

Workshop 1043

Data Science Meets Statistical Modeling: A Future Research Agenda for Analysis Using Integrated Data and Methods

Amanda Stathopoulos, Northwestern University, presiding

Sunday, January 8

1:30 PM-

4:30 PM ET

Samantha Islam, University of South Alabama, presiding

Workshop | AICP Certification | PDH

Data and Information Technology

[More Details](#)

Data-science Meets Statistical Modeling: Critical Research Questions (P23-21137)

Amanda Stathopoulos, Northwestern University

Emerging Methods Subcommittee, AEP50(1)

Monday, January

09

8:00 AM-

9:45 AM ET

Amanda Stathopoulos, Northwestern University, presiding

Taha Rashidi, University of New South Wales, presiding

Naveen Eluru, University of Central Florida, presiding

Planning and Forecasting

[More Details](#)

Lectern Session 2008

Transportation Networks for Autonomous, Connected, and Electrified Vehicles

Monday, January

09

8:00 AM-

9:45 AM ET

Yang Liu, National University of Singapore, presiding

Lectern | Spotlight Theme | AICP Certification | PDH

Data and Information Technology, Vehicles and Equipment, Spotlight Theme:

Rejuvenation Out of Disruption: Envisioning a Transportation System for a Dynamic Future

[More Details](#)

Reinforcement Learning for Dynamic Pricing of Shared-Use Autonomous Mobility Systems Considering Heterogeneous Users: Model Development and Scenario Testing (TRBAM-23-04326)

Hoseb Abkarian, Northwestern University

Hani Mahmassani, Northwestern University

Poster Session 2053

Building Resilient and Sustainable Communities

Monday, January

09

8:00 AM-

9:45 AM ET

Veronica Murphy, New Jersey Department of Transportation, presiding

Poster

Environment, Society, Transportation, General

[More Details](#)

Third Place Closure Impacts on Social Connection and Mental Health Outcomes for Marginalized Young Adults in the COVID-19 Pandemic (TRBAM-23-03112, A321)

Elisa Borowski, Northwestern University

Amanda Stathopoulos, Northwestern University

Monday, January 09
8:00 AM-9:45 AM ET

Poster Session 2057
Current Research in Rail Freight Transportation
Guang Tian, University of New Orleans, presiding
Poster
Freight Transportation, Rail (AR040)
[More Details](#)

Optimal Payload Problem with Energy Storage Tender Cars for Freight Rail Decarbonization (TRBAM-23-02789, B510)
Max Ng, Northwestern University
Adrian Hernandez, Northwestern University
Pablo Durango-Cohen, Northwestern University
Hani Mahmassani, Northwestern University

Lectern Session 2067
Lasting Impacts of Pandemic Disruptions on Travel Behavior
Ramin Shabanpour, University of North Florida, presiding
Lectern | Spotlight Theme | AICP Certification | PDH
Planning and Forecasting, Transportation, General, Spotlight Theme: Rejuvenation Out of Disruption: Envisioning a Transportation System for a Dynamic Future (AEP30)
[More Details](#)

Monday, January 09
10:15 AM-12:00 PM ET

Travel Behavior After a COVID-19 Lockdown in Tel Aviv, Israel: Traditional Commute Modes versus Microtransit (TRBAM-23-00359)
Jason Soria, Georgia Institute of Technology (Georgia Tech)
Shelly Etzioni, Technion Israel Institute of Technology
Yoram Shiftan, Technion Israel Institute of Technology
Amanda Stathopoulos, Northwestern University
Eran Ben-Elia, Ben-Gurion University of the Negev

Monday, January 09
1:30 PM-3:15 PM ET

Poster Session 2152
Mega Poster Session on Transportation Network Modeling
Yanfeng Ouyang, University of Illinois, Urbana-Champaign, presiding
Poster
Planning and Forecasting, Data and Information Technology (AEP40)
[More Details](#)

