

# Making your ideal weight

Enquiries by operators about on-board weighing systems usually stem from a spot of bother with the authorities; the challenge for producers of weighing devices is to sell the commercial benefit to end users. Kevin Swallow reports

A 2012 Freedom of Information request to the Department for Transport (DfT) revealed that Driver and Vehicle Standards Agency (DVSA) had 10 'weight-in-motion' (WIM) sites across England 'strategically located on the major road network'.

These are pads built into the surface of the road that record axle weights as a vehicle passes over them. And at the beginning of 2017, the Scottish government said that it is installing five WIM systems at secret locations, to clamp down on overweight vehicles.

Combining WIMs with ANPR (automatic number plate recognition) allows enforcement agencies like DVSA and the police to target potential offenders (see also pp35-36). Derek Hack, sales manager at Northampton-based Axtex, explains: "If a vehicle goes over a WIM and it registers as being over its gvw (gross vehicle weight), or an axle exceeds its plated weight, traffic officers use that information to bring that vehicle to a DVSA weighbridge, which is used to secure the prosecution."

Drivers are fined under the graduated fixed penalty scheme, and companies are then prosecuted if the vehicle is



overloaded by 30% or more, or the excess weight is five tonnes or more. In 2015, 93% of the 10,800 vans stopped were overloaded, according to figures from the DfT.

Adds Hack: "Running vehicles at full legal weight is a good thing. It means you are maximising the capacity and running at peak efficiency. Overloading affects all the major components, making vehicles potentially unsafe and in danger of being prohibited."

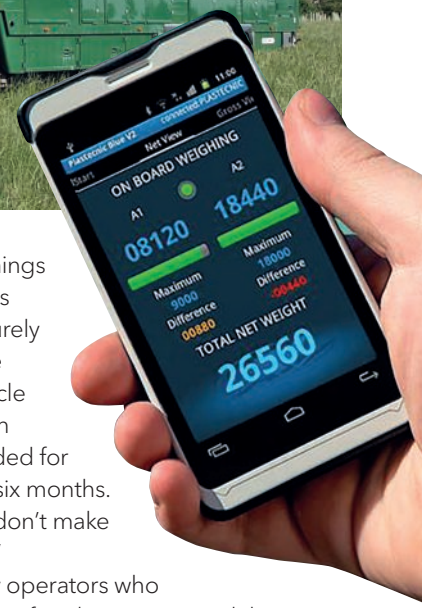
"The problem of overloading is more serious with vans," he adds. "You do not need any qualifications to run a fleet of vans and often people who work in the trades, utilities or road maintenance - to name three - do not know the law when it comes to plated weights [maximum vehicle and train weight] or gvw."

"Driving a van that is regularly overweight creates a lot of danger. Being overweight affects the steering, braking, the tyres, and wear and tear on those components. You end up replacing

brake linings and tyres prematurely because the vehicle has been overloaded for the last six months. People don't make the link."

Many operators who have been fined or prosecuted then seek a 'weighing' solution, says Julian Glasspole, managing director of Vehicle Weighing Solutions (VWS), based in Reading, Berkshire. If a vehicle has an accident, the first thing the police will do is check the overall weight, he warns, adding: "Fleet managers do not want to be dragged into court; it is a stain on their reputation."

On-board weighing devices fall into three categories: load cells for weighing when the body is raised from the chassis; pressure sensors; and axle



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Stuart Richardson

weighers or scales for loads put on to the body of a vehicle.

One body encouraging best practice is the voluntary membership organisation Fleet Operators Recognition Scheme (FORS), launched by Transport for London 10 years ago.

John Hix, FORS director, says that the body recognises the importance of safe loading, and FORS Bronze membership requires that operators have a system for safe loading and weight distribution, and a process for recording weights for vehicles that are prone to being overloaded.

“On-board weighing systems are now more accurate and reliable, and there are a range of systems on the market,” he says. “FORS Gold member City of London [see box below], is currently trialling a system on its tipper fleet with a view to equipping its entire fleet.”

As transport operators apply for FORS membership, they often seek advice from companies that produce on-board weighing systems. Someone familiar with their requirements is Stuart Richardson, senior sales engineer at Redditch-based Red Forge.

He states that two operations where

users often unintentionally overload axles are diminishing loads and pulling trailers. “A truck unloading from the back to the front through a series of deliveries gradually increases the weight on the front axle as the weight becomes unevenly distributed, creating a see-saw effect,” he says.

Additional weight behind the rear axle from a laden trailer means the weight on the rear axle increases, but the front axle load diminishes, he explains, adding: “Or, if the trailer isn’t loaded correctly, and there is negative weight on the tow ball behind the rear axle, the weight on the rear axle will drop and the front will increase. This is a dangerous situation as the whole vehicle would become unstable due to lack of trailer control.”

Derek Hack recalls how one customer fitted a device to record the overall gwv, so that when a vehicle collected a piece of machinery and reached the gwv, the driver could reject any demands from a site manager to load a second machine simply because there was still room on the trailer.

For the many hauliers that make multiple drops, knowing what has

been delivered is essential for invoicing. For example, Ernie Debenham, general manager at livestock hauliers D Blowers in Halesworth, Suffolk, needed a system that could generate a receipt when delivering some livestock to one customer before moving on to the next customer. Before, delivering required the use of weighbridges to establish before-and-after weights, a process repeated for every delivery made. “It was a very time-consuming and costly procedure,” he complains.

Now, vehicles unload on site, and the driver can print a receipt there and then, thanks to a Bowmont-Tapley on-board weighing scale fitted to the truck and trailer’s air suspension (shown, p17: main picture and inset). He adds: “After the initial trial kit was fitted and used, we decided to fit other units and trailers. It has significantly reduced our operational costs.” **TE**

**FURTHER INFORMATION**

FORS standard 4.1 – <https://is.gd/awitic>

DVSA Enforcement Sanctions Policy

– <https://is.gd/ofipor>

IRTE roadworthiness industry best practice guide – <https://is.gd/9ZTR5p>

**KEEPING TRACK OF URBAN VAN WEIGHTS**

The City of London Corporation trial of the Van Overload Protection System (VOPS2) from Vehicle Weighing Solutions is intended to provide good fleet management that does not put drivers or the public at risk, explains business improvement and performance manager for City of London Vincent Dignam.

He says: “We like innovation, but increasingly drivers are being overwhelmed with the sheer number of driving aids, side sensors and different mirrors, used to mitigate the risks to vulnerable road users. This on-board weighing system takes some of the headache away. It’s one less thing for drivers to worry about, and managers can be reassured that vehicles won’t get stopped (and fined) for overloading. It also provides us with good reporting and good information.”

Load sensors are installed between the axle and the body of the vehicle (Sprinter chassis cab conversion pictured, right) to detect the load applied to the axles, and provide continual load data for both front and rear axles via an in-cab indicator display.

