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Nota di contenuto	Front cover; Table of contents; Preface; 1 Bridge safety, analysis and design; Chapter 1 The safety of bridges1; Chapter 2 LRFD versus ASD, the differences between the two standards for retaining wall and abutment design; Chapter 3 Providing the best bridges for the best cost; Chapter 4 Taconic State Parkway Ramp 'X' Bridge project, Westchester, NY, USA; Chapter 5 Screening and analysis for the gusset plates of the Hawk Falls Bridge, Pennsylvania, USA; Chapter 6 Selection and design of the high load multirotational bearings for the St. Anthony Falls Bridge in Minnesota 2 Cable-supported bridgesChapter 7 Potential of multi main-spans suspension bridge; Chapter 8 Kanchanaphisek Bridge: A cable-stayed bridge designed for a low maintenance budget; Chapter 9 Design-build of the Indian River Inlet cable stayed bridge; Chapter 10 A self anchored suspension pedestrian bridge over Harbor Drive in San Diego, California, USA; Chapter 11 Stay cable replacement, high level engineering for an extended serviceability; 3 Movable bridges; Chapter 12 Rehabilitation of Bridge Street Bridge preserving a nineteenth

century historic bascule lift span

Chapter 13 Replacement of a rare Hanover skewed bascule-The Hamilton Avenue Bridge, New York City, USAChapter 14 Innovative redesign for cost savings on a vertical lift bridge; 4 Advanced materials; Chapter 15 Lightweight concrete for long span bridges; Chapter 16 Experimental study on hybrid steel-concrete beam connected with perfobond ribs; Chapter 17 Rehabilitation of bridges using Ultra-High Performance Fiber Reinforced Concrete; Chapter 18 Lightweight and recycled materials for the construction of the Messina Strait Bridge, Italy; 5 Bridge instrumentation and monitoring Chapter 19 Modeling and instrumentation of the Tobin Memorial Bridge in Boston, Massachusetts, USAChapter 20 Structural health monitoring using wireless acoustic emission sensor network; Chapter 21 Bridge monitoring to measure corrosion rate and concrete resistivity; 6 Bridge security and testing; Chapter 22 The security assessment of structural cable assemblies in bridges; Chapter 23 Overview of available detection technologies with applications to bridge security; Chapter 24 Development of a baseline model for an arch using diagnostic tests; 7 Bridge inspection, management and assessment Chapter 25 Developing a business process model for bridge management in EuropeChapter 26 Use of public-private partnerships in bridge infrastructure delivery; Chapter 27 Special topics studies for baseline structural modeling for condition assessment of in-service bridges; Chapter 28 Merging and moving forward with New Jersey Turnpike Authority's Bridge inspection program; Chapter 29 Washington Metropolitan Area Transit Authority's computerized structure inspection system; 8 Bridge construction, maintenance and retrofit; Chapter 30 Construction engineering considerations for highway bridges Chapter 31 Concept and practice of accelerated bridge construction in California, USA

Sommario/riassunto

Recent surveys of the U.S. infrastructure's condition have rated a staggering number of bridges structurally deficient or functionally obsolete. While not necessarily unsafe, a structurally deficient bridge must be posted for weight and have limits for speed, due to its deteriorated structural components. Bridges with old design features that cannot safely accommodate current traffic volumes, and vehicle sizes and weights are classified as functionally obsolete. Such deficiencies may adversely affect the performance of transportation systems in emergency situations or for disaster response.
