OK, let’s get this out of the way then. I was wrong.

Readers might remember, and this magazine’s lawyers will certainly remember, my September 2014 article ‘Yorkshire Tripe’, which made plain my opposition to the idea of converting redundant London Underground D78 stock to DMUs. The reasons for my objections were crashworthiness, overhaul cost, obsolescence, engine support, toilets, ride and compatibility. I noted all these points could be fixed given enough money, but my calculations indicated this would not be worth doing.

Now the legend of Chiltern, Adrian Shooter, has done it: I’ve ridden on the result and I have to admit it is not bad. In my defence I was talking about the Yorkshire proposal, which would have retained most of the existing kit and stuck a Cummins engine in the vehicle like a Class 205 thumper, but Mr Shooter’s Vivarail was first with the cash and has taken possession of the raw material, the D78 stock, most of which is still trundling about on the District Line.

My colleague Mr Ford has done a technical review in ‘Informed Sources’, but suffice to say Vivarail has renewed everything that matters, and has even lifted the vehicle up 73mm by using spacers in the suspension. As far as crashworthiness goes, this unit is not only wood pigeon proof but superior to a Class 14X or 15X. Talking of 73, the supplier of traction equipment to the Railway Vehicle Engineering Ltd Class 73 is here again, Strukton Rail, and again everyone is very impressed with the firm.

INSIDE JOB
Once all this engineering is done you are into options for the interior, which range from basic ‘as is’ to smart seats and coffee machines. The customer decides what goes in the box, which is fairly flexible once some doors have been plated over. The doors that remain are powered by the ultra-reliable London Underground door engine under the seats and operate very quickly. There were a couple of drivers looking at the train as well, so I couldn’t resist asking who would control the doors – driver or guard. I remain amazed that driver open/guard close is not standard practice everywhere and I have never met a driver who has a problem with releasing doors when his cab is sitting next to a ‘Car 3 Stop’ sign. ‘I will supply whatever my customer wants’ says Mr Shooter. There is a changeover switch that should be marked ‘Driver Open’ for the first option and ‘Time Wasting’ for the second.

Away from the base model, Creative Design has been allowed to exercise its talents, which is all the more challenging when costs have to be kept to the bare minimum. One nice new idea is a Brompton bike store between some seat backs, with room on top for iPads, helmet, rucksack and beard trimmer. Commuter operators hate these folding bikes so it is a change to see someone encouraging (or at least accepting) them. Customers can also choose from a full size table, half table (two laptops) or trinket tray (two iPads). The ubiquitous Fainsa seats appear again, but with some silicone foam in the base to improve comfort from the standard granite. My preferred universal toilet is standing by, Phenolic Cast Components’ ‘Comfort Zone’, with the position marked out on the floor.

SHOOTER MISSES FOOT

Green machine: exterior of the demonstrator unit. Ian Walmsley
where it will go (although it will need breaking down a bit to get through the door).

**HOLDING SWAY**
The choice of two Ford Ranger engines under the floor is a good one, as these are small, easily suspended and are not particularly noisy. They will shut down when not required, with only one in a unit keeping the auxiliaries going. The noise at standstill was 68 to 71dB(A), depending on where you were sitting. This compares to a Pacer at 66dB(A) idling, but that can hit 90dB(A) on a tight curve in service.

The test run around the Long Marston loop is obviously limited in what it can tell you, as the track is not really representative of the main line and we can only do 30mph on one section. Bearing that in mind, the ride is OK and noise only goes up to 71dB(A) with just a bit of ringing on curves that would have Pacers hitting Deep Purple concert levels.

For me, ride remains the big concern, as the top speed of 60mph will put a lot more energy into the equation than 30mph. The higher vehicle height will increase sway and the traditional way to counter that is stiffer dampers, which gives a worse ride. Vivarail has DGauge working on the sway issue and is considering new (possibly dual rate) dampers, but only main line running (due in November) will show if there is an issue or not, so I reserve my decision.

**VIVA LAS VEGAS**
Now the big question of sales, and this is a tough one to call. The essence of my objection was that it would cost too much to do what is needed and still be competitive with Pacers. As described in the August issue Porterbrook has produced its ‘144e’, which is being offered at half a new train lease price, similar to Vivarail which is working on £7,000 per vehicle per month (PVPM) - although options will make all the difference. Viva says most interest is in stock replacement, which you would expect as every bid team wants options, particularly a credible threat to wipe the smile off leasing companies’ faces. This train is no longer a super-cheap option, and if rolling stock leasing companies (ROSCOs) have any sense at all they will undercut it on price for any vehicle replacement proposals.

Viva offers a 25% fuel saving which is worth about £800 PVPM by my reckoning, so Pacers could easily win on price if their death warrant was lifted and even ‘150s’ are not far off and are clearly a better train. The last thing ROSCOs want is an end to the DMU shortage so they will not sit idly by and watch these trains take over.

But there are not enough trains to cope with growth, so we need some new trains anyway, and these trains are definitely in the running for that. The other day the owners of the new Ricoh Stadium in Coventry were not amused that the new station nearby will only have a single-car Class 153 stopping there while the stadium can hold 32,600 fans (or 452 Class 153s). The solution is of course to close the station on match days for safety, because nobody has any spare trains.

We know there is frustrated demand in the cities of the ‘Northern Powerhouse’ along with numerous spot-hire requirements for concerts, airshows, Hitachi depot openings and so on. Wouldn’t it be great to have some trains you could call on for this? Yes, it would, but who is paying? Companies look for a good return on asset value, and hanging about waiting for a summer Saturday seaside special or an availability crisis at Crown Point doesn’t make a business case.

Local services never make money; it is just about losing less. There is no train cheaper than no train, so these trains are a massive gamble on how much the Government is prepared to pay to keep passengers quiet, and that is less than it was just before the election.

This project is a great engineering achievement by a very competent team, but its success depends on much less qualified people: politicians and civil servants.