

Size DOES matter



A few months after the DfT announcement of trials for longer semi-trailers, Steve Banner talks to those building and operating the new units to see how they are performing

Encompassing up to 900 semi-trailers at lengths of up to 14.6m and a further 900 up to 15.65m, the DfT's (Department for Transport) 10-year trial of longer trailers is slowly cranking into life. Scheduled to last until October 2021 – surely more than sufficient time for valid conclusions to be drawn – the trial involves tight monitoring of the semi-trailers involved and an annual review of their impact.

Sometimes referred to as HVTs (high volume trailers), they are operating under Vehicle Special Orders, issued by the VCA (Vehicle Certification Agency) under Section 44 of the Road Traffic Act 1988. With the trial over-subscribed, trailer makers report an influx of orders for HVTs. "We've received 100 so far," says SDC managing director Mark Cuskeran. Eddie Stobart alone is planning to put 90 into service – 67 at 14.6m and 23 at 15.65m – all sourced from SDC.

At time of writing, however, only one of the proposed 1,800 longer trailers is actually being used to earn revenue. Eddie Stobart put a 15.65m curtain-sided unit into service in January, with an initial load of 54 retail cages for groceries, on behalf of Tesco. To date, that trailer has caused no major

problems, according to a Stobart spokesperson.

"It's early days, but everything seems to be going OK," he says. "Some additional driver training has been required, but, as it turns out, the trailer's behavioural characteristics are similar to those of a standard trailer. It has been fitted with twin positively-steered axles and, so far as I'm aware, we're not experiencing any issues with swing-out."

Trailer testing

Elsewhere, having been granted 68 licences to operate longer semi-trailers, Wincanton has spent six weeks touring the premises of major customers with a 15.65m prototype, built by Don-Bur. "The feedback we've received has been overwhelmingly positive," says technical director Dave Rowlands.

But, so far, deliveries have been slow. That's partly because of the convoluted nature of the testing process, which means that it's taking a long time to get the semi-trailers built and into the hands of operators. Just like standard-length artics, longer tractor and semi-trailer combinations are obliged to meet strict turning circle legislation – but it's not as simple as that.

"They must be able to turn within concentric circles with radii of 12.5m and 5.3m," explains Lawrence David technical director Andy Richardson. However, simply submitting drawings that prove a particular HVT combination has this capability is not enough. "The DfT has insisted that a 'deemed to comply' calculation is insufficient," states SDC's Cuskeran. Instead, the trailers have to be physically tested by the VCA.



In an exercise that lasted two days, SDC managed to get just five longer semi-trailers approved, all rated as meeting the turning circle requirements and as suitable for 44-tonne operation. All were equipped with steer axles, in order to meet the turning circle rules – but of different types. They included: 14.6m and 15.65m models, fitted with self-steer axles; 15.65m versions, equipped with either a Muldoon or a Tridec command-steer axle; and a 15.65m unit, fitted with twin Tridec command-steer axles.

Richardson favours command-steer, certainly at 15.65m, because he worries that a self-steer axle could create problems when reversing. “It can behave like a shopping trolley,” he contends. Although such an axle may create no difficulties if the tractor/trailer combination can be aligned precisely prior to reversing, in a crowded yard that may not always be possible, he explains.

The self-steer may, of course, be equipped with a locking mechanism that triggers once reverse is engaged, so that the driver no longer feels he is trying to negotiate the aisles of his local supermarket with a wayward wire basket on wheels. However, the wheels will still need to be in reasonable alignment before the lock can actuate. And, even if it does actuate, the problems are not over. Three fixed axles on a semi-trailer of this size spell excessive tyre scrub, says Richardson, as well as more stress imposed on the chassis, and probably the need eventually to dig up and replace the yard’s surface, thanks to the resulting wheel damage. But there are opposing views. “A difficulty

with command-steer is that it adds to the cost of the trailer concerned,” asserts Don-Bur marketing manager Richard Owens. “Even with just a single command-steer axle, you’re probably looking at a price penalty of around £7,500. Two command-steer axles will cost you about £10,000. By contrast, a single self-steering axle typically costs just £4,500.”

And he has another point: “It would be easier and cheaper to shorten a self-steer trailer, if the current trial results in longer trailers being abandoned, than it would to shorten a trailer with command-steer,” says Owens. Closer to home, he also suggests that command-steer means a significant increase in unladen weight – something Richardson does not deny. A single command-steer axle imposes a penalty of approximately three-quarters of a tonne, he estimates.

Steering a course

Yet, while not being afraid to highlight the drawbacks of such an approach, Don-Bur is nonetheless moving in favour of using a command-steer back axle, because of its power in terms of manoeuvrability. Meanwhile, the trailer builder is also using multiple approaches:

“The trailer we built for Wincanton features a rear self-steer, a fixed axle and a front axle equipped with Knorr-Bremse’s iCorner,” Owens says. “Although it’s been described as a lift axle, it’s not, in the true sense of the word. What iCorner does is relieve some of the burden imposed on the tyres to make the vehicle easier to manoeuvre at low speeds,” he explains.

While that trailer is designed for 44-tonne use, an evenly spread, so-called, ‘waterline’ cargo would, in practice, limit it to less than that, says Owens – although its capacity is still more than adequate for many operations, provided care is taken when loading.

“Bear in mind, though, that, when we built this trailer, the rules stated that the bogie could be no longer than 3.25m,” he states. “Since then, they’ve been changed to allow a maximum bogie length of 4.6m, which means the axles can be spread more widely.” That makes a full 44 tonnes much easier to achieve. “As a consequence, we wouldn’t design that trailer in the same way now.”

No matter which length you choose, he points out that, although a height restriction was proposed when the trial was initially mooted, that limitation has now been abandoned. As a consequence, HVTs can now run at any height the operator chooses, subject to the usual restrictions imposed by the height of motorway bridges and by engineering practicalities. It is, of course, also subject to any change on trailer heights imposed by the EU – a debate that has yet to reach a firm conclusion. **TE**