

Dawsongroup | truck and trailer

The Direct Vision Standard Guide

MM MOTOR MAX

HGV safety permit guidance for operators entering London

Introduction

Vision Zero aims to eliminate all road deaths and serious injuries by 2041. It wants to ensure the street environment incorporates safe speeds, behaviours, street design and vehicles to target road danger at its core.

To achieve this, a Direct Vision Standard (DVS) and a safety permit for all vehicles more than 12 tonne will need to be issued.

Purpose of this guide

This guide provides lorry operators with information on the vehicle requirements for getting a safety permit. More information on the permit application process will be available on the TfL permit application web portal.

Do I need a safety permit?

Vehicles over 12 tonnes gross vehicle weight (GVW) will require a heavy goods vehicle (HGV) safety permit to be able to operate within Greater London starting from October 2020.

They will be issued from October 2019 and will be enforced from 26 October 2020.

This is the same date heavy vehicles will need to meet even stronger Low Emission Zone (LEZ) standards within London.



HGV safety permit guidance for operators entering London

What is the Direct Vision Standard?

The DVS has been created to address the high number of incidents in London involving HGV and pedestrians and cyclists.

The DVS measures a driver's direct view through the windows of an HGV cab. to indicate the level of risk to people near the vehicle, a star rating system will be put in place, zero stars being poor and five being excellent.

It's been developed with an expert panel of representatives from the freight industry and academics.

What is the Safe System?

It's a series of vehicle safety measures that are designed to reduce the risks that HGVs pose to pedestrians and cyclists. The Safe System is designed to work alongside other existing scheme requirements and regulations where possible to ensure consistency.

How do I make my vehicle compliant?

1. If your vehicle meets the minimum DVS star rating you will be able to apply for a permit (see section 1).
2. You will need to meet the 'Safe System' requirements if your vehicle does not meet the DVS star rating or is not rated to be granted a permit (see sections 1-1.4).

HGV safety permit guidance for operators entering London

Scheme tightening

In 2024, there will be a review of the Safe System and the minimum DVS star rating will be increased to three stars. Any additional technology or equipment that becomes available in 2024 will be taken into account. This will be known as the Progressive Safe System and any updates can be suggested in 2022.

Vehicles that are rated zero, one and two stars will need to be reviewed and updated in 2024.

The Progressive Safe System will only include equipment that:

- Can be retrofitted to the HGV
- Is industry recognised and readily available on the market at the time
- Is not cost prohibitive

Where can I purchase Safe System equipment?

Motormax supply and fit all the equipment required to enable full compliance of the London Vision Standard. Call us for details on 0121 353 3663 or visit us [online](#).

Zero star permits will be valid until October 2024



One and two star permits will be valid until October 2024



Three, four and five star permits will be valid for 10 years.



1 Principal requirement - Direct Vision

1.1 Vehicle star rating requirement

Under the DVS system, all vehicles will require a star rating¹. A minimum DVS star rating of one star is required for every vehicle unless exempt (see Appendix B).

1.2 Purpose

To reduce the risk of close-proximity blind spot collisions and ensure a minimum standard of a driver's direct field of view.

1.3 Demonstration

Using the approved HGV DVS technical protocol, the vehicle's star rating will be decided by the vehicle's manufacturer.

- If a vehicle is unable to be rated or rated zero stars,¹ the vehicle will be fitted with mitigating safety features as seen in requirements 2 to 5, which will be the conditions of the permit.
- When applying for the permit, drivers must be able to show compliance with these requirements.
- If a vehicle is rated one star or above, drivers will be able to apply for a permit without any additional action required.

