

Small is BEAUTIFUL

Thinking outside the box is helping converters and coachbuilders to change the game in the world of compact buses.

Steve Banner investigates

Cuts in funding from local authorities to support essential but only marginally profitable rural bus services may be prompting operators to switch to smaller buses. Even without a subsidy, running compact 22-passenger vehicles that burn less diesel (and emit less CO₂) than expensive, 12-metre models running half empty can make sound sense.

Nor do these have to be confined to country lanes. Such buses can be a practical choice in cathedral cities with narrow roads thronged with tourists. Likewise housing estates littered with carelessly parked cars.

The small bus sector is one that Rochdale's Mellor Coachcraft is already tapping into, and with particular success in Scotland. The firm is doing so with the recently launched, coach-built Mercedes-Benz Sprinter 516-based, 22-passenger, 5.5-tonne Mellor Strata. Customers include high-profile operator McGill's, of Greenock, which ordered two before the first was even built. Its third has gone to Prentice Coaches, of Haddington, East Lothian, to deliver a new service.

Engineered with the approval of Mercedes, Strata comes with a low-



floor mid section capable of accommodating two people in wheelchairs. That meant lowering the Sprinter's prop shaft to pass beneath. However, harnessing a stainless steel frame and GRP mouldings, the body width is 2,300mm, which is roomier than a Sprinter van body shell conversion. As a result, it can offer a 2+2 rather than 2+1 seating layout while remaining slim.

"We wanted to avoid creating a carbon copy of existing van-derived Sprinter minibuses," comments Mellor general manager John Randerson.

Power is delivered by a 163bhp 2.1-litre diesel driving through a seven-speed automatic, and Strata should return up to 22mpg, says Mellor. Overall length is just shy of 7.8 metres, with a turning circle of 15.6 metres, and Strata comes complete with destination

display equipment, a ticket machine platform, bell pushes and a wheelchair ramp.

Mellor is not alone. Elsewhere, Stagecoach included 30 Mercedes-Benz Sprinter City 45 minibuses as part of a £97 million order for almost 500 buses and coaches (almost all ADLs and Volvos) announced last April. As we go to press, the operator has not disclosed where they will be deployed.

NO PRISONERS

Some operators may have reservations about using light commercial platforms on fare-stage work, given the intensity of such operations. However, Sprinter has a justified reputation for durability, easily tolerating a hammering – as witnessed in home delivery fleets, where drivers tend to take very few prisoners.

But it's not just about Sprinter. Mellor Coachcraft was recently awarded

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Steve Elwell

Busmaster coachbuilder status by Iveco Bus, along with seven others in the UK and the Republic of Ireland, including Euromotive and Nu-Track. The accolade means each passed an audit addressing everything from manufacturing processes and accuracy of engineering documentation, to aftersales support and parts availability.

Iveco showed that it recognised the potential of small fare-stage buses last year when it rolled out its Euro 6 Daily minibus and mini coach. With passenger capacities from 16 to 22 seats, the Daily Line can be fitted with destination display boards, pre-installation equipment for ticket machines and request stop buttons. It also forms part of a range that encompasses the well-specified 19-seater TourysPlus.

And there are green options: an electric Daily minibus, featuring 16 or 19 seats and batteries recharged in two hours via a fast-charging terminal; and another powered by CNG/CBG (compressed natural/bio gas).

What about capacity? Keeping unladen weight down is particularly important with small buses in order to maximise passenger carrying capacity while minimising fuel consumption. However, the constant rise in vehicle weights presents a challenge, says Advanced KFS sales and marketing director Steve Elwell.

He points, for example, to Euro 6, which typically adds 30–40kg to the light platforms minibus converters generally employ, thanks to SCR (selective catalytic reduction) after-treatment. “That’s why



we’ve been building on the Ducato,” says Elwell. “Fiat Professional managed to meet Euro 6 without having to use AdBlue,” he says.

Advanced has equipped some of its wheelchair-accessible minibuses with a two-piece fold-out ramp, rather than a wheelchair lift, with the aim of cutting weight. “A cassette-type lift can weigh up to 220kg,” comments Elwell. By contrast, a lightweight aluminium ramp with a slip-resistant surface and 50mm side rails from, for example, Portaramp weighs 19–28kg, depending on length.

LIFTS OR RAMPS

Such an approach reduces the vehicle’s price, too. “A cassette wheelchair lift can cost £3,500 and then there is the ongoing bill for maintaining it,” Elwell observes. “Opt for a ramp and rear air-suspension instead, and it will cost you around £2,750.”

Ramps have a drawback though: they cannot be deployed if someone parks too close behind. Clearly, weight savings have to be balanced against practicality and durability. Much the same goes for seats: weighing 23kg each, including headrests, the school minibus seats built by Advanced KFS are strong, based on tough, moulded ABS backs. Fit something less robust and it could rapidly suffer, says Elwell. And it’s a similar story with everything from window assemblies to its in-house engineered

M1/M2-compliant sub-frames – all of which are subject to light-weighting.

Resorting to composite materials may be the best way of achieving substantial weight saving. But the result would be vehicle price rises. But aluminium – which although far less exotic, still offers significant opportunities for lightweighting – is widely used among coachbuilders for fighting the flab.

One using it extensively is Antrim, Northern Ireland-based Nu-Track, which boasts a fast-growing range that includes wheelchair-accessible minibuses. Carrying up to 16 passengers or four people in wheelchairs, its City Dash, for example, features a body constructed using alloy panels hung on an aluminium frame and, in turn, sitting on an AL-KO chassis. It also uses the Fiat Ducato or Peugeot Boxer cab and front-wheel-drive running gear. Boxer requires AdBlue to meet Euro 6.

Nu-Track’s more recently launched 30-seater Stellar – based on the Iveco Daily 72C17 7.2-tonne chassis – also uses alloy construction. As does the 33-seater Nu-Vibe, which has a chassis constructed at the Wrightbus EN-Drive plant in Antrim, with an aluminium body and fuel tank, plus a Cummins ISB 4.5-litre 150bhp engine married to an Allison 2100 automatic.

Thinking outside the box is clearly paying dividends, and we’re not looking at lightweight duty cycles. **TE**