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Ground Improvement Mar 03 2021 The first book of its kind, providing over thirty real-life case studies of ground improvement projects selected by the worlds top experts in ground improvement from around the globe. Volume 3 of the highly regarded Elsevier Geo-engineering book series coordinated by the Series Editor: Professor John A Hudson FREng. An extremely reader friendly chapter format. Discusses wider economical and environmental issues facing scientists in the ground improvement. Ground improvement has been both a science and art, with significant developments observed through ancient history. From the use of straw as blended infill with soils for additional strength during the ancient Roman civilizations, and the use of elephants for compaction of earth dams during the early Asian civilizations, the concepts of reinforced earth with geosynthetics, use of electrokinetics and thermal modifications of soils have come a long way. The use of large and stiff stone columns and subsequent sand drains in the past has now been replaced by quicker to install and more effective prefabricated vertical drains, which have also eliminated the need for more expensive soil improvement methods. The early selection and application of the most appropriate ground improvement techniques can improve considerably not only the design and performance of foundations and earth structures, including embankments, cut slopes, roads, railways and tailings dams, but also result in their cost-effectiveness. Ground improvement works have become increasingly challenging when more and more problematic soils and marginal land have to be utilized for infrastructure development. This edited compilation contains a collection of Chapters from invited experts in various areas of ground improvement, who have illustrated the basic concepts and the applications of different ground improvement techniques using real projects that they have been involved in. The case histories from many countries ranging from Asia, America, Australia and Europe are addressed.

FUNDAMENTALS OF SOIL DYNAMICS AND EARTHQUAKE ENGINEERING Dec 20 2019 The majority of the cases of earthquake damage to buildings, bridges, and other retaining structures are influenced by soil and ground conditions. To address such phenomena, Soil Dynamics and Earthquake Engineering is the appropriate discipline. This textbook presents the fundamentals of Soil Dynamics, combined with the basic principles, theories and methods of Geotechnical Earthquake Engineering. It is designed for senior undergraduate and postgraduate students in Civil Engineering & Architecture. The text will also be useful to young faculty members, practising engineers and consultants. Besides, teachers will find it a useful reference for preparation of lectures and for designing short courses in Soil Dynamics and Geotechnical Earthquake Engineering. The book first presents the theory of vibrations and dynamics of elastic system as well as the fundamentals of engineering seismology. With this background, the readers are introduced to the characteristics of Strong Ground Motion, and Deterministic and Probabilistic seismic hazard analysis. The risk analysis and the reliability process of geotechnical engineering are presented in detail. An in-depth study of dynamic soil properties and the methods of their determination provide the basics to tackle the dynamic soil–structure interaction problems. Practical problems of dynamics of beam–foundation systems, dynamics of

retaining walls, dynamic earth pressure theory, wave propagation and liquefaction of soil are treated in detail with illustrative examples.

Mechanical Excavation in Mining and Civil Industries Jan 21 2020 The secret to streamlined scheduling of mining and civil engineering projects is a solid understanding of the basic concepts of rock cutting mechanics. Comparing theoretical values with experimental and real-world results, *Mechanical Excavation in Mining and Civil Industries* thoroughly explains various rock cutting theories developed for chisel, conical, disc, and button cutters. The authors provide numerical examples on the effect of independent variables on dependent variables, as well as numerical and solved examples from real-life mining and civil engineering projects using equipment such as: Hard- and soft-ground tunnel boring machines (TBMs) Roadheaders Shearers Ploughs Chain saws Raise borers Impact hammers Large-diameter drill rigs Microtunnel boring machines This book assists students and practicing engineers in selecting the most appropriate machinery for a specific job and predicting machine performance to ensure efficient extraction, and offers background information on rock cutting mechanics and different mechanical miners.

