

# SAFETY AND PERFORMANCE

*"We need a consistent message, delivered throughout our training and professional development, that safety is simply part of delivering excellent performance"*

We are, as a nation, obsessed with safety. On the one hand, I recognise that the drive to increase the awareness of safety in design and the observance of safety procedures by operatives and the public has been overwhelmingly successful. Safety has been moved up the agenda. On the other hand, our single-minded pursuit of a 'culture of safety' is at risk of creating a public and professional backlash, where safety systems developed independently of other design requirements become an excuse for lack of performance. Public frustrations can reach boiling point, as was evident in the GNER incident on 23 June this year, where after many hours passengers were not allowed to evacuate a stopped train despite the unbearable levels of heat that built up in the carriages. (GNER have recently announced that procedures will be changed, which is a welcome outcome.)

Policy dictates that crossing the road on any ordinary British street now frequently involves negotiating a forest of ugly metal railings 'designed' to separate the pedestrian from the vehicles, which can then 'safely' accelerate across the junction. And yet these railings guard the entrance to signal controlled pedestrian crossings. Further along the road there are no signals to stop the traffic and no railings to fence us in. Does this mean the pedestrian crossing is in a highly dangerous location?

Engineers advise policy makers and design solutions. We need to reinforce the

message to policy makers that removing responsibility from individuals to make decisions about their own safety does not always deliver improved performance. As engineers within society, we need to develop and promote wider measures of propagated performance, which will include safety and a host of other social, economic and environmental parameters.

Many European countries have opted to remove street furniture – without compromising junction performance – in the confident understanding that safety is an automatic by-product of high quality design. On the railways, Swiss rail company SBB believes that, "well-lit, inviting rail travel facilities increase the public's sense of safety and project a progressive, forward-looking spirit." Note that SBB refer to the public's sense of safety.

The challenge for engineers is to recognise that whenever we seek to alter the value of one aspect of product performance relative to others in a 'single issue' way, we must tackle it through understanding, not through dogma.

If we are truly to incorporate safety within engineering design, we must make it invisible, a product of best practice rather than a goal in itself. We need a consistent message, delivered throughout our training and professional development, that safety is simply part of delivering excellent performance, not a bolted-on afterthought, like an operative's high-visibility vest.

New technologies are providing new data and ultimately new knowledge on which to base decision making but, above all, we need real understanding of what that knowledge means. Using technology to capture more data on performance has no value if people are not trained in how to interpret knowledge, and their management system does not empower them to use that knowledge effectively in making decisions.

Creating an understanding of what performance means for the user, building a framework for decision making and then empowering engineers to accept that responsibility, rather than enforcing a blind adherence to procedures, is the only way to break our current cycle of poor performance being excused by 'the need for safety'. Society is eager for a solution, for 'infrastructure that works'. Our duty is to deliver.

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