CLOCS

Standard for construction logistics

Managing work related road risk

CLOCS

Looking out for vulnerable road users

Construction Logistics and Cyclist Safety (CLOCS) - looking out for vulnerable road users

CLOCS aims to achieve a visionary change in the way the construction industry manages work related road risk. This is being achieved through three industry led workstreams:

- Improving vehicle safety through design and manufacture of safer new vehicles and fitment of appropriate safety equipment to existing vehicles
- Addressing the safety imbalance in the construction industry through ensuring road safety is considered as important as health and safety on site
- Encouraging wider adoption of best practice across the construction logistics industry through taking best in class examples, developing a common national standard and embedding a new cultural norm

CLOCS has developed the *CLOCS Standard for construction logistics: Managing work related road risk*, a common standard for use by the construction logistics industry.

Implemented by construction clients through contracts, it provides a framework that enables ownership in managing road risk which can be adhered to in a consistent way by fleet operators.

Representatives from different organisations - vehicle manufacturers, construction logistics clients, operators, regulatory and enforcement bodies are actively engaged with CLOCS.

The CLOCS programme represents a united response to road safety across the industry and greater social responsibility which will save lives.

Visit www.clocs.org.uk for further information.

Acknowledgements

The *CLOCS Standard for construction logistics: Managing work related road risk* has been developed in collaboration with key industry stakeholders.

The Health and Safety Executive welcomes this industry led initiative facilitated by Transport for London as a positive step towards improving the management of work related road risk.

The expert contributions made from organisations and individuals consulted in the development of this Standard are greatfully acknowledged.

The *CLOCS Standard* will be reviewed at intervals not exceeding two years, and any amendments arising from the review will be published in an amended version. The *CLOCS Standard* does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Version 1.2 August 2014 Images updated - all requirements remain unchanged

Acknowledgement is given to the following organisations in the development of the *CLOCS Standard*:

Berkeley Group
British Land
British Safety Council
Broadgate Estates
carillion
CEMEX
The Chartered Institute of Logistics and Transport
Considerate Constructors
Conway – great people : great work
Costain
Crossrail
Department for Transport
FORS – Fleet Operator Recognition Scheme
FTA
Hanson – HeidelbergCement Group
HS2 – engine for growth
ice – Institution of Civil Engineers
iosh
Lafarge Tarmac
Laing O'Rourke
Land Securities
Lend Lease
mace
Metropolitan Police
mpa – essential materials sustainable solutions
O'Donovan Waste Disposal Ltd
pteg – the voice of urban transport
RHA
RoadPeace
See me Save me
Select
Skanska
St George – Designed for life
Thames Tideway Tunnel – Creating a cleaner, healthier River Thames
Transport for London – Every Journey Matters
Vinci Construction UK
Westfield
Wilson James

Contents

Introduction

1.1 Background and context

Population growth

The population of the UK is expected to rise to 81 million by 2060 making it one of the most densely populated countries in Europe*. Our towns and cities are busier than at any other time in history creating unique challenges to address.

A growing population means growing demand for places to live, work and spend time and an inevitable rise in development and construction activity - often against a backdrop of considerable constraints on space. We need to ensure we develop the skills and capability to embrace this growth.

Developing our towns and cities in a sustainable manner is vital to our economy, our social wellbeing and the environment we live in. Improving connectivity, the urban realm and encouraging more active forms of travel are high on the agenda of responsible development in order to better integrate communities, improve quality of life and ease pressures on the transport network.

A rising population places considerable strain on already busy transport networks necessitating changes in travel behaviour and the modes of travel used. A number of UK city and regional authorities already have high levels of walking and cycling and are increasingly recognising the benefits of promoting these modes as healthy and sustainable ways to travel.

Vulnerable road users and the large vehicles required for construction projects are sharing the roads more than ever. Our historic towns and cities and many of the large vehicles required to service them were not designed with this type or level of activity in mind, creating challenges to be managed and overcome.

Road safety

Where the numbers of people walking and cycling are growing in parallel to higher levels of development and associated construction activity there is increasing pressure on already constrained road space leading to the potential for conflict.

Cycling is on the increase nationally, but has been particularly notable in London where it has almost doubled since 2000. There are now nearly 600,000 cycle trips made each day with numbers rising each year.

However, this growth has been coupled with concerns about cycle safety. Although there have been reductions in the overall number of people killed and seriously injured on roads across the UK, the number of cyclist fatalities increased between 2011 and 2012.

There are particular concerns about the over representation of large goods vehicles in collisions with cyclists and pedestrians that have fatal and serious outcomes. Nationally, large goods vehicles over 3.5 tonnes are involved in approximately 15 per cent of cyclist and 10 per cent of pedestrian fatalities.

There is a particular issue in London and between 2008 and 2013, 55 per cent of cycling fatalities involved a vehicle over 3.5 tonnes, despite these vehicles representing just 4 per cent of the road miles travelled in the capital. However,

*ONS Sub-National Population Projections (2011) (Principal Projection)

this issue is not restricted to collisions with cyclists – in London there were twice as many pedestrians and motorcyclists killed in collisions involving vehicles over 3.5 tonnes over the same period.

Analysis of the cycling figures found that a disproportionate number of the vehicles involved were construction related.

