




UNIVERSITY OF CENTRAL FLORIDA
SMART & SAFE TRANSPORTATION LAB (SST Lab)
PAPERS ACCEPTED FOR TRB 2025
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Founder and Director Prof. Mohamed Abdel-Aty
Associate Directors Dr. Zubayer Islam and Dr. Natalia Barbour



	Authors	Title	Paper No.
1	Wang C., Cui P., Abdel-Aty M., Yang X.	Spatial Inequality in Socio-Demographic and Commute Patterns and their Impacts on Traffic Crash Rates: A Comparison of Interpretable Machine Learning and Spatial Statistical Modelling.	TRBAM-25-02539
2	Anik T., Abdel-Aty M., Islam Z.	A Transformer-GAN framework for Advanced Crash Likelihood Prediction at Intersections, Transportation Research Board Annual Meeting.	TRBAM-25-02415
3	Anik T., Abdel-Aty M., Islam Z.	Predicting Crash Likelihood at Intersections Using Connected Vehicle Data.	TRBAM-25-02400
4	Abdelrahman A., Abdel-Aty M., Yang S., Faden A.	Advanced Crash Causation Analysis for Freeway Safety: A Large Language Model Approach to Identifying Key Contributing Factors.	TRBAM-25-05236
5	Faden A., Abdel-Aty M., Yang S.	Developing Temporal Safety Performance Functions for Fully Separated Express Lanes Using the Poisson Lognormal Lindley (PLN-L) Model.	TRBAM-25-05992
6	Ding S., Abdel-Aty M., Barbour N., Wang D., Wang Z	Crash Injury Severity Analysis under Different Levels of Driving Automation, Transportation Research Board Annual Meeting.	TRBAM-25-02341
7	Yang S., Abdel-Aty M., Islam Z., Wang D.	Large-Scale Real-time Crash Prediction: A Comprehensive System and Analyses, Transportation Research Board Annual Meeting.	TRBAM-25-02171
8	Han L., Abdel-Aty M., Joo Y., Zhai S., Wang D.	Intersection Crash Frequency Analysis Considering Drivers' Visual Environment Features.	TRBAM-25-01386
9	Han L., Abdel-Aty M., Islam Z., Wang C.	A Hybrid Model for Real-time Secondary Crash Likelihood Prediction Excluding Post Primary Crash Features.	TRBAM-25-01393
10	Ahsan J., Abdel-Aty M., Abdelrahman A.	Evaluating the Safety Impact of Mid-block Pedestrian Signals (MPS).	TRBAM-25-01266

11	Zhou Y., Abdel-Aty M., Gu X., Chen Y.	Joint Analysis of E-bike Crash Types and Injury Severity at Different Locations Using a Copula-based Approach.	TRBAM-25-03101
12	Jin Q., Abdel-Aty M., Tang S.	Assessing Conflict Likelihood and its Severity at Interconnected Intersections: Insights from Drone Trajectory Data.	TRBAM-25-03478
13	Park N., Park J., Abdel-Aty M.	Traffic Conflict-Based Micro-level Hotspots Identification at Signalized Intersections.	TRBAM-25-05224
14	Wang X., Zhang X., Abdel-Aty M., Yannis G., Luo G	Safety Contributing Factors Analysis of Elderly Vulnerable Road Users: Global and Local Perspectives.	TRBAM-25-05599
15	Zhao S., Abdel-Aty M., Wang D., Han L., Joo Y.	Florida Intersection Perception Dataset for Autonomous Vehicle Development and Traffic Safety Analysis.	TRBAM-25- 04119
16	Wang Z., Abdel-Aty M., Wang D.	Optimizing Driving Decision-Making at Freeway Weaving Segments with Relational Graph Attention Networks and Deep Reinforcement Learning.	TRBAM-25-00262
17	Wang L., Nie F., Ma W., Park J., Abdel-Aty M.	Drivers' Rear-end Conflict Risk Avoidance Behaviors Prediction Based on Natural Driving Data.	TRBAM-25-03369
18	Barbour N., Abdel-Aty M.	Rethinking Cycling Safety: The Role of Gender in Cyclist Crash Injury Severity Outcomes.	TRBAM-25-00013
19	Wang C., Abdel-Aty M., Han L., Easa S.	Analyzing Speed-Difference Impact on Freeway Joint Injury Severities of Leading Following Vehicles Using Statistical and Data-Driven Model.	TRBAM-25-01399
20	Wang C., Abdel-Aty M., Han L.	Tunnel Crash Severity and Congestion Duration Joint Evaluation based on Cross-stitch Networks.	TRBAM-25-01426
21	Cui P., Abdel-Aty M., Wang C., Yang X.	Spatial Inequality in Socio-Demographic and Commute Patterns and their Impacts on Traffic Crash Rates: A Comparison of Interpretable Machine Learning and Spatial Statistical Modelling.	TRBAM-25-02539
22	Zhai S., Abdel-Aty M., Wang D., Han L., Joo Y.	Florida Intersection Perception Dataset for Autonomous Vehicle Development and Traffic Safety Analysis.	TRBAM-25-04119
23	Tang S., Abdel-Aty M., Shoman M.	Synchronizing Sky and Street: UAV-CCTV Integration for Traffic Monitoring.	TRBAM-25-02293
24	Shoman M., Wang D., Aboah A., Abdel-Aty M.	Enhancing Traffic Safety with Dense Video Captioning: A Parallel Framework for Comprehensive Event Analysis.	TRBAM-25-04468