

# Hong Yang, Ph.D.

Associate Professor  
Dept. of Computational Modeling & Simulation Engineering  
Old Dominion University  
4700 Elkhorn Avenue, 1117 ECSB, Norfolk, VA 23529

Phone: +1 (757) 683-4529  
Fax: +1 (757) 683-3200  
E-mail: [hyang@odu.edu](mailto:hyang@odu.edu)  
<https://www.odu.edu/directory/people/h/hyang>

## EDUCATION

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2012	Ph.D.	Civil Engineering	Rutgers, The State University of New Jersey
2010	M.S.	Applied & Mathematical Statistics	Rutgers, The State University of New Jersey
2007	M.E.	Transportation Planning & Management	Tongji University
2004	B.E.	Transportation Engineering	Southwest Jiaotong University

## EXPERIENCE

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Associate Professor	Dept. of Computational Modeling & Simulation Engineering Old Dominion University, VA, USA	2021.5 – Present
Assistant Professor	Dept. of Computational Modeling & Simulation Engineering (Former Dept. of Modeling, Simulation & Visualization Engineering) Old Dominion University, VA, USA	2015.7 – 2021.5
Post-doctoral Associate	Dept. of Civil & Urban Engineering, New York University, NY, USA Center for Urban Science & Progress, New York University, NY, USA	2013.9 – 2015.7
Post-doctoral Associate	Dept. of Civil & Environmental Engineering Rutgers, The State University of New Jersey, NJ, USA	2012.1 – 2013.8
Research Assistant	Dept. of Civil & Environmental Engineering Rutgers, The State University of New Jersey, NJ, USA	2007.1 – 2012.1

## PUBLICATIONS

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### Book Chapters

- B-01. K. Xie, K. Ozbay, Y. Zhu, and **H. Yang** (2016). Case Studies for Data-Oriented Emergency Management/Planning in Complex Urban Systems. *Transactions on Large-Scale Data- and Knowledge-Centered Systems XXVII*, Eds.: A. Hameurlain, J. Küng, and R. Wagner, A. Anjomshoa, P. C.K. Hung, D. Kalisch, and S. Sobolevsky, pp. 190-207.

### Refereed Journal Papers

- J-69. G. Zhai, K. Xie, D. Yang, and **H. Yang** (2022). Assessing the Safety Effectiveness of Citywide Speed Limit Reduction: A Causal Inference Approach Integrating Propensity Score Matching and Spatial Difference-in-Differences. *Transportation Research Part A: Policy and Practice*, Vol. 157, pp. 94-106.

- J-68. Q. Tang, X. Hu, and **H. Yang** (2021). Identification of Operational Design Domain for Autonomous Truck Mounted Attenuator System on Multilane Highways. *Transportation Research Record: Journal of Transportation Research Board*, doi.org/10.1177/036119812111061555.
- J-67. D. Yang, K. Ozbay, K. Xie, **H. Yang**, and F. Zuo (2021). A Functional Approach for Characterizing Safety Risk of Signalized Intersections at the Movement Level: An Exploratory Analysis. *Accident Analysis and Prevention*. Vol. 163, 106446.
- J-66. Q. Ma<sup>‡</sup>, **H. Yang**, Y. Ma, D. Yang, X. Hu, and K. Xie (2021). Examining Municipal Guidelines for Users of Shared E-Scooters in the United States. *Transportation Research Part D: Transport and Environment*, Vol. 92, 102710.
- J-65. D. Yang, K. Ozbay, K. Xie, **H. Yang**, F. Zuo, D. Sha (2021). Proactive Safety Monitoring: A Functional Approach to Detect Safety-Related Anomalies Using Unmanned Aerial Vehicles Video Data. *Transportation Research Part C: Emerging Technologies*, Vol.127, 103130.
- J-64. Y. Zhu, S. Demiroglu, K. Ozbay, K. Xie, **H. Yang**, and D. Sha (2021). SAVE-T: Safety Analysis Visualization and Evaluation Tool. *Journal of Advanced Transportation*, 5545117.
- J-63. Y. Luo, W. Zeng, X. Hu, **H. Yang**, and L. Shao. Coupling the Driving Forces of Urban CO2 Emission in Shanghai with Logarithmic Mean Divisia Index Method and Granger Causality Inference. *Journal of Cleaner Production*, Vol. 298, 126843.
- J-62. Y. Zhu, K. Ozbay, **H. Yang**, F. Zuo, and D. Sha (2021). Modeling and Simulation of Cascading Failures in Transportation Systems during Hurricane Evacuations. *Journal of Advanced Transportation*, 5599073.
- J-61. D. Yang, K. Ozbay, K. Xie, Z. Zhao, and **H. Yang** (2021). Copula-based Joint Modeling of Crash Count and Conflict Risk Measures with Accommodation of Mixed Count-Continuous Margins. *Analytic Methods in Accident Research*, Vol. 31, 100162.
- J-60. F. Zuo, J. Gao, A. Kurkcu, **H. Yang**, K. Ozbay, and Q. Ma<sup>‡</sup> (2021). Reference-Free Video-to-Real Distance Approximation-Based Urban Social Distancing Analytics amid COVID-19 Pandemic. *Journal of Transport and Health*, Vol. 21, 101032.
- J-59. M. Hasan<sup>‡</sup>, D. Perez<sup>‡</sup>, Y. Shen, and **H. Yang** (2021). Distributed Microscopic Traffic Simulation with Human-in-the-Loop Enabled by Virtual Reality Technologies. *Advances in Engineering Software*, Vol. 154, 102985.
- J-58. S. Zhu, M. Cetin, **H. Yang**, and O. Sahin (2021). Travel Patterns of Frequent and Non-Frequent Users on I-66 High-Occupancy Toll Lanes and Implications for the Value of Time Estimation. *Transportation Research Record: Journal of Transportation Research Board*, Vol. 2675, Issue 9, pp.766-775.
- J-57. Y. Zhu, K. Ozbay, K. Xie, **H. Yang**, and E.F. Morgul (2021). Network Modeling of Hurricane Evacuation Using Data-Driven Demand and Incident-Induced Capacity Loss Model. *Journal of Advanced Transportation*, 6620254.
- J-56. K. Xie, K. Ozbay, D. Yang, C. Xu, and **H. Yang** (2021). Modeling Bicycle Crash Cost Using Big Data: A Grid-Cell-Based Tobit Model with Random Parameters. *Journal of Transport Geography*, Vol. 91, 102953.
- J-55. D. Yang, K. Xie, K. Ozbay, and **H. Yang** (2021). Fusing Crash Data and Surrogate Safety Measures for Safety Assessment: Development of a Structural Equation Model with Conditional Autoregressive Spatial Effect and Random Parameters. *Accident Analysis and Prevention*. Vol. 152, 105971.
- J-54. Q. Ma<sup>‡</sup>, **H. Yang**, A. Mayhue<sup>‡</sup>, Y. Sun<sup>‡</sup>, Z. Huang, and Y. Ma (2021). E-Scooter Safety: The Riding Risk Analysis based on Mobile Sensing Data. *Accident Analysis and Prevention*, Vol. 151, 105954.
- J-53. K. Xie, K. Ozbay, D. Yang, **H. Yang**, and Y. Zhu (2021). Modeling Lane-specific Breakdown Risks at Freeway Diverge Sections. *Physica A: Statistical Mechanics and its Applications*, Vol. 561, 125231.
- J-52. Q. Ma<sup>‡</sup>, **H. Yang**, Z. Wang<sup>‡</sup>, K. Xie, and D. Yang (2020). Modeling Crash Risk of Horizontal Curves Using Large-Scale Auto-extracted Roadway Geometry Data. *Accident Analysis and Prevention*, Vol. 144, 105669.