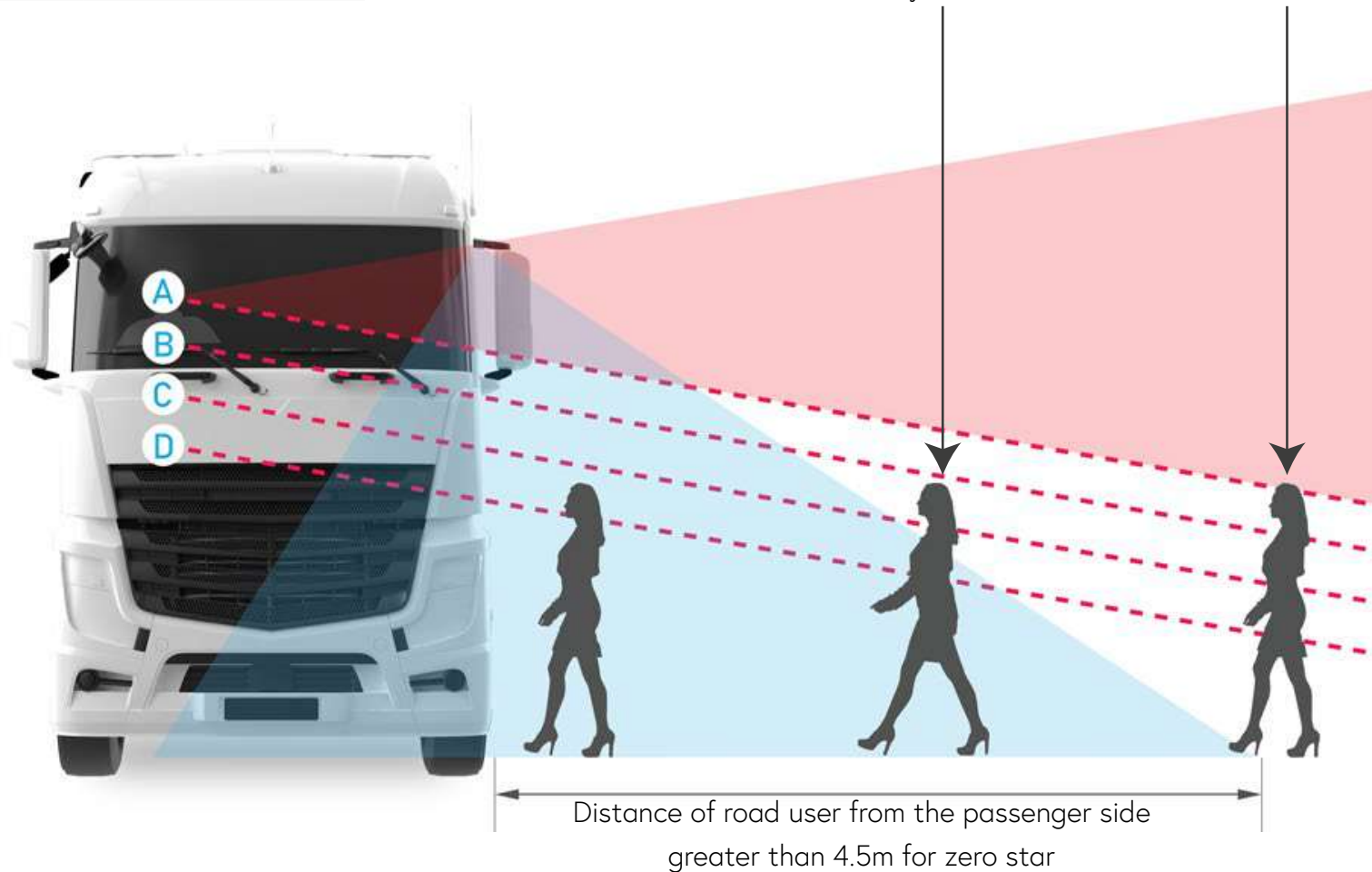
¹ (including those that are LEZ non-compliant) and a select number of low volume ranges will be assigned an automatic zero star rating unless they should be classed as having a higher star rating

HGV star rating boundaries

Category	Description
A	Zero star eye point
B	One star eye point
C	Three star eye point
D	Five star eye point

Blind spot between what can be seen in mirrors and what can be seen directly.

With zero star eye point, a driver will not be able to see the head and shoulders of a female 4.5m away from the side cab.



