

Goods Vehicles

THIS BRIEFING COVERS: The road safety problem; bans, regulation and demand management; the Construction Logistics and Community Safety standard (CLOCS); vehicle design and safety devices; training and information for cyclists and drivers; longer, heavier, faster lorries; enforcement and accountability; road layout and street furniture; research and guidance.

HEADLINE MESSAGES

- Although lorries are involved in relatively few collisions with cyclists, those that do occur are disproportionately likely to prove fatal.
- National and local government should take steps to regulate the use of lorries in areas that are busy with cyclists and pedestrians. Exemptions should be made only for specific journeys that clearly cannot be made in other ways or at other times, and should require the use of safe lorry designs, fleets and drivers.
- National and local government, lorry manufacturers and operators should collaborate to promote safe lorry designs and equipment, especially 'direct vision' cabs, which enable drivers to see what is around them as easily as bus drivers can.
- Enforcement processes should be strengthened to take unsafe drivers and operators off the roads, targeting the least compliant.

KEY FACTS

- Heavy goods vehicles (HGVs) account for only around 3.6% of non-motorway motor traffic mileage on British roads, yet are involved in around 17.5% of cyclist fatalities. HGVs were also involved in almost 14% of pedestrian fatalities, so pose a serious threat to them too.
- HGVs on average account for around 2% of urban and 5% of rural motor traffic, yet are involved in almost a quarter of cyclist urban fatalities and just over 12% of cyclist rural fatalities.
- HGVs pose a very significant risk to cyclists in London. In 2015, they were involved in 78% of cyclist fatalities there, although they made up less than 4% of miles driven.
- Left-turning lorries are a major hazard. In 2015, thirteen cyclists in London were killed or seriously injured when a goods vehicle over 3.5t turned left across their path.
- Cyclists' collisions with HGVs are far more likely to prove fatal than those involving cars: the cyclist is killed in about a fifth of serious injury cyclist/HGV collisions. This figure is around 2% for cyclists/cars.



Cycling UK VIEW

- Lorries pose a disproportionate threat to cyclists.
- The most important measure is to eliminate the source of lorry danger in areas where people cycle or want to cycle, principally by regulating HGV use on urban roads when they are likely to be at their busiest with cyclists and pedestrians.
- Exemptions to the rules should apply only for specific journeys that clearly cannot be made in other ways or at other times, and should require lorries and their drivers and operators to conform to strict safety standards that maximise the safety of pedestrians and cyclists.
- To help reduce the demand for lorry movements in urban areas:
 - loads from the largest lorries should be transferred to smaller vehicles, e.g. through transhipment depots on the edges of towns/cities;
 - as much freight movement as possible should be shifted to rail and/or waterborne transport; and, where practical, to cargo cycles;
 - councils and operators should work together on safe lorry routing strategies.
- CLoCS (Construction Logistics and Community Safety standard) should be adopted as a national standard for safer lorry equipment, driver training and fleet management. Local authorities should also make it a condition of planning permission, or section 106 agreements.
- Designing 'direct vision' into lorry cabs is one of the most effective ways of protecting cyclists and pedestrians on the outside. The Government should therefore introduce a national 'direct vision standard', modelled on the scheme being introduced for the capital by the Mayor of London.
- Other safety features that may be of benefit are mirrors, cameras, sensors, sideguards, intelligent speed adaptation and warning stickers.
- For lorry drivers, cycle awareness and practical cycle training should become a fully integrated and compulsory element of the professional training/qualifying process.
- For cyclists, training on how to interact with goods vehicles as safely as possible is beneficial. Publicity campaigns and educational events for drivers and cyclists alike also help highlight the hazards and how to avoid them.
- Cycling UK opposes moves to introduce longer and/or heavier lorries, unless they are strictly confined to motorways.
- All the responsible agencies (e.g. police, DVSA, local authorities and the Health and Safety Executive), should promote and enforce safe driving and vehicle standards for lorries. The Government should set up a national scheme to promote collaboration between these agencies, based on the model of TfL's London Freight Enforcement Partnership.
- Traffic Commissioners should use their powers to act against irresponsible operators and drivers, and be assured of the resources to do so.
- Individual haulage companies and the associations that represent them should develop, publish, maintain and monitor strategies, action plans and fleet management practices that minimise the risks goods vehicles pose to cyclists. Where appropriate, these should be produced jointly with local authorities and enforcement agencies and have regard to the advice and guidance provided by groups representing vulnerable road users.
- Procurement policies, especially from public authorities, should stipulate that the supply and delivery of goods and services takes vulnerable road users' safety into account; and that the operators comply with set, high standards (e.g. CLoCS for construction-related activities, or the equivalent for other operations such as waste disposal).

Cycling UK VIEW (cont.):

- To make it easier to check that haulage companies are reputable, their Operator Compliance Risk Scores (OCRS) should be made public.
- Cyclists benefit from road layouts and street furniture (e.g. 'Trixi' mirrors) that facilitate safe interaction between them and lorries.
- Research into the efficacy of all the above measures needs to be done, with the DfT, TfL, other local authorities and operators all collaborating EU-wide, as required. This should result in clear, consistent guidance for all operators and authorities.

BACKGROUND INFORMATION

1. The road safety problem

Cycling UK view: Lorries pose a disproportionate threat to cyclists.

a. Collisions with cyclists 2012-16, Great Britain (see endnote 1 for sources of GB traffic/casualty statistics quoted below):

- On average each year, heavy goods vehicles (HGVs)² accounted for just 3.6% of non-motorway motor traffic mileage on British roads, yet were involved in around 17.5% of cyclists' fatalities. HGVs were also involved in over 14% of pedestrian fatalities, so pose a serious threat to them too.
- Looking at the split between urban and rural roads (and still excluding motorways), lorries on average accounted for around 2% of urban and 5% of rural motor traffic, yet they were involved in almost a quarter of urban cyclist fatalities for cyclists and just over 12% of rural fatalities.

Cyclist fatalities involving HGVs (GB roads) 2012-16									
Year	Urban			Rural			All areas		
	Killed by HGV	Killed by all vehicles	% Killed by HGV	Killed by HGV	Killed by all vehicles	% Killed by HGV	Killed by HGV	Killed by all vehicles	% Killed by HGV
2012	12	54	22	11	64	17	23	118	19
2013	12	46	26	6	63	10	18	109	17
2014	12	51	24	8	62	13	20	113	18
2015	12	49	24	6	51	12	18	100	18
2016	10	43	23	6	59	10	16	102	16
Annual average	12	49	23.9	7	60	12.3	19	108	17.5

- Cyclists' collisions with HGVs are far more likely to prove fatal than those involving cars: the cyclist is killed in about a fifth of serious injury cyclist/HGV collisions. This figure is around 2% for cyclists/cars. Equally, HGVs are involved in only about 1.4% of slight injuries to cyclists, but 17.5% of cyclists' fatalities.
- HGVs pose a very significant risk to cyclists in London. In 2015, they were involved in 78% of cyclist fatalities there, although they made up less than 4% of miles driven.³ In fact, in GB as a whole, a high proportion of cyclists' deaths involving HGVs happen in London: all told in 2015, there were 18 cyclist fatalities involving HGVs in GB, seven of them in London. TfL and the Mayor of London are tackling the risk with a number of exemplary initiatives, e.g. a Direct Vision Standard, the Safer Lorries Scheme, and the London Freight Enforcement Partnership – see below).

