



Understanding CLOCS: A practical guide



CLOCS

Looking out
for vulnerable
road users



In association with



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The safety of vulnerable road users is at the forefront of construction logistics operators' minds, and companies from across the industry are improving road safety by championing CLOCS. Find out how it started, how it changed, and how it will affect you.

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Adhering to CLOCS isn't rocket-science, but it does take all parties involved in the journey to commit to understanding its principles. We have an easy guide for dispatch staff, site employees and drivers.



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Staying safe



Death and injury on roads ruins the lives of those involved and their families and friends. They also lead to congestion, reduce the resilience of the road network and damage the economy. For these reasons the Construction Logistics and Cyclist Safety (CLOCS) initiative has been created to make roads safer for all users, including vulnerable cyclists and pedestrians.

If you haven't read the recommendations of the original CLOCS research carried out by Transport Research Laboratory (TRL) in 2012 please do. Underpinned by these stark findings, CLOCS has brought together more than 60 organisations from across the industry, including operators, construction contractors, property developers, vehicle manufacturers and regulators. This proactive industry-wide commitment to road safety is effective and commendable. In a short timescale the CLOCS standard was developed and published, providing consistent road safety requirements to be applied in construction contracts. CLOCS has demonstrated that by working together we can help protect vulnerable road users who share the roads with construction vehicles.

I am committed to CLOCS, but it is not owned by us, TfL, or any organisation – it is an industry movement. It shows how ownership, commitment and ambition throughout construction supply chains can improve the safety of all road users. Over the past two years, we have challenged norms and asked some difficult and important questions. Why is a road death regulated, managed and investigated differently to a workplace death? Why are there so many blind spots on HGVs? Why don't drivers have to undertake road safety training? But rather than looking at the whys, CLOCS is about pushing forward with change by developing industry-led solutions to address these recognised shortfalls. Managing road risk in our supply chains might not be as eye catching as new property developments and urban realm designs, but it is as vital as the numerous zero-tolerance commitments to construction site safety that are in place to build them. Crossrail, TfL and London Underground are taking this approach. By working together, CLOCS can ensure the risks of work-related death or injury are considered and managed in the same way, regardless of whether the risks are on the road or on site.

Please join us on our mission of safety and high standards.

Sir Peter Henty, CBE
 Commissioner, Transport for London



Time for CLOCS

CLOCS is delivering a common **road safety standard** for the construction industry, not just in London, but throughout the UK

CLOCS (Construction Logistics and Cyclist Safety) is an industry-led programme with the aim of fundamentally changing the way the construction industry manages road safety.

It was created following the publication of an independent research report into construction logistics operations conducted by Transport Research Laboratory in 2013. The study was commissioned by Transport for London after a number of cycling fatalities involved construction sector HGVs in the two years before the report was published. CLOCS has brought together a variety of industry stakeholders to act on the recommendations and to improve the management of work-related road safety, not just in London but across the UK.

Between 2008 and 2013, 55% of cycling fatalities in the capital involved an HGV and in 2011, seven of the nine HGV-related fatal incidents involved construction vehicles such as tippers or mixers. The sector's over-representation in fatal accidents between vehicles and cyclists (HGVs account for less than 4% of all traffic in London) meant that the industry had to consider whether there were industry and/or vehicle-specific reasons behind these figures.

Clearly this situation could not continue and, stemming from the findings of the research, working groups to oversee a programme of change were established in July 2013. Senior safety representatives from the construction industry were brought together, including vehicle

manufacturers and regulatory and enforcement bodies to develop a programme to revolutionise the way the construction sector manages road safety. All parties recognised that efforts to improve road safety should not just be focused on London.

The first task for CLOCS was to ensure the contractual requirements for fleet operators were consistent.

In December 2013, *The CLOCS Standard for Construction Logistics: Managing work-related road risk* (WRRR) was launched by the Mayor of London Boris Johnson. The document combined 11 standards, policies and codes of practice for road risk into a single common standard that is now implemented by clients and developers and adhered to

in a consistent way by operators.

The Fleet Operator Recognition Scheme (FORS) requirements have also been aligned to CLOCS. The well-respected accreditation scheme can be used by operators to demonstrate their compliance to the CLOCS standard to their clients.

Capitalising on industry support for CLOCS (it now has more than 100 organisations as part of the CLOCS community), London's transport commissioner Sir Peter Hendy wrote to vehicle manufacturers in March 2014, putting the spotlight on vehicle design. He wrote: "The driver's blind spot is regularly cited in investigations as a causal factor in collisions between HGVs and cyclists and pedestrians on London's roads. Although retrofitted safety solutions and secondary vision aids, such as mirrors, sensors, cameras and additional under-run protection are widely used, they have their limitations."