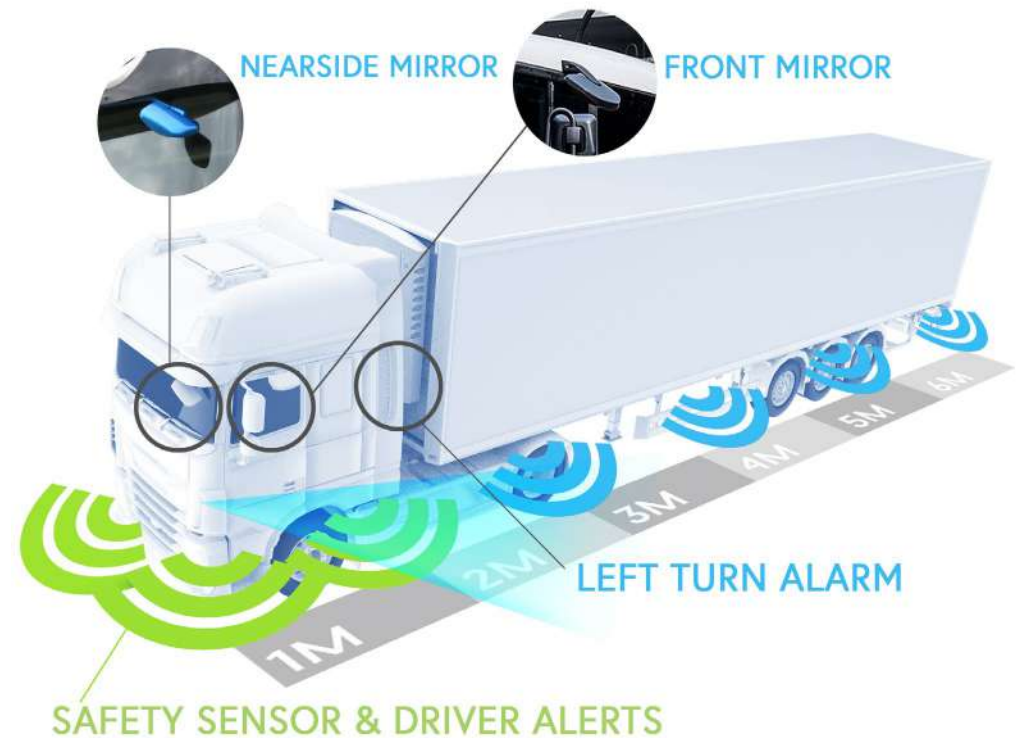
1 Principal requirement - Direct Vision

1.4 Recommended specification

Drivers of vehicles rated one star or above are encouraged to voluntarily fit any additional safety features outlined in requirements 2 to 5.

Documentation of star ratings will be kept by the vehicle manufacturer and passed on to TfL. Drivers will be required to apply for a permit when the application process opens, or when a new vehicle is obtained as permits will not be automatically issued.

Note: For existing vehicles, manufacturers will consider ratings based on the vehicle chassis number as provided by the operator.



2 Safe System - for vehicles rated zero stars only

Direct vision is the future in creating safer urban environments and safer vehicles. For direct vision to be carried out effectively, a lead time is needed to see the full effects.

Overview of Safe System requirements for zero star-rated vehicles:

- a. Class V mirror will be fitted to the nearside of the vehicle
- b. Class VI mirror will be fitted to the front of the vehicle
- c. Side under-run protection will be fitted to both sides of the vehicle (except where this is impractical or proves to be impossible)
- d. External pictorial stickers and markings will be displayed on vehicles to warn vulnerable road users of the hazards around the vehicle
- e. A sensor system that alerts the driver to the presence of a vulnerable road user will be fitted to the nearside of the vehicle
- f. Audible vehicle manoeuvring warning will be fitted to warn vulnerable road users when a vehicle is turning left
- g. A fully operational camera monitoring system will be fitted to the nearside of the vehicle

3 Indirect Vision

The vehicle requirements below are mandatory for the Safe System.

3.1 Vehicle requirement

Front and blind spots will be completely eliminated or minimised as possible for vehicles that do not meet the minimum one star rating (see section 1)

Use the options below to meet these requirements:

- Both Class V and VI mirrors
- A fully operational camera monitoring system
- A sensor system with driver alerts

Required equipment

- Class V mirror will be fitted to the nearside of the vehicle
- Class VI mirror will be fitted to the front of the vehicle
- A fully operational camera monitoring system will be fitted to the nearside of the vehicle
- A sensor system alerting the driver to the presence of a person walking or cycling will be fitted to the nearside of the vehicle

3.2 Purpose

To reduce the risk of blind spot collisions and to improve visibility for drivers.

3.3 Demonstration

In front and nearside of all vehicles, indirect vision aids will be fitted.

