

Road safety audits: a help or a hindrance to better streets?

Road safety auditors have been criticised for standing in the way of innovative street designs. But **Malcolm Bulpitt**, the author of the first ever road safety audit guidelines, tells **Andrew Forster** that a good auditor won't stand in the way of change – so long as it's safe

If you ever find yourself walking down the street with Malcolm Bulpitt, don't expect to reach your destination too quickly. We only left LTT's South London offices a few moments ago but he's already stopped to point out a piece of unnecessary pedestrian guard-railing. He stops again at the adjacent pelican crossing; standing on the tactile paving he tries to reach the pedestrian push button facility – but can't, it's too far away. On the other side of the road we watch a couple of cyclists ride into a pedestrian-only area. They're probably not aware they're doing anything wrong, says Bulpitt, because the prohibition sign is a barely noticeable roundel pinned to a bollard.

Welcome to the world of road safety auditing. And who better to explain it than the man who's generally credited with being the author of the world's first auditing guidelines? That was in 1984 when Bulpitt was a safety engineer for Kent County Council. "I was getting a bit brassed off going out to brand new road schemes and spending my limited budget on sorting things out on roads that had only been open a year," he explains.

Auditing has come a long way since then. An audit is now mandatory for all highway improvement schemes on the trunk road network across the UK. That includes changes to road layout, kerbs, signs and markings, lighting, signalling, drainage, landscaping and the installation of roadside equipment. Surprisingly, the practice is only "commended" by the Government to other highway authorities. In reality, however, Bulpitt says the vast majority of authorities use audits, though not all the audit stages are always conducted (see panel). The type of schemes on which they're conducted can also vary.

Bulpitt took early retirement from Kent in 1997 and joined TMS Consultancy for whom he still works part-time as an associate. He teaches on some of TMS's road safety audit training courses and still undertakes audits at the rate of roughly one a week, adding to the 1,500 or so he's done throughout his career. TMS, he says, has done more safety audits than any other organisation in the UK – 1,000 in the last year and 9,000 or so in total.

Bulpitt makes a persuasive case for auditing. But the practice is not without its critics, particularly in the urban design community. Auditors, it is sometimes said, are too conservative, holding back innovative street designs such as shared surfaces. And they recommend

too much pedestrian guard-railing; are too keen to recommend large traffic signs that contribute to street clutter; and they spoil the appearance of streets by, for instance, insisting that tactile paving should have a sharp colour contrast with the rest of the pavement.

"This is where sometimes people get a little bit uptight about things and say we're the incredible 'no' men – auditors will always say no to everything," says Bulpitt. "Our urban design friends will sometimes say safety auditors don't give us a chance to put in innovative schemes. We do. We're not saying you mustn't build an innovative scheme. What we're saying is you should be aware of the safety implications of building that scheme."

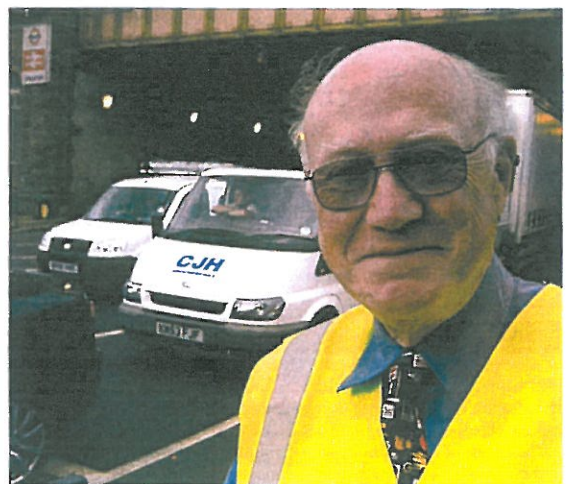
Bulpitt thinks critics of safety auditing sometimes forget who the auditor is acting for. "It's not my job to defend the highway engineer, it's not my job to defend the urban designer," he says. "We're there to represent the road user. I am representing your mother as she tries to cross the street. I want to make sure the crossing is as safe as it can be."

He points out that project design teams aren't compelled to act on an audit's recommendations. "The auditor is only making comments, the auditor cannot tell anybody what to do." A project manager who chooses not to accept an auditor's recommendations should state the reasons for doing so in an 'exception report'. The designer and auditor may, for instance, both accept there's a problem but be unable to come up with a mutually acceptable solution; alternatively, the designer may not accept that the problem identified by the audit actually exists.