Hendy added: "[We] need more new vehicles designed and developed with significantly reduced blind spots, greater direct vision for drivers and less reliance

Coming to a city near you

The government intends to double cycling activity in the next 10 years and £114m will be shared between eight "cycling ambition" cities in England over the next three years to improve the road infrastructure needed to handle the increased number of cyclists.

The money will go to Bristol, Birmingham, Cambridge, Leeds, Manchester, Newcastle, Norwich and Oxford – providing a mixture of cycle-proofed roads and encouragement of awareness of other road users, from cyclists to heavy goods vehicles.

on secondary vision aids. I need your help to design and develop HGVs that are fit for work in a 21st century urban setting."

Hendy's call for action was followed by the third CLOCS event in July 2014, during which he noted that 70 separate organisations had signed up to the CLOCS standard and the industry's reaction and level of engagement had been "continually fantastic".

Major milestones have already been achieved: the CLOCS Standard is being implemented in construction supply chains throughout the UK (see box below); supplementary guidelines have

been published; a toolkit and online reporting tool for managing and investigating collisions produced in association with insurance companies has been published, and vehicle manufacturers have developed new, safer vehicle specifications with safety equipment fitted as standard.

Now the European Commission has agreed regulations for mandatory safety changes to new HGV cab designs.

Those already signed up to CLOCS are implementing safety equipment on fleets and using their collective buying power to influence the design of new, safer vehicles and promote CLOCS as the industry standard for managing work-related road risk.

It is clear that it is time to tackle the challenge posed by safe operation of construction vehicles in an urban environment, and all operators and contractors are being called to action. That will see those that contract or run fleet operations sign up to the Memorandum of Understanding and become a CLOCS Champion, implementing the standard throughout the supply chain.

Through CLOCS, construction sector clients are redrawing the boundaries of health and safety of their sites and responsibility for the quality and safety of operators delivering and servicing them.

Companies from across the construction sector are improving road safety by championing CLOCS and embedding the common standard across their supply chains, encouraging the adoption of best practice across the sector.

It's a national issue

Cambridge CLOCS was launched on 8 September 2014, initiated by the capital projects team in the University of Cambridge's estate management division, requiring contractors working on the university's major projects to sign up.

The university is planning for £2bn of construction work over the next 10 years. The scheme will be voluntary for one year before becoming compulsory in new contracts from the second year – along with penalties for non-compliance.

The requirements are fully consistent with those of the CLOCS Standard, requiring contractors to install extra mirrors on vehicles and side panels on HGVs, to prevent cyclists and pedestrians falling under wheels, fit reversing sensors and warning signs and put drivers through awareness training.

Ravinder Dhillon, head of estate development at the university, said: "We saw what was happening in London and, as many of our staff cycle to work, the benefits were obvious to us."

In total, 11 contractors, including Laing O'Rourke, Kier Group and Morgan Sindall, have signed up.

"We are delighted the contractors have reacted so positively to this and we will monitor its progress over the next year in the lead up to it becoming a compulsory scheme with sanctions," he added. "The actual cost to contractors is relatively small but these changes can make a big difference to pedestrians and cyclists."



How CLOCS and FORS fit together

The Fleet Operator Recognition Scheme (**FORS**) promotes safe working practices, legal compliance and efficiency

Launched in 2008, FORS is an industry-led accreditation scheme designed to help road freight operators in all sectors improve operational performance and safety, measure and monitor performance as well as ensure and demonstrate compliance and best practice. To date 2,400 accredited companies, operating more than 210,000 vehicles, are part of the scheme, a third of which are in the construction and aggregates industry. The scheme's impact has been recognised having been awarded the Prince Michael International road safety award in 2014.

There are three levels of accreditation - Bronze, Silver and Gold - which allow operators to raise standards through education and incentives. As well as passing an on-site audit, operators can chart the progress they are making to increase efficiency and monitor the safety of drivers and vehicles.

