



56th Annual Conference, May 17-18, 2021 - PROGRAM

*****Virtual Conference, Fredericton, New Brunswick*****

Ensuring Resilience in Transportation Systems: Anticipating and Responding to Pandemic, Climate, Demographic and Economic Changes

(All times shown as Eastern Time)

| DAY ONE | | Monday, May 17, 2021 | | |
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| 9:00 AM - 10:00 AM | Opening Plenary <i>(Des services d'interprétation simultanée seront disponibles)</i> | <p>Issues and Challenges: A Review of the Impact of the Pandemic. The past year has seen unprecedented impacts on Canada's transportation industry, with a dramatic decline in domestic and international passenger travel in every mode. (Moderator: Trevor Hanson)</p> <p>Panelists Aylin Lusi – UPS Canada – Vice President, Public Affairs Daniel Firth – C40 Cities – Programme Director, Transport and Urban Planning Daniel-Robert Gooch – Canadian Airports Council – President</p> | | |
| 10:00 AM - 11:00 AM Concurrent Sessions | | <p>Session 1.1 Climate and Sustainable Transport <i>(Des services d'interprétation simultanée seront disponibles)</i></p> <p>Chair: Malcolm Cairns</p> | <p>Session 1.2 Transportation History</p> <p>Chair: James Frost</p> | <p>Session 1.3 Regulation and Policy</p> <p>Chair: Steve Pratte</p> |

| DAY ONE | Monday, May 17, 2021 | | |
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| | Optimizing Provincial Transportation Emission Policies in Canada Anastasia Soukhov, Moataz Mohamed, Zoe Li | From Underground Up: Urban Transit and the Evolution of Ethnic Enclaves Q. Rallye Shen | North American Crude Oil Movement: Pipeline vs. Railway Safety Paul D. Larson, Robert V. Parsons |
| | Analysis of Vancouver of Sustainable Mode Share Trends for Climate Action: A Vancouver Case Study Blair Underhill and Mausam Duggal | The Evolution of Carrier Ground Transportation from Horsecab to Taxis in Ottawa Joseph Monteiro, Barry E. Prentice | International Comparison of Dangerous Goods Shipping Document Regulations Joseph F. Schulman, Ashok Kinjarapu |
| | How to Fairly Evaluate Eco-Driving? An Eco-Score System Developed Using Vehicle Characteristics and Traffic Conditions Junshi Xu, Ran Tu, Usman Ahmed, Glareh Amirjamshidi, Marianne Hatzopoulou, Matthew J. Roorda | A History of Horse-Drawn Transport in Four Canadian Cities Joseph Monteiro, Barry E. Prentice | |
| 11:00 AM - 12:00 PM Concurrent Sessions | Session 2.1 Policy and Planning | Session 2.2 Pandemic Impacts on Air Transport <i>(Des services d'interprétation simultanée seront disponibles)</i> | Session 2.3 Pandemic Impacts on Trade Transport |
| | Chair: Vijay Gill | Chair: Joel Carlson | Chair: James Frost |
| | Equity and resilience in the pedestrian environment for people with disabilities Mike Prescott, W. Ben Mortenson | Turbulence: Canadian Airlines in the Wake of COVID Valeriya Mordvinova, Cory Snoddon, Lawrence McKeown | Assessing Canada-USA Cross-Border Passenger Vehicle Traffic During Post-Pandemic Recovery Gozde Ozonder, Eric J. Miller |
| | Developing an ArcGIS Visualization Tool for an Integrated Urban Systems Model in Nova Scotia, Canada James Coons, Md Asif Hasan Anik, Muhammad Ahsanul Habib | Global Pandemics and the Path Towards Regulatory Convergence in International Aviation Marcelo Garcia, Jody Kositsky | Exploring the Impact of COVID-19 on the Movement of Trucks Between Canada and the US: The Case of the Ambassador Bridge Hanna Maoh, William Anderson |