A game theoretic approach to third-party integration of ride-hail service (TRBAM-23-03303, A291)
Ruijie Li, Southwest Jiaotong University
Yang Liu, National University of Singapore

Xiaobo Liu, Southwest Jiaotong University
Yu Nie, Northwestern University

Convergence of Multi-Agent Multi-Armed Bandit Algorithms in Routing Games: a numerical study (TRBAM-23-04627,A310)

Qianni Wang, Northwestern University
Tianxing Dai, Northwestern University
Ziyu Qiu, Northwestern University
Jiayang Li, Northwestern University
Yu Nie, Northwestern University

FASTER CONVERGENCE OF INTEGRATED ACTIVITY-BASED MODELS IN DYNAMIC MULTIMODAL TRANSIT ASSIGNMENT USING MACROSCOPIC ROAD CONGESTION ESTIMATION (TRBAM-23-05122, A330)

Yuhan Zhou, Northwestern University
Hani Mahmassani, Northwestern University

Monday, January
09
3:45 PM-
5:30 PM ET

Data for Decision-Making Committee

Joseph Schofer, Northwestern University, presiding
Susan Martinovich, HNTB Corporation, presiding
Data and Information Technology (AJE70)

[More Details](#)

Poster Session 2214

Factors Impacting Transit Ridership and Mode Choice

Allison Davis, Washington Metropolitan Area Transit Authority, presiding
Lectern | AICP Certification | PDH
Planning and Forecasting, Public Transportation (AMS10)

Monday, January
09
3:45 PM-
5:30 PM ET

Evaluation of Rail Decarbonization Alternatives: Framework and Application (TRBAM-23-02503, B608)

Adrian Hernandez, Northwestern University
Max Ng, Northwestern University
Choudhury Siddique, Argonne National Laboratory
Pablo Durango-Cohen, Northwestern University
Amgad Elgowainy, Argonne National Laboratory
Hani Mahmassani, Northwestern University
Michael Wang, Argonne National Laboratory
Yan Zhou, Argonne National Laboratory

Monday, January 09 Lectern Session 2224

6:00 PM-
7:30 PM ET

Factors Impacting Transit Ridership and Mode Choice

Allison Davis, Washington Metropolitan Area Transit Authority, presiding

Lectern | AICP Certification | PDH

Planning and Forecasting, Public Transportation (AP025)

Requiem for Transit Ridership? An Examination of Who Abandoned, Who Will Return, and Who Will Ride More with Mobility as a Service (TRBAM-23-00356)

Jason Soria, Georgia Institute of Technology (Georgia Tech)

Deirdre Edward, Northwestern University

Amanda Stathopoulos, Northwestern University

Lectern Session 3009

New Mobility Services: Strategy and Network Design

Tuesday, January 10 Baloka Belezamo, Arizona Department of Transportation, presiding

8:00 AM- *Lectern | Spotlight Theme | AICP Certification | PDH*

9:45 AM ET Design, Planning and Forecasting, Spotlight Theme: Rejuvenation Out of Disruption:

Envisioning a Transportation System for a Dynamic Future (AEP40)

[More Details](#)

Accessibility-Based Ethics-Aware Transit Design (TRBAM-23-03286)

Tianxing Dai, Northwestern University

Jiayang Li, Northwestern University

Yu Nie, Northwestern University

Poster Session 3043

Information and Communication Technologies, Activity Participation, and Travel Choices

Tuesday, January 10

8:00 AM- Ipek Nese Sener, Texas A&M Transportation Institute, presiding

9:45 AM ET *Poster*

Data and Information Technology, Society, Transportation, General (AEP35)

[More Details](#)

Modeling the Effects of Telework on the Duration, Distance, and Time of Day of Out-of-Home Non-Work Activities (TRBAM-23-05159, B541)

Nadim Hamad, Northwestern University

Divyakant Tahlyan, Northwestern University

Maher Said, Northwestern University

Hani Mahmassani, Northwestern University

Amanda Stathopoulos, Northwestern University

Susan Shaheen, University of California, Berkeley

Joan Walker, University of California, Berkeley

In-Person, Hybrid or Remote? Employers' Perspective on the Future of Work Post-Pandemic (TRBAM-23-05026, B542)