According to TfL, analysis of collision data shows that between 2012 and 2013, FORS operators reduced

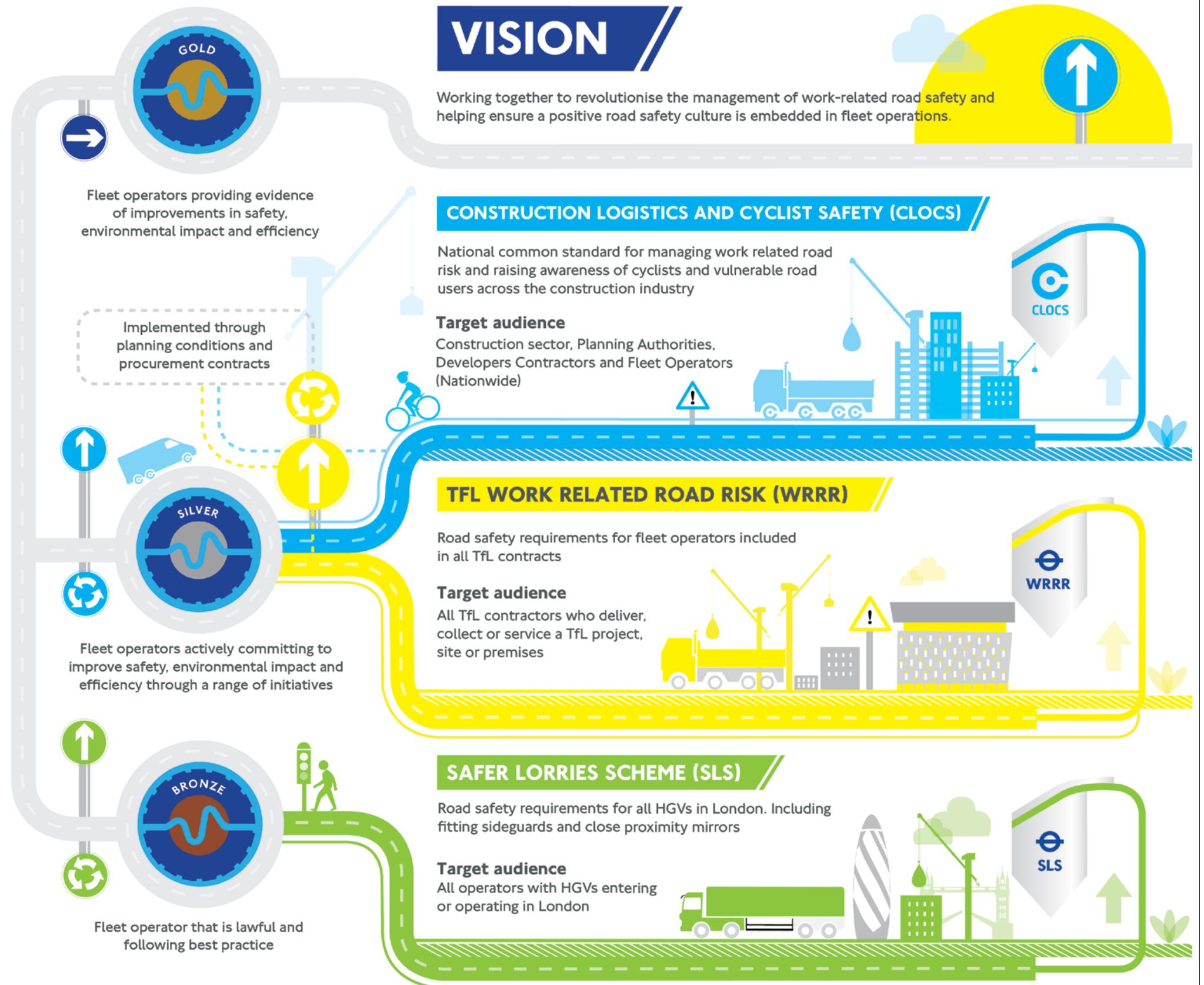
injury collisions by 41% and reduced total collisions by 25%.

Approximately two-thirds of FORS accredited operators are based outside the M25 and the scheme will be rolled-out nationwide this year.

The CLOCS Standard for construction logistics: Managing work related road risk is fully aligned to the FORS Silver accreditation.

- To achieve Bronze FORS accreditation, operators need to undergo a formal audit of their fleet to demonstrate legal compliance, commitment to health and safety, managing work-related road risk, reducing environmental impact and improving efficiency.

- To progress to Silver and Gold level, operators will need to develop and complete a plan incorporating a number of factors, including fuel efficiency, improving blind spots on vehicles and reducing CO2 and particulate emission levels, all of which are assessed through active monitoring against a 12-month baseline.



Vehicle manoeuvring warnings

All vehicles over 3.5 tonnes must be equipped with enhance audible systems that warn other road users when a vehicle is turning left. Audible warnings may be supplemented by visual warnings. Systems must be fully operational. Audible warning devices should be fitted with a manual on/off switch so they can be deactivated in certain circumstances, such as working at night. Operators must ensure their drivers recognise that activation of the device is an integral part of their job. It is recommended that vehicles over 3.5 tonnes should be fitted with similar equipment to warn road users when a vehicle is turning right or reversing.



