

Limiting speed to 60mph can cut fuel bills by 10%

Restricting maximum mph will only add two minutes to time of typical journey

NEED TO KNOW

- Technology provides fleets with fuel-saving option
- Drivers over-estimate time gained by driving faster
- Typical van uses more than £7,000 of fuel each year

By Gareth Roberts

Restricting the maximum speed of a vehicle to 60mph can reduce fuel consumption by up to 10%, but only adds two minutes to the average journey time, new research suggests. DriveGain analysed 10,000 journeys uploaded to the company's web portal over the past nine months and found that limiting the maximum speed to 60mph resulted in cutting fuel spend, while not adding significantly to journey times.

"Drivers are wasting a lot of fuel for very little difference in their arrival times," said Simon East, chief executive officer of DriveGain. "We find drivers tend to over-estimate how much quicker they will arrive when driving faster. Unless the roads are totally clear, other traffic on your route will tend to slow you down considerably."

When driving at higher speeds drivers tend to accelerate until they catch up with traffic ahead, at which point they brake to slow down, and this constant acceleration and braking cycle uses much more fuel than travelling at a constant speed.

DriveGain produces an application using the iPhone's GPS to calculate how efficiently the vehicle is being driven. Combining information about acceleration, driving smoothness, and overall speed with the exact specifications of the vehicle being driven, it gives the driver feedback on how they can reduce the amount of fuel they are using.

For each journey the DriveGain app records the speed, the actual fuel used and the journey duration.

ESTABLISHING MPG IS VITAL FIRST STEP

A recent survey of FTA's van operating members revealed that almost half didn't measure fuel consumption across their van fleet, only a quarter planned their routes and a third didn't train their drivers in fuel-efficient driving.

So what can operators do to improve their performance? The starting point must be to establish the current fuel efficiency within the fleet.

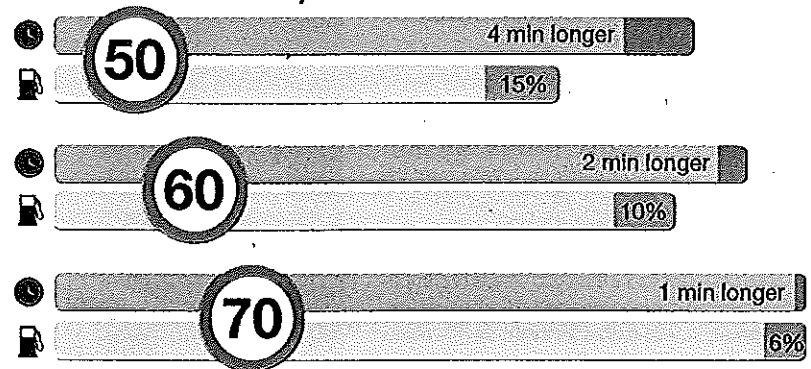
The FTA says that simply comparing the figures across similar vehicles and drivers can quickly highlight areas for attention.

Driver training is seen as having a positive effect on fuel spend and telematics has a role to play, as has simple mpg calculations, but the key is to ensure drivers are aware of the impact of their driving habits.

The FTA also reports that a major fleet operator realised more than 10% savings simply by investing in off-the-shelf sat-navs and instructing their drivers to plan their routes and to use the built-in fuel price function to identify the cheapest fuel within three miles when they need to fill-up.

The use of speed limiters was also seen as vital. Aside from the legal issues, a van travelling at 80mph can use 25% more fuel than at 70mph. Almost two-thirds of respondents regularly use speed limiters on their vans and recognise their use as being an effective fuel saving measure.

JOURNEY TIME VS MAXIMUM SPEED



DriveGain's calculations show the time penalties and fuel savings available over average journeys if vehicles do not exceed a set speed rather than driving at any speed

"Drivers are wasting a lot of fuel for little difference in their arrival times"

Simon East, chief executive office, DriveGain

The company examined this data to see how many journeys exceeded a set speed, such as 60mph. It then compared the total time and fuel use of these journeys to a simulation of what would have happened if the user had been limited to the restricted speed.

This allowed DriveGain to work out what the average extra journey time and fuel saving was for these journeys if the vehicles' speed was limited.

