

Review of 'Highways: the location, design, construction and maintenance of road pavements' 5th edition edited by Coleman O'Flaherty with David Hughes

'Highways' (O'Flaherty with Hughes, 2016) can be properly regarded as a 'classic' book. Now in its fifth edition with the first edition being published in 1967, it certainly has been judged over a period of time to be of the highest quality and outstanding of its kind. My career is not as long as Coleman O'Flaherty's but his authoritative book has been a vade mecum for me in its last four editions. Now published by ICE publishing, it has perhaps finally 'come home' to the publisher it always ought to have had.

The book comprises eighteen chapters over 583 pages by twenty-one authors who are the leaders in the field of highway engineering. The enduring pattern of the chapters remains, but there are some subtle but significant changes as compared with the twenty chapters of the previous edition. There are also significant revisions that have been made which keep abreast of current materials specification and design and maintenance approaches.

The first three chapters deal with the planning of roads, decisions on their location, and site investigations. These are followed by two chapters on soils and soil testing, and earthworks issues. We then enter the heart of the book: nine chapters dealing with the materials, specifications, design approaches and construction techniques for roads. This section also includes the ever important chapter dealing with moisture around a road pavement. The final four chapters deal with maintenance and asset management issues, including skid resistance, and surface treatments for maintenance.

Penetrating further into the heart of the book, and as the sub-title implies, it is a book principally about road pavements, we find material covering standard asphalt mixtures (chapter 8), introduction to pavement thickness design (chapter 10), stresses in rigid concrete slabs (chapter 11), current UK design recommendations (chapter 12). The ordering is generally logical, and of course the challenge with different authors for each chapter is to ensure there are few overlaps and a logically unfolding story. This is achieved admirably.

In regard to cross-referencing, there could be some betterment for a conscientious student who would like to ensure that he or she has pieced together all the threads appropriately. The book has a UK flavour, but there are strong international perspectives in a number of chapters including chapter 2 (route location and selection), chapter 5 (earthworks), and chapter 7 (soil-stabilised and hydraulically bound mixtures), for example.

Overall, it is clear that this book has been thoroughly updated to incorporate the latest research and practice and it is to be entirely recommended as a prime source for students new to the field, or for experienced engineers either coming to the field or needing a refresher course.

John Parkin

Reference

O'Flaherty, C. with Hughes, D. (2016) Highways: the location, design, construction and maintenance of road pavements 5th edition. ICE Publishing, London.