

2020 VISION

As the public increasingly demand better inner city truck safety, Brian Tinham examines the rise of the CLOCS standard and FORS accreditation - and what they mean for trucks and operators

CLOCS (Construction Logistics and Cycle Safety) - the Transport for London-backed and industry-supported initiative aimed at transforming truck safety for vulnerable road users - is going beyond construction and beyond cyclists. It's also going way outside London and is highly likely to lose its 'voluntary' status in all but name. In the two short years since its inception, following TfL-funded research into work-related road safety by TRL (Transport Research Laboratory), CLOCS has gained a momentum that has surprised, and plainly delighted its founders. So there should be no doubt in anyone's mind - operators and suppliers alike - that if you enter urban

environments you will have to get on board.

Those were among key takeaways from the fourth biannual CLOCS Progress seminar, technology exhibition and vehicle display, staged at London's ExCel centre late in February, which saw attendance up fivefold over the launch event in 2013. The CLOCS community's goal now, delegates heard, is to roll out its set of game-changing standards and tools - affecting everything from advanced truck safety kit to contractual conditions and compliance metrics - for all truck operators, but also principal contractors, their clients and, by extension, subcontractors and suppliers who want anything to do with TfL's sites.

That's just for starters. Speaking at the conference, TfL freight and fleet

programme manager Glen Davies made it clear that CLOCS champions (now numbering 80, including many major construction operators), underpinned by the purchasing power of TfL, intend to persuade, cajole, but, if necessary, force the new standards and technology on everyone. That includes truck manufacturers, dealers and bodybuilders selling vehicles over 3.5 tonnes to operators for use in urban environments nationwide, regardless of industry sector. And with FORS (Fleet Operator Recognition Scheme, now styled as providing certification to the CLOCS standard) already claiming 2,000 operators and 200,000 vehicles accredited, this is going places.

WHY NOW?

TRL's 2013 research - which focused on establishing reasons for the disproportionately high numbers of construction vehicles involved in cyclist fatalities in London in 2010 and 2011 - concluded that there were technical, cultural and contractual causes. Blind spots on vehicles were singled out as a contributory factor, but so were high workloads for drivers and a general lack of awareness of road risk, compared to

N3 on-road Volvo tipper

Volvo Trucks fielded three trucks - an FL 18-tonne 4x2 rigid, an FE low-entry cab and an FM 8x4 tipper - all designed or modified to provide the driver with what Volvo describes as "optimum direct vision in the urban environment".

Many of the CLOCS safety modifications on the trucks displayed are available via the Volvo dealer network for retrofit to existing vehicles. By way of example, the FM 8x4 tipper was modified for N3 on-road operation by specification changes that improve direct and side vision.

Additions included front underrun protection, as well as cranked front steer axles, resulting in improved forward vision, thanks to an 80mm drop in driving position, compared to the NG3 off-road equivalent (also yielding a higher payload). Nearside vision was also improved by the addition of an extra lower window in the passenger door.

Meanwhile, a seven-inch display screen for the truck's CLOCS standard cameras was integrated into the dash. CLOCS cameras, sensors and graphics



for this truck were supplied via Roadcrew, while the vehicle's sideguards were fitted by the bodybuilder.



Mercedes Econic tipper

Mercedes-Benz showed three demonstrator vehicles, all harnessing its low-entry cab family – an Econic 4x2 skiploader, Econic 8x4 tipper and an Econic 6x2 cement mixer. It was a convincing act: while most others are working hard to adapt their trucks for safer working in urban environments, the Econic has 16 years' history, and not just with RCVs.

If you're not familiar with the Econic, it has an aluminium space-framed cab, clad with sheet-moulded composite fibre panels. Beyond reduced height and low driving position, the cab also offers a panoramic windscreen and air-operated, fully-glazed, floor-to-ceiling nearside doors, enabling direct vision of cyclists.

Mercedes-Benz marketing director Simon Wood said Econics are also built with additional pre-wiring for bodybuilders to add external safety cameras and dash-mounted monitors. And he stated that, while Econics come as standard with Allison fully automatic transmissions, moving over to the PowerShift 3 AMT (automated manual transmission), to meet freight requirements, would not be a problem.

Mercedes-Benz Econic chassis come in a range of sizes and configurations, all with mounting points to suit a wide variety of body options. The trucks on show were complemented with proximity sensors, cameras and CLOCS signage.

construction site risk.