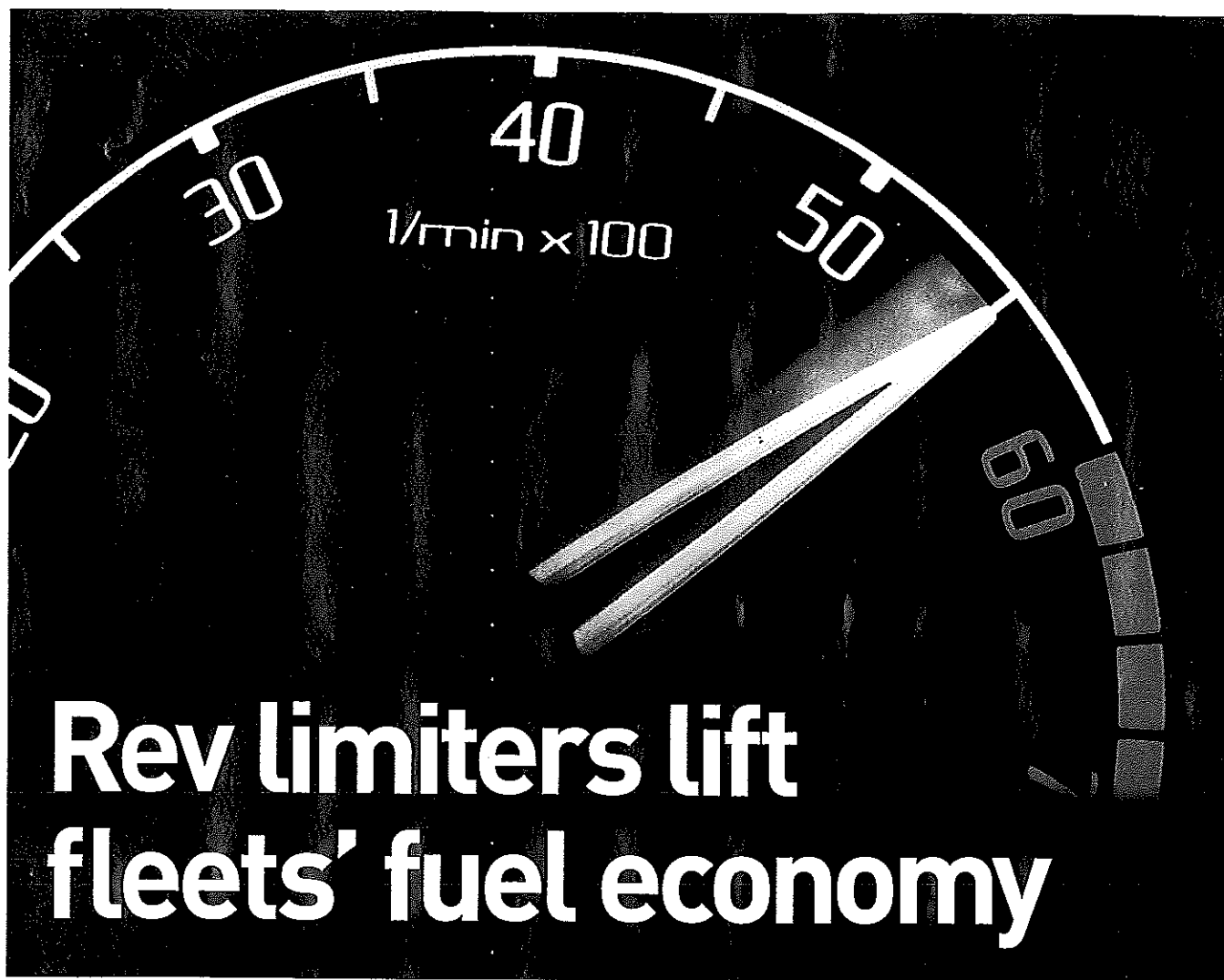
This journey data is also uploaded to the web server (for users who enable this) where it can be analysed.

DriveGain's statistics appear to support fleet operators that employ technology to limit a vehicle's speed, which is especially timely when the Freight Transport Association (FTA) says that diesel prices have increased by more than 5% since this time last year and fuel now represents more than 70% of the running costs for the average van on the UK roads. A typical van will use more than £7,000 of fuel each year.

However, despite this burden, many operators are failing to take on board straightforward measures to reduce this cost to their business, let alone turning to technology.

Mears Group has been fitting speed limiters to its vehicles for more than five years and it reduced the limit on LCVs to 60mph three years ago. Fleet manager Jo Hammonds said: "We have seen no increase in journey times, but we have seen a large increase in economy giving around 10% savings on fuel and have also seen a reduction in the number of accidents."

There is also a developing trend towards the adoption of rev limiters with several operators reporting successful trials.



Rev limiters lift fleets' fuel economy

Up to 25% improvement recorded in fleet's mpg and CO₂ output during trial

By Alisdair Suttie

Any van operator would welcome a 25% increase in fuel economy, especially if there was a low-cost way of achieving the improvement. The solution comes in the form of rev limiters that allow normal use of a van, but restrict its engine revs and, consequently, its maximum speed.

