

Curriculum Vita

Zhenyu Wang, Ph.D.

Center for Urban Transportation Research (CUTR)

University of South Florida

4202 E. Fowler Ave. CUT 100, Tampa, FL 33620

Tel: (813) 974-8998; Cel: (813) 401-2629; Email: zwang9@usf.edu

RESEARCH INTERESTS

- Artificial Intelligence and Big Data
- Automated and Connected Vehicle
- Transportation Safety
- Advanced Statistical Analysis and Machine Learning
- Traffic Operations and Simulation
- Intelligent Transportation Systems (ITS)
- Naturalistic Driving Study
- Virtual Reality (VR) and Augmented Reality (AR) powered training

PROFESSIONAL EXPERIENCE

- 2019 – **Senior Research Faculty**
Center for Urban Transportation Research (CUTR), University of South Florida
- 2009 – **Instructor/Adjunct Faculty**
Department of Civil and Environment Engineering, University of South Florida
- 2013 – 2019 **Research Faculty**
Center for Urban Transportation Research (CUTR), University of South Florida
- 2012 – 2013 **Research Scientist**
Center for Urban Transportation Research (CUTR), University of South Florida
- 2008 – 2011 **Postdoctoral Scholar**
Department of Civil and Environment Engineering, University of South Florida

EDUCATION

- Ph.D.** Transportation Engineering, University of South Florida (2008)
- M.S.** Transportation Engineering, Chang'an University, China (2003)
- B.S.** Electrical Engineering, Taiyuan University of Technology, China (1996)

RESEARCH PROJECTS PERFORMED

As Principal Investigator or Co-PI

- 2025 – 2028 Developing Pedestrian Realistic Artificial Datasets (RADs), funded by FHWA, \$350,762, **PI**

- 2025 – 2028 Continuous Friction Measuring Equipment Assessment and Testing Results for Florida Pavement, funded by FDOT, \$315,216, **PI**
- 2025 – 2026 Pavement Marking Data Integration, Performance Prediction, and Maintenance Management, funded by FDOT, \$80,000, **Co-PI**
- 2024 – 2028 Deployment of Immersive Workforce Training Programs for Railway Operations and Safety using Virtual Reality and Augmented Reality Technologies, funded by FRA Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program, \$ \$1,003,796, **PI**,
- 2024 – 2026 Evaluation of Safety Improvements and Outcomes in FDOT District 7, funded by FDOT District 7, \$340,000, **Co-PI**
- 2024 – 2025 Evaluation of Promising Countermeasures and Innovative Techniques on Speed Management to Improve Pedestrian and Bicycle Safety, funded by FDOT, \$170,000, **Co-PI**
- 2025 – 2026 Root Cause Analysis, Dashboard Development, and Countermeasure Implementation Prioritization for Speeding and Aggressive Driving Crashes and Impaired Driving Crashes, funded by FDOT, \$379,962, **Co-PI**
- 2025 – 2026 Innovative Signal Timing Design and Operation Strategies to Improve Nighttime Arterial Safety, funded by FDOT, \$200,000, **Co-PI**
- 2024 – 2026 Enhancement of SCRIM Safety Data Analysis and Tool Development to Support Prioritization of 3R and Safety Project Selection and Deployment, funded by FDOT District 7, \$160,000, **Co-PI**
- 2023 – 2024 FDOT District 7 Before-After Studies and Safety Countermeasure Evaluation, funded by FDOT District 7, \$250,000, **Co-PI**
- 2023 – 2024 SCRIM Safety Data Analysis and Guideline Development for Using Continuous Pavement Friction Measurements to Support Prioritization of 3R and Safety Project Selection and Deployment, funded by FDOT District 7, \$192,539, **Co-**
- 2023 – 2024 Application of Artificial Intelligence Technologies in FDOT Safety and Transportation System Management and Operational (TSM&O) Programs, funded by FDOT, \$407,218, **PI**
- 2022 – 2023 Development of an Immersive Training Platform for Roadway Construction Workers using Virtual Reality (VR) Technologies, funded by CTEDD (USDOT Tier I University Transportation Center), \$700,000, **PI**
- 2022 – 2023 Assessment of Highway-Railroad Grade Crossing Strategies, Countermeasures, and Technologies to Improve Traffic Safety and Mobility in Florida, funded by FDOT, \$247,424, **Co-PI**
- 2022 – 2023 Development of Comprehensive Roadmap and Resource Guide Towards Congestion Reduction, funded by National Institute for Congestion Reduction (NICR), \$120,000, **Co-PI**
- 2022 – 2022 FDOT District 7 District-Wide Street Lighting Measurement and Analysis, funded by FDOT, \$335,040, **Co-PI**
- 2021 – 2022 Demand-Side Management of Auto Traffic – Year 2, funded by National Institute for Congestion Reduction (NICR), \$115,000, **Co-PI**
- 2021 – 2022 Toward a Florida Automated, Connected, Electric, and Shared (ACES) Transportation System Roadmap: Phase II, funded by FDOT, \$150,251, **Co-PI**

