

# EYES in the back of their head

**B**y the time you read this, Transport for London will finally have started enforcing the direct vision standard (DVS). From 1 March 2021, all vehicles over 12 tonnes delivering within the capital's Low Emission Zone will need to hold a valid HGV Safety Permit based on its DVS star rating, or operators will risk receiving a fine.

This isn't actually news; it's been planned since 2019. But TfL says that there are still a huge number of operators who have not registered, and therefore potentially a huge number of zero star-rated trucks which will need to have additional safety measures fitted in order to qualify. A zero star-rated truck is defined as one where 'a driver will not be able to see the head and shoulders of a small European female 4.5m away from the cab side'. It's a group that includes many large rigid and tractor unit cabs when no mitigation has been made.

To confirm which specific rating a vehicle carries, there is a search facility available as part of the online permit registration process. Those vehicles that

**Truck technology is helping drivers keep pedestrians and vulnerable road users safe, reports Lucy Radley**

do come up as zero star-rated must then fit the approved 'Safe System' in order to qualify for a safety permit until 2024. This is made up of six items: Class V and VI mirrors (front and kerb), side under-run protection (unless this is impractical or impossible), external pictorial stickers and markings to warn vulnerable road users of the hazards around a vehicle, a sensor system covering the nearside blind spot (such as MAN's fore and aft-facing radar system pictured above), a camera monitoring system to cover the same, and an audible left-turn warning system to alert vulnerable road users when that is happening.

The first three parts of the requirements are fairly easy to fulfil on all but the oldest of vehicles. The final three can be met in a variety of ways. The most obvious place to start is with the OEMs, where there's a mixed picture: some offer full suites of DVS solutions, while

others offer next to nothing. All brands fit the necessary mirrors to new vehicles.

DAF's Euro VI LF Series trucks all achieve a rating of at least one star, with kerb-view windows as an option. For its other models, factory-installed solutions have been developed in partnership with Brigade Electronics, and cover all the requirements for a Safe System. Its near-side camera, four-sensor detection system and audible warning (spoken and white noise) are all activated automatically with the left indicator, and there is a 'night silent' cut-off switch for the latter. A monitor for the camera is mounted on the near-side door grab handle, and can also be used for a reversing camera. The sensors used are ultrasonic, and remain active up to 20mph, with the driver warned when an object is detected via a buzzer below the camera monitor. For the aftermarket, DAF dealers offer a range of camera and sensor systems via the TRP parts range. These are supplied by Brigade, Durite, and Stoneridge-Orlaco.

Scania says it considers DVS compliance to be one of its key points,

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Jamie Fretwell

not least because so many of its tippers operate in London. Its low-entry L-series was specifically designed to achieve a full five stars, and can be ordered with the Corner Eye camera system to provide further visibility around the nearside front corner area. Scania equipment includes - pictured clockwise from top left - side radar, LED cab warning lights for radar detection, side radar from another angle, and lots of mirrors. It also works with Brigade Electronics and Durite to supply cameras, ultrasonic sensor systems and external turning alarms for both other Scania and non-Scania vehicles.

Mercedes takes a slightly different approach to DVS. Instead of encouraging operators to bolt extras on to its trucks, it tells us that it would rather concentrate on ensuring as many models as possible have at least a one-star rating, straight out of the factory. “No other manufacturer offers a flat-floored cab that merits even a single star, and the same is true of Actros variants with 2.5m width,” says Jamie Fretwell, PR representative at the German manufacturer. “Choose the 2.3m version, though, and your truck will have a one star-rating.”

The most relevant model here is the low-entry Econic, much loved by purveyors of urban refuse collection. Econic boasts a five-star rating in nearly every specification, the only exceptions being vehicles with the biggest tyres available or without the usual ‘bus style’ glass door on the near side.

Beyond that, almost all standard-height variants of Mercedes’ Actros, that is, those with a 320mm engine tunnel, which are also fitted with MirrorCam and use 315/70 tyres, have a four-star rating. This gains them a longer 10-year safety permit. For the Arocs, so long as you pick the 2.3m-wide cab and 320mm engine tunnel, you can build an 8x4 tipper which gets at least two stars.

IVECO has a factory option known



as Driver Assistant System Detection, available for the new S-Way and X-Way. This is a radar-based blind-spot monitoring system which gives visual and audible warnings in-cab for the driver.

#### OTHER OPTIONS

The remaining truck OEMs don't offer anything specifically aimed at DVS, although Volvo tells us it will be releasing something in the near future. MAN is another manufacturer offering radar-based Turn Assist monitoring the near side on its latest generation of trucks, a system which works at speed up to 30 km/h and offers three levels of visual warning plus an audible alarm in the most critical situations. Finally, Renault offers a number of systems, including cameras and proximity sensors, but prefers to work with ‘specialist UK partners to offer bespoke solutions’ to allow for a range of customer requirements.

The other option for operators is to buy directly from a specialist supplier. There are a huge range of other offers out there; TfL recommends operators use those listed on the FORS website,

via [www.is.gd/ulupen](http://www.is.gd/ulupen), or sold by trade association Logistics UK.

One of the more innovative solutions out there worth mentioning is tyre supplier Continental's RightViu turn assist system, launched in January 2021. It claims to be “so far the only supplier to rely on an exclusively radar-based solution which also detects and classifies cyclists and passengers.”

ZF, better known for gearboxes, also has a Turn Assist product, this time working “with the aid of short-range corner radar.” This apparently ‘makes it superior to today's common retrofit solutions, which are often deactivated due to false alarms.’ This product also gives drivers a haptic warning as well as audible and visual.

Whether radar is actually better than ultrasound for accurate detection of vulnerable road users is difficult to say. More information will probably be available, however, by 2024, when a minimum DVS star-rating of three will be required to enter London. All other vehicles will be required to fit what will then be known as the ‘progressive safe system’, which will take new technology into account. **TE**