Addressing the challenge

As a result, Transport for London (TfL) commissioned a review of the construction logistics sector's transport activities with an aim of understanding the causes of collisions with vulnerable road users and how they may be prevented. The Construction Logistics and Cyclist Safety report was published in February 2013. The document highlighted issues with the way Work Related Road Risk (WRRR) was managed across the industry and raised concern over the limitations of current construction vehicle cab design with regard to minimising blind-spots.

Following the publication of this document a high profile event was held at City Hall in London on 2 May 2013 attended by construction logistics representatives who publicly demonstrated their commitment to change. Communication of findings of the report and buy in from the industry led to the formation of industry working groups which have identified what could be done to reduce the risks posed by large vehicles to cyclists and other vulnerable road users. One of the steps identified was to develop and promote adherence to a nationally recognised standard for managing WRRR.

On 4 September 2013, the Mayor of London, TfL and Department for Transport (DfT) announced plans for a joint industrial HGV Task Force to enforce regulations against construction HGVs and a review of national exemptions, demonstrating a high level of national commitment to addressing this issue.

The WRRR requirements within this document represent a key step in demonstrating the commitment of construction logistics industry organisations to improving road safety. Embedding work related road safety in our culture is critical if we are to develop the skills and capability to manage and embrace inevitable population growth and travel demand throughout the UK.

1.2 Development of a national standard

The *CLOCS Standard for construction logistics: Managing work related road risk* is the direct result of collaboration between developers, construction logistic operators and industry associations. This document draws together emerging practice from a number of individual standards, policies and codes of practice into one WRRR standard that can be implemented by developers and adhered to in a consistent way by fleet operators. Each requirement has been developed with the aim of reducing the risk of a collision between large goods vehicles in the construction sector and vulnerable road users such as cyclists and pedestrians.

The standard and requirements have been developed by the construction industry for use in the construction industry and may not be appropriate for other sectors within the logistics industry. Other logistics sectors are encouraged to consider this approach and to define a standard appropriate to their sector where needed.

Structure of the standard

The *CLOCS Standard for construction logistics: Managing work related road risk* provides the standard for both construction logistic operators and construction clients.

Sections 2.1 and 2.2 are applicable to both operators and clients. Sections 3.1 to 3.3 are aimed at construction logistic operators and cover the three core areas of managing operations, vehicles and drivers.

Section 3.4 covers essential elements of site and project safety, giving specific responsibility to the construction client.

Terminology

Each section states the **requirement** (this is the exact requirement to be adhered to), explains the **purpose** of the requirement and offers a **demonstration** (indicates how the requirement should be met and demonstrated).

Certain language is used within this document with the following meanings:

- **Fleet operator** – any organisation or part thereof which operates one or more vehicle(s)
- **Client** – an organisation employing fleet operator contractors. This may be a developer employing a primary contractor or a primary contractor employing a sub-contractor
- **Shall** – to indicate something which is mandatory as part of the requirement or in order to achieve the requirement
- **Should** – to indicate something which is recommended as emerging practice
- **May** – to indicate permission or an emerging practice option
- **Vulnerable road user** – a pedestrian, cyclist, motorcyclist or person of reduced mobility
- **Approved** – officially deemed acceptable by the client to meet a specific requirement or quality

Applicability and exemptions

2.1 Applicability

Scope

Applicable to all commercial vehicles delivering to, collecting from or servicing a project, premises or property where this standard applies unless otherwise indicated by the client.

All fleet operators serving contracts resulting in the use of vehicles for delivery and servicing activities are included in the scope of this standard unless otherwise indicated by the client.

All fleet operators shall comply with the standard in the timeframe instructed by the client in agreeing the contract. This shall not be more than 90 days from the start of a contract unless special circumstances apply.

This document applies to commercial vehicles ranging from vans over 3.5 tonnes gross vehicle weight to articulated vehicles over 44 tonnes gross vehicle weight, including abnormal indivisible loads and engineering plant.

Demonstration

Clients shall specify whether the standard applies within contracts based on their assessment of risk. The client will determine, within their own contracts, whether this standard:

- Applies to all vehicles or vehicles over 3.5 tonnes gross vehicle weight only
- Applies to non-construction vehicles such as those providing additional services (e.g. catering)

2.2 Exemptions

Scope

Under certain circumstances special exemptions may be granted, for example:

- Companies who deliver or service a site infrequently (to be specified by the contracting entity)
- Where it is proved to be neither practical nor possible to comply with a requirement in that the functionality of a vehicle will be impaired
- Utility companies who are not part of the project but who have a statutory undertaking to access assets on site

Demonstration

Based on an assessment of the level of risk, the client shall determine the definition of 'infrequent' within the contract.

Fleet operators shall present any case for exemptions to the client. They shall demonstrate why the exemption is necessary, rather than relying on current legal exemptions.

Clients may set their own criteria for which vehicle types fall into scope and any exemptions applied to specific operations.

CLOCS Standard for construction logistic operators and clients: Managing work related road risk

3.1 Operations

3.1.1 Quality operation

Requirement
Fleet operators shall ensure the transport operation meets the standard of an approved independent fleet management audit.

Purpose
To ensure a baseline level of compliance against all regulatory requirements relevant to the road transport operation.

Demonstration
This shall be demonstrated through current certification from an approved independent audit body (such as the Fleet Operator Recognition Scheme (FORS) or other FORS-equivalent standard).

Certification shall be within the period specified by the client / contracting entity. This period shall not be more than 90 days from contract award.

Certification shall be renewed on an annual basis.