- J-51. F. Zuo, K. Ozbay, A. Kurkcu, J. Gao, **H. Yang**, and K. Xie (2020). Microscopic Simulation based study of Pedestrian Safety Applications at Signalized Urban Crossings in a Connected-Autonomous Vehicle Environment and Reinforcement Learning based Optimization of Vehicle Decisions. *Advanced Transportation Studies*, Vol 2, pp. 113-126.
- J-50. **H. Yang**, Q. Ma<sup>‡</sup>, Z. Wang<sup>‡</sup>, Q. Cai, K. Xie, and D. Yang (2020). Safety of Micro-Mobility: Analysis of E-Scooter Crashes by Mining News Reports. *Accident Analysis and Prevention*, Vol. 143, 105608.
- J-49. W. Xiao, C. Xu, H. Liu, **H. Yang**, and X. Liu (2020). Short-Term Truckload Spot Rates' Prediction in Consideration of Temporal and Between-Route Correlations. *IEEE Access*, Vol. 8, April 2020, pp. 81173-81189.
- J-48. Y. Cheng, X. Hu, Q. Tang, H. Qi, and **H. Yang** (2020). Monte Carlo Tree Search-Based Mixed Traffic Flow Control Algorithm for Arterial Intersection. *Transportation Research Record: Journal of Transportation Research Board*, Vol. 2674, Issue 8, pp.167-178.
- J-47. Y. Ma, Z. Wang<sup>‡</sup>, **H. Yang**, and L. Yang (2020). Artificial Intelligence Applications in the Development of Autonomous Vehicles: A Survey. *IEEE/CAA Journal of Automatica Sinica*, Vol. 7, No. 2, March 2020, pp. 1–15.
- J-46. D. Yang, K. Xie, K. Ozbay, **H. Yang**, and N. Budnick (2019). Modeling of Time-dependent Safety Performance Using Anonymized and Aggregated Smartphone-based Dangerous Driving Event Data. *Accident Analysis and Prevention*, Vol. 132, 105286.
- J-45. Q. Ma<sup>‡</sup>, **H. Yang**, K. Xie, Z. Wang<sup>‡</sup>, and X. Hu (2019). Taxicab Crashes Modeling with Informative Spatial Autocorrelation. *Accident Analysis and Prevention*, Vol. 131, pp. 297–307.
- J-44. K. Xie, K. Ozbay, **H. Yang**, and C. Li (2019). Mining Automatically Extracted Vehicle Trajectory Data for Proactive Safety Analytics. *Transportation Research Part C: Emerging Technologies*, Vol. 106, pp. 61–72.
- J-43. D. Perez<sup>‡</sup>, M. Hasan<sup>‡</sup>, Y. Shen, and **H. Yang** (2019). AR-PED: Augmented Reality Enabled Pedestrian-in-the-Loop Simulation. *Simulation Modelling Practice and Theory*, Vol. 94, pp. 237–249.
- J-42. J. Ye, D. Wang, H. Zhang, and **H. Yang** (2019). What Kind of People Use Carsharing for Commuting? A Case Study in Shanghai. *Transportation Research Record: Journal of Transportation Research Board*, Vol. 2673, Issue 5, pp. 770–778.
- J-41. Q. Ma<sup>‡</sup>, **H. Yang**, H. Zhang, K. Xie, and Z. Wang<sup>‡</sup> (2019). Modeling and Analysis of the Daily Driving Patterns of Taxis in a Reshuffled Ride-hailing Service Market. *Journal of Transportation Engineering, Part A: Systems*, Vol. 145, Issue 10, 04019045. [Featured as ASCE Editor's Choice in October 2019]
- J-40. K. Xie, D. Yang, K. Ozbay, and **H. Yang** (2019). Use of Real-world Connected Vehicle Data in Identifying High-risk Locations Based on a New Surrogate Safety Measure. *Accident Analysis and Prevention*, Vol. 125, pp. 311–319.
- J-39. C. Xu, X. Wang, **H. Yang**, K. Xie, and X. Chen (2019). Exploring the Impacts of Speed Variances on Safety Performance of Urban Elevated Expressways using GPS Data. *Accident Analysis and Prevention*, Vol. 123, pp. 29–38.
- J-38. K. Xie, K. Ozbay, and **H. Yang** (2019). A Multivariate Spatial Approach to Model Crash Counts by Injury Severity. *Accident Analysis and Prevention*, Vol. 122, pp. 189–198.
- J-37. X. Hu, Y. Yuan, X. Zhu, **H. Yang**, and K. Xie (2019). Behavioral Responses to Pre-Planned Road Capacity Reduction Based on Smartphone GPS Trajectory Data - A Functional Data Analysis Approach. *Journal of Intelligent Transportation Systems: Technology, Planning, and Operations*, Vol. 23, Issue 2, pp.133–143.
- J-36. K. Xie, K. Ozbay, **H. Yang**, and D. Yang (2019). A New Methodology for Before-After Safety Assessment Using Survival Analysis and Longitudinal Data. *Risk Analysis: An International Journal*, Vol. 39, Issue 6, pp. 1342–1357.
- J-35. S. Lee, K. Xie, D. Ngoduy, M. Keyvan-Ekbatani, and **H. Yang** (2018). A Lane-based Predictive Model of Downstream Arrival Rates in a Queue Estimation Model Using a Long Short-term Memory Network. *Transportation Research Procedia*, Vol. 34, pp. 163–170.

- J-34. B. Bartin, K. Ozbay, and **H. Yang** (2018). Evaluation Framework for Mobile Ticketing Applications in Public Transit: A Case Study. *IET Intelligent Transport Systems*. Vol. 12, Issue 9, pp. 1166–1173.
- J-33. **H. Yang**, Z. Wang<sup>‡</sup>, K. Xie, K. Ozbay, and M. Imprialou (2018). Methodological Evolution and Frontiers of Identifying, Modeling and Preventing Secondary Crashes on Highways. *Accident Analysis and Prevention*, Vol. 117, pp. 40–54.
- J-32. Y. Zhu, K. Xie, K. Ozbay, and **H. Yang** (2018). Hurricane Evacuation Modeling Using Behavior Models and Scenario-Driven Agent-based Simulations. *Procedia Computer Science*, Vol. 130, pp. 836–843.
- J-31. **H. Yang**, K. Xie, K. Ozbay, Y. Ma, and Z. Wang<sup>‡</sup> (2018). Use of Deep Learning to Predict Daily Usage of Bike Sharing Systems. *Transportation Research Record: Journal of Transportation Research Board*, Vol. 2672, Issue 36, pp. 92–102.
- J-30. **H. Yang**, Y. Shen, M. Hasan<sup>‡</sup>, D. Perez<sup>‡</sup>, J. Shull (2018). Framework for Interactive  $M^3$  Visualization of Microscopic Traffic Simulation. *Transportation Research Record: Journal of Transportation Research Board*, Vol. 2672, Issue 44, pp. 62–71. (**Practice-Ready Paper**, TRB Standing Committee on Visualization in Transportation, ABJ95).
- J-29. K. Xie, K. Ozbay, and **H. Yang** (2018). Secondary Collisions and Injury Severity: A Joint Analysis using Structural Equation Models. *Traffic Injury Prevention*, Vol. 19, Issue 2, pp. 189-194.
- J-28. **H. Yang**, Z. Wang<sup>‡</sup>, and K. Xie (2017). Impact of Connected Vehicles on Mitigating Secondary Crash Risk. *International Journal of Transportation Science and Technology*, Vol. 6, Issue 3, pp. 196-207.
- J-27. K. Xie, K. Ozbay, Y. Zhu, S. Demiroglu, **H. Yang**, and H. Nassif (2017). Modeling the Salt Usage During Snow Storms: An Application of Hierarchical Linear Models with Varying Dispersion. *Transportation Research Record: Journal of Transportation Research Board*, No. 2643, pp. 54–64.
- J-26. **H. Yang**, Z. Wang<sup>‡</sup>, K. Xie, and D. Dai (2017). Use of Ubiquitous Probe Vehicle Data for Identifying Secondary Crashes. *Transportation Research Part C: Emerging Technologies*, Vol. 82, pp. 138-160.
- J-25. P. Ye, Z. Chen, and **H. Yang** (2017). Modeling Bus Service Time for a Curbside Stop. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2647, pp. 71–79.
- J-24. K. Xie, K. Ozbay, A. Kurkcu, and **H. Yang** (2017). Analysis of Traffic Crashes Involving Pedestrians Using Big Data: Investigation of Contributing Factors and Identification of Hotspots. *Risk Analysis: An International Journal*, Vol. 37, Issue 8, pp. 1459–1476.
- J-23. Y. Zhu, K. Xie, K. Ozbay, F. Zuo, and **H. Yang** (2017). Data-Driven Spatial Modeling for Quantifying Network-Wide Resilience in the Aftermath of Hurricanes Irene and Sandy. *Transportation Research Record: Journal of Transportation Research Board*, No. 2604, pp. 9–18.
- J-22. K. Xie, K. Ozbay, Y. Zhu, and **H. Yang** (2017). Evacuation Zone Modeling under Climate Change: A Data-Driven Method. *Journal of Infrastructure Systems*, Vol. 23, Issue 4, 04017013.
- J-21. **H. Yang**, E. F. Morgul, K. Ozbay, and K. Xie (2016). Modeling Evacuation Behavior under Hurricane Conditions. *Transportation Research Record: Journal of Transportation Research Board*, No. 2599, pp. 63-69.
- J-20. Y. Zhu, K. Ozbay, K. Xie, and **H. Yang** (2016). Using Big Data to Study Resilience of Taxi and Subway Trips for Hurricanes Sandy and Irene. *Transportation Research Record: Journal of Transportation Research Board*, No. 2599, pp. 70-80.
- J-19. **H. Yang**, K. Ozbay, and K. Xie (2015). Improved Travel Time Estimation for Reliable Performance Measure Development for Closed Highways. *Transportation Research Record: Journal of Transportation Research Board*, No. 2526, pp. 29-38.
- J-18. K. Xie, K. Ozbay, **H. Yang**, and J. Holguín-Veras (2015). Modeling the Safety Impacts of Off-Hour Delivery Programs in Urban Areas. *Transportation Research Record: Journal of Transportation Research Board*, No. 2478, pp. 19-27 (**Received 2015 TRB Best Paper Award**).

