SUNDAY, JANUARY 7, 2018

1:30 PM - 5:00 PM

**Workshop 190**

**Doctoral Research in Transport Modeling**

*Convention Center, 146B*

Patricia Mokhtarian, Georgia Institute of Technology (Georgia Tech), presiding
Rolf Moeckel, Technical University of Munich, presiding

P18-21418 - Real-Time Operation of AV-Enabled Mobility Services (AVEMS): Modeling, Optimization, Simulation, and Analysis

Michael Hyland, Northwestern University

MONDAY, JANUARY 8, 2018

7:00 AM - 8:00 AM

**Policy and Organization Group Executive Board**

*By invitation*

Marriott Marquis, Gallery Place (M3)

*Joseph Schofer*, Northwestern University, presiding
Data and Information Technology, Policy

8:00 AM - 9:45 AM

**Development of Freight Fluidity Performance Measures Task Force**

*Marriott Marquis, Pentagon (M4)*

*Joseph Schofer*, Northwestern University, presiding
Freight Transportation, Operations and Traffic Management, Planning and Forecasting

8:00 AM - 9:45 AM

**Lectern Session 204**

Traffic Equilibrium, Traffic Control, and Network Design
Convention Center, 156
Alireza Khani, University of Minnesota, Twin Cities, presiding
Lectern
Planning and Forecasting

18-03128 - A Greedy Path-based Algorithm for Traffic Assignment
Jun Xie, Southwest Jiaotong University
Yu Nie, Northwestern University
Xiaobo Liu, Southwest Jiaotong University

18-06741 - Reliability-Based User Equilibrium Formulation in Dynamic Stochastic Networks with Correlated Travel Times and Heterogeneous User Preferences
Ali Zockaie, Michigan State University
Hani Mahmassani, Northwestern University
Yu Nie, Northwestern University
Fatemeh Fakhrmoosavi, Michigan State University

8:00 AM - 9:45 AM
MONDAY

Poster Session 243
Statistical Methods in Transportation
Convention Center, Hall E
Md. Mazharul Haque, Queensland University of Technology, presiding
Poster | Practice Ready Paper
Data and Information Technology, Safety and Human Factors, Transportation, General

18-06541 - Spatio-Temporal Short-term Traffic Forecasting using the Network Weight Matrix and Systematic Detrending
Alireza Ermagun, Northwestern University
David Levinson, University of Sydney

8:00 AM - 9:45 AM
MONDAY

Poster Session 255
Advances in Urban Freight Transportation Research and Practices
Convention Center, Hall E
Peter Plumeau, Economic Development Research Group, presiding
Erica Wygonik, RSG, presiding
Poster | Spotlight Theme | Practice Ready Paper
Freight Transportation, Planning and Forecasting, Spotlight Theme: Transportation: Moving the Economy of the Future

18-05877** - How Different Are Crowd-Shipping Users and Non-Users?
Aymeric Punel, Northwestern University
Alireza Ermagun, Northwestern University
Amanda Stathopoulos, Northwestern University

18-06629** - Performance Analysis of Crowd-shipping in Urban and Suburban Areas
Alireza Ermagun, Northwestern University
Ali Shamshiripour, University of Illinois, Chicago
Amanda Stathopoulos, Northwestern University

10:15 AM - 12:00 PM
MONDAY
Emerging Methods in Demand Forecasting Subcommittee, ADB40(1)
Marriott Marquis, Independence A (M4)
Taha Rashidi, University of New South Wales, presiding
Amanda Stathopoulos, Northwestern University, presiding
Data and Information Technology, Planning and Forecasting

10:15 AM - 12:00 PM
Poster Session 322
MONDAY

Data-Driven Analysis of Intersection Operations
Convention Center, Hall E
Anuj Sharma, Iowa State University, presiding
Poster / Practice Ready Paper
Operations and Traffic Management

18-06634 - Assessment of Traffic Signal System Performance Using Vehicle Trajectories
Marija Ostojic, Northwestern University
Archak Mittal, Northwestern University
Hani Mahmassani, Northwestern University
David Hale, Leidos, Inc.