For further information:

- www.fors-online.org.uk

3.1.2 Collision reporting

Requirement
Fleet operators shall capture, investigate and analyse road traffic collision information that results in injury or damage to vehicles and property. All collisions shall be reported to their client or contracting entity.

Purpose
To create transparency in the supply chain and enable fleet operators and clients to work together to mitigate the risk of road traffic collisions and prevent re-occurrence.

Demonstration
A log of all collisions shall be maintained which shall include details of all evidence required to investigate an incident.

Reporting shall include lessons learned and remedial measures identified to help prevent re-occurrence of similar incidents.

Fleet operators should use an approved reporting mechanism such as CLOCS Manager (www.clocs-manager.org.uk) to report all traffic collisions that result in injuries or damage to vehicles and property.

For further information:

- CLOCS Toolkit - Managing collision reporting and analysis

3.1.3 Traffic routing

Requirement
Fleet operators shall ensure that any vehicle routes to sites or premises specified by clients are adhered to unless directed otherwise.

Purpose
To reduce the probability of collisions on routes to and from sites and premises.

Demonstration
Fleet operators shall properly communicate any routing and access requirements provided by clients to all drivers accessing a site.

Mobile or very temporary sites (e.g. emergency street works) are not subject to a routing requirement.

The circumstances (if any) under which drivers may deviate from a specified route such as temporary road closure, or road traffic accidents shall be clearly specified by the client.

Please also see Section 3.4.5 - Traffic routing.

Fleet operators should provide driver training, briefings or pre-programmed navigation systems to ensure the driver is aware of the specified route, the circumstances (if any) of deviating from the route and the resulting consequences of not adhering to the route.

There should be clear evidence that any deviations from the route as notified by the client or the public authority are addressed with the driver. The driver may be required to sign to acknowledge the infraction.

Fleet operators may ask drivers to demonstrate that they have understood any traffic routing or site access requirements by signing for them.

3.2 Vehicles

3.2.1 Warning signage

Requirement
Fleet operators shall ensure that prominent signage is fitted to all vehicles over 3.5 tonnes gross vehicle weight that visually warns other road users not to get too close to the vehicle.

Purpose
To reduce the risk of close proximity incidents and increase road safety.

Demonstration
All vehicles over 3.5 tonnes gross vehicle weight shall display external pictorial stickers and markings to warn vulnerable roads users not to get too close to the vehicle.

Vehicles 3.5 tonnes gross vehicle weight or less may display external pictorial stickers to warn vulnerable roads users not to get too close to the vehicle.

Signage should not be offensive and should not give instructional advice to the vulnerable road user. The text point size should be legible by a cyclist at a reasonable distance from the vehicle.

3.2.2 Side under-run protection

Requirement
Fleet operators shall ensure fitment of side-guards to all rigid mixer, tipper and waste type vehicles over 3.5 tonnes gross vehicle weight that are currently exempt from fitment.

Purpose
To minimise the probability and severity of under-run collisions with vulnerable road users.

Demonstration
Fleet operators shall provide evidence that all rigid mixer, tipper and waste type vehicles over 3.5 tonnes gross vehicle weight are fitted with side-guards.

Fitment shall be on both sides of the vehicle unless this is proved impractical or impossible.

For further information:

- CLOCS Guide - vehicle safety equipment, sections 2.2, 2.3 and 2.4

3.2.3 Blind-spot minimisation

Fleet operators may consider purchasing vehicle with increased driver direct vision.

Requirement

Fleet operators shall ensure all vehicles over 3.5 tonnes gross vehicle weight have front, side and rear blind-spots completely eliminated or minimised as far as is practical and possible through a combination of fully operational direct and indirect vision aids and driver audible alerts.

Purpose

To improve visibility for drivers and reduce the risk of close proximity blind-spot collisions.

Demonstration

A combination of appropriate vision aids and driver audible alerts shall be fitted to the front nearside of all vehicles over 3.5 tonnes gross vehicle weight.

In addition, appropriate indirect vision aids shall also be fitted to the rear of all rigid vehicles over 7.5 tonnes gross vehicle weight.

Class V and VI mirrors shall be fitted to all vehicles where they can be mounted, with no part of the mirror being less than two metres from the ground.

All indirect vision systems shall be fully operational.

Fleet operators shall make regular checks and take all reasonable measures to ensure all indirect vision systems remain fully operational.

Fleet operators shall take steps to ensure that drivers recognise that use of indirect vision systems is an integral part of their job.

3.2.4 Vehicle manoeuvring warnings

Requirement

Fleet operators shall ensure all vehicles over 3.5 tonnes gross vehicle weight are equipped with enhanced audible means to warn other road users of a vehicle's left manoeuvre.

Purpose

To reduce the risk of close proximity collisions by audibly alerting vulnerable road users to vehicle hazards.

Demonstration

Vehicles over 3.5 tonnes gross vehicle weight shall be fitted with equipment to audibly warn vulnerable road users when a vehicle is turning left.

All vehicle manoeuvring warning systems shall be fully operational.

Fleet operators shall make regular checks and take all reasonable measures to ensure audible warning devices remain fully operational.

Fleet operators shall take steps to ensure that drivers recognise that activation of the device is an integral part of their job.

Vehicles over 3.5 tonnes gross vehicle weight should be fitted with operational equipment to audibly warn vulnerable road users when a vehicle is turning right or reversing.