Left-hand drive vehicles

All left hand drive vehicles will need the same equipment as right hand drive vehicles. Sensors, cameras and mirrors will be fitted accordingly for the blind spot on the right hand side.

Note: No specific make or brand of equipment or technology will be required as part of the safe system.

3 Indirect Vision

The vehicle requirements below are mandatory for the Safe System.

3.4 Recommended specification

Mirrors

Class V and VI mirrors will be compulsory beyond 2024.

Camera monitoring systems

Camera monitoring systems should try to completely eliminate or minimise the remaining vehicle blind spot at the nearside as much as is practical and possible.

Ideally, in-cab monitors should be positioned close to a window edge or existing mirror location (without covering the view through the window).

Monitors only intended to show blind spots related to low speed manoeuvring (ie not mirror replacement cameras) may switch off at speeds above 20mph.

Sensors

Rigid vehicles should ensure that the sensors covers either six metres down the nearside or one metre from the rear of the vehicle, whichever is smaller.

Roadside furniture or stationary vehicles should not activate the sensors.

Tractor units should be suitably positioned to provide sufficient coverage, but preventing activation solely on articulation of the trailer.

Sensor systems should operate regardless of whether the direction indicators are activated and may switch off at speeds above 20mph.

Operators shall make regular checks and take all reasonable measures to make sure indirect vision systems and driver alerts remain fully operational. It is the operator's responsibility for any camera equipment and associated footage to comply with General Data Protection Regulation.

tive to fitting a Class V and/ or Class VI mirror where doing so is permitted by UNECE Regulation 46

Motormax Solutions

Motormax supply monitors that comply with the Safe System. This monitor has 3 triggers that allows drivers to view from two Motormax side cameras and if the Motormax Side Scan Overlay system is installed, a warning overlay image will display in the corner of the screen.