1:30 PM - 3:15 PM
Lectern Session 339
Methodological Advances in Travel Behavior Analysis
Convention Center, 156
Taha Rashidi, University of New South Wales, presiding
Lectern
Planning and Forecasting

18-05526 - Why, yes, there is utility in the Transtheoretical Model! An application to bikeshare adoption
Alec Biehl, Northwestern University
Alireza Ermagun, Northwestern University
Amanda Stathopoulos, Northwestern University

1:30 PM - 3:15 PM
Lectern Session 369
Crowd Shipping and Online Shopping: The Future of Freight Flow
Convention Center, 143A
Zahra Pourabdollahi, Reynolds, Smith, and Hills, Inc., presiding
Lectern / Spotlight Theme
Freight Transportation, Planning and Forecasting, Spotlight Theme: Transportation: Moving the Economy of the Future, Hot Topic: Transformational Technologies

18-06449 - To Bid or Not to Bid: The Supply Determinants of Crowd-shipping
Alireza Ermagun, Northwestern University
Amanda Stathopoulos, Northwestern University

1:30 PM - 3:15 PM
Poster Session 377
Revenue and Finance Issues in Public–Private Partnerships
Convention Center, Hall E
Rimon Rafiah, Economikr, presiding
Poster
Administration and Management, Finance, Maintenance and Preservation

18-03411 - Pareto Efficiency and Incentive Analysis for Private Roads in Simple Networks
Hang Shu, Northwestern University
Pablo Durango-Cohen, Northwestern University

1:30 PM - 3:15 PM
Poster Session 386
Advanced Modeling, Recognition, and Classification Methods in Transportation Applications
Convention Center, Hall E
Loukas Dimitriou, University of Cyprus, presiding
*Poster*  
Data and Information Technology, Operations and Traffic Management, Safety and Human Factors

**18-02156 - Assessment of Bridge Performance Through Machine Learning Algorithms: A Comparative Study**  
*Fiorella Mete*, Northwestern University  
*Ying Chen*, Northwestern University  
*Amanda Stathopoulos*, Northwestern University  
*David Corr*, Northwestern University

**18-03909 - Keeping Score: Incorporating Driver Behavior Scoring System with Connected Vehicles to Improve Traffic Service Quality**  
*Ying Chen*, Northwestern University  
*Zihan Hong*, Northwestern University  
*Yang Wu*, Northwestern University  
*Hani Mahmassani*, Northwestern University

### 1:30 PM - 5:30 PM  
**MONDAY**

**Poster Session 396**  
**Cutting-Edge Bikeshare Research**  
*Convention Center, Hall E*  
*Gregory Krykewycz*, Delaware Valley Regional Planning Commission, presiding  
*Christopher Cherry*, University of Tennessee, Knoxville, presiding  
*Poster | Practice Ready Paper*  
Pedestrians and Bicyclists, Society, Transportation, General

**18-05503 - A Planning Assessment of Bike-sharing Systems: Top-down or Bottom-up Demand Practices?**  
*Alec Biehl*, Northwestern University  
*Alireza Ermagun*, Northwestern University

### 3:45 PM - 5:30 PM  
**MONDAY**

**Data for Decisions and Performance Measures Task Force**  
*Marriott Marquis, Liberty P (M4)*  
*Joseph Schofer*, Northwestern University, presiding  
Data and Information Technology, Operations and Traffic Management, Policy

**Lectern Session 430**  
**Equity Issues in Pedestrian Safety and Access**  
*Convention Center, 102B*  
*Kevin Manaugh*, McGill University, presiding  
*Lectern | AICP Certification | Practice Ready Paper*  
Pedestrians and Bicyclists, Hot Topic: Resilience and Sustainability

