## SUSAN L. TIGHE, PhD., P.Eng, FCAE

**Deputy Provost, Associate Vice-President Integrated Planning and Budgeting**

**Professor, Norman W. McLeod Professor in Sustainable Pavement Engineering**

**Past President Canadian Society for Civil Engineering**

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| ***SUMMARY OF PRINCIPAL ACHIEVEMENTS*** |

* Senior Academic with solid track record in research, teaching and leadership including professional experience in the public and private sector
* 2018, Fellow Canadian Academy of Engineering (FCAE)
* 2015-2019 Past President, President, President Elect, Senior Vice President, Canadian Society for Civil Engineering
* 2014 Inaugural Class, New College of Scholars, Royal Society of Canada
* Principal Investigator, 2013 Transportation Association of Canada Pavement Asset Design and Management Guide (Primary Pavement Design Document in Canada)
* 2009 Erskine Fellowship, University of Canterbury New Zealand, 2010 U.K. Royal Academy of Engineering Fellowship, University of Nottingham, Nottingham, England, Visiting Professor University of the Sunshine Coast, Queensland Pavement Center
* 17 Best Paper Awards
* Canada Research Chair, Natural Science and Engineering Research Council, 2005 - 2015
* Registered Professional Engineer, Province of Ontario since 1995, (PEO), Winner of the PEO Young Engineer Medal, 2004, Premier’s Research Excellence Award, awarded for research excellence, 2003
* Infrastructure/Transportation engineer with 24 years of experience in highway and airport: pavement design, construction management, maintenance pavement evaluation, life cycle economic analysis and safety evaluation.
* Published: over 140 Refereed Journals, over 340 Refereed Conference Proceedings, over 8 Books/Manuals, over 125 Keynote Address and Invited Presentations, over 70 Technical Papers, 40 Conference Abstracts and 5 Other Publications.
* Record of Completed Supervision of Highly Qualified People: 19 PhD, 46 MASc, 7 Research Assistants/research technicians, 44 Co-op, 42 Undergraduate Research Assistantship, 5 Post Doc and 69 Student projects. All former students now hold research positions in industry, academia, or government.
* Current Supervision of Highly Qualified People: 10 PhD., 3 MASc, 2 Post Doc, 2 URA, 1 administrative assistant
* Board of Directors Member for an international pavement engineering company and the Saskatchewan Centre of Excellence for Transportation and Infrastructure
* Associate Editor of the International Journal of Pavement Engineering and the International Journal of Pavement Research and Technology
* Involved in several PhD committees both internal and internal/external and served as an external reviewer on over 30 thesis (both national and international)
* Supervised highway infrastructure construction on major freeways in Toronto; materials testing and construction inspection experience in geotechnical, bridges and pavements.
* Involved in the review of pavement design and management practices in Chile, China, India, and Africa, and held similar contract positions in Australia and New Zealand.
* Research funding over the past ten years as Principal Investigator or Co-Principal Investigator over $20,000,000 Canadian dollars

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| ***EDUCATION*** |

**Ph.D.** Transportation, Civil Engineering University of Waterloo, Waterloo, Ontario, Canada, 2000

**M.A.Sc.** Transportation, Civil Engineering University of Waterloo, Waterloo, Ontario, Canada, 1997

**B.Sc.** Chemical Engineering Queen’s University, Kingston, Ontario, Canada 1993

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| ***PROFESSIONAL EXPERIENCE*** |

**DEPUTY PROVOST, ASSOCIATE VICE-PRESIDENT** July 2017 – Present

**ASSOCIATE VICE-PRESIDENT INTEGRATED PLANNING AND BUDGETING**

* Advises and supports Provost on all aspects of academic, budget and space planning
* Assists Faculties and Academic Support Units in Developing Plans
* Academic Planning: Understand each Faculty’s academic aspirations and financial circumstances
* Communications: Openness in flow of information to create cooperative working relationships with all Faculties, ASU’s and AFIW
* Budget Planning: Ensure multi-year planning and budgeting with Waterloo Budget Model with realistic budget plans where financial objectives are not an end in themselves
* Space Planning: Assist with ensuring consistent and effective space planning

**PROFESSOR** July 2009 – Present

**CANADA RESEARCH CHAIR Sustainable Pavement and Infrastructure** April 2005 – March 2015

**Management**

**Norman W. McLeod Chair in Sustainable Pavement Engineering** January 2011 – Present

**DIRECTOR, Centre for Pavement and Transportation Technology** September2010 – September 2017

* Fundraising $2,000,000 for the establishment of the Endowed Norman W. McLeod Chair in Sustainable Pavement Engineering
* Part of a team responsible for the establishment and management of a multi-million dollar state-of-the-art pavement laboratory and field test facility which includes a wide variety of unique testing equipment. This included the selection of equipment, supervision of laboratory staff including technicians and administration staff, post-doctoral fellows, research engineers, graduate students and undergraduate students, and recruitment and management of projects within the laboratory.
* Responsible for the design, construction and monitoring of the CPATT test track and over 100 other test sites which are located in various cities and airports in Ontario.
* Lead on several major multi-disciplinary research projects with various researchers in other departments at the University of Waterloo and with researchers at other universities
* Involved with several professional committees and community activities, including mentoring and promotion of the engineering profession

**PAST PRESIDENT, PRESDIENT, PRESIDENT ELECT, SENIOR VICE-PRESIDENT, Canadian Society for Civil Engineering** June 2015 – May 2019

* Providing leadership and strategic direction to the oldest learned society in Canada
* Chairing regional coordination committee
* Leading international activities task force

**VISITING PROFESSOR, QUEENSLAND PAVEMENT CENTER, UNIVERSITY OF THE SUNSHINE COAST, SABBATICAL LEAVE** January 2015 – September 2015

* Lectured on two graduate courses and supervised two PhD students
* Supervised two undergraduate student thesis which resulted in publications
* Provided guidance on management of research center
* Assisted with fundraising research funds from Sunshine Coast Council and Queensland Main Roads
* Assisted with the fundraising and establishment of an Endowed Research Chair
* Carried out research in partnership with faculty and other visiting professors
* Assisted with the organization of the Continuous Professional Development (CPD) courses

**BOARD MEMBER, DYNATEST INTERNATIONAL** May 2012 – 2014

* Provide technical leadership and guidance to the Research and Development Team.
* Review and provide oversight on financial documents.
* Assist in the development and execution of the strategic plan.

**UNITED KINGDOM ROYAL ACADEMY OF ENGINEERING FELLOWSHIP: University of Nottingham, Nottingham, England** July 2010-August 2010

* Worked with colleagues to examine the feasibility of calculating carbon footprints for pavements.
* Reviewed current practices in the United Kingdom and compared with North American practices.

**ERSKINE FELLOWSHIP: University of Canterbury, Christchurch New Zealand** January 2009 - April 2009

* Lectured various short courses to graduate students and undergraduate students
* Provided guidance to current research projects
* Worked with a local contractor on the feasibility of implementing new materials, design methods and management practices for use on design build projects in New Zealand
* Providing technical advice on: utilization of non-traditional materials in highway and airport design, associated life cycle economic evaluation and user delay impact
* Carried out research in partnership with faculty and other visiting professors
* Taught a short course on pavement management
* Taught several guest lectures in infrastructure management

**CONSULTANT: Various Projects, North America, Chile and Africa**

**INAUGURAL ASSOCIATE DIRECTOR RESEARCH AND TECHNOLOGY, FOUNDING MEMBER, Centre for Pavement and Transportation Technology (CPATT), and**

**ASSOCIATE PROFESSOR, Civil Engineering, University of Waterloo** July 2004 – June 2009

* Fundraising $1,000,000 for the establishment of CPATT
* Received early tenure and promotion and awarded of the Canada Research Chair responsible leading key strategic research in Canada related to Pavement and Infrastructure Management
* Responsible for the establishment and management of a multi-million dollar state-of-the-art pavement laboratory.

**SENIOR TECHNICAL ADVISOR: Pioneer Road Services, Australia November** 2005 – April 2006

**SABBATICAL LEAVE: University of Waterloo**

* Carried out a critical review on Performance Specified Maintenance Contracts in New Zealand and Australia, involving several multi-sector discussions, assessment of current maintenance planning and management policies, review of private sector operations, and development of a white paper on key components to implementing these types of contracts
* Involved in several stakeholder meetings to discuss feasibility of implementing new materials, design methods and management practices for use on design build projects in Australia
* Provided technical advice on: utilization of non-traditional materials in highway and airport design, associated life cycle economic evaluation and user delay impact
* Reviewed existing laboratory practices and procedures
* Acted as an advisor to the company on the attraction, retention and promotion of female engineers within the construction industry

**ASSISTANT PROFESSOR of Civil Engineering, University of Waterloo** January 2000-June 2004

### ADJUNCT PROFESSOR of Civil Engineering, Royal Military College, Kingston

* Major research in the pavements area including both roadway and airfield pavements.
* Research funding received from a variety of national, provincial and private sources including: Natural Science and Engineering Research Council (NSERC), Canada Foundation for Innovation (CFI), Ontario Innovation Trust Fund (OIT), Ontario Research and Development Challenge Fund (ORDCF), Transportation Association of Canada (TAC), Ontario Ministry of Transportation (MTO), Imperial Oil Limited (IOL), Canadian Cement Association (CAC), Lester B. Pearson Airport Authority
* Conduct research, write technical papers, teach undergraduate and graduate courses, and engage in wide variety of professional activities.

**RESEARCH ASSISTANT** September 1996-December 1999

**Department of Civil Engineering, University of Waterloo**

* PhD Research and MASc Research in the area of Pavement Materials, Design and Management
* Also involved in several other research projects including: Development of a Protocol to Canadian Portland Cement Association, Toronto, Ontario, (October 1998); Transportation Association of Canada Roughness Contract, (May 1998 - September 1998); assisted in the analysis of roughness data of the Canadian Strategic Highway Research Program (C-SHRP) Long Term Pavement Performance (C-LTPP) field sites; provided technical advice and assisted in preparing the technical report, Imperial Oil Contract, (September 1996 - March 1997); collected and analyzed field performance data of polymer modified asphalt sites; developed a Markov model that predicts performance and life cycle economic analysis, published an extensive technical report for industry in addition to publishing this work at a major technical conference where it received an award for the best paper and oral presentation.

**PROJECT ENGINEER** June 1996 - September 1996

**Pavements and Foundations Section, Ontario Ministry of Transportation (MTO), Toronto**

* Engineering duties focused on a major MTO initiative, The Impact on the Highway Infrastructure of Existing and Alternative Vehicle Configurations and Weight Limits.
* Responsibilities involved: development of a methodology for assessing the impact of existing and alternative trucks configurations on pavements; organized and developed an elaborate series of computer algorithms to calculate the truck impact and related damage cost to pavement using a marginal cost method, produced a major technical report that was subsequently used for policy.

**GEOTECHNICAL MATERIALS ENGINEER** June 1995 - May 1996

**Geotechnical Section, Southwestern Region, MTO, London**

* Provided engineering support for construction and maintenance related to soils, materials and pavement; evaluated pavement and provided pavement designs. Responsible for a large geographic area located in Southwestern Ontario
* Projects included: a Partially Paved Shoulder (PPS) Study which provided insight into performance; Slope Failure Evaluation and recommendations for repair; Effectiveness of Rout and Seal on pavements in the region; Pavement Condition Index evaluation.

**CONCRETE ENGINEER**  December 1994 - June 1995

**Concrete Section, Engineering Material Office, MTO, Toronto**

* Revised and updated MTO Special Provisions and Ontario Provincial Standard Specifications.
* Examined the quality of materials received on MTO construction projects including coated reinforced steel, concrete bridge deck placements and expansion joints.
* Reviewed MTO contract tender packages and laboratory results for correlation purposes.

**CONTRACT ADMINISTRATOR** April 1994 - November 1994

**Highway 407 Advanced Structures, Central Region Construction, MTO, Toronto**

* Duties included: supervision of MTO inspectors and contractors (Project value 13 million dollars)
* Supervision included daily communications with contractor, ministry staff, documentation of important events, decisions in the projects process, ensuring monthly payments were accurate and on time, chairing meetings and negotiating claims, communications with municipalities, environmental groups, utility companies, property owners and businesses.
* Responsible for resolving technical issues, training staff, ensuring safety, environmental, MTO policies, legislation and procedures were adhered to.
* Represented MTO in a three-way partnership that resulted in the creation of a wetland.

**BITUMINOUS ENGINEER** December 1993 - March 1994

**Bituminous Section, Engineering Materials Office, MTO, Toronto**

* Analyzed data for the evaluation of asphalt cement quality in Ontario; provided a statistical analysis of data to establish an End Result Specification for Hot Mix Compaction.

**CONSTRUCTION INSPECTOR** May 1993 - November 1993

**Central Region Construction, MTO, Toronto**

* Duties included: quality assurance inspection and testing to ensure compliance with contract requirements; recorded the contractors daily work in inspectors diaries, kept detailed concrete and asphalt records, surveyed and performed various other inspector duties.

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| ***HONORS AND AWARDS*** |

**Best Paper Awards:**

* Adam Schneider, (MASc Student), Susan Tighe, Transportation Association of Canada (TAC) Conference, 2016
* Gulfam Jannat, (PhD Student), Susan Tighe, Transportation Association of Canada (TAC) Conference, 2016 (Best Poster)
* Zaid Alyami, (PhD Student), Susan Tighe, Annual Inter-University Symposium on Infrastructure Management (AISIM), 2015.
* Zaid Alyami, (PhD Student), Susan Tighe, Annual Inter-University Symposium on Infrastructure Management (AISIM), 2014 (Best Presentation)
* Marcelo Gonzalez, WE Innovate, University of Waterloo Faculty of Engineering, Top 3 Best Project, 2014
* Aleks Kivi (MASc Student), Susan Tighe, Transportation Association of Canada (TAC) Conference, 2013
* Mohab El-Hakim (PhD Student), Susan Tighe, Annual Inter-University Symposium on Infrastructure Management (AISIM), 2012.
* Andrew Northmore (MASc Student), Susan Tighe, Canadian Society of Civil Engineers, June 2012.
* Mohab El-Hakim (PhD Student), Susan Tighe, Annual Inter-University Symposium on Infrastructure Management (AISIM), January 2011.
* Bijan Ahmadi (MASc Student), Mohammad Adnan (MASc Student), Brenda McCabe and Susan Tighe, Canadian Society of Civil Engineers (CSCE), June 2011.
* Vimy Henderson (PhD Student) and Susan Tighe, Annual Inter-University Symposium on Infrastructure Management (AISIM), June 2010
* Alondra Chamorro (PhD Student), Susan Tighe, Li Ningyuan and Tom Kazmierowski, Annual Inter-University Symposium on Infrastructure Management (AISIM), June 2009.
* Rabiah Rizvi (MASc Student), Vimy Henderson (PhD Student), Susan Tighe and Jodi Norris, Transportation Association of Canada, October 2009.
* Transportation Association of Canada (TAC) Presidents Medal for Best Paper, 2009
* Vimy Henderson (PhD Student) and Susan Tighe, International Society of Concrete Pavements Conference, August 2008
* Susan Tighe, Ken Huen and Ralph Haas, Transportation Research Board, 2007
* Ken Huen (MA Student), Susan Tighe, Sabrina Ren, and Brenda McCabe, Transportation Association of Canada, September, 2006
* Susan Tighe and Ralph Haas, Norman W. McLeod Award for Presentation, Canadian Technical Asphalt Association, 1997; awarded for best paper of the technical sessions based on the oral presentation and written paper.
* Undergraduate Student Winners Supervisor, Jacqueline Doucet, Amir Abu-Khajil and Nader Alkadri won first place in the I3 Design Challenge to revitalize the University of Waterloo South Campus gateway.

**National/International Awards:**

* President, Canadian Society for Civil Engineering, 2017
* Inaugural Class New College of Scholars, Royal Society of Canada, 2014
* Nominated Transportation Association of Canada (TAC) Urban Award, 2008
* Canada’s 80 Women to Watch, Chatelaine magazine, 2008
* Canada Top 40 Under 40 – Awarded for Vision and Leadership, 2006
* Canada Research Chair, Natural Science and Engineering Research Council, 2005-2015
* 1st place Faculty Category American Society of Civil Engineers International Paper Contest, 2003

**University of Waterloo/Endowed Chair Awards:**

* Norman W. McLeod Chair in Sustainable Pavement Engineering, 2011
* En-hui Yang Research Innovation Award, 2010
* Faculty of Engineering, Special Performance Award, awarded for outstanding performance, 2006, 2003
* University of Waterloo, Special Performance Award, awarded for outstanding performance, 2004, 2010, 2014
* Faculty of Engineering, Graduate Supervision Award, 2016
* University of Waterloo, Award of Excellence in Graduate Supervision, 2016-2017

**Provincial/Regional/Industry Awards:**

* Research & Development Medal, 2016 Ontario Professional Engineers Awards (OPEA), 2016
* 2016 MTO Women in Engineering, Celebrating 100 years of Women in Engineering, 2016
* Bleeds Black Award, Ontario Hot Mix Producer’s Association, awarded for commitment to the industry through commitment to training and education of students, 2013
* Region of Waterloo, Inaugural Top 40 Under 40, 2009
* Professional Engineers Ontario Young Engineer Medal, awarded for outstanding contributions by an engineer under the age of 35, 2004
* Premier’s Research Excellence Award – ($150,000), awarded for research excellence, 2003

**Fellowships:**

* Queensland Pavement Center, University of the Sunshine Coast, 2015
* U.K Royal Academy of Engineering Fellowship, 2010
* Erskine Fellowship, University of Canterbury, New Zealand, 2009

**Scholarships/Academic Awards:**

* Award of Academic Merit, Transportation Association of Canada. In recognition of academic leadership, excellence and achievement in all modes of segments of the transport sector, October 2014
* Nominated for the Governor General’s Gold Medal – Civil Engineering University of Waterloo, 2000
* Nominated for Natural Science and Engineering Research Council Best Thesis – Civil Engineering University of Waterloo, 2000
* Natural Science and Engineering Research Council Postgraduate Scholarship ($38,200), 1998 and 1999; awarded based on research aptitudes and academic excellence
* Canadian Strategic Highway Research Graduate Grant ($3,000), 1998, 1999, awarded based on research aptitudes and academic excellence
* Emery-Lindsay Scholarship ($25,000) Transportation Association of Canada, 1996 - 1999; awarded on the basis of relevant work experience and academic excellence
* Ontario Graduate Scholarship ($12,000), 1998; awarded based on research potential/academic ability
* Faculty of Engineering Graduate Scholarship ($4,500) and Faculty of Engineering Provost/FOE Scholarship ($5,600), University of Waterloo, 1997, 1998, 1999; academic excellence
* Engineering Society Spirit Award, Queen’s University, 1992; awarded for leadership and initiative
* Engineering Society Pewter Mug, Queen’s University, 1991- 1993; awarded for leadership
* Governor General’s Award – Notre Dame Secondary School, Brampton, 1989

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| ***PUBLICATIONS*** |

# The journals chosen to submit to are very well-known and prestigious. Some of which include: the Transportation Research Record, the Journal of Transportation Engineering (ASCE), and the Canadian Journal of Civil Engineering. Other, more specialized journals are also included.

# **\*Note: Students are underlined**

# **Papers Refereed Journals**

# **2017**

Peter Mikhailenko, Hawraa Kadhim, Hassan Baaj, **Susan L. Tighe**. (2017). “Observation of Asphalt Binder Microstructure with ESEM.” Journal of Microscopy 267 (3): 347-355, DOI: 10.1111/jmi.12574

Wei Li, Ju Huyan, **Susan L. Tighe**, Qing-qing Ren, Zhaoyun Sun. “Three-Dimensional Pavement Crack Detection Algorithm Based on Two-Dimensional Empirical Mode Decomposition.” Journal of Transportation Engineering, Part B: Pavements. 2017, 6, 143(2), DOI: 10.1061/JPEODX.0000006.

