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London Cycling Campaign response to the lorry permit consultation November 2017

About the London Cycling Campaign

London Cycling Campaign (LCC) is a charity with more than 40,000 supporters of whom 12,000 are fully paid-up members. We speak up on behalf of everyone who cycles or wants to cycle in Greater London; and we speak up for a greener, healthier, happier and better-connected capital.

Introduction

LCC has had a long-standing concern about lorry safety, and the charity has mounted many campaigns in the past to address this as well as worked directly with the industry to improve standards. We are currently running two major initiatives: our Lorry Safety Project (sponsored by Dennis Eagle) provides people with safety advice for when cycling near lorries, as well as a being portal for operators to gain industry safety information (see http://lorrysafety.lcc.org.uk/); and we are working under a grant from TfL to promote the CLOCs standard (Construction, Logistics & Community Safety) to councils plus promote best practice.

Accordingly LCC welcomes the opportunity to respond to the lorry permit consultation.

Collisions with lorries are the single biggest source of cyclist deaths in London (~50%) and a major factor in pedestrian deaths (~20%). LCC therefore strongly supports the Mayor's initiative to ensure that the most dangerous lorries are kept off London's streets to protect both those walking and cycling. We also note that one of the public promises the Mayor made to LCC members and supporters, in response to our Sign for Cycling campaign, was to make 'direct vision' lorries (ones with far fewer 'blind spots') "the norm" on London's streets; the Mayor said:

"I will promote safer, cleaner lorries. I will work with the boroughs and using City Hall procurement to set new safety standards, work to make sure City Hall and TfL contracts specify 'direct-vision' lorries, and use planning and other powers available to me, so that the safest lorry types become the norm on London's streets as soon as possible."

(https://lcc.org.uk/articles/good-news-sadiq-khan-backs-sign-for-cycling)

The first TfL consultation (spring 2017) on the direct vision standard found that a strong majority of respondents (84%) agreed that adopting a direct vision standard had the potential to reduce road danger. Some 78% of people agreed that lorries with the worst 'direct vision' (as opposed to indirect vision via mirrors or cameras) should be excluded from London. Of freight industry respondents, the largest proportion (45%) agreed with the potential safety benefits of adopting a Direct Vision Standard (DVS), even though they recognised that this had potential cost implications, and fewer than 35% disagreed.

The current consultation seeks views on a permit system for lorries (N3 and N3G type - over 12 tons) operating in London which will rate lorries for direct vision according to a five star rating system and will exclude lorries rated below one star unless they have implemented a range of additional measures under a 'safe systems' approach . This proposal is being made because of the high proportion of vehicles that do not meet the one star rating and the potential inability of some operators to replace vehicles by the 2020 deadline.

We note that the rating system, as currently designed, does not differentiate between the large proportion of zero star vehicles, some of which, such as those without front under-run protection and a high chassis, may pose a greater hazard to other road users.

While LCC recognises the challenge for fleet operators to meet the 2020 deadline and the consequent need for transitional arrangements, we are most concerned that the proposal does not provide a clear road map for reaching the Mayor's target of making lorries with good direct vision 'the norm' on London's Streets. As we further explain below, such vehicles are, rightly, already 'the norm' in London's refuse and airside sectors.

The TfL report for the consultation identifies tippers (typically hi-cab vehicles designed for off-road use) as being involved in 45% of left-turning lorry/cyclist fatalities. The design and on-street operation of these vehicles in particular must be addressed if we are reduce road danger in London. As the consultation documentation states the hi-cab off-road vehicle (designated N3G as opposed to N3) is little used in Sweden. We understand that this danger-reducing measure is in part facilitated by hard surface paths on construction and waste sites. We would like to see the Swedish example followed in the UK.

Industry looks to government to set standards within which it operates – not least to create a level playing field between those who of their own volition wish to maximise road danger reduction and those whose aim is to only to meet the minimum required standards.