- J-17. **H. Yang**, K. Ozbay, and B. Bartin (2015). Effectiveness of Temporary Rumble Strips in Alerting Motorists in Short-Term Surveying Work Zones. *Journal of Transportation Engineering*, Vol. 141, Issue 10, 05015003.
- J-16. K. Xie, K. Ozbay, and **H. Yang** (2015). Spatial Analysis of Highway Incident Durations in the Context of Hurricane Sandy. *Accident Analysis and Prevention*, Vol. 74, pp. 77-86.
- J-15. **H. Yang**, O. Ozturk, K. Ozbay, K. Xie (2015). Work Zone Safety Analysis and Modeling: A State-of-the-Art Review. *Traffic Injury Prevention*, Vol. 16, Issue 4, pp. 387-396.
- J-14. K. Xie, X. Wang, K. Ozbay, and **H. Yang** (2014). Crash Frequency Modeling for Signalized Intersections in a High-Density Urban Road Network. *Analytic Methods in Accident Research*, Vol.2, April 2014, pp. 39-51.
- J-13. **H. Yang**, K. Ozbay, and K. Xie (2014). Assessing the Risk of Secondary Crashes on Freeways. *Journal of Safety Research*, Vol. 49, pp. 143-149.
- J-12. **H. Yang**, K. Ozbay, B. Bartin, and O. Ozturk (2014). Assessing the Safety Effects of Removing Highway Mainline Barrier Toll Plazas. *Journal of Transportation Engineering*, Vol. 140, Issue 8, 04014038.
- J-11. **H. Yang**, K. Ozbay, E. F. Morgul, B. Bartin, K. Xie (2014). Development of Online Scalable Approach for Identifying Secondary Crashes. *Transportation Research Record: Journal of Transportation Research Board*, No. 2470, pp. 24-33.
- J-10. **H. Yang**, B. Bartin, K. Ozbay, and S. Chien (2014). Investigating Motorists' Behaviors in Response to Supplementary Traffic Control Devices at Land Surveying Work Sites. *Traffic Injury Prevention*, Vol. 15, Issue 4, pp. 424-430.
- J-09. E. F. Morgul, **H. Yang**, A. Kurkcu, K. Ozbay, B. Bartin, C. Kamga, R. Salloum (2014). Virtual Sensors: A Web based Real-Time Data Collection Methodology for Transportation Operation Performance Analysis. *Transportation Research Record: Journal of Transportation Research Board*, No. 2442, pp. 106-116.
- J-08. **H. Yang**, B. Bartin, and K. Ozbay (2014). Mining the Characteristics of Secondary Crashes on Highways. *Journal of Transportation Engineering*, Vol. 140, Issue 4, 04013024.
- J-07. **H. Yang**, K. Ozbay, O. Ozturk, and M. Yildirimoglu (2013). Modeling Work Zone Crash Frequency by Quantifying Measurement Errors in Work Zone Length. *Accident Analysis and Prevention*, Vol. 55, pp. 192-201.
- J-06. **H. Yang**, B. Bartin, and K. Ozbay (2013). Use of Sensor Data to Identify Secondary Crashes on Freeways. *Transportation Research Record: Journal of Transportation Research Board*, No. 2396, pp. 82-92 (**Practice-Ready Paper**, TRB committee AHB20 Freeway Operations).
- J-05. **H. Yang**, K. Ozbay, and B. Bartin (2012). Effects of the Open Road Tolling on Safety Performance of Freeway Mainline Toll Plazas. *Transportation Research Record: Journal of Transportation Research Board*, Vol. 2324, pp. 101-109.
- J-04. **H. Yang** and K. Ozbay (2011). Estimating Traffic Conflict Risk Associated with Merging Vehicles on a Highway Merge Section. *Transportation Research Record: Journal of Transportation Research Board*, No. 2236, pp. 58-65.
- J-03. **H. Yang**, K. Ozbay, and B. Bartin (2011). Enhancing the Quality of Infrared-Based Automatic Pedestrian Sensor Data by Nonparametric Statistical Method. *Transportation Research Record: Journal of Transportation Research Board*, No. 2264, pp. 11-17.
- J-02. K. Ozbay, **H. Yang**, B. Bartin, and S. Mudigonda (2008). Derivation and Validation of New Simulation-Based Surrogate Safety Measure. *Transportation Research Record: Journal of Transportation Research Board*, No. 2083, pp. 105-113.
- J-01. **H. Yang**, S. Han, and X. Chen (2006). Parameter Calibration and Application for the VISSIM Simulation Model. *Urban Transport of China*, Vol. 4, Issue 6, pp. 22-25 (written in Chinese).