Handbook of Low Carbon Concrete Jan 01 2021 *Handbook of Low Carbon Concrete* brings together the latest breakthroughs in the design, production, and application of low carbon concrete. In this handbook, the editors and contributors have paid extra attention to the emissions generated by coarse aggregates, emissions due to fine aggregates, and emissions due to cement, fly ash, GGBFS, and admixtures. In addition, the book provides expert coverage on emissions due to concrete batching, transport and placement, and emissions generated by typical commercially produced concretes. Includes the tools and methods for reducing the emissions of greenhouse gases Explores technologies, such as carbon capture, storage, and substitute cements Provides essential data that helps determine the unique factors involved in designing large, new green cement plants

[The American Philatelist](#) Jan 25 2023

Climate Change in Asia and the Pacific Nov 23 2022 Climate change is one of the most significant challenges to global economic development. Left unchecked, continued global warming could cause worldwide social and environmental disruption. The Asia and Pacific region is more vulnerable to climate change risks than other regions due to its dependence on the natural resources and agriculture sectors. Densely populated coastal areas, weak institutions, and the poverty of a considerable proportion of its population add to the susceptibility of this region. Adaptation—making adjustments in natural or human systems in response to actual or expected climate stimuli— becomes a key strategy for sustaining economic growth. This volume examines the framework conditions for integrating climate change adaptation measures into agriculture, water, and natural resources management activities for the Asia and Pacific region. Based on the review of country experiences, the book describes key dimensions, suggests interventions for further exploration, and serves as a basis for planning and mainstreaming climate change adaptation into sectoral planning

Calculation of the Properties of Vacancies and Interstitials Oct 30 2020

The Saint Aug 28 2020

Lessons Learned from the Fukushima Nuclear Accident for Improving Safety of U.S.

Nuclear Plants Apr 23 2020 The March 11, 2011, Great East Japan Earthquake and tsunami sparked a humanitarian disaster in northeastern Japan. They were responsible for more than 15,900 deaths and 2,600 missing persons as well as physical infrastructure damages exceeding \$200 billion. The earthquake and tsunami also initiated a severe nuclear accident at the Fukushima Daiichi Nuclear Power Station. Three of the six reactors at the plant sustained severe core damage and released hydrogen and radioactive materials. Explosion of the released hydrogen damaged three reactor buildings and impeded onsite emergency response efforts. The accident prompted widespread evacuations of local populations, large economic losses, and the eventual shutdown of all nuclear power plants in Japan. "Lessons Learned from the Fukushima Nuclear Accident for Improving Safety and Security of U.S. Nuclear Plants" is a study of the Fukushima Daiichi accident. This report examines the causes of the crisis, the performance of safety systems at the plant, and the responses of its operators following the earthquake and tsunami. The report then considers the lessons that can be learned and their implications for U.S. safety and storage of spent nuclear fuel and high-level waste, commercial nuclear reactor safety and security regulations, and design improvements. "Lessons Learned" makes recommendations to improve plant systems, resources, and operator training to enable effective ad hoc responses to severe accidents. This report's recommendations to incorporate modern risk concepts into safety regulations and improve the nuclear safety culture will help the industry prepare for events that could challenge the design of plant structures and lead to a loss of critical safety functions. In providing a broad-scope, high-level examination of the accident, "Lessons Learned" is meant to complement earlier evaluations by industry and regulators. This in-depth review will be an essential resource for the nuclear power industry, policy makers, and anyone interested in the state of U.S. preparedness and response in the face of crisis situations.

Proceedings of GeoShanghai 2018 International Conference: Advances in Soil Dynamics and Foundation Engineering Dec 24 2022 This book is the sixth volume of the proceedings of the 4th GeoShanghai International Conference that was held on May 27 - 30, 2018. This volume, entitled "Advances in Soil Dynamics and Foundation Engineering", covers the recent advances and technologies in soil dynamics and foundation engineering. These papers are grouped into four categories: (1) soil dynamics and earthquake engineering, (2) deep excavations and retaining structures, (3) shafts and deep foundations, and (4) offshore geotechnics. It presents the state-of-the-art theories, experiments, methodologies and findings in the related areas. The book may benefit researchers and scientists from the academic fields of soil dynamics and earthquake engineering, geotechnical engineering, geoenvironmental engineering, transportation engineering, geology, mining and energy, as well as practical engineers from the industry. Each of the papers included in this book received at least two positive peer reviews. The editors would like to express their sincerest appreciation to all of the anonymous reviewers all over the world, for their diligent work.

