# TABLE OF CONTENTS

## VOLUME 1

**MEPDG Implementation: Manitoba Experience**

M. Alauddin Ahammed, Said Kass, Stan Hilderman, William K. S. Tang

**Bio-engineering and Bio-technical Techniques in Streambank Stabilization**

N/A

**TAC, Education Achievement Award Nomination Submission**

20

**Alberta Transportation Experience with Debonded Pre-tensioning Strands in Precast NU Girders**

John Alexander, David Rogowsky, Bob Ramsay

**Household Trip Patterns and Travel Characteristics in Lethbridge, Alberta**

Ahmed Ali, Darwin Juell, Shirley Lui, Julie Winram

**Cable-Stayed Bridge as an Alternative for Medium and Short Span Bridges**

Azita Azarnejad, Ken McWhinnie, Gamil Tadros, Jiri Strasky

**Challenges in Designing Pavements for Bus Rapid Transit Projects Experience in York Region, Ontario**

Andrew C. Balasundaram, Ludomir Uzarowski, Michael L. J. Maher, Mitchell Smith, Darrin Sellick

**How to Regulate Traffic in a Sustainable World**

Daniel Beaujieu

**City of Saskatoon Mechanistic Pavement Structure Modeling**

Curtis Borthelot, Rielle Hatchett, Roberto Soares, Diana Podbarachynski, Colin Prang, Duane Guenther

**Traffic Calming Speed Humps and Speed Cushions**

Catherine Berthaud

**Moderation de La Circulation Dos D’anee Allonges Et Coussins**

Catherine Berthaud

**Innovative Infrastructure Designs to Accommodate High-Loads and Over-Dimensional Loads through the Fort McMurray Area**

Ferhan Bhanji, Wayne Tomlinson

**Redevelopment of the Metropolitan Expressway in Montreal: Efficient Transportation Planning in a Dense and Compact Urban Environment**

Nicolas Bissuel-Roy

**Dundas Street Crossing of Sixteen Mile Creek A Field Spliced, Post-tensioned Precast Concrete Girder Bridge**

Matthew Bowser, Scott Leitch, Bob Stofko

**Quantification of Recycled Concrete Aggregate (RCA) Properties for Usage in Bridges and Pavements: An Ontario Case Study**

Liam Butler, J.S. West, S.L. Tighe, Norman W. McLeod

**The Two Percent Solution**

Al Capas, Steve Aguiar

**How Constructive Public Consultation can Lead to a Successful Project: The Ioco Road Corridor Safety Improvements Study**

Borg Chan

**Evaluation of Safety and Operational Performance of High Tension Median Cable Barrier on Deerfoot Trail, Calgary, Alberta**

Tony Churchill, Upal Barua, Masood Hassan, Mohammad Imran, Bill Kenny

**Best Practices in Urban Goods Movement**

Donald Cleghorn, Darryl Spencer, Rhys Wolff, David Kriger

**Developing a Cycling Facility Selection Tool: Some Observations**

Jame J. Copeland, Greg L. Chisholm, John B. L. Robinson

**Downtown Ottawa Transit Tunnel (DOTT) Planning and Environmental Assessment (EA) Study: Strengthening Transit and Land Use Integration in the National Capital**

B. Paul Croft

**Windsor Border Initiatives Improving Canada’s Premier Land Border Crossing**

Garfield Dales

**Alberta Traffic Safety Plan and Community Mobilization Strategy**

Jeanette Espie, Ross Danyhik

**The City of Calgary’s Reversible Lane Control Systems**

Chris Delanoy, Travis Gaede, Yeatland Wong
GeoTAIS: An Application of Spatial Analysis for Traffic Safety Improvements on Provincial Highways in Saskatchewan ................................................................. 383

Brandt Denham, George Eguakim, Kwei Quaye

Recycled Aggregate and Geosynthetic Study City of Edmonton ................................................................. 402

Hugh Donovan

Case History on the Design, Implementation, and Conclusions of a Study of Haul Roads Associated with a Wind Farm Development in Southwestern Ontario ................................................................. 421

Robert A Douglas, Inana Marukic, James D. Rodger

Combined Ranking Method for Screening Collision Monitoring Locations along Alberta Highways ................................................................. 430