2021 – 2022	Development of Automated Roadway Lighting Diagnosis Tools for Nighttime Traffic Safety Improvement, Phase II, funded by CTEDD (USDOT Tier I University Transportation Center), \$69,744, PI
2021 – 2022	Technical Support for FDOT District 7 Safety Study, funded by FDOT, \$282,000, Co-PI
2021 – 2022	Interstate 4 (I-4) Florida's Regional Advanced Mobility Elements (FRAME) Before Study Data Collection & Analysis, funded by USDOT/FDOT, \$281,019, Co-PI
2020 – 2021	Development of Before-After Safety Study Toolbox, funded by FDOT, \$53,000, Co-PI
2020 – 2022	Development of Crash Modification Factors for Speed Management of Traffic Signal Progression, funded by FDOT, \$150,319, Co-PI
2020 – 2021	Demand-Side Management of Auto Traffic - National Institute for Congestion Reduction (NICR) Year 1, funded by NICR, \$130,479, Co-PI
2020 – 2021	Railroad Dynamic Envelope Pavement Markings Before-and-After Study for FDOT District 7, funded by FDOT, \$30,000, PI
2020 – 2021	Understanding Florida Motorcycle Crashes and Injury Outcomes Using the Motorcycle Crash Causation Study (MCCS) Dataset, funded by FDOT, \$109,409, Co-PI
2020 – 2020	Street Lighting Measurements on Selected Corridors in FDOT District 7 (2020). funded by FDOT, \$50,167, Co-PI
2019 – 2021	Prioritized Safety Consideration by Work Zone Types and Pilot Implementation, funded by FDOT, \$204,953, Co-PI
2019 – 2020	Development of Automated Roadway Lighting Diagnosis Tools for Nighttime Traffic Safety Improvement, funded by USDOT (Tier-1) University Transportation Center, \$73,186.65, PI
2019 – 2021	Development of Low Voltage/Extended Runtime Signalized Intersection Using Backup Power after the Loss of Utility Power Due to Hurricanes, funded by FDOT, \$329,835, Co-PI
2019 – 2019	Street Lighting Measurements on Selected Corridors in FDOT District 7 (2019). FDOT D7, \$51,600, funded by FDOT, Co-PI
2018 – 2019	Application of Dynamic Crash Prediction Methodologies to FDOT Safety and Transportation System Management and Operational (TSM&O) Programs, funded by FDOT, \$171,646, PI
2019	Quality Assurance Review of Intersection Lighting Retrofits, funded by FDOT, \$31,310, Co-PI
2018 – 2019	Pilot Implementation for Preventing Incorrect Turns at Highway-Rail Grade Crossings, funded by FDOT, \$129,771, Co-PI
2017 – 2019	Integration of a Robust Automated Pedestrian Detection System for Signalized Intersections, funded by FDOT, \$249,467, Co-PI
2017 – 2018	Street Lighting Measurements on Selected Corridors in FDOT District 7. Phase IV, funded by FDOT, \$39,971.88, Co-PI
2017 – 2018	Understanding Interactions between Drivers and Pedestrian Features at

- Signalized Intersections, Phase 3, funded by FDOT/FHWA, \$325,460, **Co-PI**
- 2016 – 2017 Understanding Interactions between Drivers and Pedestrian Features at Signalized Intersections, Phase 2, funded by FDOT/FHWA, \$224,811, **Co-PI**
- 2016 – 2017 Development of Statewide Guidelines for Implementing Leading Pedestrian Intervals in Florida, funded by FDOT, \$128,597, **Co-PI**
- 2015 – 2018 NCHRP 03-120 Assessing Interactions between Access Management Treatments and Multimodal Users, funded by TRB, \$800,000, **Co-PI**
- 2015 – 2016 Street Lighting Measurements on Selected Corridors in FDOT District 1, funded by FDOT, \$50,000, **Co-PI**
- 2016 – 2017 Study on Motorcycle Safety in Negotiation with Horizontal Curves in Florida and Development of Crash Modification Factors, funded by FDOT, \$124,791, **PI**
- 2016 – 2016 Optimization of Road Rangers Operations for FDOT District 7 Freeway Systems, funded by FDOT, \$49,250, **Co-PI**
- 2015 – 2015 Understanding Interactions between Drivers and Pedestrian Features at Signalized Intersections, FDOT/FHWA, \$145,551, **Co-PI**
- 2014 – 2015 Development of Effective Truck Route Signing Program for City of Tampa, Transportation Division, City of Tampa, **Co-PI**
- 2014 – 2015 Pilot Study for Preventing Incorrect Turns at Highway–Rail Grade Crossings, FDOT, \$114,081, **Co-PI**
- 2014 Street Lighting Measurements on Selected Corridors in FDOT District 7 Phase III and Phase IV, FDOT District 7, \$99,414, **Co-PI**
- 2013 – 2014 Street Lighting Measurements on Selected Corridors in FDOT District 7 Phase II, FDOT District 7, \$54,991, **Co-PI**
- 2008 – 2012 Roadway Data Representation and Application Development. FDOT, \$300,000, **Co-PI**
- 2009 Safety Performance Evaluation of Freeway Exit Ramps. STC, \$25,000, Co-PI