Wei Li, Ju Huyan, **Susan L. Tighe**, Nana Shao, Zhaoyun Sun. (2017). “An innovative Primary Surface Profile-based three-dimensional pavement distress data filtering approach for optical instruments and tilted pavement model-related noise reduction.” Road Materials and Pavement Design, 1-19, DOI: 10.1080/14680629.2017.1378118.

Ju Huyan, Wei li, **Susan Tighe.** (2016) "Pavement Cracking Detection Based on Three-dimensional Data Using Improved Active Counter Model (ACM)", Journal of Transportation Engineering, Part B: Pavements (Page and DOI required)

Daniel Pickel, Susan Tighe, Jeffrey West, (2016). “Assessing Benefits of Pre-Soaked Recycled Concrete Aggregate on Variably Cured Concrete”, Submitted to the Journal of Construction and Building Materials

**2016**

Daniel Pickel, **Susan Tighe**, Hassan Baaj, Rico Fung, and Eric Saunderson, 2016. “Innovative Design, Traffic Management, and Construction of Concrete Overlay Technology Canadian Municipal Application”, Transportation Research Record: Journal of the Transportation Research Board, No. 2573, pp. 107–114. DOI: 10.3141/2573-13

Marcelo Gonzalez, Md Safiuddin, Jingwen Cao, **Susan Tighe** (2016): “Sound Absorption and Friction Properties of Nano-Lotus Leaf Coated Concrete for Rigid Pavement”, Materials Science 22(3), DOI: 10.5755/j01.ms.22.3.7638

Qingfan Liu, Marcelo Gonzalez, **Susan L. Tighe** & Ahmed Shalaby (2016):“Three-dimensional surface texture of Portland cement concrete pavements containing nanosilica”, International Journal of Pavement Engineering, DOI: 10.1080/10298436.2016.1231520.

J. D. van der Walt, E. Scheepbouwer & **S. L. Tighe** (2016): “Differential rutting in Canterbury New Zealand, and its relation to road camber”, International Journal of Pavement Engineering, DOI: 10.1080/10298436.2016.1208198.

Gulfam Jannat, Theuns Henning, Cheng Zhang, **Susan Tighe**, and Li Ningyuan, 2016. “Road Section Length Variability on Pavement Management Decision Making for Ontario Highway Systems”, Transportation Research Record: Journal of the Transportation Research Board, No. 2589, pp. 87-96.

Daniel Pickel, **Susan Tighe**, Hassan Baaj, Rico Fung, and Eric Saunderson, 2016. “Innovative Design, Traffic Management, and Construction of Concrete Overlay Technology Canadian Municipal Application”, Transportation Research Record: Journal of the Transportation Research Board, No. 2573, pp. 107–114. DOI: 10.3141/2573-13.

Prabir Kumar Das, Hassan Baaj, **Susan Tighe** & Niki Kringos (2016): “Atomic force microscopy to investigate asphalt binders: a state-of-the-art review”, Road Materials and Pavement Design, 17:3, 693-718, DOI: 10.1080/14680629.2015.1114012.

Marcelo Gonzalez, **Susan Tighe**, Kathy Hui, Sonia Rahman, and Arthur de Oliveira, 2016. “Evaluation of freeze/thaw and scaling response of nanoconcrete for Portland Cement Concrete (PCC) Pavements”, Construction and Building Materials, Vol. 120, pp. 465-472.

Al-Bayati, H. K. A., Das, P. K., **Tighe, S**., and Baaj, H. 2016. “Evaluation of various treatment methods for enhancing the physical and morphological properties of coarse recycled concrete aggregate”, Construction and Building Materials, 112, pp. 284-298.

Greg White, **Susan Tighe**, Steve Emery & John Yeaman (2016): “Developing a framework for diagnosis of shear distress in asphalt surfaces”, International Journal of Pavement Engineering, DOI: 10.1080/10298436.2016.1141413.

Sachi Kodippily, **Susan L. Tighe**, Theunis F.P. Henning and John Yeaman (2016):“Evaluating pavement performance through smart monitoring – effects of soil moisture, temperature and traffic” Road Materials and Pavement Design,DOI:10.1080/14680629.2016.1235507.

**2015**

Magdy Shaheen, Adil Al-Mayah, and **Susan Tighe**, 2015. “A Novel Method for Evaluating Hot Mix Asphalt Fatigue Damage: X-Ray Computed Tomography”, Journal of Building and Construction Materials, Vol. 113, pp. 121-133.

Al-Bayati, H.K., Das, P.K., **Tighe, S.,** Baaj, H. 2015. “Evaluation of Various Treatment Methods for Enhancing the Physical and Morphological Properties of Coarse Recycled Concrete Aggregate.”, Journal of Building and Construction Materials, Vol. 112, pp. 284-298

115. Magdy Shaheen, Adil Al-Mayah, and **Susan Tighe**, 2015. “Effects of High Friction Aggregate and PG Plus Binder on Rutting Resistance of Hot Mix Asphalt Mixtures”, International Journal of Pavement Engineering, Vol 17(4), pp. 1-11.

114. Magdy Shaheen, Adil Al-Mayah, and **Susan Tighe**, 2015. “Optimization of Hot Mix Asphalt Surface Course Mix Design for Fatigue Resistance: PG Plus and High Friction Aggregate”, American Society of Civil Engineering, Journal of Material in Civil Engineering, Vol 28(1).

113. Federico Irali, Aleks Kivi, **Susan Tighe**, Cesar Sangiorgi, 2015. “Tire-pavement noise and wearing course surface characteristics of experimental Canadian road pavement sections”, Canadian Journal of Civil Engineering, 42(10): 818-825.

112. Sonia Rahman, Andrew Northmore, Vimy Henderson, **Susan Tighe**, 2015. “Developing a Framework for Low-Volume Road Implementation of Pervious Concrete Pavements” International Journal of Transportation Science and Technology.4(1): 77-92

111. Das, P.K., Baaj, H., Kringos, N., **Tighe, S.** 2015, Coupling of oxidative aging and moisture damage in asphalt mixtures. *Road Materials and Pavement Design*. Vol. 16(S1), 265-279.

110. Das, P.K., Baaj, H., **Tighe, S.,** Kingos, N. 2015. Atomic Force Microscopy (AFM) to Investigate Asphalt Binders: A State-of-the-art Review. *Road Materials and Pavement Design*.

109. Xiomara Sanchez and **Susan Tighe**, 2015. “Improving the Selection of Virgin Binders for Recycled Hot Mixtures in Ontario.” International Journal of Transportation Science and Technology, 4(1), 47-60.

108. Sonia Rahman, Andrew Northmore, Vimy Henderson, and **Susan Tighe**, 2015. “Developing a Framework for Low-Volume Road Implementation of Pervious Concrete Pavements”, International Journal for Transportation Science and Technology (IJTST).

107. Liam Butler, Jeff West and **Susan Tighe**, 2015. “Closure to Bond of Reinforcement in Concrete Incorporating Recycled Concrete Aggregates”, American Society of Civil Engineering, Journal of Structural Engineering, ASCE, STENG-3911

106. Alondra Chamorro and **Susan Tighe**, 2015. “Optimized Maintenance Standards for Unpaved Road Networks Based on Cost-Effectiveness Analysis”, Transportation Research Record: Journal of the Transportation Research Board, Vol. 2084, pp. 3-10.

105. Gulfam Jannat, and **Susan Tighe**, 2015. “An Experimental Design Based Evaluation of Sensitivities of Mechanistic-Empirical Pavement Design Guide (MEPDG): Investigating Main and Interaction Effects of Input Factors”, International Journal of Pavement Engineering, DOI: 10.1080-10298436.205.10-07238.

104. Picketts, I., J. Andrey, L. Matthews, S. Dery, and **S. Tighe**. 2015. “Climate Change Adaptation Strategies for Transportation Infrastructure Management”, Regional Environment Change Journal, Submitted June 23, pp 28-36.

**2014**

103. Marcelo Gonzalez, Arthur de Oliveira Lima and **Susan Tighe**, 2014. “Nanoconcrete for Rigid Pavements: Abrasion Response and Impact on Friction”, Transportation Research Record: Journal of the Transportation Research Board, Vol. 2441, pp. 28-37.

102. Andrew Northmore and **Susan Tighe**, 2014. “Performance Modelling of a Solar Road Panel Prototype using Finite Element Analysis”, International Journal of Pavement Engineering.

101. Aleli Osorio, Alondra Chamorro, **Susan Tighe**, Carlos Videla, 2014. “Calibration and Validation of a Condition Indicator for Managing Urban Pavement Networks”, Transportation Research Record: Vol. 2455, pp. 28-36

100. Mohab El-Hakim and **Susan Tighe**, 2014. “Impact of Freeze-Thaw Cycles on Mechanical Properties of Asphalt Mixes”, Transportation Research Record: Vol. 2444, pp. 20-27.

99. Aleks Kivi, **Susan Tighe**, Dave Hein, 2014. “New and Innovative Concrete Pavements Using a Structural Dome Formwork System”, Transportation Research Record: Vol. 2456, pp. 54-63

98. Scott Ketcheson, Jonathan Price, **Susan Tighe**, and Michael Stone, 2014 “Transport and Retention of Water and Salt within Pervious Concrete Pavements Subjected to Freezing and Sand Application” Journal of Hydrologic Engineering, American Society of Civil Engineering, 10.1061/(ASCE)HE.1943-5584.0001036, 06014005.

97. Marcelo Gonzalez, Arthur de Oliverira Lima and **Susan Tighe**, 2014. “Abrasion Response of Nanoconcrete for Rigid Pavements and its Impacts on Friction”, Transportation Research Record: Journal of the Transportation Research Board, pp. 17, Washington, D.C.

96. Md. Safiuddin, Marcelo Gonzalez, Jingwen Cao & **Susan L. Tighe** (2014): “State-of-the-art report on use of nano-materials in concrete”, International Journal of Pavement Engineering, 15:10, 940-949, DOI: 10.1080/10298436.2014.893327

95. Safiuddin, Md., Tighe, S.L., and Uzarowski, L., “Evaluation of stiffness to predict rutting resistance of hot-mix asphalt: a Canadian case study”, The Baltic Journal of Road and Bridge Engineering, Vol. 9, No.4, 2014, pp. 283-296. ISSN: 1822-427X; E-ISSN: 1822-4288. (Indexed in ISI Web of Science). (Vilnius Gediminas Technical University).

94. Safiuddin, Md., Gonzalez, M., Cao, J., and Tighe, S.L., “State-of-the-art report on use of nano-materials in concrete”, International Journal of Pavement Engineering, Vol. 15, No. 10, 2014, pp. 940-949. ISSN: 1029-8436. (Indexed in ISI Web of Science). (Taylor & Francis).

**2013**

93. Ddamba, S.J., Islam, Tighe, S.L., and Safiuddin, Md. A Technical, Economic, and Environmental Evaluation of the Effects of Recycled Asphalt Shingles on Ontario Hot Mix Pavement, Final Report (Prepared for Miller Paving Limited), Centre for Pavement and Transportation Technology (CPATT), Department of Civil and Environmental Engineering, Faculty of Engineering, University of Waterloo, Waterloo, Ontario, Canada, February 2013.

92. Li Ningyuan, **Susan Tighe**, Guoping Qian, and Zhaohui Liu, 2013. “The Roles of Applied Performance Indicators in Network Pavement Management – Canadian Experience” The International Journal of Pavement Research and Technology, Vol. 6(5): 673-678.

91. Md. Safiuddin, Marcelo Gonzalez, Jingwen Cao and **Susan Tighe**. 2013 “State-of-the-art report on use of nano-materials in concrete” The International Journal of Pavement Engineering, No. GPAV-2013-0206.

90. Kamal Joshi, Soo Jeon, HJ Kwon and **Susan Tighe**, 2013. “Braking Availability Tester (BAT) for Realistic Assessment of Aircraft Landing Distance on Winter Runways”, American Society of Civil Engineers, Journal of Aerospace Engineering. ASENG-639.

89. Jun Yang, Shirley Ddamba, Riyad Ul-Islam, Md. Safiuddin and **Susan Tighe**, 2013. “Investigation on Use of Recycled Asphalt Shingles in Ontario Hot Mix Asphalt: A Canadian Case Study”, Canadian Journal of Civil Engineering, CJCE-2013-0022.

88. Amin S. Hamdi, **Susan Tighe** and Li Ningyuan, 2013. “Canadian Calibration on Mechanistic-Empirical Pavement Design Guide (MEPDG) to Estimate International Roughness Index (IRI) using MTO Data”, International Journal of Pavement Research and Technology (IJPRT), Technical Paper, Taoyuan, Taiwan.

87. Milos Posavljak, **Susan Tighe** and Jerry Godin, 2013. “Strategic Total Highway Asset Management Integration”, Transportation Research Record: Journal of the Transportation Research Board, Vol 2354, pp. 107-114, Washington, D.C.

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310. Zaid Alyami and **Susan Tighe**, 2016. “Asset Valuation: A Performance Measure for Comprehensive Infrastructure Asset Management”, Innovative Work in Infrastructure Management: Best Papers from AISIM, 95th Annual Transportation Research Board Annual Meetings, Jan 10-14, 2016, Washington, D.C.

309. Zaid Alyami and **Susan Tighe**, 2016. “A methodology for Integration Asset Valuation in Transportation Asset Management”, 11th International Transportation Speciality Conference at the Canadian Society of Civil Engineers CSCE, London, ON, June 1-4, 2016.

308. Gulfam Jannat, Theuns Henning, Cheng Zhang, **Susan Tighe**, and Li Ningyuan, 2016. “Road Section Length Variability in Pavement Management Decision Making for Ontario Highway Systems”, 95th Transportation Research Board Annual Meetings, Paper No. 16-5874, Jan 10-14, 2016, Washington, D.C.

307. Dan Pickel, **Susan Tighe**, Hassan Baaj, Rico Fung, Eric Saunderson, 2016. “Innovative Design, Traffic Management and Construction of Concrete Overlay Technology: A Canadian Municipal Application”, 95th Transportation Research Board Annual Meetings, Paper No. 16-2265, Jan 10-14, 2016, Washington, D.C.

306. Sina Varamini and **Susan Tighe**, 2016. “Effect of Colouring Pigment on Asphalt Mixture Performance: Case for Use in Ontario”, 95th Transportation Research Board Annual Meetings, Paper No. 16-3889, Jan 10-14, 2016, Washington, D.C.

305. Sina Varamini and **Susan Tighe**, 2016. “Canadian Usage and Practices for Evaluating Warm-Mix Asphalt Moisture Susceptibility”, 95th Transportation Research Board Annual Meetings, Paper No. 16-3854, Jan 10-14, 2016, Washington, D.C.

304. Cristina Torres-Machi, Aleli Osorio, Pablo Godoy, Alondra Chamorro, Claudio Mourgues, Carlos Videla and **Susan Tighe**, 2016. “Incorporating Sustainability into Pavement Asset Management: Application to an Urban Network”, 95th Transportation Research Board Annual Meetings, Paper No. 16-6277, Jan 10-14, 2016, Washington, D.C.

303. Gulfam Jannat and **Susan Tighe**, 2016. “Investigating Life Cycle Cost Analysis to Identify Sustainable Pavement Maintenance and Rehabilitation Strategy: A Case Study on Ontario Highways”, Transportation Association of Canada Conference, September 25-28, Toronto

302. Gulfam Jannat and **Susan Tighe**, 2016. “Developing new Performance Index for Assessing overall Pavement Condition by Incorporating of Mechanistic-Empirical Approach for Ontario Highways”, Transportation Association of Canada Conference, September 25-28, Toronto

301. Gulfam Jannat and **Susan Tighe**, 2016. “Developing Engineering Criteria and Standards for Key Performance Indicators (KPI) used in Pavement Management”, 8th International Conference on Maintenance and Rehabilitation of Pavement, Singapore, July 27-29.

**2015**

300. Magdy Shaheen, Adil Al-Mayaa, **Susan Tighe**, 2015. “Visualization and Quantification of Hot Mix Asphalt Characteristics Using X-Ray Computed Tomography”, 60th Annual Conference of the Canadian Technical Asphalt Association (CTAA), Ottawa, ON.

299. Magdy Shaheen, **Susan Tighe** and Adil Al-Mayah, 2015. “Improvement of Hot Mix Asphalt Surface Course Mix Design for Fatigue Resistance”, 60th Annual Conference of the Canadian Technical Asphalt Association (CTAA), Ottawa, ON.

298. Doubra Ambaiowei, and **Susan Tighe**, 2015. “Rubberized Asphalt Mixtures in RAP: A Case for Use in Ontario”, 94th Annual Transportation Research Board Annual Meetings, Paper No. 15-0960 Washington, D.C. Jan 2015.

297. Xiomara Sanchez, Vince Aurilio, **Susan Tighe**, Sandy Brown and Fernando Magisano. 2015. “Use of the Hirsch Model to Backcalculate the Performance Characteristics of Blended Binder in Superpave Hot Mix Materials”, 60th Annual Conference of the Canadian Technical Asphalt Association (CTAA), Ottawa, ON, November 15-18, 2015.

296. Ludomir Uzarowski, Michael Maher and **Susan Tighe**, 2015, “Green Pavement Technologies are Sustainable Only if they Deliver Acceptable Performance”, 60th Annual Conference of the Canadian Technical Asphalt Association (CTAA), Ottawa, ON, November 15-18, 2015.

295. Prabir Das, N. Kringos, Hassan Baaj, and **Susan Tighe**, 2015. “Investigation of Diffusion-Controlled Oxidative Aging in Asphalt Mixture”, 60th Canadian Technical Asphalt Association (CTAA) Annual Conference, Ottawa, Ontario, November 15-18, 2015.

294. Prabir Das, Hassan Baaj, B. Birgisson, and **Susan Tighe**, 2015. “Moisture susceptibility of Warm-Mix-Asphalt in a changing climate: incorporating top-down cracking and fracture mechanics approach”, Conference of the Transportation Association of Canada, Charlottetown, PEI, September 27-30, 2015.

293. Rabiah Rizvi, **Susan Tighe**, and Ludomir Uzarowski. 2015. “Research to Identify Advanced Asphalt Technology to Address Shear Distresses on Airfield Facilities”, Conference of the Transportation Association of Canada, Charlottetown, September 2015.

292. Gulfam Jannat and **Susan Tighe**, 2015. “Performance Based Evaluation of Overall Pavement Condition Indices for Ontario Highway Systems”, Conference of the Transportation Association of Canada, Charlottetown, September 2015.

291. Amr Ayed and **Susan Tighe**, 2015. “Local Calibration for Mechanistic-Empirical Design using Genetic Algorithm”, Conference of the Transportation Association of Canada, Charlottetown, September 2015.

290. **Susan Tighe**, 2015. “Vulnerabilities and Design Considerations for Pavement Infrastructure in Light of Climate Change”, Conference of the Transportation Association of Canada, Charlottetown, September 2015.

289. **Susan Tighe**, 2015. “Braking Availability Testing Device”, 9th International Conference on Managing Pavement Assets, Washington, D.C., May 18-21, 2015.

288. **Susan Tighe**, 2015. “Demonstrating how Sustainability Can Effectively be Incorporated in to Pavement Management”, 9th International Conference on Managing Pavement Assets, Washington, D.C., May 18-21, 2015.

287. Xiomara Sanchez, **Susan Tighe**, Vince Aurilio, 2015. “Mechanical Response of Superpave Recycled Hot Mixtures in Ontario”, Conference of the Transportation Association of Canada/Green Technology in Pavement and Materials Engineering Session, Charlottetown, Canada, September 2015.

286. Janki Bhavsar and **Susan Tighe**, 2015. “Performance Evaluation of Cold in Place Recycling (CIR) Mixes for Ontario”, Conference of the Transportation Association of Canada, Charlottetown, September 2015.