1. **LCC welcomes the new direct vision standard and strongly supports a permit scheme for HGVs in London with deadlines in 2020 and 2024.**
2. **In the light of the strong evidence provided in the independent reports on the benefits of improved direct vision we want the DVS to remain a top priority for assessing the safety of vehicles operating in London. While transition arrangements may be required in the short term a clear path to making lorries with good direct vision to be the London norm must be established.**

Safety of road users and road danger reduction

LCC's advocacy of safer lorries stems from the disproportionate role played by lorries in fatalities: half of cyclist road deaths and one in five pedestrian deaths in London involve an HGV, according to TfL figures, despite the fact that HGVs account for less than 5% of road miles in the capital. In 2017 seven out of 11 cycling fatalities involved a lorry.

This is the reason why LCC has supported and/or lobbied for:

- driver training, through the Safer Urban Driving module;
- the establishment of the Fleet Operators Recognition Scheme (FORS) to set standards in the freight industry;
- making FORS accreditation mandatory in TfL and council procurement policies
- the development of the Construction Logistics and Community Safety (CLOCS) standards to reduce work related road risk;
- the Exchanging Places education programme for vulnerable road users, which demonstrates the limited direct vision from conventional lorries and teaches them about 'blind spots';
- the EU directive on 5th and 6th safety mirrors for new and existing lorries;
- a Direct Vision Standard for HGVs and a ban on unsafe lorries in London;
- changes to the timing and routing of lorry movements to minimise the opportunity of collisions.

It is also the reason why LCC has consistently used our communications reach to alert road users to the dangers of lorries and distributed information widely to cyclists to inform them about the exact nature of that danger and how best to avoid it.

Vision Zero

The World Health Organisation has recommended a 'systems approach' to road danger. This is now part of policy at the Department of Transport and is championed by London's Mayor as 'Vision Zero.' The systems approach looks at the prime sources of road danger and focuses on people, infrastructure and vehicles.

This consultation addresses the vehicle element of Vision Zero and we welcome the plans to reduce road danger from Heavy Goods Vehicles (HGVs) in addition to both training programmes and improved infrastructure.

3. **To meet the challenge of achieving Vision Zero by 2041 the Mayor must ensure that heavy goods vehicle design is improved to minimise risk to pedestrians and cyclists. Vehicle makers acknowledge that poor visibility from lorries remains a cause of road danger and that most current HGV designs do not meet the vision standards set by low-entry trucks.**
4. **The TfL permit scheme must define a clear path for wide-spread adoption of lorries with good direct vision in London (in addition to any complementary measures).**

Improved vehicle design

The importance of lorries with far fewer blind spots than conventional high cab vehicles is recognised within the freight and transport industries. In certain sectors, notably refuse and airside, lorry designs with much improved direct visibility, and low entry, are now the norm.

We welcome TfL's decision to define a 'direct vision' standard to enable vehicle buyers, operators, contractors and their clients to know how severe the blind spots are, or how good the direct vison is, from all HGVs. We understand the standard grades vehicles from zero star (severely limited direct vision) to five star (good direct vision).

Conventional HGV designs seek to maximise freight carrying capacity within the maximum permitted dimensions for large vehicles. Placing the driver in a high driving position is the current outcome of such designs and this makes the vehicles far less suitable for urban use where there are numerous pedestrians and cyclists well below the driver's line of direct sight.

The refuse industry in London has adopted, almost exclusively, low-entry 'high vision' (a term used by Mercedes) vehicles such as the Mercedes Econic and Dennis Eagle Elite over the course of the past decade. These vehicles are expected to meet the five star category of the TfL direct vision standard. The adoption of such vehicles, which cost approximately 15% more than conventional lorries because of currently smaller production volumes, is a response by the industry to concerns about the health and safety of their own employees who work in close proximity to the vehicles. The drivers and operatives also have easier access to the low entry cab and the 'step-through' cabs mean drivers can exit via the passenger door and not step into traffic.

Comments from drivers who have the opportunity to try vehicles such as the Econic and Elite indicate that they like the improved visibility and comfort of the vehicles. We note that former Transport Minister Andrew Jones, when in post, commended the visibility from a lorry with five star direct vision after a test drive.

Additional benefits of the five star direct vision vehicles are good low level visibility which helps prevent collisions with stationary objects and significantly improved communication with other road users. We note that TfL surveys found that lorry drivers, cyclists and pedestrians all identified that a key element of road danger reduction was direct eye contact.