As Key Personnel and others

- 2016 – 2017 Florida's Bicycle/Pedestrian Focused Initiative – Communications, FDOT/NHTSA, \$400,000, Researcher
- 2015 – 2016 Florida's Comprehensive Pedestrian and Bicycle Safety Program, FDOT/NHTSA, \$650,000, Key Personnel
- 2015 – 2016 Comprehensive Motorcycle Safety Program, funded by FDOT/NHTSA, \$575,000, Researcher
- 2014 – 2015 Pedestrian Program Evaluation and Data Collection, FDOT/NHTSA, \$200,000, Researcher
- 2014 – 2015 Comprehensive Pedestrian and Bicycle Safety Program, funded by FDOT/NHTSA, \$695,430, Key Personnel
- 2013 – 2014 Community Traffic Safety Support, FDOT/NHTSA, \$150,000, Researcher
- 2013 – 2014 Comprehensive Motorcycle Safety Program, FDOT/NHTSA, \$575,000, Researcher
- 2013 – 2014 Comprehensive Pedestrian Safety Program, FDOT/NHTSA, \$400,000, Key

Personnel

- 2012 – 2013 Coordinated Pre–Preemption of Traffic Signals to Enhance Railroad Grade Crossing Safety in Urban Areas and Estimation of Train Impacts to Arterial Travel Time Delay, FDOT, \$145,424, Key Personnel
- 2012 – 2013 Improved Traffic Control Measures to Prevent Incorrect Turns at Highway–Rail Grade Crossings, FDOT/NCTR, \$99,033.88, Key Personnel
- 2012 Assessing the Impact of Proposed Transit Investments and Public Policy Choices on Land Use Patterns (A simulation approach with UrbanSim), FDOT, \$99,947, Key Personnel
- 2010 – 2014 Tampa Bay In–Vehicle Driving Behavior Field Study, CUBRC/SHRP2–TRB, National Academies, \$2,453,669, Researcher
- 2012 – 2013 Comprehensive Motorcycle Safety Program, FDOT/NHTSA, \$575,000, Researcher

As Graduate Research Assistant

- 2007 Development of an Interface between FDOT's Crash Analysis Reporting System and Safety Analyst. FDOT, Key Personnel
- 2006 – 2007 Safety and Operational Performance Evaluation of Two-Lane Exit Ramps with Optional Lane on Florida's Freeways. FDOT, \$150,000, Key Personnel
- 2005 – 2006 Integrated Work Zone Safety Management System and Analysis Tools. FDOT, \$150,000
- 2004 Development of a Procedure for Prioritizing Intersections for Improvements Considering Safety and Operational Factors. FDOT, \$130,000
- 2003 Determination of Weaving Length for Vehicles Making U-Turns After Making Right Turns from Driveways. FDOT, \$150,000
- 2003 Right Turn Followed by U-Turn at Median Openings on Four-Lane Arterials as an Alternative to Direct Left Turn from Driveways. FDOT, \$125,000

PUBLICATIONS

Refereed Journal Publications (* *corresponding author*)

1. Lyu, H., **Wang, Z***, Lin, P-S, Lu, Q, Duran, E., Wang, G. (2025) Exploring the Safety Impacts of Pavement Friction Using Continuous Pavement Friction Measurement Data with Correlated Random Parameters Negative Binomial Models. *Journal of Transportation Engineering, Part B: Pavements* (In Publishing).
2. Lyu, H., **Wang, Z***, Lin, P-S, Lu, Q, Duran, E., Hsu, P. How Does Pavement Friction Impact Motorcycle Crashes? A Florida Analysis. *Transportation Research Record*, 2679(10), 647-661.
3. Rangaswamy, R., Alnawmasi, N., **Wang, Z.** and Lin, P.S., 2024. Exploring contributing factors to improper driving actions in single-vehicle work zone crashes: A mixed logit analysis considering heterogeneity in means and variances, and temporal instability. *Journal of Transportation Safety & Security*, 16(7), pp.768-797.
<https://doi.org/10.1080/19439962.2023.2253748>
4. **Wang, Z***, Lin, P-S., Keita, Y., Safety Benefits of Parcel Delivery Modes Using Geographically Weighted Negative Binominal Regression. *Proceeding of International*

Conference on Transportation and Development 2024: Transportation Safety and Emerging Technologies. pp. 226-237. <https://doi.org/10.1061/9780784485514.020>