**18-04531 - Equitable Access to Services in Large-Scale Pedestrian Facilities**  
*Khaled Abdelghany*, Southern Methodist University  
*Ahmed Abdelghany*, Embry-Riddle Aeronautical University  
*Hani Mahmassani*, Northwestern University  
*Isam Kayssi*, American University of Beirut

### 3:45 PM - 5:30 PM  
**MONDAY**

**Poster Session 454**  
**Transportation Safety Management: Start to Finish**  
*Convention Center, Hall E*  
*Frank Gross*, VHB, presiding
Susan Herbel, SBH Consult, presiding
Poster | Practice Ready Paper
Safety and Human Factors

18-06341 - “I’ll Never Stop Driving My Child to School”: On Multimodal and Monomodal Car Users
Milad Mehdizadeh, Iran University of Science and Technology
Alireza Ermagun, Northwestern University

3:45 PM - 5:30 PM
MONDAY

Poster Session 460
Young Professional Research in Aviation
Convention Center, Hall E
Elham Boozarjomehri, The Boeing Company, presiding
Poster
Aviation

P18-21129 - Are Passengers' Expectations the Same? Investigating Online Flight Reviews to Outline Differences of Airline Customers' Requirements According to Their Origin Country
Aymeric Punel, Northwestern University

TUESDAY, JANUARY 9, 2018

8:00 AM - 9:45 AM
TUESDAY

Lectern Session 473
Rebuilding and Retrofitting the Transportation Infrastructure: Report from the 2017 UTC Spotlight Conference
Convention Center, 151A

Joseph Schofer, Northwestern University, presiding
Lectern | Spotlight Theme
Spotlight Theme: Transportation: Moving the Economy of the Future

8:00 AM - 9:45 AM
TUESDAY

Poster Session 522
Traffic Flow Theory and Characteristics, Part 1 (Part 2, Session 573; Part 3, Session 775; Part 4, Session 832)
Convention Center, Hall E
Poster | Practice Ready Paper
Operations and Traffic Management

18-06532 - Application of the Network Weight Matrix to Predict Traffic Flow
Alireza Ermagun, Northwestern University
David Levinson, University of Sydney

10:15 AM - 12:00 PM
TUESDAY

Lectern Session 525
Data Analytics in the Policy Process
Convention Center, 151A

Joseph Schofer, Northwestern University, presiding
Lectern
Administration and Management, Planning and Forecasting, Policy

**10:15 AM - 12:00 PM  
TUESDAY**

**Lectern Session 532**

**Shared Mobility: Traditional and Emerging Modes**  
*Convention Center, 156*  
Vadim Sokolov, George Mason University, presiding  
*Lectern / AICP Certification*  
Planning and Forecasting, Hot Topic: Transformational Technologies

18-06431 - Dynamic Autonomous Vehicle Fleet Operations: Optimization-based Strategies to Assign AVs to Immediate Traveler Demand Requests  
*Michael Hyland*, Northwestern University  
*Hani Mahmassani*, Northwestern University

18-06576 - Characterization of Taxi Fleet Operational Networks and Vehicle Efficiency: Chicago Case Study  
*Ying Chen*, Northwestern University  
*Michael Hyland*, Northwestern University  
*Michael Wilbur*, Northwestern University  
*Hani Mahmassani*, Northwestern University

18-06707 - Integrated Mode Choice and Dynamic Traveler Assignment-Simulation Framework to Assess the Impact of a Suburban First-mile Shared Autonomous Vehicle Fleet Service on Transit Demand  
*Helen Karla Ramalho de Farias Pinto*, Northwestern University  
*Michael Hyland*, Northwestern University  
*Omer Verbas*, Argonne National Laboratory  
*Hani Mahmassani*, Northwestern University

**10:15 AM - 12:00 PM  
TUESDAY**

**Lectern Session 533**

**Learning from Econometrics and Machines to Advance Transportation Demand Modeling**  
*Convention Center, 145A*  
Tierra Bills, University of Michigan, Ann Arbor, presiding  
*Lectern*  
Planning and Forecasting