Airside vehicles at airports are now almost exclusively of the low entry type with good direct vision to prevent collisions with staff or airline passengers.

We note that Mercedes and Dennis Eagle have adapted their refuse lorries for construction use with a selection of mixer, tipper, tractor unit and other bodies and cabs now available for purchase. Scania has developed the L-series of low-entry vehicles with improved vision and air suspension to lower the vehicle when on the road and raise it off-road. Volvo has displayed its own low entry (FE type) vehicle.

Work-based health and safety measures are well established across most sectors notably the construction industry. More recently, Work Related Road Risk (WRRR) which concerns vehicles off-site has become part of some contractual arrangements and planning requirements as well as internal compliance. The London Borough of Camden for example requires that all major developments conform to the CLOCS – Construction Logistics and

Community Safety standards. This involves full safety features on vehicles, training for drivers and provision of banksmen at entry points.

The adoption of DVS and the restrictions on vehicles that do not meet required standards will assist all operators and work–sites in reducing the hazards to both employees and road users in general.

Every collision prevented by the use of vehicles with minimal blind spots, and an on-road ban on those that have the poorest direct visibility such as off-road tippers, will reduce tragedy for the families of victims, trauma for the drivers themselves and a range of costs for the operator.

TfL's Direct Vision Standard and permit scheme have the potential to generate safer vehicle designs across the HGV industry.

Truck makers such as Dennis Eagle, Mercedes, Scania and Volvo have shown that they have the knowledge, expertise and technology, to deliver vehicles with high DVS ratings for the construction and freight sectors as well as refuse and airside.

5. **The TfL DVS research and permit programme has already prompted the truck industry to innovate and develop vehicles suitable for urban use in densely populated cities like London. TfL must ensure that its own procurement processes use the DVS, and the Mayor should use his authority to require other planning authorities to make reference to the DVS in considering development applications , so that only the safest vehicle are used on London's roads.**

Blind spots in lorries

The identification of significant blind spots in vehicles with high cabs is well documented. Many lorry operators carry signs warning other roads users that the driver has blind spots. Lorry manufacturers, such as Volvo, produce videos and slide presentations to illustrate the problem of poor visibility from a conventional HGV and, like other manufacturers, offer low-entry vehicles for use in industries, such as waste collection or airport use, where better visibility has already been required.

Studies by Loughborough University, TRL (Transport Research Laboratory) and Leeds University have looked at collisions and driver vision and lorry design. The studies come to the conclusion that poor direct driver vision is implicated in collisions and that better direct driver vision can help in avoiding collision.

Perhaps the most disturbing evidence for the existence of blind spots, and their consequences, comes from coroner inquests into fatal collisions involving lorries. Barristers frequently argue, and coroners conclude, that a driver's inability to see the victim contributed to a fatality.

While it is not possible to judge retrospectively whether any specific cyclist or pedestrian fatality with an HGVs would, or would not, not have occurred if a vehicle with improved direct vision had been involved, the evidence for the benefits of improved direct vision are very significant and underlined by the fact that the airport and London refuse industries have

switched over, almost fully, to vehicles with five star rated direct vision. Based on studies carried out by the Transport Research Laboratory, Leeds University, Loughborough University, TfL and coroners reports, we note that:

- 61% of cyclist fatalities involving HGVs in London between 2009 and 2014 had the potential to be influenced by blind spots.
- 49% of pedestrian fatalities involving HGVs in London between 2005 and 2014 had the potential to be influenced by blind spots.
- Research data shows that although a 5 star direct vision HGV will not give visibility to all areas identified as high potential for accidents it is likely to make a significant difference.
- In experimental conditions a 0.7s average increase in reaction times was recorded for observations in mirrors versus direct vision which equates to travel distance of 1.5m at 5mph.
- In a simulated potential pedestrian collision with a lorry 23% more participant drivers collided with a pedestrian in standard v low entry cabs. When a cognitive load was added this increased to 40%.
- Leading industry figures from O'Donovans, Keltbray and Cemex recognise that direct vision vehicles have a major role to play in reducing incidents.
- Of HGV drivers when surveyed:
    - Almost half feel that it is sometimes difficult to recognise a cyclist in a mirror.
    - 41% of drivers agree that increasing the size of windows would support them to avoid collisions with vulnerable road users.
    - Most drivers try to make eye-contact with road users and believe this reduces likelihood of collision.
- Mirrors, which can take 5 seconds to check, do not give comprehensive coverage of the volumes that are directly visible in a 5 star direct vision HGV.
- Survey evidence shows most cyclists and pedestrians feel they can be seen more easily by drivers in HGVs with larger windows and 'bus style' transparent doors and that they feel safer when they can make eye contact with drivers.

