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Book review

Crossrail Project Infrastructure Design and Construction: Volume 4

R. V. Williams and M. Black (eds). ICE Publishing, London, UK, 2017,
ISBN 978-0-7277-6359-4, £75.00, 368 pp.

This volume is the fourth in a series of paper compendiums from the annual Crossrail Technical Paper Awards competition. It features the best papers from the 2016 awards, while the rest can be viewed online (<https://learninglegacy.crossrail.co.uk/>).

The volume was edited by Professor Rhys Vaughan Williams, Head of Mechanical Electrical and Public Health Engineering at Crossrail (and visiting Professor at Wrexham Glyndwr University), and Mike Black, Crossrail's Head of Geotechnics. With their unique positions on the project, the editors have done an excellent job in bringing together an extensive and detailed volume that will act as an important source of record for future generations. It explains how the many, varied and technically complex issues of this mega project have been delivered. The authors of the papers come from the whole of the Crossrail supply chain, from client to designers to constructors. The book also showcases some of the significant engineering talent used on this multi-billion pound project.

This fourth volume in the series brings together much of the complex information related to the fit-out of the stations and tunnels and how many of the complex interfaces between the various facets of the project were integrated towards the project's close. Much of the volume deals with mechanical and electrical issues, covering issues such as heating, lighting, ventilation and power supply, which are also linked to safety

aspects related to fire control (coatings and fire control) and emergency operation due to loss of power. The second strand within the papers relates to the final aspects of tunnel completion linked to cross-passages and secondary tunnel linings, as well as protection of assets adjacent to Crossrail (such as a Docklands Light Railway viaduct) and corrosion management.

Although a comprehensive book, the papers are at times esoteric and, in places, quite hard going. In a number of instances the papers go to town with acronyms without going to the trouble of defining them first, which can be annoying. In places this spoils the efforts the authors have gone to in producing what will, in time, become a useful 'go-to' book on how to manage certain issues in such projects.

I personally feel the issues related to health and safety of the public with regard to fire and its control are some of the most important parts of the book. Coverage of these aspects is an oft-neglected part of reporting of major infrastructure projects.

While the book is not a must-have for everyone's bookshelf, it will be a required source of reference for those embarking on similar mega transit projects. It is a book to dip into when required. It is also good to see the supporting online learning portal that importantly complements the volume.

Having now been through volume 4, I am off to find volumes 1 to 3, which, I feel, is a good recommendation as any.

Matthew Frost