- Most collisions between cyclists and HGVs occur during lorry manoeuvres and/or at junctions.⁴
- In 2015, thirteen cyclists in London were killed or seriously injured when a goods vehicle over 3.5t turned left across their path (see table right).⁵

Pedal cyclists killed or seriously injured in collisions with goods vehicles, by manoeuvre London 2015			
	Goods under 3.5t	Goods 3.5 to 7.5t	Goods over 7.5t
Vehicle turns right across path of cycle	7	2	0
Vehicle turns left across path of cycle	6	5	8
Cycle hits open door /swerves to avoid open door of vehicle	4	0	0
Vehicle fails to give way or disobeys junction control & collides with cycle	3	0	0
Vehicle collides with cyclist or loses control while overtaking	2	0	0

Note: This table lists the five most commonly occurring first conflicts with any vehicle
Source: Collisions and casualties on London's roads: Annual Report 2015 (TfL, Nov 2016). <http://content.tfl.gov.uk/collisions-and-casualties-on-londons-roads-annual-report-2015.pdf>

Vans and light goods vehicles

- Vans and light goods vehicles (i.e. vehicles not exceeding 3.5 tonnes), are less of a threat: from 2012-2016, they accounted for about 14.6% of non-motorway motor traffic, and were involved in 4.6% of cyclist fatalities.⁶ However, the volume of van traffic is growing significantly, and this could have an adverse impact on cyclists' safety (see also 2c, 'Distribution centres' below).

b. Speeding

DfT figures for 2016 suggest that:⁷

- Around 24% of articulated HGVs exceeded their 50 mph limit on single carriageways; 43% exceeded the limit on 30 mph roads (2% by 10 mph+, and 8% by between five to 10 mph); and 71% exceeded the limit on 20 mph roads (5% by 10 mph+, and 21% by between five and 10 mph).
- 73% of rigid HGVs exceeded the limit on 20 mph roads, 51% on 30 mph roads, and 28% on single carriageways.

Note: i. speed limits for HGVs of 7.5 tonnes+ on single and dual carriageways were raised in April 2015 (see 6b).⁸ ii. HGVs must be fitted with speed limiters restricting them to speeds of 56mph.

Left-turning lorries: top tips for cyclists

- Take great care when approaching the rear of lorries and, as a general rule, do not undertake them.
- However, the road layout might mean that this is sometimes difficult to avoid. For example, if you are riding in a lane designated for buses, cycles and taxis, and the traffic in the outside lane is stationary or barely moving, you may find yourself passing a lorry on its left-hand side anyway. Similarly, you might find that a lorry starts to overtake you, but in the end pulls up at traffic lights alongside before completing their overtaking manoeuvre. If this happens, it can make sense to move past and in front of the lorry at the lights, making sure if possible that the driver has seen you. This may be better than remaining invisible to the driver on the inside of the lorry by the kerb.
- When in the proximity of a lorry, or approaching one from the rear, always assess the situation carefully. Remember that it is unwise to assume that a lorry driver has seen you if you have ridden up or find yourself on the left-hand side of the vehicle. Similarly, lorry manoeuvres can be deceptive: just because you haven't seen anything to suggest that a lorry is about to turn left, it doesn't mean that it won't.

Extract from Cycling UK's *Ten Top Tips for Cycling in Traffic*
www.cyclinguk.org/article/cycling-guide/top-ten-tips-for-cycling-in-traffic

The following sections explain the measures that government, operators, enforcement agencies and drivers and cyclists need to take to tackle the disproportionate threat that lorries pose to cyclists.

2. Bans, regulation and demand management

Cycling UK view:

- The most important measure is to eliminate the source of lorry danger in areas where people cycle or want to cycle, principally by regulating HGV use on urban roads when they are likely to be at their busiest with cyclists and pedestrians.
- Exemptions to the rules should apply only for specific journeys that clearly cannot be made in other ways or at other times, and should require lorries and their drivers and operators to conform to strict safety standards that maximise the safety of pedestrians and cyclists.
- To help reduce the demand for lorry movements in urban areas:
 - loads from the largest lorries should be transferred to smaller vehicles, e.g. through transshipment depots on the edges of towns/cities;
 - as much freight movement as possible should be shifted to rail and/or waterborne transport; and, where practical, to cargo cycles;
 - councils and operators should work together on safe lorry routing strategies.

a. Regulating lorry traffic in urban areas

While urban environments have changed dramatically over the last two decades - with many more cyclists in London, for instance - the basic design of much of the HGV fleet has hardly altered since the 1970s.

The most serious risk to pedestrians and cyclists comes from the largest, heaviest vehicles that seat the driver high up and provide only limited 'direct vision' from the cab, i.e. mainly (but by no means exclusively) HGVs used on off-road sites, and long-haul lorries. ('Direct vision' refers to a driver's ability to see what is going on outside their cab without using the indirect means of mirrors or cameras - for more, see 4a).

Naturally, the design and commercial viability of many such vehicles has been dictated by their chief operating purpose. For example, contractors working on landfill, construction or quarry sites favour vehicles with a high ground clearance able to cope with the terrain (even though they only spend a tiny amount of their time in off-road conditions - about 2% of it in London⁹). These vehicles (or N3Gs) however, present a particular threat to pedestrians and cyclists (apart from the limited direct view from the cab, they are exempt from the requirement to fit under-run protection).

Longer goods lorries also seat the driver high up because a lower position makes them problematic to drive hundreds of miles on motorways and, at present, their necessarily large engines have to be situated beneath the cab because they would otherwise fail to comply with the prevailing EU regulations on length (Note: this should no longer be the case once EU regulations on cab profile are eventually introduced - see 4b below). Although equally unsuited to urban areas, these long goods vehicles are less of a threat in practice because, with costs and efficiency in mind, operators usually try to avoid sending them into tight, congested urban streets anyway.

Notwithstanding, in their current form, none of these vehicles is safe for use in busy urban environments. It follows that taking steps to ban them *at all times* makes the best sense, especially given that one of the first health and safety principles is to see whether a risk can be completely eliminated rather than merely mitigated.

There are ways of making such bans both feasible and acceptable to operators. For example, there would be no need for N3G vehicles to operate on off-road sites if the quality of the roads within them were improved. Instead, it would be possible to use lower vehicles that offer drivers direct vision. Most construction vehicles are too short to come up against the current EU length restraints, and there is nothing to stop manufacturers producing safer models now, or operators from buying them. Thus, even if such vehicles were restricted to certain hours/routes, there would be no need to ban them from the street network altogether.

For longer lorries, the introduction of out-of-town distribution centres is a good solution, as is routing them away from streets busy with cyclists and pedestrians (see 2c below).

Local authority powers: councils already have powers to regulate lorry traffic. Under the *Road Traffic Regulation Act 1984*¹⁰, they can introduce lorry control measures such as weight and loading restrictions or restrictions/prohibitions on movements by vehicles of certain widths, heights and weights, in certain streets/areas, at certain times of day etc. They can also insist on limiting lorry movements as part of the conditions for planning permission for construction depots and sites, and new developments, and through Section 106 agreements (England & Wales) / Section 75 agreements (Scotland). (See also 7b below).

Transport for London has introduced a 'Safer Lorry Scheme' and is currently working towards a progressive ban on the least safe vehicles from London's roads by 2020, based on a 'direct vision standard'. Cycling UK strongly supports these moves. See boxes on p10 & p12 for more.

Lorry control case studies

Each city is unique, so what works in one may not necessarily be successful in another, particularly if they are in different countries with different legal frameworks and attitudes towards cycling.

