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NEW ASPECTS OF URBAN PLANNING AND TRANSPORTATION



Heraklion, Crete Island, Greece, July 22-25, 2008

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Preface

This book contains the proceedings of the WSEAS International Conference on URBAN PLANNING and TRANSPORTATION (UPT'07) which was held in Heraklion, Crete Island, Greece, on July 22-24, 2008. This conference aims to disseminate the latest research and applications in Urban Planning Strategy and Development, Urban Planning Management, Environmental Protection, Financial Topics on Urban Planning, Architectural Heritage, Architectural Tradition and Development, Urban Tourism, Transportation Systems and Environment, Transportation Engineering, Monitoring of Transportation Systems, Sustainable Development and Transportation, Tourism and Transportation, Public Health and Transportation, Influence of Transportation Systems on Real Estate and other relevant topics and applications.

The friendliness and openness of the WSEAS conferences, adds to their ability to grow by constantly attracting young researchers. The WSEAS Conferences attract a large number of well-established and leading researchers in various areas of Science and Engineering as you can see from <http://www.wseas.org/reports>. Your feedback encourages the society to go ahead as you can see in <http://www.worldses.org/feedback.htm>

The contents of this Book are also published in the CD-ROM Proceedings of the Conference. Both will be sent to the WSEAS collaborating indices after the conference: www.worldses.org/indexes

In addition, papers of this book are permanently available to all the scientific community via the WSEAS E-Library.

Expanded and enhanced versions of papers published in this conference proceedings are also going to be considered for possible publication in one of the WSEAS journals that participate in the major International Scientific Indices (Elsevier, Scopus, EI, ACM, Compendex, INSPEC, CSA see: www.worldses.org/indexes) these papers must be of high-quality (break-through work) and a new round of a very strict review will follow. (No additional fee will be required for the publication of the extended version in a journal). WSEAS has also collaboration with several other international publishers and all these excellent papers of this volume could be further improved, could be extended and could be enhanced for possible additional evaluation in one of the editions of these international publishers.

Finally, we cordially thank all the people of WSEAS for their efforts to maintain the high scientific level of conferences, proceedings and journals.

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Plenary Lecture I: 100 Years of Highway Transportation Research



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Abstract: Since the advent of automobile, and design and construction of paved roads in the early 1900's there has been a significant contribution made in highway related transportation research. While in the earlier decades bulk of highway transportation research revolved around planning, design and construction of roads, right-of-way acquisition, and highway financing issues, the focus has somewhat shifted in the last three decades. Recent research has revolved around issues related to traffic congestion and environmental impact. This presentation reviews the changing trend in highway transportation research over the last 100 years and presents some views for future research. Specifically, it emphasizes the need for a closer examination of the three-way interaction among vehicle, roadway, and driver for better planning, design, and traffic management. There is a considerable trade-off among these three entities when planning, designing, operating, and maintaining highways as well as highway traffic. The presentation concludes with some discussion on effects of globalization and sustainability in highway transportation research.

Brief Biography of the Speaker: Dr. Manoj K. Jha is Associate Professor of Civil Engineering at the Morgan State University where he oversees the transportation engineering graduate program and also serves as the Director of the Center for Advanced Transportation and Infrastructure Engineering Research. He obtained a Ph.D. in Civil Engineering with transportation specialization from the University of Maryland, College Park in 2000; a M.S. degree in Mechanical Engineering from the Old Dominion University in 1993; and a B.E. degree in Mechanical Engineering from the National Institute of Technology, Durgapur, India in 1991. He also attended the Rensselaer Polytechnic Institute during 1993-94 as a Ph.D. student in Mechanical Engineering and Virginia Tech,'s National Capital campus as a post doctoral fellow during 2000-2001. Dr. Jha's research interests are in Highway Design Optimization and Visualization, Highway Maintenance, Geographic Information Systems, and Bayesian Network Application for assessing impacts of extreme events under uncertainty. For his scholastic and research achievements Dr. Jha has received several awards, among which are the 2005 and 2006 United Negro College Funds Special Program/Department of Defense (UNCFSP/DoD) Faculty Development Award, 2005 Department of Homeland Security (DHS) Summer Faculty Research award by the Study of Terrorism and Responses to Terrorism (START) Center of Excellence, University of Maryland, College Park, and 2005 NSF-PASI-TS (National Science Foundation's Pan-American Advanced Study Institute on Transportation Sciences) award by the Rensselaer Polytechnic Institute. He is a registered Professional Engineer in the State of Maryland since 1997. Dr. Jha has served as a PI, Co-PI, or collaborator with other researchers on numerous research projects totaling over \$4 million. The key sponsoring agencies of his research projects include Army Research Lab., Maryland State Highway Administration, Federal Highway Administration, National Science Foundation, and several Baltimore area consulting firms. Dr. Jha has authored (or co-authored) more than 80 articles in journals, books, and conference proceedings in the highway design, optimization, and transportation literature. He has also co-authored 2 text-books on road design entitled "Intelligent Road Design" and "Fundamentals of Road Design."

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