10th International Conference on Low-Volume Roads
July 24-27, 2011
Orlando Hilton, Orlando, Florida

View Program By: Date Session Type Sessions Committee Meetings Full Program

Sunday, July 24, 2011

Low-Volume Roads and Earthquakes: the Experience in Chile, Haiti and New Zealand
9:00 a.m.-noon, Hilton - Walt Disney World
Robert Andrew Douglas, Golder Associates, Inc., presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Experience in Chile
Guillermo Thenoux, Pontificia Universidad Católica de Chile

Experience in Haiti
Gary Morris-Iveson, Golder Associates, Inc.

Experience in New Zealand
Neil Trevor Bennett, Fulton Hogan Ltd., New Zealand

Each Speaker to Compare and Contrast their Experiences
Guillermo Thenoux, Pontificia Universidad Católica de Chile; Gary Morris-Iveson, Golder Associates, Inc.; Neil Trevor Bennett, Fulton Hogan Ltd., New Zealand

Simple Low Cost Soil Testing: How to do it and how to use the Results
9:00 a.m.-noon, Hilton - Walt Disney World
A
nand J. Puppala, University of Texas, Arlington, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Elementary Soil Testing for Gravel Roads
Lynne H. Irwin, Cornell University

The South African Gravel Roads Test Kit
Philip Paige-Green, CSIR, South Africa

Break

The USACE Rapid Soils Analysis Kit
Ernest S. Berney, U.S. Army Corps of Engineer Research and Development Center

Performance Related Gravel Road Design using Results from Simple Tests
David Jones, University of California, Davis

Lunch Break (lunch on your own)
Noon-1:30 p.m.
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Low-Volume Roads Best Practices and Gravel Management
1:30 p.m.-4:30 p.m., Hilton - Walt Disney World
Mark J. Nahra, Woodbury County, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Overview of Low-Volume Roads Best Practices and Drainage Issues
Gordon Rex Keller, USDA Forest Service

Best Practices for Erosion Control and Water Quality Protection
Clayton T Gillies, FPInnovations

Break

Gravel Roads Design and Maintenance
Ken Skorseth, South Dakota State University

Gravel Roads Management Strategies
George Huntington, University of Wyoming

Road Safety Audits: Working Together to Make Your Roads Safer
1:30 p.m.-4:30 p.m., Hilton - Walt Disney World
Christina A. Fogt-Boulnois, VHB Inc., presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Introductions to Road Safety Audits
Daniel Nabors, Vanasse Hangen Brustlin Inc

Benefits of Road Safety Audits (RSA)
Daniel Nabors, Vanasse Hangen Brustlin Inc

RSA Process
Frank Gross, Vanasse Hangen Brustlin, Inc.

Brief Review of Field Review Site on Day 2
Monday, July 25, 2011

Opening Session
8:00 a.m.-9:45 a.m., Hilton - Walt Disney World
Jolanda P. Prozzi, University of Texas, Austin, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Break
9:45 a.m.-10:15 a.m.
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Cementitious Stabilization, Part 1 (Part 2 on Monday, July 25, from 3:45 p.m.-5:30 p.m.)
10:15 a.m.-noon, Hilton - Walt Disney World
Anand J. Puppala, University of Texas, Arlington, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Use of Cementitious High Carbon Fly Ash to Stabilize Recycled Pavement Materials as a Pavement Base Material
Haifang Wen, Washington State University; Jeremy Baugh and Tuncer B. Edil, University of Wisconsin, Madison; Jigang Wang, Washington State University

Stabilization of FGD By-products with Fly Ash, Cement and Sialite
Xiao Ming Liu, Beijing Municipal Commission of Communications, China; Haifang Wen, Washington State University; Tuncer B. Edil and Craig H. Benson, University of Wisconsin, Madison

Evaluation of Stabilization Effectiveness of "T" Shaped Deep Mixing Column Treatment for Low-Volume Roads
Guojun Cai, School of Transportation, Southeast University, China

Filippo Giammaria Praticò, University Mediterranean of Reggio Calabria, Italy; Sireesh Saride, Indian Institute of Technology Hyderabad; Anand J. Puppala, University of Texas, Arlington