## Refereed Conference Papers

- C-63. D. Cui, Y. Shen, **H. Yang**, Z. Huang, K. Rush, P. Huang, and P. Bujanovic (2022). An Extensible Co-Simulation Framework for Supporting Cooperative Driving Automation Research. *Transportation Research Board (TRB) 2021 Annual Meeting*, Washington, DC, January 9-12, 2022.
- C-62. Q. Ma<sup>‡</sup>, Y. Xin, **H. Yang**, and K. Xie (2022). Connecting Urban Metro Systems with Shared E-Scooters: A Comparative Study with Shared Bikes and Taxis. *Transportation Research Board (TRB) 2021 Annual Meeting*, Washington, DC, January 9-12, 2022.
- C-61. Z. Yan<sup>‡</sup>, Q. Ma<sup>‡</sup>, **H. Yang**, Z. Huang, Y. Shen, and Y. Li (2022). Development of a Human-in-the-Loop Simulation Framework for Supporting Autonomous Vehicle-Pedestrian Interaction Testing. *Transportation Research Board (TRB) 2021 Annual Meeting*, Washington, DC, January 9-12, 2022.
- C-60. B. Dong, Y. Zhu, **H. Yang**, and J. Zhou (2022). OMNE - An Online Road Network Editing Framework Based WebGIS for MATSim. *Transportation Research Board (TRB) 2021 Annual Meeting*, Washington, DC, January 9-12, 2022.
- C-59. X. Dong, K. Xie, and **H. Yang** (2022). Analysis of Contributing Factors to Crash Severity via Structural Equation Modeling during COVID-19 Lockdown. *Transportation Research Board (TRB) 2021 Annual Meeting*, Washington, DC, January 9-12, 2022.
- C-58. P. Ye, Y. Deng, W. Fan, and **H. Yang** (2022). Transfer Penalty Estimation of Bus Passengers Considering Travel Frequency in Chengdu, China. *Transportation Research Board (TRB) 2021 Annual Meeting*, Washington, DC, January 9-12, 2022.
- C-57. F. Zuo, J. Gao, A. Kurkcu, **H. Yang**, K. Ozbay, and Q. Ma<sup>‡</sup> (2021). Reference-Free Video-to-Real Distance Approximation-Based Urban Social Distancing Analytics Amid COVID-19 Pandemic. *Transportation Research Board (TRB) 2021 Annual Meeting*, Washington, DC, January 24-28, 2021.
- C-56. M. Cetin, S. Zhu, **H. Yang**, and O. Sahin (2021). Travel Patterns of Frequent and Non-Frequent Users on I-66 High-Occupancy Toll Lanes and Implications for the Value of Time Estimation. *Transportation Research Board (TRB) 2021 Annual Meeting*, Washington, DC, January 24-28, 2021.
- C-55. Y. Zhu, S. Demiroglu, K. Ozbay, K. Xie, **H. Yang**, and D. Sha (2021). SAVE-T: Safety Analysis Visualization and Evaluation Tool. *Transportation Research Board (TRB) 2021 Annual Meeting*, Washington, DC, January 24-28, 2021.
- C-54. F. Zuo, J. Wang, J. Gao, K. Ozbay, X. Ban, Y. Shen, **H. Yang**, and S. Iyer (2020). An Interactive Data Visualization and Analytics Tool to Evaluate Mobility and Sociability Trends During COVID-19. In *San Diego '20: The 9th SIGKDD International Workshop for Urban Computing*, August 24, 2020, San Diego, CA. ACM, New York, NY, USA.
- C-53. Z. Wang<sup>‡</sup>, **H. Yang**, and M. Cetin (2020). Augmenting Traffic Incident Detection Performance with Redefined Event Labels. *Transportation Research Board 99<sup>th</sup> Annual Meeting*, Washington D. C., January 12-16, 2020. <TRB Standing Committee AHB20>
- C-52. D. Yang, K. Xie, K. Ozbay, **H. Yang**, B. Bortin, C. Xu, and A. Bhattacharyya (2020). Comparison of State-of-the-art Observational Before-After Analysis Methods in Traffic Safety: A Case Study of the Red-light-running Program in New Jersey. *Transportation Research Board 99<sup>th</sup> Annual Meeting*, Washington D. C., January 12-16, 2020. <TRB Standing Committee ANB20>
- C-51. Z. Wang<sup>‡</sup>, **H. Yang**, M. Cetin, Z. Huang, S. Nallamothu, and P. Huang (2020). Development of an AI-based Modeling Framework for Traffic Incident Detection. *Transportation Research Board 99<sup>th</sup> Annual Meeting*, Washington D. C., January 12-16, 2020. <TRB Standing Committee ABJ70>
- C-50. P. Ye, X. Wen, Y. Liu, K. Xie, and **H. Yang** (2020). Comparing Machine Learning Approaches for Public Transit Trip Purpose Inference. *Transportation Research Board 99<sup>th</sup> Annual Meeting*, Washington D. C., January 12-16, 2020. <TRB Standing Committee ABJ70>
- C-49. P. Ye, M. Du, W. Fan, and **H. Yang** (2020). Bus Travel Time Prediction based on AVL Data of Multiple Routes. *Transportation Research Board 99<sup>th</sup> Annual Meeting*, Washington D. C., January 12-16, 2020. <TRB Standing Committee AP000(3)>



- C-48. D. Yang, K. Xie, K. Ozbay, and **H. Yang** (2019). Exploring Spatial and Temporal Patterns of Large-Scale Smartphone-Based Dangerous Driving Event Data. 2019 *IEEE International Conference on Intelligent Transportation Systems (ITSC)*, Auckland, New Zealand, October 28-30, 2019.
- C-47. Y. Zhu, K. Ozbay, K. Xie, and **H. Yang** (2019). Modeling of Incident-Induced Capacity Loss for Hurricane Evacuation Simulation. 2019 *IEEE International Conference on Intelligent Transportation Systems (ITSC)*, Auckland, New Zealand, October 28-30, 2019.
- C-46. Q. Ma<sup>‡</sup>, **H. Yang**, Z. Wang<sup>‡</sup>, K. Xie, and F. Zuo (2019). Modeling Crash Risk at Horizontal Curves on Low-volume Highways. *Road Safety & Simulation International Conference (RSS2019)*, Iowa City, Iowa, USA, October 14-17, 2019.
- C-45. D. Yang, K. Xie, K. Ozbay, and **H. Yang** (2019). Development of a New Safety Performance Measure — Risk Status: Fusing Crash Data and Surrogates Derived from Connected Vehicle Data Analytics. *Road Safety & Simulation International Conference (RSS2019)*, Iowa City, Iowa, USA, October 14-17, 2019.
- C-44. Q. Ma<sup>‡</sup>, **H. Yang**, H. Zhang, K. Xie, and Z. Wang (2019). Characterizing the Evolution of Taxi Driving Patterns in a Mega City Before and After the Booming of Ridesourcing. *Transportation Research Board 98<sup>th</sup> Annual Meeting*, Washington D. C., January 13-17, 2019. <TRB Standing Committee on Urban Transportation Data and Information Systems (ABJ30)>
- C-43. C. Xu, J. Gao, F. Zuo, K. Ozbay, **H. Yang**, and H. Cui (2019). Understanding Spatial-Temporal Impacts on Mode Preference between Taxi and E-Hailing Service. *Transportation Research Board 98<sup>th</sup> Annual Meeting*, Washington D. C., January 13-17, 2019. <TRB Standing Committee on Emerging and Innovative Public Transport and Technologies (AP020)>
- C-42. D. Yang, K. Xie, K. Ozbay, **H. Yang**, and N. Budnick (2019). Zone-based Modeling of Time-dependent Safety Performance Using Smartphone-based Connected Vehicle Data. *Transportation Research Board 98<sup>th</sup> Annual Meeting*, Washington D. C., January 13-17, 2019. <TRB Standing Committee on Highway Safety Performance (ANB25)>
- C-41. D. Perez<sup>‡</sup>, M. Hasan<sup>‡</sup>, Y. Shen, and **H. Yang** (2019). AR-PED: Augmented Reality Enabled Pedestrian-in-the-Loop Simulation. *Transportation Research Board 98<sup>th</sup> Annual Meeting*, Washington D. C., January 13-17, 2019. <TRB Standing Committee on Simulation and Measurement of Vehicle and Operator Performance (AND30)>
- C-40. Y. Zhu, K. Ozbay, **H. Yang**, F. Zuo, and D. Sha (2019). Modeling and Simulation of Cascading Failures in Transportation Systems during Hurricane Evacuations. *Transportation Research Board 98<sup>th</sup> Annual Meeting*, Washington D. C., January 13-17, 2019. <TRB Standing Committee on the Logistics of Disaster Response and Business Continuity (ABR20)>
- C-39. M. Hasan<sup>‡</sup>, D. Perez<sup>‡</sup>, **H. Yang**, and Y. Shen (2019). Distributed Microscopic Traffic Simulation with Human-in-the-Loop Enabled by Virtual Reality Technologies. *Transportation Research Board 98<sup>th</sup> Annual Meeting*, Washington D. C., January 13-17, 2019. <TRB Standing Committee on Visualization in Transportation (ABJ95)>
- C-38. **H. Yang**, Z. Wang<sup>‡</sup>, K. Xie, Y. Ma, and Y. Zhu (2018). A Deep Learning Approach to Predict Severity Levels of Work Zone Crashes. *Transportation Research Board 97<sup>th</sup> Annual Meeting*, Washington D. C., January 7-11, 2018.
- C-37. K. Xie, K. Ozbay, D. Yang, C. Xu, and **H. Yang** (2018). Modeling Bicycle Crash Costs Using a Grid-Cell-based Random Parameters Tobit Model. *Transportation Research Board 97<sup>th</sup> Annual Meeting*, Washington D. C., January 7-11, 2018. (**Practice-Ready Paper**, TRB Standing Committee on Bicycle Transportation, ANF20)
- C-36. **H. Yang**, Z. Wang<sup>‡</sup>, K. Ozbay, K. Xie, and Y. Zhu (2018). An Improved Methodological Framework based on Probe Vehicle Data for Detecting Secondary Crashes. *Transportation Research Board 97<sup>th</sup> Annual Meeting*, Washington D. C., January 7-11, 2018.