285. Sina Varamini and **Susan Tighe**, 2015. “Survey on Current Practices For Evaluating Warm Asphalt Moisture Sensitivity”, Conference of the Transportation Association of Canada, Charlottetown, September 2015.

284. Chris Gray, John Yeaman, and **Susan Tighe**, 2015. “Using Innovative In-Situ Measuring Tools To Better Understand Asphalt Performance”, Australian Asphalt Pavement Association International Conference, Gold Coast, Australia, September 2015.

283. **Susan Tighe** and John Yeaman, 2015. “Developing A Framework for Innovative Research and Education Which Improves Pavement Life Cycle and Reduces Costs”, Australian Asphalt Pavement Association International Conference, Gold Coast, Australia, September 2015.

282. Cody-James Johnston, Aaron Wiegand, **Susan Tighe** and John Yeaman. “Impacts of Asphalt Laboratory Compaction Techniques: Does it really affect the Master Curve?”, Australian Asphalt Pavement Association International Conference, Gold Coast, Australia, September 2015.

281. Xiomara Sanchez, Doubra Ambaiowei, **Susan Tighe**, 2015. “Low Temperature Performance of Superpave Recycled Hot Mixtures in Ontario”, International Airfield and Highway Pavements Conference: Modifications of Warm and Hot Asphalt Concrete and Performance, June 2015.

280. Zaid Alyami, and **Susan Tighe**, 2015. “Asset Valuation: A Performance Measure for Comprehensive Infrastructure Asset Management”, Annual Inter-University Symposium on Infrastructure Management (AISIM), University of Delaware, May 21-22, 2015 (**BEST PAPER AWARD**)

279. Zaid Alyami, **Susan Tighe,** Douglas Gransberg and Maria Bianchin, 2015. “Performance Measures for Pavement Assets Under Performance Based Contracts” 9th International Conference on Managing Pavement Assets, Washington, D.C., May 18-21, 2015.

278. Zaid Alyami and **Susan Tighe**, 2015. “Pavement Maintenance on Long Term Performance Based Contracts” 9th International Conference on Managing Pavement Assets, Washington, D.C., May 18-21, 2015.

277. Zaid Alyami and **Susan Tighe**, 2015. “Project Asset Management for Pavement Assets under Performance Based Contracts” Proceedings of the 2nd International Conference on Public-Private-Partnerships, Austin, TX, 26-19 May 2015

276. Amin Hamdi, Mohab El-Hakim, **Susan Tighe**, and Li Ningyuan, 2015. “Pavement Maintenance on Long Term Performance Based Contracts” 9th International Conference on Managing Pavement Assets, Washington, D.C., May 18-21, 2015.

275. Samantha Pinto and **Susan Tighe**, 2015. “Improving Airport Pavement Management Using an Analytical Hierarchy Process Decision Making Tool Braking Availability Testing Device”, 9th International Conference on Managing Pavement Assets, Washington, D.C., May 18-21, 2015.

274. **Susan Tighe**, 2015. “Accelerated Testing and Instrumentation: A Canadian Case Study”, 9th International Conference on Managing Pavement Assets, Washington, D.C., May 18-21, 2015.

273. Donaldson MacLeod, **Susan Tighe** and Marta Juhasz, 2015. “Pavement Management Systems for Canadian Low Volume Roads”, 9th International Conference on Managing Pavement Assets, Washington, D.C., May 18-21, 2015.

272. Marcelo Gonzalez and **Susan Tighe**. 2015 “Nanotechnology Applied in the Design of the Next Generation of Concrete Pavements Surface” Fifth International Symposium on Nanotechnology in Construction (NICOM5), Chicago, IL. May 24-26, 2015.

271. Federico Irali, Marcelo Gonzalez, **Susan Tighe**, and Andrea Simone, 2015. “Temperature and Aging Effects on Tire/Pavement Noise Generation in Ontarian Road Pavements”, 94th Annual Meeting of the Transportation Research Board, Paper No. 15-3877, January 11-15, 2015

270. Mattia Longhi, Marcelo Gonzalez, Sonia Rahman, **Susan Tighe**, Cesare Sangiorgi, 2015. “Evaluation of the Strength and Abrasion Resistance of Pervious Concrete Mixes Using Three Types of Cement (GU, GUL, nanocement)”, 94th Annual Transportation Research Board Proceedings, Washington, D.C., Paper No. 15-3369, January 11-15, Washington, D.C (presentation)

269. Liya Jiao, Jun Yang, Yulei Huang and **Susan Tighe**, 2015.”Development of Frost-Thaw Prediction Model on Weather Information”, 94th Annual Transportation Research Board Proceedings, Washington, D.C., January 11-15, 2015. Paper 15-2067, Washington, D.C

268. Marcelo Gonzalez, **Susan Tighe**, John Medley, 2015. “Assessing Friction Response of Nanoconcrete for Rigid Pavements Using British Pendulum Tester and Tribometer”, 94th Annual Transportation Research Board Proceedings, Paper No. 15-1669, Washington, D.C., January 11-15, Washington, D.C

267. Aleli Osorio, Alondra, Chamorro, **Susan Tighe**, Carlos Videla, 2015. “Development of Performance Models of Urban Pavements for Network Analysis”, 94th Annual Transportation Research Board Proceedings, Washington, D.C., Paper No. 15-0427 January 11-15, Washington, D.C

266. Alondra Chamorro and **Susan Tighe**, 2015. “Optimized Maintenance Standards for Unpaved Road Networks Based on Cost-Effectiveness Analysis”, 94th Annual Transportation Research Board Proceedings, Washington, D.C., No.2473. January 11-15, Washington, D.C

265. Zaid Alyami and **Susan Tighe**, 2015, “Project Asset Management for Performance Based Contracts”, Innovative Work in Infrastructure Management: Best Papers from AISIM, 94th Annual Transportation Research Board Proceedings, January 11-15, 2015.

**2014**

264. Dan Pickel, Susan Tighe, and Jeff West, 2014. “Evaluation of RCA for Usage in Highway and Municipal Concrete Applications”, Transportation Association of Canada Annual Meeting, September 28 – October 1, 2014

263. Shane, J., Strong, K., Gransberg, D., Ahn, J., Allan, N., Brisk, D., Hunt, J., Lopez de Puerto, C., Owens, J., Scheepbouwer, E., Scott III, S., **Tighe, S**.,Touran, A, 2014. “Project Management Strategies for Complex Projects: Case Study Report”, SHRP 2 Renewal Project R10, Transportation Research Board, pp. 333.

262. Magdy Shaheen, Adil Al-Mayah, and **Susan Tighe**, 2014. “Evaluating the Potential for Hot Mix Asphalt Rutting Performance Using Laboratory and Digital Imaging Technique”, Transportation Association of Canada (TAC) Conference, Montreal, ON.

261. Doubra Ambaiowei, Xiomara Sanchez, **Susan Tighe**, Seyed Tabib, 2014. “Rutting Characterization of Typical Ontario Rubberized-RAP Hot Mix Asphalt Mixtures”, 59th Canadian Technical Asphalt Association (CTAA), November 2014, Winnipeg, MB

260. Mehran Kafi Farashah and **Susan Tighe**, 2014. “Development Practices for Municipal Pavement Management Systems Application”, Transportation Association of Canada Conference (TAC), Asset Management: Reinventing Organizations for the Next 100 Years Session, Montreal, QC, September 2014.

259. **Susan Tighe**, 2014. “Infrastructure Impacts, Vulnerabilities and Design Considerations for Future Climate Change on Roads and Associated Infrastructure”, 10th National Conference Transportation Asset Management, Miami, FL, April 28-30, 2014.

258. Theuns Henning and **Susan Tighe**, 2014. Telling an Effective Story – Improving the Understanding of Road Network Needs Through Performance Measurement and Monitoring”, 10th National Conference Transportation Asset Management, Miami, FL, April 28-30, 2014.

257. Doubra Ambaiowei and **Susan Tighe**, 2014. “Laboratory Evaluation of Rubber Modified Asphalt Mixtures”, Rubber Recycling Symposium, The Rubber Association of Canada, Montreal QC., October 22-24, 2014

256. Cheng Zhang, **Susan Tighe**, Soo Jeon, Hyock Ju Kwon, 2014. “Mechanistic-Empirical Aircraft Landing Distance Prediction Methods”, 93rd Annual Transportation Research Board Proceedings, Washington, D.C., Paper No. 14-1255, January 12-16, 2014.

255. Marcelo Gonzalez, Arthur de Lima, and **Susan Tighe**, 2014. “Nanoconcrete for Rigid Pavements: Abrasion Response and Impact on Friction”, 93rd Annual Transportation Research Board Proceedings, Washington, D.C., No. 2441, January 12-16, 2014.

254. Andrew Northmore and **Susan Tighe**, 2014. “Solar Roads: Are They Feasible?”, Nova Scotia Energy R&D Conference, Halifax, Nova Scotia, May 21-22, 2014.

253. Aleli Osorio, Alondra Chamorro, **Susan Tighe**, Carlos Videla, 2014. “Calibration and Validation of a Condition Indicator for Managing Urban Pavement Networks”, 93rd Annual Transportation Research Board Proceedings, Washington, D.C., January 12-16, 2014.

252. Mohab El-Hakim and **Susan Tighe**, 2014. “Impact of Freeze-Thaw Cycles on Mechanical Properties of Asphalt Mixes”, 93rd Annual Transportation Research Board Proceedings, Washington, D.C., January 12-16, 2014.

251. Aleks Kivi, **Susan Tighe**, Dave Hein, 2014. “New and Innovative Concrete Pavements Using a Structural Dome Formwork System”, 93rd Annual Transportation Research Board Proceedings, Washington, D.C., January 12-16, 2014.

250. Aleks Kivi, **Susan Tighe**, Rico Fung, Jozef Grajek, 2014. “Rehabilitating Urban Pavements with Concrete: A Municipal Case Study”, 93rd Annual Transportation Research Board Proceedings, Washington, D.C., Paper No. 14-3378, January 12-16, 2014.

249. Zaid Alyami and **Susan Tighe**, 2014. “Project Asset Management for Performance Based Contracts”, Annual Inter-University Symposium on Infrastructure Management (AISIM), Virginia Tech, June 20-21, 2014 (**BEST PAPER AWARD**)

248. Dan Pickel, **Susan Tighe**, and Jeff West, 2014. “Evaluation of RCA for Usage in Highway and Municipal Concrete Applications”, Transportation Association of Canada Annual Meeting, September 28 – October 1, 2014

247. Doubra Ambaiowei, Xiomara Sanchez, **Susan Tighe**, and Vince Aurilio, 2014. “Rutting Behaviour of Typical Ontario SuperPave RAP-HMA Mixtures”, Transportation Association of Canada Annual Meeting (Poster Session), September 28 – October 1, 2014, Montreal QC

246. Sonia Rahman, Vimy Henderson, **Susan Tighe**, and Rico Fung, 2014. “Long Term Drainage Performance of Pervious Concrete Pavements in Canada”, Transportation Association of Canada Annual Meeting, September 28 – October 1, 2014.

245. Sonia Rahman, Andrew Northmore, **Susan Tighe**, and David Rhead, 2014. “A State of the Art Review of Pervious Concrete Test Methods”, Transportation Association of Canada Annual Meeting (Poster Session), September 28 – October 1, 2014.

244. Gulfam Jannat and **Susan Tighe**, 2014. “An Experimental Design based on Sensitives of Mechanistic-Empirical Pavement Design Guide (MEPDG) Predictions for Ontario’s Local Calibration”, Transportation Association of Canada Annual Meeting, September 28 – October 1, 2014.

243. Sina Varamini, Doubra Ambaiowei, Xiomara Sanchez, and **Susan Tighe**, 2014. “Evaluation of Asphalt Binder Characteristics of Typical Ontario SuperPave Crumb Rubber Modifiers (CRM) and Reclaimed Asphalt Pavements (RAP) Hot Mix Asphalt Mixtures”, Transportation Association of Canada Annual Meeting, September 28 – October 1, 2014.

242. Janki Bhavsar, **Susan Tighe**, and Mahesh Pandey, 2014. “Asphalt Pavement Friction Analysis: A CPATT Test Track Case Study”, Transportation Association of Canada Annual Meeting (Poster Session), September 28 – October 1, 2014

241. Marcelo Gonzalez and **Susan Tighe**, 2014. “Nanotechnology Applied in the Design of the Next Generation of Concrete Pavements Surface”, Transportation Association of Canada Annual Meeting (Poster Session), September 28 – October 1, 2014.

**2013**

240. Magdy Shaheen, Adil Al-Mayah, **Susan Tighe**, Md. Saffiuddin, 2013. “Fatigue Damage Evolution in Micro and Macrostructure of Asphalt Beam Tested under Four Point Bending”, 58th Annual Conference of the Canadian Technical Asphalt Association (CTAA), Newfoundland, Canada., November 17-20, 2013

239. Doubra Ambaiowei and **Susan Tighe**, 2013. “Optimizing Crumb Rubber Modifiers (CRM) and Reclaimed Asphalt Pavements (RAP) in Ontario Hot Mix Asphalt (HMA)”, Canadian Technical Asphalt Association Annual Conference (paper for presentation)

238. Kamal Joshi, Soo Jeon, HJ Kwon and **Susan Tighe**, 2013. “Braking Availability Tester (BAT) for Realistic Assessment of Aircraft Landing Distance on Winter Runways”, Canadian Congress of Applied Mechanics (CANCAM), Saskatoon, SK, June 2-6, 2013.

237. Federico Irali, Aleks Kivi, James Smith, **Susan Tighe** and Cesare Sangiorgi, 2013. “Recycled Concrete Aggregate in Concrete Pavements: A Five Year Study on the Effects of Climate Change on Long-Term Performance”, Transportation Association of Canada Annual Conference (POSTER and Paper).

236. Aleks Kivi, **Susan Tighe** and Dave Hein, 2013. “Field Evaluation of Cupolex® as an Innovative Concrete Pavement Technology”, Transportation Association of Canada Annual Conference. (POSTER).

235. Aleks Kivi, **Susan Tighe**, Rico Fung, and J. Grazek, 2013. “Ten Year Performance Evaluation of Unbonded Concrete Overlay and Jointed Plain Concrete Pavement: A Toronto Case Study”, Transportation Association of Canada, Annual Conference. **(BEST PAPER AWARD)**

234. Li Ningyuan, Amin S. Hamdi, **Susan Tighe**, 2013. “Impacts of Using Alternative Performance Indices on Road Asset Value Assessment”, International Journal of Pavement Conference, Sao Paula, Brazil, December 9-10, 2013.

233. Doubra Ambaiowei, Xiomara Sanchez, Md. Safiuddin and **Susan Tighe**, 2013 “Investigating Thermal Cracking Potential of RAP Incorporated HMA Mixtures”, Transportation Association of Canada, Annual Conference. Winnipeg, Manitoba September 22-25.

232. **Tighe, Susan** and Douglas Gransberg, 2013. “Demonstrating how Sustainability can Effectively be Incorporated into Pavement Engineering and Management”, Presented at the Airfield and Highway Pavement Conference: ASCE, June 9-12, 2013, Los Angeles, CA.

231. Milos Posavljak, **Susan Tighe** and Jerry Godin, 2013. “Strategic Total Highway Asset Management Integration”, Annual Meeting of the Transportation Research Board Proceedings, Paper 13-5020, Washington, D.C. January 13-17, 2013.

230. Marcelo Gonzalez, Md. Safiuddin and **Susan Tighe**, 2013. “Sound Absorption and Friction Responses of Nano-concrete for Rigid Pavements”, Annual Meeting of the Transportation Research Board Proceedings, Paper 13-2248, Washington, D.C. January 13-17, 2013.

229. Mohab El-Hakim and **Susan Tighe**, 2013 “Evaluation of the Perpetual Pavement Design Philosophy at Three Traffic Volume Scenarios”, Annual Meeting of the Transportation Research Board Proceedings, Paper 13-4241, Washington, D.C. January 13-17, 2013.

228. Liam Butler, **Susan Tighe** and Jeffrey West, 2013. “Guidelines for the Selection and Use of Recycled Concrete Aggregates in Structural Concrete”, Annual Meeting of the Transportation Research Board Proceedings, Paper 13-1173, Washington, D.C. January 13-17, 2013.

227. Alain Duclos and **Susan Tighe**, 2013. “The Cost Implications of Using Various Flexible Pavement Design Methodologies for Canadian Municipalities”, the Transportation Association of Canada Annual Conference, Winnipeg, MB, September 22-25.

226. **Susan Tighe** and Douglas Gransberg, 2013. “Sustainable Pavement Maintenance and Preservation Practices: Case Study Analysis”, Annual Meeting of the Transportation Research Board Proceedings, Paper 13-0728, Washington, D.C. January 13-17, 2013.

225. Md. Safiuddin, **Susan Tighe** and Riyad Ul-Islam, 2013 “Evaluation of Stiffness to Predict Fatigue Life of Hot Mix Asphalt – A Canadian Case Study”, 3rd Specialty Conference on Material Engineering & Applied Mechanics, Canadian Society of Civil Engineering, Montreal, May 29-June 1, 2013.

**2012**

224. Liam Butler, Jeff West and **Susan Tighe**. 2012. “Effect of RCA Properties on the Mixture Proportions of RCA Concrete Developed for Structural Applications”, Annual Meeting of the Transportation Research Board Proceedings, Paper 12-1444. Washington, D.C. January 22-26 2012

223. Mohab El-Hakim and **Susan Tighe**. 2012. “Sustainability of Perpetual Pavement Designs: Canadian Perspective”, Annual Meeting of the Transportation Research Board Proceedings, No. 2304. Washington, D.C. January 22-26 2012

222. Amir Golroo and **Susan Tighe**, 2012. “Pervious Concrete Pavement Condition Rating Using Fuzzy Sets”, Annual Transportation Research Board Conference Proceedings, Washington, D.C., Paper 12-3435, January 22-26, 2012.

221. Mohab El-Hakim and **Susan Tighe**. 2012. “Evaluation of Environmental Impact on Perpetual and Conventional Pavement Designs: A Canadian Case Study”, Transportation Association of Canada (TAC) Conference, Fredericton, NB, October 14-17, 2012

220. Mohab El-Hakim and **Susan Tighe**. 2012. “Evaluation of the Perpetual Pavement Design Philosophy at Three Traffic Volume Scenarios”, Annual Inter-University Symposium on Infrastructure Management (AISIM 8), Atlanta, GA., June 8-12, 2012 (**BEST PAPER AWARD**)

219. Mohab El-Hakim and **Susan Tighe**. 2012. “Laboratory Investigation of Environmental Impact on Perpetual and Conventional Pavement Designs”, Canadian Technical Asphalt Association (CTAA), Vancouver, BC.

218. Xiomara Sanchez, **Susan Tighe**, Vince Aurilio and Seyed Tabib. 2012. “Determining the quantity of RAP in HMA in Ontario – Phase 1”, 57th Annual Conference of the Canadian Technical Asphalt Association (CTAA), Vancouver, BC.

217. Shirley Ddamba, **Susan Tighe**, Ryan Essex and Narayan Hanasoge. 2012. “Evaluation of the Effect of Recycled Asphalt Shingles on Ontario Pavement Mix”, Canadian Technical Asphalt Association (CTAA), Vancouver, BC.

216. Richard Korczak, **Susan Tighe** and Gabe Cimini, 2012. “Use of an Automated Temperature Data Logger (ATDL) During Falling Weight Deflectometer (FWD) Testing”, Transportation Association of Canada (TAC) Conference, Fredericton, NB, October 14-17, 2012

215. Andrew Northmore and **Susan Tighe**. 2012. “Innovative Pavement Design: Are Solar Roads Feasible?”, Transportation Association of Canada Conference Proceedings, Fredericton, NB, October 14-17, 2012

214. Amin Hamdi, Zaid Alyami, Tracy Zhou and **Susan Tighe**. 2012. “Improving Ontario Pavement Management Through Long-Term Monitoring”, Presented at the 91st Annual Transportation Research Board, Paper 12-2474, Washington, DC. January 22-26.