5. Lin, P-S., Kourtellis, A., **Wang, Z.** Extended Runtime at Signalized Intersection Using Backup Power after the Loss of Utility Power. Proceedings of International Conference on Transportation and Development 2024, <https://doi.org/10.1061/9780784485514.032>
6. Li, Q, **Wang, Z***, Kolla R., Li, M., Yang, R., Lin, P-S. & Li, X. (2023). Modeling Effects of Roadway Lighting Photometric Criteria on Nighttime Pedestrian Crashes on Roadway Segments. *Journal of Safety Research*, Vol. 86: 253-261. <https://doi.org/10.1016/j.jsr.2023.07.004>
7. Zhang, Y., Zhang, Z., Wang, Z., Lyu, T., Wang, X., & Lu, L. (2023). Accident Diagnosis and Evaluation System in Parking Lots Using Multisource Data Based on Bayesian Networks. *Journal of Advanced Transportation*, Vol.2023 (3150003). <https://doi.org/10.1155/2023/3150003>
8. Wei, F., Dong, D., Liu, P., Guo, Y., **Wang, Z.**, & Li, Q. (2022). Quarterly Instability Analysis of Injury Severities in Truck Crashes. *Sustainability*, 14(21), 14055. <https://doi.org/10.3390/su142114055>
9. Ma, S., Guo, Y., Wei, F., Li, Q., and **Wang, Z.** (2022). An Improved Social Force Model of Pedestrian Twice–Crossing Based on Spatial–Temporal Trajectory Characteristics. *Sustainability*, 14(24), 16615. <https://doi.org/10.3390/su142416615>
10. Abhijit, V., **Wang, Z.***, Kolla R., Lin, P-S., (2023) Evaluation of Dynamic Envelope Pavement Marking to Improve Motorist Stopping Behaviors at Highway-Rail Grade Crossings. *ITE Journal*, 93(2): 40-46. <https://www.proquest.com/docview/2774981930>
11. Rangaswamy, R., Kolla, R., **Wang, Z.***, Lee, C., & Lin, P-S. (2022). Evaluation of Dynamic Envelope Pavement Marking to Improve Motorist Stopping Behaviors at Highway-Rail Grade Crossings. *ITE Journal*, 95(9): 38 – 44. <https://ite.vgsclibook.com/pubs/itejournal/2022/september-2022/live/index.html#p=39>
12. Wei, F., Cai, Z., **Wang, Z.**, Guo, Y., Li, X., & Wu, X. (2021). Investigating Rural Single-Vehicle Crash Severity by Vehicle Types Using Full Bayesian Spatial Random Parameters Logit Model. *Applied Sciences*, 11(17), 7819. <https://doi.org/10.3390/app11177819>
13. Li, Q, **Wang, Z***, Li, M., Yang, R., Lin, P-S. & Li, X. (2021). Development of crash modification factors for roadway illuminance: A matched case-control study. *Accident Analysis & Prevention*, 159 (10627). <https://doi.org/10.1016/j.aap.2021.106279>
14. Cai, Z., Wei, F., **Wang, Z.**, Guo Y., Chen, L., Li, X. (2021). Modeling of Low Visibility-Related Rural Single-Vehicle Crashes Considering Unobserved Heterogeneity and Spatial Correlation. *Sustainability*. 13(3): 7438. <https://doi.org/10.3390/su13137438>
15. **Wang, Z***, Vasili, A., Yang, R., Lin, P-S. (2021). Recursive Bivariate Probit Analysis of Injury Severity and Non-Truck Improper Actions in Large Truck-related Crashes on Florida Suburban Roads. *Transportation Research Record*, 2675(8). <https://doi.org/10.1177/0361198121997146>.
16. **Wang, Z.***, Lin P-S., Vasili, A., Guo, R., Yang R. Evaluation of a Low-Cost Countermeasure to Prevent Incorrect Turns at Highway-Rail Grade Crossings. *ITE Journal*, 2021, 93 (3): 43-48.
17. Wei, F., Cai, Z., Guo, Y., Liu, P., **Wang, Z.**, Li, Z. Analysis of Roadside Accident Severity on Rural and Urban Roadways. *Intelligent Automation & Soft Computing*. 2021, 28(3):753-

767. doi:10.32604/iasc.2021.014661.

18. Guo, R., Wu Z., Zhang, Y., Lin, P.S. & **Wang, Z.** Insights from Integrated Geo-Location Data for Pedestrian Crashes, Demographics, and Land Uses. *Journal of the Transportation Research Board*. 2020, 2674 (8): 720-731. DOI: 10.1177/0361198120920267
19. Yang, R., **Wang, Z.***, Lin, P-S., Li, X., Chen, Y., Hsu, P., Alex, H. Safety effects of street lighting on roadway segments: development of a crash modification function. *Traffic Injury Prevention*, 2019, 20(3): 1-7. <https://doi.org/10.1080/15389588.2019.1573317>.
20. Xin, C., **Wang, Z*.**, Lee, C., Lin, P., Chen T., Guo R., Lu Q. Development of crash modification factors of horizontal curve design features for single-motorcycle crashes on rural two-lane highways: A matched case-control study. *Accident Analysis & Prevention*, 2019, 123: 51-59. <https://doi.org/10.1016/j.aap.2018.11.008>.
21. Chen, T., Liu, K., **Wang, Z.**, Deng, G., & Chen, B. Vehicle forward collision warning algorithm based on road friction. *Transportation Research Part D: Transport and Environment*, 2019, 66: 49-57. <https://doi.org/10.1016/j.trd.2018.04.017>.
22. He, W., Zhang, Z., Lu, L., **Wang, Z.**, analysis on the influence factors of accident severity: evidence from urban rivercrossing tunnels in Shanghai of China. *Journal of Engineering Science & Technology Review*, 2018, 11(5): 100-108. <https://doi.org/10.25103/jestr.115.12>.
23. Xin, C., Guo, R., **Wang, Z.**, Lu, Q., & Lin, P. S. The effects of neighborhood characteristics and the built environment on pedestrian injury severity: A random parameters generalized ordered probability model with heterogeneity in means and variances. *Analytic Methods in Accident Research*, 2017, 16: 117-132. <https://doi.org/10.1016/j.amar.2017.10.001>.
24. Xin, C., **Wang, Z***, Lin, P., Lee, C., Guo, R. Modeling safety effects of horizontal curve design on injury severity of single-motorcycle crashes with mixed-effects logistic model. *Transportation Research Record*, 2017, 2637: 38-46. <https://doi.org/10.3141/2637-05>.
25. Xin, C., **Wang, Z***, Lin, P., Lee, C., Guo, R. Safety effects of horizontal curve design on motorcycle crash frequency on rural two-lane undivided highways in Florida. *Transportation Research Record*, 2017, 2637: 1-8. <https://doi.org/10.3141/2637-01>.
26. Wei, F., **Wang, Z***, and Lu, J. Exploring factors contributing to lane changes during left-turns on quadruple left-turn lanes at signalized intersections, *Advances in Mechanical Engineering*, 2017, 9(5): 1-9. <https://doi.org/10.1177/1687814017700062>.
27. Wei, F., **Wang, Z***, Lin, P., Hsu, P., Ozkul, S. Jackman, J., and Bato, M. Safety effects of street illuminance at urban signalized intersections in Florida, *Transportation Research Record*, 2016, 2555: 95-102. <https://doi.org/10.3141/2555-13>.
28. Huang Y., **Wang, Z.** Decentralized adaptive fuzzy control for a class of large-scale MIMO nonlinear systems with strong interconnection and its application to automated highway systems. *Information Sciences*, 2014, 274: 210-224. <https://doi.org/10.1016/j.ins.2014.02.132>.
29. **Wang, Z*.**, Huang, B., Lu, J., Zhao, J., and Zhang, Y. exploring the impact of access design on crash injury severity on multi-lane highways, *Traffic Injury Prevention*, Vol. 15(1), pp.102-9, 2014. <https://doi.org/10.1080/15389588.2013.789871>
30. **Wang, Z*.**, Zhang, Z., Lu, J., and Zhao, J. Development of a procedure for prioritizing intersection improvement projects considering both safety and operational factors, *Journal of Transportation Safety and Security*, Vol. 4(1), pp.35-48, 2012. <https://doi.org/10.1080/19439962.2011.614374>
31. Chen, T., Tan, H., Feng, G., **Wang, Z.** Wei, L. APG-TR algorithm of moving vehicle detection,

