

Baidar Bakht · Aftab Mufti

Bridges

Analysis, Design, Structural Health Monitoring, and Rehabilitation, *Second Edition*

This book offers a valuable guide for practicing bridge engineers and graduate students in structural engineering; its main purpose is to present the latest concepts in bridge engineering in fairly easy-to-follow terms.

The book provides details of easy-to-use computer programs for:

- Analysing slab-on-girder bridges for live load distribution.
- Analysing slab and other solid bridge components for live load distribution.
- Analysing and designing concrete deck slab overhangs of girder bridges under vehicular loads.
- Determining the failure loads of concrete deck slabs of girder bridges under concentrated wheel loads.

In addition, the book includes extensive chapters dealing with the design of wood bridges and soil-steel bridges. Further, a unique chapter on structural health monitoring (SHM) will help bridge engineers determine the actual load carrying capacities of bridges, as opposed to their perceived analytical capacities.

The chapter addressing structures made with fibre-reinforced polymers will allow engineers to design highly durable, economical and sustainable structures. This chapter also provides guidance on rehabilitating deteriorated structures with these new materials.

The book also deals with the philosophy of bridge design without resorting to complex equations.

Additional material to this book can be downloaded from <http://extras.springer.com>

Engineering

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EXTRAS ONLINE

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