HGV Safety Permit Scheme – Have your say on making London's lorries safer

Phase 2b Policy Consultation document

One of the Mayor of London's top priorities is the safety of Londoners. In September 2016 he announced his intentions to use the world's first Direct Vision Standard (DVS) for Heavy Goods Vehicles (HGVs) to reduce collisions involving Vulnerable Road Users (VRUs).

The second phase (phase 2a) of the DVS consultation was held between November 2017 and January 2018. Since then we have developed detailed implementation proposals, conducted further research and listened carefully to stakeholder views.

This policy consultation document outlines the final proposed HGV Safety Permit Scheme for implementation. The DVS forms part of this proposed Scheme. It demonstrates how the scheme proposals have been developed with consideration of both the Phase 1 and Phase 2a consultation feedback. In this consultation we are seeking feedback on all final proposals with particular focus on the HGV Safety Permit application requirements and processes.

The proposed Scheme outlined in this document is applicable to HGVs over 12 tonnes (N3 Class) gross vehicle weight (gvw) operating in or entering Greater London. It is proposed that Permits will be available from October 2019 with Scheme enforcement from 26 October 2020.

Have your say

We want you to continue to help shape our proposals for making HGVs safer in London by expressing your views in this consultation. Please take the time to consider the information in this document and answer the questions provided.

Definition of terms

Throughout this document, a number of terms are used to distinguish between the DVS itself and the proposals for implementing the HGV Safety Permit Scheme:

Direct Vision Standard (DVS) or **'the Standard'** – The technical standard that has been developed and refined in order to rate HGVs based on the amount of visibility a driver has directly with his or her own eyes through the windows of a HGV cab weighted towards the areas of greatest collision with VRUs. The output of the Standard is a zero to five star DVS rating which reflects the driver's ability to see VRUs.

Gross vehicle weight (gvw) - the weight of a vehicle or trailer including the maximum load that can be carried safely when it's being used on the road.

HGV covered by the Scheme means a Heavy Goods Vehicle of 12 tonnes gvw or more (N3 Class).

HGV Safety Permit Scheme or **'the Scheme'** – The way in which the Mayor proposes to introduce safety standards for HGVs over 12 tonnes gvw entering or operating in Greater London from 2020 with conditions imposed on those with poor direct vision. The proposed scheme considers other safety components in addition to the DVS and is therefore wider in scope than direct vision alone.

Direct vision – where we refer to 'direct vision' in lower case and without reference to the DVS, this relates only to the amount of visibility the driver has directly through the windows of a HGV cab weighted towards the areas of greatest collision with VRUs.

Integrated Impact Assessment (IIA) - The comprehensive investigation and consideration of the likely significant economic, environmental, health, equality and community safety impacts of the proposals. The IIA was used to appraise the scheme options and to develop the HGV Safety Permit Scheme as the Mayor's preferred proposal.

Penalty Charge Notice (PCN) – the civil mechanism by which the HGV Safety Permit Scheme will be enforced when vehicles are found to be in contravention of the Scheme.

Vulnerable Road User (VRU) - Any road user vulnerable to the risk posed by a HGV, particularly pedestrians, cyclists and motorcyclists.

Safe system – A set of mitigation measures to improve the overall safety of a HGV in relation to VRUs in close proximity of the vehicle.

The consultation process

A phased consultation approach has been taken at key stages of the development of the Scheme proposals to implement the DVS:

Phase 1 (January to April 2017) – we set out the case for HGV driver direct vision and consulted on the Mayor's outline proposals to introduce a DVS for HGVs in London and the principles of the Standard itself. We considered all of the responses and a full analysis can be found in the Consultation Report[1] and the Responses to Issues Raised[2]. The responses showed that, in general, there is support for the principle of a DVS.

Phase 2a – Policy consultation (16 November 2017 to 24 January 2018) – we outlined how we set the proposed DVS star rating boundaries and the process by which different options for implementation were assessed and used to develop the preferred HGV Safety Permit Scheme. We considered all of the responses and a full analysis can be found in the Consultation Report[3] and the Responses to Issues Raised[4]. The responses showed support for the proposed Permit Scheme approach.

Phase 2b (this consultation) – Final scheme proposals (8 January 2019 to 18 February 2019) – the current phase consults on the final HGV Safety Permit Scheme proposals including permit application process, safe system requirements and enforcement of the Scheme. Feedback from this phase of consultation will be used to refine the final Scheme ahead of the statutory consultation (Phase 2c) later this year.

Phase 2c – Statutory consultation (Spring 2019) - it is proposed that the Scheme is implemented by a traffic regulation order. A statutory consultation is planned for later this

[1] Appendix 7 – Consultation report (Consultation phase 1)
[2] Appendix 8 – Responses to Issues Raised (Consultation phase 1)
[3] Appendix 9 – Consultation report (Consultation phase 2a)
[4] Appendix 10 – Responses to Issues Raised (Consultation phase 2a)

year, ahead of the proposed permit application 'go live' in October 2019 and Scheme enforcement from 26 October 2020.

Executive summary

In September 2016, the Mayor announced his intentions to use the world's first Direct Vision Standard (DVS) for Heavy Goods Vehicles (HGVs) to improve the safety of all road users, particularly vulnerable road users like pedestrians, cyclists and motorcyclists.

The DVS forms part of the Mayor's Vision Zero approach to eliminating all deaths and serious injuries from London's roads by 2041. Using a star system, the DVS rates HGVs from zero (lowest) to five (highest) stars, based on how much a driver can see directly through their HGV cab windows.

Between 2015 and 2017, HGVs were disproportionately involved in fatal collisions with cyclists (63 per cent) and pedestrians (25 per cent) on London's streets, despite only making up four per cent of the miles driven in the Capital. Restrictions in the HGV driver's field of vision, or 'blind spots' have been identified as a significant contributory factor in collisions, although other factors play their part.