Journal of Traffic and Transportation Engineering, Vol. 4, pp. 100-106, 2012.
http://en.cnki.com.cn/Article_en/CJFDTOTAL-JYGC201204012.htm

32. Chen, H., Zhang, Y., **Wang, Z.**, Lu, J.J., and Pontoriero, D. Identifying crash distributions and prone locations by lane groups at freeway diverge areas, *Transportation Research Record*, Vol. 2237, pp88-97, 2011. <https://doi.org/10.3141/2237-10>
33. **Wang, Z***, Chen, H., and Lu, J. J. Exploring Impacts of Factors Contributing to Injury Severity at Freeway Diverge Areas, *Transportation Research Record*, Vol. 2102, pp.43-52, 2009. <https://doi.org/10.3141/2102-06>
34. **Wang, Z***, Lu, J. J., and Xiang, Q. Safety and operational impacts of access management techniques, *Advances in Transportation Studies*, Section B 4, Vol. 6, pp. 85-95, 2005. <http://www.atsinternationaljournal.com/index.php/2005-issues/vi-july-2005/358-safety-and-operational-impacts-of-access-management-techniques>
35. Gao G., **Wang, Z.**, Huang, W. Location selection research of public logistics center based on multi-objective fuzzy decision, *Journal of Highway and Transportation Research and Development*, Vol.21, No.9, 2004. http://en.cnki.com.cn/Article_en/CJFDTOTAL-GLJK200409036.htm
36. **Wang, Z***, Cui, H., and Huang, W. Study on system architecture of first-aid system for breakdown vehicle on expressway, *Journal of Highway and Transportation Research and Development*, Vol.20, No.4, 2003. http://en.cnki.com.cn/Article_en/CJFDTOTAL-GLJK200304028.htm
37. **Wang, Z***, Gao, G., and Huang, W. Architecture of Expressway Traffic Control System based on Multi-agent, in *Journal of Traffic and Transportation Engineering*, Vol. 3, No.1, pp. 76-92, 2003.
38. **Wang, Z***, and Huang, W. Research of developing the system architecture for intelligent transportation system in China, *Journal of Southeast University*, Vol. 31, No. 3, pp. 85-89, 2001.

Peer-Reviewed Conference Presentations (* corresponding author)

1. Jeenprasom, C., Sirikanchittavon, T., Hadi, M., **Wang, Z.** Evaluation of Machine Vision-Based Automated Detection of Freeway Incidents. In 105th Transportation Research Board Annual Meeting. No. 26-03933. 2026.
2. Lyu H., **Wang, Z.**, Lin, P-S, Lu, Q., Assessing the Safety Impact of Pavement Friction at Signalized Intersections: A Bivariate Negative Binomial Analysis using Continuous Pavement Friction Data. In 105th Transportation Research Board Annual Meeting. No. 26-04119. 2026.
3. Duran, E., **Wang, Z.**, Pei-Sung Lin., Lane Departure Crashes: Data for Prevention. In ATSSA's Convention & Traffic Expo 2025, March 2, 2025, 10:15AM – 11:15 AM EST, Orlando
4. **Wang, Z.**, Lin, P-S, Lu, Q. Lyu, H. How Does Pavement Friction Impact Motorcycle Crashes? A Florida Analysis. In 104th Transportation Research Board Annual Meeting. No. 25-01444. 2025.
5. **Wang, Z.**, Lin, P-S, Lu, Q. Lyu, H. Modeling the Safety Impacts of Pavement Characteristics Using Continuous Pavement Friction Measurement (CPFM) Data to Support Pavement and Safety Management in Florida. In 104th Transportation Research Board Annual Meeting. No. 25-04414. 2025.