| DAY ONE | | Monday, May 17, 2021 | | |
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| | | Structural Equation and Multinomial Logit Regression Modelling approach for Understanding the Travel <i>Hasan Shahrier, Muhammad Ahsanul Habib</i> | | The Effect of COVID -19 Pandemic and Lockdowns on Trucking Industry: Pricing and Lane-Balances in the Trucking Spot Market <i>Shervin Espahbod, Michael Haughton, Victor Shi</i> |
| 12:00 PM - 1:00 PM | Keynote Speaker <i>(Des services d'interprétation simultanée seront disponibles)</i> | Hon. Jill Green, Minister, Transportation and Infrastructure, New Brunswick <i>"How New Brunswick is readying its transportation infrastructure for current and future challenges"</i> | | |
| 1:00 PM - 2:00 PM Concurrent Sessions | | Session 3.1 Technology and New Mobility | Session 3.2 Freight Planning and Forecasting | |
| | | <i>Chair: Robin Lindsey</i> | <i>Chair: Glareh Amirjamshidi</i> | |
| | | Modeling Vehicle Transaction Decisions in an Autonomous Vehicle Future <i>Md Shahadat Hossain, Mahmudur Fatmi</i> | Freight Vehicle Type Choice Model using Random Forest Classification <i>Usman Ahmed, Matthew J. Roorda</i> | |
| | | Dynamic Last-mile Delivery with Crowd-shipping <i>Kianoush Mousavi, Merve Bodur, Mucahit Cevik, Matthew Roorda</i> | A Methodology for Obtaining Industry-Level Freight Flows using Existing Data Sources for the Exploration of Trade Criticality within the Province of Ontario, Canada <i>Georgiana Madar-Vani, Hanna Maoh, William Anderson</i> | |
| | | Potential Crowd-Shipper Commute Pattern in the Toronto Area: Analysis from a Household Travel Survey <i>Shang Zhang, Matthew J. Roorda</i> | | |

| DAY ONE | | Monday, May 17, 2021 | | |
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| 2:00 PM - 3:00 PM Concurrent Sessions | <p align="center">Session 4.1 Future of Air Transport</p> <p align="center"><i>Chair: Gordon Baldwin</i></p> <p>Drones and Commercial Confidentiality <i>Grace Shaw, Joanna Dawson, Julia Loney</i></p> | <p align="center">Session 4.2 Hydrogen and EV Shift</p> <p align="center"><i>Chair: Mark Hemmes</i></p> <p>Energy Consumption Model of Battery Electric Buses Using Real-World Data and Machine Learning <i>Hatem Abdelaty, Abdullah Al-Obaidi, Moataz Mohamed, Hany E. Z. Farag</i></p> | | |
| | <p>Cold Chain Sustainability: Airships versus Long-haul Trucking <i>Barry Prentice, John Wilms, Marcela Gonzales Alba</i></p> | <p>Prospects for Hydrogen as a Transportation Fuel in Canada <i>Malcolm Cairns</i></p> | | |
| | <p>Regional Airline Troubles <i>Don Wallace</i></p> | | | |
| | | | | |
| 3:00 PM - 4:00 PM | Virtual Technical Tour | <p align="center"><i>Port Saint John</i></p> <p align="center"><i>Fireside Chat with Jim Quinn, President & CEO Port Saint John</i></p> | | |

| DAY TWO | | Tuesday, May 18, 2021 | | |
|---------------------|---|--|--|---|
| 9:00 AM - 10:00 AM | Opening Plenary <i>(Des services d'interprétation simultanée seront disponibles)</i> | <p>Moving Forward: How COVID and Technology are Changing Transportation Forever. A sharp rise in e-commerce, mass uptake in virtual working, change in commuting patterns, and exposure of the vulnerability of our supply chains will have lasting effects that may never return to their pre-pandemic state. (Moderator: Adrian Lightstone)</p> <p>Panelists Bruce Burrows – Chamber of Marine Commerce – President and CEO Hamish Campbell – VIAx – Country Manager Yves Desjardins-Siciliano – Siemens Mobility Canada – CEO</p> | | |
| 10:00 AM - 11:00 AM | Concurrent Sessions | Session 5.1 Transportation Resilience | Session 5.2 Pandemic Transport Modelling I | Session 5.3 Pandemic Transport Modelling II |
| | | <i>Chair: Steve Pratte</i> | <i>Chair: Glareh Amirjamshidi</i> | <i>Chair: Garland Chow</i> |
| | | Development of a Regional Transportation and Land Use Resilience Framework Blair Underhill, Paul Tetreault, Adrian Lightstone, Tony Vi and Mark Seinen | An Exploratory Analysis of Travel Behaviour at Dhaka City during COVID-19 Subrata Roy, Hasan Shahrier, Fariba Hossain | Modal Shift after Lockdown due to Covid-19 in N1 Highway-Bangladesh Shahrul Ibney Feroz, Md. Ridwan Bin Alam, Md. Ahnaf Zahin |
| | | Resilience of Maritime Transport for Emergency Response Following an Earthquake Ronald Pelot and Floris Goerlandt, Stephanie Chang, David Bristow, Cheng Lin and Lina Zhou, Anne Goodchild | Impacts of COVID-19 Pandemic on Traffic Congestion within the Greater Toronto Hamilton Area Mostafa Kouchakzadeh, Hasan Bayanouni, Matthew J. Roorda | The Spatial and Temporal Impact of COVID-19 on Subway Ridership in South Korea Haesung Ahn, Yong Hoon Kim |
| | | | | Sustainability in Postal Logistics Post Pandemic Fortune Paul-Chinka, Matin Foomani |