Following two previous phases of consultation, taking stakeholder feedback into consideration and a full Integrated Impact Assessment (IIA), we are proposing to deliver the Mayor's commitment via a HGV Safety Permit Scheme. The proposed Scheme would require HGVs over 12 tonnes to hold a Safety Permit to enter or operate in Greater London from 2020. Permits would only be issued to vehicles meeting the minimum direct vision star rating threshold (one star in 2020 and three star in 2024) or those (below the minimum star rating) that meet the requirements of a safe system.

The safe system describes an approach to reducing overall road risk to a level appropriate for a large urban environment. The proposed safe system includes specific industry recognised mitigating measures such as sensors, camera systems and visual warnings. The safe system would evolve over time, and will be reviewed in 2024 in order to consider advances in technology.

A three step process to obtaining a HGV Safety Permit is proposed:

1. Identify if a vehicle is in scope for the Scheme
2. Obtain a Direct Vision Standard star rating for the vehicle(s)
3. Apply for a permit via the online application portal

Enforcement of the Scheme would be via Automatic Number Plate Recognition (ANPR) whereby vehicles without a permit, or that aren't operating in compliance with the permit conditions, would be issued a Penalty Charge Notice (PCN).

It is proposed that permit issuing will commence from October 2019 and enforcement of the scheme will commence on 26 October 2020.

Detailed information and guidance on the DVS rating protocol, safe system mitigating measures, permit application and administration is included within the consultation material and appendices.

Section 1 – Scope of the consultation

Phase 1
The first DVS consultation phase was held in January-April 2017 to seek views on the principles of the Standard and the Mayor's outline proposals on how it could be used to reduce road danger. The results showed support for a DVS for HGVs.

Research into the impact of the Phase 1 proposals showed that direct vision for current HGV fleets is poor and will be for some years before manufacturers can produce enough vehicles with sufficient direct vision. It also showed that an opportunity for greater safety benefit exists if we set the ambition for HGV safety wider than looking at direct vision alone.

In line with the Mayor's Vision Zero principles, we proposed a safe system approach delivered through an **HGV Safety Permit Scheme.**

Phase 2a
The second DVS consultation phase was held in November 2017-January 2018 to seek views on the HGV Safety Permit Scheme proposals (incorporating DVS), the process for establishing the components of the safe system, the impact assessment of the proposals and options to operate and enforce the scheme.

The results showed support for the safe system approach, high level permit scheme proposals and suggested approach to enforcement using ANPR cameras and PCNs.

Since then we have:

- Updated the IIA with additional vehicle count data
- Completed independent research to provide supporting evidence for the safe system
- Defined the requirements of the safe system
- Released DVS star ratings for Euro IV, V and VI models
- Finalised the DVS technical protocol
- Notified the European Commission of our proposals and received approval to proceed

Phase 2b – this consultation
During this consultation we are seeking your views on the final scheme proposals:

- The DVS technical protocol and the process of obtaining a vehicle star rating
- The safe system requirements
- The HGV Safety Permit application and administration process. This includes how to evidence compliance with the safe system
- Permit duration and transferability
- Enforcement and appeals

The information from this consultation will be used to refine the final scheme ahead of the statutory consultation (Phase 2c) later this year.

Phase 2c

It is proposed that the Scheme is implemented by a traffic regulation order. A statutory consultation is planned for later this year, ahead of the proposed permit application 'go live' in October 2019 and Scheme enforcement from 26 October 2020.

Section 2 – Background and context

One of the Mayor's top priorities is the safety of Londoners and he has committed to a Vision Zero approach to road danger reduction. This means no loss of life should be considered acceptable or inevitable and all deaths and serious injuries from road collisions in London should be eliminated. The Mayor's aim is that no deaths or serious injuries from road collisions occur on London's streets by 2041. Vision Zero forms part of the Mayor's ambition to create 'Healthy Streets' – safer, more attractive, accessible and people-friendly streets where everybody can enjoy spending time and being physically active.

London has a particular problem with VRU and HGV collisions, compared with the UK and other cities. Between 2015 and 2017, HGVs (over 3.5 tonne gvw) were involved in 25 per cent of pedestrian and 63 per cent of cyclist fatalities despite only making up four per cent of the miles driven in London.

Analysis of the UK accident database (STATS19)[5] shows that poor vision (cited as 'vehicle blind spot' or 'failed to look properly') is a commonly cited cause of HGV incidents. The DVS was specifically developed to help improve the design of large HGVs (over 12 tonnes gvw) overrepresented in VRU collisions where a contributory factor was the blind spot.

A comprehensive approach

Achieving Vision Zero requires all sources of road danger to be considered as part of a wider system. All parts of the system must be strengthened in combination to multiply their effects and road users should still be protected if one part of the system fails.

We have a comprehensive road danger reduction programme which is designed to look at all sources of road danger and VRU safety including road conditions, infrastructure design and behaviour change. This programme is based around the principles of Vision Zero[6] and adopting a safe system approach to eliminate all deaths and serious injuries.

The proposed HGV Safety Permit Scheme (incorporating DVS) follows the principles of Vision Zero and a safe system approach.

[5] STATS 19 - https://data.gov.uk/dataset/road-accidents-safety-data

[6] Vision Zero means that road danger will be targeted at its source by ensuring the street environment incorporates safe speeds, safe people, safe street design and safe vehicles - Vision Zero action plan – Taking forward the Mayor's Transport Strategy

Section 3 – The HGV Safety Permit Scheme proposals

On 30 September 2016 the Mayor announced his intentions to use the world's first Direct Vision Standard (DVS) for HGVs to reduce the number of collisions involving VRUs. The DVS was created to improve the safety of all road users, particularly vulnerable ones like pedestrians, cyclists and motorcyclists.

Using a star system, the DVS rates HGVs over 12 tonnes from 0 (lowest) to 5 (highest), based on how much a HGV driver can see directly through their cab windows weighted towards the areas of greatest risk with VRUs, as opposed to indirectly through cameras or mirrors.