Emerging Materials for Civil Infrastructure Feb 26 2023 Prepared by the Emerging Materials Committee of the Materials Division of ASCE. This report presents a review of the state of the art on emerging materials for use in civil engineering infrastructure. Emerging materials include novel and new materials, as well as traditional materials with profound potential in new applications. A material or class of materials is considered "emerging" if its use

has not yet progressed to a stage wherein well-established guidelines, codes, and specifications exist for its use. This report is conveniently divided into chapters that address specific classes of materials and highlight the most recent developments in materials technologies relevant to civil infrastructure. Topics include: smart materials for civil engineering applications; fiber reinforced composites in civil infrastructure; emerging geomaterials for ground improvement; aluminum materials and the infrastructure; polymer concrete made with recycled plastics; state of the practice in asphalt technology; emerging uses for masonry materials; and emerging uses for window glass. The practicing engineer, student, or general reader will find this to be an easy-to-use reference for construction material systems that are being developed for use in civil engineering.

Coastal Stabilization Mar 23 2020 This book discusses coastal defense measures, which have not improved in the past few decades, and better alternatives. It emphasizes on the existence of stable bays in coastal geomorphology and their use in coastal stabilization. The conventional measures for saving beaches, such as seawalls, groins, offshore breakwaters, and renourishment, are discussed in detail, followed by an alternative known as headland control. Many types of coast, and the respective defense measures, are discussed, especially for eroding beaches downcoast of harbors with long breakwaters. The formation of offshore bars during storms is examined and the design of stable recreational beaches is demonstrated. Practical design problems are discussed in all cases. Many issues requiring attention in coastal engineering are also outlined.

Guide for the Design and Construction of Concrete Reinforced with Fiber-Reinforced Polymer Bars Jul 07 2021

Computational Stochastic Mechanics Apr 28 2023 Over a period of several years the field of probabilistic mechanics and computational mechanics have progressed vigorously, but independently. With the advent of powerful computational hardware and the development of novel mechanical techniques, the field of stochastic mechanics has progressed in such a manner that the inherent uncertainty of quite complicated systems can be addressed. The first International Conference on Computational Stochastic Mechanics was convened in Corfu in September 1991 in an effort to provide a forum for the exchanging of ideas on the current status of computational methods as applied to stochastic mechanics and for identifying needs for further research. The Conference covered both theoretical techniques and practical applications. The Conference also celebrated the 60th anniversary of the birthday of Dr. Masanobu Shinozuka, the Sollenberger Professor of Civil Engineering at Princeton University, whose work has contributed in such a great measure to the development of Computational Stochastic Mechanics. A brief summary of his career and achievements are given in the Dedication. This book comprises some of the papers presented at the meeting and covers sections on Theoretical Reliability Analysis; Damage Analysis; Applied Reliability Analysis; Theoretical Random Vibrations; Stochastic Finite Element Concept; Fatigue and Fracture; Monte Carlo Simulations; Earthquake Engineering Applications; Materials; Applied Random Vibrations; Applied Stochastic Finite Element Analysis, and Flow Related Applications and Chaotic Dynamics. The Editors hope that the book will be a valuable contribution to the growing literature covering the field of Computational Stochastic Mechanics.

Applied Mechanics Reviews Feb 02 2021

After Great Disasters Nov 11 2021 Great natural disasters are rare, but their aftermath can change the fortunes of a city or region forever. This book and its companion Policy Focus Report identify lessons from different parts of the world to help communities and government leaders better organize for recovery after future disasters. The authors consider the processes and outcomes of community recovery and reconstruction following major disasters in six countries: China, New Zealand, India, Indonesia, Japan, and the United States. Post-disaster reconstruction offers opportunities to improve construction and design standards, renew infrastructure, create new land use arrangements, reinvent economies, and improve governance. If done well, reconstruction can help break the cycle of disaster-related impacts and losses, and improve the resilience of a city or region.

