

Workplace transport load security – the past, present, and future

Nina Day CEng MIMechE DGSA
HSE Transport Sector



What has driven progress to where we are today?

- Significant innovation in trailer and equipment design
- Increased efficiency through more effective working practices
- Increased awareness of why incidents occur and how they can be prevented
- Effective risk control through systems, training, and provision of equipment

What issues are we continuing to see?

- Vehicle/pedestrian collisions
- Unintended vehicle movement
- Falls from height
- Inadequate load securing on the road
- Load shift on the road and in the workplace

What is going wrong?

- No or inadequate risk assessment
- Lack of robust safety system
- Inadequate risk controls
- Lack of a plan to deal with an unusual but not unforeseeable adverse event
- Inadequate training/information
- Lack of cooperation and communication between employers sharing a workplace

“The public don’t appreciate the risk in everyday situations. If you ask them they would probably say that they’re more likely to die either on the roads or at work than at home. Both are untrue.

The reality is that you are more likely to die sorting out the Christmas lights by taking them out of the loft, or trying to fix the faulty plug or flex, than an electrician is on a building site. You are better off being at work or driving to or from work than you are being at home or doing a leisure activity with your family and friends.”

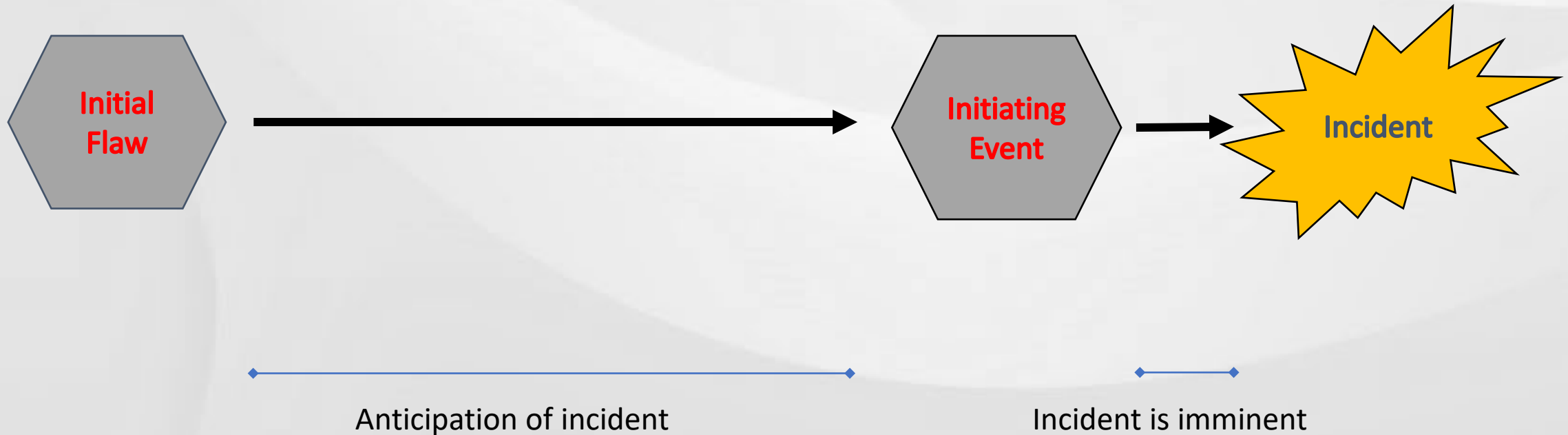
- Dr Cliff Mann, president of the College of Emergency Medicine



CPI Biennial Health and Safety Conference

‘Health, Safety and Wellbeing - Hearts, Minds and People’

The common incident pattern



CPI Biennial Health and Safety Conference

‘Health, Safety and Wellbeing - Hearts, Minds and People’

