

UK ROADS LIAISON GROUP

The Lighting Board is one of four boards of the UK RLG:

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This article is one of a series profiling RLG and its boards. The Lighting Board was featured in the May issue of *Transportation Professional*. Profiles of the Roads Board and Network Management Board will follow in October and December respectively.

RLG news

Highway engineers can access the UK's principal suite of best practice codes in revised form as the UK Roads Liaison Group has added Complementary Guidance to its Codes of Practice. The codes advise and direct users to the latest information to assist them in implementing best practice for the maintenance, delivery and management of highway assets. The codes are: 'Well Lit Highways' on street lighting; 'Well Maintained Highways' on highway maintenance; and 'Management of Highway Structures' on management of bridge maintenance. The Complementary Guidance has the same status as the original codes and exists as addenda published on the UKRLG website to supplement or supersede paragraphs as indicated. The Complementary Guidance and original codes are available from: www.ukroadsliaisongroup.org/liasion/practice.htm

Bridges Board gains strength from enthusiasm

Problems for discussion have changed in nature, but sharing of best practice is important as ever for the UK Bridges Board, led by its new Chairman Greg Perks.



Chairman of the UK Bridge Board Greg Perks

Bridges command a certain reverence and develop a sense of pride. Structures of Menai Straits, Clifton, Newcastle, Humberside and others have come to symbolise their localities and in these places at least, it is for bridges that civil engineers are best known. For many of those that design them, once a personal design is built, bridges become an interest for life.

So it was for Northumberland County Council principal engineer and the new Chairman of the UK Bridges Board, Greg Perks. Greg started his civil engineering career with Warwickshire in 1971. He was immediately involved with box girder bridge design at the time of the Merrison Committee's investigations into reasons for high profile box girder failures during construction.

Greg was a junior member of a team that designed a successful example of a steel box girder bridge at Ryton in Warwickshire. "I then had the privilege and good fortune to have a design of mine built. It was a canal bridge in Nuneaton and no big deal as a structure but unlike some, I did not suffer the experience of having designs not built," Greg says.

His interest in bridges has remained despite a career which has taken Greg to the Midlands Road Construction Unit, to Nigeria and Saudi Arabia to work on airbases, and to opencast coal mining in the North East.

Work for Tarmac on the Brecon Bypass in the late 1970s and early 80s included construction of an early example of a glued segmental balanced cantilever bridge. Then, after a decade of mining experience with Taylor Woodrow, Greg returned to bridge work after being recruited by Northumberland Council in 1991.

"I was invited by a colleague to attend a regional County Surveyors' Society (CSS) meeting and I've been attending ever since. I liked the very idea that people were keen to help where they could with solving problems," says Greg, who has been a member of CSS' National Bridges Group since 1999.



Greg Perks' experience of bridge building includes construction of an early glued segmental balanced cantilever on the Brecon Bypass – here in 1980

He was also a founding member of the Bridge Researchers' & Owners' Forum which was set up by academia with CSS and bridge owners in 2000, principally to drive research agendas and avoid duplication of researchers' work. This was for all UK authorities and bridge owners – British Waterways and Network Rail were represented – and the model was replicated for RLG and its boards in 2001.

"The spirit of it all is sharing best practice and avoiding duplication and discussing wider issues," says Greg. "Over the years the topics of discussion have generally changed from those of a practical nature – expansion joints and painting systems for example – to issues of codes of practice and asset valuation and management.

"This has a tendency to turn some engineers off to an extent, but we have to improve the bridges stock for everyone and maintain it as efficiently as possible within the funding available, which is what asset management is all about."

There are still 'tasks' in the Bridges Board's business plan to interest those of a technical bent, such as consideration of non metallic reinforcement in deck slabs and carbon composites in steel bridge strengthening.

Resources supporting these projects include the Bridge Owners' Forum (BOF) as the research group is now known. The BOF, with CSS and consultants, is also helping to develop assessment of masonry arches and design of high restraint masonry parapets, among other RLG and Bridges Board initiatives.