The DVS forms part of the proposed HGV Safety Permit Scheme. Our proposal is to implement a permit scheme based on a safe system approach to reducing road risk. It is intended that all HGVs over 12 tonne gvw would require a permit to enter or operate in Greater London. Those without a permit would be in breach of the Scheme. Permits would only be issued to vehicles meeting the minimum direct vision star rating threshold or those (if they do not meet the star rating) that meet the requirements of a safe system (see Table 1).

October 2019: Permit issuing commences on a voluntary basis (Scheme 'go-live') – see Section 4 for the permit application process.

26 October 2020[7]: HGVs over 12 tonnes gvw will require a Safety Permit to operate in Greater London; failure to do so will attract a £550 PCN for the operator (a £130 PCN for the driver may apply where deemed appropriate). Zero star HGVs (approximately 29 per cent of the current fleet[8]) would be banned unless they can demonstrate they operate in compliance with other measures in a defined safe system to minimise their risk to VRUs. If the HGV meets the safe system requirements a Safety Permit would be issued. Only those zero star vehicles unable or unwilling to comply with the safe system would be banned.

2024: Permits will be issued to vehicles rated three star and above. Zero, one and two star HGVs (approximately 72 per cent of the current fleet[9]) would be banned unless they can demonstrate compliance with an updated progressive safe system. The progressive safe system will be subject to further consultation ahead of 2024.

Figure 1: It is proposed that the scheme will operate within the Greater London Authority

The Scheme will be operational 24 hours a day, seven days a week and will cover the area within the Greater London Authority boundary (see Figure 1).

[7] 26 October 2020 is aligned to the strengthening of the Low Emission Zone where a new Euro VI standard for NOx and PM will be introduced for buses, coaches, HGVs and similar vehicles
[8] Appendix 5 - 2018, AECOM, Heavy Goods Vehicle Survey – P23
[9] Appendix 5 - 2018, AECOM, Heavy Goods Vehicle Survey – P23

There are two core elements of the HGV Safety Permit Scheme proposals:

1. The Direct Vision Standard and vehicle star ratings
2. The safe system for vehicles not meeting the minimum star rating threshold

The Direct Vision Standard (DVS) and vehicle star ratings

Research shows HGV drivers react quicker and are less likely to be involved in a collision when they can see VRUs directly through cab windows. It also shows that pedestrians and cyclists feel safer in the knowledge that they have made eye contact with a HGV driver[10]. Increased direct vision from HGV cabs has the potential to save lives as part of a safe system approach to reducing road danger.

The DVS provides a means of objectively measuring and rating the direct view available to a driver from a particular make and model of HGV. There are a number of design features that influence direct vision, such as the size and shape of the windows as well as the height of the HGV cab. For any given HGV model, the higher the cab, the worse the level of direct vision will be (Figure 2).

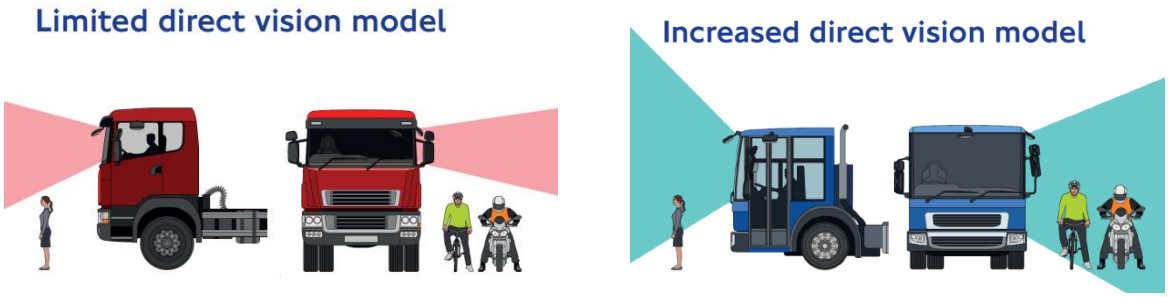

Figure 2: Example of limited direct vision (zero star) and increased direct vision (five star) rated vehicles

The DVS measures the 3D volume of space that can be seen directly by the driver from the cab. The greater the volume of that direct visibility, the closer the person can be seen to the vehicle and the more of them that can be seen. The assessment zone concentrates on the area of greatest risk to a VRU. The volume of space is then linked to 'real world' performance. VRUs are placed around the vehicle in the areas of greatest collision risk and the distance that the head and shoulders can be seen is calculated. This is correlated with the direct visibility volume results showing that the larger the volume the closer VRUs can be seen to the vehicle.

To meet 'one star', at least the head and shoulders of 99 per cent of the European adult population must be seen within an 'acceptable' distance at the front and side (see Figure 3). The 'acceptable' distance is 4.5m to the nearside, 2m to the front and 0.6m on the off-side of the cab. The distance is linked to where people become directly visible within the area covered by the existing close proximity mirrors and indirect vision becomes complemented by direct vision.

[10] Arup (2016), Exploring the road safety benefits of Direct vs Indirect vision in HGV cabs

The two, three, four and five star rating boundaries are set by equally dividing the volume of space between the one star boundary and the current best performing vehicle's volumetric score.

Passenger side lower door windows can be included in the DVS star rating where approved by the Vehicle Manufacturer (and where the appropriate Computer Aided Design data is available). This has the potential to increase the volume of visible space by approximately 4-9 per cent[11]. This can translate to approximately 27-36 per cent of the volume between star rating boundaries. However, while a lower door window has the potential to increase an HGV's star rating, it will not do so in all instances. The ability to increase a star rating will be dependent on the configuration of the HGV and where it lies between the star rating boundaries.