A trial by Autokontrol, one of the UK's leading suppliers of aftermarket limiters, showed a 24.7% improvement in economy, corresponding to a similar reduction in CO₂ emissions.

One utility company in north-west England fitted limiters to 19 vehicles, including Ford Transit, Land Rover Defender, Toyota Hilux and Vauxhall Movano.

The average improvement to economy across the range of vehicles was 4.42mpg to give an average consumption of 22.31mpg. The company has now ordered rev limiters for its entire fleet.

Gerry Leggat, product manager of Autokontrol, said: "This trial ran for six months and we saw improvements of as much as 13mpg for some vehicles. Even with vehicles that already had a factory-fitted speed limiter, we witnessed worthwhile economy gains."

The cost of fitting an aftermarket limiter can be spread even further than its use on the original vehicle. Leggat says: "A rev limiter is simple to

install, which means very little downtime for the vehicle, and the approximate £300 plus VAT cost is easily returned in fuel savings. The limiter can be removed from the original vehicle and fitted to a replacement van for around £90."

The amount of fuel saved using a rev limiter worked out at 5mpg for a Ford Transit 350 medium wheelbase, lifting it to 22mpg.

This van would cost £23,734 in fuel at current prices over a typical 36-month/60,000-mile period with no rev limiter. Fit the limiter and the fuel bill drops to £18,340, saving £5,394.

Richard Wiggins, head of technical fleet for Royal Mail, has fitted speed limiters on all the fleet and rev limiters on urban-based vans.

"We recognised our light fleet was capable of performance that exceeded our needs, so we adopted a policy of fitting limiters prior to the vehicle entering service," he said.

"Every LCV we purchase is limited to 70mph, as well as coming with reversing sensors and seat-belt warning devices. We have seen a small benefit in fuel economy, but just as importantly it has helped set a standard for driver behaviour."

He added: "If purchased as an option on a new vehicle, the cost is commercially viable across the life of the asset for Royal Mail. For retrospective fitting of a rev limiter, it should be undertaken as part of a scheduled service visit and is a small

job for most vehicles without attracting vehicle downtime."

Factory-fitted limiters cannot be removed or swapped, which can have an effect on the van's resale value. Many fleets have limiters as standard, but not all buyers want rev or speed restrictions.

This is where a transferable rev limiting unit can offer a van operator the best of both worlds. It also allows the owner to fulfil their duty of care to the driver by ensuring the vehicle cannot exceed the national speed limit or legal

maximum for that vehicle.

Most speed limiters work by taking a signal from the speedometer, measuring its frequency and then preventing the signal from going beyond this frequency. A rev limiter works in a similar fashion, but it intercepts the signal from the throttle pedal to the rev counter and then passes it on to

"Every LCV we purchase is limited to 70mph"

Richard Wiggins,
Royal Mail



Rev Control Fuel Savings

Angus Council

65 Renault Clio cars first six months operation saved 15.2%

Gwynedd Council

Ford Transit Connect saved 10.64%

North Lanarkshire Council

Ford Transit Connect consumption went from 42mpg to 49mpg (17%)

Major Supermarket

Rev control on Automatic Sprinter vans

Two vehicles were fitted and showed a saving of 6% which rose to 7% during the last 4 weeks

Cost saving amounted to £817 per vehicle per year

Fife Council

Rev control on Ford Transit Panel van

Before rev control fitted	Miles	Gallon	MPG
	10,000	507.94	18.25

507.94 x £5.41 gallon = £2748.05 fuel cost

After rev control fitted	Miles	Gallon	MPG
	10,000	436.10	22.93

436.10 x £5.41 gallon = £2359.35 fuel cost

Yearly saving £605.00 per vehicle

West Midlands Ambulance

Relay	24.20 – 31.50 MPG	30%
Despatch	35.80 – 36.58 MPG	2%



Speed Limiter Trials – Fuel Savings

A major utility company has recently completed extensive tests on a Romatic 'DbW' system. The speed was set at 70mph.

The vehicle used was a Peugeot Partner travelling on average 1200 miles per month. This particular vehicle was chosen because of the wide variety of journeys it undertook, from town work to motorway travel.

Fuel consumption figures

Before speed limiter was fitted it averaged 28.41MPG.
Following fitment consumption went to 40.58MPG

HIGHLAND COUNCIL

Highland Council put three new Astravans into service and conducted a fuel trial.

Van A, the Control Vehicle, was unlimited

Van B was limited to 65MPH

Van C was limited to 62MPH

After nearly 12 months of careful monitoring with drivers being rotated the results were:

Against Van A, the control vehicle

Van B saved 11.70%

Van C saved 18.24%

Highland Council's van fleet is now retrofitted, all vans are limited to 62MPH