Blind spot
Take care

Warning signs

Prominent signage must be fitted to the rear of all vehicles over 3.5 tonnes visually warning road users not to get too close to the vehicle. The text should be legible to a cyclist at a reasonable distance from the vehicle. The signs help reduce the risk of close proximity incidents.

The driver

Operators must ensure that a system is in place to ensure all drivers hold a valid licence for the category of vehicle they are tasked with driving. Licences should be checked every six months at the minimum through a system that accesses the DVLA. Operators must have a policy to ensure drivers report all professional or personal driving infringements to the person responsible for daily transport operations. Operators must ensure all drivers (including any who may be exempt from, or out of scope of, the Driver CPC) undergo approved progressive training and continued professional development covering the safety of vulnerable road users.



Blind spot minimisation

All vehicles over 3.5 tonnes must have front, side and rear blind spots completely eliminated or minimised as far as is practical. A combination of vision aids and audible driver alerts must be fitted to the front nearside of all vehicles over 3.5 tonnes.

Examples include camera monitoring systems and/or sensor systems. Systems must be fully operational and operators must ensure their drivers recognise the use of indirect vision systems as an integral part of their job.

Class VI mirrors must be fitted to all vehicles, with no part of the mirror being less than 2m from the ground.

All rigid vehicles over 7.5 tonnes must have indirect vision aids (for example a camera relaying a feed to a screen in the cab) fitted to the rear.



CLOCS-compliant vehicle check-list

Operators, drivers and construction managers need to be aware of the CLOCS requirements for vehicles, and what effect those requirements have on operators and drivers.

The following are the key highlights

that apply to all vehicles over 3.5 tonnes. Further information can be found in the CLOCS Guide – Vehicle Safety Equipment at www.clocs.org.uk/clocs-guides.

Operators must make regular checks to

ensure equipment and systems fitted are in good condition and fully operational.

We would like to thank Mark Starosolsky and David Pepper at Laing O'Rourke and Select Plant Hire for supplying the truck for this feature.



Side under-run protection

All rigid mixer, tipper and waste vehicles exempt from fitment must have side under-run protection fitted. The protection must be on both sides to minimise the probability and severity of under-run collisions with vulnerable road users.

Induction and training

Each driver must undertake theoretical training and be trained in the use and limitations of supplementary vehicle safety equipment. Training should include on-cycle hazard awareness and use a mix of theoretical, e-learning, practical and on-the-job training.

Training content must include but is not limited to:

- induction to the company;
- induction to new contracts, covering familiarisation with new routes, sites and vehicles;
- refresher training to ensure knowledge and skills are fully embedded;
- remedial training to rectify any deficiencies identified through reported collisions or previous training.





Quick-start tips

Adhering to **CLOCS** and following road safety best practice isn't rocket science. Here are our quick start tips for all the parties involved throughout the journey

Staff responsible for dispatching the vehicle need to know the CLOCS requirements for the vehicle, driver and journey.

Management and operations

Ensure your FORS accreditation (or equivalent) is in date. All vehicles serving CLOCS contracts must be from an accredited operator's depot. Check yours is in date and make sure dates for re-audits are booked in plenty of time.

This is to ensure that your operation is meeting all relevant legal standards and policies and procedures are in place to keep you compliant.

If you haven't been given a prescribed route by the client, you should consider the least hazardous route for the journey. You may also wish to consider whether the delivery may be able to be made outside of commuter peak hours, where

there will be fewer cyclists and other vulnerable road users.

Vehicle selection

All vehicles must be fitted with the necessary CLOCS safety equipment, and all kit must be in full working order and good condition before leaving the depot/site, including:

- vulnerable road user warning sticker/s;
- side under-run protection on both sides;
- audible alert for vehicles turning left;
- blind spot minimisation – 1) class VI mirror; 2) a method of minimising the vehicle left-hand side blind spot (eg a camera system and/or a sensor system and/or Fresnel lens).

Driver selection

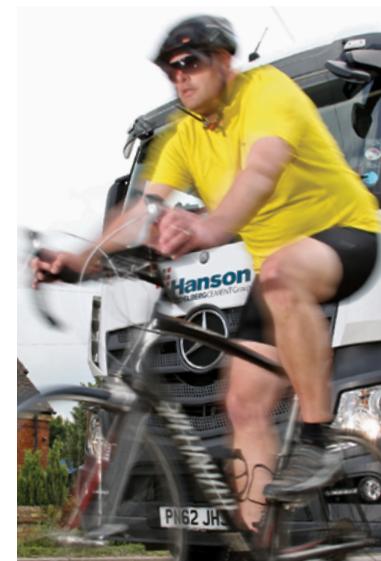
Ensure your driver(s) are aware of CLOCS and their responsibilities and professional duty in terms of road safety.