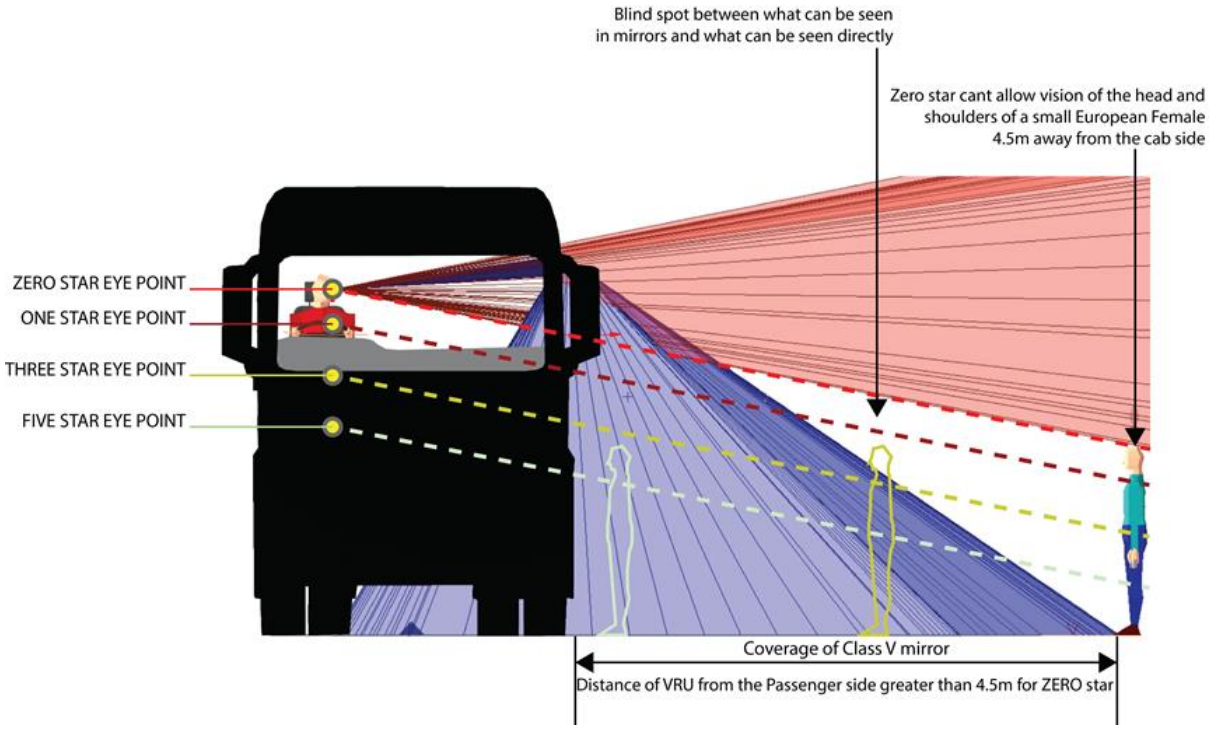

Figure 3: The 'acceptable' distance at the front and side of a HGV by star rating

[11] Appendix 1 – 2018, Loughborough Design School, The definition, production and validation of the Direct Vision Standard (DVS) for HGVs

Expert engagement
Using best practice of European regulation and policy development, we have developed the DVS in full consultation with an Expert Panel group. This group is made up of experts representing the freight industry, vehicle manufacturers, regulatory bodies, test houses, researchers, academics and specialist consultants. The panel have provided specialist advice to ensure the DVS is aligned to existing industry practice and that the technical measurements required and used are objective and repeatable. They helped inform how the star rating boundaries should be set and have provided input to ongoing lobbying for regulatory change. The panel last met in August 2018 to finalise the DVS technical protocol.

The DVS technical protocol (see Appendix 1) has been developed by Loughborough University and validated, tested and refined with input from the Expert Panel group. This protocol provides the step by step process for vehicle manufacturers (or other approved third parties) to consistently and objectively rate HGV models[12] and apply a specific star rating. We will ensure star ratings calculated by vehicle manufacturers are independently audited and validated.

The safe system for vehicles not meeting the minimum star rating threshold

Vehicles not meeting the minimum DVS star rating threshold or vehicles that do not have a DVS star rating[13] can still be granted a HGV Safety Permit to enter or operate in Greater London as long as they can demonstrate compliance with a safe system.

The safe system is a series of mitigating vehicle safety measures (fitted at or after point of manufacture) designed to reduce the risks that HGVs present to cyclists and pedestrians. These measures are summarised below in Table 1 and detailed specifications of the proposed requirements are included in Appendix 2 - HGV Safety Permit – guidance for operators entering London. Operators should refer to this guidance to ensure their vehicles are equipped with the appropriate mitigating measures where they do not meet the minimum DVS star rating threshold (this guidance document will be reviewed following this consultation). It should be noted that a DVS star rating can never be increased by fitting supplementary safe system equipment. The equipment acts as a mitigation against the risk of a zero star rated HGV.

The Phase 2a consultation outlined the proposed components of the safe system, suggested specific measures and the principles behind setting, testing and maintaining the system. Following the consultation we set up a Safe System Advisory Group with representatives from pedestrian and cycling groups, industry trade associations, vehicle manufacturers and government organisations to help expand and inform the detail of these proposals.

A key recommendation from the group was to carry out independent research[14] to provide evidence of the effectiveness of each mitigating component whilst also taking into

[12] Right-hand drive and left-hand drive HGVs can be rated in the same way using the DVS technical protocol
[13] HGVs that pre-date available vehicle manufacturer data (therefore being LEZ non-compliant) and a select number of low volume ranges will be assigned an automatic zero star rating unless data or other evidence is supplied by the operator that the vehicle should be classed as having a higher star rating

consideration operational experience and feedback. This research has fed into the final proposed specification of the safe system as detailed in Appendix 2.