213. Aleks Kivi, **Susan Tighe** and Rico Fung. 2012. “Performance Evaluation of Urban Pavements Rehabilitated with Concrete.” 10th International Conference on Concrete Pavements, Quebec City, Quebec, July 8-12. (Poster).

212. Marcelo Gonzalez, Md. Safiuddin and **Susan Tighe**. 2012. “Surface Characteristics of Next Generation Concrete Pavements: A Canadian Perspective”, International Conference on Concrete Pavements, Quebec City, Quebec, July 8-12.

211. Vimy Henderson and **Susan Tighe**. 2012. “Performance of Pervious Concrete Pavement in Freeze-Thaw Conditions and With Winter Maintenance”, 10th International Conference on Concrete Pavements, Quebec City, Quebec, July 8-12.

210. Li Ningyuan, **Susan Tighe** and Tom Kazmierowski, 2012. “Performance Evaluation of Heavy Duty Canadian Highways-Ontario Experience”, International Society for Asphalt Pavements (ISAP) 2012 International Symposium on Heavy Duty Asphalt Pavements and Bridge Deck Pavements, Nanjing, China, Paper No. 67, May 23-25.

209. **Susan Tighe**, 2012. “Tire-Pavement Noise Measurement: Case Study from Ontario, Canada”, Presentation, Annual Meeting of the Transportation Research Board Proceedings, Paper 12-5059, Washington, D.C. January 22-26, 2012.

208. **Susan Tighe**, 2012. “Sustainable Pavement Maintenance and Presentation Practices: Review of Current Practice”, Presentation, Annual Meeting of the Transportation Research Board Proceedings, Paper 12-5329, Washington. D.C., January 22-26.

207. **Susan Tighe** and Marta Juhasz, 2012. “Development of the New 2011 Canadian Pavement Asset Design and Management Guide: Summary of Canadian State-of-the-practice”, Annual Meeting of the Transportation Research Board Proceedings, Paper 12-1106, Washington, D.C. January 22-26.

206. Zaid Alyami, Mehran Kafi Farashah and **Susan Tighe,** 2012. “Selection of Automated Data Collection Technologies Using Multi Criteria Decision Making Approach for Pavement Management Systems”, Annual Transportation Research Board Conference Proceedings, Washington, DC. Paper No. 12-2878, January 22-26. 2012.

205. Mohab El-Hakim and **Susan Tighe**, 2012. “Perpetual Pavement Designs and Sustainable Road Construction: Two Sides of the Same Coin”, Annual Transportation Research Board Conference Proceedings, Washington, D.C, January 22-26, 2012.

204. Mehran Kafi Farashah, Zaid Alyami, and **Susan Tighe**, 2012. “Evaluating Pavement Performance for Network Level Pavement Management: Provincial/State vs. Municipal, What is the Difference?”, Proceedings, 9th International Transportation Speciality Conference, Canadian Society for Civil Engineering, June.

**2011**

203. Riyad Ul Islam, Shirley Ddamba, **Susan Tighe**, Ryan Essex, and Narayan Hanasoge, 2011. “Field and Laboratory Evaluation of Recycled Asphalt Shingle Mixes: Canadian Study”, Annual Meeting of the Transportation Research Board Proceedings, Paper 11-3563., Washington D.C.

202. Alondra Chamorro, and **Susan Tighe**, 2011. “Condition Performance Models for Network-Level Management of Unpaved Roads”, c Issue 2204., Washington D.C.

201. Amir Golroo and **Susan Tighe**. 2011. “Empirical Models for Prediction of Pervious Concrete Pavement Performance Deterioration”, Transportation Research Board 90th Annual Meetings, Paper 11-4168. Washington, D.C., January 2011

200. Mohab El-Hakim and **Susan Tighe**, 2011. “Sustainability of Perpetual Pavement Designs: A Canadian perspective”, Annual Inter-University Symposium on Infrastructure Management, June 2011 (**BEST PAPER AWARD)**

199. Zaid Alyami and **Susan Tighe**, 2011. “Framework for the Evaluation and Selection of Automated Performance Measures”, 7th Annual Inter-University Symposium on Infrastructure Management, June 2011, Illinois USA.

198. Mehran Kafi Farashah, Zaid Alyami and **Susan Tighe**, 2011. “Evaluating Pavement Performance for Network Level Pavement Management: Provincial vs. Municipal, What is the Difference”, 7th Annual Inter-University Symposium on Infrastructure Management. June 2011.

197. **Susan Tighe** and Marta Juhasz, 2011. “Development of the New 2013 Canadian Pavement Asset Design and Management Guide: A Brief Summary of Canadian State-of-the-Practice”, 8th International Conference on Managing Pavement Assets. November 15-19, Santiago Chile.

196. **Susan Tighe**, HJ Kwon, Soo Jeon and Paul Cudmore. 2011. “Development of an innovative braking tester”, Summer Winter Integrated Field Technologies, Calgary, September.

195. Vimy Henderson, **Susan Tighe** and Rico Fung. 2011, “Development of a Guide for the Design, Construction and Maintenance of Pervious Concrete Pavement in Canada.” Transportation Association of Canada, Edmonton, AB., September 11-14, 2011

194. Amir Abd El Halim, and **Susan Tighe**, 2011. “Development of an Approach for Assessing the Level of Safety of a Highway Network Associated with Pavement Friction”, Annual Conference of the Transportation Association of Canada Proceedings, Edmonton, Alberta, September 11-14.

193. Ludomir Uzarowski, Vimy Henderson, **Susan Tighe**, and Mike Halloran. 2011. “Differential Shrinkage Cracking of HMA Placed Over Foamed Asphalt Base – A Case Study.” Canadian Technical Asphalt Association.

192. Liam Butler, Jeff West and **Susan Tighe**. 2011. “Quantification of Recycled Concrete Aggregate (RCA) Properties for Usage in Bridges and Pavements: An Ontario Case Study”, Annual Conference of the Transportation Association of Canada Proceedings, Edmonton, Alberta. September 11-14

191. Vimy Henderson and **Susan Tighe**, 2011. “Evaluation of Pervious Concrete Pavement Maintenance Methods of Field Sites in Canada”, Annual Meeting at the Transportation Research Board Proceedings, Paper 11-3942, Washington, D.C.

190. Vimy Henderson and **Susan Tighe**, 2011. “Pervious Concrete Pavement: A Sustainable Alternative”, Annual Meeting of the Transportation Research Board Proceedings, Paper 12-3611, Washington, D.C. January 22-26.

**2010**

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**2004**

53. James Smith and **Susan Tighe**, 2004. “Evaluation of Canadian Asphalt Overlay Roughness Using C-SHRP and LTPP Data”, Canadian Technical Asphalt Association Proceedings, Quebec City, November, pp. 26

52. **Susan Tighe**, Ralph Haas and Gerhard Kennepohl, 2004. “Design, Construction and Performance of CPATT’s Test Road”, Canadian Technical Asphalt Association Proceedings, Montreal, November, pp. 26

51. **Susan Tighe**, Gerhard Kennepohl and Ralph Haas, 2004. “Accelerating Pavement Technology Development Through Innovative Field and Laboratory Research”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), Quebec City, September, pp. 22

50. Gerardo W. Flintsch, Kristen L. Sanford Bernhardt, Zhanmin Zhang and **Susan Tighe**, 2004. “Enhancing Infrastructure Management Education Through Collaboration”, Proceedings of the 2004 American Society for Engineering Education Annual Conference & Exposition, Chicago, Illinois, pp. 10

49. **Susan Tighe**, Gerhard Kennepohl and Ralph Haas, 2004. “A New Canadian Initiative to Develop a Long Term Program of Pavement Research”, International Symposium on Long Lasting Asphalt Pavements, Auburn, Alabama, pp. 23

48. Ralph Haas, Lynne Cowe Falls, Donaldson MacLeod and **Susan Tighe**, 2004. “Climate Impacts and Adaptions on Roads in Northern Canada”, Cold Regions Engineering and Construction Conference and Expo 2004, Edmonton, May, pp. 18

47. **Susan Tighe**, Mohammad Karim, Alan Herring, Kevin Chee and Mounir Moughabghab, 2004. “Prioritization Methods for Effective Airport Pavement Management: A Canadian Case Study”, National Academy Standard, 6th International Conference on Managing Pavements, Brisbane, Australia, pp. 20

46. Ralph Haas, **Susan Tighe** and Lynne Cowe Falls, 2004. “Protocol for Whole-of-Life Analysis of Infrastructure Assets”, National Academy Standard, 6th International Conference on Managing Pavements, Brisbane, Australia, pp. 20

45. Lynne Cowe Falls, Ralph Haas and **Susan Tighe**, 2004. “A Comparison of Asset Valuation Methods For Civil Infrastructure”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), Quebec City, September, pp. 30

44. **Susan Tighe**, Angela Jeffray and Ralph Haas, 2004. “Managing Our Pavement and Knowledge Assets in Pavement and Transportation Engineering”, National Academy Standard, 6th International Conference on Managing Pavements, Brisbane, Australia, pp. 17

43. **Susan Tighe,** Mohammad Karim, Alan Herring, Kevin Chee and Mounir Moughabghab, 2004. “An Evaluation of Various Prioritization Methods for Effective Pavement Management: A Canadian Airport Case Study”, FAA Worldwide Airport Technology Transfer Conference, Atlantic City, New Jersey, pp. 30

42. Mark Knight, Adedamola Adedapo and **Susan Tighe**, 2004. “Measurement of Pavement Deterioration and HDPE Pipe Behaviour Resulting from HDD and Open Cut Pipe Line Installations – A University of Waterloo Field Study”, North American Society for Trenchless Technology (NASTT) NO-DIG 2004, New Orleans, Louisiana, pp. 13

41. Renato Capuruco and **Susan Tighe,** 2004. “A Web-Centric Business Framework and Strategy for Improving Road Roughness Interpretation”, Transportation Research Board Annual Meeting, Washington, D.C., pp. 19

40. Renatao Capuruco and **Susan Tighe,** 2004. “Applicability of HDM-4 in Pavement Preservation Strategies for the Ontario Road Network”, Transportation Research Board Annual Meeting, Washington, D.C., pp. 28

39. Zhanmin Zhang and **Susan Tighe**, 2004. “Impact of Tridem and Trunnion Axle Groups on Premature Damage of Pavement Infrastructure”, Transportation Research Board Annual Meeting, Washington, D.C., pp. 23

**2003**

38. Mohammad Karim and **Susan Tighe**, 2003. “Using MicroPAVER and Prioritization Methods for Effective Pavement Management: A Canadian Case Study”, Canadian Technical Asphalt Association Proceedings, Halifax, November, pp. 30

37. **Susan Tighe,** Becca Lane and Tom Kazmierowski, 2003. “Multi-Criterion Examination of Expanded Asphalt Stabilization as A Possible Pavement Rehabilitation Alternative”, International Conference on Highway Pavement Data, Analysis and Mechanistic Design Applications, Ohio, September, pp. 32

36. **Susan Tighe,** Joseph Ponniah and Tom Kazmierowski, 2003. “Examination of the Impacts of Variability on Performance Using A Mechanistic-Empirical Design Procedure”, International Conference on Highway Pavement Data, Analysis and Mechanistic Design Applications, Ohio, September, pp. 24

35. Ralph Haas, **Susan Tighe** and Lynne Cowe Falls, 2003. “Generic Protocol for Long Life Pavements Cost Analysis”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), St. John’s, September, pp. 22

34. **Susan Tighe**, Angela Jeffray, Gerhard Kennepohl, Ralph Haas and Malcolm Matheson, 2003. “Field Experiments in CPATT’s Long Term Program of Pavement Research”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), St. John’s, September, pp. 32

33. Lynne Cowe Falls and **Susan Tighe**, 2003. “Improving LCCA Through The Development of Cost Models Using the Alberta Roadway Maintenance and Rehabilitation Analysis Application (ROMARA)”, Transportation Research Board Annual Meeting, Washington, D.C., pp. 23

32. Mike Wang and **Susan Tighe,** 2003. “Deflection Curve Modelling: A New Integrated Approach to Pavement Condition Evaluation”,Canadian Transportation Research Forum, Ottawa, May, pp. 27

31. Mike Wang and **Susan Tighe,** 2003. “Theoretical Derivation for CBR Mathematical Expression”,Canadian Transportation Research Forum, Ottawa, May, pp. 17

**2002**

30. **Susan Tighe**, Ralph Haas and Ningyuan Li, 2002. “Development of Asphalt Overlay Performance Models From the C-LTPP Experiment”, 9th International Conference on Asphalt Pavements, International Society of Asphalt Pavements, Copenhagen, Denmark, August, pp. 18

29. **Susan Tighe** and Ruba AlAssar, 2002. “User Delay Impacts of Alternative Traffic Plans for Maintenance and Rehabilitation Interventions”, 9th International Conference on Asphalt Pavements, International Society of Asphalt Pavements, Copenhagen, Denmark, August, pp. 17

28. Ralph Haas, Gerhard Kennepohl, Carolyn Hansson and **Susan Tighe**, 2002. “Integrated Laboratory and Field Research on Roads and Pavements”, Transportation Association of Canada Annual Conference, Winnipeg, September, pp. 27

27. Lynne Cowe Falls and **Susan Tighe**, 2002. “Improving LCCA Through the Development of Cost Models Using The Alberta Roadway Maintenance and Rehabilitation Analysis Application (ROMARA)”, Canadian Technical Asphalt Association Proceedings, Volume XLVII, Calgary, November, pp. 219-234

**2001**

26. **Susan Tighe** and Ralph Haas, 2001. “Managing Paved Road Assets Effectively”, Canadian Technical Asphalt Association Proceedings, Volume XLVI, Toronto, November, pp. 407-422

25. **Susan Tighe**, Rico Fung and Tim Smith, 2001. “Concrete Pavements In Canada: State-of-the-Art Practice”, 7th International Conference on Concrete Pavements, National Academy Standard, Orlando, Florida, September, pp. 15

24. **Susan Tighe**, Wei He, Ruba AlAssar and Ralph Haas, 2001. “Calibrating Mechanistic-Empirical Pavement Performance Models With An Expert Matrix”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), Halifax, September, pp. 20

23. Lynne Cowe Falls, Ralph Haas and **Susan Tighe**, 2001. “Operational Reality of Component Systems Within The Asset Management Framework”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), Halifax, September, pp. 18

22. Tim Smith, **Susan Tighe** and Rico Fung, 2001. “Concrete Pavements In Canada: A Review of Their Usage and Performance”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), Halifax, September, pp. 20

21. **Susan Tighe**, Lynne Cowe Falls and John Morrall, 2001. “Integrating Safety With Asset Management Systems”, National Academy Standard, 5th International Conference on Managing Pavements, Seattle Washington, August, pp. 15

20. Haas, Ralph, W. Ronald Hudson and **Susan Tighe**, 2001. “Maximizing Customer Benefits As The Ultimate Goal of Pavement Management”, National Academy Standard, 5th International Conference on Managing Pavements, Seattle, Washington, August, pp. 17

19. Ningyuan Li, Tom Kazmierowski, **Susan Tighe** and Ralph Haas, 2001. “Integrating Dynamic Performance Prediction Models into Pavement Management Maintenance and Rehabilitation Programs”, National Academy Standard, 5th International Conference on Managing Pavements, Seattle, Washington, August, pp. 17

18. **Susan Tighe**, Thomas Lee and Ralph Haas, 2001. “Using Trenchless Technology To Save Costs Associated With Traffic Delays”, International Conference on Underground Infrastructure Research, Centre for Advancement of Trenchless Technology, Waterloo, June, pp. 8

17. **Susan Tighe**, Ralph Haas and Park Reilly, 2001. “Asphalt Cement Influences On Low Temperature Cracking Of the C-LTPP Test Sections”, Transportation Research Board Annual Meeting, National Academy of Sciences, (on CD-Rom only), Washington, D.C., January, pp. 20

**2000**

16. **Susan Tighe**, Zhiwei He and Ralph Haas, 2000. “Calibration and Validation of Performance Models For Asphalt Pavements”, Canadian Technical Asphalt Association Proceedings, Volume XLV, Manitoba, November, pp. 318-337

15. **Susan Tighe** and Ralph Haas, 2000. “Investment In Asphalt Research and Technology Development Pays Off”, Canadian Technical Asphalt Association Proceedings, Volume XLV, Manitoba, November, pp. 1-16

14. Chris Raymond, **Susan Tighe** and Ralph Haas, 2000. “User Cost Analysis of Traffic Staging Options for Resurfacing of Divided Highways in Ontario”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), Edmonton, October, pp. 15

13. Ruba Al Assar, **Susan Tighe,** Zhiwei He and Ralph Haas, 2000. “Simplified User Delay Cost Model For Pavement and Bridge Life Cycle Analysis”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), Edmonton, October, pp. 17

12. Ralph Haas and **Susan Tighe**, 2000. “Incorporating Safety Into Asphalt Pavements Asset Management”, 1st International Conference World of Asphalt Pavements, Australia, February, pp. 23

11. Ralph Haas, Ningyuan Li and **Susan Tighe**, 2000. “Performance of Asphalt Overlays in the Canadian Strategic Highway Research Program’s LTPP Study”, 1st International Conference World of Asphalt Pavements, Australia, February, pp. 26

**1999**

10. **Susan Tighe** and Harry Sturm, 1999. “An Ontario Network Level Analysis of Rehabilitation and Reconstruction Candidates”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), St. John New Brunswick, September, pp. 20

9. **Susan Tighe** and Ralph Haas, 1999. “Performance Modelling and Comparative Life-Cycle Economics of Modified Pavements”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), St. John New Brunswick, September, pp. 30

8. Ningyuan Li, **Susan Tighe**, Lou Frattaroli, Sarah Wells and Ralph Haas, 1999. “Asphalt Overlay Performance in the C-LTPP Experiment”, Canadian Technical Asphalt Association Proceedings, Volume XLIV, Quebec City, November, pp. 317-344

**1998**

7. **Susan Tighe** and Ralph Haas, 1998. “Benefits of Partially Paved Asphalt Shoulders”, Canadian Technical Asphalt Association Proceedings, Volume XLIII, Vancouver, November, pp. 190-205

6. Ningyuan Li, **Susan Tighe** and Ralph Haas, 1998. “Incorporating Road Safety and Accident Prediction Into Pavement Management”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), Regina, September, pp. 20

5. Ralph Haas, Ningyuan Li and **Susan Tighe,** 1998. “Roughness Trends at Canadian Strategic Highway Research Program (C-SHRP) Long Term Pavement Performance (C-LTPP) Sites”, Transportation Association of Canada Conference Proceedings (on CD-Rom only), Regina, September, pp. 27

4. **Susan Tighe** and Ralph Haas, 1998. “Safety and Economic Benefits of Partially Paved Shoulders”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), Regina, September, pp. 16

3. Jerry Hajek, **Susan Tighe** and Bruce Hutchinson, 1998. “A Life-Cycle Economic Evaluation of Pavement Damage Associated With Trucks: An Ontario Study”, Transportation Association of Canada Conference Proceedings, (on CD-Rom only), Regina, September, pp. 18

**1997**

2. **Susan Tighe** and Ralph Haas, 1997. “Performance Modelling and Economic Analysis of Polymer Modified Asphalt Pavements”, Canadian Technical Asphalt Association Proceedings, Volume XLII, Ottawa, November, pp. 1-31, (**Presented and Awarded the Norman W. McLeod Award for Oral Presentation**).