- C-35. K. Xie, D. Yang, K. Ozbay, and **H. Yang** (2017). Identify High-Risk Locations based on a New Surrogate Safety Measure Using Real-World Connected Vehicle Data. *6<sup>th</sup> International Conference on Road Safety & Simulation (RSS2017)*, The Hague, Netherland, October 17-19, 2017.
- C-34. Z. Wang<sup>‡</sup>, **H. Yang**, and Z. Zhu (2017). Development of A Simulation Model for Pedestrian Evacuation Under Fire Condition. *2017 Spring Simulation Multi-Conference (SpringSim'17): Annual Simulation Symposium 2017 (ANSS 2017)*, Virginia Beach, VA, USA, April 23-26, 2017.
- C-33. B. Bartin, K. Ozbay, and **H. Yang** (2017). Evaluation of Mobile Ticketing Technologies for Public Transit. *Transportation Research Board 96<sup>th</sup> Annual Meeting*, Washington D. C., January 8-12, 2017.
- C-32. K. Xie, C. Li, K. Ozbay, G. Dobler, **H. Yang**, A. Chiang, and M. Ghandehari (2016). Development of a Comprehensive Framework for Video-Based Safety Assessment. *IEEE 19<sup>th</sup> International Conference on Intelligent Transportation Systems (ITSC 2016)*, Rio de Janeiro, Brazil, November 1-4, 2016.
- C-31. **H. Yang**, K. Ozbay, K. Xie, and Y. Ma (2016). Development of an Automated Approach for Quantifying Spatiotemporal Impact of Traffic Incidents. *Transportation Research Board 95<sup>th</sup> Annual Meeting*, Washington D. C., January 10-14, 2016.
- C-30. K. Xie, K. Ozbay, Y. Zhu, and **H. Yang** (2016). Data-Driven Method for Predicting Future Evacuation Zones in the Context of Climate Change. *Transportation Research Board 95<sup>th</sup> Annual Meeting*, Washington D. C., January 10-14, 2016.
- C-29. K. Xie, K. Ozbay, and **H. Yang** (2016). Analysis of Pedestrian Safety Using Big Data. *Transportation Research Board 95<sup>th</sup> Annual Meeting*, Washington D. C., January 10-14, 2016.
- C-28. Y. Zhu, K. Ozbay, K. Xie, and **H. Yang** (2016). Network Modeling of Hurricane Evacuation Using Data-Driven Demand and Incident-Induced Capacity Loss Models. *Transportation Research Board 95<sup>th</sup> Annual Meeting*, Washington D. C., January 10-14, 2016.
- C-27. K. Xie, K. Ozbay, and **H. Yang** (2016). Joint Analysis of Secondary Collisions and Injury Severity Levels Using Structural Equation Models. *Transportation Research Board 95<sup>th</sup> Annual Meeting*, Washington D. C., January 10-14, 2016.
- C-26. P. Ye, Z. Chen, L. Xu, **H. Yang**, and B. Ran (2016). Use of GPS Data to Analyze Urban Bus Travel Time Variability in China. *Transportation Research Board 95<sup>th</sup> Annual Meeting*, Washington D. C., January 10-14, 2016.
- C-25. **H. Yang**, K. Ozbay, and K. Xie (2015). Mining Taxicab Crashes in High-Density Urban Areas. Presented at the *5<sup>th</sup> International Conference on Road Safety & Simulation (RSS2015)*, Orlando, FL, October 6-8, 2015.
- C-24. K. Xie, K. Ozbay, and **H. Yang** (2015). Zone-Level Traffic Safety Analysis: A Multivariate Spatial Model with Random Parameters. Presented at the *5<sup>th</sup> International Conference on Road Safety & Simulation (RSS2015)*, Orlando, FL, October 6-8, 2015.
- C-23. O. Ozturk, K. Ozbay, and **H. Yang** (2015). Investigating the Impact of Work Zones on Crash Severity by Comparative Analysis. *Transportation Research Board 94<sup>th</sup> Annual Meeting*, Washington D. C., January 11-15, 2015.
- C-22. **H. Yang**, K. Ozbay, K. Xie, and B. Bartin (2015). Modeling Crash Risk of Highway Work Zones with Relatively Short Durations. *Transportation Research Board 94<sup>th</sup> Annual Meeting*, Washington D. C., January 11-15, 2015.
- C-21. **H. Yang**, K. Ozbay, and K. Xie (2015). Impact of Truck-Auto Separation on Crash Severity. *Transportation Research Board 94<sup>th</sup> Annual Meeting*, Washington D. C., January 11-15, 2015.
- C-20. K. Xie, K. Ozbay, and **H. Yang** (2015). Spatial Analysis of Highway Incident Durations in the Context of Hurricane Sandy. *Transportation Research Board 94<sup>th</sup> Annual Meeting*, Washington D. C., January 11-15, 2015.
- C-19. K. Xie, K. Ozbay, and **H. Yang** (2014). The Heterogeneity of Capacity Distribution among Different Freeway Lanes. *Symposium Celebrating 50 Years of Traffic Flow Theory*, TRB Traffic Flow Theory and Characteristics Committee (AHB45), August 11-13, 2014, in Portland, Oregon.



- C-18. **H. Yang**, O. Ozturk, K. Ozbay, and K. Xie (2014). Work Zone Safety Analysis and Modeling: A State-of-the-Art Review. *Transportation Research Board 93<sup>rd</sup> Annual Meeting*, Washington D. C., January 12-16.
- C-17. K. Xie, K. Ozbay, and **H. Yang** (2014). Before-After Safety Evaluations Using Parametric Bayesian Survival Analysis. *Transportation Research Board 93<sup>rd</sup> Annual Meeting*, Washington D. C., January 12-16.
- C-16. O. Ozturk, K. Ozbay, and **H. Yang** (2014) Estimating the Impact of Work Zones on Highway Safety. *Transportation Research Board 93<sup>rd</sup> Annual Meeting*, Washington D. C., January 12-16.
- C-15. **H. Yang**, O. Ozturk, K. Ozbay, and B. Bartin (2013). Modeling Driver Injury Severity of Single-Vehicle Crashes in Freeway Construction Work Zones. Selected Proceeding of *13<sup>th</sup> World Conference on Transport Research Society*, Rio de Janeiro, Brazil, July 15-18, 2013.
- C-14. E. F. Morgul, K. Ozbay, and **H. Yang** (2013). Simulation-Based Evaluation of a Feedback-Based Dynamic Congestion Pricing Strategy for Alternate Facilities-Tracking Impacts of Value of Reliability. Selected Proceeding of *13<sup>th</sup> World Conference on Transport Research Society*, Rio de Janeiro, Brazil, July 15-18, 2013.
- C-13. **H. Yang**, K. Ozbay, B. Bartin, and O. Ozturk (2013). Effect of Removing Freeway Mainline Barrier Toll Plazas on Safety. In *Transportation Research Board 92<sup>nd</sup> Annual Meeting Compendium of Papers CD-ROM*, Washington D. C., January 13-17 (**Practice-Ready Paper**, TRB committee ANB25 Highway Safety Performance).
- C-12. **H. Yang**, K. Ozbay, B. Bartin, and S. Chien (2013). Evaluation of Supplementary Traffic Control Devices for Surveyor Safety Enhancement. In *Transportation Research Board 92<sup>nd</sup> Annual Meeting Compendium of Papers CD-ROM*, Washington D. C., January 13-17.
- C-11. **H. Yang**, B. Bartin, and K. Ozbay (2013). Investigating the Characteristics of Secondary Crashes on Freeways. In *Transportation Research Board 92<sup>nd</sup> Annual Meeting Compendium of Papers CD-ROM*, Washington D. C., January 13-17.
- C-10. O. Ozturk, K. Ozbay, **H. Yang**, and B. Bartin (2013). Crash Frequency Modeling for Highway Construction Zones. In *Transportation Research Board 92<sup>nd</sup> Annual Meeting Compendium of Papers CD-ROM*, Washington D. C., January 13-17.
- C-09. **H. Yang** and K. Ozbay (2011). Calibration of Micro-Simulation Models to Account for Safety and Operation Factors for Traffic Conflict Risk Analysis. In *Proceeding of the 3<sup>rd</sup> International Conference on Road Safety & Simulation (RSS2011)*, Indianapolis, Indiana, USA, Sept. 14-16.
- C-08. P. Ye and **H. Yang** (2011). Concentration Degree Analysis of Stroke-Based Urban Road Network Topology. In *Proceedings of the 3<sup>rd</sup> International Conference on Transportation Engineering* (Editors: Q. Peng et al.), July 23-25, Chengdu, China, pp. 511-516.
- C-07. **H. Yang**, K. Ozbay, and B. Bartin (2010). Application of Simulation-Based Traffic Conflict Analysis for Highway Safety Evaluation, Paper ID C4-02303. In *Selected Proceedings of the 12<sup>th</sup> World Conference on Transport Research Society*, ISBN 978-989-96986-1-1 (Editors: J. Viegas and R. Macário), Lisbon, Portugal, July 11-15.
- C-06. **H. Yang**, K. Ozbay, and B. Bartin (2010). Investigating the Performance of Automatic Counting Sensors for Pedestrian Traffic Data Collection, Paper ID C5-02147. In *Selected Proceedings of the 12<sup>th</sup> World Conference on Transport Research Society*, ISBN 978-989-96986-1-1 (Editors: J. Viegas and R. Macário), Lisbon, Portugal, July 11-15.
- C-05. **H. Yang**, K. Ozbay, and B. Bartin (2010). Calibration of Automatic Pedestrian Counter Data Using a Nonparametric Statistical Method. In *Proceedings of Seventh Triennial Symposium on Transportation Analysis (TRISTAN VII)*, Tromsø, Norway, June 20-25.
- C-04. K. Ozbay, **H. Yang**, and B. Bartin (2010). Calibration of Infrared-Based Automatic Counting System for Pedestrian Traffic Flow Data Collection. In *Transportation Research Board 89<sup>th</sup> Annual Meeting Compendium of Papers CD-ROM*, Washington D. C., January 10-14.