Vehicles under 3.5 tonnes gross vehicle weight may be fitted with operational equipment to audibly warn vulnerable road users when a vehicle is reversing.

Enhanced audible warnings may be supplemented by visual warnings to vulnerable road users

Audible warning devices should be fitted with a manual on/off switch or reset button for circumstances, such as working at night, where it may be appropriate for the device to be de-activated.

For left-hand drive vehicles, the blind-spot is on the off-side and affects the vehicle when turning right. Audible warnings should therefore warn of a vehicle's right manoeuvre.

For further information:

- CLOCS Guide - vehicle safety equipment, section 2.5

3.3 Drivers

3.3.1 Training and development

Requirement

Fleet operators shall ensure that all drivers (including those exempt or not in scope of Driver Certificate of Professional Competence) undergo approved progressive training and continued professional development specifically covering the safety of vulnerable road users.

Purpose

To ensure that all drivers have the knowledge, skills and attitude required to recognise, assess, manage and reduce the risks that their vehicle poses to vulnerable road users.

Demonstration

Each driver shall undertake approved theoretical training which includes safety of vulnerable road users.

Awareness training on the safety of vulnerable road users shall be progressive throughout the life of the contract.

Drivers shall undertake training in the use and limitations of supplementary vehicle safety equipment.

Progressive training should include on-cycle hazard awareness and use an appropriate mix of theoretical, e-learning, practical and on the job training.

Training content should include but not be limited to:

- Induction to the company
- Induction to new contracts covering familiarisation with new routes, vehicle types and sites
- Refresher training to ensure knowledge and skills are fully embedded
- Remedial training to rectify any deficiencies identified through reported collisions or previous training

Where applicable this training may be aligned to Driver Certificate of Professional Competence.

3.3.2 Driver licensing

Requirement

Fleet operators shall ensure that a system is in place to ensure all drivers hold a valid licence for the category of vehicle they are tasked to drive and any risks associated with endorsements or restriction codes are effectively managed.

Purpose

To ensure that all drivers employed by the company hold a valid licence and any risks presented through an accumulation of endorsements are effectively monitored and managed.

Demonstration

To demonstrate that this requirement is fully met, fleet operators shall ensure that all driver licences and endorsements are verified through a service that directly accesses current Driver and Vehicle Licensing Agency (DVLA) data.

Frequency of licence checks should be against an approved risk scale and licences shall be checked as a minimum every six months.

Fleet operators shall have a policy in place to ensure drivers report all professional or personal driving infringements to the responsible person who runs daily transport operations.

For further information:

- CLOCS Guide - managing driver training and licensing

3.4 Standard for construction clients

3.4.1 Construction Logistics Plan

Requirement

Clients shall ensure that a Construction Logistics Plan is in place and is fully complied with.

Clients should approach this in a spirit of partnership with fleet operators, who may have valuable views on how to achieve safety goals.

Purpose

To reduce the negative transport effects of construction work on local communities and the environment by providing a tool to minimise construction trips and reduce the potential for collisions.

Demonstration

Clients shall produce an approved Construction Logistics Plan which includes measures to minimise vehicle trips and reduce the opportunities for collisions with vulnerable road users, for example by considering specific sites such as schools near to the site.

Clients shall ensure contractors are aware of and understand their obligations under the Construction Logistics Plan.

A Construction Logistics Plan may be produced in its own right, or as part of fulfilling the requirement within this standard.

3.4.2 Suitability of site for vehicles fitted with safety features

Requirement

Clients shall ensure that the condition of sites is suitable for vehicles fitted with safety features and side under-run protection.

Purpose

To ensure the site is suitable for all vehicle types fitted with safety features and side under-run protection.

Demonstration

Clients should carry out regular reviews of the topography of the site and where necessary implement diversions as the site landscape changes.

Clients should ensure that the ground is graded where the construction phase allows.

3.4.3 Site access and egress

Requirement

Clients shall ensure that access to and egress from the site is appropriately managed, clearly marked, understood and clear of obstacles.

Purpose

To reduce the risks associated with vehicles turning or reversing in order to access or egress from site.

Demonstration

Clients shall ensure that effective traffic management principles are adhered to.

Traffic management should first attempt to eliminate hazards by design e.g. one-way systems, traffic lights and calming measures.

Where visibility is restricted or where it is deemed necessary, clients should ensure that a trained marshall is available to assist with vehicle manoeuvring.

Where appropriate clients may consider the use of additional equipment such as blind-spot safety (e.g. Trixi) mirrors to aid the driver's view of the road.

3.4.4 Vehicle loading and unloading

Requirement

Clients shall ensure that vehicles are loaded and unloaded on-site as far as is practicable.

Purpose

To reduce risk of injury by segregating loading and unloading activity from the public.

Demonstration

Clients should provide a stable, graded surface on-site for vehicle loading and unloading.

Clients should ensure an appropriate person is nominated to manage all deliveries and collections to site and supervise the loading and unloading process.

Clients should identify a suitable 'off-loading area' and ensure that approved loading and unloading plans are in place.

3.4.5 Traffic routing

Requirement

Clients shall ensure that a suitable, risk assessed vehicle route to the site is specified and that the route is communicated to all contractors and drivers. Clients shall make contractors and any other service suppliers aware that they are to use these routes at all times unless unavoidable diversions occur.

Purpose

To ensure that construction traffic uses the safest and most appropriate routes to site.