1. **Susan Tighe**, Artie Patel, Ralph Haas and W. Ronald Hudson, 1997. “Education and Training Needs for Road Infrastructure Renewal”, Proceedings International Road Federation, World Meeting, (on CD-Rom only), Toronto, June, pp. 10

# **Papers in Abstract-Only Refereed Conference Proceedings**

**2017**

48. Alyami Z.; Mizutani D.; Kaito K.; **Tighe S**. “A Dynamic Optimal Model for Pavement Asset Management And Public Private Partnership Projects”, World Conference on Pavement and Asset Management WCPAM 2017, Baveno, Italy, June 2017

47. Alyami Z.; **Tighe S**. “Transportation Asset Management for Public Private Partnership Projects”, World Conference on Pavement and Asset Management WCPAM 2017, Baveno, Italy, June 2017

46. Alyami Z., **Tighe S.** “Multi-Attribute Utility Theory Approach to Value-based Infrastructure Asset Management” Canadian Society of Civil Engineers CSCE, Vancouver, BC, June 2017

45. Peter Mikhailenko, Hassan Baaj and **Susan Tighe**. 2017. "The Effects of Extraction and Recovery of Polymer Modified Asphalt Binder on Microstructure by ESEM", the 6th International Conference on Engineering Mechanics and Materials 2017 as part of the Canadian Society for Civil Engineering Conference in Vancouver, Canada, May-June.

44. Kadhim, H., Mikhailenko, P., Baaj, H., **Tighe, S.,** 2017. “The Effect of the Silo-Storage on the Rheological Behavior of a Surface Course Asphalt Mix Containing Reclaimed Asphalt Pavement (RAP).” Proceedings and Oral Presentation at 2017 Canadian Society for Civil Engineering Conference May 31-June 3, Vancouver, Canada.

43. Wafa, R. S., **Tighe, S. L**., Moore, G., & Fung, R. (2017). “Development of Innovative Asset Management Solutions for a Large Canadian City.” World Conference on Pavement and Asset Management (p. 10). Milan: World Conference on Pavement and Asset Management.

42. Wafa, R., & **Tighe, S. L**. (2017). REHABILITATING MUNICIPAL ROADS OF ONTARIO USING UNBONDED CONCRETE OVERLAYS, A CASE STUDY: CITY OF HAMILTON. Canadian Society of Civil Engineers. Halifax: Canadian Society of Civil Engineers.

**2016**

41. Pickel, D., **Tighe, S**., Fung, R., Lee, S., Smith, P., Kazmierowski, T., and Snyder, M.B., 2016. “Development of Precast Concrete Inlay Panel Rehabilitation Strategy for High Volume Asphalt Highways”, 11th International Transportation Speciality Conference at the Canadian Society of Civil Engineers (CSCE), London, ON, CAN

**2012**

40. Zaid Alyami, Mehran Kafi Farashah and **Susan Tighe**. 2012. “Selection of Automated Data Collection Technologies Using Multi Criterion Decision Making Approach for Pavement Management Systems”, International Transportation Specialty Conference, Canadian Society of Civil Engineers (Presentation), Edmonton, AB, June 6-9.

39. Mehran Kafi Farashah, Zaid Alyami and **Susan Tighe.** 2012. “Evaluating Pavement Performance for Network Level Pavement Management: Provincial/State vs. Municipal, What is the Difference?”, 9th International Transportation Specialty Conference, Canadian Society of Civil Engineers (Presentation), Edmonton, AB, June 6-9.

38. Mohab El-Hakim and **Susan Tighe,** 2012. “Perpetual Pavement Designs: The Sustainable Alternative for Highway Design”, Canadian Society of Civil Engineers (CSCE) Conference, Edmonton, AB.

37. Aleli Osorio, **Susan Tighe**, Alondra Chamorro and Carlos Videla, 2012. “Sustainable Urban Pavement Management Framework: A Chilean Case Study”, 1st International Specialty Conference on Sustaining Public Infrastructure, Canadian Society of Civil Engineers (CSCE), 2012 Conference, Edmonton, AB, June 6-9.

36. Andrew Northmore and **Susan Tighe.** 2012. “Developing Innovative Roads Using Solar Technology”, 9th International Transportation Specialty Conference at the Canadian Society of Civil Engineers (CSCE), 2012 Conference, Edmonton, ON June 6-9. **(BEST PAPER AWARD)**

**2011**

35. Bijan Ahmadi, Mohammad Adnan, Brenda McCabe and **Susan Tighe**, 2011. “Work Zone Throughput Models for Southern Ontario”, Canadian Society of Civil Engineering (CSCE), 2011 Conference, Ottawa, ON, June 14-17, 2011. (**BEST PAPER AWARD)**

34. **Susan Tighe** and Marta Juhasz. 2011. “Transportation Association of Canada Pavement Asset Design and Management Guide”, Organized and hosted a half day workshop, Transportation Association of Canada, Edmonton, AB.

**2010**

33. Shila Khanal and **Susan Tighe**. 2010. “Development of Interlocking Concrete Pavement Crosswalk Performance Models”, Canadian Society of Civil Engineering (CSCE) 2010 General Conference, Winnipeg Manitoba, June 9-12, 2010.

32. Islam, R., **Tighe, S.,** Essex, R. and Hanasoge, N., 2010. “Performance of Recycled Asphalt Shingles

(RAS) in Typical Ontario Hot Mix Asphalt (HMA)”, Transportation Association of Canada Annual

Conference, September 2010, Halifax, Nova Scotia, Canada.

31. Chamorro, A., **Tighe, S**., Ningyuan, L., Kazmierowski, T., and Lane, B., 2010. “Development of Distress Guidelines and Condition Rating for the Evaluation of Pavements on Highway Ramps and Interchanges in the Province of Ontario”, 8th International Transportation Speciality Conference, Canadian Society of Civil Engineers, Winnipeg, Manitoba

30. Smith, J.T., **Tighe, S.L**, 2010. “The Recycled Road: A Field Study Showcasing the Use of Recycled

Concrete Aggregate In Concrete Pavements”, 8th Transportation Specialty Conference of the

Canadian Society of Civil Engineers, ITSC-021, June 9-12, pp.10.

29. Peter Chan and **Susan Tighe**, 2010. “Develop Sustainable Indicator to Measure Pavement Sustainability on Network and Project Level”, Submitted for 8th International Transportation Specialty Conference, Winnipeg, Paper ITSC-009.

**2009**

28. Vimy Henderson and **Susan Tighe**. 2009. “Evaluation of Pervious Concrete Pavement”. Inter-University Symposium, Ames IOWA

27. Peter Chan and **Susan Tighe**. 2009. “Evaluating Pavement Sustainability”, Inter-University Symposium, Ames IOWA

26. Alondra Chamorro, and **Susan Tighe**. 2009. “Automated Distress Evaluation”. Inter-University Symposium, Ames IOWA

25. **Susan Tighe**, 2009. “Evaluation of Perpetual Pavements In Ontario”, Ontario Hot Mix Producers Summer Conference, Guelph, July.

**2008**

24. Brenda McCabe, Catherine Loughlin, **Susan Tighe** and Douglas Hyatt, 2008. “Factors Impacting Safety in Construction”, Construction Institute Conference, Toronto

23. Ahammed, M. A., and **Susan Tighe**, 2008. “Pavement Surface Characteristics: Safe, Quiet and Durable

Textures, Sharing Discovery”, 8th Annual Graduate Student Research Conference, University of Waterloo, Ontario, April 21-24

22. **Susan Tighe** and Vimy Henderson, 2008. “Understanding Pervious Concrete: BC Case Study”, Public Works Association of British Columbia Annual Technical Conference, Merritt, September

21. James Smith and **Susan Tighe**, 2008. "Moving Towards An Environmentally Sustainable Concrete Pavement Using Recycled Concrete Aggregate", 9th International Conference on Concrete, California, August

20. Ralph Haas, Gerhard Kennepohl, **Susan Tighe,** Carl Haas and Leo Rothenburg, 2008. “Strategic Planning for Waterloo’s Centre for Pavement and Transportation Technology”, Canadian Society for Civil Engineers Proceedings, Quebec City, June

**2007**

19. M. A. Ahammed. and **S. L Tighe,** 2007. “Optimization of Concrete Pavement Surface Texture for Skid Resistance and Noise”, Cement Association of Canada 2nd University Graduate Level Cement & Concrete R & D Exchange Forum, University of Waterloo, Ontario.

18. M. A. Ahammed and **S. L Tighe**, 2007. “Incorporation of Pavement Surface Characteristics into the PMS- Why and How Should We Care”, 3rd Annual Inter-University Symposium on Infrastructure Management (AISIM), Virginia Tech, Virginia.

17. **Susan Tighe,** Sudip Adhikari and Robert Burak, 2007. “Innovative Interlocking Concrete Paver Crosswalk Research for Long Term Performance”, Canadian Society for Civil Engineers Proceedings, Yellowknife, June

16. Ralph Haas, **Susan Tighe** and Lynne Cowe Falls, 2007. “Leading Edge Innovations in Road Technology”, Canadian Society for Civil Engineers Proceedings, Yellowknife, June

15. Ralph Haas, **Susan Tighe** and Lynne Cowe Falls, 2007. “Quantifiable Performance Indicators for Managing Road Assets”, Canadian Society for Civil Engineers Proceedings, Yellowknife, June

**2006**

14. M. A. Ahammed., and **S. L Tighe**, 2006. “ Optimized Surface Characteristics for Safe, Quiet and Smooth Concrete Pavements”, Cement Association of Canada 1st University Graduate Level Cement & Concrete R & D Mini Exchange Forum, University of Toronto, Ontario.

13. M.A. Ahammed and **S. L. Tighe**, 2006. “Sustainability of Pavement Surface Characteristics: Smoothness, Friction, Noise and Safety”, CPATT Symposium, University of Waterloo, Ontario.

12. **Susan Tighe,** Lynne Cowe Falls and Guy Dore, 2006. “Accelerated Pavement Testing in Canada”, Canadian Society for Civil Engineers Proceedings, Calgary, June

11. **Susan Tighe**, Wilson Chung, Robert Burak, and David Smith 2006“Development of Educational Tools for Interlocking Concrete Pavements”, 8th International Conference on Concrete Block Paving, San Francisco, California, November

**2005**

10. Wilson Chung, **Susan Tighe** and Rob Burak, 2005. “Development of Education Tools for Interlocking Concrete Pavements”, Canadian Society for Civil Engineers Proceedings, Toronto, June

9. Patrick Leong and **Susan Tighe**, 2005. “Development of Spring Loaded Restrictions Using Canadian Long Term Pavement Performance Data”, Canadian Society for Civil Engineers Proceedings, Toronto, June

8. James Smith and **Susan Tighe**, 2005. “User Perceptions of Maintenance, Rehabilitation and Reconstruction Strategies”, Canadian Society for Civil Engineers Proceedings, Toronto, June

7. Ken Huen, **Susan Tighe** and Brenda McCabe, 2005. “Evaluating User Delay Costs for Typical Ontario Work Zones”, Canadian Society for Civil Engineers Proceedings, Toronto, June

**2004**

6. James Smith and **Susan Tighe**, 2004, “Bridging the Gap Between the U.S. LTPP Canadian Sites and the C-SHRP LTPP Experiment: An Assessment of Overlay Roughness”, Canadian Society of Civil Engineers Conference, Saskatoon, June, pp. 10

**2002**

5. Susanne Chan and **Susan Tighe**, 2002. “Development of a Methodology for Assessing the Technical and Economic Benefits of Pavement Laboratory Equipment”, Canadian Society of Civil Engineers Conference, Montreal, June, pp. 10

4. **Susan Tighe** and Lynne Cowe Falls, 2002. “The Role of Safety in Asset Valuation”, Canadian Society of Civil Engineers Conference, Montreal, June, pp. 10

**2000**

3. **Susan Tighe**, Ralph Haas and Li Ningyuan, 2000. “Roughness Progression of Asphalt Overlays in the C-SHRP’s LTPP Study”, Canadian Society of Civil Engineers Conference, London, Ontario, June, pp. 7

2. **Susan Tighe**, Chris Raymond and Ralph Haas, 2000. “Incorporating Safety With Pavement Management”, Canadian Society of Civil Engineers Conference, London Ontario, June, pp. 7

**1998**

1. Ningyuan Li, **Susan Tighe** and Ralph Haas, 1998. “Alternative Approaches To Preservation of Paved Road Infrastructure”, Canadian Society for Civil Engineers Proceedings, Halifax, June, Volume IVa pp. 219 to 229, (Abstract Refereed Only – not full paper review).

# **Books/Manuscripts**

**2013**

8. Henderson, V., **Tighe, S**., Fung, R., 2013. “Design, Construction and Maintenance of Pervious Concrete Pavement in Canada”, Cement Association of Canada.

7. Gransberg, D.D., **Tighe, S.L**., Pittenger, D.C. and Miller, M.C.., 2013. “Sustainable Pavement Preservation and Maintenance Practices”, Chapter in *Climate Change, Energy, Sustainability and Transportation Infrastructure*, Springer-Verlag, Inc., Berlin, Germany (in press).

6. **Susan Tighe**, 2013. “Pavement Asset Design and Management Guide”, Transportation Association of Canada, Ontario, Canada, pp. 489 (lead writer on Chapters 1, 2, 3, 14 and 15, and lead Editor for all other chapters in the Guide)

**2012**

5. **Susan Tighe** and Gary Hicks, 2012. “Materials Design and Construction of Recycled Tire Asphalt Manual”, Ontario Tire Stewardship, 85 pages.

**2010**

4. **Susan Tighe**, 2010.“Innovations in Transportation Engineering”, American Society of Civil Engineers Infrastructure Management Textbook, 35 pp.

**2005**

3. Leigh Wardle, Ian Rickards, John Lancaster and **Susan Tighe**, 2005 “Heavy Duty Industrial Pavement Design Guide”, Mincad Systems, Melbourne Australia, 73 pp.

2. **Susan Tighe,** 2005 Engineer Road Manual Volume 12, Horizontal Construction, Roads and Airfields Prepared for Canadian National Defence under contract between S. Tighe and the Royal Military College, Proof-read and edited Chapters 1 – 6 and was responsible for writing Chapters 7 – 14, 750 pp.

**2002**

1. **Susan Tighe**, 2002 Engineer Road Manual Volume 12, Horizontal Construction, Roads and Airfields Prepared for Canadian National Defence under contract between S. Tighe and the Royal Military College, Proof-read and edited Chapters 1 – 6 and was responsible for writing Chapters 7 – 14, 810 pp.

# **Papers Recently Submitted to Abstract-Only Refereed Conference Proceedings**

9. Donghui Lu, **Susan Tighe**, Wei-Chau Xie, and Hawraa Kadhim. (2018). “Flooding Induced Performance Change of Hot Mix Asphalt Pavement.” 2018 Canadian Society of Civil Engineers Annual Conference (CSCE). (Submitted)

8. Donghui Lu, **Susan Tighe** and Wei-Chau Xie. (2018). “Adapting to Pavement flooding risk under climate change.” 2018 Canadian Society of Civil Engineers Annual Conference (CSCE). (Submitted)

7. Seyedata Nahidi, Sonia Rahman, **Susan Tighe**. (2018). “Throughput Evaluation of Workzones On High-Volume Highways of Ontario, Canada”. 2018 Canadian Society of Civil Engineers Annual Conference (CSCE). (Submitted)

6. Alyami Z., **Tighe S.** (2018). “Incorporating Asset Value in Life Cycle Cost Analysis for Transportation Infrastructure Assets”. 2018 Canadian Society of Civil Engineers Annual Conference (CSCE). (Submitted)

5. AL-Bayati, H. K. A., **Tighe, S. L.** (2018). “Investigation of Treated CRCA in HMA Mixtures through Evaluating Low Temperature Cracking”. 2018 Canadian Society of Civil Engineers Annual Conference (CSCE). (Submitted)

4. Dahlia Malek, Victoria Speller, Dan Pickel, **Susan Tighe**. (2018). “The Role of Fast-track Pavement Repair Methods in Infrastructure Management”, 2018 Canadian Society of Civil Engineers Annual Conference (CSCE). (Submitted). TR12.

3. Dahlia Malek, Dan Pickel, **Susan Tighe**. (2018). “Methodology for Performance Evaluation of Precast Concrete Inlay Panels as a Pavement Repair Technique”, 2018 Canadian Society of Civil Engineers Annual Conference (CSCE). (Submitted). TR13.

2. Sergey Averyanov, Frank Mi-Way Ni, Eskedil Melese, **Susan L. Tighe**. “Construction Experience Analysis of using CEMATRIX Lightweight Cellular Concrete as a Subbase material”. 2018 Canadian Society of Civil Engineers Annual Conference (CSCE). (Submitted). GC26

1. Frank Mi-Way Ni, Sergey Averyanov, Eskedil Melese, **Susan Tighe**. 2018. "Characterization of Lightweight Cellular Concrete". 2018 Canadian Society of Civil Engineers Annual Conference (CSCE). (Submitted).

# **Selected Invited Articles**

15. D. Pickel, **S. Tighe**, and E. Saunderson. “Spragues Road Unbounded Concrete Overlay”, Canadian Civil Engineer, Winter Issue 2015, Volume 32.5.

14. **S. Tighe.** “Pavement’s limits tested at University of Waterloo”, Daily Commercial News, July 2014

13. **S. Tighe.** “Sustained cold weather has stymied pothole repair”, The Waterloo Record, March, 2014

12. **S. Tighe.** “Pothole-free roads? Yes, it’s possible with better asphalt, says Queen’s University professor”, Toronto Star, January, 2014

11. **S. Tighe.** “Recycled asphalt delivering dividends: experts”, Daily Commercial News and Construction Record, December 2013

10. **S. Tighe.** “The road to better roads: Local engineer paves to way to pothole-free future”, St. Albert Gazette, August 2013.

9. **S. Tighe.** “Pervious Concrete”, Weather and Society Advisor, Vol 1, Issue 2, Interdisciplinary Centre on Climate Change (IC3) 2013

8. **S. Tighe**. “Perpetual Pavements”, PEO Engineering Dimensions, 2012

7. Andrew Northmore and **Susan Tighe**, 2012. “UW student probes solar road as path to future”, The Record, July.

6. R. Haas, G. Kennepohl, **S. Tighe**, C. Haas and L. Rothenburg, “Strategic Planning for Waterloo’s Centre for Pavement and Transportation Technology”, Canadian Civil Engineer, May 2008

5. **Susan Tighe** and James Smith, “Building Sustainable Pavements Using Recycled Concrete Aggregate: Fact or Reality?”, Canadian Civil Engineer, November 2007

4. **Susan Tighe**, “Porous Asphalts”, Asphaltopics, Ontario Hot Mix Producers, December 2007

3. Ralph Haas, **Susan Tighe** and Lynne Cowe Falls, “Quantifiable Performance Indicators for Managing Road Assets”, Canadian Society of Civil Engineers, May 2007

2. Ralph Haas, **Susan Tighe** and Lynne Cowe Falls, “Innovations in Transportation”, Canadian Society of Civil Engineers, January 2006

1. **Susan Tighe**, “University of Waterloo’s New Centre for Pavement and Transportation Technology”, ITE Transportation Talk, Volume 25 Number 4 Winter 2004, Canadian Institute for Transportation Engineers

# **Invited Presentations**

# **2017**

166. **Susan Tighe** .“Climate Change Impacts on Canadian Airports”. SWIFT 2017 Conference, Halifax

165. Donghui Lu, **Susan Tighe** and Wei-Chau Xie. 2017. “Analyzing Flooding Impacts on Asphalt and Concrete Airfield Pavements under Climate Change.” SWIFT 2017 Conference, Halifax

# 164. D. Dutton and **S. Tighe**. 2017. "Impact of Climate Change on Airfield Structures in Permafrost Regions." SWIFT 2017 Conference, Halifax.

# 163. D. Dutton, **S. Tighe**, and J. Coll. 2017. "Unpaved Runway Strength Testing Correlation." SWIFT 2017 Conference, Halifax.