Proceedings of Italian Concrete Days 2018 Sep 09 2021 This book gathers the best peer-reviewed papers presented at the Italian Concrete Days national conference, held in Lecco, Italy, on June 14-15, 2018. The conference topics encompass the aspects of design, execution, rehabilitation and control of concrete structures, with particular reference to theory and modeling, applications and realizations, materials and investigations, technology and construction techniques. The contributions amply demonstrate that today's structural concrete applications concern not only new constructions, but more and more rehabilitation, conservation, strengthening and seismic upgrading of existing premises, and that requirements cover new aspects within the frame of sustainability, including environmental friendliness, durability, adaptability and reuse of works and / or materials. As such the book represents an invaluable, up-to-the-minute tool, providing an essential overview of structural concrete, as well as all new materials with cementitious matrices.

Particulate Products Aug 08 2021 Particulate products make up around 80% of chemical products, from all industry sectors. Examples given in this book include the construction materials, fine ceramics and concrete; the delicacies, chocolate and ice cream; pharmaceutical, powders, medical inhalers and sun screen; liquid and powder paints. Size distribution and the shape of the particles provide for different functionalities in these products. Some functions are general, others specific. General functions are powder flow and require – at the typical particulate concentrations of these products – that the particles cause adequate rheological behavior during processing and/or for product performance. Therefore, this book addresses particle packing as well as its relation to powder flow and rheological behavior. Moreover, general relationships to particle size are discussed for e.g. color and sensorial aspects of particulate products. Product-specific functionalities are often relevant for comparable product groups. Particle size distribution and shape provide, for example, the following functionalities: - dense particle packing in relation to sufficient strength is required in concrete construction, ceramic objects and pharmaceutical tablets - good sensorial properties (mouthfeel) to chocolate and ice cream - effective dissolution, flow and compression properties for pharmaceutical powders - adequate hiding power and effective coloring of paints for protection and the desired esthetical appeal of the objects - adequate protection of our body against sun light by sunscreen - effective particle transport and deposition to desired locations for medical inhalers and powder paints. Adequate particle size distribution, shape and porosity of particulate products have to be

achieved in order to reach optimum product performance. This requires adequate management of design and development as well as sufficient knowledge of the underlying principles of physics and chemistry. Moreover, flammability, explosivity and other health hazards from powders, during handling, are taken into account. This is necessary, since great risks may be involved. In all aspects, the most relevant parameters of the size distribution (and particle shape) have to be selected. In this book, experts in the different product fields have contributed to the product chapters. This provides optimum information on what particulate aspects are most relevant for behavior and performance within specified industrial products and how optimum results can be obtained. It differs from other books in the way that the critical aspects of different products are reported, so that similarities and differences can be identified. We trust that this approach will lead to improved optimization in design, development and quality of many particulate products.

Computational and Experimental Simulations in Engineering Jun 18 2022 This book gathers the latest advances, innovations, and applications in the field of computational engineering, as presented by leading international researchers and engineers at the 24th International Conference on Computational & Experimental Engineering and Sciences (ICCES), held in Tokyo, Japan on March 25-28, 2019. ICCES covers all aspects of applied sciences and engineering: theoretical, analytical, computational, and experimental studies and solutions of problems in the physical, chemical, biological, mechanical, electrical, and mathematical sciences. As such, the book discusses highly diverse topics, including composites; bioengineering & biomechanics; geotechnical engineering; offshore & arctic engineering; multi-scale & multi-physics fluid engineering; structural integrity & longevity; materials design & simulation; and computer modeling methods in engineering. The contributions, which were selected by means of a rigorous international peer-review process, highlight numerous exciting ideas that will spur novel research directions and foster multidisciplinary collaborations.