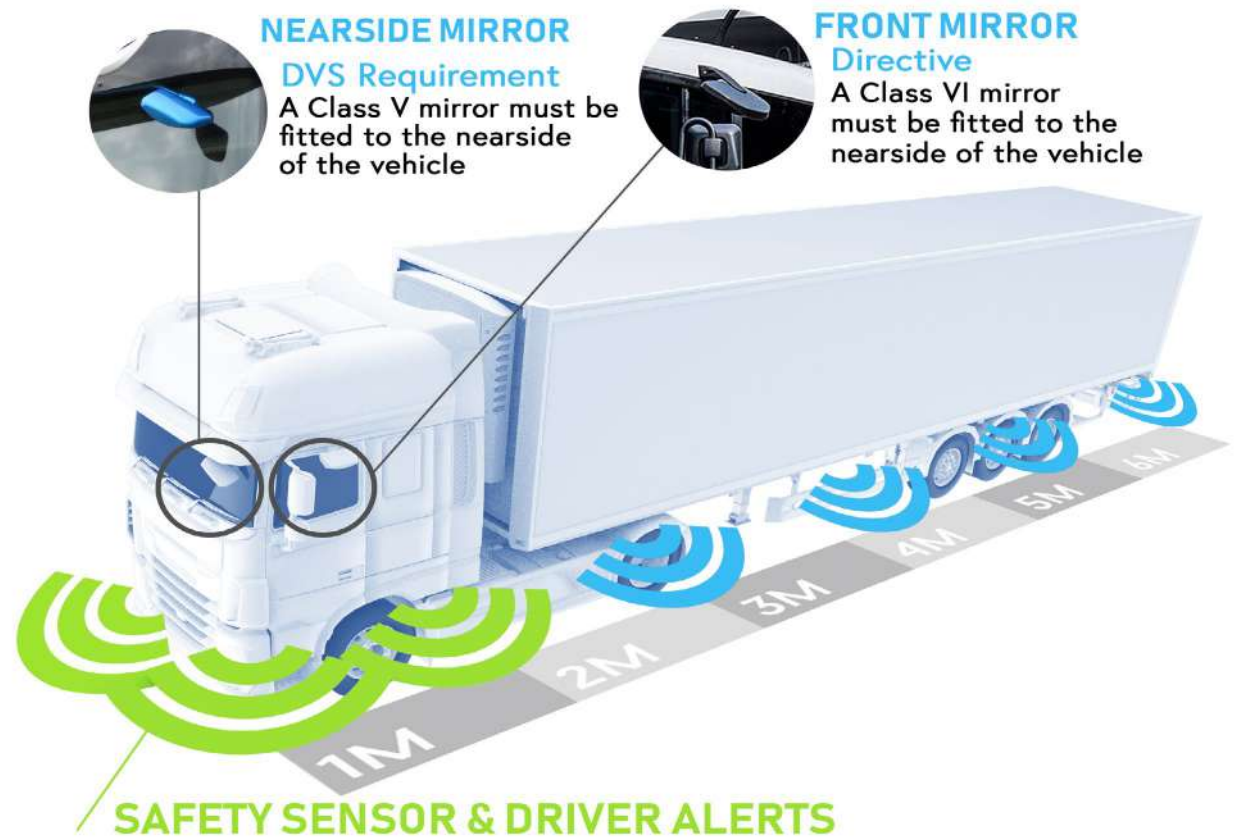


MM7091DM



MMSSOL

The overlay image from the Motormax Side Scan Overlay System.



DVS Requirement

It is recommended that sensors on rigid vehicles and articulated tractor units have coverage six metres down the nearside or one metre from the rear of the vehicle (or tractor unit), whichever is smaller.

Motormax Solutions

Using a combination of sensors, visual and audible alarms, Motormax provide a suite of blind spot detection solutions for articulated and rigid trucks and vans.

MOTORMAX CORNER SCAN



MOTORMAX SIDE SCAN



4 Warning of intended manoeuvre

The vehicle requirements below are mandatory for the Safe System.

4.1 Vehicle requirement

Enhanced audible to warn other road users of a vehicle's left movement and noticeable signals that warn other drivers not to get too close to the vehicle will be added to vehicles that do not meet the minimum one star rating (see section 1)

4.2 Purpose

To reduce the risk of collisions by alerting people walking and cycling to vehicle hazards.

4.3 Demonstration

Equipment will be fitted to all vehicles to warn people walking and cycling of the vehicle's intended movement.

Required equipment:

- Audible vehicle warning will be fitted so people walking and cycling are alerted when a vehicle is turning left.
- External illustrated stickers and markings will be displayed on vehicles to warn people walking and cycling of the hazards around the vehicle.

4 Warning of intended manoeuvre

The vehicle requirements below are mandatory for the Safe System.

4.4 Recommended specification

Audible warnings

The audible warning's volume measured at one metre from the speaker should be between 65 and 88 decibels/ dB(A). A manual on/off switch will be on the device for use between the hours of 23:30 and 07:00. For left-hand drive vehicles, the audible vehicle manoeuvring warning will be fitted to warn people walking and cycling when a vehicle is turning right.



Motormax Solution

	12-24V	Epoxy sealed	TONAL				
	85dB	Dimensions:	WHITE				
	Talking alarm	75mm x 76mm	NOISE				
	IP67	Single bolt fixing					

Warning signage

The text point size should be easy to read by a cyclist or pedestrian at a reasonable distance from the vehicle. Warning signs should not be offensive and should not give instructional advice to the people walking and cycling.



5 Minimising physical impact of a hazard

The vehicle requirement below is mandatory for the Safe System.

5.1 Vehicle requirement

Side under-run protection will be fitted on vehicles that do not meet the minimum one star rating (see 1).