Hot-Mix Asphalt
10:15 a.m.-noon, Hilton - Walt Disney World
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Kansas Experience with Thin Superpave Mixture Overlay of Small Aggregate Top Size
Farhana Rahman and Mustaque Hossain, Kansas State University; Stefan A. Romanoschi, University of Texas, Arlington; Cliff Hobson, Kansas Department of Transportation

Laboratory Evaluation of Hot-Mix Asphalt Containing Petroleum-Contaminated Soil as a Surface Mix for Low-Volume Roads
Hossam Farouk Hassan and Amer Ali Al-Rawas, Sultan Qaboos University, Oman

The Effect of Fine Aggregate Physical Properties on the Engineering Properties of the conventional and Polymer Modified Bituminous Mixtures
Yasreen Gasmalkhalig Salum, Universiti Technology Petronas; Madzlan Napiah and Ibrahim Kamaruddin, universiti Teknologi PETRONAS

Performance Evaluation And Environmental Impact Assessment Of Asphalt Treated Mixtures Used In Low-Volume Roads
Louay N. Mohammad, Louisiana State University; Munir D. Nazzal, Ohio University, Athens

Pavement Management Systems
10:15 a.m.-noon, Hilton - Walt Disney World
Steve Saboundjian, Alaska Department of Transportation and Public Facilities, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Decision Support Models for Asset Management of Low-Volume Roads
Anrthalingam Veeraragavan, Indian Institute of Technology, Madras

Unsealed Gravel Roads Management Implementation Guide
George Huntington and Khaled Ksibati, University of Wyoming

Development of Roughness Prediction Models for Low Volume Roads Networks in Northeast Brazil
Fernando Silva Albuquerque, Federal University of Sergipe, Brazil; Washington Peres Nunez, Federal University of Rio Grande do Sul, Brazil

An Appropriate Pavement Maintenance and Rehabilitation Management System for Local Governments
Robert Andrew Douglas, Golder Associates, Inc.

What's New in Low-Volume Road Pavement Design and Performance?
10:15 a.m.-noon, Hilton - Walt Disney World
Michael T. Long, Oregon Department of Transportation, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Mechanistic-Empirical based Pavement Design Catalog for Low-Volume Roads in Arkansas
Qiang Li, University of Delaware; Xingqiang Xiao, University of Arkansas, Fayetteville; Kevin D. Hall, University of Arkansas, Fayetteville

Performance Criterion for Thin Surfaced Low-volume Roads
Umesh Chandra Sahoo, Birla Institute of Technology; K. Sudhakar Reddy, Indian Institute of Technology, Kharagpur

Impacts of Reduced Truck Tire Pressure on Strain Response of Low Volume Spring Restricted Roads in Manitoba, Canada
Qingfan Liu, Leonnie Kavanagh and Ahmed Shalaby, University of Manitoba, Canada

Road performance evaluation using geometric consistency and pavement distress data
Gianluca DelfAcqua and Francesca Russo, University of Naples Federico II, Italy
Conference Lunch  
Noon-1:00 p.m.  
Michael T. Long, Oregon Department of Transportation, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Yoder Award Presentation
Special Presentation

Erosion and Sediment Control for Native and Aggregate Surfaced Roads  
1:00 p.m.-3:15 p.m., Hilton - Walt Disney World  
Asif Faiz, World Bank, Islamabad, Pakistan, presiding  
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Evaluation of Models that Predict Erosion from Forest Roads  
Arne Edward Skauget and Christopher G. Surfleet, Oregon State University; Matthew W. Meadows, University of California, Merced; Joseph Amann, Herrera Environmental Consultants, Inc.
Reducing Sediment Production from Forest Roads during Wet-Weather Hauling  
Elizabeth Myers Tomon, Ohio State University; Arne E Skauget, Oregon State University
Environmentally Sensitive Road Maintenance Practices: Sediment Reduction with the Use of Driving Surface Aggregate  
Steve Michael Bloser and Barry Scheetz, Pennsylvania State University
Modeling Road Erosion in the Upper Torreon Wash, New Mexico  
Krista M. Schultz, New Mexico Environment Department
Stream Simulation for Aquatic Organism Passage at Road-Stream Crossings  
Daniel A. Cenderelli, Kim Clarkin, Robert A. Gubernick and Mark Weinhold, USDA Forest Service

