

Review

This concise book can provide a valuable reference source to structural engineers designing, executing and maintaining steel structures, says **Toby Mottram**.

Failure case studies: steel structures

Editors: Navid Nastar and Rui Liu
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BOOKS ON FAILURE CASE STUDIES OFTEN

scope a range of incidents and disasters related to civil/structural engineering works, together with well-known case studies from other industry sectors. The style of writing is more journalistic than technical in the most popular books, by authors such as Addis, Chiles, Levy, Petroski and Salvadori. This book joins those by, say, Åkesson, Delatte, MacAlevey and Ratay, on lessons learned from failures by way of case studies that are more specific, have deeper technical content, and are for a targeted readership in civil and structural engineering.

This publication of 41 pages, excluding the index, is available in soft cover or as an e-book. It has been prepared by the Education Committee of the Forensic Engineering Division of the American Society of Civil Engineers (ASCE). The primary authors are experts in the subject and this reflects in the quality of the reporting. This book represents the first in a Failure Case Studies series in Civil Engineering and it presents eight case studies of failure observed in steel structures between 1970 and 2013.

Each case study has a page length of up to five, in which there is a summary description of the documented civil engineering failure, followed by lessons learned from the failure and references for further study. The framing of the lessons learned is for the national context, and only the West Gate Bridge collapse case study is not for North American practice.

The case studies, in order of the eight chapters, are:

→| West Gate Bridge collapse, 1970

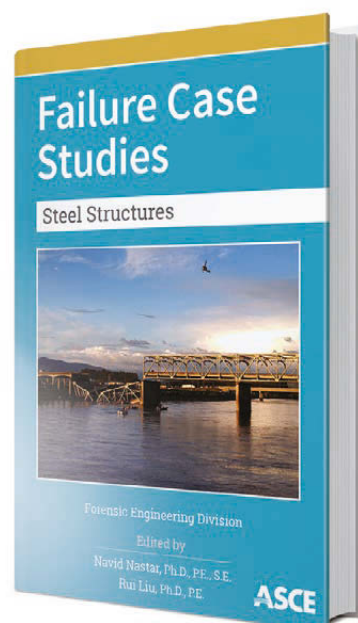
- | University of Washington stadium collapse, 1987
- | damage to steel moment-resisting frames during the Northridge Earthquake, 1994
- | Colorado State Route 470 overpass collapse, 2004
- | Pittsburgh Convention Center expansion joint failure, 2007
- | I-35W bridge collapse, 2007
- | Elliot Lake Algo Centre Mall collapse, 2012
- | Skagit River bridge collapse, 2013.



THIS IS A COMPACT AND SPECIALISED BOOK THAT HAS IMPORTANT LESSONS FOR STRUCTURAL ENGINEERS WHO DESIGN, EXECUTE AND MAINTAIN STEEL STRUCTURES

This is a compact and specialised book that has important lessons for structural engineers who design, execute and maintain steel structures. Moreover, the concise and selective approach used to present the case studies means the publication is worthy in the education of civil and structural engineering students on undergraduate and postgraduate programmes.

However, it has to be said that the book's cost at \$55 is a weakness against purchases by individuals, since at one dollar a page it is relatively expensive.



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Toby Mottram is Professor and Head of Civil Engineering in the School of Engineering at the University of Warwick. He has been a researcher-teacher for 34 years. Since 2004, Toby has delivered and assessed a Year 2 undergraduate module on Forensic Engineering: Learning from Failure, to more than 1000 engineering students.