18-06436 - A Dynamic Prediction of Shipment Status in Crowd-sourced Delivery Platforms  
*Alireza Ermagun*, Northwestern University  
*Aymeric Punel*, Northwestern University  
*Amanda Stathopoulos*, Northwestern University

**10:15 AM - 12:00 PM  
TUESDAY**

**Poster Session 573**

**Traffic Flow Theory and Characteristics, Part 2 (Part 1, Session 522; Part 3, Session 775; Part 4, Session 832)**  
*Convention Center, Hall E*  
*Poster*  
Operations and Traffic Management

18-06583 - Improving Network Travel Time Reliability Estimation with Network Partitioning  
*Ramin Saedi*, Michigan State University  
*Mohammadreza Saeedmanesh*, Ecole Polytechnique Federale de Lausanne (EPFL)  
*Ali Zockaie*, Michigan State University  
*Meead Saberi*, Monash University  
*Nikolas Geroliminis*, Ecole Polytechnique Federale de Lausanne (EPFL)  
*Hani Mahmassani*, Northwestern University
1:30 PM - 3:15 PM
TUESDAY

**Lectern Session 590**

**Estimation, Detection, and Prediction of Traffic Conditions with Machine Learning Tools**

*Convention Center, 151A*

Kaan Ozbay, New York University, presiding

Lectern

Data and Information Technology, Operations and Traffic Management

18-03978 - **Machine Learning Approach to Short-term Traffic Congestion Prediction in a Connected Environment**

*Amr Elfar*, Northwestern University

*Alireza Talebpour*, Texas A&M University

*Hani Mahmassani*, Northwestern University

---

1:30 PM - 3:15 PM
TUESDAY

**Poster Session 654**

**Public Transportation: Accessibility Analysis and Tools**

*Convention Center, Hall E*

*Poster / Practice Ready Paper*

Peter Ohlms, Virginia Department of Transportation, presiding

18-06465 - **Accessibility-Based Evaluation of Transit Projects**

*Chelsey Palmateer*, University of Minnesota, Twin Cities

*Alireza Ermagun*, Northwestern University

*Andrew Owen*, University of Minnesota, Twin Cities

*David Levinson*, University of Sydney

---

3:45 PM - 5:30 PM
TUESDAY

**Aviation Economics and Forecasting Committee**

*Marriott Marquis, Judiciary Square (M3)*


*Practice Ready Paper*

Aviation, Economics, Planning and Forecasting

18-05612 - **Mapping Airline's Twitter Network to Get Insights into its Market Segments**

*Aymeric Punel*, Northwestern University

*Alireza Ermagun*, Northwestern University

---

3:45 PM - 5:30 PM
TUESDAY

**Lectern Session 669**

**Advancing the Science of Transportation Demand Modeling**

*Convention Center, 145A*

Joan Walker, University of California, Berkeley, presiding

Lectern

Data and Information Technology, Planning and Forecasting, Policy

P18-20307 - **Advancing TDM: Developing the Workforce**

*Chandra Bhat*, University of Texas, Austin

*Elizabeth Sall*, UrbanLabs LLC

*Timothy Brathwaite*

*Siyu Chen*, Massachusetts Institute of Technology (MIT)

*Nicholas Chim*, Sidewalk Labs

*Clint Daniels*, RSG

*Hani Mahmassani*, Northwestern University

*Rosella Picado*, WSP

*Madeleine Sheehan*, University of California, Berkeley

*Jennifer L. Weeks*, Transportation Research Board
3:45 PM - 5:30 PM
TUESDAY

**Poster Session 712**

**The World of Transportation Planning Applications**

Convention Center, Hall E
Christopher Hiebert, Southeastern Wisconsin Regional Planning Commission (SEWRPC), presiding
Poster / Practice Ready Paper
Planning and Forecasting

