

Failed bridges: case studies, causes & consequences

By Joachim Scheer

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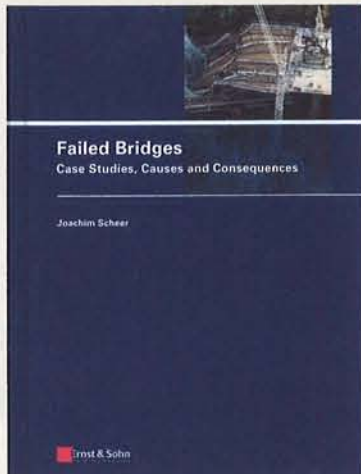
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If there was ever a book to remind a bridge engineer of the consequences of an error, or even to give nightmares, this is it. The author presents a literal catalogue of collapses and failures from the start of the modern engineering era in the early nineteenth century through to the present day. Some are infamous; others less well-known, but even in less than 300 pages of text, there is more than enough detail to provide a sound understanding of cause and effect as well as an excellent bibliography.

This is the second edition of the book,



which was first published in 2000. In the intervening 10 years the content has expanded with 90 failures and a new, timely chapter on failures due to seismic activity has also been added. Originally written in German, the English translation is highly readable.

Scheer started his engineering career just after the Second World War and, in 1947, witnessed the Bremen bridge catastrophe when all of the city's bridges over the River Weser were destroyed by ice floes, loose barges and other vessels swept along in a flood. After a period of practical construction work, he studied at Darmstadt University and later became a professor in steel construction at the University of Braunschweig. He has been an official investigator on inquiries into bridge failures and has worked on many of Germany's design standards. Scheer's credentials and the status of his book are further enhanced by the fact that the foreword has been written by Christian Menn.

Starting with some general observations on failures, the text is divided into chapters devoted to specific causes of collapse; for example, failure during construction, failure due to fire etc. Each chapter starts with a

comprehensive table giving dates, locations, span lengths and, most soberingly, the numbers of dead and injured in each event. Individual case studies are then covered in considerable detail with photographs and clear diagrams on most pages. Some 536 collapses are noted, 440 with detailed information and references.

The book concludes with examples of good and bad practice in the design and construction process and suggestions for educating young engineers on how to avoid major structural failures in the future.

It is not often that a book can be safely described as a definitive work on a particular subject but in terms of bridge collapses, this accolade is well-deserved. It is an excellent reference for any individual, company or institution concerned with the design and construction of bridges ■

Richard Fish