6. **Wang, Z.** Implementation of Virtual Reality Technologies in Immersive Training for Work Zone Workers. In 104th Transportation Research Board Annual Meeting. No. 25-00952. 2025.
7. Huiqing Lyu, **Wang, Z.**, Lin, P-S, Lu, Q. Implementing High Friction Surface Treatment (HFST) to Improve Intersection Safety. In 103rd Transportation Research Board Annual Meeting. No. 24-03697. 2024.
8. Huiqing Lyu, **Wang, Z***, Lin, P-S, Lu, Q., Hsu, P., Duran, E. Exploring the Impact of Pavement Friction Patterns on Crash Injury Severity Using Continuous Pavement Friction Measurement (CPFM) Data, In 103rd Transportation Research Board Annual Meeting. No. 24-0487. 2024.
9. Duran, E., **Wang, Z***, Beresheim, S., Using CPFM Data to Support Safety and Pavement Management in FDOT, District 7. In ATSSA's Convention & Traffic Expo 2024, February 4, 2024, 9:15AM – 10:15 AM PST, San Diego
10. **Wang, Z***, Duran, E. Immersive Training for Work Zone Workers using Virtual Reality. In ATSSA's Convention & Traffic Expo 2024, February 5, 2024, 1:30PM – 2:00PM PST, San Diego
11. **Wang, Z***, Chen, K., Lin, P-S., Applying Automatic Detection of Vehicle Yielding to Pedestrian Behaviors in Pedestrian Safety Evaluation. In ASCE International Conference on Transportation & Development (ICTD) 2024, June 16 – 18, 2024, Atlanta, GA.
12. **Wang, Z***, Lin, P-S., Lu, Q., Lyu, H., Duran, E., Hsu, P., Pavement Project Prioritization using Continuous Pavement Friction Measurement Data. In ASCE International Conference on Transportation & Development (ICTD) 2024, June 16 – 18, 2024, Atlanta, GA.
13. **Wang, Z***, Lin, P-S., Keita, Y., Safety Benefits of Parcel Delivery Modes Using Geographically Weighted Negative Binominal Regression. In ASCE International Conference on Transportation & Development (ICTD) 2024, June 16 – 18, 2024, Atlanta, GA.
14. **Wang, Z***, Lin, P-S., Shindgikar, S., Lyu, H., Rangaswamy, R., Safety Benefits of Parcel Delivery Modes Using Geographically Weighted Negative Binominal Regression., In ASCE International Conference on Transportation & Development (ICTD) 2024, June 16 – 18, 2024, Atlanta, GA.
15. Lin, P-S., Kourtellis, A., **Wang, Z.** Extended Runtime at Signalized Intersection Using Backup Power after the Loss of Utility Power. In ASCE International Conference on Transportation & Development (ICTD) 2024, June 16 – 18, 2024, Atlanta, GA.
16. Keita, Y., Lin, P-S., **Wang, Z.** *Reduction of Pedestrian and Bicycle Crashes Through Speed Management of Traffic Signal Progression.* In 102nd Transportation Research Board Annual Meeting. No. 23-03887. 2023
17. Keita, Y., Lin, P-S., **Wang, Z.** *Using Traffic Signal Progression Strategy for Speed Management and Decreasing Pedestrian and Bicycle Fatalities and Severe Injuries.* In 102nd Transportation Research Board Annual Meeting. No. 23-03990. 2023
18. **Wang, Z***, Rangaswamy R., Yang, R., Lee, C. *Modeling Injury Severity of Left-Turn-Across-Path (LTAP) Motorcycle Crashes at Intersections: A Mixed Logit Method Considering Unobserved Heterogeneity and Temporal Instability.* In 102nd Transportation Research Board Annual Meeting. No. 23-03994. 2023
19. **Wang, Z***, Li, Q., Lin, P-S., Li, X. *Modeling Effects of Roadway Lighting Photometric Criteria on Nighttime Pedestrian Safety on Roadway Segments.* In 101st Transportation Research Board Annual Meeting. No. 22-03707. 2022

