwork.ie](http://www.vehiclesatwork.ie)

# Thank you

Michael Walsh

Inspector

Work Related Vehicle Safety

Transport and Storage Sector

Health and Safety Authority