- C-03. **H. Yang** and W. Wang (2009). An Innovative Dynamic Bus Lane System and Its Simulation-based Performance Investigation. In Proceedings of *Intelligent Vehicle Symposium (IVS), IEEE*, Xi'an, June 3-5, pp.105-110.
- C-02. X. Chen, W. Xiong, Z. Huang, and **H. Yang** (2007). Planning Bicycle Corridor for Shanghai Central City. In *Transportation Research Board 86<sup>th</sup> Annual Meeting Compendium of Papers CD-ROM*, Washington D. C., January 21-25.
- C-01. **H. Yang** (2005). Design of ETC System for Freeway. In Proceedings of *1<sup>st</sup> China ITS Annual Meeting*, Shanghai, December 9-10 (written in Chinese).

### Other Refereed Publications

- O-02. K. Ozbay, S. Mudigonda, E. F. Morgul, **H. Yang**, and B. Bartin (2014). Big Data and Calibration and Validation of Traffic Simulation Models. *TRB's Transportation Research Circular E-C 195: Traffic and Transportation Simulation - Looking Back and Looking Ahead: Celebrating 50 Years of Traffic Flow Theory, a Workshop*, pp.92-122.
- O-01. K. Ozbay, B. Bartin, **H. Yang**, and S. Mudigonda (2012). Ex-Post Validation of a Large Simulation Model Developed to Quantify Regional and Long-Term Impacts of a Major Construction Project. *TRB Joint Simulation Subcommittee AHB45 (1) 2012 Annual Report*, pp. 35-37.

### TECHNICAL REPORTS

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- T-13. **H. Yang**, K. Xie, S. Ishak, Q. Ma, and Y. Liu (2022). *Development of Guidelines for Collecting Transit Ridership Data*. Final Report No.: FHWA/VTRC 22-R22, Virginia Transportation Research Council (VTRC)/Virginia Department of Transportation (VDOT), February 2022.
- T-12. K. Xie, M. Cetin, **H. Yang**, and X. Dong (2021). *Incorporating the 10th Edition Institute of Traffic Engineers (ITE) Trip Generation Rates into Virginia Department of Transportation Guidelines*. Final Report No.: FHWA/VTRC 22-R6, Virginia Transportation Research Council (VTRC)/Virginia Department of Transportation (VDOT), August 2021.
- T-11. S. Zhu, M. Cetin, **H. Yang**, O. Sahin, A. Mardan (2021). *Exploration of Corridor-Based Tolling Strategies for Virginia's Express Toll Lanes*. Final Report No.: FHWA/VTRC 22-R5, Virginia Transportation Research Council (VTRC)/Virginia Department of Transportation (VDOT), August 2021.
- T-10. **H. Yang**, Y. Shen, M. Cetin, and Z. Wang (2021). *Supporting Transportation System Management and Operations Using Internet of Things Technology*. Final Report No.: FHWA/VTRC 21-R24, Virginia Transportation Research Council (VTRC)/Virginia Department of Transportation (VDOT), May 2021.
- T-09. **H. Yang**, M. Cetin, and Q. Ma (2020). *Guidelines for Using StreetLight Data for Planning Tasks*. Final Report No.: FHWA/VTRC 20-R23, Virginia Transportation Research Council (VTRC)/Virginia Department of Transportation (VDOT), March 2020.
- T-08. K. Ozbay, A. Kurkcu, and **H. Yang** (2018). Portable and Integrated Multi-Sensor System for Data Driven Performance Evaluation of Urban Transportation Networks. Final Report, University Transportation Research Center - Region II, UTRC/RF Project No: 49198-41-28, September 2018.
- T-07. K. Ozbay, A. Kurkcu, N. Shlayan, S. Demirogluk, M. Maggio, and **H. Yang**, and H. Nassif (2017). *Real-time Estimation of Transit OD Patterns and Delays Using Low-Cost Ubiquitous Advanced Technologies*. Final Report, University Transportation Research Center - Region II, UTRC/RF Project No: 49997-44-25, April 2017.
- T-06. K. Ozbay, **H. Yang**, K. Xie, J. Li, and S. V. Ukkusuri (2016). *Modeling Disaster Operations from an Interdisciplinary Perspective in the New York-New Jersey Area*. Final Report, University Transportation Research Center - Region II, April 2016.
- T-05. K. Ozbay, B. Bartin, R. Liu, **H. Yang**, O. Ozturk, and S. Demirogluk (2015). *MyTix: NJ TRANSIT'S Mobile Ticketing Application*. Final Report, New Jersey Department of Transportation (NJDOT), FHWA-NJ-2015-003, USDOT.

- T-04. K. Ozbay, **H. Yang**, S. Demiroglu, E. F. Morgul, B. Bartın (2014). *Data Driven Performance Measures for Effective management of Complex Transportation Networks*. Final Report, University Transportation Research Center - Region II, UTRC-RF Project No: 49111-25-23, February 2014.
- T-03. K. Ozbay, **H. Yang**, O. Ozturk, M. Yildirimoglu, and S. Demiroglu (2012). *Work Zone Safety Analysis*. Technical Report, No.: FHWA-NJ-2011-006, NJDOT.
- T-02. K. Ozbay, B. Bartın, and **H. Yang**, and S. Chien (2012). *Traffic Control and Work Zone Safety for High Volume Roads*. Report, No.: FHWA-NJ-2013-002, July 2012, New Jersey Department of Transportation, Federal Highway Administration, USDOT.
- T-01. K. Ozbay, B. Bartın, **H. Yang**, R. Walla, and R. Williams (2010). *Automatic Pedestrian Counter*. Technical Report, No.: FHWA-NJ-2010-001, February 2010, New Jersey Department of Transportation, Federal Highway Administration, USDOT.