18-06375** - B327 - Characterizing Activity Patterns Using Co-Clustering and User-Activity Network
Ali Arian, University of Arizona
Alireza Ermagun, Northwestern University
Yi-Chang Chiu, University of Arizona

3:45 PM - 5:30 PM
TUESDAY

**Poster Session 721**

**Regional Transportation Systems Management and Operations**

Convention Center, Hall E
Louis Neudorff, CH2M, presiding
Poster
Operations and Traffic Management

18-06686 - Data-Driven Active Demand Management with Commuter Ride-Sharing under Disruptions: A Case Study of Chicago
Zihan Hong, Northwestern University
Ying Chen, Northwestern University
Hani Mahmassani, Northwestern University

WEDNESDAY, JANUARY 10, 2018

8:00 AM - 9:45 AM
WEDNESDAY

**Lectern Session 755**

**Connected and Automated Vehicle Systems in Complex Transportation Systems**

Convention Center, 102B
Lectern
Operations and Traffic Management, Hot Topic: Transformational Technologies

18-06414 - Predictive Dynamic Speed Limit in a Connected Environment for a Weather Affected Traffic Network: A Case Study of Chicago
Archak Mittal, Northwestern University
Eunhye Kim, No Organization
Hani Mahmassani, Northwestern University
Zihan Hong, Northwestern University

8:00 AM - 9:45 AM
WEDNESDAY

**Poster Session 773**

**Travel Behavior of Special Population Groups**

Convention Center, Hall E
Junyi Zhang, Hiroshima University, presiding
Poster
Planning and Forecasting
18-05933 - Young Adults’ Activity-Travel Behavior: Why Are We Still Operating Within the Same Framework? A Conceptual Exploration
Lama Bou Mjahed, Northwestern University
Hani Mahmassani, Northwestern University

8:00 AM - 9:45 AM
WEDNESDAY

Poster Session 774
Travel Behavior
Convention Center, Hall E
Abolfazl Mohammadian, University of Illinois, Chicago, presiding
Poster / Practice Ready Paper
Planning and Forecasting

18-05522 - What drives behavioral change? An Application of the Transtheoretical Model to Walking and Cycling Behavior
Alec Biehl, Northwestern University
Alireza Ermagun, Northwestern University
Amanda Stathopoulos, Northwestern University

8:00 AM - 9:45 AM
WEDNESDAY

Poster Session 782
Cycling Demand and Cyclist Behavior
Convention Center, Hall E
Sarah O'Brien, North Carolina State University, presiding
Rachel Carpenter, California Department of Transportation (CALTRANS), presiding
Poster / Practice Ready Paper
Pedestrians and Bicyclists, Planning and Forecasting, Policy

18-06499 - Bicycle, Pedestrian, and Mixed-mode Trail Traffic: A Performance Assessment of Demand Models
Alireza Ermagun, Northwestern University
Greg Lindsey, University of Minnesota, Twin Cities
Tracy Loh, George Washington University

8:00 AM - 9:45 AM
WEDNESDAY

Poster Session 786
Shared and Automated Vehicles
Convention Center, Hall E
Carol Schweiger, Schweiger Consulting LLC, presiding
Poster
Public Transportation, Transportation, General, Vehicles and Equipment, Hot Topic: Transformational Technologies

18-06667 - Sharing is Caring: Dynamic Autonomous Vehicle Fleet Operations under Demand Surges
Michael Hyland, Northwestern University
Hani Mahmassani, Northwestern University

10:15 AM - 12:00 PM
WEDNESDAY

Section Leaders Discussion - A8000
Marriott Marquis, Mint (M4)
Joseph Schofer, Northwestern University, presiding
Policy

10:15 AM - 12:00 PM
WEDNESDAY

Poster Session 828
Information and Communications Technology and Travel Behavior: A Spectrum of Findings
Convention Center, Hall E
Sivaramakrishnan Srinivasan, University of Florida, presiding
Poster
Data and Information Technology, Planning and Forecasting

