

Bending the rules

There are numerous reasons why the construction industry and aggregate hauliers should and could make more use of articulated tipping vehicles, instead of rigids. So why don't they? Peter Shakespeare investigates

More than a decade ago, the Department for Transport (DfT) commissioned Freight Best Practice to produce guidance to show the benefits of using bulk tipping vehicles in terms of reducing lorry miles, productivity, cost and the human resource impact. In the UK, 8x4 tippers account for the vast majority of construction-related lorry miles. The case study (www.is.gd/wukeme) featured input from LaFarge and two other aggregate hauliers. It concluded that it takes almost three 8x4 rigid tippers to carry the same payload carried by two 44-tonne articulated tippers. On average, an extra payload of 8,400 kg per journey is carried by using an artic

instead of an 8x4 tipper. Over a year, a typical articulated tipper saves 319 return trips and 17,540 miles. This equated to a £4,230 saving per vehicle at that time, not to speak of saving on driver resource. Yet today, aggregate hauliers still rely on 8x4s as their primary workhorse. A Transport for London (TfL) study (www.is.gd/famela) published in March 2018, looked into the potential for using more articulated trucks to carry bulk construction materials in London.

TfL's report is comprehensive, having gathered data and input from numerous prime construction contractors and haulage contractors, and shows costed comparison models between articulated tippers and rigids. It found that, while there are a multitude of complex factors affecting industry decisions, concerns surrounding safety and access within sites are preventing any greater use of articulated tippers.

And it isn't hard to understand why. IRTE technical guidance (www.is.gd/umujid), points out: "If a driver fails to discharge a load or operate a tipping vehicle safely, both the operator and driver may be responsible for seriously injuring themselves or others, perhaps even fatally. Both the operator and driver could also be contravening health and safety law."





THE THIRD WAY

At Tip-Ex (see also pp26-28), Crick Trailer Sales showed its sliding-frame bulk trailer tridem. A second subframe moves one metre forward for site manoeuvrability, and one metre backward (to maximum 8m from kingpin to centre of rear axles) to be road-legal up to 44t. This meets UK chassis loading requirements of 5.5t/m. Use of 305/65 22.5in single tyres, rather than doubles, allows a relatively wide (53in) chassis, to improve stability. The trailer is 9.05m long, and offers carrying capacity of up to 30t on aluminium, or 29.25t on steel. The second subframe requires a weight penalty of 400kg. Interlocked, hydraulically-actuated pins hold the tipper body in place.

However, all of these reports and studies point to the fact that if proper procedures are followed by site managers, haulage operators and drivers, bulk tipping vehicles can be operated safely in most circumstances – where access allows – and the majority of tip-over accidents, while relatively rare, result from human error, which can be managed and avoided.

Some articulated tipper operators take additional safety precautions. For example, Atlas Bulk Carriers will deliver direct to a construction site, but only if certain criteria are met, according to Eddie Hylton, sales director of the Shepperton-based firm. It used to take aggregate from local quarries using its fleet of steel-bodied 8x4 tippers. But as these quarries became worked out, it had to travel further afield, meaning operating 8x4s became uneconomical.

Hylton explains: “We will only tip the artics on a construction site if there is a large area of hard standing, which will allow us to turn the truck around and tip it with the cab and body in line. But there aren’t many like that. And the ground must be level. One of the biggest problems is if the aggregate is loaded when it is wet. Sand is especially challenging, because when damp, the load compresses against the headboard. When the tipping body is raised, it can stick to the headboard, while the rest of the load moves out beneath it. When sand is wet, it can weigh up to 1.8 tonnes per cubic metre. So if you get three or four cubic metres of material stuck at the headboard, it acts like a pendulum. If the tipper is not straight, on a level surface, it can easily topple over when it is moved to dislodge the material. We do run into a couple of sites with a purpose-built tipping area. The site contractor then uses big dumpers to move the material to where it’s needed.”

In terms of economics, Hylton adds, artic tippers make much better sense for the haulier and the customer. “Our

aluminium aggregate bodied tippers can carry a 30-tonne payload. This compares with around 19 tonnes on a steel-bodied 8x4. Because the customer is buying more tonnage, it pays less, and because we charge more for artic haulage than 8x4, we earn more from the truck. So in cost and revenue terms, the artic is win-win.”

CUSTOMER RESTRICTIONS?

Are the operating standards bodies having an influence on site and haulage operators’ decisions about using articulated tippers? Not according to Derek Rees, the chief executive of SECBE and project director of CLOCS. He says: “CLOCS is about helping prime contractors to create the best physical and commercial conditions for subcontractors to operate in. This means putting the right safe systems of work in place. We don’t specify what type of vehicles can tip on sites. This is up to the principal contractor, but it is the principal contractor’s responsibility to ensure tipping areas are properly risk-assessed, safe, and comply with health and safety regulations. We provide guidance so there is a consistent and informed approach.”

The CLOCS guidance takes the form of a handbook for risk-assessing ground conditions on construction sites (www.is.gd/capecci). CLOCS offers a ground condition rating scheme, from one to five, a rating that is suitable for all types of road vehicles. It considers: approach angle, surface type, ruts and bumps, and water. Site operators can submit their ground condition rating to the CLOCS website. This can be accessed by other members to inform the vehicle type that is suitable for use.

So, it is clear that the objection to articulated tippers does not come from haulage operators, provided site conditions are suitable. Testimonials in referenced reports confirm this. In fact, TfL would like to see more of them in

use, to aid CO₂ reduction and reduce the numbers of HGVs on London’s roads. So, the spotlight falls on the construction site primary contractors and their subcontractors.

TfL’s report says site contractors tend to issue restrictions on the types of vehicles used to bring materials to site. It says the most common position is an assumption that rigid vehicles will be used. Some specify rigid vehicles only on their contracts, irrespective of site size or ground conditions. The document goes on to claim that some logistics contractors, who manage the in- and out-flow of materials, but do not supervise their carriage, are positively hostile towards articulated vehicles.

Maybe it’s time that the construction industry woke up and did its bit to help save the planet, by making as many construction sites as possible artic-friendly. **TE**