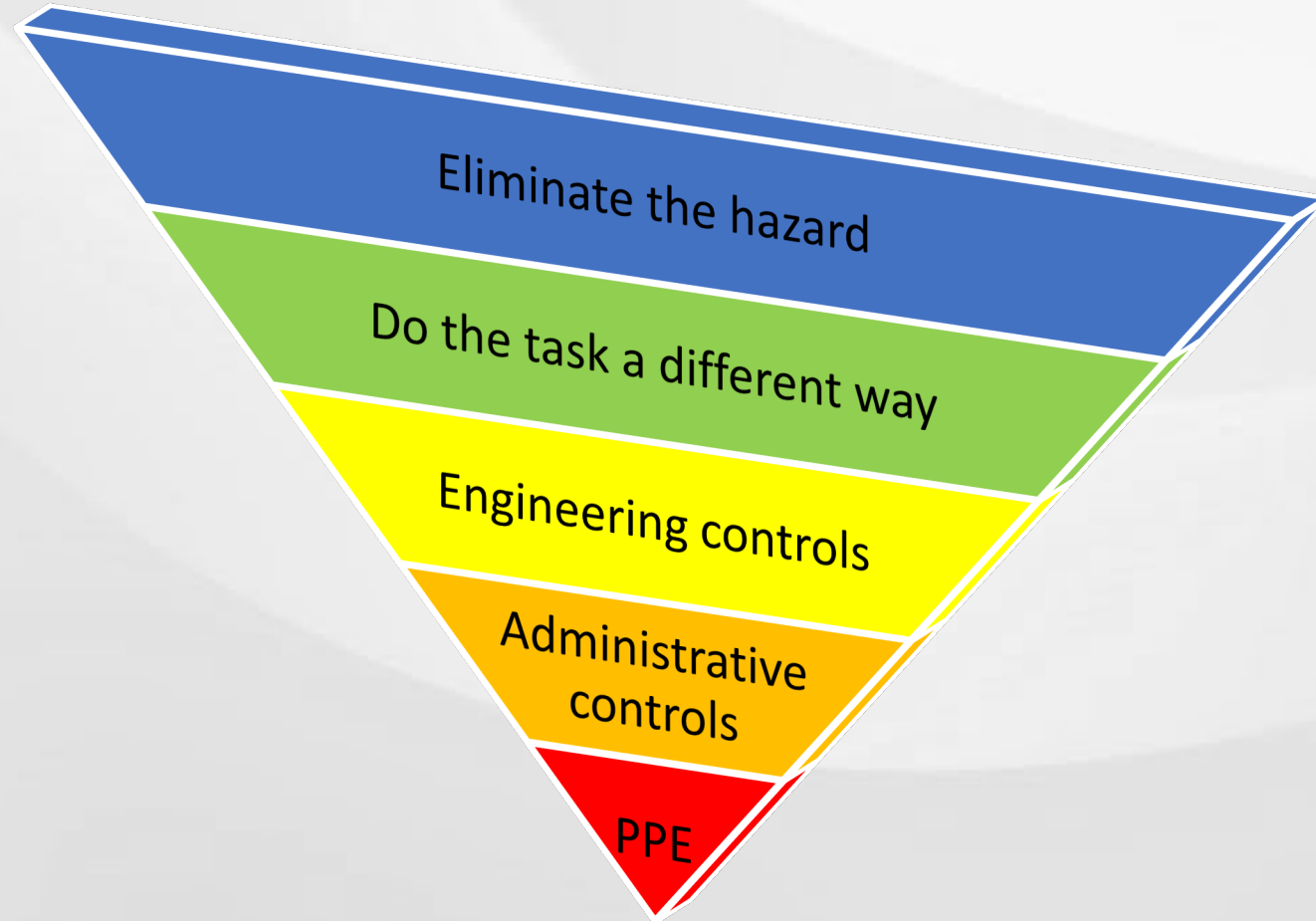


The only way we can lower risk is to take active steps to reduce it

- Effective, up to date risk assessment and control measures
- The right equipment for the job can make a big difference
- Clear and straightforward information and training so everyone knows what they need to do
- Clear communication between different employers
- Manage and review the systems put in place

CPI Biennial Health and Safety Conference

'Health, Safety and Wellbeing - Hearts, Minds and People'



Responsibility in the transport chain

- The Road Traffic Act 1988 says that anyone who uses, causes, or permits a vehicle to be on the road is responsible for making sure that the vehicle is safe to be on the roads.
- Employers have responsibilities under the Health & Safety at Work Act 1974 to ensure that they take reasonably practicable steps to protect their own employees and other people affected by their work activities.
- Everyone in the transport chain has a responsibility to ensure that loads are safe from the point of loading right through to unloading.

The load securing system

- The minimum level of securing required to comply with on-road legislation is a securing force equivalent to the entire weight of the load forward and half the weight of the load to the sides and rear.
- There is no one size fits all solution – it will depend on the load, the trailer type, and other factors.
- The load must be stable without lashings.
- The weight of the load alone is not sufficient to hold it in place.

CPI Biennial Health and Safety Conference

‘Health, Safety and Wellbeing - Hearts, Minds and People’

- The curtains of a standard curtainsided trailer are not rated and cannot be used as part of the load securing system.
- Trailers must be built to the BS EN 12642 XL standard and loaded for positive fit to be counted as part of the system.
- Positive fit means filling the load bed.



CPI Biennial Health and Safety Conference

‘Health, Safety and Wellbeing - Hearts, Minds and People’

- Loads are often secured on trailers using tie-down lashing straps.
- Straps should have a label with their rating.
- The lashing capacity (LC) is not used when working out the number of straps needed in tie-down lashing.
- The **STF** of the strap is the effective downwards force created when the lashing is ratcheted down over the load.
- Most straps used in the UK have an STF of around 350daN.



The number of straps needed should be calculated using BS EN 12195-1. It depends on:

- The weight of the load (in kg)
- Whether the load is loaded against or within 30cm of a bulkhead
- The friction between the load and the load bed
- The STF of the strap/s

For heavy loads, it can be difficult to practicably secure to the necessary standard with lashings alone, particularly if the load is away from a bulkhead. The number of lashings necessary can be reduced by:

- Putting the load against a bulkhead or packing the gap to the bulkhead
- Increasing the friction between the load and the load bed
- Using straps with a higher STF

CPI Biennial Health and Safety Conference

‘Health, Safety and Wellbeing - Hearts, Minds and People’



The load in this incident was loaded away from the incident and had no high-friction surface between the load and load bed.

It would have needed **44** straps to secure it in line with BS EN 1219501. It had 2 at the time of the incident.

If it had been loaded to the headboard, with a high-friction surface between the cabin and the load bed, it would have needed **4** straps.

Cyclist killed and huge commuter queues as steel cabin topples off lorry

A WOMAN cyclist died this morning when she was struck by a steel cabin which toppled off a lorry in Hull.



An effective safety management system is a business enabler – helping you to cut the costs of disruption and delays and avoid financial, reputational, and legal risks.

Assessing the risks, putting effective risk control measures in place, and managing and reviewing their ongoing operation, will significantly reduce the risk of something going wrong.