18-05902 - Wired at Birth: Childhood, Technology Engagement and Travel Behavior
Lama Bou Mjahed, Northwestern University
Hani Mahmassani, Northwestern University

10:15 AM - 12:00 PM
WEDNESDAY

Traffic Flow Theory and Characteristics, Part 4 (Part 1, Session 522; Part 2, Session 573; Part 3, Session 775)
Convention Center, Hall E
Poster
Operations and Traffic Management

18-03622 - Traffic Shockwave Detection in a Connected Environment using the Speed Distribution of Individual Vehicles
Amr Elfar, Northwestern University
Connie Xavier, Texas A&M University
Alireza Talebpour, Texas A&M University
Hani Mahmassani, Northwestern University

2:30 PM - 4:00 PM
WEDNESDAY

Logistics for Disasters and Continuity of Operations
Convention Center, Hall E
Anne Strauss-Wieder, North Jersey Transportation Planning Authority, presiding
Poster | Practice Ready Paper
Security and Emergencies, Transportation, General, Hot Topic: Resilience and Sustainability

18-06285 - Information Updating Using Mobile Drones for Robust Relief Routing and Distribution in Disaster Areas
Lama Al Hajj Hassan, Northwestern University
Hani Mahmassani, Northwestern University

2:30 PM - 4:00 PM
WEDNESDAY

Behavioral Route Choice
Convention Center, Hall E
Yanfeng Ouyang, University of Illinois, Urbana Champaign, presiding
Poster | Practice Ready Paper
Planning and Forecasting

18-03140 - Mitigating the Impact of Selfish Routing: An Optimal Ratio Control Scheme (ORCS) Inspired by Autonomous Driving
Kenan Zhang
Yu Nie, Northwestern University

2:30 PM - 4:00 PM
WEDNESDAY

Transportation Network Modeling
Convention Center, Hall E
Elise Miller-Hooks, George Mason University, presiding
Poster | Practice Ready Paper
Planning and Forecasting
P18-21240 - **Dynamic Autonomous Vehicle Fleet Operations: Optimization based Strategies to Assign AVs to Immediate Traveler Demand Requests (18-06431)**
Michael Hyland, Northwestern University
Hani Mahmassani, Northwestern University

P18-21241 - **Characterization of Taxi Fleet Operational Networks and Vehicle Efficiency: Chicago Case Study (18-06576)**
Ying Chen, Northwestern University
Michael Hyland, Northwestern University
Michael Wilbur, Northwestern University
Hani Mahmassani, Northwestern University

P18-21242 - **Integrated Mode Choice and Dynamic Traveler Assignment Simulation Framework to Assess the Impact of a Suburban First Mile Shared Autonomous Vehicle Fleet Service on Transit Demand (18-06707)**
Helen Karla Ramalho de Farias Pinto, Northwestern University
Michael Hyland, Northwestern University
Omer Verbas, Argonne National Laboratory
Hani Mahmassani, Northwestern University

P18-21255 - **Reliability-Based User Equilibrium Formulation in Dynamic Stochastic Networks with Correlated Travel Times and Heterogeneous User Preferences (18-06741)**
Ali Zockaie, Michigan State University
Hani Mahmassani, Northwestern University
Yu Nie, Northwestern University
Fatemeh Fakhrmoosavi, Michigan State University

---

**THURSDAY, JANUARY 11, 2018**

**8:00 AM - 12:00 PM**

**Workshop 880**

**Crowd Data, Simulation, Modeling, and Management**

*Convention Center, 101*

Majid Sarvi, University of Melbourne, presiding

**Workshop**

Operations and Traffic Management

**P18-21778 - Panel Discussion**

Dorine Duives, Delft University of Technology
Vincent Gong, TU Delft

Hani Mahmassani, Northwestern University

Winnie Daamen, Delft University of Technology