



TRANSIT ANALYTICS LAB

TAL RESEARCH DAY
Tuesday July 6th, 2021

Sponsored by the
Transit Analytics Lab
University of Toronto Transportation Research Institute (UTTRI)

Final Program

- 09:00 **Introduction to the Transit Analytics Lab (TAL)**
Words of Welcome and Introduction to UTTRI's TAL (Amer Shalaby)
- 09:20 **Transit Analytics Related to Planning, Scheduling, and Customer Behaviour (Moderator: Brendon Hemily)**
- Surface Transit Bunching: Understanding the Determinants and Opportunities for Real-Time Prediction (Ehab Diab)
 - Use of Smart Card Data to Model Transit Demand (Khandker Nurul Habib)
 - Incorporating Service Reliability in Multi-Depot Vehicle Scheduling (Margarita Castro)
 - Leveraging Twitter Data to support Transit Planning and Operations (Rami Al-Sahar)
 - Navigating the Network: Understanding Transit Users' Information-Seeking Behaviour using Trip Planning Data (Lisa Li)
- 10:35 Break
- 10:50 **Operations Analytics to Improve Reliability (Moderator: Amer Shalaby)**
- Data-Driven Analysis of Service Reliability and its Determinants: Machine Learning Approach (Diego Da Silva)
 - Using Delay Logs and Machine Learning to Support Passenger Railway Operations (Willem Klumpenhower)
 - DASH-Bus Planner: A Toolkit for Deployment and Assessment of Bus Bridging Strategies (Alaa Itani)
 - Two-Way Transit Signal Priority Algorithm for Optimizing Transit Reliability and Speed: A Deep Reinforcement Learning Approach (Wenxun Hu)

- 12:00 Lunch Break
- 12:20 **Lunch Activity – “History of Public Transit in Toronto” Video**
- 12:45 Keynote Presentation: **Transit Data and Beyond: Emerging Landscapes**
Brendon Hemily, Senior Advisor, TAL
- 1:30 **Transit Analytics to Support Equity and Policy**
(Moderator: Amer Shalaby)
- A Comprehensive Transit Accessibility and Equity Dashboard (Willem Klumpenhower)
 - Bus On Time Performance, Equity and Wellbeing: What We Know and What We Need To Find Out (Matthew Palm)
 - Evaluating the Equity Implications of Ride-hailing Through a Multi-Modal Accessibility Framework (Steven Farber)
- 2:30 Break
- 2:45 **Transit Data and Analytics Challenges Facing Transit Systems Today - Discussion**
(Moderator: Brendon Hemily)
- 3:45 Wrap-Up
- 4:00 End of Research Day