Proposals for bans and restrictions therefore need to be assessed in the light of the area's own individual circumstances, but conducting research into European examples of best practice would be a useful exercise. Dublin and Paris are often cited as noteworthy examples:

In Dublin, the council introduced a *HGV Management Strategy* in 2007 to encourage use of a new, direct tunnel between Dublin Port and the national road network for HGVs. They also wanted to enhance the city centre environment. However, the rules only apply to very large container vehicles and not to the sort of construction industry vehicles that put cyclists most at most risk.

Dublin's Strategy bans 5+ axle vehicles from 7am-7pm, seven days a week, from a designated cordon area. A limited permit scheme operates for 5+ axle vehicles that need to load/unload within the city centre area. The result has been a dramatic reduction of 5+ axle vehicles within the city centre of between 80 - 94% on different routes within the cordon area. Around 6,050 5+ axle HGVs per day use the Port Tunnel and the council issues an average of 80 permits per day.
www.dublincity.ie/hgv

In Paris, the aim of the lorry control regime is to keep the largest vehicles off the road during the rush hour. It is therefore linked to lorry size. However, there are permanent exemptions for vehicles used for various specific functions, including tankers and those transporting materials to or from building sites, the type of vehicles that typically put cyclists at most risk.

Essentially, the rules mean that transport operators using vehicles with a surface of less than 29m² (if they are not propelled by an electric, gas or hybrid engine) are only authorised to deliver or load goods between 10pm and 5pm; and, in the case of vehicles with a surface of 43m² or less, only between 10pm and 7am. Anything bigger than that needs a special dispensation.
www.fta.co.uk/export/sites/fta/_galleries/downloads/european_driving_restrictions/france.pdf

In practice, though, it is easier to ban some vehicles outright or at certain times from urban streets than it is others. For example, peak-time restrictions do not greatly affect the delivery of non-perishable, less urgent goods; nor do they have a serious impact on vehicles - usually longer lorries - that are, as mentioned, often scheduled to avoid congested areas and use the major road network instead.

On the other hand, construction and tipper vehicles - usually shorter lorries - are much harder to restrict (cement mixers, for instance, may have to operate and deliver continuously to a construction site where a lengthy, continuous concrete-pour is taking place).

For logistical reasons, exemptions to bans, route and time restrictions are inevitable, but in Cycling UK's view, these should be strictly limited, apply only for specific journeys that genuinely cannot be made in other ways or at other times, and to vehicles that comply with strict standards that maximise safety for cyclists and pedestrians (e.g. CLoCS (Construction Logistics and Community Safety) standard for construction vehicles (see section 3 below), and TfL's 'Direct Vision Standard (see box on p10 below).

Exemptions for certain vehicles may also be justified along specific routes with high quality protected cycle facilities.

c. Routing, 'out-of-hours' deliveries and distribution centres

Apart from bans and restrictions (see above), there are other measures that help reduce the volume of lorries on urban streets:

- **Routing**

Operators can minimise the problems and hazards their vehicles cause by routing them away from roads and streets that are busy with cyclists, pedestrians and community activity. Digital mapping tools can help facilitate this. Naturally, it's important for local authorities to sign lorry route networks clearly, both for the benefit of lorry drivers and for other road users who may wish to avoid them.

- **'Out-of-hours' or night-time only deliveries**

Although cyclists and pedestrians benefit if as many deliveries as possible are made outside the rush hour, residents and communities often object because of the disturbance it causes, particularly at night. It is not just the sound a lorry makes whilst driving that causes problems, but also the noises made while they're being unloaded. As a result, some councils restrict delivery activity at certain times.

Cycling UK is, in principle, in favour of night-time and out-of-hours deliveries, but only if: restrictions are also applied at busier times; the vehicles involved are cycle-friendly; and residents' quality of life is safeguarded. Limited permit schemes, promoting the use of smaller goods vehicles and evening-only deliveries to shops in residential areas may, for instance, help allay residents' concerns. Distribution centres away from residential areas should also be able to receive deliveries at night, with the goods being transferred to smaller vehicles and sent on at less unsociable times (see next page).

Given that technology is advancing on 'quiet' lorries, Cycling UK believes that the possibilities of out-of-hours deliveries should be kept under review. For further guidance, see:

- DfT guidance on 'quiet deliveries': www.gov.uk/government/publications/quiet-deliveries-demonstration-scheme.
- Transport for London (TfL)'s advice on retiming deliveries without disturbing local residents: <https://tfl.gov.uk/info-for/deliveries-in-london/delivering-efficiently/retiming-deliveries>
- The Freight Transport Association's (FTA) guide for local authorities on 'out of hours' deliveries www.fta.co.uk/export/sites/fta/_galleries/downloads/night_time_deliveries/qdds_local_authority_filed_guide.pdf
- London Councils' Lorry Control Scheme Review: www.londoncouncils.gov.uk/members-area/member-briefings/transport/london-lorry-control-scheme-review

- **Distribution centres**

Another way of reducing the volume of lorries on inner urban roads is to set up distribution centres on the periphery of the area for lorries to pass their loads onto smaller vehicles (including electric lorries and cargo bikes – see 2d below) for delivery further into the town or city. Large establishments can also get involved in schemes to reduce the number of freight vehicles delivering to them. A good example is Newcastle University's 'urban consolidation trial', which focuses on electric vehicles. <http://freightinthecity.com/2016/05/how-newcastle-university-has-learnt-to-love-consolidation/>

As long as the extra volume of lorries on the approaches to the centre doesn't become a new hazard in its own right (see 'lighter goods vehicles/vans' below), this measure could improve conditions for cyclists. It could also improve efficiency for freight operators, as congestion and the infrastructure typical of many urban areas are often a challenge for HGV drivers to negotiate (e.g. roundabouts that don't cater for their vehicle's turning circle).

- **Lighter goods vehicles/vans**

Light vans currently present far less risk to cyclists than lorries (see 1a above). However, it is important to note that, thanks mostly to on-line shopping, they now account for considerably more traffic than in the past, increasing from 33 billion vehicle non-motorway miles in 2012, to 39 in 2016 (+18%).

Furthermore, these vehicles are not regulated nearly as strictly as heavier vehicles. Traffic Commissioners' remit, for example, only extends to HGVs (plus buses and coaches), while drivers only need a standard car driving licence to drive vans up to 3.5t. Cycling UK believes the Government should review the proliferation of light van traffic and its potential impact on road safety and congestion, and consider stricter regulation if necessary.

d. Alternatives to road freight

Freight (cargo) cycles are an efficient and environmentally sound way of transporting and delivering loads in urban areas, helping to reduce the number of lorries and vans on the road, and the hazards and congestion they cause. Indeed, a report from CycleLogistics (a EU project to promote cargo cycles) has calculated that, potentially, 42% of all motorised trips for goods transportation in European cities could be shifted to cycles.¹¹ As no legal weight limit applies to the load carried by any cycle, the deciding factors are the machine's specification and the ability of the rider to propel it. Loads of around 24 kilos, however, are common, and with electric assist, yet heavier consignments can be carried (see an example from UPS in Basel, Switzerland: <https://compass.ups.com/eco-friendly-package-delivery-bikes-debut-europe/>).