| DAY TWO | | Tuesday, May 18, 2021 | | |
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| 11:00 AM - 12:00 PM Concurrent Sessions | | Session 6.1 Transportation Health and Safety | Session 6.2 Transportation Modelling I | |
| | | <i>Chair: Matin Foomani</i> | <i>Chair: Mark Hemmes</i> | |
| | | Occupational Health and Safety Challenges for Maritime Key Workers in the Global COVID-19 Pandemic Desai Shan | Investigating Hamiltonians' Transit Service Desired Quality Using Multinomial Logit Interaction Models Gamal Eldeeb, Moataz Mohamed | |
| | | The Impact of COVID-19 and the Stay-at-home Order on Accident Duration and Accident Delay Severity in California Abdul Razak Alozi, Anastasia Soukhov, Mohammad Halakoo, Yu Wu, Tinghui Shang, Haoya Li | Real-Time Traffic Speed Prediction in Abnormal Conditions Using Machine and Deep Learning Methods Sindhuja Gutha, Mina Maleki, Hanna Maoh | |
| | | Travel and Health: Modeling the Direct and Indirect Effects of Activity Engagement, Attitudes, Mobility Tool, and Built Environment Characteristics on Health Shivam Khaddar, Mahmudur Rahman Fatmi, Meghan Winters | | |
| 12:00 PM - 1:00 PM | Awards Ceremony and Keynote Speaker <i>(Des services d'interprétation simultanée seront disponibles)</i> | <i>Awards Ceremony – Steve Pratte – Incoming President CTRF Ballard Power Systems – Terry Howe – Business Development Manager</i> | | |
| 1:00 PM - 2:00 PM Concurrent Sessions | | Session 7.1 New Mobility and Travel Behaviour Change | Session 7.2 Transportation Governance | |
| | | <i>Chair: Robin Lindsey</i> | <i>Chair: Vijay Gill</i> | |

| DAY TWO | Tuesday, May 18, 2021 | | |
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| | Costs and Benefits of Shared Mobility in a Suburban Context: The Impact of Powertrain Technology Roxana Rasouli, Moataz Mohamed, Saiedeh Razavi | Visibility in Canadian Port Governance Transparency: What Do Stakeholders Expect? Mary R. Brooks, Geraldine Knatz, Athanasios A. Pallis, Gordon Wilmsmeier | |
| | Vaccine Arrival, Telework, and Adoption of ICT: What are the Long-Term Implications of the COVID-19 Pandemic on Mobility Behaviour? Sabrina Rashid Sheonty, Md Asif Hasan Anik | 25 Years of the Grain Handling and Transportation System (1995-2020): A Time of Great Change Mark A. Hemmes | |
| | Automobility Behavior of Young and Older Adults: A Study in Hamilton, Canada Shaila Jamal, K. Bruce Newbold | | |
| 2:00 PM - 3:00 PM Concurrent Sessions | Session 8.1 Pricing and Tax Policy | Session 8.2 Transportation Modelling II | |
| | Chair: Robin Lindsey | Chair: Mark Hemmes | |
| | Traffic Congestion Control: Tradable Permits vs Road Tolls Pouya Rezaeinia, André de Palma, Robin Lindsey | Extending the SMARTPLANS Integrated Urban Model to Estimate Pollution Concentration from Vehicles: An Application to Ottawa, Canada Terence Dimatulac, Hanna Maoh | |
| | Estimated Farm Impact of the Carbon Tax on Rail Shipments of Grain Exported from Western Canada Blair Rutter | Modeling and Validating the Price of Residential Housing in the SMARTPLANS Integrated Urban Model Mohamed Abdo, Hanna Maoh | |

| DAY TWO | | Tuesday, May 18, 2021 | |
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| | | | <p>Estimating Crash Reduction Resulting from Roadside Inspection and Traffic Enforcement in British Columbia <i>Jessica Schafer, Garland Chow</i></p> |
| 3:00 PM - 4:00 PM | AGM | <p>CTRF Annual General <i>Meeting Open to all CTRF members. This will be organized as a separate Zoom call.</i></p> | |
| 6:00 PM - 8:00 PM | Virtual Social Event | <p>Transportation Trivia - Assemble your team of 4 for a fun night of transportation trivia! <i>Details to follow by email!</i> Trevor Hanson</p> | |