Demonstration

Clients shall ensure that options to reduce peak hour deliveries to a site have been considered and where identified, arrangements to minimise peak hour deliveries implemented.

The circumstances (if any) under which drivers may deviate from a specified route such as a temporary road closure, or road traffic accidents shall be clearly specified by the client.

Please also see section 3.1.3 Traffic routing.

Mobile or very temporary sites (e.g. emergency street works) may not be subject to a routing requirement.

Clients should demonstrate this by distributing maps and any other vehicle routing information to all companies and drivers accessing the site.

Where appropriate, clients may consider the use of additional equipment such as blind-spot safety (e.g. Trixi) mirrors or LED indicator trailer lights at high risk junctions in the vicinity of the site.

3.4.6 Control of site traffic, particularly at peak hours

Requirement

Clients shall consider other options to plan and control vehicles and reduce peak hour deliveries.

Purpose

To reduce the risk of congestion and collisions in the vicinity of the site. To minimise site deliveries, collections and servicing access during peak hours.

Demonstration

Clients should demonstrate as part of their Construction Logistics Plan the options they have considered and acted upon to reduce the amount of trips to site during peak hours. This may include use of web / paper based delivery booking systems, consolidation centres, vehicle holding areas, deliveries during off-peak times or the use of alternative modes.

Care must be taken to ensure that undue pressure is not placed on drivers to meet time slots through contractual, economic or management pressure when using a delivery booking system.

For further information:

- Assistance for clients implementing the CLOCS Standard at their sites can be found in the CLOCS Compliance Toolkit

3.4.7 Supply chain compliance

Requirement

Clients shall ensure contractor and sub-contractor compliance with requirements 3.1.1 to 3.3.2.

Purpose

To ensure that requirements are being adhered to across the supply chain.

Demonstration

The client should ensure that it is a contractual requirement for the contractor to check vehicles entering site and to take the appropriate action under the contract.

The client should request from the contractor a plan and / or process for complying with the contract.

The client should also undertake regular audits of the contractor's process and compliance checks. This audit should include random vehicle compliance checks undertaken by the client.

The client may request that every reporting period the contractor should submit to the client a summary of those checks and details the corrective action taken in the case of non-compliance.

Case studies and considerations for implementation

4.1 Considerations for implementation

The aim is for the *CLOCS Standard for construction logistics: Managing work related road risk* to be included within construction logistics contracts, and adhered to as part of safe construction logistic operations. In implementing the standard, clients and operators should consider:

- Ensuring those responsible for procurement or tendering within the organisation are fully aware of the requirements, their purpose and the ways in which meeting the requirements can be demonstrated
- Update relevant health and safety and procurement policies and strategies to include the *CLOCS Standard* and requirements
- Ensure that potential suppliers, contractors and sub-contractors are informed of the *CLOCS Standard* and requirements as soon as possible in the procurement process for new contracts, and make clear reference to the *CLOCS Standard* and requirements within tender documentation
- Be realistic in the timeframes given to operators to comply in the case of variations to existing contracts (though within the 90 days stated in section 2.1)
- Set up a method of ensuring and monitoring compliance with the *CLOCS Standard* and requirements, and the actions to be taken in the case of non-compliance (as per requirement 3.4.7)

Influencing Work Related Road Risk through projects

Crossrail

In 2008, Crossrail Ltd accepted a statutory commitment to train lorry drivers working on the project. This was a first for the construction industry but it was also the catalyst for a range of initiatives that would see Work Related Road Risk (WRRR) introduced into Europe's largest civil engineering project. With intensive construction right in the heart of London, and thousands of vehicle movements each month, the health and safety of vulnerable road users became a key priority for the Crossrail project.

Launched in November 2009 Crossrail's award winning Lorry Driver Training programme has up-skilled 5,600 HGV drivers in 'sharing London's roads with vulnerable road users'. In April 2010 Crossrail introduced contract requirements that would see all transport operators, at every tier, undergo additional due diligence and scrutiny by becoming bronze accredited through the Fleet Operator Recognition Scheme (FORS). Additionally, contractors working for Crossrail also have to meet stringent safety requirements on vans and lorries by fitting additional safety systems; now known as the 'Crossrail standard'.

From the middle of 2009 to this day Crossrail has innovated, developed and introduced a range of initiatives demonstrating a world class approach to construction WRRR. The project has established a comprehensive strategy of engagement with supply chains, stakeholders and the general public to change behaviours, raise awareness and improve vehicles and junctions. Initiatives include a dedicated 'Vehicle and Driver Safety Working Group'; online resources for contractors; legal seminars covering the Corporate Manslaughter Act; Exchanging Places events with both City and Metropolitan Police; stringent compliance checking of vehicles and dedicated training for those involved; and road safety material translated into 18 different languages.

Collectively these interventions have redrawn the traditional boundaries of health and safety to reduce risks in supply chains associated with every HGV doing a Crossrail journey. Crossrail has effectively bought forward a legacy for the construction industry by demonstrating large projects can change and that you do not have to wait for legislation to introduce work related road risk.

In 2012 Crossrail was awarded the IOSH Transport and Logistics Award for Safety and in 2013 Crossrail won the Brake Fleet Award for Safer Vehicles.

Reducing road risk with a common standard

Lafarge Tarmac

Leading sustainable building materials group Lafarge Tarmac fully supports the FORS standard. It aligns with the company's commitment to be at the forefront of continually improving driver and vehicle safety standards, both within its own business and the wider industry. The company believes it is crucial for the industry to adopt a common safety standard which can deliver safety enhancements quickly and lead to behavioural change from drivers now and in the future.