Driver training – an advisory undertaking

The final proposals do not include driver training as a mandatory requirement. Following feedback from the Phase 2a consultation and engagement with the Safe System Advisory Group, it was agreed that the HGV Safety Permit requirements should apply to the vehicle only. However, the importance of driver skills, knowledge and attitude to recognise, assess, manage and reduce road danger is understood and acknowledged via the inclusion of urban driving skills as an 'advisory undertaking'. Whilst not mandatory, operators will still be asked to demonstrate when applying for a safety permit that a system or plan is in place to train all drivers in VRU safety and in the use and limitations of the supplementary vehicle safety equipment. This will be required for all permit applications, including those for vehicles meeting the minimum DVS star rating threshold.

[14] Appendix 7 – HGV Safety Permit for London – Evidence of effectiveness and candidate technical requirements for the safe system, Apollo Vehicle Safety, 2018

Area to address	Purpose	Equipment required in 2020
Principal requirement		
Direct Vision	To ensure a minimum standard of a driver's direct field of view and reduce the risk of close-proximity blind spot collisions	• Where this rating is one star or above, fleet operators will be able to apply for a safety permit with no further mandatory action required • Where this rating is zero star, or where a vehicle is unable to be rated, the vehicle shall be fitted with safe system mitigating measures as outlined below
Safe system mitigating measures		
Indirect vision	To improve visibility for drivers, and reduce the risk of close proximity blind-spot collisions	• Class V mirror shall be fitted to the nearside of the vehicle • Class VI mirror shall be fitted to the front of the vehicle • A fully operational camera monitoring system shall be fitted to the nearside of the vehicle • A sensor system that alerts the driver to the presence of a vulnerable road user shall be fitted to the nearside of the vehicle
Warning of intended manoeuvre	To reduce the risk of close-proximity collisions by alerting vulnerable road users to vehicle hazards	• Audible vehicle manoeuvring warning shall be fitted to audibly warn vulnerable road users when a vehicle is turning left • External pictorial stickers and markings shall be displayed on vehicles to warn vulnerable road users of the hazards around the vehicle
Minimising physical impact of a hazard	To minimise the probability and severity of under-run collisions with vulnerable road users	• Side under-run protection shall be fitted to both sides of the vehicle except where this is proved impractical or impossible (see Appendix 6 – DVS exemptions policy)
Advisory undertaking (not mandatory)		
Driver training urban driving skills *(advisory undertaking – not mandatory)*	To ensure that all drivers have the knowledge, skills and attitude required to recognise, assess, manage and reduce the risks that their vehicle poses to vulnerable road users	• All drivers (including those exempt or not in scope of the Driver Certificate of Professional Competence) should undergo specific training on the safety of vulnerable road users and the use and limitations of supplementary vehicle safety equipment

Table 1: HGV Safety Permit requirements summary

A progressive safe system – requirements for 2024

From October 2024, HGVs over 12 tonne gvw that are rated zero, one or two stars will be banned from entering London unless they demonstrate compliance with a progressive safe system. This is to ensure any advances and developments in technology are taken into consideration. It is envisaged that the key components of the safe system will remain the same and any changes will follow the same principles as the current proposals including the requirement that all equipment/technology can be retrofitted at a proportionate cost, is supported by evidence of effectiveness and accepted as industry best practice. A full consultation on any changes to the safe system will be held in advance of the 2024 policy change.

Independent Integrated Impact Assessment (IIA)

In 2018 as part of the Phase 2a consultation process we outlined the findings of an independent IIA to consider the wider impacts of the proposed HGV Safety Permit approach compared to an outright ban of zero star rated HGVs. The IIA considered the significant likely economic, social and environmental impacts and impacts on equalities, traffic movement and traffic management. It drew its conclusions from associated technical research, stakeholder surveys and interviews, Phase 1 consultation responses and on-going feedback from stakeholders.

Updated Cost and Business Impact Assessment (CBIA) and IIA

The original IIA concluded that the HGV Safety Permit Scheme was the recommended approach to adopt and the Phase 2a consultation responses supported this proposal. Having confirmed this approach, it was deemed appropriate to update the CBIA and the IIA in order to incorporate further detail around the preferred scheme compared to the baseline scenario. This further detail included updated costs and a more accurate assignment of DVS ratings to the London-wide HGV population (over 12 tonnes gvw).

In order to more accurately assign the London population of HGVs over 12 tonne gvw by make and model against DVS ratings, we commissioned manual vehicle counts and analysis[15]. These surveys were carried out at a range of geographical locations across Greater London over a period of five working days between 07:00 and 19:00. The study identified that 29 per cent of the current London HGV (over 12 tonne gvw) population are rated zero star, 43 per cent rated one to two star and 28 per cent rated three to five star. These updated figures were used to input to the IIA, which previously used a much wider range.

Costs and benefits of the scheme

With this more accurate HGV population data and updated IIA, the benefit/cost ratio (BCR) to 2030 has been re-estimated at between 0.10:1 to 0.33:1, higher than that outlined in the Phase 2a consultation (between 0.140:1 to 0.168:1). This increase is a result of the decrease in estimated costs borne by businesses (no certification cost and reductions in assumed

[15] Appendix 5 - AECOM (2018), Heavy Goods Vehicle Survey

safety mitigation test costs per vehicle[16]). As before the main costs of the scheme are to the public sector to set up and operate the scheme, plus the direct costs to HGV owners and operators to comply and indirect costs to the wider economy (knock-on effect of more expensive deliveries). We used an estimated maximum cost of around £2,000 per vehicle to fit equipment to comply. In practice, many operators will already be at or near this level and the cost to them will be considerably less. The costs of an operator's HGV colliding with a VRU are likely to be far higher in terms of disruption to the business, including police investigations and coroner's court attendance, loss of use of the vehicle and driver, and potential reputational damage etc. Most important of all is the very real pain and anguish for all affected by the accident that might have been avoided: the victim, the driver, their families, friends and colleagues.

The main benefits of the scheme come from reduced road fatalities and serious injuries, plus increased levels of walking and cycling as a result of people feeling safer on the roads.

