



Driver behaviour monitoring systems – or training aids, if you prefer – are proliferating. Steve Banner talks to developers and operators using them, and finds impressive value

On the job TRAINING

In-cab driver behaviour monitoring systems are being seen as an increasingly valuable weapon in the battle to cut fuel bills and reduce CO₂ emissions. Typically using a traffic light style display and often incorporating automatic vehicle tracking, they issue a warning to whoever is behind the wheel, if they take a bend too quickly, accelerate too rapidly, brake too harshly, or speed.

Such conduct is likely to increase the risk of an accident as well as push up fuel costs and cause unnecessary wear to components. So the data these systems collect can be used as the basis of a discussion between the employee and his or her manager over ways to improve their driving style.

“The packages we supply are typically delivering

reductions in fuel consumption of 4–10%,” claims Andy Cozens, senior consultant at system developer GreenRoad. “Own-fault accidents are also declining by anywhere from 25% to as much as 70%.” Reduce the number of accident claims and you are likely to find your insurance costs falling in line.

And users confirm these figures. Since buying into GreenRoad three years ago, Hertfordshire-based Sullivan Buses, which runs 50 vehicles, has seen massive improvements. Working with insurance broker Belmont, accident frequency has fallen 62%, claim costs have dropped 60% and the firm enjoyed a £50,000 premium saving in 2012 alone.

Meanwhile, although best known for its onboard CCTV systems for buses, 21st Century also supplies

driver monitoring technology under the EcoManager banner. It says that operators using its systems are reporting a cut in the number of accidents averaging at more than 39% — and fuel savings of over 12%. Arriva North West, for example, has seen a fuel saving of 12.1% and a 9.1% fall in emissions.

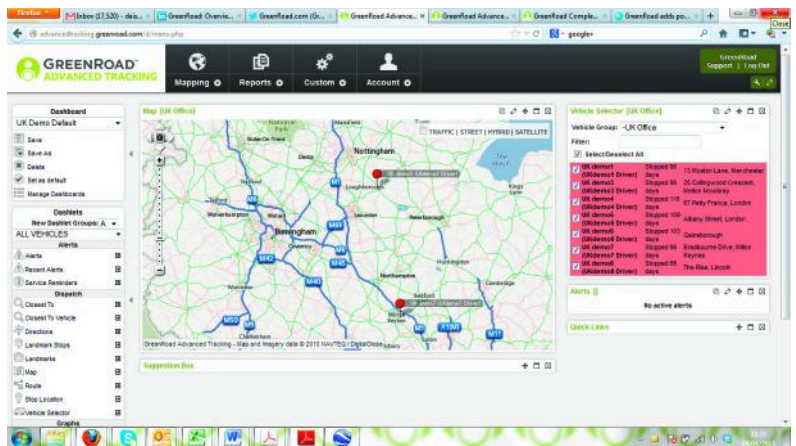
Granted, persuading drivers to buy into the whole idea of behavioural monitoring can be a challenge. However, it is one that can be overcome through a combination of incentives and status for the best performers. GreenRoad says it is happy to help with the latter through its Fleet Elite programme. All incidents of poor driving recorded by GreenRoad's in-cab equipment are tabulated and turned into a safety score that can be seen by employer and employee on-line. Anybody who scores less than 20 is seen as a safe driver while those registering five or less for 12 months are admitted to Fleet Elite. Less than 5% globally make it.

Trucks and vans too

But in-cab driver monitoring systems are not being installed solely by passenger transport fleets. Van and truck operators are increasingly having them fitted, too. "Some truck operators on trunking work have argued that technology like this is of little value

can cut fuel usage by as much as 14%. One fleet that installed it on 100 vans also saw a 50% drop in own-fault accidents.

"Based on our real-world data, we know that a fleet of 50 vans each travelling about 20,000 miles a year saves on average more than £18,000 per annum by using Lightfoot," contends Ashwoods managing director Mark Roberts. "Typically, this means our technology generates a return on investment within six months." And he argues that the savings garnered are more sustainable than



to them, because their drivers spend most of their time on the motorway, and the limiter already restricts their speed and diesel consumption," observes Steve Coffin, marketing and operations director at MiX Telematics. "But they, too, can see fuel savings on the right side of 5%."

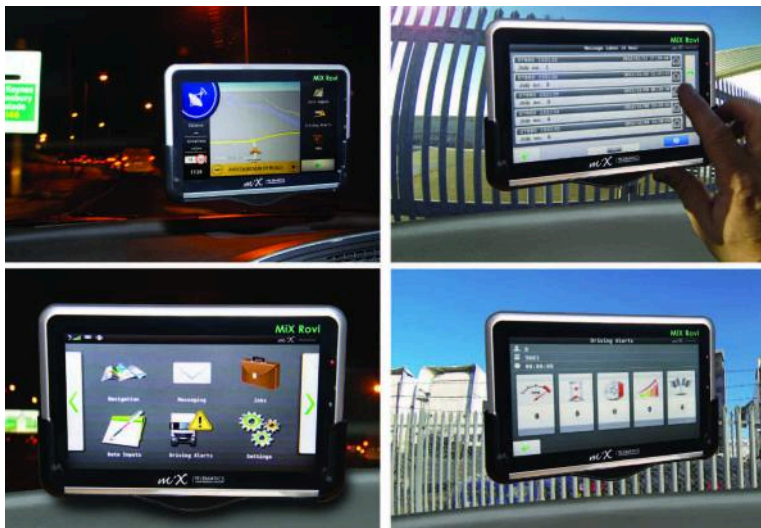
And much the same is true of light commercial vehicles, with Ashwoods Automotive (best known for the hybrid drives it fits to Ford Transits) one of the providers. Among the 2,000-plus users of its Lightfoot units are Fife Housing Association and Nuffield Health. The former employs it in Peugeot Boxer and 207 vans, the latter in Iveco Dailies. Exeter-based Ashwoods contends that its package — which provides instant traffic light indications for drivers and email report summaries for managers —

those delivered by instructor-based driver training, because Lightfoot provides guidance every day. Drivers sent on training courses may perform better for a few weeks, but then slip back into bad habits.