Rail and water: Increasing the volume of goods transported by river is also a viable option for many cities, as is rail. This offers both road safety and air quality benefits. Research for the Campaign for Better Transport found that removing just 2,000 lorries a day from four specific roads would result in a 10% reduction in NOx and a 7% reduction in particulates from all road traffic in each of the four routes studied, with a 2.5% reduction in carbon emission across all four routes.¹²



Photo: Ashmore Imaging

3. CLoCS (Construction Logistics and Community Safety) standard

Cycling UK view:

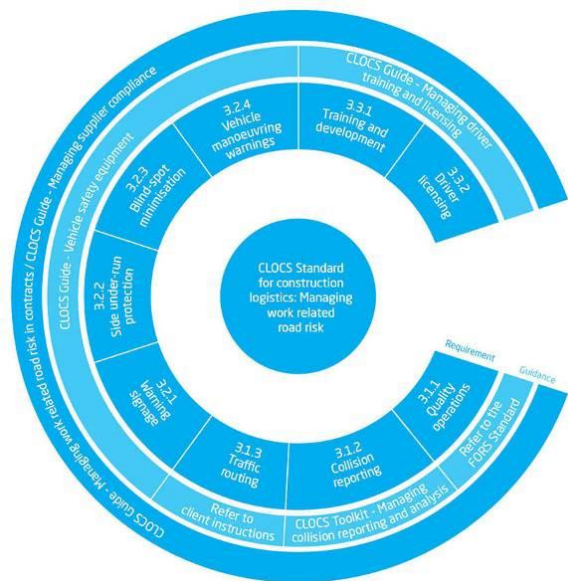
- CLoCS (Construction Logistics and Community Safety standard) should be adopted as a national standard for safer lorry equipment, driver training and fleet management. Local authorities should also make it a condition of planning permission, or section 106 agreements.

Drawing on best practice, CLoCS is a common standard designed to protect vulnerable road users from the risks posed by lorries specifically on construction projects, and is implemented by construction clients through contracts.

One of CLoCS's strengths is that it has been developed as a result of collaboration between construction clients, logistic operators and industry associations, and therefore enjoys a significant level of support.

It sets detailed minimum requirements covering:

- quality operations;
- collision reporting;
- traffic routing;
- blind-spot minimisation;
- warning signage;
- under-run protection;
- vehicle manoeuvring warnings;
- training and development; and
- driver licensing.



CLoCS covers the role of the contracting client (i.e. the developer), as well as the construction and/or delivery companies undertaking work for them. Both CLoCS and FORS (see 7d below) grew out of lorry-safety commitments made by TfL and Crossrail Limited during the passing of the *Crossrail Bill* (now the *Crossrail Act*), following a petition by Cycling UK.

In Cycling UK's view, the Government now needs to support CLoCS as a national standard for all construction lorry operations. This would help ensure that local authorities, other public sector bodies and all other organisations who contract such services are able to identify operators who abide by the highest safety standard, and specify CLoCS as a condition of planning permission, or s106 / s75 agreements (see 7b below).

It would also mean that the same standards would apply everywhere - after all, the last thing the industry needs is different standards being set by different city authorities around the UK.

The work-related risk requirements identified through CLoCS are also a good model for HGV contractors working in other fields (e.g. refuse collecting) to adapt.

- www.clocs.org.uk/standard-for-clocs/

Transport for London (TfL) is currently working on a 'Direct Vision Standard', which we'd also like to see adopted more widely (see box on p10).

4. Vehicle design and safety devices

Cycling UK view:

- Designing 'direct vision' into lorry cabs is one of the most effective ways of protecting cyclists and pedestrians on the outside. The Government should therefore introduce a national 'direct vision standard', modelled on the scheme being introduced for the capital by the Mayor of London.
- Other safety features that may be of benefit are mirrors, cameras, sensors, sideguards, intelligent speed adaptation and warning stickers.

Lorry cabs need to be designed so that drivers can see pedestrians and cyclists *directly* through windows, i.e. in the same way that most bus drivers can. There may be benefits from fitting *indirect vision* devices (e.g. cameras, mirrors and sensors), but they are no substitute for *direct vision*, and designing out 'blind-spots' altogether.

a. Cab design: direct vision and low entry cabs

- **Bigger windows:** extending the glass in cab doors and windows as far as is practical helps improve the driver's direct view of cyclists and pedestrians nearby. Lorries with good direct vision (e.g. the Mercedes Eonic – see photo right) are already on the market, and now widely used to collect refuse.
- **Lower driving seat:** along with more glass in the cab, seating the driver much lower than is typical of a conventional construction vehicle brings them personally closer to the level of other road users. This makes it easier to see cyclists and pedestrians outside the cab, and to anticipate and react to their manoeuvres. Also, getting into and out of a low entry cab is safer and easier for drivers.
- Several companies produce cycle-friendly lorries, e.g. Mercedes-Benz, Dennis Eagle and Volvo.



Mercedes-Benz Eonic-DirectVision: cement mixer
Photo courtesy of S & B Commercials – Mercedes-Benz

London's Direct Vision Standard for HGVs

In 2016, London Mayor Sadiq Khan announced plans to assess construction and other HGVs using a world-first *Direct Vision Standard (DVS)*, supported by a safety permit scheme.

- Informed by collision research, DVS is a proposed five-star rating standard based on how much a driver can see of the area outside where vulnerable road users are most risk.
- If approved, the scheme will apply to all large HGVs over 12 tonnes (N3 Class) working in or entering Greater London from 2020.
- HGVs will be given a rating of between 'zero-star' (lowest) and 'five-star' (highest).
- Only those vehicles rated 'one-star' and above would be allowed to enter or operate in London from 2020. Zero-rated vehicles would only be allowed if they can prove compliance through safe system measures.
- By 2024, only 'three-star' rated HGVs and above would automatically be given a safety permit. HGVs rated two-star and below would need to demonstrate increased safety through progressive safe system measures.

Cycling UK urges the government to introduce a similar requirement throughout the UK.

For more, see: <https://tfl.gov.uk/info-for/deliveries-in-london/delivering-safely/direct-vision-in-heavy-goods-vehicles>

NOTE: TfL's detailed proposals for DVS are currently subject to consultation.



b. Cab design and the EU

In April 2015, the EU amended its rules on the maximum length it permits HGVs to be, so that devices can be fitted to the rear and cabs redesigned to make the vehicle more aerodynamic and thus more energy efficient.

Adding these features was not possible under the existing limits set by the original directive (96/53/EC), and the new directive (2015/719¹³) makes them permissible, rather than mandatory.

The new directive states that redesigned cabs would contribute to improving road safety for vulnerable road users. This is because the curved-profiles of aerodynamic cabs give drivers a better view of pedestrians and cyclists in front, and allow for the incorporation of energy absorption structures to reduce the impact of collisions.¹⁴ (The extra length, though, is not supposed to be used to increase the load capacity of the vehicle).



Photo: European Transport Safety Council (ETSC)

Also, extending the maximum length for the longest lorries reduces the need to save space by seating the driver above the engine. Instead, the driver can be placed lower down in front of it, allowing for 'direct vision' / low entry cabs.

Unfortunately, however, the new Directive will not come into effect until around 2022, following a five-year moratorium and three year 'transposition' period.¹⁵ Nevertheless, this does not prevent the adoption of safer cab designs on shorter vehicles that already have the space to introduce them, including the construction/tipper lorries most involved in cyclists' deaths.

c. Mirrors, cameras and sensors

A modern lorry with a full set of correctly aligned mirrors should no longer have 'blind spots'. Although no substitute for 'direct vision' (see 4a above), cameras and sensors do offer extra coverage.

- **In-cab cameras:** 360-degree in-cab cameras provide a comprehensive view of the immediate surroundings. Not only can they help enhance the driver's awareness of cyclists, but the recordings could help with evidence should an incident need investigating.
- **Sensors and alarms:** the range of sensors and alarms to reduce hazardous interaction between lorries and cyclists/pedestrians is expanding rapidly. Devices are also becoming more sophisticated, thanks partly to the move towards 'driverless' cars, whose sensors need to distinguish a cyclist from other roads users or street furniture.

