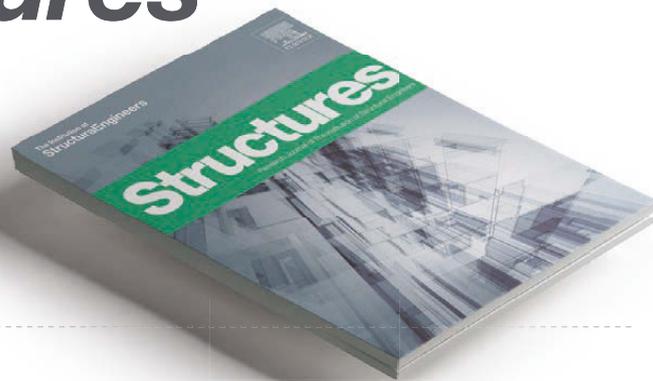


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Spotlight on *Structures*



Read the latest issue

The latest issue of *Structures* (Volume 29, February 2021) is available at www.sciencedirect.com/journal/structures/vol/29.

Editor-in-Chief, Leroy Gardner, has selected a paper on 'Robustness of steel truss bridges: Laboratory testing of a full-scale 21-metre bridge span' as his 'Featured Article' from this issue. The article will be available free of charge for six months.

Editor-in-Chief's Featured Article

Robustness of steel truss bridges: Laboratory testing of a full-scale 21-metre bridge span

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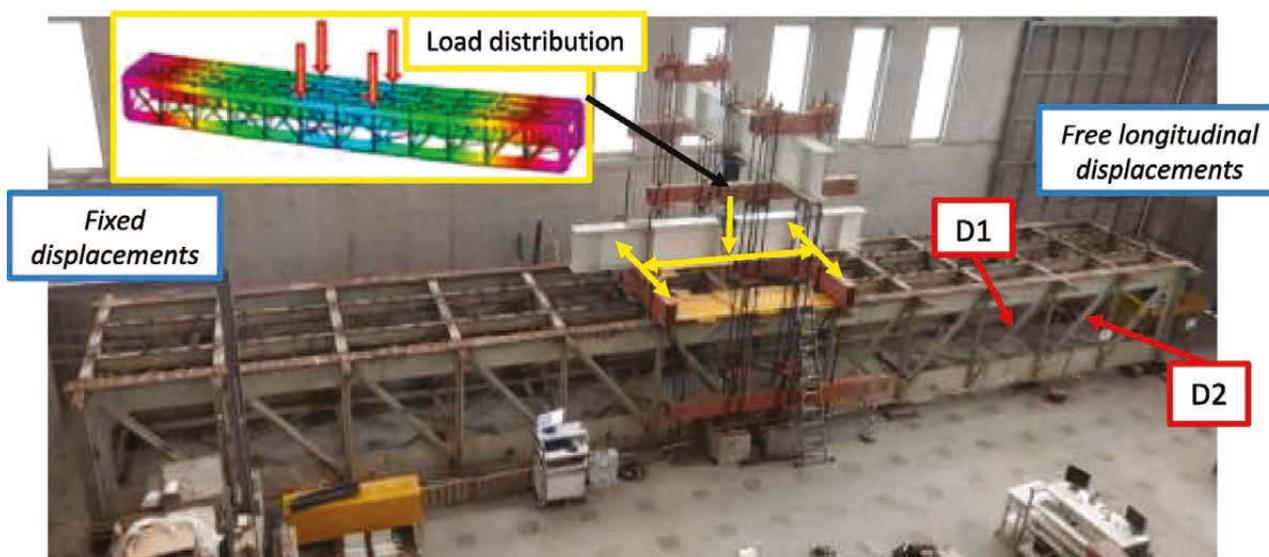
Abstract

This study aimed to experimentally analyse the robustness of riveted steel bridges based on truss-type structures and to define practical recommendations for early detection of local failures before they cause

progressive structural collapse. Although there are many experimental studies on robustness and progressive collapse on buildings, those on bridges are either theoretical or deal with actual collapses. This paper describes a unique case of a 21m full-scale bridge span tested under laboratory conditions with an extensive monitoring system, together with an experimental study to evaluate structural behaviour and robustness as damage or failure progressed in its elements. A linear-static finite-element analysis was also included to examine other possible

causes not included in the experiment. The results proved the structural redundancy of this type of truss structure based on the joints' resistance to bending moments and gave rise to a series of practical structural health recommendations to identify early failures and avoid progressive or sudden bridge collapse. The study carried out and the recommendations it produced are now being applied in three similar bridge case studies.

→ Read the full paper at <https://doi.org/10.1016/j.istruc.2020.12.005>



(d) General view



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