Geogrids  
1:00 p.m.-3:15 p.m., Hilton - Walt Disney World  
Khaled Sobhan, Florida Atlantic University, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Accelerated Pavement Testing of Geocell-reinforced Unpaved Roads over Weak Subgrade  
Sanat Kumar Pokhare and Jie Han, University of Kansas; Chandra Bahadur Manandhar, Kansas State University; Xiaoming Yang, University of Kansas; Dov Leshchinsky, University of Delaware; Izhak Halalhmi, PRS Mediterranean Ltd., Israel; Robert L. Parsons, University of Kansas
Characterization of a Mechanically Stabilized Layer using Resilient Modulus and Permanent Deformation Testing  
Mark H. Wayne, Tensar; Richard L. Boudreau, Boudreau Engineering Inc.; Jayhyun Kwon, Tensar
Stress Analysis on Triangular Aperture Geogrid-reinforced Bases Over Weak Subgrade Under Cyclic Loading: An Experimental Study  
Yu Qian, University of Illinois at Urbana Champaign; Jie Han, Sanat Kumar Pokharel and Robert L. Parsons, University of Kansas
Matting Solutions for Low-Volume Roads  
Timothy Wallace Rushing, U.S. Army Corps of Engineers; Isaac L. Howard, Mississippi State University

Pavement Management Case Histories  
1:00 p.m.-3:15 p.m., Hilton - Walt Disney World  
Robert Andrew Douglas, Golder Associates, Inc., presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Operational Exploitation Management System of Forest Roads  
Janis Kivilands, Road Expert Ltd.
Network-level Pavement Management: The Case of Serbian Low-Volume Roads  
Goran Mladenovic, University of Belgrade, Serbia; Jelena Cirilovic, Institute IMS; Cesar A.V. Queiroz, University of Belgrade
Direct Measurement of the Impact of Heavy Loads on Thin Membrane Pavements  
Lynne Gradon Cowell, The University of Calgary; Linda Clary, Suncor Energy; A’arif Hamad and Ahmed Abdelfattah, University of Calgary, Canada
Infrastructure Impacts of Iowa’s Renewable Energy  
Konstantina Gkritza, Iowa State University; Inya Nlenanya, Center for Transportation Research and Education; Weiwei Jiang, Robert Sperry and Duane E. Smith, Institute for Transportation at Iowa State University
Performance Evaluation of Whitetopping and Ultra-thin Whitetopping Pavements  
Xiaojuan Li and Hafifang Wen, Washington State University

Break  
3:15 p.m.-3:45 p.m.
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Cementitious Stabilization, Part 2 (Part 1 on Monday, July 25, from 10:15 a.m.-noon)  
3:45 p.m.-5:30 p.m., Hilton - Walt Disney World  
David Jones, University of California, Davis, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Accelerated Moisture Conditioning Process of Lime-stabilized Clays  
Manuel Celaya, Maryam Veisi and Soheil Nazarian, University of Texas, El Paso; Anand J. Puppala, University of Texas, Arlington
Combined Lime-Cement Stabilization for Longer Life of Low-Volume Roads  
Anand J. Puppala, University of Texas, Arlington; Chakkrit Sirivitmaitrie, University of Texas at Arlington; Sireesh Saride, Indian Institute of Technology Hyderabad; Laureano R. Hoyos, University of Texas, Arlington
Evaluation of Chemical Stabilization of a Highly Expansive Clayey Soil  
E. Mutaz, Moesheh Shahrani, Anand Puppala and Muawia A. Dafalla, King Saud University, Saudi Arabia
Performance of a Full-Scale Test Section of Low-Volume Road with Reinforcing Base Layer of Soil-Lime  
Leonardo Behak, Universidad de la Republica, Uruguay
Hot-Mix Asphalt, Warm-Mix Asphalt, and Chip Seals
3:45 p.m.-5:30 p.m., Hilton - Walt Disney World
Clark C. Martin, Federal Highway Administration, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Evaluation of Effects of Recycled Concrete Aggregate on Volumetrics of HMA
Sushanta Bhusal, Xiaojun Li and Haifang Wen, Washington State University
Late Season Paving of a Low-Volume Road using Warm-Mix Asphalt: an Alaskan Experience
Steve Sabountjian, Alaska Department of Transportation and Public Facilities; Juanyu Liu, University of Alaska, Fairbanks; Peng Li, University of Alaska Fairbanks; Bruce Brunette, Alaska Department of Transportation and Public Facilities
Performance of WMA Mixture Containing Recycled Coal Ash and Roofing Shingle with Moist Aggregate for Low Volume Roads
Feipeng Xiao, Clemson University
Chip Seal with Lightweight Aggregates for Low-Volume Roads
Mustaque Hossain and Md Shahidul Islam, Kansas State University