Civil Engineering in Japan Jul 27 2020

Infrastructure's Role in Lowering Asia's Trade Costs Aug 20 2022 Much of the analysis of infrastructure's impact on trade costs focuses on conditions in developed countries. This book makes an invaluable contribution to our understanding by examining the situation in developing Asia, the world's most populous and fastest growing region. This study analyzes and draws policy implications from infrastructure's central role in lowering Asia's trade costs. Infrastructure is shown to be a cost-effective means of lowering trade costs and thereby promoting regional growth and integration. This book combines thematic and country studies, while breaking new ground in.

Arts and Literary Festivals For Secondary Schools. Appraisal and Effects on Students ? Creativity Apr 16 2022 Research Paper (undergraduate) from the year 2021 in the subject Pedagogy - Art education, grade: 3.97, Ahmadu Bello University (Faculty of Education), course: English Education, language: English, abstract: This study seeks to appraise the relevance of Arts and Literary Festivals for Secondary Schools in the identification, breeding and enhancement of Creativity among students in Nigeria. The tools used for the research were questionnaire/interview which consists of some set of structured questions. Observation was also made to supplement the questionnaire. Random stratified sampling technique was employed in

the selection of respondents used in this research. The subjects used in this research were the organizers, teachers and student-participants of Hadiza Ibrahim Aliyu Schools Festival (HIASFEST). A total of one hundred (100) respondents constitute the population of the study. The data collected were subjected to a statistical analysis using mean, percentage and standard deviation formula. The findings revealed that Arts and Literary Festivals for Secondary Schools if utilized has capacity to become a breeding and growth ground for raw creative talents that would contribute immensely to the development stride of Nigeria. It was therefore recommended that Festivals like that should be supported by all and sundry.

Expo '77 Apr 04 2021

Classroom Assessment Oct 22 2022 Jim Popham's widely popular Classroom Assessment shows teachers how to use classroom testing skillfully and formatively to dramatically increase their teaching effectiveness and make a difference in how well students learn. As in past editions, the author pays particular attention to the instructional payoffs of well-designed classroom tests and highlights the implications of testing on teaching throughout in special *But What Does This Have to Do with Teaching?* sections in each chapter. Decision Time vignettes present practical classroom problems and show readers actual decisions being made. Parent Talk features describe situations in which a teacher needs to explain something about assessment to parents and show what the author would say in that situation. And a lighter tone is established with cartoons to which readers can relate. The new Eighth Edition highlights the increasing importance of educational assessment in an era of common core state standards and teacher evaluations based on students' test scores, incorporates the Standards for Educational and Psychological testing guidelines throughout relevant sections, and includes a new section on instructionally diagnostic tests to help readers evaluate the merits of commercial or locally developed diagnostic assessment. Also available with MyLab Education MyLab(tm) is the teaching and learning platform that empowers you to reach every student. By combining trusted author content with digital tools and a flexible platform, MyLab personalizes the learning experience and improves results for each student. MyLab Education helps teacher candidates bridge the gap between theory and practice-better preparing them for success in their future classrooms. Note: You are purchasing a standalone product; MyLab Education does not come packaged with this content. Students, if interested in purchasing this title with MyLab Education, ask your instructor to confirm the correct package ISBN and Course ID. Instructors, contact your Pearson representative for more information. If you would like to purchase both the physical text and MyLab Education search for: 0134027299 / 9780134027296 Classroom Assessment: What Teachers Need to Know with MyEducationLab with Enhanced Pearson eText, Loose-Leaf Version -- Access Card Package Package consists of: 0134053869 / 9780134053868 Classroom Assessment: What Teachers Need to Know, Loose-Leaf Version 0134239903 / 9780134239903 MyEducationLab with Pearson eText -- Access Card -- for Classroom Assessment: What Teachers Need to Know

Engineered Cementitious Composites (ECC) Dec 12 2021 This is the first book on Engineered Cementitious Composites (ECC), an advanced concrete material attracting world-wide attention in both the academic community and in industry. The book presents a comprehensive coverage of the material design methodology, processing methodology, mechanical and durability

properties, smart functions, and application case studies. It combines effective use of illustrations, graphical data, and tables. It de-emphasizes mathematics in favor of physical understanding. The book serves as an introduction to the subject matter, or as a reference to those conducting research in ECC. It will also be valuable to engineers who need to quickly search for relevant information in a single comprehensive text.