6. **Blind spots in heavy vehicles must not be considered acceptable. Vehicles can, and must, be designed so as not to pose a danger to other road users. Lorries used on urban roads must have good direct vision and using all the powers at his disposal to achieve this must remain a top priority for the Mayor**

Off-road lorries

The TfL consultation document states that a quarter of fatal collisions involving lorries resulted from incidents with tippers (usually classified as N3G (over 12 ton off-road) as opposed to N3 (over 12 ton on-road)). What distinguishes N3G tippers from other lorries is that the driver is higher up (with a worse direct view of pedestrians and cyclists), the chassis is higher (potentially increasing the severity of injury in any collision) and no under-run guard is provided (further increasing the potential for injury in a collision).

A survey for TfL found that 49% of N3G vehicles were not used off-road and that 47% of operators are not aware of the difference between N3 and N3G vehicles.

We understand that in Sweden there is no requirement for N3G vehicles to be used on road because there is far greater re-cycling of waste on site and waste site conditions ensure that N3 trucks can deliver loads as required.

We also understand that the DVLA does not require N3G vehicles to be registered as such despite the fact that they pose an increased danger to other road users. Identification of N3G vehicles by the DVLA would assist in collision analysis and data gathering as well as enabling correction of erroneous vehicle identifications following collisions.

7. **The procurement process and the permit system must be used to deter developers and their contractors from using N3G vehicles on London roads. The 2024 deadline should be sufficient to enable most landfill sites to cater for LEC (low entry cabs) or N3 lorries and for London operators to switch to such sites.**
8. **TfL must lobby to ensure N3G vehicles are registered with the DVLA.**

Site surface conditions

The current consultation does not address uneven site conditions which are a key factor identified by the industry as being a justification for using off-road vehicles on London roads. Even if, as reported by industry members, most major London sites do have hard surfaces (hardstanding) for the delivery of loads, operators argue that this is not the case at some landfill locations.

We note the findings of the "Road safety standards for construction, supply and waste" document published by AECOM as part of the CLOCS (Construction Logistics and Community Safety) programme. This study found that 64% (of a total of 1848 landfill and waster transfer sites in the South East) would meet the CLOCS 5 site standard allowing access for Low Entry Cabs (LECs) such as the Dennis Eagle Elite and Mercedes Econic in all weathers. A total of 95% of sites were accessible to both LECs and N3 (non-off road > 12 ton HGVs) vehicles. Thus only 5% of sites (of which 75% were landfills) may have required the use of N3G vehicles. The study recommended improvements to sites that would enable more of them to provide access to LECs and N3s.

We note that refuse lorries such as Dennis Eagle Elites, which do not have the higher clearance of N3G vehicles, deliver waste to landfill sites that have uneven surfaces and their undercarriage is protected by a steel plate.

The presence of hardstanding on construction and landfill or waster transfer sites has the obvious benefit of a lower maintenance cost for vehicles.

The above report notes the much reduced use of N3G vehicles in Sweden where more construction waste is re-cycled and site conditions are suitable for non-off-road vehicles

9. **To complement its DVS work and permit system TfL must develop its list of landfill sites with hard surfaces for waste delivery. This list must be used in the planning process to specify highly rated sites to be used for waste disposal.**

10. **TfL should lobby government to set out requirements for landfill sites that include hard surfaces**

Working conditions and 'pay per load'

The original report on cyclists' safety and construction logistics (TRL 2013) identified the need to research the safety issues surrounding pay per load deliveries. The same issue is raised by bonuses for additional or faster deliveries.

