

T&DI Congress 2011

Integrated Transportation and Development
for a Better Tomorrow



ASCE

EDITED BY
Imad Al-Qadi, Ph.D., P.E.
Scott Murrell, P.E.



TRANSPORTATION
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T & DI CONGRESS 2011

INTEGRATED TRANSPORTATION AND DEVELOPMENT FOR A BETTER TOMORROW

PROCEEDINGS OF THE FIRST TRANSPORTATION AND
DEVELOPMENT INSTITUTE CONGRESS

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Chicago, Illinois

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of the American Society of Civil Engineers

EDITED BY
Imad Al-Qadi, Ph.D., P.E.
Scott Murrell, P.E.



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Foreword

“Integrated Transportation and Development for a Better Tomorrow” is the theme of the First Congress of the 15,000 member Transportation and Development Institute of the American Society of Civil Engineers.

This First Congress brings together transportation and development researchers, engineers, planners, designers, project managers, construction managers, and contractors from around the world to discuss integrated strategies focusing on smart development and efficient multi-modal movement of people and goods to support the economic pulse of our nation and the world.

More than 308 abstracts were submitted, of which 166 were accepted for paper submission. Of the submitted papers, only 127 presentations were accepted in five technical tracks:

- Transportation Operations and Safety
- Pavements and Transportation Materials
- Advanced Technologies and Infrastructure Systems
- Airport Planning and Design
- Smart Development and Sustainability

The Congress also includes five pre-conference professional development workshops:

- Retrofitting Transportation Design for Smart Development
- Lessons Learned: Case Studies in Airport GIS Submissions and Electronic Airport Layout Plans (eALPs)
- 2010 Highway Capacity Manual
- FAA PAVEAIR Pavement Evaluation and Maintenance Computer Program
- Young Attendees’ Professional Development

Sitting at the transportation crossroads of the nation, where a significant percentage of the nation’s goods and people pass through each day, Chicago is an appropriate location for this inaugural event, and three local sites are highlighted sites for guided technical tours:

- CenterPoint Intermodal Center Tour in Joliet
- Chicago’s O’Hare International Airport with a focus on the ongoing O’Hare Modernization Program
- NAVTEQ Traffic Studio and R&D “Garage” Tour

Due to this diverse program and exciting location, the inaugural Congress provides a unique opportunity to enhance our knowledge of the planning, design, and construction of transportation projects and therefore continue our contributions to developing integrated strategies for tomorrow’s transportation.

We would like to acknowledge our fellow steering committee members, Katie Chou, Ph.D., P.E., M.ASCE and William A. Fife, P.E., M.ASCE, the many individuals who helped by reviewing the submitted papers, the scientific committees, which are listed below for each of the five themes, and the local organizing committee and T&DI/ASCE staff also listed below, for their continuing input and suggestions throughout the planning process.

Theme Scientific Committees

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