Limitations in the available data make it difficult to fully quantify and monetise all factors that the scheme might influence. For example, the implications of increased cycling and walking levels are not factored into the BCR and ambiguities in collision data may cause benefits to be slightly underestimated.

Achieving Vision Zero requires a step-change in the way we manage and take responsibility of risk on the road. No loss of life is acceptable and all parts of the system need to be strengthened in combination if we are to achieve this goal. Road users should still be protected if one part of the system fails.

The full updated IIA report can be found in Appendix 3. The updated Cost and Business Impact Assessment can be found in Appendix 4. The HGV manual vehicle survey report can be found in Appendix 5.

Consultation questions

Please refer to **Question 8** at tfl.gov.uk/direct-vision-standard to submit your consultation responses on the evidence based requirements of the safe system

[16] A cost of £450 per vehicle for a safe system assessment was assumed for the purposes of the IIA but it has since been proposed that there will be no requirement for a physical assessment of the safe system equipment prior to permit application and therefore no cost to operators

Section 4 - HGV Safety Permit application process for operators (from October 2019)

Step 1 – Identify if a vehicle is in-scope

All vehicles over 12 tonne gvw (N3) will require a HGV Safety Permit to operate in London from 26 October 2020. From that date failure to do so will result in a PCN of £550 (a £130 PCN for the driver may apply where deemed appropriate). Operators[17] of vehicles requiring an HGV Safety Permit will need to apply via TfL.

There will be a small number of fully exempt vehicles that may not be required to apply for a permit. There will also be a small number of vehicles that will be partially exempt from safe system requirements (eg sideguards) should the vehicle be rated zero star. Vehicles partially exempt from the safe system must still apply for a permit in the same way as non-exempt vehicles. A full list of exemptions and associated permit requirements can be found in Appendix 6.

A compliance checker tool will be available via the TfL website to enable operators to check whether their vehicles are subject to the scheme.

Step 2 - Obtain a Direct Vision Standard star rating

Once it is determined that a vehicle is in-scope of the Scheme, the next step to obtaining a permit is to find out the DVS star rating of the vehicle (if not already known). Star ratings are unique to the make, model and specific configuration of the vehicle. For this reason, operators must contact their vehicle manufacturer(s) and provide the vehicle chassis or identification number (VIN) to request a star rating. The appropriate contact details can be found at tfl.gov.uk/direct-vision-HGVs.

The vehicle manufacturer will inform the applicant of the star rating of the vehicle and at the same time will inform TfL of the rating so that we may update our database of star ratings.

In the rare instance that a vehicle manufacturer is unable to provide a rating for a vehicle model[18], operators will still be able to apply for a HGV Safety Permit but will be assumed as zero star.

Vehicles rated zero star will need to ensure a safe system (see Section 3) is fitted to the vehicle before a permit application can be made. The permit will then be granted subject to conditions that require the vehicle is operated in compliance with the safe system. Permit applications can be made straight away for vehicles rated one star or above and permits will be granted for these vehicles without the need for providing safe system evidence.

Step 3 – Apply for a permit via the online application portal

[17] For hire vehicles, either the lease company or the hirer can request a DVS rating and apply for the HGV safety permit. Any associated PCNs (see Section 5) for the vehicle would be sent to the registered keeper of the vehicle. The lease company may transfer liability to the hirer as defined in the hire/lease contract

[18] HGVs that pre-date available vehicle manufacturer data (therefore being LEZ non-compliant) and a select number of low volume ranges will be assigned an automatic zero star rating unless data or other evidence is supplied by the operator that the vehicle should be classed as having a higher star rating

Once DVS star ratings have been obtained and safe system requirements met where necessary (zero star or 'unrated' vehicles), operators can apply for a single vehicle permit or multiple permits for a fleet of vehicles within a single application.

The online application portal will be accessed via the TfL website. Non-UK registered vehicles will apply for permits via the same portal. Translation functionality is already built into the TfL website.

Opening an application will require confirmation on vehicle country of origin, name of operator, contact details and the mandatory entry of a valid email address. Once the application has been opened it will be possible to save and return to the application at a later date.

When the vehicle registration mark (VRM) is entered, this will be checked against the database of ratings to confirm a DVS star rating. If the DVS star rating has not been pre-populated in the database (eg if a rating has not been requested from the vehicle manufacturer or if TfL has been unable to calculate it automatically), it will return 'unknown' and direct the operator to contact their vehicle manufacturer to request a rating.

Depending on the DVS star rating of the vehicle(s), the routes to permit approval will be as follows:

Proposals for HGVs rated one to five stars

- In addition to the DVS star rating, operators will be asked to confirm their intention and plan to implement a driver training policy, as per advisory undertaking 1.5 of the safe system guidance (see Appendix 2). Alternatively, operators that already meet this advisory undertaking should outline their existing policy. This is not a mandatory permit requirement but consideration should be given prior to permit application
- Before a permit is issued, operators will be asked to declare that all information entered in the application is accurate to the best of their knowledge and understand that vehicles found to be in breach of the permit terms may have the associated permit revoked or suspended at any time
- Once the application is completed, the permit will be issued and confirmation sent via email including a permit reference number. This will be logged on the TfL database to ensure PCNs are not issued against this VRM when scheme enforcement goes live

Proposals for HGVs rated zero star

- Operators will be expected to confirm their intention and plan to implement a driver training policy, as per advisory undertaking 1.5 of the safe system guidance (see Appendix 2). Alternatively, operators that already meet this advisory undertaking should outline their existing policy
- Operators will be required to provide evidence that the vehicle has been fitted with all required safe system equipment as outlined in Appendix 2