5.2 Purpose

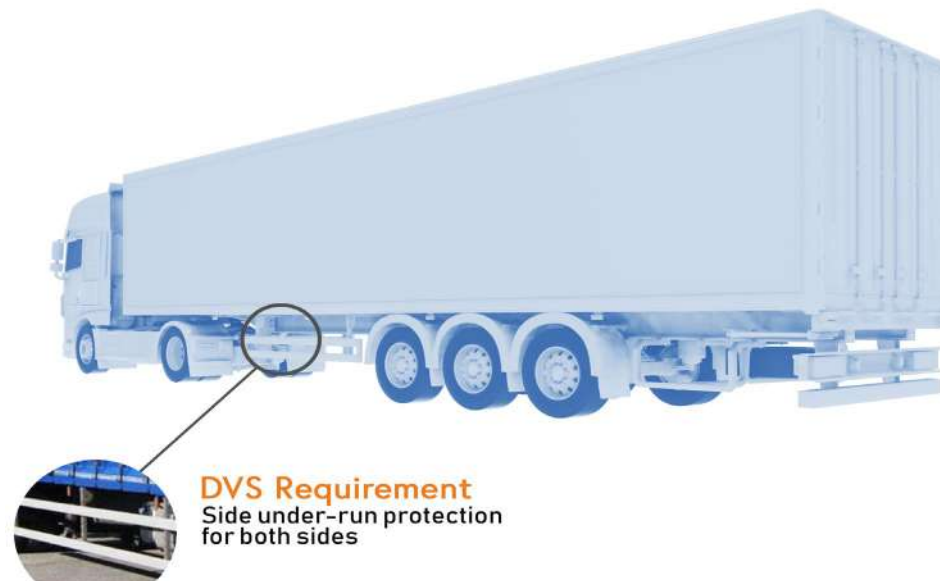
To minimise the probability and severity of under-run collisions with people walking or cycling.

5.3 Demonstration

All vehicles except where exempt (see appendix B for list) shall be fitted with appropriate side under-run protection.

Requirement:

Sideguards fitted to both sides of the vehicle unless this is impractical or proves to be impossible.



Appendix A

Getting your HGV safety permit

Permit administration

From 26 October 2020, to enter or operate within Greater London, all HGVs more than 12 tonnes GVW will require a HGV safety permit, unless exempt.

Permits will be issued electronically only. Drivers of vehicles requiring a permit will need to apply to TfL. Drivers will receive a permit reference number with their confirmation email but no certificate or hard copy will be issued.

If a vehicle with a valid permit is sold/purchased by a new owner, they must apply for a new permit as this ensures records for enforcement are up to date.

You will need to upload two photos (front/side and rear/side) if your vehicle is zero star rated as evidence that it has been fitted with the Safe System equipment.

Once a permit expires, a new full application will need to be submitted.

Permit cost

Permits will be free of charge.

Permit scheme breach

From 26 October 2020, a HGV found to be in breach of the permit scheme will be issued a Penalty Charge Notice (PCN) of up to £550 (reduced by 50 per cent if paid within 14 days).

TfL will also have the ability to revoke or suspend a 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 online application process.