There are now devices that can alert a driver to the presence of cyclists and/or warn cyclists to the lorry's next manoeuvre (reversing or turning left); or specifically detect cyclists, pedestrians and motorcyclists on the left hand side or at the front of the vehicle and, by monitoring their speed and proximity, warn the driver only if a collision is imminent.

Obviously, to be as effective as possible, systems should not expect cyclists to carry a 'tag' for the lorry's detection equipment to pick up on them.

However, there are various problems with all the above 'indirect vision' systems. For example:

- Drivers can become desensitised to sensor signals, particularly if they keep sounding false alarms (some may not distinguish between pedestrians/cyclists close to the lorry and street furniture).
- Camera images are not always easy to interpret, and can disorientate drivers of unfamiliar lorries.
- Additional mirrors and cameras could distract drivers and take too long to consult. The longer it takes, the more likely it is that the road situation has changed in the interim.

For a useful analysis of the weaknesses of indirect as opposed to direct vision, see www.clocs.org.uk/wp-content/uploads/2017/03/HANNAH-WHITE-DVS-FINAL.pdf



d. Sideguards and front underrun protection

By law, certain categories of goods vehicles must be equipped with sideguards to protect vulnerable road users against falling under the sides and being caught under the wheels. A TRL report says that they have been 'very effective' in reducing the severity of injuries where the side of a lorry is involved.¹⁶

However, some vehicles, including those used for construction purposes (e.g. tipping trucks, trailers for beams etc.), are exempt, i.e. the very HGVs that pose the greatest threat to cyclists. Ideally, these exemptions should be ended.

In the meantime, manufacturers and operators should look at the practicalities of installing sideguards in any case, along with front underrun protection given that the vast majority of lorry-related pedestrian/cyclist fatalities are the result of collisions with a cab's front or front corner.¹⁷

London's Safer Lorry Scheme (SLS)

The SLS, set up by the Mayor and TfL in collaboration with London Councils and Heathrow Airport in 2015, uses a combination of their powers to ensure that only lorries with basic safety equipment are allowed on the capital's roads. This covers all HGVs over 3.5 tonnes, and includes construction vehicles. It requires most vehicles that are currently exempt from national legislation on certain safety equipment (i.e. mirrors and sideguards) to be retrofitted. Compliance with the scheme is reported to be high, and it is a good example for authorities in the rest of the UK to follow.

<https://tfl.gov.uk/info-for/deliveries-in-london/delivering-safely/safer-lorry-scheme#on-this-page-1>

e. Intelligent Speed Adaptation (ISA)

ISA devices restrict vehicles to the posted speed limit. Speed limiters that stop a vehicle from going over a top speed have reduced the number of goods vehicles exceeding their national limit on motorways, but ISA would help prevent them from exceeding lower limits elsewhere (see also section 6b).

Note: HGVs transporting goods in Europe must comply with EU Directives on weights and dimensions.¹⁸ Although Member States must not restrict the circulation of compliant vehicles within their territories, they can apply national standards deviating from the Directives inside their own borders.

In October 2017, the full European Parliament approved a resolution backing improved safety technology for cars, but it includes measures to reduce the risk that HGVs pose to pedestrians and cyclists too, e.g. direct vision, cameras and ISA.

www.europarl.europa.eu/sides/getDoc.do?type=REPORT&mode=XML&reference=A8-2017-0330&language=EN

For updates on the EU's current, but long-term moves to improve the safety of HGV design, see: <https://ecf.com/what-we-do/road-safety/safer-lorriestrucks-cyclists>.

CEMEX, a leading supplier of cement and other construction materials, has made a concerted and wide-ranging effort to reduce the hazards its lorries pose to cyclists. See

www2.cemex.com/MediaCenter/Story/Story20151015.aspx, and www.cyclinguk.org/article/campaigns-guide/construction-company-raises-cycle-safety-standards





f. Warning stickers

Vehicle stickers are often used to warn cyclists not to undertake lorries just in case the driver fails to see them, turns left and collides with them.

Cycling UK does not object to stickers on HGVs in principle, but believes:

- They should not wrongly imply either that cyclists are breaking the law if they undertake/overtake the vehicle, or that the driver's responsibility to look out is in any way mitigated if a cyclist puts themselves in a vulnerable position. In other words, they need to be a genuine response to the 'blind-spot' problem, and not a 'victim blaming' attempt to absolve drivers from the responsibility to check for cyclists when turning.
- The impact of stickers on HGVs should not be diluted by placing them on other vehicles, such as taxis, small vans and buses, which do not have significant 'blind-spots' anyway.
- Warnings are more effective than commands, e.g. 'Watch Out!' rather than 'Stay Back!', and they should only be used on high-cab lorries (rear and nearside), because of their 'blind-spots'.

A good example is a 'Watch out' sticker adapted by the London Cycling Campaign from a design developed by consultants in association with the FTA. It is exemplary because:

- It uses easily understood imagery – i.e. the iconography of internationally understood road signs – rather than relying on words. This means that cyclists, including those who are not English speakers, have a better chance of understanding the advice quickly.
- It gets its message across clearly, but without being scary or suggesting that it is illegal to pass a vehicle on the left hand side.
- Being 2-dimensional, it isn't obvious whether the cyclist is acting foolishly or actually staying back – i.e. it's a genuine warning without being judgemental.



- For more on stickers, and cycle awareness campaigns in general, see our briefing: www.cyclinguk.org/campaigning/views-and-briefings/cycle-awareness-campaigns-for-drivers

5. Training and information for cyclists and goods vehicle drivers

Cycling UK view:

- For lorry drivers, cycle awareness and practical cycle training should become a fully integrated and compulsory element of the professional training/qualifying process.
- For cyclists, training on how to interact with goods vehicles as safely as possible is beneficial. Publicity campaigns and educational events for drivers and cyclists alike also help highlight the hazards and how to avoid them.

Whilst training and awareness-raising messages for both cyclists and goods vehicle drivers should not be relied on as a primary response to a lethal safety problem, they do have value. If executed properly, they help both groups of road users to interact with each other more safely and with better mutual understanding.

a. Formal training and testing for lorry drivers

Cycling UK believes that it is essential to integrate cycle awareness more fully into the training and testing process for all drivers, whatever their vehicle, (car, light goods van, HGV etc.).

Fortunately, thanks largely to calls from campaigning organisations including Cycling UK, the freight industry's interest in cycle awareness instruction for their drivers has grown, and there are now numerous courses on offer all over the country. Such training is particularly important for construction vehicle drivers working on large development projects and it should be imposed as a precondition, as happened in the case of Crossrail.¹⁹

Certainly, more and more professional drivers are now receiving high quality cycle awareness training, but this still depends on whether their employers are responsible enough to provide it, or expected to do so by those who contract or authorise their services. Cycling UK believes that it would be better to make such training a requirement of all mandatory professional qualifications in road haulage, refreshed annually. Practical cycle training - which allows drivers to experience what it is like to cycle in urban environments in proximity to large vehicles - should be included in this.

Unfortunately, although the DfT says that it is working with the industry to encourage trainers to include “relevant content” on vulnerable road users, it has not made it mandatory because this “would require a legislative change and [...] would be overly burdensome to the industry.”²⁰ As a result, lorry drivers can repeat the same course again and again to fulfil the periodic training requirements of their Certificate of Professional Competence, yet never undertake a safer urban driving course.

b. Training for cyclists

While Cycling UK does not believe that cycle training should be compulsory for everyone who wants to cycle, high quality instruction can help boost skills and confidence, particularly in imperfect cycling conditions. It also helps ground riders in the rules of the road. Many instructors are willing to tailor lessons for a trainee's specific needs (e.g. cycling on busy urban roads), and some provide company-wide training packages.

c. Publicity campaigns and events for both cyclists and lorry drivers

Promotional campaigns (leaflets, posters, films etc.) informing cyclists about the hazards of goods vehicles are useful, although they need to be sensitively designed so as not to put people off cycling by scaring them. Also, as targeting cyclists alone could be construed as ‘victim blaming’, campaigns must be directed at lorry drivers too.