The obvious safety concern is that drivers incentivised by to make more deliveries in a shorter space of time may drive faster than appropriate for conditions and may therefore be involved in more collisions. While this cannot be ethically conducted as an experiment there is ample evidence that speed is a critical factor in collisions. Even at low speeds trucks that are in a rush to meet an unrealistic delivery deadline can prove hazardous.

Some companies reject load incentives and pay drivers a regular salary. This can, today, be complemented by GPS tracking of vehicles and planning of logistics to address road conditions (for example keeping vehicles on site until road conditions ease).

We note that the freight industry has repeatedly identified the shortage of HGV drivers, estimating the UK shortfall as between 30,000 and 60,000. Yet, despite this nationwide shortage, operators with high standards of safety and road danger reduction measures report high numbers of applicants for vacancies. Safe vehicles and a reward system that is not based on pay-per-load or bonuses for more than a safe number of trips is a potential way of recruiting and keeping staff.

11. **Incentives that may encourage drivers to drive at speeds inappropriate for urban conditions must be ruled out through the procurement process.**

Zero rated lorries

The consultation documents state that more than half the vehicles tested scored zero stars or below in DVS rating. This likely hides a significant differentiation between those which scored just under zero and those which fell well below the standard.

12. **Differentiation between zero graded needs to be recognised and lorries that include design features that can prove a hazard to other road users , such as the absence of under-run protection or side guards, should be required to satisfy additional standards (such as operator adherence to CLOCS and FORS silver standards) and should not be permitted to operate in London post 2024.**

EU legislation

The EU is to introduce legislation requiring the use of vehicles with improved direct vision in 2022. Manufacturers and operators are aware of this and will already be making plans to comply with the legislation. Thus while the choice of five star DV vehicles is currently limited this will increase rapidly once such legislation is in place.

In July 2017 with the support of the European Commission TfL hosted a meeting with the UN Economic Commission for Europe (UNECE) to discuss the adoption of DV standards. The UNCECE oversees type approval for vehicles (members include non-EU countries).

The EU parliament passed a motion on 'Saving people's lives' that included the following statements in November 2017

"35. Calls for safer front-end design of heavy goods vehicles related to better vision of pedestrians and cyclists, as well as for barriers to avoid collisions and mitigate consequences of collisions;"

"*39. Emphasises that increasing the direct vision of the driver in heavy goods vehicles, buses and coaches and reducing or eliminating blind spots are vital for improving the road safety of such vehicles; calls on the Commission, therefore, to mandate ambitious differentiated direct vision standards and to make it compulsory to install front, side and rear cameras, sensors and turning assistant systems, while observing that such measures should accord with Directive (EU) 2015/719 and should not result in any extension of the time limits for implementation laid down therein;"*

TfL has pioneered the DVS standard and can contribute to its application in the European and International context. All vehicles that are used on urban roads need to have the benefit of good direct vision.

The fact that Europe will be legislating for a DVS standard means that vehicles with good direct vision will become the standard rather than the exception. This in turn will increase production levels significantly and reduce the cost of such vehicles.

13. **The Mayor should lobby, on the basis of TfL's research into DVS, to ensure that EU and UNECE regulations require that future lorry design takes full account of road user safety and minimises the existence of blind spots in HGVs.**

Costs

The very high costs for some options included in the consultation documents are not fully explained. It can only be assumed that they consider the full economic cost of closure of major developments – and, if so, this would be an unrealistic and unhelpful comparison

The cost analysis then proceeds to look at only two options – option 1: a full zero star ban in 2020, which TfL notes is impractical given the zero rating given to more than 50% of vehicles, and option 5: non-time limited mitigation measures.

Given the broad agreement on the benefits of better direct vision it is unclear why realistic options, taking full account of replacement cycles, that provide a path to the adoption of lorries with good direct vision in London are not fully considered.

UNECE and EU requirements, coupled with procurement in London, will likely lead to vehicles with panoramic direct vision becoming both widely available and more affordable as of 2022.