Divyakant Tahlyan, Northwestern University

Hani Mahmassani, Northwestern University

Maher Said, Northwestern University

Amanda Stathopoulos, Northwestern University

Susan Shaheen, University of California, Berkeley

Joan Walker, University of California, Berkeley
Breton Johnson, Northwestern University

MODELING THE IMPACT OF SOCIAL NETWORKS ON DRIVERS' ROUTE CHOICE BEHAVIOR (TRBAM-23-01871, B582)

Hongfeng Liang, Northwestern University
Yiheng Qian, Northwestern University
Ying Chen, Northwestern University

Poster Session 3052

Current Research Topics in Urban Freight Transportation

Ivan Sanchez-Diaz, Chalmers University of Technology, presiding

Poster

Freight Transportation, Terminals and Facilities (AT025)

[More Details](#)

Tuesday, January
10
8:00 AM-
9:45 AM ET

Robots at Your Doorstep? Acceptance of Near-Future Modes for Parcel Delivery (TRBAM-23-04361, A232)

Maher Said, Northwestern University
Spencer Aeschliman, Northwestern University
Amanda Stathopoulos, Northwestern University

Lectern Session 3059

Traffic Flow with Connected and Autonomous Vehicles: Behavioral Insights

Rachel James, Federal Highway Administration (FHWA), presiding

Lectern | PDH

Operations and Traffic Management, Safety and Human Factors (ACP50)

[More Details](#)

Introduction to the Third Generation Simulation (TGSIM) Dataset: Data Collection and

Trajectory Extraction (TRBAM-23-03535)

Rami Ammourah, University of Illinois, Urbana-Champaign

Pedram Beigi, GW: George Washington University

Bingyi Fan, Northwestern University

Samer Hamdar, George Washington University

Rachel James, Federal Highway Administration (FHWA)

Mohammedreza Khajeh-Hosseini, University of Illinois, Urbana-Champaign

Hani Mahmassani, Northwestern University

Dana Monzer, Northwestern University Transportation Center

Alireza Talebpour, University of Illinois, Urbana-Champaign

Tuesday, January
10
10:15 AM-
12:00 PM ET

Poster Session 3149

Transportation Safety Management Systems from Start to Finish

Frank Gross, VHB, presiding

Jaeyoung Lee, Central South University, presiding

Stephanie Malinoff, University of Minnesota, Twin Cities, presiding

Poster

Safety and Human Factors (ACS10)

Tuesday, January 10 Learn more about this committee in the TRB Online Directory.

1:30 PM- [More Details](#)

3:15 PM ET

TOWARD BETTER DRIVER SAFETY: EMPOWERING PERSONAL NAVIGATION TECHNOLOGIES WITH ROAD SAFETY AWARENESS 3 4 (TRBAM-23-03541)

Runsheng Xu, University of California, Los Angeles

Shibo Zhang, Northwestern University

Peixi Xiong, Northwestern University

Allen Lin, Northwestern University

Jiaqi Ma, University of California, Los Angeles

Poster Session 3154

Advancing Electric and Autonomous Bus System Planning, Design, and Operation

Guillermo Calves, AECOM, presiding

Jennifer Frost, Dallas Area Rapid Transit (DART), presiding

Poster

Tuesday, January 10 Planning and Forecasting, Public Transportation, Vehicles and Equipment (AP050)

1:30 PM-

3:15 PM ET

[More Details](#)

City-wide Deployment of Autonomous Minibus Service with Semi-on-demand Routes in Grid Networks – Identification, Evaluation, and Simulation (TRBAM-23-04859, B534)

