

Clean sweep

Facing budget and regulatory pressures, local authorities are looking for new solutions for refuse collection vehicles and sweepers. Toby Clark examines some options

Municipal operators have always been expected to achieve an extraordinary amount with finite resources, but never more so than now. Each authority has its own targets, but the pressure to increase usable capture of recyclables and food waste is intense – and the EU's target of recycling 50% of waste by 2020 still applies. Meanwhile, the operational aspects of urban vehicles – particularly safety – are also under the microscope.

Bournemouth Borough Council recently bought an RCV (refuse collection vehicle) that demonstrates many of the recent developments. The Dennis Eagle Elite 8x4 – with an Olympus 27 body and Terberg OmniTrade bin-lift – has DennisConnect telematics and a suite of safety equipment from Innovative Safety Systems (ISS). The truck has reversing radar, a four-way recording camera system, an LED lightboard and the ISS Cyclear cyclist safety system. This actively alerts nearby vulnerable road users with lights and sounds when the vehicle is about to turn, as well as alerting the driver.

"Operators favour the extra payload,"



says Andy Graves, Dennis Eagle's product marketing manager for chassis. "But there are some areas where they are not able to operate." The Elite 8x4 typically offers a 14-tonne-plus payload, four or five tonnes more than a 26-tonner. However, 8x4s are still far from common: Dennis Eagle has built only 72 out of around 1,700 Euro 6 RCVs.

TURNING CIRCLE

Graves says: "8x4s are ideal for transfer stations, but they have to meet the 25-metre turning circle requirement. Typically, with 315/80 tyres on the front, an 8x4 has a 22–24 metre turning circle, against 20 metres for a 6x4." Some are

unconvinced: "The most efficient rounds are normally two [6x2] loads a day – that's about as much as people can do," asserts Paul Brown, commercial director of Refuse Vehicle Solutions (RVS).

RVS remanufactures vehicles, typically moving used bodies and ancillaries on to new chassis. "There's probably a sweet spot at around five years where you can do that," says Brown. Mechanical systems are refurbished – seals and valves replaced, for instance – but "it's the electrics that suffer". So RVS reruns wiring looms and systems that could cause problems. Almost all are on 6x2 rear-steer chassis and "it's probably 60/40 high- to low-entry cabs," he says.



Dead-man's handle

ISS' latest product is Reaclear, a remotely-operated 'dead man's handle' designed to ensure that truck drivers use a reversing assistant every time. The small, hand-held device is operated by a member of staff walking to the vehicle rear. They can speak to the driver via a built-in radio, and must hold down a button to allow the driver to reverse. If they let go, or move away from the vehicle rear, it will stop.

"Reaclear was designed 100% with refuse in mind," explains ISS director Gavin Thoday, who studied vehicle design at Coventry University. "We've put a lot of engineering into making this rugged, and easy to use. If they don't enjoy using it, they'll damage it. We engineered out all ways they could overcome it."

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Paul Connor

The firm also offers off-the-shelf 'Reditruk' RCVs, though they won't always suit picky authorities: "They are suited to private contractors: we've got a base truck you can build on." Specifying Reditruk is about "buying chassis you know will sell, and we are learning. DAFs are popular, and if people want low-entry cabs, Econics are popular."

However, refuse collection patterns are changing: more load tends to be bulky recyclables, while other waste reduces but gains density. Multi-compartment, usually twin-pack, vehicles are moving from 70/30 waste/recycling to 50/50 or increasingly 30/70. Brown says this is often not ideal: "The payload goes down to probably 9 tonnes, and you may not fill that." That's because one compartment fills up. "It's more efficient to fill two vehicles."

Paul Connor, bid and procurement manager at Specialist Fleet Services (SFS), doesn't agree: "I'd say people are more aware of this issue ... so time is invested in getting that decision right." Nevertheless, he admits that for some private contractors single-compartment RCVs work better. "If you're a national player with a national fleet, clearly some standardisation is sensible."

SFS provides contract hire fleets to municipal operators, half local authorities, with 45% private contractors and 5% others. The fleets and contracts are diverse, and contract terms up to 10



years. Some are three years. "But that has shifted in the last five years," says Connor. "Austerity has had an impact - the work needed to procure is so expensive." Most fleets are changed en-masse, he adds, "because it normally coincides with a change in collection regime".

PRICE OF SAFETY

And he adds that today's big issue is ancillary equipment. "Where perhaps 10 years ago almost 100% of the investment was in the chassis, body and bin-lift, now it's more like 90%. The remainder is on cameras, cycle safety, reverse radar, telemetry and driver management."

"Most customers are looking at ways to protect vulnerable road users,"

confirms Graves. "The CLOCS project has highlighted that." Connor agrees, adding: "Increasingly we're seeing the London approach requested by authorities. This is almost becoming best practice. I hope we're going to see some feedback from authorities going into the FORS/CLOCS system to create a national standard." At RVS, too, many customers opt for more safety features. "Municipal authorities are going for the full monty of safety systems," says Brown.

Meanwhile, although it seems counter-intuitive that using an auxiliary engine might save money and improve productivity, some street sweepers in particular are specified that way. Johnston's VT Range has an auxiliary diesel of 55–93kW, which powers the sweeping gear independently of gradient and vehicle speed. It drinks red diesel, but Johnston reckons that at low to medium revs it uses less fuel than a conventional machine, and maintenance costs are lower.

"We are starting to see more enquiries about alternative fuel vehicles," comments Graves, but these have yet to be translated into orders. "There's still a big problem that we don't have the infrastructure: if we started to see more demand from local authorities we would look seriously again." For Connor, change will only come with clarity: "Everybody's interested, but only to a cost." **TE**

Bin weighing

Julian Glasspole, managing director of Vehicle Weighing Systems (VWS), says that while some local authorities use bin weighing systems to educate operators and customers, others are generating revenue and charging against weight. Amey's investment in six bin weighers in the City of London paid back in less than three months, he reveals.

Glasspole says weighers "used to be quite expensive and elitist, but have become cheaper and more reliable". And while installation is easier at the build stage, it takes only three to four days to retrofit. At the simplest end, weighers save data to a memory card, but more people, he says, are going for live data. "It's a way of upping the service level in a fair way."

There might be problems if the system slowed the loading process: "Early systems took 20 seconds [for a reliable reading]. Now they are dynamic and don't slow the process down at all." RFID-chipped bins may not be worth it, though. Installation is easy, but setting up the system is labour intensive and time consuming.