Lafarge Tarmac has taken a proactive approach and has a number of initiatives underway, all of which support its commitment to improving safety for all road users. The company's entire London fleet has been fitted with new safety equipment, including side under-run bars and side sensors with external audible warnings. This standard is now being extended nationally across the business, with a plan to retro-fit 1,500 vehicles going forward.

The company has also recently begun a programme of FORS accreditation for all individual contract hauliers who work on its behalf. This equates to approximately 2,000 drivers and vehicles. In addition, all Lafarge Tarmac Transport Supervisors are receiving FORS audit training. This will ensure that the standard can be implemented at a national level and that work can be done with the contract haulier supply chain to provide advice on the required vehicle modifications.

Much of the company's work is being co-ordinated between its Transport and Safety and Health teams, led by the new role of Transport, Safety and Health Manager. Adding this position to the business structure underlines its commitment to reducing road risk across the Lafarge Tarmac fleet. The manager's remit includes leading on the company's 'Driving Safety' initiative. This sees its transport teams from across the UK working to deliver challenging plans that continually develop logistics safety standards by focusing on each aspect of the logistics and delivery process.

Implementation of policies and initiatives to improve vulnerable road user safety

Mineral Products Association (MPA)

The Mineral Products Association (MPA) is the trade association representing the aggregates, asphalt, cement, concrete and related industries. MPA members produce 90 per cent of these materials supplied in the UK and the sector is by far the biggest element of the construction supply chain, supplying over 200 million tonnes of materials annually.

For many years improving the health and safety of employees and contractors has been a major priority of the industry. In early 2011, as a result of increasing concerns about road safety and in particular the risk of collisions between delivery vehicles and cyclists, MPA launched a Cycle Safe Campaign with a six-point action plan comprising:

1. Promote driver and industry awareness
2. Promote cyclist and public awareness
3. Improve driver training
4. Encourage the use of appropriate vehicle technology
5. Liaison with schools
6. Work in partnership

There has been progress in all areas, for example the industry has implemented Driver Certificate of Professional Competence (CPC) approved Safeguarding Vulnerable Road Users training for industry drivers, focussed on the risks associated with construction delivery vehicles.

Member companies have strongly supported the Metropolitan Police Exchanging Places initiative in London and run similar public events outside London.

In 2012 MPA agreed a Vulnerable Road User Safety policy requiring extra driver training and the fitting of additional safety equipment to new vehicles and also a retro-fitting programme.

Given that the industry will continue to deliver materials to a changing mix of thousands of construction sites throughout the UK, MPA is clear that delivery vehicles will have to co-exist with cyclists and other vulnerable road users, as we all have a responsibility to help make our roads safer.

Hanson Cement Heavy Goods Vehicle (HGV) safety devices

Hanson Cement

Hanson Cement, part of the Heidelberg Cement Group, are a leading supplier of heavy building materials to the UK construction industry. With depots nationwide and a fleet of 190 HGVs Hanson are always looking to enhance operations and make continued safety and efficiency improvements.

Hanson have fitted a number of safety devices to their fleet in addition to mirrors to minimise the risk of collisions with vulnerable road users. Drivers have additional warnings when operating in busy urban areas. Hanson receive feedback on safety and other systems fitted to their vehicles, and drivers are adamant that the systems are of benefit and not a distraction whilst operating HGVs. Drivers carry out defect checks on the vehicle and report to the workshops if any additional safety features are inoperable.

Vehicles are fitted with four-way camera systems - one on the nearside, offside, front and rear. The nearside camera displays on the in-cab monitor when the nearside indicator is operated under 25mph. The rear camera will display on the in-cab monitor when the vehicle is reversing, giving drivers visibility of blind-spots when reversing or traversing to the nearside whilst changing lane or turning left.

Everyone is aware of the impacts of fatal accidents and these features are helping to reduce that risk. Data from the cameras can be downloaded to carry out investigations or incident reviews. The system records and stores the images for seven days allowing us to analyse both the precursor to and the collision and incident itself and establish the root causes with certainty. The system also offers security in terms of insurance claims.

Hanson fit nearside proximity sensors to their vehicles which give an audible warning in the cab so the driver can recheck the nearside of the vehicle, as well as giving an external spoken warning and flashing light to anyone in close proximity to the vehicle.

Hanson have also developed their own flashing sign warning cyclists to stay clear of the nearside of an HGV, especially when turning left. This will replace the standard sign currently seen on HGVs and is similar to the nearside camera in that it will activate when the vehicle is indicating left under 25mph.

