

Preface

This book is a transformation of my Master's Thesis "Comparison of different forms of performance-based contracts for infrastructure projects", which I authored for the fulfillment of my Masters of Science (M.Sc.) degree in Transportation Systems from the department of Building Process Management and Real Estate Management, Technische Universität München, Germany under the supervision of Univ.-Prof. Dr.-Ing. Josef Zimmermann.

The book is targeted at both academic and professional audiences. It is relevant not only to civil engineering and transportation engineering students, but also to professionals working in the infrastructure and construction industries. The book will also prove useful to public sector employees responsible for development, construction, operation, maintenance, and management of public infrastructure.

The objective of this book is to compare the available performance-based road project delivery systems, which are currently in implementation worldwide. The book recognizes Performance-based Road Management and Maintenance Contract (PMMR), Funktionsbauvertrag (FBV), and Public-Private Partnership (PPP) as the most widely used performance-based road project delivery systems. Infrastructure development is capital-intensive and time-consuming. Therefore, the public sector and the private sector must work together to deliver the required infrastructure in an efficient manner. The purpose of this book is to compare the above-stated delivery systems and identify the similarities and differences between them. Such a comparison will help in selecting suitable methods for projects at hand, based on the prevalent circumstance and conditions. This book attempts to comprehensively cover the three types of delivery systems mentioned above including, concept, procedure, nature, and comparison with the other systems.

PMMR, FBV, and PPP are all output-based contracts, where the required level of performance must be delivered. These contracts do not define the process, procedures, techniques, and materials requirements. This provides the opportunity for the contractor to be innovative in the selection of methods, techniques, and materials. They are long-term contracts, usually 15–30 years. PMMR and PPP are more widely used in Anglo-Saxon countries whereas FBV was developed and is implemented in Germany. PMMR and FBV are developed for road project delivery

whereas PPP comprises different infrastructures such as roads, hospitals, water supply, and railway. However, in principle, FBV and PMMR could be extended to other types of projects by developing the clear functional requirements for each type of project.

Since governments have limited resources and a wide range of areas requiring investment, optimal use of funds is extremely important. Hence, public sector organizations are increasingly exploring more efficient and effective construction contracts which ensure low investment costs and higher quality. The book presents three construction contracts which could guide the public sector in using suitable contracts based on their specific requirements. These details are also useful for construction companies to understand contract selection and details of PMMR, FBV, and PPP.

I have attempted to make everything simple and easy to understand with suitable tables, figures, graphs, examples, and case studies. Practical examples of FBV (Road Project: Rastplatz “Blauer Stein”– Miel on the Highway BAB A 61, Germany) and PMMR (PMMR in Argentina) have been presented as case studies in order to understand the utilization of these contracts in the real world.

I would be happy to receive the readers’ comments and suggestions for further improvement and enrichment of this book.

Kathmandu, Nepal

Ashish Gajurel

Performance-Based Contracts for Road Projects
Comparative Analysis of Different Types

Gajurel, A.

2014, XXV, 159 p. 40 illus.,

ISBN: 978-81-322-1302-4