Planning, Financing, and Economics of Low-Volume Roads
3:45 p.m.-5:30 p.m., Hilton - Walt Disney World
Kumares C. Sinha, Purdue University, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Planning, Design and Construction Considerations of Low Cost Road and Bridge Accessibility in Post Conflict and Post Natural Disasters Areas in Haiti and selected areas in Africa and Latin America
Jacob Greenstein, US Agency for International Development
Financing Low-Volume Road Improvements
Gregory H. Clemmons and Victoria Saager, Washington County
Maintenance Impact on the Economic Evaluation of Upgrading Unsealed Roads
Rodrigo Archondo-Callao, The World Bank
A Rapid Response Stimulus Package for Improving Local Roads and Creating Jobs in Armenia
Satoshi Ishihara, World Bank , Vientiane, Laos (from 1/1/2011); Christopher R. Bennett, World Bank; Alexander Bakhtamyan, Armenia Road Department; Jiangbo Ning, World Bank, Baku, Azerbaijan; Asif Faiz, World Bank, Islamabad, Pakistan

Potpourri of New Tools for Enhancing Low-Volume Road Design
3:45 p.m.-5:30 p.m., Hilton - Walt Disney World
Maureen A. Kestler, USDA Forest Service, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Delivery of a Low-Volume Road in the Pilbara Region of Western Australia by Alliance Contracting.
Geoffrey Colin Cocks, Coffey Geotechnics Pty Ltd
Storm Damage Risk Reduction: Stormproofing Low-Volume Roads
Gordon Rex Keller, USDA Forest Service; Gary Ketcheson, USDA, Forest Service
Stream Simulation e-Learning Training
Greg S Napper, U.S. Department of Agriculture Forest Service
Operating Speed Models for Low Volume Roads
Paolo Discetti, Gianluca Dell'Acqua and Renato Lamberti, University of Naples Federico II, Italy

Rural Roads Safety Policy, Programming, and Implementation Joint Subcommittee
6:00 p.m.-7:30 p.m., Hilton - Walt Disney World
Keith K. Knapp, Iowa State University, presiding
Sponsored by Rural Roads Safety Policy, Programming, and Implementation Joint Subcommittee Committee

Tuesday, July 26, 2011

FIELD TRIP OPTION 1: Hubbard Construction Company Asphalt Plant
8:00 a.m.-noon
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

FIELD TRIP OPTION 2: Stormwater Management Academy at the University of Central Florida
8:00 a.m.-noon
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

FIELD TRIP OPTION 3: Trip to a Road Safety Audit Site
8:00 a.m.-noon
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Developments in Non-Traditional Stabilizers
1:30 p.m.-3:15 p.m., Hilton - Walt Disney World
Roger W. Surdahl, Federal Highway Administration, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Towards the Establishment of Industry Associations Representing Non-traditional Road Stabilizer Suppliers
David Jones, University of California, Davis
Soil Stabilization in Low-Volume Roads: Obstacles to Product Implementation from the Additive Suppliers Standpoint
Alex E. Campbell, Anyway Solutions; David Jones, University of California, Davis
Mr269 Case Study: The Use of Various Additives as an Alternative to Conventional Road Construction
James Robert Uys, Consulting Engineering Services (I) Pvt. Ltd.; Llewellyn Truter, Western Cape Provincial Administration; Gerhardt Daniel van Zyl, Consulting
Evaluation of the Sustainability of Low-Volume Roads Stabilized with Non-traditional Stabilizers
Wynand Jacobus van der Merwe Steyn and Alex T. Visser, University of Pretoria, South Africa

Effects of Roadway Geometry on Low-Volume Road Safety
1:30 p.m.-3:15 p.m., Hilton - Wait Disney World
Nicholas J. Garber, University of Virginia, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Correspondence of Horizontal and Vertical Alignment to Safe Driving Conditions on Low-volume Roads
Daiva Zilioniene and Viktoras Vorobjovas, Vilnius Gediminas Technical University, Lithuania