Programmes, events and courses that involve exchanging places are especially effective. They give cyclists the chance to sit in and look out from a cab; while drivers experience for themselves what it's like for a cyclist to share the road with large goods vehicles.

Good examples:

- The Met and City of London police hold regular ‘Exchanging Places’ sessions <https://tfl.gov.uk/info-for/boroughs/cycling-toolkit>
- TfL's video on safe cycling near lorries, which explains the issues from both a lorry driver's and cyclist's perspective in an accessible way, without resorting to shock tactics. www.youtube.com/watch?v=Uf5WVfY_RY



Photo: S&B Commercials. Mercedes-Benz Eonic lorry



6. Relaxing regulations: longer, heavier, faster lorries

- **Cycling UK view:** Cycling UK opposes moves to introduce longer and/or heavier lorries, unless they are strictly confined to motorways.

a. Longer and heavier lorries

In 2011, the Government gave the go-ahead for a 10-year 'longer semi-trailer' (LST) trial in Great Britain, mainly to see if it would bring about "anticipated environmental and economic benefits" (i.e. anticipated largely because LSTs can carry more goods, and reduce the number of trips).²¹ The LSTs involved are up to 2.05m longer than the standard 13.6m commonly seen on the roads (i.e. the trailers measure 15.65m).

Cycling UK opposed the trial on safety and environmental grounds. Notwithstanding, the Government decided to allow up to 1,800 LSTs to operate from January 2012, and subsequently allowed for another 1,000 from January 2017, at which point they extended the trial by five years. These vehicles are permitted to enter urban areas where they are likely to mix with cyclists and pedestrians.

So far, the DfT seems reasonably confident that the collision and casualty rates of LSTs are better than that for the standard trailers. In its fifth annual evaluation of the trial (September 2017), it states: "*On a per kilometre basis, nationally, LSTs have been involved in around 70% fewer personal injury collisions and casualties, in comparison to the average for standard articulated HGVs*". Of injury incidents in urban areas (which are of particular interest to cyclists), the DfT says: "*On a per kilometre basis, we estimate that LSTs have been involved in 70-80% fewer personal injury collisions, compared with the urban (excluding motorways) average for all GB articulated HGVs.*"²²

However, the report makes no specific mention of vulnerable road users and, in any case, the DfT says it still needs to collect more detailed data on the routes taken by LSTs, so that it can provide better estimates of collision and casualty rates. Also, they note that LSTs' safety record may be better than average because, for instance, the drivers involved have been specially trained, routes are carefully selected and operators are doing their utmost to make sure the trial is a success because it represents such a significant investment for them. Moreover, the trial routes seem to be along the Strategic Road Network, rather than the kind of streets cyclists and pedestrians mostly use.

Why oppose longer lorries?

- Even if longer lorries reduce the overall risk to road users per unit of goods transported (i.e. because each vehicle carries more), cyclists may not benefit. HGVs already put them at disproportionate risk, and longer/larger vehicles are unlikely to reverse this situation. They could, in fact, make it worse.
- Longer lorries, of course, do not present problems for vulnerable road users as long as they are confined to motorways. It is only if and when they enter the rest of the road network that risks arise (hence the importance of regulating HGV traffic – see section 2):
 - LSTs' 'swept paths' (the space they need to manoeuvre) are greater and more likely to cut up cyclists and pedestrians. Indeed, the wheels of large lorries regularly leave the designated carriageway when turning at junctions and encroach on adjoining areas where pedestrians and cyclists are likely to be. It is also very difficult to predict what manoeuvre the driver is making and to react accordingly.
 - If junctions are redesigned to accommodate their turning manoeuvres, it typically involves introducing wider radii. This makes it easier for other vehicles to take corners at faster speeds and, as a result, junctions could become even more hazardous for cyclists than they already are. This also undermines the aims of documents such as the Government-commissioned *Manual for Streets*, which advocates designs that promote safer and more equitable sharing of space between motorised and non-motorised traffic.²³
 - They take more time to overtake a cyclist, adding to the risk and sense of intimidation.

- The larger a vehicle is, the more strain it puts on the road surface. In fact, it rises exponentially, being roughly proportional to the 4th power of the vehicle's axle weight. So doubling the axle weight will mean a 16-fold increase in the damage caused. Cyclists in particular suffer disproportionately from defects in road surfaces.
- Allowing longer lorries undermines moves to carry more freight by rail/water instead of by road.

Cycling UK is a supporter of NO MEGA TRUCKS, a campaign against the introduction of vehicles measuring 25.25 metres and weighing up to 60 tonnes in Europe:

www.nomegatrucks.eu/mega-truck-opponents/

b. Increasing lorry speed limits

While research has found that most cycle/goods vehicle collisions happen at 10 mph or below,²⁴ lorries driving at speed contribute to the kind of hostile and intimidating road environment that puts people off cycling.

Yet, in 2015 (England & Wales), the speed limit for lorries of 7.5 tonnes+ went up from 40 mph to 50 mph for single carriageways, and from 50 mph to 60 mph for dual carriageways.²⁵ Greater “economic efficiency” and freeing hauliers from “unnecessary regulation” were cited as the reasons behind the move. The DfT’s impact assessment also said that the previous limit of 50 mph on dual carriageways was “... out of date and systematically ignored by professional HGV drivers” anyway.

The DfT also said: “... there is not expected to be an adverse effect on road safety, but we will be monitoring the impacts closely.” Furthermore, we do not accept that systematic breaches of a speed limit is a justifiable reason for raising it. Investing in tougher enforcement is the solution.

The DfT’s evaluation summary of year 1 (which, they say, cannot be taken as an indicator of the long term impacts), does not mention vulnerable road users specifically, but states that collisions on the roads involved were already trending downwards before the changes, though the rate of reduction has slowed in recent years. Following the changes, it says: “[...] there is preliminary evidence of a reduction in HGV collisions estimated to be between 10% and 36%, however, it is not possible to attribute this directly to the speed limit changes.”²⁶ No further analysis has yet been published, but we hope this will provide a clearer picture (e.g. if there are fewer collisions involving cars overtaking HGVs).



7. Enforcement and accountability

Cycling UK view:

- All the responsible agencies (e.g. police, DVSA, local authorities and the Health and Safety Executive), should promote and enforce safe driving and vehicle standards for lorries. The Government should set up a national scheme to promote collaboration between these agencies, based on the model of TfL's London Freight Enforcement Partnership.
- Traffic Commissioners should use their powers to act against irresponsible operators and drivers, and be assured of the resources to do so.
- Individual haulage companies and the associations that represent them should develop, publish, maintain and monitor strategies, action plans and fleet management practices that minimise the risks goods vehicles pose to cyclists. Where appropriate, these should be produced jointly with local authorities and enforcement agencies and have regard to the advice and guidance provided by groups representing vulnerable road users.
- Procurement policies, especially from public authorities, should stipulate that the supply and delivery of goods and services takes vulnerable road users' safety into account; and that the operators comply with set, high standards (e.g. CLoCs for construction-related activities, or the equivalent for other operations such as waste disposal).
- To make it easier to check that haulage companies are reputable, their Operator Compliance Risk Scores (OCRS) should be made public.

a. Enforcement agencies

In June 2015, TfL reported that three out of four lorries stopped in a targeted (rather than random) crack-down on dangerous commercial vehicles in the city were non-compliant in some way.²⁷ The findings highlighted how important it is for the police, the DVSA, and the Health and Safety Executive to enforce driving and vehicle standards properly, and they prompted TfL to set up the Lorry Freight Enforcement Partnership (see box below).²⁸

Lorry Freight Enforcement Partnership (London)

In 2015, TfL, City of London Police, the Met Police Service and DVSA set up the London Freight Enforcement Partnership (LFEP). Building on existing initiatives like the Industrial HGV Task Force, this is a joint intelligence-led scheme to eliminate rogue freight operators.