Soil-Foundation-Structure Interaction May 05 2021 Soil-Foundation-Structure Interaction contains selected papers presented at the International Workshop on Soil-Foundation-Structure Interaction held in Auckland, New Zealand from 26-27 November 2009. The workshop was the venue for an international exchange of ideas, disseminating information about experiments, numerical models and practical en

The Shinkansen Program Feb 20 2020

Biometric State Jun 06 2021 A groundbreaking study of South Africa's role as a site for global experiments in biometric identification throughout the twentieth century.

Assessment of Student Achievement Jan 13 2022 Assessment is a concept familiar across the field of education and is inherent to the work of professors, administrators, teachers, researchers, journalists, and scholars. A multifaceted and politically charged topic, assessment ranges from informal interactions with learners in classrooms to systematic high-stakes testing and examination. Written by a leading expert on assessment, this book situates the topic within the broader context of educational psychology research and theory and brings it to a wider audience. With chapters on the fundamentals of assessment, explanations of its uses, and advice for best application, this concise volume is designed for any education course that includes assessment in the curriculum. It will be indispensable for student researchers and both pre- and in-service teachers alike.

Geotechnical Aspects of Underground Construction in Soft Ground Sep 28 2020 This volume comprises a collection of four special lectures, six general reports and 112 papers presented at the Sixth International Symposium of Geotechnical Aspects of Underground Construction in Soft Ground (IS-Shanghai) held between 10 and 12 April 2008 in Shanghai, China. The Symposium was organised by Tongji University and the following t

Strengthening of Reinforced Concrete Structures May 17 2022 The in situ rehabilitation or upgrading of reinforced concrete members using bonded steel plates is an effective, convenient and economic method of improving structural performance. However, disadvantages inherent in the use of steel have stimulated research into the possibility of using fibre reinforced polymer (FRP) materials in its place, providing a non-corrosive, more versatile strengthening system. This book presents a detailed study of the flexural strengthening of reinforced and prestressed concrete members using fibre reinforces polymer composite plates. It is based to a large extent on material developed or provided by the consortium which studied the technology of plate bonding to upgrade structural units using carbon fibre / polymer composite materials. The research and trial tests were undertaken as part of the ROBUST project, one of several ventures in the UK Government's DTI-LINK Structural Composites Programme. The book has been designed for practising structural and civil engineers seeking to understand the principles and design technology of plate bonding, and for final year undergraduate and postgraduate engineers studying the principles of highway and bridge engineering and structural engineering. Detailed

study of the flexural strengthening of reinforced and prestressed concrete members using fibre reinforced polymer composites Contains in-depth case histories

Emerging Technologies in Non-Destructive Testing VI Jun 25 2020 Non-Destructive Testing (NDT) is of worldwide significance, and is strongly related to the detection of damage in engineering structures (buildings, bridges, aircrafts, ships, pressure vessels, etc.) using non-invasive techniques (ultrasound, X-rays, Radar, neutrons, thermography, vibrations, acoustic emission, etc.). Emerging Technologies in Non-D

Educational Measurement and Evaluation Jul 19 2022

Issues in Upper Secondary Science Education May 25 2020 This book provides a comparative look at key issues that characterize and contextualize upper secondary science education in sixteen countries in Oceania, South America, Asia, Europe, North America, Africa, and the Middle East, including links with elementary and early science, final assessment, and the secondary/tertiary education interface.