Estimation of Safety Effectiveness of Widening Shoulders and Adding Passing Lanes on Rural Two-Lane Roads
Steven D. Schrock, Robert L. Parsons and Huanghui Zeng, University of Kansas

Traffic Sign Sight Distance for Low-Volume Roads
Paolo Discetti and Renato Lamberti, University of Naples Federico II, Italy

Guardrail Optimization for Rural Roads
Carl M. Ochoa and Tania A. Ochoa, Vista Engineering Services, Inc

The Use of Aeolian Sands in the Provision of Low-Volume Roads
Philip Paige-Green, CSIR, South Africa; Michael Ian Pinard, InfraAfrica Consultants; Martin Bizaliele Mgangira, Council for Scientific and Industrial Research, South Africa

A Rational Approach to the Evaluation of Soils for Low-Volume Roads
Washington Peres Nuñez, Federal University of Rio Grande do Sul, Brazil

Decreasing Moisture Susceptibility of Gravel Road Surface Aggregate by Hydrophobic Treatment Agent: A Case Study
Kari Pylkkänen and Maria Sjöberg, Tampere University of Technology, Finland

Soil and Water Road Condition Index
Carolyn Napper, US Forest Service

Materials
1:30 p.m.-3:15 p.m., Hilton - Wait Disney World
Mustaque Hossain, Kansas State University, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

The Use of Aeolian Sands in the Provision of Low-Volume Roads
Philip Paige-Green, CSIR, South Africa; Michael Ian Pinard, InfraAfrica Consultants; Martin Bizaliele Mgangira, Council for Scientific and Industrial Research, South Africa

A Rational Approach to the Evaluation of Soils for Low-Volume Roads
Washington Peres Nuñez, Federal University of Rio Grande do Sul, Brazil

Decreasing Moisture Susceptibility of Gravel Road Surface Aggregate by Hydrophobic Treatment Agent: A Case Study
Kari Pylkkänen and Maria Sjöberg, Tampere University of Technology, Finland

Soil and Water Road Condition Index
Carolyn Napper, US Forest Service

Current Issues Facing Low-Volume Roads Managers, Part 1 (Part 2 on Wednesday, July 27, from 3:45 p.m.-5:30 p.m.)
3:45 p.m.-5:30 p.m., Hilton - Wait Disney World
Ann Johnson, University of Minnesota, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Low-Volume Roads Committee
6:00 p.m.-7:30 p.m., Hilton - Wait Disney World
Michael T. Long, Oregon Department of Transportation, presiding
Sponsored by Low-Volume Roads Committee Committee

Wednesday, July 27, 2011

Full-Depth Reclamation and Recycled Pavement Materials
8:00 a.m.-9:45 a.m., Hilton - Wait Disney World
Jeb S. Tingle, U.S. Army Engineer Research and Development Center, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Project Selection Guidelines for Road Rehabilitation using Full-Depth Reclamation with Foamed Asphalt
David Jones, University of California, Davis

Comparison of Low Volume Roadway Test Sections Reconstructed with Conventional Techniques and Full-Depth Reclamation
Heather Miller, University of Massachusetts, Dartmouth; Maureen A. Kestler, USDA Forest Service; Meghan Amatrudo, University of Massachusetts, Dartmouth; Robert A. Eaton and Andrew Hall, New Hampshire Department of Transportation

Linn Run Road Improvements: A Case Study on the “Turn Back” of an Asphalt Paved Road Surface to a Maintainable Gravel Road Surface
David Shearer, Center for Dirt and Gravel roads; Barry Scheetz, Pennsylvania State University

Performance of Recycled Asphalt Pavement (RAP) in Gravel Roads
Scott B. Koch, Khaled Ksaibati and George Huntington, University of Wyoming

Pavement Materials
8:00 a.m.-9:45 a.m., Hilton - Wait Disney World
Lynne H. Irwin, Cornell University, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Performance of Recycled Hot-Mix Asphalt Incorporating Recycled Asphalt Pavement
Binh Thanh Tran and Rayya A. Hassan, Swinburne University of Technology

Study of the Application of the Cashew Nut Shell Liquid in Bituminous Priming of Low Traffic Volume Roads in the State of Ceará/Brazil
António Rabelô, Suely Barroso and Jorge Soares, LMP/UFC