Vasileios Volakakis, Northwestern University

Max Ng, Northwestern University

Hani Mahmassani, Northwestern University

Lectern Session 3167

Remote Work, Work from Home, Telecommute: A New Era for Work Organization

Venu Garikapati, National Renewable Energy Laboratory (NREL), presiding

Lectern | Spotlight Theme | AICP Certification | PDH

Tuesday, January 10 Planning and Forecasting, Data and Information Technology, Spotlight Theme:

3:45 PM-

5:30 PM ET

Rejuvenation Out of Disruption: Envisioning a Transportation System for a Dynamic Future (AEP35)

[More Details](#)

Trajectories of Telework Through the Pandemic: Outlook and Implications for Cities (TRBAM-23-04664)

Divyakant Tahlyan, Northwestern University
Maher Said, Northwestern University
Hani Mahmassani, Northwestern University
Amanda Stathopoulos, Northwestern University
Susan Shaheen, University of California, Berkeley
Joan Walker, University of California, Berkeley

Poster Session 3208

Critical Infrastructure Protection

Laurel Radow, FHWA (Retired), presiding
Sybil Derrible, University of Illinois, Chicago, presiding

Poster

Security and Emergencies, Bridges and Other Structures, Society (AMR10 AMR00)

[More Details](#)

Tuesday, January 10

3:45 PM-

5:30 PM ET

Uncertainty in Vulnerability of Metro Transit Networks: A Global Perspective

(TRBAM-23-03936, B613)

Alireza Ermagun, George Mason University
Nazanin Tajik, Mississippi State University
Fatemeh Janatabadi, George Mason University
Hani Mahmassani, Northwestern University

Poster Session 3212

Traffic Flow Theory, Part 2: Connected and Autonomous Vehicles (Part 1, Session 2096; Part 3, Session 3213; Part 4, Session 4027)

Danjue Chen, University of Massachusetts, Lowell, presiding

Poster

Operations and Traffic Management (ACP50)

[More Details](#)

Tuesday, January 10

6:00 PM-

7:30 PM ET

Formulation and Calibration of a Hybrid Car-Following Model for Automatic Cruise Controlled Cars In Actual Highway Traffic (TRBAM-23-04567, B600)

Bingyi Fan, Northwestern University
Rami Ammourah, University of Illinois, Urbana-Champaign
Pedram Beigi, GW: George Washington University
Samer Hamdar, George Washington University
Hani Mahmassani, Northwestern University
Alireza Talebpour, University of Illinois, Urbana-Champaign

Highway Managed Lane Usage and Tolling for Mixed Traffic Flows with Connected Automated Vehicles (CAVs) and High-Occupancy Vehicles (HOVs) (TRBAM-23-04725, B601)

Max Ng, Northwestern University
Hani Mahmassani, Northwestern University

Tuesday, January 10
6:00 PM-
7:30 PM ET

Poster Session 3213

**Traffic Flow Theory, Part 3: Microscopic Traffic Models and Trajectory Analysis
(Part 1, Session 2096; Part 2, Session 3212; Part 4, Session 4027)**

Biagio Ciuffo, JRC: European Commission Joint Research Centre, presiding
Poster

Operations and Traffic Management (ACP50)

[More Details](#)

**From Videography to Traffic Analysis: Exploring the Heavy Vehicle Impact on
Headway Distributions Using Extracted High Resolution Trajectory Data on a
Washington, DC Expressway** (TRBAM-23-04343, B635)

Pedram Beigi, GW: George Washington University

Samer Hamdar, George Washington University

Bingyi Fan, Northwestern University

Rami Ammourah, University of Illinois, Urbana-Champaign

Alireza Talebpour, University of Illinois, Urbana-Champaign

Hani Mahmassani, Northwestern University

**Exploring the Relationship Between Lane Changing Behavior and Local Densities
Using Vehicle Trajectories** (TRBAM-23-05209, B636)

Sharika Hegde, Northwestern University

Hani Mahmassani, Northwestern University

Alireza Talebpour, University of Illinois, Urbana-Champaign

Samer Hamdar, George Washington University

Poster Session 3216

A Fresh Look at Crash Characteristics

Karen Dixon, Texas A&M Transportation Institute, presiding

Poster

Safety and Human Factors (ACS20)