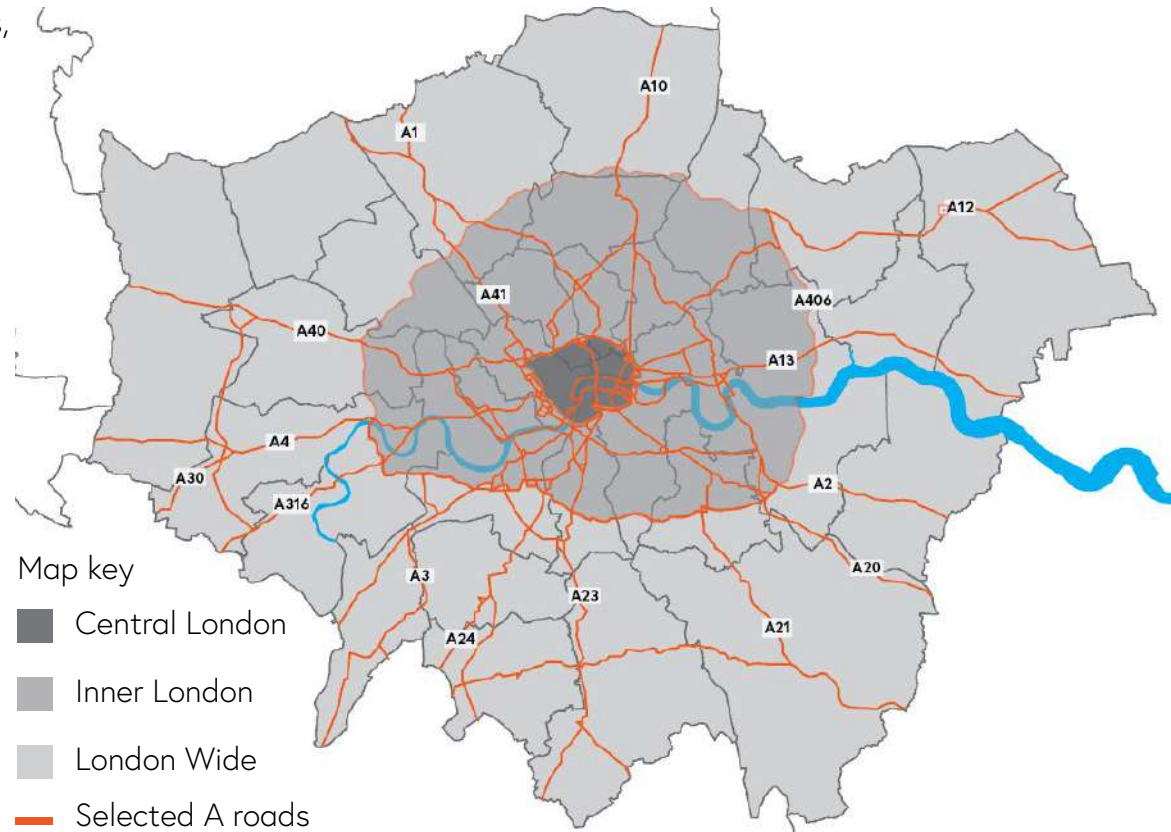
Step 1

Do you require a HGV safety permit?

If you operate a HGV more than 12 tonnes GVW only (not cars, vans, buses or coaches) and operate within Greater London then you will need a HGV safety permit.

This will be enforced 24 hours a day, seven days a week.

See map of roads affected by the HGV safety permit scheme with enforcement taking place within the London-wide area.



Step 2

Find out your direct vision star rating

- Check whether TfL holds a star rating for your vehicle on the [website](#)
- If the star rating is not available, then phone or email your vehicle manufacturer with the VIN number of your HGV Vehicle manufacturer will advise the star rating.
- Send the star rating of your vehicle via the TfL [contact page](#)
- If zero star – see step 3
- If one to five star – see step 4



Step 3

Safe System requirements Is your vehicle rated zero star?

- You will need to fit additional safety equipment – a 'Safe System' (see section 2)
- This includes:
 - » Class V and VI mirrors
 - » Sideguards
 - » Camera monitoring system
 - » Sensor system with driver alert
 - » Left-turn audible alarm
 - » Warning signage
- Once vehicle is fitted with equipment, apply for permit (step 4)



Step 4

Applying for your permit

- When ready, visit the [website](#) to apply for a permit online
- Enter vehicle details (or multiple vehicles via a spreadsheet template) and check ratings
- Enter operator details
- Enter contact details
- If zero star
 - » Upload two photos of Safe System equipment
 - » Submit your application
 - » Application will be reviewed and accepted (permit issued) or rejected with reasons (re-apply)
- If one to five star – electronic permit will be granted



Appendix B Exemptions policy

Vehicles of 12 tonne GVW or less are not required to apply for a permit. The HGV safety permit scheme is only applicable to HGVs exceeding 12 tonne GVW. These are classed as N3 category vehicles.

Table 1: HGVs fully exempt from the HGV safety permit scheme

Vehicle Type	DVS Exemption
Emergency service vehicles, such as ambulances and fire engines, which have a taxation class of 'ambulance' or 'fire engine' on the date of travel	Exempt where applicable It is not considered appropriate to require emergency service vehicles to meet the DVS star rating threshold or to comply with the Safe System conditions as these vehicles need to be suitable for the operations for which they are designed
Specialist gritting and snow plough vehicles (London Boroughs)	Fully exempt These are specialist, very low-mileage vehicles that are only utilised in certain weather conditions
Armed Forces vehicles	Fully exempt It is not considered appropriate to require Armed Forces trucks to meet the DVS star rating threshold or to comply with the Safe System conditions as they need to be suitable for the operations for which they are designed
Ministry of Defence vehicles/military vehicles	Fully exempt where applicable It is not considered appropriate to require military trucks to meet the DVS star rating threshold or to comply with the Safe System conditions as these vehicles need to be suitable for the operations for which they are designed
Breakdown organisations/recovery vehicles	Fully exempt where applicable Exempt for vehicles called out by the emergency services whose load is required for the purposes of dealing with any actual or perceived emergency affecting the safety of persons or property
Historic vehicles	Fully exempt All vehicles that have a 'historic' vehicle tax class will be exempt from the DVS. This tax class excludes any vehicle used commercially. It would be inappropriate to require historic vehicles to comply with the Safe System permit conditions

