

BRIDGE FAILURE AND PUBLIC PERCEPTION OF SAFETY: MANAGING SITUATIONS THE PUBLIC SEE AS DANGEROUS

Authors: Alistair OLIVER

Affiliation: Principal Bridge Engineer, Jacobs, UK alistair.oliver@jacobs.com

Summary

Occasionally, bridge projects present a challenge to the general public in terms of how they look or feel. This can happen during construction, demolition or even through the working operational lifespan. Concern can understandably arise if a structure looks or feels unstable or unsafe, for any reason. Some bridges seem 'wrong' even when they are quite safe.

The question of safety, and more particularly the perception of safety, are areas where structural engineering, the commercial realities of bridge ownership/operation, human psychology and public relations meet. When a bridge looks or feel unsafe, despite it being quite stable and without danger, the public may deem such a scenario unacceptable, and this can create friction with what is desirable from the point of view of the bridge owner or operator.

When the above occurs, the interface with the public and clients must be carefully managed. Clear, concise information is vital, communicated in non-jargon language. To persuade the uninitiated that something is safe, despite it looking the opposite, requires skills that bridge professionals sometimes lack. Identifying, understanding, and practicing these skills will sometimes feel counterintuitive to bridge practitioners, but they are skills which nonetheless are sometimes essential.

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1. When is a safe bridge 'unsafe'?

At its most basic, a safe bridge is one that can both stand under its own self weight and be able to support the applied loads expected of it. Strength and stability. Virtually all people would agree on this quite basic definition. And Engineers are paid to ensure these most basic of attributes are achieved in relation to the infrastructure we design and use.

In many parts of the world, the fact that a bridge stands up is plenty enough reason to use it. Whether it looks or feels entirely safe is inconsequential. The most basic rope bridge for example across a ravine in a remote mountain location may be the only means of access from one side to the other. Whether it wobbles, sags or cracks may be of little concern, if everyday life depends on its very existence. But in most advanced societies around the world, this definition, i.e. 'does it stand up?', is considered lacking a certain refinement. As an example, when it was opened to the general public on 19th June 2000, the London Millennium Footbridge was almost unanimously judged 'unsafe' for public use, despite the fact that it showed no signs of distress, let alone collapse, after a good deal of wobbling.