

Books

REVIEWS

BIM for project managers

by Peter Barnes, published by ICE Publishing, 2020, £50, reviewed by **Julie Wood**, Arup, UK



The author starts by pointing out that the acronym 'BIM' (for building information modelling) is now commonly used to define digital technology across the wider construction and infrastructure industries.

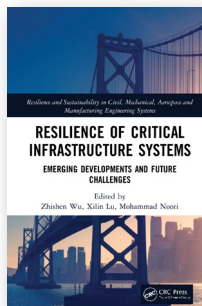
He then stresses the importance of getting the BIM strategic brief right, providing a helpful set of prompts for the project manager to take into consideration when working with the employer. This comes to life by the use of examples from real projects.

The author sets out the headline BIM management roles including information manager, built asset security manager and BIM coordinator. This adds granularity that will be very helpful to project managers, particularly at project set-up stage. He next discusses the different project stages. I found the chapter on collaboration to be the most helpful, reinforced by a case study of the Bergen Light Railway extension.

Overall, this is a well-put-together book, very readable and relevant to project managers at all stages in their careers.

Resilience of critical infrastructure systems

edited by Zhishen Wu, Xilin Lu and Mohammad Noori, published by CRC Press, 2020, £89.99, reviewed by **Jo Griffiths**, Network Rail, UK



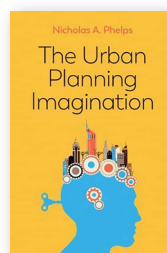
This book is a collation of selected papers as presented at the second international workshop on infrastructure resilience held in the latter part of 2018 in China.

Chapter 1 explains how the workshop focused on specific research questions around risk control and quantification, the use of emerging technologies for prediction of infrastructure behaviour, and big data and machine learning. The following chapters are informative papers on resilience on a variety of topics from the life cycle of civil infrastructure to bridge decks, historical timber bridges, concrete structures, seismic resilience and fibre-reinforced polymers.

I was particularly interested in big data and how we can use this to predict and prevent or prepare for severe events. This makes it clear that engineers of the future must start to consider the impacts of climate change and the future impact this has on our water supplies, transportation networks, energy grids and buildings.

The urban planning imagination

by Nicholas Phelps, published by Wiley, 2021, £55, reviewed by **Claudia Currie**, Mott MacDonald, UK



The author is an international planning lecturer, but this book has been written to take non-technical readers on a journey through the ethos behind urban planning across the world.

After touching on the need for both a legally binding and strategic planning framework, he emphasises the need for imaginative thinking to be combined with continuous shaping of the future urban landscape.

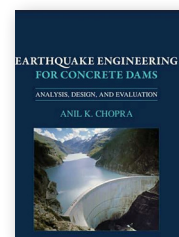
The author draws attention to the need to ensure that stakeholders, now called 'interested parties' or 'actors', are involved in all stages of the consultation process. He then turns to summarising lessons learnt,

including some failures, and provides international examples – although these are not in exhaustive detail.

Overall, it is an easy read for anyone who wants to get an insight into how planning can influence engineering solutions. The final chapter concludes that history and geography both have strong influences on planning outcomes, but challenges how this should be used to draw up plans for the future.

Earthquake engineering for concrete dams

by Anil Chopra, published by Wiley, 2020, £110, reviewed by **Alpa Sheth**, VMS consultants Pvt, Ltd, Mumbai, India



In 1967 an earthquake significantly damaged the Koyna concrete gravity dam in India, in an area considered until then to have low seismic hazard. It also shook the community of dam engineers across the world. On revisiting similar dams in the USA, it was realised they could sustain more seismic damage than estimated by traditional analysis and design procedures using pseudo-static methods.

This book starts from the lessons learnt from the seismic performance of the Koyna dam. It then documents the transition of analysis and design of concrete gravity dams, from pseudo-static analysis procedures to state-of-art dynamic analysis methods for dam, water and foundation interaction. The shortcomings of earlier dynamic analysis procedures are discussed and suggestions are made for alternative methods to overcome them.

The book is divided into three main sections – gravity dams, arch dams, and design and evaluation procedures. Each section is exhaustive in its coverage. It will be invaluable for structural design engineers involved or interested in the retrofit or design of concrete gravity dams.

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Engineered transparency	B Weller and J Schneider	£45.00
Engineering aspects of Howrah bridge in Kolkata (1943)*	A Ghoshal	£44.99
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