[More Details](#)

Tuesday, January 10
6:00 PM-
7:30 PM ET

**Examination of Factors Associated with Fault Status and Injury Severity in
Intersection-Related Rear-End Crashes: Application of Binary and Bivariate
Ordered Probit Models** (TRBAM-23-00132, B501)

Brendan Russo, Northern Arizona University

Fan Yu, Northwestern University

Edward Smaglik, Northern Arizona University

New Users of Shared Airspace Committee

Daniel Frieden Zohn, Embry Riddle Aeronautical University, presiding
Aviation (AV095)

[More Details](#)

Wednesday, January
11

8:00 AM-
9:45 AM ET

Comparing Urban Air Mobility Network Airspaces: Experiments and Insights
(TRBAM-23-04257)

Christopher Cummings, Northwestern University
Hani Mahmassani, Northwestern University

Poster Session 4033

Enhancing Our Knowledge of Transportation as a Social Determinant of Health

Ipek Nese Sener, Texas A&M Transportation Institute, presiding

Poster

Administration and Management (AME70)

[More Details](#)

Wednesday, January
11

8:00 AM-
9:45 AM ET

CAPACITY ANALYSIS OF THE GLOBAL COVID-19 VACCINE DISTRIBUTION PROCESS WITH ECONOMIC

(TRBAM-23-03518, A122)

Sharika Hegde, Northwestern University

Max Ng, Northwestern University

Marcos Rios, Northwestern University

Hani Mahmassani, Northwestern University

Karen Smilowitz, Northwestern University

Poster Session 4039

Innovations in Freight Planning and Logistics Research

Evangelos I. Kaisar, Florida Atlantic University, presiding

Johan Visser, KiM Netherlands Institute for Transport Policy Analysis, presiding

Poster

Freight Transportation, Planning and Forecasting (AT015 AT015(1))

[More Details](#)

Wednesday, January
11

8:00 AM-
9:45 AM ET

An Autonomous Modular Vehicle Technology-based Mobility Service for Freight and Passenger

(TRBAM-23-03315, A233)

Kazuya Kawamura, University of Illinois, Chicago

Jane Lin, University of Illinois, Chicago

Yu Nie, Northwestern University

Lectern Session 4041

Multimodal Traffic Flow Models

Tamara Djukic, Aimsun, presiding

Lectern / PDH

Operations and Traffic Management (ACP50)

[More Details](#)

Wednesday, January 11

10:15 AM-
12:00 PM ET

An Area-Wide Network Fundamental Diagram for Bicycles (TRBAM-23-05190)

Meredith Raymer, Northwestern University Transportation Center

Hani Mahmassani, Northwestern University

Poster Session 4063

Information Systems and Technology

Guohui Zhang, University of Hawai'i, Manoa, presiding

Poster

Data and Information Technology (AED30)

[More Details](#)

Wednesday, January 11

10:15 AM-

12:00 PM ET

AN OPTIMIZATION APPROACH TO DESIGN BIKE-SHARING STATION UNDER UNCERTAINTY (TRBAM-23-04775, A272)

Tianxing Dai, Northwestern University

Qianni Wang, Northwestern University

Ziyu Qiu, Northwestern University

Ying Chen, Northwestern University

Workshop 5005

Moving Toward a New Normal: Behavioral Transitions and Their Impacts on Travel in the Post-Pandemic Era

MD Sami Hasnine, Howard University, presiding

Giovanni Circella, Ghent University and University of California, Davis, presiding

Ipek Nese Sener, Texas A&M Transportation Institute, presiding

Workshop | AICP Certification | PDH

Planning and Forecasting (AEP60 AEP15 AEP30 AEP35 AEP40)

[More Details](#)

Thursday, January 12

9:00 AM-

12:00 PM ET

Shaping the Future of Work: Business and Employee Perspectives
(P23-20562)

Amanda Stathopoulos, Northwestern University