

The alternative to PLATOONING

Might there be a better way to cut road freight emissions and reduce congestion than operating HGVs in tight formation, asks Peter Shakespeare

At the end of August 2017, the Department for Transport (DfT) announced it would spend £8.1 million on an operational trial of HGV platooning in the UK. The Transport Research Laboratory is the trial lead, working in partnership with several stakeholders, including DAF Trucks, DHL and Ricardo. Justifying this expenditure of taxpayers' money, the DfT has said that if successful, the technology could have major benefits for motorists, business and would have environmental benefits.

But the Institute of Road Transport Engineers has said it has "serious concerns" about the suitability of UK roads for truck platoons. And although transport associations the FTA and RHA say they broadly support any move that will enable their members to improve efficiency and to reduce costs, both have expressed reservations about platooning. The RHA's director of policy and public affairs, Rod McKenzie, says that he has concerns around the UK's strategic road network's junction structure and associated congestion created by passing platoons of trucks. The FTA's head of policy for northern England and spokesperson on platooning, Malcolm Bingham, echoed the RHA's concerns about the suitability of our infrastructure, and adds that he remains unconvinced whether any operational benefits of convoys of connected trucks can be delivered safely,

and would benefit industry beyond a few individual companies running their own platoons. And John Eastman, chair of the IRTE professional sector council, says that alternative measures, such as articulated trailer combinations, have not been given due consideration.

His view has drawn support from other quarters. A recent letter to the editor (December 2017) from David Ward argued that allowing the operation of the Denby Transport Eco-Link concept, or Australia's B-train longer tractor-trailer combination, would be a far more effective and efficient way of achieving the carbon reductions and efficiency gains the government is seeking. Both are longer than the UK maximum length of physically-connected road trains, 18.75m.

These ideas are also shared by David Cebon (pictured, right), a professor of mechanical engineering at Cambridge University and the director of the Centre for Sustainable Road Freight. He believes that the government's platooning trial is nothing more than a political gesture, and that the fuel consumption and emissions benefits are very small compared to the major safety and operational barriers of platooning. Cebon explains: "My views are principally based around carbon emissions. There have been platooning trials in North America and Europe. The fuel consumption benefits of platooning are pretty well understood. They are principally down to aerodynamics,



and only achievable if you can get the vehicles really close together. If this is done you can get a 7-10% reduction in fuel consumption."

BIGGER BENEFITS

But he argues that similar savings could also be achieved from a full aerodynamic treatment (see also pp18-19). He adds: "You can get much bigger benefits in terms of fuel consumption by doing other things - for example, higher-capacity vehicle combinations or using road trains or the 25.25m-long European Modular System (EMS) vehicles [which] we see in operation in Scandinavia and Holland [pictured above]."

"With these you can reduce fuel consumption by up to 20%. You can do it using existing technology; you can do it without any of the potential safety and interoperability issues associated with platooning. The EMS also has barriers,



Contends the professor: "There is no reason why EMS vehicles shouldn't be double-deck, which would deliver even greater efficiency benefits to the UK's logistics industry and its competitiveness. If you change the system, it is proven in other countries that operators will adapt to take advantage of the fuel consumption and productivity benefits. If operated correctly, these vehicles have safety benefits over tractors and semi-trailers. In Australia, since their introduction, the accident rate has fallen by 30%.

"I think the DfT has made a big mistake by ruling out high-capacity vehicles. If ministers really want to meet climate change targets, introducing LHV's [longer, heavier vehicles] would make a significant impact."

Cebon concludes: "We keep hearing from the chancellor that the UK has a productivity gap. Freight logistics represents 7% of the economy. High-capacity vehicles are an opportunity to improve a significant part of our economy's productivity. You could also spend £8 million addressing some of the very important issues surrounding the electrification of road freight. I believe this is the clear direction of travel, if we are to achieve the decarbonisation that is needed in the long term."

Rod McKenzie says the RHA is open to any development that will benefit the industry, and it keeps a watching brief on LHVs. The FTA's Malcolm Bingham is more doubtful. He believes that much of the UK's road infrastructure, as it stands, is unsuitable for LHVs, and that public and political opinion represents a massive hurdle for them.

But he adds that reducing the industry's overall carbon footprint is vital. FTA members are both contributors to, and movers of road freight. Bingham says that at least some of them would like to see increases in the capacity of their vehicles. [TE](#)



but they are mainly political ones.

"It is enabled by existing technology, results in fewer trucks clogging up the roads, reduces the demand on the diminishing driver resource and could be achieved by simply agreeing to do it."

"I can see other reasons why you might want to have platooning," adds the Cambridge University professor, "such as extending drivers' hours. If the drivers in the following trucks are 'not driving' while in the platoon, their hours on the road could be extended. But is that something society wants to do? Driving a truck is a very demanding job. We already have a shortage of drivers. It can be an isolated, lonely existence, with associated mental and other health related issues. Will platooning have the potential to make that worse?" he asks.

There is a view that the UK's distribution model could not easily adapt to moving to the EMS, given its

reliance on the tractor and semi-trailer system. Cebon replies: "Almost every country uses the tractor-semi-trailer logistics model. Fifteen years ago, Australia was completely wedded to it. Go there now and almost all HGVs operating along the east coast are B-doubles. They reduce vehicle miles, fuel consumption, cost and traffic congestion, and the logistics model has changed."

DOUBLE-DECKERS

One unique feature of the UK's logistics model is the use of double-deck trailers. In terms of productivity, the increased height brings huge gains.