It works towards four strategic aims: to improve air quality, to improve road safety, to reduce congestion and to promote fairness within the trade.

Celebrating the partnership's second anniversary in November 2017, TfL announced that it had:

- Stopped and checked 33,000 freight vehicles;
- Issued 9,114 fixed penalty notices and traffic offence reports, along with 5,600 mechanical prohibitions to operators with seriously defective vehicles; and
- Seen 106 arrests, 221 vehicles seized and 12 operator licences revoked.

Source: <https://tfl.gov.uk/info-for/media/press-releases/2017/november/partnership-checks-more-than-33-000-vehicles-to-keep-london-s-roads-safe>

Cycling UK would like to see the Government establish a national scheme based on LFEP's model.

- **The Police and the Driver & Vehicle Standards Agency (DVSA)**

The police and the DVSA play a crucial role in acting against operators and drivers who breach standards. Working in partnership with traffic authorities is particularly effective (as in the LFEP above).

Despite some good examples, however, lack of resources both in terms of funding and manpower, is a widespread problem for roads policing, as discussed in our briefing on the police:

www.cyclinguk.org/campaigning/views-and-briefings/traffic-police-and-other-enforcement-agencies

- **Traffic Commissioners**

When lorries are involved in serious injury or fatal collisions, the subsequent focus is often largely on the driver and/or the victim, rather than on the operator who employed the driver and supplied the vehicle. However, it is important not to forget the responsibility of operators who, for example, employ unfit or unqualified drivers, and/or allow unsafe vehicles onto the roads.

The role of Traffic Commissioners is crucial in this respect because they regulate operators' licences and have the power to withdraw them. Unfortunately, though, experience suggests that their ability to act is compromised by lack of resources, and/or simply because they are not being notified. For example:

- The driver of the lorry that killed cyclist Alan Neve in London (2013), was unlicensed and had a string of previous convictions. The Traffic Commissioner, however, was not notified of this until after these facts emerged at trial, nearly two years after the cyclist's death. Only then did the Commissioner withdraw the operators' right to hold a licence.
- No action seems to have been taken against the operator of the lorry that killed two charity cyclists riding from Lands End to John O'Groats in 2013. The driver had worked excessive hours, and went on to have a second crash before he came to trial. As in the case of the driver of the lorry that killed Alan Neve, the operator had also come to the attention of the Traffic Commissioners previously, but nothing had been done to prevent their business functioning.

For more, see www.cyclinguk.org/news/20150608-reining-rogue-goods-vehicle-operators and www.cyclinguk.org/news/20150630-regulator-bans-haulage-operators

- **Health and Safety Executive (HSE)**

The *Health and Safety at Work Act 1974* requires employers to ensure, so far as is reasonably practicable, the health and safety of all employees while at work, including when they're driving on business. In fact, managing a driving for work policy is a legal requirement. Employers must also ensure that others are not put at risk by work-related driving activities.

The HSE produces advice and is empowered to enforce health and safety law as appropriate through warnings, notices and formal cautions in England and Wales. In Scotland, they may prosecute (or report to the Procurator Fiscal with a view to prosecution).

Cycling UK believes that the HSE should make work-related road safety a priority, pursue it proactively and be given sufficient resources to do so. This includes tackling road freight operators whose substandard and irresponsible practices present a risk to other users. Currently, however, the HSE does not accept that it has a role in work-related road safety investigations or enforcement, except in a few limited circumstances.

Also, as most types of road traffic incidents are exempt from RIDDOR (*Reporting of Injuries Diseases and Dangerous Occurrences Regulations 1995*²⁹), they are not necessarily investigated by the HSE. This does not stop employers, the police, local authorities and the public from reporting them to the HSE, though. A better option, however, would be for the Government to include road traffic incidents (especially those involving heavy vehicles) in RIDDOR.

b. Public and local authorities

When procuring contracts involving lorry operations or when granting planning permission, all public authorities should insist that operators comply with the highest standards, e.g. CLoCS if associated with construction (section 3), and the Freight Operators Recognition Scheme (FORS) Silver or Gold Standard for freight operators in London (see 7d below) – or an equivalent standard. This would also have the effect of rewarding companies who take safety seriously, and reduce their concerns about being undercut by less scrupulous operators.

New developments: When granting planning permission for development or infrastructure projects, local authorities should be mindful of the lorry movements the site is likely to generate during construction – (and/or after construction if the site is some kind of depot). Through planning permission and Section 106 agreements (England & Wales) / Section 75 agreements (Scotland)³⁰, Cycling UK believes they should:

- Oblige all operators to use vehicles designed to the specification set out in section 3, and conform to CLoCS (see also section 3);
- Stipulate the routes lorries must take (section 2b);
- Require that construction sites are suitable for vehicles fitted with safety features (2a); and
- Insist that all drivers are given cycle awareness training (section 4a).

It is, of course, important to enforce these conditions and take action against all breaches.

A good example is Cambridge University's Cambridge CLoCS, a voluntary scheme for contractors working on the University's major projects.

www.environment.admin.cam.ac.uk/what-are-we-doing/travel/get-cycling/cambridge-clocs

In February 2017, Wealden District Council councillors unanimously blocked retrospective planning permission for an HGV operation in Pevensey, East Sussex. The development was on a narrow country lane, and lorry movements were putting cyclists and pedestrians at risk – a cyclist was seriously injured in collision with a lorry travelling along the lane from the site in 2015. See: www.cyclinguk.org/press-release/2017-02-03/pevensey-cyclists-celebrate-lorries-barred-country-lane

c. Procurement

When buying goods and services, all organisations need to be aware that their decisions have an impact on vulnerable road users' safety. Public authorities in particular should lead by example and choose fleet vehicles, suppliers and contractors who abide by best practice; and require any goods vehicle contractor who is working for them, as well as those involved in work on new developments in their area, to comply with CLoCS (see section 3) and FORS (section 7d), as appropriate.

Operator Compliance Risk Scores (OCRS) are used by the DVSA to calculate the risk of operators not following the rules on roadworthiness and traffic, e.g. drivers' hours etc.. The scores are informed by annual tests (e.g. MOTs) and more random inspections, and help both DVSA and the police decide whether to stop and check over a vehicle at the roadside. A high score makes an inspection more likely.