As the consultation documents notes, lorries are typically replaced by major operators on a 7/8 year cycle. As of 2022 the choice of a five star DVS that also meets the new emission

standards will become a logical one for most operators particularly if provision of hard surfaces at landfills becomes more commonplace. Increased cost will then relate primarily to the increased cost of a five star vehicle which currently amounts to 15 -20% (and will fall as production becomes automated) and constitutes a small part of the overall cost of operating a vehicle when wages, fuel and maintenance are considered.

14. **Cost estimates should consider examples of operators that opt for safer lorries in a replacement cycle that aims to meet future best practice**
15. **The transitionary mitigation measures proposed in the consultation have merit in themselves and most should become standard practice in combination with improved direct vision**

Enforcement and Monitoring

To meet the requirements of the Mayor's Vision Zero the lorry permit scheme needs to be effective in practice. The permit system should encourage all operators to meet the required standards however we note that, according to the London Freight Enforcement Partnership (LFEP), existing standards are often not met. Thus an effective monitoring and enforcement programme needs to be in place, notably when the ownership or operation of a vehicle are transferred and permits must be renewed. This will require engagement with vehicle licensing bodies.

16. **TfL must ensure that monitoring and enforcement of the permit system is effective including when ownership/operation is transferred.**

Consultation question responses

1. To what extent do you agree or disagree that the amount a HGV driver can directly see through the cab's windows plays a role in collisions with vulnerable road users?

◉ Strongly agree ○ Agree ○ Neither agree or disagree ○ Disagree ○ Strongly **disagree**

2. To what extent do you agree or disagree that the amount a driver can directly see should be improved to reduce HGV road risk?

◉ Strongly agree ○ Agree ○ Neither agree or disagree ○ Disagree ○ Strongly disagree

3. To what extent to you agree or disagree with the proposed star rating boundaries for vehicles under the DVS scheme?

◉ Strongly agree ○ Agree ○ Neither agree or disagree ○ Disagree ○ Strongly disagree

4. Do you have any comments on the DVS or how the ratings boundaries have been set? Comments

See position paper.

The ratings for vehicles below 1 star should be reviewed to identify those that pose the greatest danger to vulnerable road users.

5. To what extent do you agree with the proposals to introduce the proposed HGV safety standard permit scheme?

(•) Strongly agree ( ) Agree ( ) Neither agree or disagree ( ) Disagree ( ) Strongly disagree

6. To what extent do you agree with the proposals to introduce the proposed HGV Safety Standard Permit scheme even if it may make it more expensive for businesses to operate HGVs in London?

(•) Strongly agree ( ) Agree ( ) Neither agree or disagree ( ) Disagree ( ) Strongly disagree

See position paper. The safety of Londoners is a priority. Operators who are already switching to safer vehicles and safer systems clearly recognise the benefits in terms of fewer collisions and more business opportunities.

7. To what extent do you agree or disagree that a DVS rating of one star should be set in 2020 as the minimum acceptable standard for HGVs to operate in London without further safety measures?

(•) Strongly agree ( ) Agree ( ) Neither agree or disagree ( ) Disagree ( ) Strongly disagree

8. To what extent do you agree or disagree that a DVS rating of three stars should be set in 2024 as the minimum acceptable standard for HGVs to operate in London without further safety measures?

(•) **Strongly agree** ( ) **Agree** ( ) **Neither agree or disagree** ( ) **Disagree** ( ) **Strongly disagree**

9. Should consideration be given to combining the Direct Vision Standard and 'safe system' so that the star ratings zero (poor) to five (excellent) relate to the overall safety of the vehicle?

( ) Yes, there should be an over all safety rating for the vehicle based on the overall 'safe system' (•) No, the Direct Vision Standard star ratings should remain separate and focus on vision only ( ) No opinion

In terms of road danger reduction both good vision and other technologies and training are important. Direct Vision Standards are specific and will be addressed by the UNECE regulations. Integrating DVS with other measures in a single rating could prove confusing. Interim mitigation measures can be assessed separately.

10. To what extent do you agree or disagree that HGVs not meeting the above minimum star requirements should be required to operate further safety measures to increase their safety?

(•) Strongly agree ( ) Agree ( ) Neither agree or disagree ( ) Disagree ( ) Strongly disagree

11. To what extent do you agree or disagree that such HGVs should be banned from operating in London if unable or unwilling to do so?