- Each requirement will be outlined and the operator will be asked to upload appropriate evidence that they meet the requirement. This will be limited to the format of photos and pdf documents. Examples of suitable evidence will be provided to ensure it is clear what will and will not be accepted by the scheme administrator. The vehicle VRM must be identifiable in the uploaded evidence pack
- Vehicles that are partially exempt from certain requirements (eg sideguards) will still be required to upload evidence demonstrating and supporting the reason for exemption, for example a photo of the items in the area where a sideguard would otherwise be required to be fitted, such as fuel tanks and equipment boxes (see list of exemptions in Appendix 6)
- Before the application is submitted for review, operators will be asked to declare that all information entered in the application is accurate to the best of their knowledge and understand that vehicles found to be in breach of the permit terms may have the associated permit revoked or suspended at any time
- When the application has been submitted, the operator will receive a confirmation email. The scheme administrators will then review and respond to the application
- Where an application is reviewed and deemed compliant, the operator will be issued a confirmation email with electronic permit reference number and expiry date
- Where an application is reviewed and deemed non-compliant, the operator will be informed and provided with reasons for rejection of the application. They will then be required to re-submit the required information

Proposals for multiple vehicle permit applications

The application portal will have the functionality to grant multiple vehicle permits under a single application. Operators will be able to enter multiple VRMs which will be checked against the database.

- HGVs with a DVS star rating of one or more will be granted permits (pending confirmation of the driver training policy and intentions and declaration of accuracy). They will not be required to provide evidence of safe system measures. The permit reference numbers for these vehicles will be confirmed electronically via email
- For HGVs that are rated zero star, operators will be required to upload evidence that these vehicles have been fitted with the required safe system as outlined above. This will not be required for every zero star vehicle in the fleet. Depending on the number of zero star rated vehicles in the fleet, a defined proportion of evidence packs will be required (see Table 2)

Zero star fleet size	Evidencing requirement
≤ 5	Evidence supplied for **100%** of vehicles
6-20	Evidence supplied for **50%** of vehicles (**minimum 5 vehicles**)
21-50	Evidence supplied for **30%** of vehicles (**minimum 10 vehicles**)
51-100	Evidence supplied for **20%** of vehicles (**minimum 15 vehicles**)
>100	Evidence supplied for **5%** of vehicles (**minimum 20 vehicles**)

Table 2: proportions of evidence required for zero star fleet applications

- Again, operators will be asked to declare that all information entered in the application is accurate to the best of their knowledge and understand that vehicles found to be in breach of the permit terms may have the associated permit revoked or suspended at any time
- When the application has been submitted, the operator will receive a confirmation email with reference number. The scheme administrators will then review and respond to the application
- Where a HGV evidence pack is reviewed and deemed compliant, the operator will be granted a permit for that specific vehicle (confirmed via email with electronic permit reference number)
- Where an application is reviewed and deemed non-compliant, the operator will be informed of reasons for non-compliance. They will then need to re-submit the required information
- Permits for the entire zero star fleet will not be issued until all required evidence has been approved. Once approved, electronic permit references will be sent via email for all zero star rated vehicles
- All approved permits will be logged on the TfL database to ensure PCNs are not issued against these VRMs

Permit administration

HGV Safety Permits will be issued electronically only. Operators will receive a permit reference number with their confirmation email but no certificate or hard copy permit will be issued. There is no requirement to produce this permit reference at any point as enforcement will be done by comparing the TfL database of vehicle registrations with valid permits with the ANPR camera captures of vehicles entering London.

All permits granted between October 2019 (start of voluntary permitting) and October 2020 (mandatory permits and enforcement) will have a commencement date of October 2020. The duration of the permit will depend on the following factors:

- Zero star vehicles with an approved safe system will be granted a permit until 2024 (when the progressive safe system will be required for vehicles rated two star or below)

- One and two star vehicles will be granted permits until 2024 (when the progressive safe system will be required)
- Three, four and five star vehicles will be granted a ten year permit

Once a permit expires, a new full application will need to be submitted as per the process outlined in Section 4.

Where a vehicle is sold and purchased by a new owner within the permit life, the new owner must reapply for a new permit. This will ensure records for enforcement are up to date.

Permits will be free of charge – there will be no cost to the operator when applying for the permit(s).

All permit administration systems will be developed in compliance with General Data Protection Regulations (GDPR).

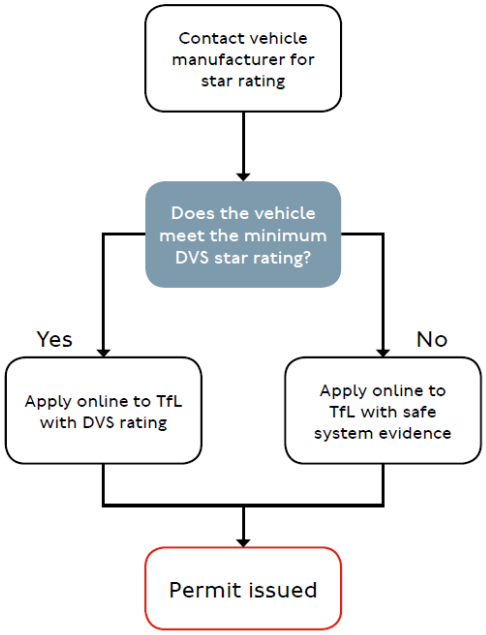

Figure 4: High level overview of the HGV Safety Permit Application Process

Consultation questions

Please refer to **Question 6** at tfl.gov.uk/direct-vision-standard to submit your consultation responses on the process for obtaining a vehicle star rating

Consultation questions

Please refer to **Question 7** at tfl.gov.uk/direct-vision-standard to submit your consultation responses on the permit application process

Section 5 – Enforcement of the scheme

The HGV Safety Permit allows for a fully enforceable scheme whereby the absence of a permit or a vehicle not operating in compliance with safe system permit conditions (where applicable) becomes an offence for which a PCN can be issued. Operators of vehicles over 12 tonnes gvw will need to ensure they follow the process outlined in Section 4 to obtain a valid HGV Safety Permit for each vehicle. It is proposed that HGV Safety Permits will be issued from October 2019 on a voluntary basis with enforcement by PCN commencing from 26 October 2020. This allows a year for operators to obtain permits and ensure compliance before enforcement commences.