Access to an operator's OCRS would make it far easier for those who contract haulage and other lorry services (e.g. councils, supermarkets etc.) to find out whether an operator is reputable. However, OCRS are confidential at the moment, despite the fact that the data would enable clients to show due diligence by avoiding operators with poor safety records. For more, see:

www.cyclistsdefencefund.org.uk/road-safety-organisations-support-increased-transparency-lorry-risk-scores and www.gov.uk/operator-compliance-risk-score/overview

- Transport for London (TfL) has developed a toolkit for procurement, contract and commercial managers/staff on work-related road risk requirements, which covers measures to minimise the hazards that lorries pose to cyclists. Although TfL uses it to manage the contract compliance of its own suppliers, it can be adapted by other organisations.
www.fors-online.org.uk/cms/wp-content/uploads/2014/12/wrrr-toolkit-september-14.pdf
- The London Cycling Campaign's 'Safer Lorries, Safer Cycling' pledge asks all London Boroughs to employ only the safest haulage companies as (sub)contractors – i.e. those who fulfil certain conditions regarding safe vehicles and safe drivers. LCC scores each borough on its progress.
<http://lcc.org.uk/pages/why-safer-lorries>

d. Operators: best practice

To reduce the risks that their vehicles and drivers could pose to cyclists and pedestrians, Cycling UK believes that operators should:

- Check drivers' licences, criminal, health/eyesight records on recruitment and regularly thereafter;
- Carry out random drug and alcohol testing;
- Not encourage speeding and unsafe driving by putting pressure on drivers and/or paying them by the load or for piecework, rather than by the hour;
- Enforcing adequate rest;
- Develop, adopt and circulate policies on good driving practice, e.g.:
 - on distractions: hands-free phones are as distracting as hand-held phones, even though it is legal to use the former whilst driving;³¹
 - advise drivers to: check any 'blind spots' before moving off from being stationary in traffic by leaning forward over the dashboard to make sure there are no cyclists (or pedestrians) directly in front or alongside the cab (their vehicles should not, of course, have any blind spots); and not be distracted by paperwork.
- Communicate all policies to drivers regularly and effectively;
- Operate robust reporting and complaints systems (e.g. online) so that people can easily alert companies when one of their employees drives badly; and maintain effective monitoring and disciplinary systems so that poor, anti-social and offending driving is properly addressed. Near misses should be included;
- Report collisions involving their drivers and vehicles via RIDDOR (see 4a above);
- Subscribe to CIRAS (see 7d below);
- Carry out all the required safety checks on their vehicles, tachographs etc. and make sure that drivers conduct an inspection before each journey.



London Cycling Campaign's design for a safer urban lorry. Source:
<https://lcc.org.uk/articles/lcc-challenges-construction-industry-to-adopt-its-safer-urban-lorry-to-reduce-lorry-cyclist-deaths>



e. Voluntary initiatives

Much progress has been made recently by voluntary schemes that bring operators, construction companies and the authorities together to promote safe lorry designs, operations and driver training.

The two principal schemes are CLoCS for the construction industry (see section 3) and The Fleet Operator Recognition Scheme (FORS), with which CLoCS works closely.

FORS is a free, voluntary, accreditation scheme operated by TfL for all commercial vehicle operators delivering and servicing in London. It encourages operators to adopt sustainable and safe working practices, and comply with their legal requirements. Although not limited to road safety, the scheme offers a cycle safety e-learning module and a cycle safety toolkit. www.fors-online.org.uk/cms/

Cycling UK encourages all fleet operators to sign up to FORS Silver at least, because the CLoCS standard is incorporated into this level.

It is vital, of course, to make sure that operators who sign up to initiatives such as CLoCS and FORS honour their commitments. If, for example, their vehicles do not comply, drivers need to be turned away from work sites until their lorry is correctly equipped. Likewise, any operator displaying a FORS sticker falsely for some reason, should be asked to remove it.

The Construction Industry Cycling Commission (CICC) was founded in 2014 by group of senior figures in the property and development industry who wanted to play a positive role in improving conditions for cycling. CICC has published a report and a 10-point manifesto. www.cyclingcommission.org/

Campaigners: RoadPeace, Cycling UK, Living Streets and London Cycling Campaign have set up *Action on Lorry Danger*. The original focus was on London, but its stated remit is now UK-wide.

Freight Quality Partnerships between local authorities and groups of transport operators can help sort out freight access and delivery problems in a particular location in a concerted way.

CIRAS (confidential incident reporting and analysis service) is an independent membership organisation governed by a committee that includes representatives from the UK rail industry (light and heavy), TfL, trams and other UK transport modes. Once an employer has voluntarily signed up, it gives staff the chance to make anonymous reports about any health and safety concerns, which CIRAS then investigates, follows up and aims to help resolve.

In 2016, TfL extended access to CIRAS to drivers and other personnel working for their bus service contractors (originally, only rail staff had access to it). Cycling UK would like to see them opening up the system to the employees of their HGV contractors too. We also believe that CIRAS should be used more widely by the road freight industry, and those who contract its services.

8. Roads: layout and street furniture

Cycling UK view: Cyclists benefit from road layouts and street furniture (e.g. 'Trixi' mirrors) that facilitate safe interaction between them and lorries.

a. Road layout

Highway authorities can make a significant contribution to road safety by creating road layouts that reduce conflict between cyclists and all motorised traffic, including lorries.

Junctions need special attention because around three-quarters of collisions involving cyclists happen at or near them. For faster and busier junctions, the aim should be to provide cyclists with separate space and/or signal phases. Where their paths cross with others (particularly at unsignalised junctions), they should preferably do so at right angles to maximise their ability to see one another. Also, tightening up junction geometry is a good way of making all drivers take the corners with greater care and more

slowly. (As mentioned, re-designing junctions so that they can better accommodate lorries instead usually involves wider radii, resulting in faster motor traffic and greater risk for cyclists).

Conflict can also be reduced by maximising opportunities for lorries and cyclists to avoid each other as much as possible: e.g. allowing cycle access to bus lanes; considering grade separation at major junctions where feasible and where the road itself is untreatable (e.g. over A roads in non-built up areas); exempting cycles from road closures and one-way working, offering routes through vehicle restricted areas and providing links so that they can make their journeys easily along quieter streets where lorries are less likely to be.

b. Street furniture

Mirrors: 'Trixi' mirrors can be attached to traffic signals to give drivers of large vehicles a better view of cyclists at junctions. Although their effectiveness is unclear, they are very inexpensive and have no disbenefits – so they are, arguably, a safety measure worth considering.

Railings: cyclists have been severely injured or killed as a result of being caught between a lorry and pedestrian guardrailing at junctions. Given the lack of evidence over its safety benefits,³² guardrailing should be removed altogether.

9. Research and guidance

Cycling UK view: Research into the efficacy of all the above measures needs to be done, with the DfT, TfL, other local authorities and operators all collaborating EU-wide, as required. This should result in clear, consistent guidance for all operators and authorities.

Whilst some research has been carried out into a number of the measures listed in section above, more needs to be done so that everyone who has a role to play in reducing the risk that lorries present to cyclists has a better idea of what works most effectively. Collaboration is vital and it should extend beyond the UK to Europe so that best practice there is identified.

WEBSITES

- www.no-more-lethal-lorries.org.uk/ - London Cycling Campaign's appeal to reduce lorry danger
- <https://tfl.gov.uk/info-for/deliveries-in-london/> - TfL's online advice on making and receiving deliveries, including parking and loading, delivering efficiently and driving near vulnerable road users.
- www.roadpeace.org - the charity for road crash victims
- www.brake.org.uk - road safety charity that works with fleet operators, amongst other activities
- www.fta.co.uk - Freight Transport Association
- www.rha.uk.net - Road Haulage Association
- www.hse.gov.uk/workplacetransport/ - Health and Safety Executive

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¹ The traffic statistics in this section come from: DfT. *Road Traffic Estimates in Great Britain 2016*. April 2017. Table TRA0104; and the road casualty statistics come from: DfT. *Reported Road Casualties Great Britain: 2016*. Sept. 2017. Table RAS40004. www.gov.uk/government/collections/road-traffic-statistics / www.gov.uk/government/collections/road-accidents-and-safety-statistics

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