◉ Strongly agree ○ Agree ○ Neither agree or disagree ○ Disagree ○ Strongly disagree

12. To what extent do you agree with the principles and way we propose to approach setting the 'safe system' of safety measures for HGVs failing to meet the minimum DVS star requirements? **

○ Strongly agree ○ Agree ◉ Neither agree or disagree ○ Disagree ○ Strongly disagree

See position paper – principles have not yet been fully established

13. To what extent do you agree with the proposed measures (direct vision improvements, indirect vision systems, driver training, audible warnings etc) to be considered within the safe system?

◉ Strongly agree ○ Agree ○ Neither agree or disagree ○ Disagree ○ Strongly disagree

14. Are there any more components that you suggest should be included within a safe system?

Comments

**Please see position paper submitted with this response, notably comments on the road map to lorries with five star ratings and differentiation of zero star lorries .

- We note that technologies such as automatic braking are improving and may be suitable for inclusion.
- Devices providing internal visual alerts to the driver are already in use and merit inclusion.
- Devices that combine internal alerts with automatic emergency braking should be included when available commercially.
- Operator standards such as CLOCS and FORS silver merit inclusion
- Retractable side guard protection can improve on conventional side guards
- Front underrun protection that reduces the chance of injuring pedestrians, as well as vehicle occupants, merits inclusion.

N3G off-road vehicles, those involved in the greatest proportion of cycling fatalities, should not be issued permits as of 2024 except in special circumstances. The time frame provides an opportunity to upgrade a sufficient number of landfill sites to CLOCS 4 and 5 to eliminate the need for N3G vehicles in London.

Further research on the over-representation of N3G vehicles in London fatal cyclist collisions is required to establish what factors, other than 'blind spots' are contributing to the incidents. In the position paper we mention demanding delivery schedules. Other factors could involve driver familiarity with routes; construction logistics planning and avoidance of popular cycle routes; and junction design.

Hard surface conditions at both construction site and waste disposal site should be specified through the planning process.

15. Which body or organisation would best represent your views in identifying which measures would meet the 'safe system'?

○ HGV Manufacturer ○ Department for Transport ○ European Commission ○ Transport for London ○ Trade Association ◉ Vulnerable road user campaign groups ○ Local Borough / Authority ○ Independent operator ○ FORS ○ Technical / specialist organisation e.g. test house ○ Other (please specify) ○ Not applicable

Other

16. Do you support our proposal to enforce the DVS Scheme through a camera system that will read number plates and check against a list of permits that have been issued?

◉ Strongly agree ○ Agree ○ Neither agree or disagree ○ Disagree ○ Strongly disagree

17. Do you think that Direct Vision alone is enough or should it be considered as part of a wider package of measures to reduce HGV road danger?

◉ DVS alone is enough ○ No DVS as part of a wider package of measures ○ Don't know

18. Do you have any further views on the proposals or suggestions for how the permit scheme should operate and be enforced to impose minimum safety requirements in 2020 and 2024?

Comments

See position paper

19. We propose to implement the DVS Scheme by amending the London Lorry Control Scheme (LLCS) Traffic Regulation Order (TRO). This will enable civil enforcement London-wide by the issue of PCNs to operators/ hauliers (£550) and drivers (£130). Do you agree with this approach?

◉ Yes ○ No ○ No opinion

20. To receive a permit to operate in London, the "safe system" of the HGV will need to be tested and certified at a network of national testing centres. What do you consider the most important factors for TfL to consider when setting up this network? Tick as many as apply.

☑ Cost to operator ☑ Simplicity of test ☑ Time taken to complete test ☐ Testing available across UK and Europe ☑ Standards being tested are consistent with other tests ☐ Tester should be independent of TfL ☐ Other factors (please specify)

Other factors

21. We are producing an online 'look up' tool which produces DVS ratings once the height of the vehicle has been accurately measured. This tool will be used to 'look up' DVS ratings which will form part of the testing and certification. Vehicles will be added to the tool when they have been modelled. Do you agree with this approach?

◉ Yes ○ No ○ No opinion

22. Do you have any other comments on the DVS online ‘look up’ tool?
Comments