TRL's recommendations included: improving the awareness and management of work-related road safety; and making construction vehicles and their journeys safer. Its report also urged: national standards and codes of practice for driving, based on ISO 39001; and HSE involvement, at least in terms of extending CDM (construction design and management) regulations beyond site gates. As for the trucks themselves, TRL suggested that vehicle manufacturers should "improve vehicle and mirror design", given that some "had a much larger non-visible area at ground level than others". And it singled out changes to windscreen or dashboard design, as well as adding new technologies – the caveat being, "without overloading drivers".

That convinced Boris Johnson and the team at TfL, with commissioner Sir Peter Hendy and TfL Surface Transport managing director Leon Daniels publicly declaring their determination to make

the changes happen. "Leon and I regard every single vulnerable road user death in London as a personal tragedy," insisted an impassioned Hendy at the CLOCS event. "It's not about cost: it's about human tragedy. We all accept that construction is crucial to the lifeblood of London, but we just have to do better." And, with the strength of the cycling lobby plus public concern over four deaths already this year (at the time of writing), truck safety in urban environments will remain a focus whoever dons the mantle of London mayor on 5 May 2016.

IMPRESSIVE PROGRESS

For those still in any doubt, TfL's Davies was crystal clear. First, he listed some of the stellar progress by the CLOCS working groups, including: availability of SUD (safe urban driving) courses nationwide; a standard system for collision reporting ("We've gone further in six months than the insurance industry managed in 30 years"); and nearside

cameras, proximity sensors, etc, from the likes of Brigade and ISS, which are now available as production line, dealership and aftermarket fits. Plainly, CLOCS is not hanging about.

Then he turned to the trucks themselves. "If we were designing lorries today, would they look like 1960s motor scooters, bristling with mirrors? Dr Steve Summerskill's [Loughborough University] work on modelling different trucks' blind spots is key here. It means that when operators buy trucks, they can look at all the usual [engineering] stuff, fitness for purpose, etc, but they can also compare them in terms of whether their drivers can directly see vulnerable road users."

And Davies warned: "We now have all the information for direct driver vision, projected through the front, offside and nearside windows, for all the manufacturers' ranges of trucks. At the moment, that data has been anonymised, but we could name them." Is that likely to happen? Frankly, yes.

Davies is determined. He told delegates that 13 "visionary operators" from the CLOCS Champions scheme recently had face-to-face meetings with the major truck manufacturers and found them "mostly reluctant to change", hiding behind Brussels legislation. "But the buying power of those 13 contractors and TfL together

will change minds away from simple adherence to EC and C&U regulations," he insisted.

And he pointed to the ready availability of low cabs, with excellent up-close vision – from Mercedes-Benz (Econic) and Dennis Eagle – and to the novel tippers, skiploaders, chassis cabs and distribution rigids exhibited by manufacturers and operators at the CLOCS event itself (see panels). "The new vehicles on show today, with massively reduced blind spots, show what can be done if people join together for the common good to solve a simple problem," he said.

OFF-ROAD?

"Just before Christmas, Brussels proposed regulatory cab design changes, but those won't come in until 2022. So my view is that we have seven years from now to do good voluntary work," continued Davies. And by way of example, he challenged operators to check out how much serious off-road work their construction vehicles do. "It's marginal. Our research shows that 34% of construction operators never take their vehicles off road. But also, 47% don't even know the difference between on- and off-road spec trucks. So why are operators still buying [higher] construction specification trucks? And why are we allowing these trucks, with

their compromised blind spots, to come into our congested streets?"

Bad cop; good cop. Sir Peter Hendy promised operators, manufacturers and contractors alike a carrot and stick approach to encourage change, directly linked to CLOCS and FORS take-up (London's Safer Lorry Scheme is equivalent to FORS bronze). It will be founded on "earned recognition" for operators accredited by FORS, he said – along the lines of DVSA's OCRS (Operator Compliance Risk Score). "I'm talking to ACPO [the Association of Chief Police Officers] about enabling known good operators to go about their business unhindered, but stopping vehicles run by operators unsafely, who are also damaging other operators' businesses by cutting costs."

That remains work in progress, but Hendy confirmed it's already the approach used in London by the Industrial HGV Task Force (comprising officers from the Metropolitan Police, City of London Police and DVSA, and funded by TfL and the DfT), which stopped more than 4,000 vehicles in its first year of operation, took 47 off the road and issued 2,000 PG9 prohibitions. "This works. When we started, they were pulling over scaffolding lorries with unsafe loads: we don't see many now because they've got the message."