Appendix B Exemptions policy

Vehicle Type	DVS Exemption
Showman's vehicles	Fully exempt Showman's vehicles are eligible for an exemption from DVS if they are registered to a person following the business of a travelling showman and have been modified or specially constructed for this purpose. It would be inappropriate to require showman's vehicles to comply with the Safe System permit conditions
A vehicle to which no bodywork has been fitted and which is being driven or towed	Fully exempt where applicable a. For the purpose of a quality or safety check by its manufacturer or a dealer in, or distributor of, such vehicles b. To a place where, by previous arrangement, bodywork is to be fitted or work preparatory to the fitting of bodywork is to be carried out c. By previous arrangement to premises of a dealer or distributor
Mobile cranes	Exempt These are specialist, low-mileage vehicles requiring special permission to operate in London
A vehicle being driven/towed to a place where by previous arrangement Safe System equipment is to be fitted	Fully exempt
Road sweepers	Exempt
Gully emptiers/ suckers	Exempt
Breakdown organisations/ recovery vehicles (where not fully exempt) - see condition	Exempt where applicable Only exempt where the sides of the vehicle are so designed and/or equipped that by their shape and characteristics their component parts together meet the requirements as to the fitting of sideguards or provision of lateral under-run protection
Tractors for articulated vehicles	Exempt All trailers used with the exempt tractor unit will be required to fit sideguards (unless covered by an additional exemption)

Table 2: HGVs partially exempt from the HGV safety permit scheme

a. Exemptions from sideguards

Vehicle Type	DVS Exemption
Vehicles mounted with cranes and/ or access working platforms	Exempt where applicable a. From the forward point of the vehicle stabiliser legs b. Otherwise where it is not fully practicable to comply with requirements as to the fitting of sideguards
Vehicles fitted with items in the area where a sideguard with otherwise be required to be fitted, such as fuel tanks and equipment boxes	Exempt where applicable Only where the shape and characteristics of such items or components would provide lateral under-run protection equal to that of a sideguard, provided that the spaces between component items providing lateral under-run protection shall not exceed 300mm
Tank-vehicles (that is, a vehicle designed solely for the carriage of fluid substances in a closed tank permanently fitted to the vehicle and provided with hose or pipe connections for loading or unloading)	Exempt where applicable If it is not possible for practical reasons to comply with requirements as to the fitting of sideguards because to do so would prevent (not merely hinder) the operation of the vehicle's hose or pipe connections
Vehicle transporters (that is, a vehicle specially designed and constructed, and not merely adapted, to carry other vehicles loaded on to it from the front or the rear)	Exempt where applicable If the chassis rails are located on the extremities of the vehicle
Vehicles equipped with anchorage points for roll-on/roll-off transport	Exempt where applicable To the extent that there are gaps within the sideguard to accept the passage and tensioning of fixings or lashings

b. Exemptions from Class V and/or VI mirrors

Vehicle Type	DVS Exemption
Bonneted vehicles eg Unimog	Exempt From Class VI mirror only
Vehicles fitted with any combination of direct view and/ or indirect vision devices as an alternative to fitting a Class V or Class VI mirror	Exempt As permitted by UNECE Regulation 46

Table 2: HGVs partially exempt from the HGV safety permit scheme

c. Exemptions from camera monitoring systems

Vehicle Type	DVS Exemption
No vehicles will be exempt from fitment of a camera monitoring system	N/A – no vehicle exemptions

d. Exemptions from sensor system alerting the driver to the presence of a vulnerable road user

Vehicle Type	DVS Exemption
No vehicles will be exempt from fitment of a sensor system alerting the driver to the presence of a vulnerable road user	N/A – no vehicle exemptions

e. Exemptions from left turn audible alarm (right turn for left-hand drive vehicles)

Vehicle Type	DVS Exemption
No vehicles will be exempt from fitment of a left turn audible alarm (right turn for left-hand vehicles)	N/A – no vehicle exemptions

f. Exemptions from warning signage

Vehicle Type	DVS Exemption
Tractors for articulated vehicles	Exempt All trailers used with the tractor unit will be required to fit warning signage