Each driver must be briefed on any prescribed routes for the journey and be fully briefed on what to do in the case of a collision and reporting the incident.

You must use drivers:

- who hold a valid licence for the vehicle they are driving, which has been checked for endorsements within the previous six months against the DVLA database;
- who have completed approved progressive training specifically covering the safety of vulnerable road users and use of safety equipment, and can prove they have done so;
- who understand that the use of safety equipment is an integral part of their job.

In addition to the CLOCS safety requirements, ensure you and your drivers are aware of any project or site-specific requirements (eg reporting to site and inductions, loading or unloading procedures).



Site staff responsible for vehicle checks

Compliance officers carrying out checks at the site should adhere to three primary checks to conform to the CLOCS standard. These checks should be completed before vehicles above 3.5 tonnes are allowed on site:

Vehicle operator check – the vehicle operator must be accredited to a minimum FORS Bronze level. You can check the operator's FORS status online at www.fors-online.org.uk. Those operators accredited to FORS Silver standard will have demonstrated compliance with all the CLOCS requirements through the FORS audit.

Vehicle check – any vehicle above 3.5 tonnes must have the minimum vulnerable road user kit fitted. Check each bit of kit is in good condition and is in full working order. This may require you to ask the driver to demonstrate this to you. This includes:

- vulnerable road user warning signage;
- side under-run protection on both sides;
- audible alert for vehicles turning left;
- blind spot minimisation – 1) class VI mirror; 2) a method of minimising the vehicle left-hand side blind spot (eg a camera system and/or a sensor system and/or Fresnel lens).

Ensure risk assessments have been undertaken and appropriate safety measures for those checking the vehicle are in place.

Driver check – a driver must have a valid driving licence for the vehicle they are driving. Also, drivers must be able to prove they have undertaken approved progressing vulnerable road user training (eg Safe Urban Driving, Crossrail induction or MPQC (EPIC)).

Drivers: before you travel

Prepare yourself – by refreshing your knowledge of the Highway Code and plan ahead, making sure you are aware of any prescribed routes for the journey and/or any areas of risk on your route such as cycle routes, pedestrian crossings or schools that require you to be particularly vigilant.

Check your vehicle – complete a walk-round check using MIST:

- mirrors are clean, correctly adjusted and set to minimise blind spots;
- indicators are working, clean and can be seen;
- signage in good condition, clean and easily visible;
- technology, including Fresnel lenses, side proximity sensors, blind spot cameras and side guards are fitted correctly, are working and clean.

While driving – look out for cyclists and other road users;

- keep checking for cyclists, pedestrians and motorcyclists who may weave through stationary traffic;
- check mirrors for cyclists before you indicate, vary your speed and change direction;
- keep scanning your mirrors when approaching junctions in case a cyclist or pedestrian enters your blind spot;
- before pulling away from junctions look over the dashboard (even if you have a class VI mirror fitted) and try to make eye contact with cyclists so they know you've seen them;
- check your nearside blind spot every time you intend to and are turning left;
- check over your shoulder for cyclists before opening your door to ensure it doesn't open in their path.

Indicate clearly and in good time

- indicate your intentions clearly when turning or changing lanes, even if you don't think anyone is near you;
- always indicate in good time to allow others to react;
- turn off the indicator once you have completed your manoeuvre to avoid giving false information to others.

Leave space

- give cyclists plenty of space so they can manoeuvre to avoid potholes, drain covers or car doors;
- when overtaking, give cyclists and motorcyclists at least as much space as you would a car;
- do not cross stop lines or encroach on advanced stop lines;
- cycle lanes are for cyclists, do not drive or park in a cycle lane marked by a solid white line while it is operational, or drive or park in one marked by a broken white line unless it is unavoidable.

A Cycle Safety Toolkit, including guidance booklet and posters, is available on fors-online.org.uk

The CLOCS Standard and supporting guides

The *CLOCS Standard for construction logistics: Managing work related road risk* is 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.

A series of supporting *CLOCS Guides* have been developed in collaboration with industry stakeholders and are designed to assist clients and operators in implementing and adhering to the requirements of the *CLOCS Standard*.

To download the CLOCS Standard or any of the supporting guides and for further information about CLOCS, please visit www.clocs.org.uk