It is proposed that the HGV Safety Permit Scheme would be enforced using Automatic Number Plate Recognition (ANPR) cameras – both fixed and mobile. The existing network of TfL cameras will capture the number plates of vehicles and check details against a database of vehicles that have been issued a permit.

From 26 October 2020, a HGV found to be in breach of the Permit Scheme will be issued a Penalty Charge Notice (PCN) at £550 for operators (a £130 PCN for the driver may apply where deemed appropriate) with a prompt payment reduction of 50 per cent if paid within 14 days. TfL will also have the ability to revoke or suspend a HGV Safety Permit if a vehicle that has been granted a permit is later found to be in breach of the permit terms. These terms will be clearly communicated during the application process.

Non-UK registered vehicles that are in breach of the Permit Scheme will be enforced against in the same way. Recovery of unpaid penalties to non-UK registered vehicles is undertaken by a dedicated European debt recovery agency and we have established links with many European vehicle licensing agencies. We will always issue and recover penalties against vehicles registered outside the United Kingdom wherever possible.

Where an operator/driver believes a PCN has been issued incorrectly it can be challenged by making a representation online or in writing. The PCN that is issued will include information on how to make a representation. The PCN is normally sent to the registered keeper of the vehicle as recorded by the Driver and Vehicle Licensing Agency (DVLA). PCNs may also be issued to the nominated hirer/leasee of the vehicle if a valid hire keeper

is provided by the registered keeper. Representations will be made to TfL in the first instance and can be taken to London Tribunals should a notice of rejection be issued by TfL.

Legal implementation of the scheme

The proposed method of statutory implementation is through a Traffic Regulation Order (TRO), the legal mechanism that allows traffic authorities to control or regulate vehicular traffic on road safety grounds[19]. A TRO can be decriminalised allowing us to enforce the HGV Safety Permit Scheme by issuing civil enforcement PCNs without the need for police intervention.

[19] Sections 1 and 6 of the Road Traffic Regulation Act 1984

The London Council's London Lorry Control Scheme (LLCS)[20] is an existing TRO which we propose should be amended to incorporate the HGV Safety Permit Scheme for HGVs over 12 tonne gvw alongside the current LLCS restrictions on the movement of HGVs over 18 tonnes during unsocial hours. This requires the agreement of London Council's Transport and Environment Committee (TEC). Incorporating the HGV Safety Permit Scheme into the LLCS would have the following advantages:

- A single amendment by the TEC to one existing TRO already covering all roads in Greater London
- An easily enforceable permit scheme that is already de-criminalised with no requirement for police or DVSA resource
- The potential opportunity for a 'one-stop' scheme for HGVs entering London that covers both HGV safety and environmental issues in terms of unsocial hours traffic movements
- Two levels of penalty for non-compliance at £550 for operators (a £130 PCN for the driver where deemed appropriate) – a significantly more effective deterrent than a £50 Fixed Penalty Notice (FPN)[21]

A statutory consultation (Phase 2c) on the incorporation of the HGV Safety Permit Scheme into TEC's existing LLCS TRO will take place later this year. This will provide a final opportunity to be consulted on the scheme and its legal implementation mechanism.

The proposals for the DVS technical standard and proposed HGV Safety Permit Scheme has been notified to and approved by the European Commission in accordance with legal requirements concerning the introduction of new technical standards.

Consultation questions

Please refer to **Question 9** at tfl.gov.uk/direct-vision-standard to submit your consultation responses on the enforcement of the scheme

[20] The Greater London (Restriction of Goods Vehicles) Traffic Order 1985 (as amended)
[21] A criminal FPN at the single level of £50 is the normal way TROs are enforced unless referred to the magistrate's court where a maximum £1000 fine can be imposed

Section 6 – Next steps

Below is a summary of the next key milestones towards implementation of the proposed scheme.

Now - Consultation Phase 2b: This current phase of the consultation process will run from 8 January 2019 until 18 February 2019. This is the final policy consultation outlining the final scheme proposals

Phase 2c Statutory TRO Consultation (Spring 2019): the statutory consultation on the TRO that will implement the HGV Safety Permit Scheme

Scheme 'go live' (October 2019): Operators will be able to apply for HGV Safety Permits from this date on a voluntary basis

Scheme enforcement (26 October 2020): Safety permits will be mandatory from this date. Enforcement of the HGV Safety Permit Scheme commences. HGVs over 12 tonne gvw without a HGV safety permit will be in breach of the scheme and will attract a PCN

Pre-2024: Engage and consult with manufacturers, industry and other stakeholders on any new technology or safety measures as part of a progressive safe system for 2024

2024: HGVs rated two stars or below will be banned from entering London unless they operate to the progressive safe system

Section 7 – List of supporting documents

Appendix 1	The definition, production and validation of the Direct Vision Standard (DVS) for HGVs, Loughborough Design School, 2018
Appendix 2	HGV Safety Permit – guidance for operators entering London, Transport for London, 2018
Appendix 3	Direct Vision Standard - Integrated Impact Assessment of the Preferred Scheme, Jacobs, 2018
Appendix 4	Direct Vision Standard – Phase 2b Cost and Business Impact Assessment report, Jacobs, 2018
Appendix 5	Heavy Goods Vehicle survey, AECOM, 2018
Appendix 6	HGV Safety Permit – list of exemptions, Transport for London, 2018
Appendix 7	HGV Safety Permit for London - Evidence of effectiveness and candidate technical requirements for the Safe System, Apollo Vehicle Safety, 2018
Appendix 8	Consultation report (Consultation phase 1)
Appendix 9	Responses to Issues Raised (Consultation phase 1)
Appendix 10	Consultation report (Consultation phase 2a)
Appendix 11	Responses to Issues Raised (Consultation phase 2a)