However, as stated, TfL's and the

CLOCS champion O'Donovan modifications

Three new safety-optimised trucks were shown by CLOCS champion O'Donovan Waste Disposal. Its line-up comprised: a Volvo FL818 skip truck (pictured right) and DAF FA LF220 skiploader, both with lowered driving position and nearside lower door windows added; as well as a MAN TGM BB skiploader, with revised suspension, again to lower the cab.

All O'Donovan's trucks also had factory-fitted safety features, including low-profile safety side guards, designed to provide more protection for cyclists and pedestrians.

"By working closely with the manufacturers, I have been able to determine the best-in-class for driver vision, and these three trucks clearly demonstrate this," stated managing director Jacqueline O'Donovan.



SIG's prototype 26-tonne Eonic rigid

Construction and industrial materials supplier SIG's first enhanced urban safety rigid plays to the strengths of Mercedes-Benz Eonic's low-level cab, panoramic front window and excellent nearside vision via the floor-to-ceiling window.

To further reduce blind spots, this vehicle has been fitted with SIG specification safety features, including nearside VUE proximity sensors, and VUE side, rear and forward-facing cameras displaying to a dash-mounted monitor. The in-cab display also shows a directional view when the indicator or reverse gear is selected. It also has a blind spot indicator light - which illuminates the ground close to the nearside front step when turning left.

This prototype uses Mercedes' 299bhp engine mated to the Eonic standard Allison automatic transmission. The body was built by Lawrence David. The vehicle replicates SIG's mainstay 26-tonne rigid curtainside, with a truck-mounted forklift - but with the Eonic 6x2 chassis.

SIG CEO Stuart Mitchell said this advanced vehicle, which is entering service in the operator's main fleet in the next few months, takes the safety of



urban delivery vehicles to a whole new level. "We're very proud to introduce this new vehicle into our fleet. As a responsible leading market supplier of materials to the construction industry, our commitment to health and safety is always our top priority," he stated.

CLOCS community's ambitions extend far outside Greater London and the home counties - and across more industry sectors. Hendy urged construction and retail operators, for example, to work together, using CLOCS, FORS and work-related road risk as the starting points. He also suggested that TfL was ready to help, just as it has in London, with operators, contractors and their supply chains. As for the regions, he pointed to the Cycle Ambition cities, which are receiving significant government funding, and suggested they look at what is already available to make vulnerable road users safer.

"We are now taking FORS accreditation right across Britain, supported by AECOM [the global integrated infrastructure services conglomerate], CILT [Chartered Institute of Logistics and Transport] and Fleet Source," declared Hendy. Together these three, which now form the FORS Community Partnership, are providing audit services, education and training to CLOCS standards, and administrative services.

DAF's new tippers

DAF showed a FAD CF440 8x4 32-tonne tipper with a Wilcox insulated tipper body built on a Haulage chassis instead of the conventional Construction choice. That reduces the vehicle's height by 147mm, due to its drop beam front axles. It also gets front underrun protection.

Most notable was the truck's additional window in the nearside door. Other safety kit included: Class V and VI mirrors; VRU warning signage; side underrun protection; Brigade side scan left warning system; and VUE four-camera system and nearside door camera and monitor.

DAF also displayed an FA LF220 skiploader which, although designed for 16 tonne gvw operation, achieves a payload close to that of many 18 tonners (8 tonnes). This truck uses smaller wheels (19.5 inch), dropping it 120mm lower than a standard 18-tonner.



Just last month, for example, Fleet Source launched a work-related road risk course for HGV drivers with full FORS and CLOCS approval. Nick Caesari, managing director, says it covers all CLOCS-related aspects for drivers, including: understanding the increasing number of vulnerable road users and how they interact with traffic; use of defensive driving techniques; and how to maintain and correctly operate safety equipment, such as blind spot technology.

Operators and manufacturers might not like what may be construed as an additional burden to business, but there are two clear plus-points about CLOCS. On the one hand, no one wants to see more deaths or serious injuries involving vulnerable road users - and the research and experience to date absolutely underpin the CLOCS standards as strong prevention measures. And on the other, if this is going to happen, then we are better off with one set of standards - not different standards for London, Liverpool, Leeds, Manchester, etc. CLOCS and FORS are the way forward. [TE](#)