## SELECTED PRESENTATIONS

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- P-17. <2020> *Simulation-based Infection Risk Study on Shared Micromobility Systems during COVID-19 Pandemic*. 2<sup>nd</sup> **Bridging Transportation Researchers (BTR) Conference**, August 12, 2020.
- P-16. <2020> *Guideline for Using Streetlight Data for Planning Tasks*. **Data Sources - II, Webinar 3(b)**, Virginia Department of Transportation (VDOT), June 16, 2020.
- P-15. <2020> *Large-Scale Modeling and Analysis of Crash Risk of Highway Horizontal Curves*. **23<sup>rd</sup> COTA Annual Winter Symposium**, Chinese Overseas Transportation Association (COTA), Washington, DC, January 12, 2020.
- P-14. <2019> *Microscopic Simulation based study of Pedestrian Safety Applications at Signalized Urban Crossings in a Connected-Autonomous Vehicle Environment and Reinforcement Learning based Optimization of Vehicle Decisions*. **Road Safety & Simulation International Conference (RSS2019)**, Iowa City, Iowa, USA, October 17, 2019.
- P-13. <2019> *Modeling Crash Risk at Horizontal Curves on Low-volume Highways*. **Road Safety & Simulation International Conference (RSS2019)**, Iowa City, Iowa, USA, October 15, 2019.
- P-12. <2019> *Distributed Microscopic Traffic Simulation with Human-in-the-Loop Enabled by Virtual Reality Technologies*. **Committee Meeting: TRB Standing Committee on Visualization in Transportation (ABJ95), Transportation Research Board 98<sup>th</sup> Annual Meeting**, Washington D. C., January 15, 2019.
- P-11. <2018> *Deep Learning for Predictive Analysis in Transportation*. **ODU Electrical and Computer Engineering Graduate Seminar**, March 13, 2018.
- P-10. <2018> *Use of Deep Learning to Predict Daily Usage of Bikesharing Systems*. **Transportation Research Board 97<sup>th</sup> Annual Meeting, Lecture Session 290: Bikeshare Users and System Design**. Standing Committee on Bicycle Transportation (ANF20), Washington D. C., January 8, 2018.
- P-10. <2017> **Keynote Speech: Methodological Evolution of Secondary Crash Identification and Prevention**. **3<sup>rd</sup> International Symposium on Frontiers Road and Airport Engineering (IFRAE): Safer Road Infrastructure and Operation Management**, Shanghai, China, May 27, 2017.
- P-09. <2016> *Modeling Evacuation Behavior under Hurricane Conditions*. **Transportation Research Board 95<sup>th</sup> Annual Meeting, Lecture Session: Emerging Research in Emergency Evacuation**. Emergency Evacuations Committee (ABR30), Washington D. C., January 12, 2016.
- P-08. <2015> *Sparse GPS Trajectory Data Compression and Recovery based on Compressed Sensing*. Presented at the **2015 Transportation Technology Symposium: Innovative Mobility Solutions**, Organized by Region 2 University Transportation Research Center, New York, November 20, 2015.
- P-07. <2015> *Mining Taxicab Crashes in High-Density Urban Areas*. Presented at the **5<sup>th</sup> International Conference on Road Safety & Simulation (RSS2015)**, Orlando, FL, October 7, 2015.

- P-06. <2015> *Modeling Crash Risk of Highway Work Zones with Relatively Short Durations*. **Transportation Research Board 94<sup>th</sup> Annual Meeting, Lecture Session**: Advances in Work Zone Safety. Work Zone Traffic Control Committee (AHB55), Washington D. C., January 13, 2015.
- P-05. <2015> *Improved Travel Time Estimation for Reliable Performance Measure Development for Closed Highways*. **Transportation Research Board 94<sup>th</sup> Annual Meeting, Lecture Session**: New Applications of Travel Time Data from Probes, Urban Transportation Data and Information Systems Committee (ABJ30), Washington D. C., January 13, 2015.
- P-04. <2014> *Development of a Data-Driven Approach for Identifying Secondary Crashes*. **2014 Ground Transportation Technology Symposium: Big Data and Innovative Solutions for Safe, Efficient and Sustainable Mobility**. Organized by Region 2 University Transportation Research Center, New York, November 19, 2014.
- P-03. <2014> *Work Zone Safety Analysis and Modeling: A State-of-the-Art Review*. **Transportation Research Board 93<sup>rd</sup> Annual Meeting, Lecture Session**: New Research Enabling Decisions to Enhance Safety in Work Zones. Work Zone Traffic Control Committee (AHB55), Washington D. C., January 13, 2014.
- P-02. <2013> *Mining Secondary Incidents on Freeways Using Archived Sensor Data*. **TRB 2013 Annual Meeting Workshop 124 - Big Data Informatics**: Innovations in Mining Structured and Unstructured Information for Mobility Decision Making, Washington D.C., January 13, 2013.
- P-01. <2012> *Calibration of Micro-Simulation Models to Account for Safety and Operation Factors for Traffic Conflict Risk Analysis*. **TRB 2012 Annual Meeting Workshop 161- Use of Simulation to Assess Safety Performance**, Washington D.C., January 22, 2012.

## HONORS, AWARDS & PRIZES

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- *2021 Certificate of Outstanding Contribution in Reviewing*. Transportation Research Part D: Transport and Environment, Elsevier, February 2022. <2022>
- Q. Ma, H. Yang, H. Zhang, K. Xie, and Z. Wang (2019). Modeling and Analysis of the Daily Driving Patterns of Taxis in a Reshuffled Ride-hailing Service Market. *Journal of Transportation Engineering, Part A: Systems*, Vol. 145, Issue 10, October 2019, DOI: 10.1061/JTEPBS.0000266. [Featured as ASCE Editor's Choice in October 2019] <2019>
- *Travel Grant Award, O.H. Hinsdale Wave Research Laboratory NHERI Experimental Facility and RAPID Facility Workshop*, Oregon State University, Corvallis, OR, July 31-August 1, 2019. <2019>
- *Team Winner of Idea Jam: Vulnerable Road Users. Project: Vi-Care. Virginia Department of Transportation SmarterRoads Hackathon, Virginia Beach, April 27-28, 2018.* <2018>
- *Certificate of Outstanding Contribution in Reviewing*. Transportation Research Part F: Psychology and Behavior, Elsevier, Amsterdam, The Netherlands, February 2017. <2017>
- *Certificate of Outstanding Contribution in Reviewing*. Accident Analysis and Prevention, Elsevier, Amsterdam, The Netherlands, February 2017. <2017>
- *Certificate of Outstanding Contribution in Reviewing*. The Journal of Transport & Health, Elsevier, Amsterdam, The Netherlands, November 2016. <2016>
- TRB Best Paper Award for the paper "Modeling the Safety Impacts of Off-Hour Delivery Programs in Urban Areas", *Transportation Research Records: Journal of the Transportation Board*, 2478, pp. 19-27. <2015>
- Best Poster Award, 14<sup>th</sup> Annual Research Showcase of New Jersey Department of Transportation <2012>
- Transportation Coordinating Council/ Federal Transit Administration Fellowship, Rutgers <2010-2011>

## TEACHING

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▪ Analysis for Modeling & Simulation (MSIM451/551)	ODU: Undergraduate/Graduate	Spring: 22,21, 20, 19, 18, 17, 16;
▪ Analysis for Modeling & Simulation (MSIM551)	ODU: Graduate (NavAir)	Spring: 19, 18, 16; Summer: 17, 16;
▪ Capstone Design I (MSIM487W)	ODU: Undergraduate	Fall: 21, 20, 19, 18;
▪ Capstone Design II (MSIM488)	ODU: Undergraduate	Spring: 22, 21, 20, 19;
▪ Advanced Analysis for Modeling & Simulation (MSIM751/851)	ODU: Graduate	Fall: 21, 20, 19, 18, 17, 16, 15;
▪ Explore Engineering Technology (ENGN 110: Module 2)	ODU: Undergraduate	Fall: 17;
▪ Intelligent Transportation Systems (CEE 772/872)	ODU: Graduate	Fall: 17, 15: (Guest Lecture);
▪ Transportation Data Analytics (MSIM495/595)	ODU: Undergraduate/Graduate	Spring 17
▪ Transportation Safety (CEE 770/870)	ODU: Graduate	Spring 16: (Guest Lecture);
▪ Data-Driven Traffic Modeling and Simulation	NYU: Graduate	Spring 15: Co-Instructor;
▪ Urban Computing Skills Lab (Module 2)	NYU: Graduate	Summer 14
▪ Fundamentals of Transportation & Traffic Operations	NYU: Graduate	Spring 14: Co-Instructor;
▪ Advanced Topics in Urban Informatics (Section 1)	NYU: Graduate	Spring 14: Co-Instructor;
▪ Transportation Engineering II	Rutgers; Graduate	Spring 13: (Guest Lecture);
▪ Transportation Planning	Rutgers: Graduate	Spring 13: (Guest Lecture);
▪ Intelligent Transportation Systems	Rutgers: Graduate	Spring 12: (Guest Lecture);
▪ Traffic Simulation and Modeling	Tongji: Undergraduate	Spring 06, Fall 05: (TA);