Audits: a mixed bag

Bulpitt isn't, however, going to defend all audits or, for that matter, auditors. "If you've got a skilled auditor working for an organisation that knows what it's doing you will get a good audit that will respond to new things, take things on board. If you've got a non-skilled auditor who is concerned just with churning it out without any real thought, yes, you're going to come into conflict with the urban designers, you're going to come into conflict with the elected members..."

There is, he says, a shortage of skilled auditors. "The problem with safety audit is it's been overtaken by its own success and there are not enough skilled people around with the background experience who can make logical informed comments on schemes."



Malcolm Bulpitt, still adding to the 1,500 safety audits under his belt

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The *Design manual for roads and bridges* recommends that the leader of an audit team should have at least four years' experience of accident investigation or road safety engineering and a team member should have had at least two years' such experience. But Bulpitt still worries that some auditors "haven't been round the block with regard to sorting out problems".

"I really think a skills shortage is hurting road safety audit – the fact that audits are being done by people who are not totally certain of what they're looking for all the time. They are possibly making safety audit seem less flexible than it ought to be. Safety audit should be advice from the experienced to help new things develop."

Instead, he believes, some auditors are "knee-jerking their way through a book".

"That's not what safety audit's about. What we need in this world is to use expertise." With experience, he says, will come a different form of audit advice. "[In my audits] I'm not making categorical statements to say you can't do that, I'm judging it," he says. "A good road safety auditor will compromise and say, 'Okay, I'm not totally convinced with what you're doing but let's give it a whirl.'"

Urban designers rule, OK?

Road safety auditing has been presented with new challenges by *Mamul for Streets*, the Government's 2007 revamp to residential street design guidance in England and Wales (the Scottish equivalent, *Designing Streets*, is

currently in draft form). A new version of the Institution of Highway and Transportation's *Road safety audit* guidelines published last autumn reflects the MfS thinking.

"A lot of *Manual for Streets* is going to work very well indeed," says Bulpitt. For instance, he's all in favour of making neighbourhoods more permeable for pedestrians and cyclists. But, he says, "a lot of it has got an intrinsically built in question mark because it's almost going against what we've been trying to design out for the last 40 years".

He has very specific concerns that the recommended stopping sight distances – the distance needed for a driver to stop from a given speed – are too short for streets on which buses and lorries operate.

More generally, he's exercised by the Manual's advocacy of grid pattern streets over cul-de-sacs. According to MfS, "a block structure works in terms of providing direct, convenient, populated and overlooked routes". On the other hand, "caution must be exercised when planning for cul-de-sacs, as they may concentrate traffic impact on a small number of dwellings, require turning heads that are wasteful in land terms and lead to additional travel and emissions".

"I spent part of my life as a safety engineer trying to engineer out crossroad crashes on urban grid patterns," says Bulpitt.

"Grid patterns generate accidents. You talk to traffic engineers – go round our office and out of 20-odd people, 15 live in cul-de-sacs. We know the problems that exist living on main roads and fast through routes."

Furthermore, he says people actually prefer living in cul-de-sacs. "You talk to estate agents – you can put a 20-30% premium on a similar house in a cul-de-sac as you can on a through route. Did anybody ever talk to them when they wrote *Manual for Streets*?"

Bulpitt thinks this point raises more fundamental questions about the work of street design professionals generally. "What are we in the business for? Isn't it to provide something that the people who pay us, i.e. the punters, want? Now if the punters want quiet cul-de-sacs isn't that what we should be providing?"

"Do you sometimes get the impression that the urban designers are saying, 'We're the new governors, we are going to rule the planet, everybody will live on traffic streets?'"

The problem, he says, is that not everyone lives the way that urban designers would like people to live. "People live in ideal worlds don't they? Because people drive their Toyota Prius's and cycle to work doesn't mean to say a lot of other people out there aren't going to buy souped-up Golf GTIs."

So what will he say in a safety audit of a new housing development based on grid pattern streets? "If someone gives me a grid pattern street, I will inevitably point out to them that although they may put in a 20mph speed limit without physical measures, that 20 isn't going to be obeyed, and we know that at 30mph people hit by a vehicle are more likely to be seriously injured or die. I can only quote statistics to people. If I know a 20mph road is going to deliver a quantum drop in serious and fatal injuries

Road safety auditing – a step-by-step guide

There can be as many as five stages to a road safety audit for a highway scheme. In practice, however, not all the stages are usually undertaken.