20. **Wang, Z***, Lin, P-S., Vasili, A. *Evaluation of Dynamic Envelope Pavement Marking to Improve Motorist Stopping Behaviors at Highway-Rail Crossings*. In 101st Transportation Research Board Annual Meeting. No. 22-03720. 2022
21. **Wang, Z***, Yang, R., Lee, C. *Recursive Bivariate Probit Analysis of Fatalities and Improper Actions in Motorcycle-Vehicle Crashes on Horizontal Curves*. No. 22-03684. 2022
22. **Wang, Z***, Vasili, A., Yang, R. *A Recursive Bivariate Probit Analysis of Injury Severity and Non-Truck Fault Actions in Large Truck-related Crashes on Florida Suburban Roads*. In 100th Transportation Research Board Annual Meeting. No. 21-02758. 2021
23. Vasili, A., **Wang, Z***, Lin, P., Guo, R., Yang, R., Wong, E. *Evaluation of a Low-Cost Countermeasure to Prevent Incorrect Turns at Highway-Rail Grade Crossings*. In 99th Transportation Research Board Annual Meeting. No. 20-05006. 2020
24. Li, M., **Wang, Z***, Lin, P., Yang, R., Vasili, A., Wong, E. *A Machine Learning-based Diagnosis of Lighting Patterns Contributing to Nighttime 1 Crash Severity on Roadway Corridors*. In 99th Transportation Research Board Annual Meeting. No. 20-05641. 2020
25. Guo, R., Wu Z., Zhang, Y., Lin, P.S. & **Wang, Z.** *Insights from Integrated Geo-Location Data for Pedestrian Crashes, Demographics, and Land Uses*. In 99th Transportation Research Board Annual Meeting. No. 20-00388. 2020
26. **Wang, Z.***, Williams, K., Butorac, M. Bonneson, J., Schroeder, B., Gluck, J., Kukadia, D, Ozkul, S. *Operational and Safety Impacts of Right-Turn Deceleration Lane for Multimodal Users at Signalized Intersections: A Simulation-Based Study*. In 99th Transportation Research Board Annual Meeting. No. 20-05182. 2020
27. **Wang, Z.** *Application of SHRP2 Naturalistic Driving Study (NDS) Data in Pedestrian Safety at Signalized Intersections*. World Transport Convention, Beijing, China, 2019
28. **Wang, Z.***, Li, M., Yang, R., Lin, P-S., Xin, C., Hsu, P., and Wong, E. *A matched case-control safety study of street lighting uniformity along urban roadway segments*. 98th Transportation Research Board Annual Meeting. No. 19- 03248. 2019
29. Yang, R., **Wang, Z.***, Lee, C., Lin, P-S., Xin, C. *A mixed logistic study of motorcyclists at fault in two-vehicle crashes on horizontal curves*. 98th Transportation Research Board Annual Meeting. No. 19-03172. 2019
30. Kolla, R., Rangaswamy, R., **Wang, Z.***, Lee, C., Lin, P-S., Vasili, A., Wong, E. *Evaluation of dynamic speed feedback sign to improve motorcycle safety on horizontal curves along rural roads*. 98th Transportation Research Board Annual Meeting. No. 19-02814. 2019
31. **Wang, Z***, Lin, P-S, Wong, E. Hsu, P. *Exploring Impacts of Street Lighting Patterns on Nighttime Crashes along Roadway Corridors*. No. 32-011. 2019
32. Xin, C., **Wang, Z.***, Lin, P-S., Koh, B., Hsu, P., Wong, E., Chen, T., *Exploring the Impacts of Street Illuminance on Nighttime Crash Severity in Roadway Segments Using a Random Parameter Ordered Probit Model*. 97th Transportation Research Board Annual Meeting. No. 18-05718. 2018
33. Xin, C., **Wang, Z.***, Lee, C., Lin, P. Chen T., Guo R., Lu Q. *A Matched Case-Control Study on Single-Motorcycle Crashes on Rural, 1 Two-Lane, Undivided Horizontal Curves in Florida*. 97th Transportation Research Board Annual Meeting. No. 18-05156. 2018
34. Lin, P-S., Chen, C., Kourtellis, A., **Wang, Z.**, Guo, R., Zhang, Z. *Investigating driver compliance with pedestrian features at signalized intersections: SHRP2 naturalistic driving study data analysis*. 97th Transportation Research Board Annual Meeting. No. 18-05156. 2018

35. Lin, P-S., Chen C., **Wang, Z.**, Guo, R. *Assessment of leading pedestrian interval suitability and effectiveness - before-after pilot study in Florida*. 31st Annual Conference of the International Chinese Transportation Professionals Association (ICTPA), Guangzhou, China. No. ICTPA 31-101, 2018
36. Zhang, G., **Wang, Z.** *Exploring safety impacts of the number and arrangement of lanes on freeway entrance ramps*. 17th COTA International Conference of Transportation Professionals, Shanghai, China. 2017. <https://doi.org/10.1061/9780784480915.462>
37. **Wang, Z***, Lin, P., Chen, Y., Hsu, P., Ozkul, S., Bato, M. *Safety Effects of Street Illuminance on Roadway Segments in Florida*. 96th Transportation Research Board Annual Meeting. No. 17-05438. 2017
38. Xin, C., **Wang, Z***, Lin, P., Lee, C. *Modeling Random Effects of Horizontal Curve Design on Injury Severity of Single-Motorcycle Crashes Using Mixed-Effects Logistic Model*. 96th Transportation Research Board Annual Meeting. No. 17-05464. 2017
39. Xin, C., **Wang, Z***, Lin, P., Lee, C., Guo, R. *Safety Effects of Horizontal Curve Design on Motorcycle Crash Frequency on Rural Two-Lane Undivided Highways in Florida*. 96th Transportation Research Board Annual Meeting. No. 17-05501. 2017
40. Ozkul, S., Davis, D., Pinjari, A., **Wang, Z.** *Guidance in Logistics Investment Through Logistics Activity Center Development Potential Analysis*. 96th Transportation Research Board Annual Meeting. No. 17-06179. 2017
41. Lin, P-S., **Wang Z.**, Parsafard, M., Li, X., Chandler, C. *Optimization of freeway patrol operations — a comprehensive case study*. 30th Annual Conference of the International Chinese Transportation Professionals Association (ICTPA), May 19-21, 2017, Houston, Texas, USA. 2017
42. Lin, P., **Wang Z.**, and Guo, R. *Impact of Connected Vehicles and Autonomous Vehicles on Future Transportation*. 11th Asia Pacific Transportation Development Conference & 29th ICTPA Annual Conference, Hsinchu, Taiwan, 2016.
43. Lin, P., **Wang Z.**, Guo, R., and Kourtellis A. *A Pilot Study on Interactions between Drivers and Pedestrian Features at Signalized Intersections - Using the SHRP2 Naturalistic Driving Study Data*. 11th Asia Pacific Transportation Development Conference & 29th ICTPA Annual Conference, Hsinchu, Taiwan, 2016.
44. Wei, F., **Wang, Z***, Lin, P., Hsu, P., Ozkul, S. Jackman, J., and Bato, M. *Safety Effects of Street Illuminance at Urban Signalized Intersections in Florida*. 95th Transportation Research Board Annual Meeting. 2016.
45. Wei F., **Wang, Z***, Qu, Z., Lu, J., and Lin, P. *Study on Lane Changes During Left Turns on Quadruple Left-Turn Lanes at Signalized Intersections in China*, Transportation Research Board 95th Annual Meeting. 2016.
46. **Wang, Z***, Lee, C., and Lin, P. *Modeling Injury Severity of Single-Motorcycle Crashes on Curved Roadway Segments*. Transportation Research Board 93rd Annual Meeting. No. 14-5123. 2014.
47. Johnson, M., Fabregas, A., **Wang, Z.**, Katkoori, S., and Lin, P., *Embedded System Design of an Advanced Illumination Measurement System for Highways*. IEEE International Systems Conference, Ottawa, Ontario, Canada, 2014.
48. Lin, P., **Wang, Z.**, Guo, R., and Wang, Q. *Development of Coordinated Pre-preemption of Traffic Signals to Enhance Railroad At-Grade Crossing Safety and Mobility in Urban Areas*. 10th Asia Pacific Transportation Development Conference & 27th ICTPA Annual

