

Engineering and design are never truly happy bedfellows, but now may be the time for the two disciplines to come together for the benefit of maintenance.

Vehicles need to be designed with easier maintenance in mind – an idea that is gathering momentum. The thinking behind demands for a less cluttered engine bay, for example, is that jobs can be completed more quickly, which means limited downtime, something that can be costly not just for operators, but also for manufacturers.

In the bus and coach industry, the benefits of more considered design have been highlighted by comparing an Enviro 400 and a Volvo B9TL. Look into the engine bay of the Enviro and all serviceable components can be clearly seen. In the Volvo, things are less clear; literally! The result: it takes much longer to get to the relevant components, which means valuable time wasted, when the vehicles could otherwise be in service.

As if to emphasise the point, data from a leading operator revealed that changing a starter motor on an E400 takes just 35 minutes, compared with seven hours on the Volvo. While there was no indication of the loss of revenue, it is clear that the latter timescale would be costly.

Maybe the ideal design for maintenance relies on a combination of three key elements: accessibility, simplicity and durability. To aid accessibility, all service items should be made visible for maintenance.

Then, for simplicity, why not omit the hydraulics and replace them with electrical items? And incidentally, on the interior, is there any reason not to have a common dashboard, so drivers don't find themselves in unfamiliar surroundings? These drivers are fundamental to the maintenance process, too – why not make their lives easier?

When it comes to durability, individual components can play a big role. For example, the potential to prolong the life of lights by changing from bulbs to LEDs could make a huge difference, as their respective life expectancies are five months and three years.

Whatever the answer is, there are lessons of simplicity to be learned across the CV industry as a whole.

Transport Engineer's regular 'IRTE to IRTE' members' column: focusing on the issues, challenges and concerns that matter to transport engineers and fleet managers