Japan's Beach Erosion: Reality And Future Measures (Second Edition) Nov 30 2020

Beaches in Japan have been eroding since the 1970s because of artificial land alterations and unsustainable coastal development. Almost all causes of the beach erosion in Japan are due to anthropogenic factors — as a result of human activity. This book presents the state of the beaches throughout Japan, looking at the current reality and the classification of causes of beach erosion using real-life, illustrated examples. It then goes on to look at practical models which can be used to predict changes to different types of beaches, and concludes with investigation of beach erosion as a wider structural problem. Lessons learnt show the manner in which excessive coastal development without clearly identified measures for beach protection can have widespread global ramifications. This second edition presents new findings from field studies carried out on Japanese beaches, along with the development and improvement of the numerical model presented previously. In addition to the first edition, six new examples of the beach erosion in Japan are included, as is new analysis of the BG model (a model for predicting based on Bagnold's concept), which can be applicable to various field problems. Originally published in Japanese (2004), this updated version gives clear practical guidance to coastal engineers working to prevent irreversible beach erosion and sustainable coastal development policy.

2001 Second International Conference on Engineering Materials Oct 10 2021

Principles of Infrastructure Mar 27 2023 Infrastructure is a priority around the world for all stakeholders. Infrastructure projects can continue for several years, from planning and construction to the provision of services. As development in Asia and the Pacific accelerates, governments must invest more in infrastructure to ensure continued economic growth. This book draws on lessons and case studies from Japan and worldwide, covering broad and long-term infrastructure projects. It describes the principles of developing quality infrastructure and focuses on the various steps of a project--from design, planning, and construction to operation and management. It also discusses overseas development assistance, taking examples from Asian Development Bank and World Bank projects. This book is an important reference tool for policy makers in Asia who are planning and implementing large-scale public infrastructure.

Fundamentals of Traffic Simulation Mar 15 2022 The increasing power of computer technologies, the evolution of software engineering and the advent of the intelligent transport

systems has prompted traffic simulation to become one of the most used approaches for traffic analysis in support of the design and evaluation of traffic systems. The ability of traffic simulation to emulate the time variability of traffic phenomena makes it a unique tool for capturing the complexity of traffic systems. In recent years, traffic simulation – and namely microscopic traffic simulation – has moved from the academic to the professional world. A wide variety of traffic simulation software is currently available on the market and it is utilized by thousands of users, consultants, researchers and public agencies. Microscopic traffic simulation based on the emulation of traffic flows from the dynamics of individual vehicles is becoming one of the most attractive approaches. However, traffic simulation still lacks a unified treatment. Dozens of papers on theory and applications are published in scientific journals every year. A search of simulation-related papers and workshops through the proceedings of the last annual TRB meetings would support this assertion, as would a review of the minutes from specially dedicated meetings such as the International Symposia on Traffic Simulation (Yokohama, 2002; Lausanne, 2006; Brisbane, 2008) or the International Workshops on Traffic Modeling and Simulation (Tucson, 2001; Barcelona, 2003; Sedona, 2005; Graz 2008). Yet, the only comprehensive treatment of the subject to be found so far is in the user's manuals of various software products.

Handbook on High-Speed Rail and Quality of Life Feb 14 2022 Handbook on High-Speed Rail and Quality of Life outlines global experiences of high-speed rail development, including its construction, impacts, and planning, with a special focus on countries that are planning implementation in the coming decade. High-speed rail infrastructure can bring considerable socioeconomic benefits that cannot be captured through econometric modeling alone. Thus, analysis of the true impacts requires a scalar as well as a temporal lens. The studies in this handbook discuss transport infrastructure projects of varying geographic scale and describe the underlying complexities of developing an infrastructure system while focusing on the aspects that can enhance quality of life. The cases, concepts, and ideas presented in this handbook were discussed and refined during a conference and seminar series held at the Asian Development Bank Institute in Tokyo and special sessions on transport and quality of life at the 15th World Conference on Transport Research at the Indian Institute of Technology Bombay in Mumbai. The special sessions were jointly organized by the Asian Development Bank Institute and World Conference on Transport Research Society Special Interest Group A4, "High-Speed Rail: Policy, Investment, and Impacts". The conference and special sessions highlighted critical issues and delivered key messages on the broad research on high-speed rail and quality of life.

Passive Energy Dissipation Systems for Structural Design and Retrofit Sep 21 2022

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