Use of Recycled Materials to Build Paver Blocks for Low-Volume Roads in Developing Countries
Maria Fernanda Serrano-Guzman, Universidad Pontificia Bolivariana; Diego Dario Perez-Ruiz, Pontificia Universidad Javeriana
**Speed Characteristics and Management on Low-Volume Roads**

8:00 a.m.-9:45 a.m., Hilton - Walt Disney World

Anthony R. Giancola, National Association of County Engineers, presiding

Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

**Speed Distribution in Low-Volume Roads: from Inferences to Rehabilitation Design Criteria**

Filippo Giampietro Pratico and Manuela Guinta, University Mediterranea of Reggio Calabria, Italy

**Speed Table Evaluation and Speed Modeling in Cross-town Roads**

Alfredo García, Universidad Politécnica de Valencia, Spain; Mario Alfonso Romero, Polytechnic University of Valencia, Spain; Ana Tsui Moreno, Universidad Politécnica de Valencia, Spain

**Reducing Traffic Injuries Resulting from Excess Speed using Low-Cost Gateway Treatments**

Gianluca Dell’Acqua, University of Naples Federico II, Italy

**Safety of Driving Behavior on Low-traffic-volume Roads in China: a Case Study of Qinghai-Tibet Highway**

Hu Jiang Bi and Yang YANG, Transportation Research Center of Beijing University of Technology

---

**Break**

9:45 a.m.-10:15 a.m.

Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

---

**Geotechnical Engineering**

10:15 a.m.-noon, Hilton - Walt Disney World

Ernest S. Bernes, U.S. Army Corps of Engineer Research and Development Center, presiding

Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

**An Investigation of Design and Construction Practices for Bridge Pile Foundations in Iowa County Jurisdictions for LRFD Calibration**

Matthew John Rolling, Stanley Consultants, Inc.; Sherif Abdel-Salam, The British University in Egypt; Sri Sribarhan, Iowa State University; Muhammad T. Suleiman, Lehigh University

**Repair of Storm-Damaged Slopes, Lower Mount Wilson Road, Los Angeles County, California**

Jeffrey R. Keaton, David L. Perry and Philip W. Kim, MACTEC Engineering and Consulting, Inc.

**Warm Lake Road Frost Heave Monitoring Report**

Gary L. Evans, State Traffic Safety Office; Gordon Hanek, " "; Mark Trueb, Willamette National Forest

**The Application of Coal Gangue Used in the Low-Volume Road**

Hewei Cao, Research Institute of Highway Ministry of Transport; Jie Ji, Beijing Institute of Civil Engineering and Architecture, China; Qingguan Liu, Research Institute of Highway Ministry of Transport; Zhaoyi He, Chongqing Jiaotong University, China; Hainian Wang, Chang'an University, China; Zhanping You, Michigan Technological University

---

**Rural Roads Maintenance and Management**

10:15 a.m.-noon, Hilton - Walt Disney World

James Kozlak, U.S. Department of Agriculture Forest Service, presiding

Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

**Analysis of the Factors Causing Corrugation of Gravel Roads**

Hesham Mahgoub, South Dakota State University; Christina Bennett, South Dakota Department of Transportation; Ali A. Selim, South Dakota State University

**Blading Optimisation: Reverting Back from Theory to Practice**

Gerard Daniel van Zyl, Mycube Asset Management Systems

**Unpaved Roads Condition Performance Models for Network Level Management**

Alondra Chamorro and Susan Louise Tighe, University of Waterloo, Canada

**Application of Highway Development and Management Tool (HDM-4) in Asset Management of Low Volume Roads**

Amrithalingam Veeraragavan, Indian Institute of Technology, Madras

---

**Safety Assessment Tools for Low-Volume Roads**

10:15 a.m.-noon, Hilton - Walt Disney World

Abhishek Polus, Technion - Israel Institute of Technology, presiding

Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

**Evaluation of Safety Identification Methods for Low Volume Roads using Monte Carlo Simulation**

Salvatore Cafiso and Giacomo Di Silvestro, University of Catania, Italy

**Safety Inspections as a Supporting Tool for Safety Management of Low-Volume Roads**

Salvatore Cafiso and Grazia di Grazia, University of Catania, Italy; Alfonso Montella, University of Naples Federico II, Italy