Robert Dockworth, Muhammad Invan, Jack Chan

Twinning of the Trans Canada Highway Through Banff National Park ................................................................. 453

N/A

Educational Achievement Award: 2010 Nomination ................................................................. 465

N/A

Edmonton Experience with Bottom Ash and Other Insulating Materials for Mitigation of Frost Heave Induced Damage in Pavements ................................................................. 472

David A. Field, Tony Ruban, Art Johnston, Daryl Nixon, Don Lewycky

Generating Carbon Offset Credits in Canada Using Weigh-in-Motion ................................................................. 489

Marlis Foth, Curtis Berkelot, Randy Hanson

Applying International Best Practice: Measuring and Improving the Performance of Pedestrian Environments ................................................................. 502

Ellie Gould

Le Réaménagement de L'échangeur Henri-bourassa / Pie-IX À Montréal: Un Projet D'ingénierie Urbaine Pour Une Mobilité Durable ................................................................. 520

Laurent Guignard

Evolution and Legacy of Pavement Management in Canada: A CGRA/RTAC/TAC Success Story ................................................................. 537

Ralph Haas

Impact of High RAP Content on the Performance Characteristics of Asphalt Mixtures in Manitoba ................................................................. 554

Elie Y. Hajj, Peter E. Sebady, Luis Loria, Said Kass, Tara Liske

Cement-Modified Soil for Long Lasting Pavements ................................................................. 574

Gregory E. Halsted

Unique New Bridge Designs for Four Highway Interchanges in BC ................................................................. 587

David Harvey

Construction of High Tension Median Cable Barrier on Alberta Highway 2: A Case Study of Cost-effective Innovation ................................................................. 604

Masood Hassan, Cory Rogers, Mike Damberger, Bryan Ngo

Evaluation of Darwin-ME Pavement Rutting Prediction Models Using Data from Alberta’s Pavement Management System ................................................................. 622

Wei He, Marta Jahasz, John Crockett, Venkata Lakkavalli

Life Cycle Cost Analysis of Municipal Pavements in Southern and Eastern Ontario ................................................................. 634

Anne Holt, Sherry Sullivan, David K. Hein

2011 TAC/ATC Environmental Achievement Award Nomination ................................................................. 656

Calvin McClary

Provision for all - Adaptive Signal Control for cities where modal demands are changing - the London Case Study ................................................................. 670

Gavin Jackman, Mike Hutt

Owner, Consultant, and Contractor Collaboration for Rapid Delivery of the Marine Drive Transit Priority Project ................................................................. 686

Murray Johnson, David Queen

Transportation Association of Canada Sustainable Urban Transportation Award ................................................................. 700

N/A

Ontario’s 2011 Transit-supportive Guidelines: Integrating Land Use, Transit and Active Transportation ................................................................. 708

Jeanie Lee, Robin Kortright

Trends in Urban Travel: Implications for Planning and Forecasting ................................................................. 723

David Kriger, Rhys Wolff, Ahmad Subhani, Donald Cleghorn

TRAVIS Multi-Jurisdiction Oversize Vehicle Permitting System ................................................................. 740

Imants Krumins, Kerry Leslie

Vancouver 2010 Olympic and Paralympic Winter Games: BC MoT Traffic Management ................................................................. 759

Nasir Kurji, Ed Miska

Application Des Routes 2+1 AU Québec ................................................................. 779

Marina Fressancourt, Sébastien Labonté
Performance of Precast Concrete Pavement Repairs on an Urban Freeway in Toronto ........................................... 797
Becca Lane, Tom Kazmierowski

Design and Construction of the Capilano Cliffwalk .......................................................... 813
Kent LaRose, Scott Loptson, Duncan C. Wyllie, Stuart Masterson

Innovative Rehabilitation Gives new Life to a 100-Year-Old Steel Truss Bridge .................. 829
K. Lima, S. Kanji, J. DiBattista

Development of the Highway Hierarchy for Preservation of Provincial Highways in Saskatchewan ........................................ 840
Andrew Liu, Sudip Adhikari, Doug Hansen

Link Slab Deck Joints .................................................................................................................. 858
Edmund Ho, Jim Lukasenko