# 162. **Keynote Address.** “Development of Infrastructure That Is Resistant To Natural Disasters.” 2017 International Conference on Maintenance and Rehabilitation of Constructed Infrastructure Facilities (MAIREINFRA). July 19- 21, 2017

# **2016**

161. Keynote Address. “Ethics in Transportation: An Academic Perspective”, Opening Plenary Session: Panel Discussion, Transportation Association of Canada Annual Conference, Toronto, September

160. Keynote Address. “Effects of Climate Change on Road Network Resilience”, Seminar Challenges for resilient road networks, Santiago Chile, October

159. Keynote Plenary Speaker. “Transportation Education Ethics”, November, ALACPA, Panama.

158. Keynote Address. “Innovations in Airport Pavements”, November, ALACPA, Panama.

157. Keynote Address “Centre for Pavement and Transportation Technology Applied Research in Airport Engineering: A Canadian Perspective” University of the Sunshine Coast, Australia, May

156. Keynote Address. “Innovations in Pavement Maintenance: A Canadian Perspective”, Workshop on Highway Maintenance Technologies at National Engineering Laboratory of Highway Maintenance Equipment, Xinxiang, China.

155. Keynote Address. “Superpave Binder System”, China Petroleum and Chemical Corporation, Shanghai, China.

154. Keynote Address, “Advances in Canadian Asphalt Pavement Materials, Design and Management”, International Symposium on Highway Maintenance and Technology, Changsha University of Science and Technology, June, China.

153. Invited Lecture, “Implementing Innovative Concrete Pavement Technologies Through Applied Research”, MIT Concrete Course, Ontario Good Roads Association, February

152. “Centre for Pavement and Transportation Technology”, C-TEP Conference, Edmonton, February

151. “Management and Maintenance of High Performance Asphalt Concrete”, Seminar on High Modulus Mixes, Ecole Technologie Superior International Seminar, Montreal, September

150. “Sustainable Pavement Engineering and Management”, Invited Lecture, Pontifical Catholic University of Chile, Santiago Chile, October

149. “Evaluating the Economic Benefit of Pavement Preservation”, National Conference on Pavement Preservation, Nashville, Tennessee, October

148. “Pavements of the Future”, XIII ALACPA Seminar of Airport Pavements, Panama City, Panama, November

147. “Airport Pavement Management: A Case Study of Applied Research”, XIII ALACPA Seminar of Airport Pavements, Panama City, Panama, November

146. “Building and Designing Resilient Pavement Infrastructure”, Invited Lecture, Maintenance Seminar, Shanxi Transportation Research Institute of China, Shanxi China, December

145. “Applied Research in Pavement Engineering”, Invited Lecture, Chang’An University, Xi’an China, December

144. Invited Presentation “Centre for Pavement and Transportation Technology Applied Research in Airport Engineering: A Canadian Perspective” Alberta Road Builders/C-TEP Conference, Alberta, February

143. Ivited Panel Discussion, Professional Engineers Ontario Education Conference Panel Discussion

142. Invited Lecture. “Engineering Resilient and Sustainable Roads for the Future”, Western University, London, March.

141. Invited Lecture. “Engineering Resilient and Sustainable Roads for the Future” University of New Brunswick, New Brunswick March.

**2015**

140. “Roads of the Future: Environmentally- Friendly and Resilient Pavement”, University of Waterloo, Research Talks, November 2015.

139. “Innovative Asset Management Tools”, Georgia Tech, Atlanta Georgia, November 2015.

138. “Incorporating Sustainability and Climate Change Impacts into Transportation Asset Management: Engineering Long Term Infrastructure”, University of Manitoba Civil Engineering Lecture Series, October 2015.

137. **Keynote Address**. “Incorporating Sustainability and Climate Change: Impacts into Transportation Asset Management: Engineering Long Term Infrastructure”, 18th Conference on Pavement Technology and Management, Chinese Society of Pavement Engineering, Taichung, Taiwan., October, 2015.

136. “Innovations in Construction Engineering: an Australian Perspective” Chief Engineers Council Meeting, Transportation Association of Canada, 2015.

135. Incorporating Sustainability and Climate Change Impacts into Transportation Asset Management: Engineering Long Term Infrastructure, University of Sunshine Coast Dean’s Seminar Series, September 2015.

134. “Perspectives on Engineering Your Career”, Engineering Society University of the Sunshine Coast, August 2015.

133. “Managing Natural Disasters”, Queensland School Board Open Forum, Maroochydore Australia, March 2015.

132. “Importance of Pavement Engineering Research for Practictioners”, Sunshine Coast Council Seminar, Sippy Downs, Queensland Australia, May 2015.

131. “Exciting Opportunities in Engineering”, Women in Engineering Event, University of the Sunshine Coast, July 2015.

130. **Keynote Address**. “Sustainability and Pavement Management in Canada: Can They Be Combined?”, RIMS Forum, Auckland, New Zealand, March 2015.

**2014**

129. **Keynote Address**. “Innovations in Management of Highway Networks”, Chinese-Canada Innovation Partnership, Toronto, Canada, 2014.

128. **Keynote Address**. “Performance Based Specifications”, Chilean Fondif Organization (similar to NSERC in Canada), Santiago Chile, September 2014.

127. **Keynote Address**. “Innovative Highways”, Bond International College, Toronto, Canada, 2014.

126. “Solar Roads: Are they Feasible?” Nova Scotia Energy R&D Conference Abstract, Halifax, Canada, 2014.

125. **Keynote Address**. “Effective Asset Management for Transportation Engineering”, Intelligent Transportation Research Centre, Chang’an University, Xi’an, China, November 2014.

124. “Sustainable Pavements”, Canadian Society for Civil Engineering – Waterloo Student Chapter, Waterloo, Canada, 2014.

123. **Keynote Address**. “Usage of Key Performance Indicators to Manage Road Networks”, National Conference hosted by China Communications Construction Association, Xi’an, China, November 2014.

122. **Keynote Address**. “Best Practices in Pavement Design and Management: A Canadian Case Study”, Shanxi Provincial Research Institute of Communications, Taiyuan, China. November 2014.

121. **Keynote Address**. “Performance Based Contracts for Infrastructure Projects”, International Seminar on Advanced Methodologies for Managing Construction Projects, Santiago, Chile, September 2014.

120. **Keynote Address**. “Sustainable Asset Management”, International Seminar on Advanced Methodologies for Managing Construction Projects, Santiago, Chile, September 2014.

119. **Keynote Address**. “Recycling: Why Not? What are you waiting for?”, National Quarry New Zealand Conference, Auckland, New Zealand, July 2014.

118. “Asset Management Economics”, Virginia Tech, Blacksburg, Virginia, June 2014.

**2013**

117. “Innovations in Pavement Research and Education”, Beijing State Government, China, November 2013.

116. “Asset Management”, Chinese Road Builders Association, China, November 2013.

115. “Results for the CPATT New RAP Mix Design Study”, Road Tour, Ontario Hot Mix Producers Association, May 2013.

114. “Women in Engineering Parental Discussion”, University of Waterloo, April 2013.

113. **Keynote Address**. “Latest RAP Study Research Results”, 2013 Asphalt Seminar Ontario Hot Mix Producers Association, December 2013.

112. “Innovations in Pavement Research and Education”, Beijing State Government, China, November 2013.

111. “Asset Management”, Chinese Road Builders Association, China, November 2013.

110. **Keynote Address**. “Innovations in Transportation”, Lion’s Den, Transportation Association of Canada (TAC), Winnipeg, September 2013.

109. **Keynote Address**. “Asset Management” Seminar Series, Coffey International, Australia, April 2013.

108. **Keynote Address**. “Pavement Management for Low Volume Roads”, National Seminar, Chile, March 2013.

**2012**

107. **Keynote Address**. “Aircraft Anti-Skid Braking Availability Tester”, International Air Safety Summit, Buffalo, April 2012.

106. **Keynote Address**. “Concrete Pavement Leading Initiatives”, Cement Association of Canada Annual Conference, June 2012, Toronto.

105. **Keynote Address**. “Transportation and Adaptation to Climate Change Workshop”, Prince George, May 2012.

104. **Keynote Address**. “Performance Evaluation of Heavy Duty Canadian Highways – Ontario Experience”, International Symposium on Heavy Duty Asphalt Pavements and Bridge Pavement, China, May. 2012.

103. **Keynote Address**. “Design of Perpetual Pavements”, International Society for Asphalt Pavements (ISAP), Nanjing, China, May 2012.

102. **Keynote Address**. “Can Sustainability be Incorporated into Pavement Engineering Best Practices: What Practitioners and Researchers Should Consider”, The Seventh International Conference on Maintenance and Rehabilitation of Pavements and Technological Control (MAIREPAV7), Auckland, New Zealand, August 2012.

101. **Keynote Address**. “Advancing International Pavement Engineering Practices”, National Conferences on Managing Pavements, Beijing, China, May 2012.

100. “Designing Pervious Concrete Pavements for Cold Climate”, City of Ottawa, November 2012, Ottawa.

99. “Innovations in Friction Measurements on Runways”, Federal Aviation Association Chief Engineer Meeting, Washington, D.C., 2012.

98. “Primeron Pervious Concrete Pavement for Canadian Conditions”, Ontario Good Roads Association (OGRA) Annual Meeting, Toronto, February 2012.

97. “Sustainable Durable Long Life Pavements”, Geotechnical Lecture Series, University of California at Davis, California, November 2012.

96. “Airport Asset Management”, Invited Lecture, Georgia Tech, Atlanta, June 2012.

95. “Concrete Pavement Professor Training”, Ready Mixed Concrete Association of Ontario, Toronto, September 2012.

94. “Pavement Presentation”, Ontario Good Roads Association, Scott Mackay Bituminous Technology Course, February 2012.

93. “Advancing State-of-the-Practice: Incorporating and Moderating the Day Procedures”, University of the Sunshine Coast, Civil CPD Seminars, Sunshine Coast, Australia, April 2012.

92. “Professional Advancement: Your Career”, (PEP) Talk, Queens University, Professional Engineering Program, March 2012.

91. **Keynote Address** “Evaluating Sustainability”, Australian Asphalt Paving Association, Queensland Main Roads Annual Meetings, Brisbane, Australia, April 2012.

90. “Tire-Pavement Noise Measurement: Case Study from Ontario, Canada”, Transportation Research Board., Washington, DC., 2012.

**2011**

89. “Reusing Materials”, Ontario Good Roads Association, Toronto, February 2011.

88. **Keynote Address**. “Sustainable Pavement Engineering: How to Incorporate into Design, Construction and Maintenance”, Jellinger Distinguished Lecture Series, Ames, USA, 2011.

87. “Stopping on the Pavement, what’s your braking action”, 45th Annual International Aviation Snow Symposium, Buffalo, April 2011.

86. **Keynote Address**. “Developing Sustainability Criteria for Pavement Engineering”, International Conference in Managing Pavement Assets, Santiago, Chile, November 2011.

85. **Keynote Address**. “Improving Runway Safety: Braking Availability Tester”, International Conference on Winter Operations, Montreal, October 2011.

84. “Pavement Presentation Techniques”, Scott McKay Course, Toronto, February 2011.

83. **Keynote Address**. “Climate change Impacts on Sustainable Construction”, Cement Association of Canada, June 2011.

82. **Keynote Address**. “Innovations in Canadian Concrete Pavement Research and Education”, Ready Mixed Concrete Association of Ontario, September 2011.

81. “Impact on Climate Change”, City of Prince George, Prince George, BC, May 2011.

80. **Keynote Address**. “Diversity in Engineering: A Professor Perspective”, Women and Engineering Forum, 2011.

**2010**

79. “Advancing State-of-the-Art Research and Education Through the Chair in Sustainable Pavements”, Ontario Hot Mix Producers Association, Toronto. February 2010.

78. **Keynote Address**. “Thinking Ahead for a Strong Future Advanced Manufacturing”, Canada Research Chairs 10th Anniversary, November 2010.

77. **Keynote Address** “Sustainability in Pavement Engineering”, Pontificia Universidad Catolica de Chile, Santiago, Chile, 2010.

76. “Usage of RAP in Ontario Hot Mix”, Ontario Hot Mix Producers Association, Toronto, June 2010.

75. **Keynote Address** “Innovations in Canadian Pavement Research and Education” University of Nottingham, Nottingham, Nottingham Research Centre Open House, England, July 2010.

74. “Friction Testing and Braking Testing” SWIFT, Airport Panel Discussion, Calgary, September 2010.

73. “Asset Management Proposal and CRC”, Ontario Good Roads Association, Elora, January 2010.

**2009**

72. “Innovations in Pavement Technologies”, Municipal Engineers, Markham, 2009.

71. “Leading By Example”, Ministry of Transportation of Ontario, Toronto, November 2009.

70. “How Civil Engineers Innovate”, Kitchener-Waterloo Business Group, September 2009.

69. “Researching New Recycling Processes”, Transportation Association of Canada, Annual Conference Workshops, Vancouver, Canada, October 2009.

68. “Sustainable Pavement Technologies”, Waterloo Unlimited, Waterloo, November 2009.

67. “Perpetual Pavements: Designing Them to Last”, Ontario Hot Mix Producer’s Association, Canada, June 2009.

66. “Women of Waterloo Region: Avoid the Potholes”, Women’s Business Association, Waterloo, 2009.

65. “Asset Management for Airports”, University of Auckland, Auckland, New Zealand, March 2009.

64. “Pavement Management Systems” University of Canterbury, Christchurch New Zealand, February 2009.

63. “Advanced Road Management”, Federal Roads Maintenance Agency, Abuja Nigeria, January 2009.

**2008**

62. **Keynote Lecture**. “Canadian Pavement Technology: Design, Construction, Management”, International Conference on Managing Pavement Assets: Kick Off Keynote Lecture, Santiago Chile, November 2008.

61. **Keynote Lecture**. “Canadian Asphalt Technology: Threats and Opportunities”, Canadian Asphalt User Producer Group Annual Meeting, Saskatoon, November 2008.

60. “Performance and Evaluation of Interlocking Concrete Pavement Crosswalks”, Interlocking Concrete Pavement Institute, Calgary, September 2008.

59. **Keynote Lecture**. “The Future of Canadian Pavement Design”, The Road Ahead, Canadian Society of Civil Engineers, Quebec City, June 2008.

58. **Keynote** **Address.** “Design and Construction of Quality Roads in the Developing World”, Federal Road and Maintenance Association (FERMA), Nigeria, April 2008.

57. “Pavement Design and Management Needs for Canada”, Chief Engineers Council, Transportation Association of Canada, April 2008.

56. Mentoring, International Women’s Day, Waterloo, March 2008.

55. “Women in Heavy Industry”, University of Waterloo- Women In Engineering Committee, March 2008.

54. **Keynote** **Address**. “Sustainable Roads and Pavements: How Civil Engineers Innovate”, Ontario Good Roads Association, January 2008.

**2007**

53. Ontario Hot Mix Producer’s Fall Seminar, “Introduction to Porous Mixes”, Toronto, December 2007.

52. “Pervious Concrete Pavements: Designing for Canadian Conditions”, Construct Canada, Toronto, November 2007.

51. “How To Be Successful @UW: Faculty Member Perspective”, University of Waterloo, Waterloo, September 2007.

50. **Keynote Address**. “Pavement Design Tools & Their Relevance to Canadian Airports”, Canadian Airfield Pavement Technical Group, Calgary, September 2007.

49. “Pervious Concrete & Freeze Thaw Exposure Conditions”, American Concrete Institute, Toronto, September 2007.

48. “Sustainable Roads and Pavements”, Shad Valley, Waterloo, July 2007.

47. “Pervious Concrete: Design and Analysis”, Cement Association of Canada Pervious Pavement Pave In, Georgetown, June 2007.

46. “Low Temperature Evaluation of Recycled Asphalt Shingles (RAS) Into Base Course Asphalt Mixes”, Miller Group Annual Conference, Toronto, April 2007.

45. “Automated Distress Collection”, Ministry of Transportation of Ontario, Pavement Design Workshop, Orillia, June 2007.

44. “Life Cycle Cost Analysis”, Federated Press, Toronto, March 2007.

43. “New Directions in Load Restriction Technologies”, Ministry of Transportation of Ontario, Maintenance Technology Forum, Ottawa, March 2007.

42. “Civil Engineering: A Roadway Perspective”, Kitchener-Waterloo Business Association, Kitchener, March 2007.

41. “Area Term Contracts”, Ontario Hot Mix Producer’s Annual General Meeting, Alliston, March 2007.

40. “Pervious Concrete Pavements In Cold Climates”, Ontario Association of Architect’s, Toronto, May 2007.

**2006**

39. “Pervious/Permeable Concrete In Freeze-Thaw Areas”, Construct Canada, Toronto, November 2006.

38. “Pavement Research: Quiet Road Study”, Rubber Recycling Symposium, Ottawa, October 2006.

37. **Keynote Speaker** “Go Eng Girl”, University of Waterloo, Waterloo, October 2006.

36. “Plenary Speaker Scientifically Yours”, Brock University, May 2006.

35. “Canadian Test Roads”, Invited Panel Transportation Association of Canada, September 2006, Charlottetown

**2005**

34. **Keynote Address**, “Recent Advances in Highway and Airport Pavements”, International Conference on Recent Advances in Concrete and Construction Technology, Chennai India, December 2005.

33. **Keynote Address**, “Development of Performance Measures for Long Term Contracts”, Australian Asphalt Pavement Association, Sydney Australia, 2005.

32. “Evaluation of Interlocking Concrete Pavements”, Chicago, USA, 2005.

31. **Keynote Address**, “Canadian Airport Design Methods and Evaluation of Current Practices”, SWIFT, Toronto, September 2005.

**2004**

30. **Keynote Address**, “Infrastructure Management”, International Conference on Construction Practices, Shenzhen China, December 2004.

29. “Engineering”, Canadian Coalition of Women Scientists and Engineers, St. Catharines, June 2004.

28. “Engineering, Science and Technology”, IBM/CBC Webcast, Toronto, 2004.

27. “Road Safety”, Kitchener Public Library Noon Hour Lecture Series, February 2004.

**2003**

26. “Benefits of Trenchless Construction Methods For Installation of Pipelines and Utilities Under Flexible Pavements”, Centre for the Advancement of Trenchless Technologies, Waterloo, March 2003.

25. “Exciting Opportunities in Engineering”, Bridging the Gap, University of Waterloo, February 2003.

24. “Superpave Usage at Canadian Airports”, Public Works Government Services Canada Workshop, February 2003, Toronto

23. “Facility Asset Management System”, Public Works Government Services Canada Workshop, February 2003, Toronto

22. “Assignments With Purpose: Using LTPP For Educating Tomorrow’s Engineer”, Transportation Research Board Annual Meeting, Washington D.C., January 2003.

**2002**

21. “Integrating Research and Engineering”, Ontario Hot Mix Producers Association, Toronto, November 2002.

20. “Principles of Asset Management”, Ministry of Transportation of Quebec, Quebec City, April 2002.

19. “Application of Asset Management to the Airport Environment”, University of Illinois, Champaign, March 2002.

18. “Improving Construction and Maintenance Practices with PMS Data”, Pavement Management Committee A2B01, Transportation Research Board, Washington, January 2002.

**2001**

17. Asset Management, University of Texas at Austin, Austin, November 2001.

16. “Robert and Joyce Jones Speaker Series in the Civil Engineering”, Queens University Department of Civil Engineering, November 2001.

15. “Asset Management in the Airport Environment”, U.S. National Airfield Concrete Pavement Conference, American Concrete Pavement Association, Hartford Connecticut, October 2001.

14. “Investment in Research Pays Off”, Panel Session Presentation, Transportation Association of Canada Annual Conference, Halifax, September 2001.

13. “PMS Results to Improve Construction and Maintenance Practices”, Workshop at the Fifth International Conference on Managing Pavements, Seattle Washington, August 2001.

12. “Canadian Asphalt Technology”, National Center for Asphalt Technology, Professor Training Workshop, Auburn University, Auburn, June 2001.