## UNIVERSITY, COLLEGE & DEPARTMENT SERVICE

- Committee Member, STRATEGIC PLANNING: Student Engagement and Success Subcommittee, ODU. January 2022 – Present.
- Committee Member, BCET Scholarships/Library Committee, Batten College of Engineering & Technology (BCET), ODU. August 2021 – Present.
- Committee Member, BCET Design Projects Committee, Batten College of Engineering & Technology (BCET), ODU. August 2021 – Present.
- Track Chair, 14<sup>th</sup> Modeling, Simulation, and Visualization Student Capstone Conference, Virginia Modeling, Analysis and Simulation Center, Old Dominion University, Thursday, April 22, 2021.
- Committee Member, BCET Undergraduate Education Committee, Batten College of Engineering & Technology (BCET), ODU. October 2020 – August 2021.
- Track Chair, 13<sup>th</sup> Modeling, Simulation, and Visualization Student Capstone Conference, Virginia Modeling, Analysis and Simulation Center, Old Dominion University, Thursday, April 18, 2019.
- MSVE Faculty Representative, ODU Freshman Admitted Students' Day. ECSB Building, Date: March 30, 2019.

- Diversity, Equity, and Inclusion (DEI) Committee, Batten College of Engineering & Technology (BCET), ODU. January 2019 – September 2020.
- Actively reached out to Transportation Analytics Academy at Bethel High School for technical assistance to the development of the program. Program Contact: Sherry Hildebrandt. Date: November 8, 2018.
- Faculty Search Committee Member, Area: Transportation (Tenure-track Assistant Professor), Department of Civil & Environmental Engineering, Old Dominion University, October 2018 – Spring 2019.
- Track Chair, 12<sup>th</sup> Modeling, Simulation, and Visualization Student Capstone Conference, Virginia Modeling, Analysis and Simulation Center, Old Dominion University, April 19, 2018.
- MSVE Faculty Representative, ODU Scholar’s Day (Info session & minimal demo), Webb Center, ODU, 02/24/2018.
- Faculty Representative, MSVE Exhibit at I/ITSEC, Orlando Florida, 11/27 – 12/30, 2017.
- Graduate Admission Committee Member, CMSE (Previous MSVE), Old Dominion University. Summer 2017 – Present.
- Track Chair, 11<sup>th</sup> Modeling, Simulation, and Visualization Student Capstone Conference, Virginia Modeling, Analysis and Simulation Center, Old Dominion University, April 20, 2017.
- Track Chair, 10<sup>th</sup> Modeling, Simulation, and Visualization Student Capstone Conference, Virginia Modeling, Analysis and Simulation Center, Old Dominion University, April 14, 2016.
- Faculty Representative, MSVE Open House & Recruitment, ODU Peninsula Center, March 16, 2017.
- Committee Member, BCET Dean’s Faculty Development Committee, Old Dominion University, Fall 2015 – Spring 2017
- Faculty Representative, MSVE Exhibit at I/ITSEC, Orlando Florida, December 1<sup>st</sup> – 4<sup>th</sup>, 2015.

## PROFESSIONAL SERVICE

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### Professional Committees

- Member, Standing Committee on Public Transportation Planning & Development - AP025, 2020/4/15-2023/4/14  
Transportation Research Board (TRB)

### Proposal Reviewer

- Reviewer, C2SMART – USDOT Tier 1 University Transportation Center, Proposal Reviewed: 2 2021/1  
Proposals
- Reviewer, TriDurLE – USDOT National University Transportation Center, Proposal Reviewed: 1 2020/4  
Proposal
- Reviewer, C2SMART – USDOT Tier 1 University Transportation Center, Proposal Reviewed: 2 2020/2  
Proposals

### Referee

- Journal of Traffic and Transportation Engineering (English Edition)
- International Journal of Sustainable Transportation
- International Journal of Disaster Risk Reduction
- Transportation Research Part D: Transport and Environment
- IEEE Access
- Travel Behavior & Society
- Technological Forecasting & Social Change
- Journal of Urban Technology
- IEEE Transactions on Intelligent Transportation Systems



- Accident Analysis and Prevention
- Transportation Research Part C: Emerging Technologies
- Journal of Intelligent Transportation Systems: Technology, Planning, and Operations
- Transportmetrica A: Transport Science
- Transportation Letters: The International Journal of Transportation Research
- Journal of Transportation Engineering, Part A: Systems
- Traffic Injury Prevention
- IET Intelligent Transport Systems
- Transportation Research Part F
- Journal of Transport & Health
- Journal of Rail and Rapid Transit
- Journal of Advanced Transportation
- Journal of Risk and Reliability
- Journal of Transportation Safety & Security
- Sensors
- Mathematical Problems in Engineering
- International Journal of Transportation Science and Technology
- Journal of Transportation Technologies (JTTs)
- International IEEE Annual Conference on Intelligent Transportation Systems (ITSC 2011, 2019, 2020)
- IEEE 2020 Forum Integrated and Sustainable Transportation Systems (ISTS)
- World Conference on Transport Research (WCTR 2010, WCTR 2013)
- International Conference on Road Safety and Simulation (RSS2011, RSS2013)
- TRB Annual Meeting / Journal of Transportation Research Records

## Conference Support

- **Session Chair**, *Session 3 - Research and Technologies on Traffic Safety, COTA Winter Symposium, Washington, DC., January 9, 2022.*
- **Scientific Review Committee Member**, *The 7<sup>th</sup> Road Safety and Simulation International Conference (RSS 2019), Iowa, October 14-17, 2019.*
- **International Scientific Committee Member**, *The KES International Symposium on Smart Transportation Systems, St. Julians, Malta, June 17-19, 2019.*
- **Session Chair**, *Lecture Session 1610: Railroad Operational Safety Research Issues. Standing Committee on Railroad Operational Safety (AR070), Transportation Research Board 98<sup>th</sup> Annual Meeting, Washington D. C., January 15, 2019.*
- **Session Chair**, *Parallel Session 1: V2X and Safety Control, 3<sup>rd</sup> International Symposium on Frontiers Road and Airport Engineering (IFRAE): Safer Road Infrastructure and Operation Management, Shanghai, China, May 26-28, 2017.*
- **Session Chair**, *Session 407: Rail Operational Safety Research Topics in Human Factors. Standing Committee on Railroad Operational Safety (AR070), Transportation Research Board 96<sup>th</sup> Annual Meeting, Washington D. C., January 9, 2017.*

## Editorial Roles

- **Co-Organizer** and **Associate Editor**, *The 23<sup>rd</sup> IEEE International Conference on Intelligent Transportation Systems (ITSC 2020). Special Session: Smart and Proactive Traffic Safety Management in Smart Cities and Rural Areas. Rhodes, Greece, September 20 – 23, 2020.*

- **Co-Organizer and Guest Editor**, Special Issue: Emerging Data for Smart Transportation Management, *Journal of Advanced Transportation*, 2020.
- **Co-Organizer and Associate Editor**, The 22<sup>nd</sup> IEEE International Conference on Intelligent Transportation Systems (ITSC 2019) Special Session: *Big Data and Emerging Technologies for Traffic Safety Improvement*. Auckland, New Zealand, October 27-30, 2019.
- **Area Editor**, Area: Traffic Safety and Emergency Responses. *The 19<sup>th</sup> COTA International Conference of Transportation Professionals (CICTP 2019)*, Nanjing, China, July 6-8, 2019.
- **Guest Editor**, Special Collection: Impact of Climate Change and Weather on Roadway Transportation Systems. *Advances in Mechanical Engineering (AIME)*, 2019.
- **Area Editor**, Area: Transportation Cloud, Data Mining and Applications. *The 18<sup>th</sup> COTA International Conference of Transportation Professionals (CICTP 2018)*, Beijing, China, July 5-8, 2018.