Achieving vulnerable road user safety through contractual compliance

Costain

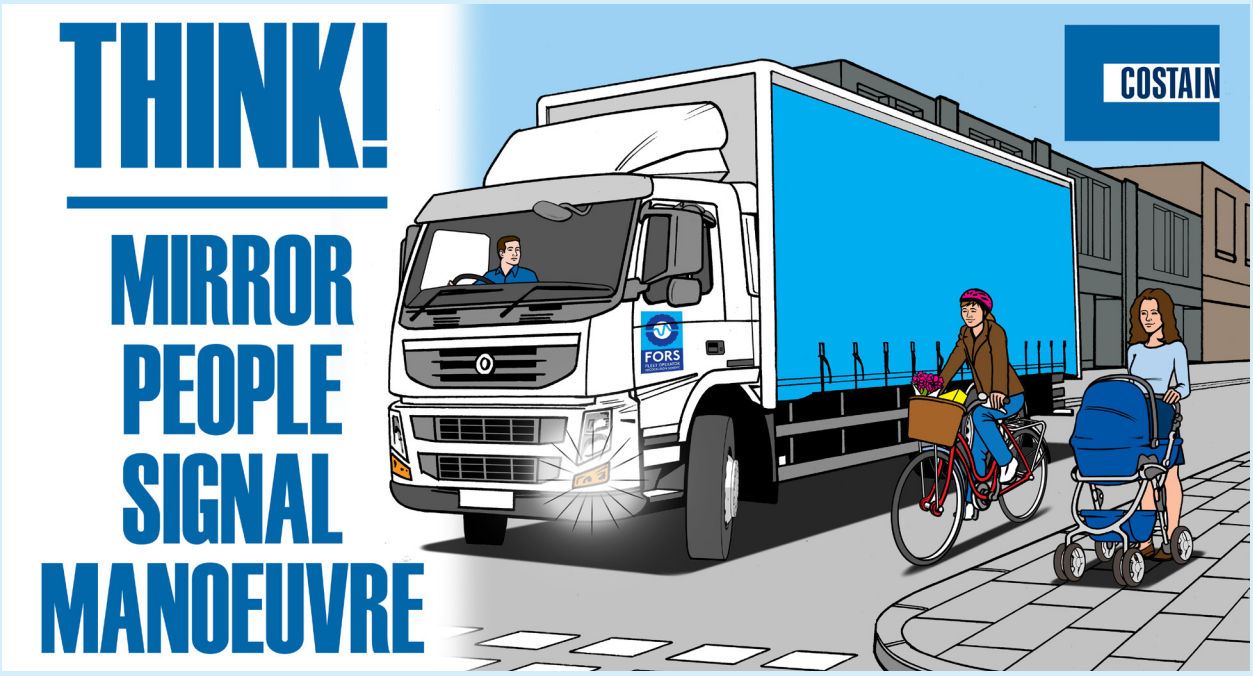
As a responsible company, Costain takes its role in society seriously and has taken action to tackle this key issue concerning construction logistics and vulnerable road user safety. Using industry best practice, Costain has established a set of measures and standards to prevent harm occurring from the interface between vulnerable road users and any of the vehicles involved within Costain's contracts.

The implementation of specific safety standards for vehicles that travel to and from Costain projects has commenced within the M25 with full compliance required during 2013. Costain are also working with their supply chain to progress the adoption of these standards outside of the M25 during 2014 with an aim to encourage the wider adoption of best practice in logistics and cycle safety across the construction industry.

The Costain standard specifies minimum requirements for all types of construction vehicles greater than 3.5 tonnes and minimum requirements for driver competence.

Inclusive within Costain's standard is a compulsory requirement for all contracts to undertake and establish a specific risk assessment and construction logistics management plan which will ensure their contracts ensure the safest travel route to and from Costain sites, minimising as much as possible the interface between construction vehicles and vulnerable road users.

Costain and its supply chain who operate vehicles greater than 3.5 tonne must achieve accreditation to bronze standard with the Fleet Operator Recognition Scheme (FORS). Compliance with Costain's standards is measured on all their contracts achieved by all vehicles being assessed upon entering Costain sites without exception, against a checklist.



Extending cycle safety standards beyond HGVs to mobile plant

Laing O'Rourke

Laing O'Rourke, together with its services and logistics provider Select, has fitted its entire nationwide fleet of HGVs with cameras and vulnerable road user safety equipment.

Select's camera systems have advanced recording capability that allows the company to use the recorded data to better understand how vehicle movements impact other road users. This has allowed Select to plan and adjust its operations to reduce risk. The camera systems are also a powerful tool in encouraging professional driving standards.

Select operates some of the largest items of construction plant in the industry. It takes a 'catch all' approach to vulnerable road user protection and has extended the HGV scheme to include mobile cranes and concrete pumps, which are not currently covered by HGV safety rules.

The programme has met with widespread driver approval and is being supported with the adoption of the new work related road risk standard nationwide.

London Construction Consolidation Centre

Wilson James

Wilson James's LCCC is the only dedicated consolidation centre in London, which supports materials management for construction in the capital. It is estimated to reduce supplier vehicles travelling to projects it supports by 68 per cent.

By investing in safety equipment for vehicles, and training for staff, the centre contributes to making the roads a little safer for all users.

LCCC vehicles are all fitted with Class V and VI mirrors, cyclist proximity sensors and side-guards to reduce the likelihood of incidents with cyclists and pedestrians. Warning signs for cyclists are displayed to the rear of vehicles and drivers are undertaking Driver Certificate of Professional Competency (DCPC) training and receiving regular toolbox talks on cycle awareness.

Drivers know their routes and do not block cycle lanes waiting near to site. Ninety-eight per cent of consolidated deliveries arrive on time.

Commitment to delivering progressive driver training

O'Donovan Waste Disposal Ltd

O'Donovan Waste Disposal Ltd is one of London's largest independent waste management companies and the only independent company to have achieved gold FORS accreditation.

Having started a driver focus group to gain a better understanding of what skills needed to be enhanced, an inclusive strategy for driver training and development was implemented in 2010.

