

Experimental Midlands train is 35-year-old District line relic

Recycled carriages offer cheap and ready remedy for shortages outside London

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When the first passengers board an experimental train later this year in the West Midlands, the layout will be familiar to some. While much will look brand new, the arrangement of the seats is the giveaway of a grand experiment in recycling. Underneath the new paint and fittings, the three-car train consists of old carriages from London Underground's District line.

This trial of a repurposed Class 230 diesel train is part of a plan devised by veteran industry executives to provide quick and cheap trains for rail lines in the UK that are short of them.

It uses a supply of 228 old carriages, known as D78 stock, built between 1978 and 1981 and bought by Vivarail, a privately owned company based near Stratford-upon-Avon. While services on the Isle of Wight have for many decades used old trains from London's deep-level tube lines, this is the first transfer of old underground trains from the capital's subsurface lines to the mainland national network.

The question is whether local councils and train operators are prepared to accept a refurbished, second-hand train.

Adrian Shooter, Vivarail's chief executive, insists the finished item will feel new and will have "all the things that modern trains might have, plus one or two things some haven't".

The trains will have new electronic traction controls more advanced than most on the UK network, will cost as little as 60 per cent of a brand-new alternative and will be cheaper to operate, Vivarail says.



Vivarail says its Class 230 train will help operators under pressure to use lighter rolling stock less damaging to track



Mind the doors: a computer-generated image of a refurbished carriage that will be familiar to London commuters

The appeal of this recycling project is that the D78 trains are in unusually good condition. The trains on the subsurface sections of London Underground are the same size as mainline rail vehicles and were the first on the underground to have entirely aluminium — and hence rust-free — bodies. Their bogies — the parts that carry their wheels — were replaced only 10 years ago.

The prototype repurposed train uses a standard Ford diesel engine coupled to an alternator to produce power for the same electric motors that powered the train on the London Underground. The engine fits inside a module that can be slipped out from under the train in a matter of minutes using a forklift truck, making it quicker and easier to maintain.

"The fuel cost is significantly lower than existing trains', partly because the engine is more efficient, partly because the train is lighter," Mr Shooter says. Vivarail also plans trains that rely mainly on battery power, or that draw power from overhead lines.

Operators are under pressure to introduce lighter trains, which consume less fuel and do less damage to track. While Mr Shooter declines to identify potential customers, the repurposed Class 230 is likely to be most attractive to local authorities that fund heavily subsidised regional rail services. The prototype is due to spend a year carrying passengers between Coventry and Nuneaton in a trial funded by West Midlands local authorities.

The big challenge for the project, according to Alistair Gordon, UK chief executive of French train company Keolis, will be to persuade local authorities they are not buying second-best. Local authorities planning a new rail franchise for northern England have opted for new trains being built by Spain's CAF.

The quality of the refurbishment will be crucial to persuading buyers and passengers, says Mr Gordon, making the Coventry to Nuneaton trial critical. "If they get it right, there's no reason they can't do it."