Acknowledgements

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Special thanks go to my wife, Heike Kühn, who often had to spend her free time alone while work was progressing on the book. As a result, I would like to dedicate the book to her.
About the Author

Wolfgang Kühn studied transportation engineering at the “Friedrich List” University of Transportation and Traffic Sciences (HfV) in Dresden and completed his degree as a “Diplomingenieur” (graduate engineer) in 1977. After obtaining a qualification to teach at a university, he obtained his doctorate (Dr.-Ing) in 1981. He was a design engineer, estimator and construction manager at various planning offices and construction companies at different levels during the period 1981 – 1990. He founded the DELTA-PLAN GmbH planning office in 1990 and he has been successfully managing this as the senior partner for 22 years. He completed his university teaching qualification by obtaining his Dr.-Ing. Habilitatus degree at the Technical University of Dresden in 2002. He was university professor at the University of Leipzig from 2004 until 2008 and he has been professor at the Institute of Transportation Systems Engineering at the University of Applied Sciences Zwickau since 1 March 2008.

During his many years of research work in the field of road design, he has produced 4 dissertations, 70 publications in professional journals and given 98 lectures at specialist conferences. He has also provided support for a number of students writing their degree dissertations or taking their master’s degree or doctoral theses. He has played a significant role in further developing the body of rules and regulations as head of the “Visualization” working group and a member of the “Designing new roads” working group at the German Road and Transportation Research Association (FGSV). He was awarded
the Friedrich List Prize in 2002 for his academic achievements in the field of developing new kinds of models and procedures for road design. Due to his institutional activities in transportation research he was appointed members of both the Geometric Design Committee and the Visualization in Transportation Committee of the TRB (Transportation Research Board). In 2011 Wolfgang received an outstanding paper award at the 4th International Geometric Design Symposium in Valencia (Spain).
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Preface

This reference book developed as a result of Professor Dr Kühn’s teaching at the Universities of Leipzig, Magdeburg and Zwickau, his long-standing practical work as a design engineer at various planning offices and his detailed research work in the German Road and Transportation Research Association (FGSV) and international working groups.

This reference book communicates the basic theoretical knowledge and the practical requirements and experience for designing, mapping, calculating and checking roads and the planning process overall – and at the same time reveals important development trends.

The reference book is guided by the current rules and regulations in Germany, it universalizes this knowledge and also integrates important current research results in road design processes.

In order to restrict the scope of the book, it only deals with the theoretical principles and knowledge and the practical experience for designing rural roads, i.e. the special features of urban roads are not mentioned here. This clear separation primarily results from the different principles and rules and regulations.

The terms, definitions, abbreviations and formula symbols are based on German usage, but can be transferred to an international framework without any difficulties.

The work is particularly designed to be a course book for students of road design. As a reference book, it supports the ongoing training process for road transportation engineers in planning offices and public bodies. Any specialist working in the transportation sector can use it as a reference book.

Wolfgang Kühn, 2013