But there are other offerings. With encouragement from insurer Zurich, security firm Iron Mountain had GreenRoad units installed in all 290 of its UK-based commercial vehicles. As a result, fuel consumption dropped by 15%, while falling insurance claims resulted in a 14% premium reduction in 2011, a cut of similar magnitude in 2012 and 8% for 2013. Its in-cab systems are supported by an incentive programme, which measures performance by individuals and regional teams, and recognises the best with Red Letter Day rewards.

Then again, since installing GreenRoad in 20 of its 44-tonners last August — in this case, with support from Townergate Underwriting — Purfleet, Essex-based haulier KBC Logistics says it has seen fuel usage drop by 15% over and above monthly savings of between £600 and £1,000 achieved by minimising idling. During the first six weeks, the risk score achieved by its drivers dropped by 66%. It is now deploying the package across the remainder of its 30-strong fleet. "I use GreenRoad to, for example, analyse where speeding occurs and its duration — then educate drivers accordingly," says KBC Logistics director and transport and compliance manager Dave Ashford. "In one example, a driver was achieving a 72 mph downhill over-run on a 50 mph-limit road, and that's wholly unacceptable."

Above and left: KBC Logistics director and transport and compliance manager Dave Ashford. Since installing GreenRoad in 20 of its 44-tonners last August, the haulier has seen fuel usage drop by fully 15%



Above: MiX's new Rovi in-cab display. Based on a 7in colour touch screen, it provides the driver and transport manager with feedback in the form of its 'RIBAS' alerts

Right: Ashwoods contends that its package, which provides traffic light indications for drivers, can cut fuel usage by as much as 14%

Part of your choice of system will concern display preference – because they're not all the same. CMS Supatrak's Safer Driving Assistant, for instance, spells out offending behaviour – harsh braking, idling and so on – on a dashboard-mounted touch screen display, accompanied by an optional tone alert.

The driver also gets an 'energy efficient driving index' score, displayed every time the ignition is switched on, along with a target figure. Meanwhile, driver alerts are recorded and can be analysed by the transport manager, using CMS Supatrak's EcoTrak reporting package, so they can be reviewed with the individual.

RIBAS rewards

But driver monitoring equipment is a fast-moving industry. At last September's IAA commercial vehicle show, in Hannover, Germany, MiX launched the latest version of its MiX Rovi in-cab display. Based on a 7in colour touch screen, it provides the driver with feedback by means of what MiX calls RIBAS alerts ('R' for over-revving, 'I' excessive idling, 'B' harsh braking, 'A' excessive acceleration and 'S' speeding). It also includes a satellite navigation system, allows messages to be exchanged between driver and base, and provides for customised data inputs.

All well and good, but fuel savings, lower insurance premiums, and reduced maintenance and repair costs have to be balanced against the cost of installing the equipment. "In our case, putting it in costs £100 per vehicle and we levy a charge of £25 per month per vehicle," says MiX's Coffin. Nor is there any need to worry about warranty invalidation,

he adds, because no wiring is tampered with. "Typically, you are talking about units that will plug into a J1939 port," he explains.

MiX has also been working with collision avoidance specialist Mobileye to integrate the latter's equipment with its FM Communicator computer. Any problems identified during a journey by Mobileye's camera can then be recorded and examined by the fleet manager. Also, warnings sound if the driver gets too close to the vehicle in front, or drifts out of lane.

That's a good development. And in fact, fitting forward-facing cameras alone can have a profound impact, according to Smart Witness – as well as making it easier for operators to defend themselves against fraudulent claims. Its system records the truck's location as well as what is happening in front of the vehicle, plus braking, acceleration, speed and g forces. All data can be sent to anything from a PC to a smartphone, accompanied by an incident video.

Stephen Sanderson Transport, of Market Harborough, had Smart Witness fitted to its entire fleet of 65 trucks. Says managing director Steve Sanderson: "It's making our drivers drive better and reducing accidents... In the past, when we've had a few minor bumps and the driver said 'it wasn't my fault, somebody hit me,' we haven't had any evidence either way," he adds. But indisputable video evidence is available now.

One other thought: might having driver monitoring equipment built into cabs soon look out of date? So much can now be provided through smartphone apps, with the phone sitting in a cradle and alerting the driver whenever a hazardous manoeuvre, or one that uses excessive fuel, has been identified.

While Coffin agrees that this approach can be used, he stresses that such apps do not yet provide operators and drivers with the detail or the record of what happened. "You don't get the granularity of data you may be looking for," he comments. "They give an indication, but no more."

Some OEMs are installing driver behaviour

management systems on the production line. Optare, for instance, fits Actia's Eco-Drive package, while Iveco offers Driver Style Evaluation on Stralis. "I suspect these will become standard on all heavy trucks, because every fraction of a percentage point you can save on fuel really matters," comments Iveco product director Martin Flach.

However, operators running mixed fleets may then be faced with the challenge of collating data from multiple systems. Far better, argue the independent suppliers, to opt for a universal package from a third party. Surprise, surprise. **TE**