**2000**

11. “User Delay Analysis Of Traffic Staging Options For Resurfacing Of Divided Highways In Ontario”, Centre For Advancement of Trenchless Technologies Seminar on Underground Infrastructure Research Directions, Waterloo, October 2000.

10. “Pavement Management Systems”, American Concrete Institute Ontario Chapter, Workshop Presenter, Concrete Pavements Workshop, Toronto, September 2000.

9. “Pavement Management: A Tool For Maximizing Investment”, Canadian Society For Civil Engineers National Infrastructure Forum, Toronto, September 2000.

8. “Calculating User Delay Costs With OPAC2000”, Panel Session Presentation, Transportation Association of Canada Annual Conference, Edmonton, October 2000.

7. “An Examination Of Asphalt Cement Properties On Low Temperature Cracking On the C-LTPP and C-SHRP Test Sites”, The 1st International Symposium On Binder Rheology and Pavement Performance, University of Calgary/Sunoco/Instron/Husky, Calgary, August 2000.

6. “Pavement Design and Management”, Ashwarren International, Invited Speaker, Toronto, March 2000.

5. “Pavement Design”, Ontario Good Roads Association, Annual Meeting, Toronto, March 2000.

**1999**

4. “Canadian Asphalt Technology at the Millennium”, Canadian User/Producer Group for Asphalt Conference, Quebec City, November 1999.

3. “Engineering Is Knowledge In Action, Career ConneXions for Young Women”, Georgian Bay Career Center, Sponsored by Human Resources Development Canada, May 1999.

**1998**

2. “Incorporating Road Safety and Accident Prediction Into Pavement Management”, Workshop Paper and Presentation, Regina, September 1998.

1. “Engineering Graduate Degrees: Why They Are Marketable”, Ontario Ministry of Transportation, Women In Engineering Conference, Toronto, May 1998.

# **Technical Reports**

**2017**

Pickel, D., **Tighe, S**., Kazmierowski, T., Fung, R., Smith, P., Lee, S., and Snyder, M. (2017), “Precast Concrete Inlay Panel Installation on Highway 400: Construction Report”, Technical Report.

**2016**

Janki Bhavsar, Mohab El-Hakim and **Susan L. Tighe**, 2016. “Comparison Between Cold –Place Recycling (CIR) and Cold In-Press Recycling with Expanded Asphalt Mixture”, Canadian Technical Asphalt Association, Banff, Alberta.

**2015**

Magdy Shaheen, **Susan Tighe** and Adil Al-Mayah, 2015. “Improving The Fatigue Performance of Hot Mix Asphalt”, Final Technical Report Ministry of Transportation Ontario, December 2015

Theuns Henning, Gulfam Jannat, Cheng Zhang and **Susan Tighe**, 2015. “Engineering Criteria and Standards for Key Performance Indicators Used in Pavement Management”, Final Technical Report Ministry of Transportation Ontario, December 2015

Magdy Shaheen, and **Susan Tighe**, 2015. “Determination of Dynamic Modulus For Hot Mix Asphalt (HMA) Required For Mechanistic Empirical Pavement Design Guide (MEPDG) Implementation”, Final Technical Report Ministry of Transportation Ontario, December 2015

Aleli Osorio, Alondra Chamorro, **Susan Tighe**, Carlos Videla, 2015. “Investigacion y Desarrollo de Soluciones para la Gestion de Pavimentos Urbanos en Chile” (Research Development of Solution for Urban Pavement Management in Chile), Project Fondef Final Technical Report, D09I1018, Pontificia Universidad Catolica de Chile.

Xiomara Sanchez, **Susan Tighe**, Vince Aurilio, 2015. “Laboratory Investigation of Reclaimed Asphalt Pavement (RAP) in hot mix asphalt (HMA)”, Final Report, Ontario Hot Mix Producers Association and Ministry of Transportation Ontario, August 2015.

Doubra Ambaiowei and **Susan Tighe**. 2015. “Evaluation of Rubber Modified Asphalt: Past, Present and Future”. Draft Final Report Prepared for the Ontario Tire Stewardship (OTS) and the Ministry of Transportation Ontario (MTO), January

**2014**

Sonia Rahman, and **Susan Tighe**, 2014. “Topic 3: Development of Acceptance Test Methods Related to Performance and Durability of Pervious Concrete”, Progress Report submitted to the Ministry of Transportation Ontario, March 3, 2014, pp. 36.

Amin Hamdi, **Susan Tighe**, 2014. “Topic 7: Engineering Criteria and Standards for Key Pavement Performance Indicators Used in Pavement Management”, Progress Report submitted to the Ministry of Transportation Ontario, March 3, 2014. Pp 4.

Magdy Shaheen, **Susan Tighe**, Adil Al-Mayah, Md. Safiuddin, 2014. “Topic 2: Determination of Dynamic Modulus for Hot Mix Asphalt (HMA) Required for Mechanistic-Empirical Pavement Design Guide (MEPDG) Implementation”, Progress Report submitted to the Ministry of Transportation Ontario, March 3, 2014, pp. 43.

Magdy Shaheen, **Susan Tighe**, Adil Al-Mayah, Md. Safiuddin, 2014. “Topic 1: Improving the Fatigue Performance of Hot Mix Asphalt”, Progress Report submitted to the Ministry of Transportation Ontario, March 3, 2014, pp 41.

Karolina Konarski, **Susan Tighe**, Md. Safiuddin, and Luc Chartrand, 2014. “Northern Transportation Adaptation Initiative Mitigation of Climate Change Impacts on Runway Friction: Kuujjuaq Airport”, Synthesis Report Prepared for Dessau-JNA, February, pp.92.

**2013**

Doubra Ambaiowei and **Susan Tighe**, 2013. “Evaluation of Rubber Modified Asphalt: Past, Present, and Future”, Progress Report 1: Task 1-5 prepared for Ontario Tire Stewardship, October, pp. 29

Sonia Rahman, Andrew Northmore, and **Susan Tighe**, 2013. “Pervious Concrete Pavement at Courtcliffe Park, City of Hamilton”, Final Report prepared for the City of Hamilton, September. pp 19

Karolina Konarski, **Susan Tighe,** Md. Safiuddin, Luc Chartrand and Jessica Hernandez, 2013. “Northern Transportation Adaptation Initiative Mitigation of Climate Change Impacts on Runway Friction: Kuujjuaq Airport”, Synthesis Report prepared for Dessau-JNA, April, pp. 93

Doubra Ambaiowei, Xiomara Sanchez, Md. Safiuddin and **Susan Tighe**, 2013. “Laboratory Investigation of Reclaimed Asphalt Pavement (RAP) in Hot Mix Asphalt (HMA): Phase II Task 1-4”, Progress Report prepared for Ontario Hot Mix Producers Association and Ministry of Transportation Ontario, February, pp. 35.

**2012**

Andrew Northmore, and **Susan Tighe**. 2012 “First Year Performance Report Pervious Concrete Pavement at Courtcliffe Park, City of Hamilton”, Report prepared for the City of Hamilton, July, pp.16

Vimy Henderson and **Susan Tighe**, 2012. “Pavement Design Primer for Pervious Concrete”, Draft Primer, Submitted to the Cement Association of Canada.

Md. Safiuddin, **Susan Tighe**, Shirley Ddamba and Riyad Ul-Islam, 2012. “Executive Summary: A Technical, Economic and Environmental Evaluation of the Effects of Recycled Asphalt Shingles on Ontario Hot Mix Pavement”, Executive Summary, Miller Paving Ltd. August, pp 25.

Mehran Kafi Farashah and **Susan Tighe**, 2012. “Evaluation of Pavement Distress Measurement”, Final Report, City of Markham, August.

Attila Hertel and **Susan Tighe**. 2012. “Quantifying Pavement Sustainability”, Progress Report #5, Town of Markham, May.

Amin Hamdi and **Susan Tighe**. 2012. “Assessment of Long-Term Performance and Cost-Effectiveness of Standard Pavement Treatments used in PMS2”, Technical Report Prepared for the Ministry of Transportation Ontario (MTO), July 2012.

**2011**

Zaid Alyami and **Susan Tighe** and Doug Gransberg. 2011. “Automated Performance Measures for Contract Administration”, Technical Report Prepared for the Ministry of Transportation Ontario (MTO), October, pp71.

Mehran Kafi Farashah and **Susan Tighe**, 2011. “Evaluation of Pavement Distress Measurement”, Progress Report 2, Tasks 1,2 and 3. Town of Markham, pp53, March.

Mehran Kafi Farashah and **Susan Tighe**. 2011. “Evaluation of Pavement Distress Measurement”, Progress Report 3, Task 1-4, Town of Markham, pp.69, November.

Bijan Ahmadi, Mohammad Adnan, Brenda McCabe and **Susan Tighe**, 2011. “Work Zone Throughput Models for Southern Ontario” Part 2: Data Collection Report, Ministry of Transportation Ontario. May 2011. Pp. 107.

Bijan Ahmadi, Mohammad Adnan, Brenda McCabe and **Susan Tighe**, 2011. “Work Zone Throughput Models for Southern Ontario” Part 1: Technical Report, Ministry of Transportation Ontario. May 2011. Pp. 69.

Richard Korczak, **Susan Tighe**, Donaldson MacLeod and Gabe Cimini, 2011. “C-LTPP Database: A Review”, Transportation Association of Canada, Technical Report, August. pp 59.

Attila Hertel, Mehran Kafi Farashah, and **Susan Tighe**, 2011. “Quantifying Pavement Sustainability”, Progress Report for the Town of Markham, November.pp.2.

Steve Chai, Vimy Henderson and **Susan Tighe**, 2011. “Construction Report Pervious Concrete Pavement at Courtcliffe Park, City of Hamilton”, City of Hamilton. Technical Report. August. pp. 42.

**Susan Tighe**, 2011. “Assessment of Long-Term Performance and Cost-Effectiveness of Standard Pavement Treatments used in PMS2”, Progress Report for Ministry of Transportation Ontario. February.

Shirley Ddamba, Riyad Ul-Islam and **Susan Tighe**. 2011. “A Technical, Economic and Environmental Evaluation of the Effect of Recycled Asphalt Shingles on Ontario Hot Mix Pavement”, Progress Report for Miller Paving Ltd. October, pp 188.

**2010**

Peter Chan and **Susan Tighe**, 2010. “Topic 4: Quantifying Pavement Sustainability”, Final Report, Prepared for the Ministry of Transportation Ontario, April, pp. 159.

Shirley Ddamba and **Susan Tighe**. 2010. “Evaluation of Potato Waste as a Winter Maintenance Strategy”, Progress Report, Brunway Highway Operations Inc., August

Shila Khanal, Sudip Adhikari, and **Susan Tighe**. 2010. “Centre for Pavement and Transportation Technology Interlocking Concrete Crosswalk Research Project”, Interlocking Concrete Pavement Institute. April.

Shirley Ddamba, Antonin du Tertre, **Susan Tighe**, Jodi Norris and Giovanni Cascante. 2010. “Evaluating Warm Asphalt Technology as a Possible Tool for Resolving Longitudinal Joint Problems”, City of Hamilton, November.

**2009**

Peter Chan and **Susan Tighe**, 2009. “Topic 4: Quantifying Pavement Sustainability”, Progress Report #3 – Task 4 & 5, Prepared for the Ministry of Transportation Ontario, December, pp.68.

M. Alauddin Mohammed and **S. Tighe**, 2009, “Quiet Pavements: Fact or Foe?”, prepared for Ontario Ministry of Transportation, January

C. Hicks, I. Shiak, B. McCabe and **S. Tighe**, 2009, “Workzone Safety”, prepared for Ontario Ministry of Transportation , January

Amir Golroo, Vimy Henderson and **Susan Tighe,** 2009. “Field Performance Investigation on US

Pervious Concrete Pavements”, Centre for Pavement and Transportation Technology.

**2008**

Amir Golroo, Vimy Henderson and **Susan Tighe**, 2008. “Construction Report of Pervious Concrete

Pavement of Commuter Lot (Milton)” MTO, 2008

Fazal Mabood, **Susan Tighe** and Jun Yang, 2008, “Evaluating Tire Pressure Control Systems (TPCS) To Improve Productivity and Mitigate Pavement Damage”, Prepared for the Ontario Ministry of Transportation, FPInnovations FERIC Division, Ministry of Natural Resources (MNR), November

Alondra Chamorro, **S. Tighe** and Antonio Marcon, 2008, “Improving Network Level Pavement Management Through Rationalization And Utilization of Automatic/Semi Automated Technologies”, Prepared for Ontario Ministry of Transportation, May

M. Alauddin Mohammed and **S. Tighe**, 2008, “Noise Primer for Pavement Engineers”, prepared for Ontario Ministry of Transportation

**Susan. Tighe**, 2008. “Engineering Literature Review: Roads and Associated Structures: Infrastructure Impacts, Vulnerabilities and Design Considerations for Future Climate Change”, Prepared for Engineers Canada, Public Infrastructure Engineering Vulnerability Committee (PIEVC) Secretariat, Ottawa, February

**2007**

Amir Golroo and **Susan Tighe**, 2007. “Construction Report of Pervious Concrete Pavement of

Georgetown Parking Lot” MTO, 2007

Sarah Baiz, **Susan Tighe**, Brian Mills, Carl Haas, Ken Huen, 2007. “Using Road Weather Information Systems (RWIS) to Control Load Restrictions on Gravel and Surface-Treated Highways”, Prepared for Ontario Ministry of Transportation, November

Mills, B., **S.L. Tighe**, J. Andrey, J.T. Smith, S. Parm and K. Huen, 2007. “The Road Well-Traveled: Implication of Climate Change for Pavement Infrastructure in Southern Canada” Final Report prepared for the Climate Change Impacts and Adaptation Program, Natural Resources Canada, Adaptation and Impacts Research Division, Environment Canada, and University of Waterloo, Waterloo, Canada. 77pp + appendices.

**Susan Tighe**, Renato Capuruço, and Angela Jeffray, 2007. “Evaluation of Semi Automated/Automated Pavement Condition Surveys: An Ontario Field Study”, Prepared for Ontario Ministry of Transportation, April

**Susan Tighe**, Angela Jeffray, and Daniel Perraton, 2007. “Low Temperature Evaluation of Recycled Asphalt Shingles (RAS) Into Base Course Asphalt Mixes”, Prepared for Materials Manufacturing Ontario/Miller Group, May

**2006**

**Susan Tighe**, Renato Capuruço and Angela Jeffray, 2006. “Semi-Automated/Automated Pavement Condition Surveys”, Prepared for the Ontario Ministry of Transportation, November (71 pages)

Ken Huen, **Susan Tighe** and Brenda McCabe, 2006. ”Evaluation of Work Zone Strategies”, Prepared for Ontario Ministry of Transportation, January

Brenda McCabe, Catherin Loughlin, Douglas Hyatt and **Susan Tighe**, 2006. “Attitudes and Incident Modeling for Construction Safety”, Prepared for Workplace Safety Insurance Board, July

**Susan Tighe**, 2006. “Evaluation of Warm Asphalt Technology: Ramara Township Trial”, Prepared for McAsphalt Industries, July

**Susan Tighe**, Angela Jeffray and Daniel Perraton, 2006. “Low Temperature Evaluation of Recycled Asphalt Shingles (RAS) Into Base Course Asphalt Mixes”, Prepared for Miller Paving Limited, Markham,

Leanne Whiteley and **Susan Tighe**, 2006. “Canadian Airport Pavement Design Methods”, Prepared for Greater Toronto Airport Authority

**2005**

Guy Dore, **Susan Tighe** and Dave Hein, 2005. “AASHTO 2002 MEPDG Canadian Calibration Phase 1”, Prepared for Transportation Association of Canada

Mara Bullock and **Susan Tighe**, 2005. “Using ITS to Improve Spring Load Restrictions”, Prepared for Transport Canada

Patrick Leong and **Susan Tighe**, 2005. “Evaluation of Dowel Bar Misalignment”, Prepared for Applied Research Associates

**2004**

**Susan Tighe**, 2004**.** “Knowledge Management in Transportation”, Prepared for Ontario Ministry of Transportation

R. Daniel, **Susan Tighe** and Ralph Haas, 2004. “Toward a Generic Protocol for Infrastructure Life Cycle Cost”, Prepared for Ontario Ministry of Transportation, March

Wilson Chung, **Susan Tighe**, A. Beatty and Gerald Raymond, 2004. “Education on ICP’s”, Prepared for the Interlocking Concrete Pavement Institute

A. Shakoor, **Susan Tighe**, Gerhard Kennepohl and Leo Rothenburg, 2004. “Performance Evaluation of New Technology Based Asphalt Mixes”, Prepared for Ontario Ministry of Transportation, March

**2003**

**Susan Tighe** and C. Ren, 2003. “Superpave Mix Design Used in Canadian Airfield Pavements”, Prepared for Public Works Government Canada, March (46 pages)

Ralph Haas, **Susan Tighe**, Lynne Cowe Falls, Angela Jeffray and M. Bunn, 2003. “Toward a Life Cycle Investment Strategy For Edmonton’s $500 Million Infrastructure Asset: It’s Sidewalks”, Prepared for the City of Edmonton, March (65 pages)

**Susan Tighe** and Angela Jeffray, 2003. “CPATT Test Track Construction Report”, January (102 pages)

**2002**

**Susan Tighe** and Mohammad Karim, 2002. “Synthesis of Asset Management at GTAA”, Prepared for the Greater Toronto Airport Authority, October (115 pages)

**2001**

Ralph Haas, Lynne Cowe Falls and **Susan Tighe,** 2001. “Impact Assessment of Life Cycle Cost Analysis”,Prepared for the City of Edmonton Office of Asset Management, December (121 pages)

**Susan Tighe,** Ralph Haas and Ruba AlAssar, 2001. “Enhancement of OPAC 2000”, Prepared for the Ontario Ministry of Transportation, Toronto, July (63 pages)

**Susan Tighe,** 2001. “Pavement Design Principles”, Prepared for the Ontario Ministry of Transportation, Toronto, January (222 pages)

**1999**

6. **Susan Tighe,** 1999. “CSHRP Graduate Grant”, Prepared for the Canadian Strategic Highway Research Program, Ottawa (55 pages)

5. Ralph Haas, Ningyuan Li and **Susan Tighe**, 1999. “TAC Roughness Report”, Prepared for the Transportation Association of Canada, Ottawa (120 pages)

**1998**

4. **Susan Tighe**, 1998. “Rehabilitation and Reconstruction Candidates in Ontario”, Prepared for the Canadian Portland Cement Association (40 pages)

**1996**

3. **Susan Tighe**, 1996. “Performance of Polymer Modified Pavements”, Prepared for Imperial Oil Limited (241 pages)

2. Jerry Hajek, **Susan Tighe** and J. Billings, 1996. “Impact on Pavements by Changing the Vehicle Weights and Dimensions of Trucks in Ontario” (144 pages), Prepared for the Ministry of Transportation Ontario

**1995**

1. **Susan Tighe**, 1995. “Use of Partially Paved Shoulders”, Prepared for the Ontario Ministry of Transportation, Geotechnical Section, London (42 pages)

# **Other Selected Publications/Broadcast Interviews**

13. Susan Tighe, 2017. “Potholes”, The Agenda with Steve Pakin, TVO Ontario

12. **Susan Tighe,** 2014. “Sustainable Pavements”, Faculty of Engineering Research, University of Waterloo, YouTube, July 2014

11. **Susan Tighe,** 2013. “Pavement Engineering”, Ontario Mornings Radio, CBC, December

10. **Susan Tighe,** 2013. “Groovy Highways”, CBC Ontario Mornings Radio Interview, December 2013

9. **Susan Tighe,** 2013. “Groovy Highways”, CBC Windsor Radio Interview, November 2013

8. **Susan Tighe,** 2013. “Quality of Control and Asphalt Pavement”, CBC Radio Interview, July 2013

7. Andrew Northmore and **Susan Tighe**, 2013. “Driving Solar Road Technology”, Waterloo Engineering 2012 Annual Report, University of Waterloo, June.