Feasibility audit (scheme concept) – this is recommended by the Institution of Highway and Transportation's *Road safety audit* guidance but is not part of the Government's road safety audit standard (HD 19/03) in *Design manual for roads and bridges*. Bulpitt says the stage may be particularly useful for major new land-use developments, with the auditor commenting on matters such as proposed junction controls.

Preliminary design (Stage 1) – the safety auditor comments on the basic safety of the scheme. Many local authorities require a safety audit before granting planning consent to a development. "Otherwise, you're going to get planning permission granted by a development control officer who hasn't got any real concept of the safety of what they're approving," says Bulpitt.

Detailed design (Stage 2) – the auditor gets all the drawings and examines the road layout, surfacing, drainage, signing, lighting, lining, barriers, guard-railing, landscaping, and so on.

Post construction (Stage 3) – once the scheme is completed but, ideally, prior to the road opening to traffic (in practice, many changes take place in a live traffic environment and so these require an arbitrary cut-off point). "What often happens is that the stage 1s and 2s can get missed and then you get dragged out to do a stage 3," says Bulpitt. The police have to be invited to this stage and so should maintenance engineers.

Monitoring (Stage 4) – a post-opening audit, with reviews of the scheme after one and three years. Bulpitt says few of these are actually conducted.

Audits should be conducted by at least two people who must be independent of the design team. The definition of Independence can vary – some clients allow audits to be done by members of the same organisation as the design team; others insist that the audit team is from a separate organisation.

aren't I going to promote that?

"That's when the urban designer would turn round and say to me, 'Well you're not being very helpful to us because we're trying to develop a new scenario.' What I'm saying to them is prove to me that it works. Because 30, 40 years ago in the 1970s and 1980s I had to spend a lot of public money designing traffic calming schemes because we knew [grid pattern] roads built in earlier housing areas were intrinsically dangerous.

"In ten years' time I don't want to be sitting around while people are saying, 'Oh hell, we've got a problem on these grid pattern streets.'"

Keep the streets simple

So what does an auditor think about shared surface schemes, in which there's no kerb to delineate pedestrian space from space for vehicles to circulate?

"Do it in the right environment, a low speed environment, and it's great," says Bulpitt. But he's not convinced that his former employer, Kent County Council, has done the right thing by implementing a shared surface on a section of the Ashford ring road. "My worry with the shared space in Ashford is that it's not clear to everybody. Indeed, there's conflicting information given by the so-called courtesy crossings which purport to be zebras but actually aren't.

"When I first came into the highways business, a guy said to me, what you've got to do is design for an intelligent eight-year-old," Bulpitt recalls. "It's got to be clear what's hap-



A blind or partially sighted pedestrian standing on the tactile paving wouldn't be able to reach the pedestrian push button facility

The cost of an audit varies according to the size and complexity of a scheme. Bulpitt says a ball-park figure for one stage might be about £1,500, so a three-stage audit is getting on for £5,000. Consultants will often present a highway authority with a price for a bundle of audits on small-scale schemes.

pening out there."

He says children, as well as the blind and partially sighted, are potentially disadvantaged by shared surface schemes. One of the first things children are taught in road safety lessons at school is to stop on the kerb and look for traffic, he points out. "But hang on, where's the kerb?"

Back round the table

Bulpitt's a big fan of the quality audit concept, championed by *Manual for Streets*, which aims to ensure a scheme's road safety implications are considered alongside audits of visual quality, facilities for walking and cycling, and so on.

"It's a very good development," he says. "What quality audit is doing is getting us back round this table. It's the framework where we can actually start talking to each other again. I haven't got all the answers. Urban designers haven't got all the answers. The RNIB [Royal National Institute of Blind People] hasn't got all the answers. Living Streets hasn't got all the answers. But put us round a table and give us a scheme to look at and we might come up with a series of answers that satisfies most of our own criteria."

Nevertheless, he's adamant that safety must be given special status in the audit process. "If we believe there's a safety issue we will push that to be more equal than others.

"The bottom line is it's no good having a quality environment in which people are going to get killed or injured."

"Do you sometimes get the impression that the urban designers are saying, 'We're the new governors, we are going to rule the planet?'"