

Contents

Foreword.....	vii
Preface to the Second Edition.....	ix
Preface to the First Edition.....	xi
Editors.....	xiii
Contributors.....	xv
1 Conceptual Design.....	1
<i>Man-Chung Tang</i>	
2 Aesthetics: Basics.....	29
<i>Fritz Leonhardt</i>	
3 Bridge Aesthetics: Achieving Structural Art in Bridge Design.....	49
<i>Frederick Gottemoeller</i>	
4 Planning of Major Fixed Links.....	77
<i>Erik Yding Andersen, Lars Hauge, and Dietrich L. Hommel</i>	
5 Highway Bridge Design Specifications.....	113
<i>John M. Kulicki</i>	
6 Highway Bridge Loads and Load Distribution.....	131
<i>Susan E. Hida</i>	
7 Railroad Bridge Design Specifications.....	143
<i>Donald F. Sorgenfrei, Ward N. Marianos, Jr., and Robert A.P. Sweeney</i>	
8 High-Speed Railway Bridges.....	159
<i>Jeder Hseih and Fu-Hsiang Wu</i>	
9 Structural Performance Indicators for Bridges.....	185
<i>Dan M. Frangopol and Duygu Saydam</i>	
10 Structural Theory.....	207
<i>Xila Liu and Leiming Zhang</i>	
11 Finite Element Method.....	225
<i>Eiki Yamaguchi</i>	

12	Structural Modeling.....	253
	<i>Alexander Krimotat and Hassan Sedarat</i>	
13	Concrete Design.....	271
	<i>Monte Smith</i>	
14	Steel Design.....	305
	<i>James A. Swanson</i>	
15	Timber Design.....	341
	<i>Kenneth J. Fridley and Lian Duan</i>	
16	Application of Fiber Reinforced Polymers in Bridges.....	371
	<i>Dagmar Svecova, Aftab Mufti, and Baidar Bakht</i>	
17	High Performance Steel.....	407
	<i>Eiki Yamaguchi</i>	
18	Effective Length of Compression Members.....	427
	<i>Lian Duan, Honggang Lei, and Wai-Fah Chen</i>	
19	Fatigue and Fracture.....	451
	<i>Robert J. Dexter, John W. Fisher, and Sougata Roy</i>	
20	Weight Distributions of Highway Steel Bridges.....	479
	<i>Shouji Toma</i>	
21	Design and Damage Evaluation Methods for Reinforced Concrete Beams under Impact Loading.....	501
	<i>Norimitsu Kishi</i>	
22	Wind Effects on Long-Span Bridges.....	535
	<i>Steve C.S. Cai, Wei Zhang, and Serge Montens</i>	
	Index.....	557