

## Transforming asset management



St Ives Bridge, Cambridgeshire, a fifteenth century bridge forming part of the CSIC and Cambridge County Council bridge maintenance portfolio. Picture courtesy of Cambridge News, Cambridge Newspapers Ltd

# Taking a value-based approach to bridge maintenance prioritisation

## CSIC with Industry Partner Cambridgeshire County Council

### The project

CSIC Asset Management team has worked with Cambridgeshire County Council to develop a value-driven prioritisation tool to order annual maintenance activities for the organisation's portfolio of bridges.

### The challenge

Cambridgeshire County Council is responsible for the maintenance of over 1500 bridges of various types, ages, and usage patterns across the county. The bridges include some with heritage status, including the 15th century St Ives River bridge, and others of strategic importance with high traffic volume.

The council needs to determine the annual maintenance tasks required across the bridge portfolio while working within pressing budget constraints; prioritising maintenance activities and justifying expenditure to funders is key.

### The approach

CSIC worked closely with maintenance engineers and planners at the council to develop a bridge maintenance prioritisation tool to order annual maintenance activities that considers:

- the value generated by the task
- the cost of maintenance
- the risks posed by the condition of the bridge to the safety and functionality of the bridge
- factors including heritage status and wider impact on the road network, incorporating the needs of all stakeholders.

The maintenance prioritisation tool complements CSIC's three-phase value-based decision-making approach by:

- developing a valuation scheme for bridges based on criticality to the network operation
- developing a value-map for the bridge that identifies how the condition of the bridge affects the various value drivers
- using the value-map and the valuation scheme to quantify the effect of maintenance activities and prioritise activities on the basis of value-for-money.

As the Excel-based tool uses a simple scoring scheme, it is practical and easy to understand and implement by a wide range of asset-management organisations and businesses. The prioritisation tool provides information regarding the key factors that influence the value provided by the asset.

### The benefits

CSIC's bridge maintenance prioritisation tool enabled the council to make better-informed decisions and:

- helped bridge managers at the council to justify the annual expenditure on bridge maintenance and to clearly prioritise maintenance activities to ensure maximum value for money spent
- enabled asset managers at the council to better understand and appreciate the value-based approach to asset management
- potentially paved the way for establishing a step-change in the way assets are managed across the council's wider asset portfolio.

This value-driven approach forces asset managers to think systematically about the different ways by which asset value can be managed, and highlights key information necessary to manage the asset.

CSIC's maintenance prioritisation tool can be adapted for use by other councils and asset owners to deliver a wide-scale impact both nationally and internationally.

### Impact

*"CSIC's value-based prioritisation tool provides us with a structured approach to plan maintenance of our portfolio of some 1500 bridges. The tool will allow us to prioritise the maintenance activities on our bridges annually based on the provision of service to the bridge users, risk to structural integrity, and the cost of maintenance. It provides us with a degree of confidence to justify the expenditure and programming of our highway structures to target our limited resources to the benefit of the local communities."*

Gareth Guest, Area Bridge Manager at Cambridgeshire County Council.

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