6. **Susan Tighe**, Jeff West and Laura Bland, 2013. “CPATT Newsletter”, University of Waterloo Vol. 9 and 10.

5. **Susan Tighe**, Jeff West and Laura Bland, 2013. “CPATT Newsletter”, University of Waterloo Vol. 7 and 8.

4. **Susan Tighe**, Jeff West and Laura Bland, 2012. “CPATT Newsletter”, University of Waterloo Volume. 4, 5 and 6.

3. **Susan Tighe**, Jeff West and Laura Bland, 2011. “CPATT Newsletter”, University of Waterloo Volume. 1, 2 and 3.

2. **Susan Tighe,** 2011. “Potholes”, Talk Local Rogers TV, March

1. **Susan Tighe**, 2011. “Pavement Break Through Bodes Well for Infrastructure Investment”, Engineering Dimensions, Professional Engineers Ontario, July/August. Vol. 32 No. 4

***RESEARCH FUNDING***

Over the past 20 years, Susan Tighe has secured approximately $20,000,000 of funding from industry, federal and provincial funding agencies (NSERC, OCE, etc.), equipment grants (i.e. Ontario Innovation Trust Fund, Canada Foundation for Innovation, etc) as either a Principal Investigator or Co-Principal Investigator.

#### Summary of Selected Research Funding

|  |  |  |
| --- | --- | --- |
| **Granting Agency** | **Period** | **Title** |
| Ministry of Transportation Ontario (Co-PI) PI – Brenda McCabe, UofT | 2016-2018 | Examining Work Zone Throughput to Improve Safety, Workzone Efficiency and Cost Effectiveness |
| Embassy of the Republic of Iraq in Canada | 2016-2016 | Academic Bench Fee Program for Funded Graduate Student |
| Ministry of Transportation Ontario (PI) | 2015-2017 | Performance Evaluation of Pre-cast Concrete Panels over Asphalt |
| Ministry of Transportation Ontario (Co-PI) PI – Dr. Yuan Ryerson University | 2015-2017 | Local Calibration of the MEPDG Prediction Models |
| Ministry of Transportation Ontario (Co-PI) PI-Hassan Baaj | 2015-2017 | Development of High Modulus Asphalt Mix Design Technology in Ontario |
| NSERC Discovery Grant (PI) | 2015-2020 | Sustainable Long Life Pavements |
| York Region (PI) | 2014-2016 | Performance Evaluation of Coloured Asphalt Pavements and Surface Treatments for BRT Lanes in York Region |
| NSERC-Research Tools and Instruments – Category 1 (Co-PI) PI – David Spafford UW | 2014-2014 | Upgrade of U of Waterloo’s primary confocal microscope for 37 users with state-of-the-art correlative microscopy |
| Ministry of Transportation Ontario (PI) | 2014-2016 | Effect of Warm Mix Additives on Tensile Strength of Compacted Asphalt Mix |
| Imperial Oil (PI) | 2014-2017 | Improvement Strategies for Upstream Heavy Oil Mining Roadways (2 renewals approved) |
| NSERC-CRD – McAsphalt Industries Ltd. (PI) | 2013-2015 | Comparing Cold In-place Recycling (CIR) and Cold In-place Recycling with Expanded Asphalt Mixture (CIREAM) |
| McAsphalt Industries Ltd (PI) |
| Saudi Arabian Cultural Bureau | 2015-2018 | Academic Bench Fee Program for Funded Graduate Student |
| Ministry of Transportation Ontario (PI) | 2013-2014 | Engineering Criteria and Standards for Key Pavement Performance Indicators Used in Pavement Management |
| Ministry of Transportation Ontario (PI) | 2013-2015 | Development of Acceptance Test Methods Related to Performance and Durability of Pervious Concrete |
| Dessau-JNA (LVM) (PI) | 2013-2013 | Climate Change Adaptation Northern Transportation Adaptation Initiative Kuujjuaq Airport |
| NSERC – CRD – Cement Association of Canada (PI) | 2012-2016 | Sustainable Long Life Concrete Pavements |
| Cement Association of Canada (PI) | 2012-2016 | Evaluation of Pervious Pavement Technology |
| Cement Association of Canada (PI) | 2012-2016 | Evaluation of Recycling |
| Ministry of Transportation Ontario (PI) | 2012-2014 | Improving the Fatigue Performance of Hot Mix Asphalt |
| Ministry of Transportation Ontario (PI) | 2012-2014 | Determination of Dynamic Modulus for Hot Mix Asphalt (HMA) required for Mechanistic Empirical Pavement Design Guide (MEPDG) Implementation |
| Ontario Tire Stewardship (PI) | 2012-2014 | Evaluation of Rubber Modified Asphalt: Past, Present, Future |
| Norman W. McLeod Chair | 2012-2016 | Sustainable Pavement Engineering |
| Transportation Association of Canada (PI) | 2011-2012 | C-LTPP Database |
| NSERC – CRD – Ontario Hot Mix Producers Association (PI) | 2012-2014 | Determining Quantity of Recycled Asphalt Pavement (RAP) in Hot Mix Asphalt (HMA) Research |
| Ontario Hot Mix Producers Association (PI) |
| Ministry of Transportation Ontario (PI) | 2010-2013 | Determining Quantity of Recycled Asphalt Pavement (RAP) in Hot Mix Asphalt (HMA) Research |
| Town of Markham (PI) | 2010-2012 | Evaluation of Pavement Distress Measurement |
| Town of Markham (PI) | 2010-2012 | Quantifying Pavement Sustainability |
| Ministry of Transportation Ontario (PI) | 2010-2012 | Assessment of Long-Term Performance and Cost-Effectiveness of Standard Pavement Treatments Used in PMS2 |
| Ministry of Transportation Ontario (PI) | 2010-2011 | Automated Performance Measures for Contract Administration |
| NSERC Discovery Grant (PI) | 2010-2015 | Sustainable Long Life Pavements |
| Canada Research Chair (PI) | 2010-2015 | CRC in Sustainable Pavement and Infrastructure Management |
| Team Eagle Ltd (PI) | 2010-2012 | Development and Evaluation of a Braking Availability Testing Device |
| Ontario Centre Excellence (PI) | 2010-2012 | Development and Evaluation of a Braking Availability Testing Device |
| Transportation Association of Canada (PI) | 2009-2011 | 2013 TAC Pavement Asset Design and Management Guide |
| Ontario Centre Excellence (PI) | 2010-2013 | Usage of Recycled Asphalt Shingles |
| NCHRP (PI) | 2009-2010 | Sustainable Maintenance Practices |
| SHRP2 (PI) | 2009-2011 | Complex Projects |
| Brunway (PI) | 2009-2010 | Evaluation of Potato Waste/Salt Brine Solutions on Flexible Pavement Performance: A Case Study |
| Various Private Public Partners (PI) | 2009-2010 | Chair in Sustainable Pavements |
| Miller Group (PI) | 2008-2010 | Evaluation of Recycled Asphalt Technology |
| Ministry of Transportation Ontario (PI) | 2008-2009 | Validation and Implementation of MTO Network Level Automated/Semi-Automated Pavement Distress Guidelines and Condition Rating Methodology |
| Ministry of Transportation Ontario (PI) | 2008-2009 | Development of Guidelines for Evaluation of the Pavements on Highway Ramps and Interchanges |
| Ministry of Transportation Ontario (PI) | 2008-2009 | Quantifying Pavement Sustainability |
| Trow (PI) | 2007-2008 | Red Hill Valley Contract |
| City of Hamilton | 2007-2009 | Evaluation of Warm Asphalt Technology as a Tool for Curing Joint Failures |
| Ministry of Transportation Ontario (PI) | 2007-2008 | Quiet Pavements Fact or Foe? |
| Ministry of Transportation Ontario (PI) | 2007-2008 | Measuring Work Zone Capacity |
| NSERC-CRD (PI) | 2007-2009 | Long Life Pavements |
| Ministry of Transportation Ontario (PI) | 2007-2008 | Rationalization of Pavement Distresses |
| MTO-FERIC-MNR (PI) | 2007-2008 | Evaluation of CTI Technology |
| NSERC-CAC (PI) | 2006-2010 | Concrete for Sustainable Highways |
| Interlocking Concrete Pavement Institute (PI) | 2006-2009 | Evaluation of Crosswalk Structural Designs |
| NSERC –IPS – Golder Associates (PI) | 2005-2006 | Evaluation of Porous Pavement Technology in the Canadian Environment |
| Canada Research Chair (PI) | 2005-2009 | CRC in Pavement and Infrastructure Management |
| CFI-CRC (Co-PI) | 2005-2008 | Sensor and Surveillance Technologies for Pavement and Construction Research |
| NSERC – Discovery Grant (PI) | 2005-2009 | Development of Innovative Tools for Improved Pavement Engineering |
| McAsphalt Industries – ORDCF (PI) | 2005-2006 | Evaluation of Warm Asphalt Technology |
| Materials Manufacturing Ontario – Miller Group (PI) | 2005-2006 | Evaluation of Recycled Shingles on Asphalt Pavements |
| NSERC –IPS – GTAA (PI) | 2005-2006 | Development of Canadian Airport Pavement Design Methods |
| Ministry of Transportation Ontario (PI) | 2005-2006 | Using RWIS to Improve Seasonal Load Restriction Policies |
| Transportation Association of Canada (PI) | 2005 | AASHTO 2002 MEPDG Canadian Calibration Phase 1 |
| NSERC –IPS – ARA (PI) | 2004-2005 | Evaluation of Dowel Bar Misalignment in Concrete Pavements |
| Ministry of Transportation Ontario (PI) | 2004 | Advanced Pavement Design |
| Ministry of Transportation Ontario (PI) | 2004-2005 | Evaluation of Work Zone Strategies |
| Ministry of Transportation Ontario (PI) | 2004-2006 | Automation of Distress Collection |
| Transport Canada (PI) | 2004-2005 | ITS for Dynamic Load Response |
| NSERC (PI) | 2004 | Development of Tools for Renovating Asphalt |
| Climate Change Action Fund (Co-PI) | 2004-2005 | The Road Well Travelled Implications of Climate Change on Pavement Performance |
| Cement Association of Canada (PI) | 2003-2007 | Concrete in Sustainable Pavements |
| Interlocking Concrete Pavement Institute (PI) | 2003-2004 | Evaluation of ICP’s |
| Ontario Ministry of Transportation (PI) | 2003-2004 | Performance Evaluation Of New Technology Based Asphalt Mixes Under Various Axle Weights and Dimensions |
| Public Works Government Services Canada (PI) | 2003 | Superpave Mix Design for  Canadian Airports |
| Ministry of Transportation Ontario (PI) | 2003-2004 | Evaluation of New Asphalt Mixes |
| Ministry of Transportation Ontario (PI) | 2003-2004 | Toward a Generic Protocol For Infrastructure Life Cycle Cost |
| Ministry of Transportation Ontario (PI) | 2003-2004 | Knowledge Management in Transportation |
| Workplace Safety Insurance Board (Co-PI) | 2003-2005 | Attitudes and Incident Causal Modelling for Construction |
| Premier’s Research Excellence Award (PI) | 2003-2005 | Innovative Infrastructure Solutions |
| City of Edmonton (Co-PI) | 2002 | Toward a Life Cycle Investment Strategy for Edmonton’s Sidewalks |
| Greater Toronto Airports Authority (PI) | 2002 | Synthesis of Asset Management |
| Centre for Transportation Engineering and Planning (Co-PI) | 2002-2003 | Pavement Preservation Strategy – Best Practices Review |
| United States Portland Cement Association /Cement Association of Canada(PI) | 2002-2003 | Fast Track Concrete On Aprons: How Does One Address Cracking? |
| City of Edmonton (Co-PI) | 2001 | Edmonton Contract Life Cycle Cost Analysis of Infrastructure |
| Ministry of Transportation Ontario (PI) | 2001-2002 | Pavement Design Fundamentals |
| Canadian Foundation for Innovation (PI) | 2001-2004 | Facility for Characterizing Properties of Innovative Materials for Durable Infrastructure |
| Ontario Innovation Trust Fund  (PI) | 2001-2004 | Facility for Characterizing Properties of Innovative Materials for Durable Infrastructure |
| Ontario Research and Development Challenge Fund\*  (Co-PI) | 2000-2004 | Roads and Pavements Research |
| Canadian Foundation for Innovation (Co-PI)\* | 2000-2004 | Roads and Pavements Research |
| Department of National Defence Royal Military College (PI) | 2000-2001 | Roads, Airports, Heliports Field Manual |
| Ministry of Transportation Ontario (Co-PI) | 2000-2001 | Enhancement of OPAC 2000 |
| NSERC Discovery Grant  (PI) | 2000-2004 | Temperature Susceptibility of Asphalt Pavements |
| Miller McAsphalt Group/other \* sponsors (Co-PI) | 2000-2004 | Roads and Pavements Research |
| Ontario Innovation Trust Fund\*  (Co-PI) | 2000-2004 | Roads and Pavements Research |
| Transportation Association of Canada (Co-PI) | 1998 | Roughness Trends In C-LTPP |
| Canadian Strategic Highway Graduate Grant (PI) | 1998 | Asphalt Cement Quality Influences on Low Temperature Cracking |
| Cement Association of Canada (PI) | 1998–1999 | Various projects dealing with life cycle economic analysis |
| Imperial Oil Limited Research Grants (Co-PI) | 1997-1999 | Various asphalt statistical analysis |
| Imperial Oil Limited (Co-PI) | 1996 | Polymer Modified Asphalt Study |

***MEMBERSHIPS***

**Editorial Boards**

* Associate Editor, International Journal of Pavement Engineering, 2013-present
* Associate Editor, Editorial Board, International Journal of Pavement Research and Technology, 2009 - present
* Associate Editor, Canadian Journal of Civil Engineering, 2008-2011

**Memberships (Committees/Organizations)**

* Registered Professional Engineer, Province of Ontario since June 1995 - present
* Executive Member, Past President, President, President Elect, Senior Vice-President Canadian Society for Civil Engineering, 2015-2019
* Member, Steering Committee, 3rd International Symposium on Asphalt Pavements (ISAP) TC APE, 2014 - 2016
* Member, Transportation Research Board, ABC40 Asset Management Committee, 2016-2019
* Member, Board of Directors, Dynatest International, 2012 - 2014
* Executive, Canadian Society for Civil Engineering, Transportation Division, 2012-2016
* Senior Vice President and Board of Directors, Canadian Society for Civil Engineering, 2015 – 2016
* Member, Interdisciplinary Committee, Canada Research Chairs Secretariat 2011-2015
* Member, NSERC, Civil, Industrial, and Systems Engineering Evaluation Group, 2011 - 2014
* Member, Steering Committee, 1st International Conference on Public Private Partnerships, 2011 - 2016
* Member, Transportation Association of Canada, Chief Engineers Council, 2009 - 2016
* LTPP Paper Coordinator, U.S. Federal Highway Administration, 2012 - 2016
* Member, Board of Directors, University of Saskatchewan Centre of Excellence, 2009 - 2014
* Member, Transportation Research Board Airport Pavement Management Systems Sub-Committee AFD10(3), 2009 - 2016
* Member, American Society of Civil Engineers, 2009 - 2016
* Member, Executive Committee, Women of Waterloo (WOW), 2008 - 2015
* Member, Expert Task Group: Data Analysis: United States Long Term Pavement Performance Program, TRB, 2008 - 2016
* Member, International Society of Asphalt Pavements, 2007 - 2014
* Member, Transportation Research Board A2B01, 2005 - 2015
* Member, Organizing Committee, Canadian Activities, PIARC, 2005-2015
* Member, Canadian Airfield Technical Group, 2002-2014
* Member, Pavements Standing Committee, Transportation Association of Canada, 1996-2016
* Member, Transportation Research Board (TRB) AHD20 Pavement Maintenance, 2012-2018
* Member, Canadian Society of Civil Engineers, 2001 - 2016
* Member, Canadian Technical Asphalt Association, 2001 - 2016
* Treasurer, Queen’s University Science '93 Executive, 1993 - 2016
* Visitor, Canadian Engineering Accreditation Board (CEAB), University of Manitoba, 2012
* Visitor, BTech Accreditation Review, McMaster University, 2014
* Member, 1st International Specialty Conference on Sustaining Public Infrastructure, Steering Committee, CSCE, 2012
* Member, Project Steering Committee, Transportation Association of Canada, 2009-2012
* Member, Transportation Research Board Committee A2F02 Flexible Pavement and Construction and Rehabilitation 2010-2013
* Member, Technical Expert Task Group, SHRP II, 2011-2012

**Chair of Committees**

* Chair, Canadian Society for Civil Engineering Task Force and International Activities, 2016-2017
* Chair, Canadian Society for Civil Engineering Regional Coordinators Committee, 2015-2016
* Chair, American Society of Civil Engineering, Infrastructure Systems Committee, 2014-2017
* Chair, Transportation Research Board Sub-Committee A2B01(2) Airport Pavement Management, 2008 – 2015
* Chair, National Co-operative Highway Research Program NCHRP D4-36 Research Plan, 2012
* Chair, International Steering Committee: 7th and 8th International Conference on Managing Pavement Assets, 2009 - 2012
* Chair, TAC Foundation Scholarship Committee, Transportation Association of Canada, 2003-2009
* Chair, Soils and Materials Standing Committee, Transportation Association of Canada, 2000-2006

**UW Service**

* Deputy Provost, Associate Vice-President Integrated Planning and Budgeting, 2017 - Present
* Director, Centre for Pavement and Transportation Technology, 2010 – 2017
* Associate Director Research and Technology, Centre for Pavement and Transportation Technology 2005 – 2010
* Member, Advisory Committee for Graduate Scholarships & Awards, 2016 - Present
* Member, AF&T Committee, 2016 - Present
* HeforShe Advocacy Committee, Engineering Representative, 2016 – Present
* Member, Director Search Committee School of Architecture, 2015-2016
* Member, Graduate Recruitment Committee, Faculty of Engineering, 2016 – Present
* Member, CRC Review Committee, Mechanical and Mechatronics Engineering, 2016
* Department Tenure Promotion Committee, 2015, 2016
* Member, CRC Review Committee, Civil and Environmental Engineering, 2014, 2015
* Outreach, Early Accepted Applicants, 2005 – present
* Civil, Environmental & Geological Engineering Society (CEGES), Faculty Advisor
* Chair, DACA Norman W. McLeod, 2013 - 2014
* Chair, Department Research Planning Committee, Vision 2015, 2013
* DACA UAE 2, 2010-2012
* DACA UAE 3, 2011-2012
* Chair, Engineering Faculty Council, 2013 - present
* Member, Transportation Campus Committee, 2010 - 2015
* Member, Alumni Awards Committee, 2008 - 2015
* Member, Faculty Representative Mid Cycle Review Process, 2013-2015
* Member, University of Waterloo Senate/ University of Waterloo Senate Finance Committee, 2008-2009
* Member University of Waterloo Research and Technology Park Faculty Access Team, 2008-2013
* Vice Chair, Engineering Faculty Council, 2012
* Member, Faculty of Engineering Tenure Promotion Committee, 2009 – 2013
* Member, Applied Health and Sciences Faculty Tenure Promotion Committee, 2013-2015

***GRADUATE STUDENT SUPERVISION***

**Summary**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Current** | | **Completed** | |
|  | **Supervised** | **Co-supervised** | **Supervised** | **Co-supervised** |
| **Master's** | 5 | 0 | 39 | 7 |
| **Doctoral** | 16 | 4 | 16 | 5 |
| **Postdoctoral** | 5 | 1 | 15 | 4 |
| **Others** | 2 | 0 | 7 | 0 |
| **TOTAL** | **29** | **5** | **77** | **16** |

\*Note (C) = co-supervision