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All coupled up and ready to go

By Ainsley Fraser

Ainsley Fraser takes a look at what's going on with trailers.

Trailers – semis, drawbars and even low-loaders, have been an important part of the waste industry's transport capability for the longest time. The big change has been in the variety, content and density of the loads – and the distances over which waste is being carried.

Not that many years ago, there were significant numbers of high sided bulk carriers running unseparated waste to landfill. Now, the same loads will be sorted, separated and processed in new, advanced materials and resources recovery facilities. That is the way of the future ... but the requirement for trailers of many and varied specifications is still there – and growing. The nature of the operation has moved on – and so has the context in which operators see the role of trailers.

The big high cube bulkers, usually tri-axle semi-trailers, are still the mainstay of the waste transfer fleets, with walking floors now accounting for the larger share of the market. Their design and technology has matured and systems today are efficient, robust and reliable. Ejector trailers are still in the mix too, with some faithful followers sticking to what they describe as rugged simplicity that works.

While bulkers are still the chosen carrier for waste transfer between facilities, these days, they are less often to be found discharging off-road direct on landfill.



More likely, the load will be discharged on hard standing, for further processing and materials reclamation. Time was when we would pretty much assume that a bulker would 'cube-out' before it would 'weight-out' – but that is probably not the case now. End of waste stream >



residues, separated and processed materials are higher density and more compacted, suggesting that trailers will more often run at full payload and maximum weight – and at optimum operating cost and efficiency ... at least in theory. Another effect of the change in operating patterns has been a tendency to run trailers with 6x2 tractor units – the extra traction of 6x4 being no longer really required... so a bit more payload and greater economy too.

There is another semi-trailer application gaining favour in the specialist waste sector. Some operators handling very dense food chain products – dough for instance – have turned to trailer mounted hook loaders. The rig comprises a 6x2 tractor with a tri-axle trailer – so specified to run at 44 tonnes gross, with the capability to pick up a 30 tonne compacted container.

Away from articulated trailers, there has been a marked increase in the use of drawbar applications with hook loaders and skip loaders, particularly in the last year or so. Actual new drawbar numbers are difficult to quantify – as there are still no definitive industry registration figures for trailers. However, we do hear that some chassis and equipment manufacturers are seeing an increase in the number of customers specifying couplings on new hook loaders and skip loaders by as much as fifty per cent.

The reasons are fairly easy to understand – a mix of pressures on operating costs and greater fleet efficiency and flexibility. There is also another factor – the general increase in round trip distances, effectively ‘waste miles’. Drawbar trailers offer the option to

carry an additional loaded container and increased total payload – but for less than double the operating cost of a second chassis running solo, let alone all the other overheads which would go with it too.

Even on the shorter, more local skip operations, a drawbar trailer can enable a ‘delivery round’ of a greater number of stacked bins – and then the subsequent ‘collection round’ of full containers can pick up two per journey instead of one. In the skip sector, it’s the swan-neck configuration that still really rules – primarily to avoid potential jack leg intrusion within the trailer swing arc.

Further up the weight category, there are truck and trailer combinations available with the ubiquitous hook loader – probably still the stalwart of the waste transport business. To take a look at the comparative capital and operating costs between running a solo truck – and the same vehicle as a prime mover and drawbar combination, we turned to Commercial Vehicle Engineer (cvengineer.com), whose analysis and tables of operating costs are universally respected across the transport industry.

For illustration purposes only, we took a typical 6x4 and 8x4 rigid hook loader – coupled with a well specified tri-axle drawbar trailer, designed to run together at 44 tonnes GCW (gross combination weight). We priced the trailer at £33,500, being a mid-point ‘average’ between market available options ranging from £28,000 to £35,000. In this configuration, the trailer is designed to operate at up to 24 tonnes gross – at which we estimated a typical payload could be around 18.5 tonnes, including the

weight of the bin.

Then, depending on chassis manufacturer and equipment, we put in the capital cost of a three axle rigid prime mover (at Euro VI) at, say, heading north of £110,000. Operating solo at 26 tonnes GVW, it gave us a typical payload of 14 tonnes, including the weight of a typical 40 yard bin. The capital cost of the four axle option came in nearer to £130,000 and gave us a solo payload of circa 19 tonnes, including the bin.

The two example ‘technically available’ gross weights then come out at 50 tonnes (6 tonnes over limit) on six axles or 56 tonnes (12 tonnes over limit) on seven axles ... but that’s exactly where operators can gain the flexibility of running ‘twinned up’. Obviously, the split across the rig will never exceed 44 tonnes gross – but combination payloads based on the heavier bin always being on the prime mover can make absolute sense.

So ‘rig on the road’, running at say, 80,000 km per year – and taking CVE’s ball park standing and running costs, the solo 6-wheeler runs out at about 123 pence per kilometre – but may rise to 130 p/km with the trailer. The 8-wheeler was similarly convincing, with an estimated 125 p/km solo and circa 140p/km with the drawbar.

Of course, other important factors to consider with trailers are service longevity, depreciation and whole life costs. Trailers are typically written down over a ten year anticipated operating life – whereas vehicles will be calculated over five years – so the real cost of running the additional payload capability, overhead, capital cost and operation is spread over the longer period.