"There is no need to panic, but from April next year UK bridges must be designed to the new Structural Eurocodes. Word on the vine is that industry is a little reluctant to move on, but people are realising that they must find out all they need to know," says Greg. "The Bridges Board is not in the business of training but it can highlight the issues and we are helping to coordinate the supply of information."



Bridges: a source of pride for communities and for those that design them

Managing assets key to Bridges Business Plan

Items of work listed in the Bridges Board's three year Business Plan include consideration of the need to update the Roads Liaison Group's Code of Practice for managing structures. In line with RLG's umbrella document 'Maintaining a Vital Asset', all of the group's codes are under review for subsequent updates.

"Publication of Maintaining a Vital Asset in 2005 was a key development, pointing out how valuable and important highway networks are," says Bridges Board Chairman Greg Perks. "Likewise, the structures code has been a great success." This is a comprehensive document. Asked how

confident he is of complete take up, Greg says: "It is difficult to know, but from feedback received, the code is well known and used."

Principles of asset management were introduced by the structures code and have been developing ever since. Going forward, the Bridges Board will be assessing bridge owners' progress with asset management plans, allied to RLG's production of guidance on valuing highway structures.

"Knowledge of condition, functionality and value is vital. It underpins everything we do and good quality information is essential for putting a strong case for funding," says

Greg. "With local authority accounting rule changes, we could soon be showing in real terms how much is needed to arrest the deterioration of bridge stocks."

The Bridges Board will be carrying out a national survey over the next two years to get an overall sense of the scale of bridge work needed – how many need strengthening and major and minor improvement costs. "This will be a broad brush survey by our members as it is possible to get too hung up on detail at times," says Greg, "but we need a snapshot of what's needed to bring the UK's bridge stock up to desired standards."

The UK Bridges Board members are:

Graham Bessant – London Underground Ltd

Ian Bucknall – Network Rail

Graham Cole – (Surrey County Council), County Surveyors' Society

Bob Flitcroft – (Lancashire County Council), County Surveyors' Society (CSS)

Neil Garton Jones – County Surveyors' Society Wales

Satbir Gill – (London Borough of Hounslow) TAG

Rod Howe – British Waterways

Neil Loudon – Highways Agency

David MacKenzie – (Highland Council) Society of Chief Officers of Transportation in Scotland (SCOTS)

Stuart Molyneux – Metropolitan Authorities

Stephen Pottle – Transport for London

Andy Phillips – Welsh Assembly Government

Bill Valentine – Transport Scotland

Ronnie Wilson – Northern Ireland Roads Service

Paul Williams – (London Borough of Brent) London Bridge Engineers Group (LoBEG)

Mike Winter – (Dorset County Council) County Surveyors' Society (CSS)

David Yeowell – London Technical Advisors Group (LoTAG)

Edward Bunting and Paul Foksett – Department for Transport

Worst case highlights inadequate inspections

Not currently listed in the Bridges Board Business Plan, but important for industry's consideration, says Board Chairman Greg Perks, is development of formal training of bridge inspectors. Part of the Board's remit is international liaison for sharing best practice overseas. In addition to discussions on the ageing of suspension bridge cables with Columbia University, has come concern over bridge inspections following the I-35W bridge collapse in Minneapolis in 2007.

The US has rigorous regimes of

inspection in terms of frequency, but although the inspector of I-35W had noted buckling of gusset plates that would later contribute to the collapse, he had not realised its significance.

"People ask why we bang on about the worst case scenario," Greg says. "The Minneapolis collapse killed 13 and shows why. It is something we need to consider: a regime of inspection training. In terms of the frequency of inspections, we hope all authorities follow that recommended in the structures code of practice."



I-35W in Minneapolis collapsed partly as a result of a bridge inspector not realising the significance of buckled gusset plates