Three years in and the commitment to training has helped ensure standards continually improved in health and safety and wellbeing, alongside improving sustainable development. All drivers have achieved NVQs in HGV driving, are Safe and Fuel Efficient Driving (SAFED) trained and hold CPC cards surpassing what is legally required.

Having participated in the pilot of the Crossrail e-learning initiative, it is now compulsory for all new starters to undertake as part of their induction the Crossrail one-day classroom interactive training and CSCS touch-screen health and safety training. All new drivers are allocated a 'buddy' who helps mentor them until they are familiar with the daily procedures. These include specified routes as planned by the transport manager which avoid cycling hotspots. Drivers are also encouraged to undertake the 'Safe Urban Driving' training course which includes an on-cycle session out on the road so drivers get to experience the cyclists view.

Drivers reports, identifying and celebrating efficient and safe driving, are circulated weekly, as well as updates about performance and training which are distributed via a newsletter.

Again, with their driver's participation and input, all O'Donovan HGVs are fitted with the side-scan detection systems, side impact bars, cameras, Fresnel lenses, warning triangles, fire extinguishers and cycle safety stickers. As a further demonstration of their commitment, O'Donovan has two in-house National Examination Board in Occupational Safety and Health (NEBOSH) trained staff, on hand to give employees and clients advice and assistance with any health and safety matters, including training.

In order to deliver training to fit with their drivers' requirements and without disrupting the service to clients, O'Donovan became a registered training centre. This enables delivery of training out of hours and on Saturdays. The managing director Jacqueline, is also now a qualified trainer delivering courses in-house.

Building a culture of cycle safety excellence

Mace Group

Mace is an international consultancy and construction company offering integrated services across the full property and infrastructure life cycle.

The safety of people is at the heart of what Mace does and the company is working to transform its approach to off-site construction logistics for the projects it delivers. Mace is proud to be part of the industry forum committed to improving road safety.

In line with the vision to develop a common industry standard that reduces risks posed by construction vehicles to vulnerable road users, Mace have implemented the following cycle safety measures:

- A robust review of project delivery arrangements such as routes to site, access arrangements, signage and barriers
- New FORS accreditation and registration requirements for suppliers delivering to Mace projects and new vehicle standards for fleet and transport operators in line with the proposed industry standard
- Earlier planning actions for construction logistics for projects
- New auditing processes for projects and across the supply chain
- Engagement with clients and their people through cycle safety events
- New training and development events for Mace staff, particularly those who cycle to and from work

Mace has a long-standing commitment to improve project start up processes; the company believes that effective planning and strong leadership will help to influence positive behaviours that help to create a safety culture.

Mace will continue its work to reduce risks to cyclists by setting high safety standards across all our business activities, and promoting a culture of safety excellence.

Next steps and further information

5.1 Next steps

The *CLOCS Standard for construction logistics: Managing work related road risk (WRRR)* is a key step in improving the management of work related road risk by providing a common standard for use by UK authorities and construction logistics clients and operators.

The standard is supported by supplementary guidance that will assist organisations in implementing and ensuring compliance with the requirements. Supplementary guidance has been produced in the same way as the requirements within this document – in close collaboration with construction industry organisations and associations.

The requirements within this document are to be kept under review in order to take into account collective feedback, new research findings and emerging practice in relation to managing work related road risk.

5.2 Further information

For further information visit www.clocs.org.uk

An electronic version of this document can be downloaded from the following link:

CLOCS Standard for construction logistics: Managing work related road risk (WRRR) 'A construction industry initiative to improve vulnerable road user safety'
http://www.clocs.org.uk/standard-for-clocs/

CLOCS Guides, Toolkits and associated forms can be downloaded from:
http://www.clocs.org.uk/clocs-guides/

· CLOCS Guide - Managing driver training and licensing

· CLOCS Guide - Managing work related road risk in contracts

· CLOCS Guide - Managing supplier compliance

· CLOCS Guide - Vehicle safety equipment

· CLOCS Toolkit - Managing collision reporting and analysis

· CLOCS Compliance Toolkit

Further useful information can be found in the following publications:

Construction logistics and cyclist safety - summary report
Transport Research Laboratory
http://www.trl.co.uk/online_store/reports_publications/trl_reports/cat_road_user_safety/report_construction_logistics_and_cyclist_safety_summary_report.htm

Construction logistics and cyclist safety - full technical report
Transport Research Laboratory
http://www.trl.co.uk/online_store/reports_publications/trl_reports/cat_road_user_safety/report_construction_logistics_and_cyclist_safety_technical_report.htm

Driving at work: Managing work-related road safety
Department for Transport / Health and Safety Executive
http://www.hse.gov.uk/pubns/indg382.pdf

Improving road safety through procurement
Transport for London
http://www.clocs.org.uk/wp-content/uploads/2014/05/improving-road-safety-through-procurement.pdf

Construction Logistics Plan Guidance for developers
Transport for London
http://www.clocs.org.uk/wp-content/uploads/2014/05/construction-logistics-plan-guidance-for-developers.pdf

Construction Logistics Plan Guidance for planners
Transport for London
http://www.clocs.org.uk/wp-content/uploads/2014/05/construction-logistics-plan-guidance-for-planners.pdf

Further information on the Fleet Operator Recognition Scheme (FORS) is available from www.fors-online.org.uk

Notes

Notes

CLOCS | Looking out for vulnerable road users

www.clocs.org.uk