**A Field Traffic Sign Handbook for Local Highway Agencies**

David Paul Orr, Cornell University

**Resources and Tools for Local Road Safety**

Ronald W. Eck, West Virginia University

---

**Pavement Assessment**

1:30 p.m.-3:15 p.m., Hilton - Walt Disney World

David Paul Orr, Cornell University, presiding

Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

**Mechanistic Based Non-Destructive Structural Asset Management Testing to Optimize Low Volume Road Structural Upgrades**

Curtis F. Bertholot and Diana Podborochynski, University of Saskatchewan, Canada; Anna Anthony, Saskatchewan Department of Highways & Transportation; Brent L. Marjerison, Saskatchewan Ministry of Highways and Infrastructure, Canada

**Indirect Skid Resistance Measurement for Porous Asphalt Pavement Management**

Gianluca Dell’Acqua, Mario De Luca and Renato Lamberti, University of Naples Federico II, Italy

**Keeping Springtime Low-Volume Road Damage to a Minimum: A Toolkit of Practical Low-Cost Methods for Road Managers**

University Improvement Recommendations for Unsealed Gravel Roads
George Huntington and Khaled Ksaibati, University of Wyoming

Pavement Design
1:30 p.m.-3:15 p.m., Hilton - Walt Disney World
Glen Legere, FPInnovations, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

The Evaluation of Gravel Loss Deterioration Models: A Case Study
James Robert Uys, Consulting Engineering Services (I) Pvt. Ltd.

A New Economical and Practical Design Approach for Suburban Streets
Rafeek Moegamat Loux, CSIR, South Africa

An Integrated Mechanistic Based Framework for Sustainable “Green Street” Urban Low Volume Road Rehabilitation
Curtis F. Berthelot, University of Saskatchewan, Canada; Rielle Haichert, Pavement Scientific International, Canada; Diana Podborochynski and Colin Wandzura, University of Saskatchewan, Canada; Brian Taylor, Consultant, Canada; Duane Guenther, City of Saskatoon, Canada; Daryl Cherry, University of Saskatchewan, Canada

Mechanistic Design and Non-Destructive Structural Validation of a “Green Street” Test Sections Using Recycled Rubble Materials
Curtis F. Berthelot, University of Saskatchewan, Canada; Rielle Haichert, Pavement Scientific International, Canada; Diana Podborochynski and Colin Wandzura, University of Saskatchewan, Canada; Brian Taylor, Consultant, Canada; Duane Guenther, City of Saskatoon, Canada

Use of Chip Seals and Thin Pavement for Low-Volume Roads
1:30 p.m.-3:15 p.m., Hilton - Walt Disney World
Mark J. Nahra, Woodbury County, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

A Simple Dynamic Hammer for Evaluation of Pavement Structure Physical Conditions
Warat Kongkitkul, King Mongkut's University of Technology Thonburi; Koonnamas Punthuayacha, Department of Rural Roads, Thailand; Sompote Youwai, Pornkam Jomgpradist, Saravut Moryadee and Thitikorn Posribink, King Mongkut's University of Technology Thonburi; Chakree Barrungwong, Department of Rural Roads, Thailand; Daki Hikawaka, National Defense Academy

Preservation of Low-Volume Flexible Pavement Structural Capacity Using Seal Treatments
Issaac L. Howard, Mississippi State University

Nine Steps to Building Good Performing Chip Seals.
Thomas John Wood, MNDOT; Roger C. Olson, Minnesota Department of Transportation

Evaluation of North Dakota’s 4.75 mm Superpave Mixes for Thin Overlay Applications
Nabil Suleiman, University of North Dakota

Break
3:15 p.m.-3:45 p.m.
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Current Issues Facing Low-Volume Roads Managers, Part 2 (Part 1 on Tuesday, July 26, from 3:45 p.m.-5:30 p.m.)
3:45 p.m.-5:30 p.m., Hilton - Walt Disney World
Ann Johnson, University of Minnesota, presiding
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Social Hour
6:00 p.m.-7:00 p.m.
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Conference Banquet
7:00 p.m.-9:00 p.m.
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Thursday, July 28, 2011

Post-conference Field Trip: Florida Department of Transportation (FDOT), State Materials Office (SMO), Gainesville, Florida
8:00 a.m.-5:00 p.m.
Sponsored by Committee for the 10th International Conference on Low-Volume Roads Committee

Transportation Research Board. 500 Fifth St. NW, Washington, D.C. 20001