Conference, Beijing, China, May 25-27, 2014.

49. **Wang, Z***, Lin, P., Chen, H., Lu, J., and Deng, W. *Modeling Impacts of Access Design and Spatial Pattern on Crash Risks of Non-motorists on Urban Multilane Highways in Florida*. 92nd Transportation Research Board Annual Meeting, 2013.
50. **Wang, Z***, Huang, B. and Lu, J.J. *Modeling Impacts of Access Designs on Injury Severity at Midblock Segments of Urban Multilane Highways using Heterogeneous Choice Regression*. 91st Transportation Research Board Annual Meeting, 2012.
51. **Wang, Z***, Cao, B., Deng, W., Zhang, Z., Lu, J.J. and Chen, H. *Safety Evaluation of Truck- Related Crashes at Freeway Diverge Areas*. 90th Transportation Research Board Annual Meeting, 2011.
52. Chen, H., **Wang, Z.**, Lu, J.J., and Pontoriero, D. *Identifying Crash Distributions and Prone Locations by Lane Groups at Freeway Diverge Areas*. 90th Transportation Research Board Annual Meeting, 2011.
53. **Wang, Z***, Chen, H., Zhang, L., Lu, J.J., and Al-Hammadi, A. *Development of Procedure for Prioritizing Intersection Improvement Projects Considering Both Safety and Operational Factors*. 90th Transportation Research Board Annual Meeting, 2011.
54. **Wang, Z***, Chen, H., and Lu, J. J. *Exploring Impacts of Factors Contributing to Injury Severity at Freeway Diverge Areas*. 88th Transportation Research Board Annual Meeting, 2009.
55. Huang, B., **Wang, Z.**, Lu, J., and Lu, L. *Modeling Speed Profile on Freeway Exit Ramps Using Support Vector Regression*, 12th COTA International Conference of Transportation Professionals Conference, Beijing, China, 2012.
56. **Wang, Z***, Lu, J.J. and Zhang, Z. *Exploring Impacts of Factors Contributing to Injury Severity at Freeway Exit Ramps*. 1st Transportation and Development Institute (TD&I) Congress, 2011.
57. **Wang, Z***, Wang, Q., and Lu, J.J. *Modeling Injury Severity in Work Zones using Ordered Probit Regression*. 10th COTA International Conference of Transportation Professionals Conference, Beijing, China, 2010.
58. **Wang, Z***, Lu, J.J., and Xiang, Q. *Impacts of Access Management Technologies on Traffic Safety*. Conference Proceedings of the International Highway Safety Conference, Beijing, China, 2006.

TECHINICAL REPORTS

1. Lin, P-S., **Z. Wang**, Q. Lu, H. Lyu. SCRIM Safety Data Analysis and Guideline Development for Using Continuous Pavement Friction Measurements to Support Prioritization of 3R and Safety Project Selection and Deployment. Center for Urban Transportation Research (CUTR), University of South Florida, January 2025.
2. **Wang, Z.**, Lin, P-S., Alqasemi, R. *Development an Immersive Training Platform for Roadway Construction Workers using Virtual and Augmented Reality Technologies*. CTEDD 2024.
3. Lin, P-S., Wang, Z., Kolla, R., Bialkowska-Jelinska, E., Alluri, P., Soltaninejad, M. *Assessment of Highway-Railroad Grade Crossing Strategies, Countermeasures, and Technologies to Improve Traffic Safety and Mobility in Florida*. Florida Department of Transportation (FDOT), Florida, 2023. [link](#)
4. Lin, P-S, **Wang, Z.**, Li, Qianwen, Lyu, H., Jackman, J., Sipiora, A. *Toward a Florida*

Automated, Connected, Electric, and Shared (ACES) Transportation System Roadmap: Phase II. Florida Department of Transportation (FDOT), Florida, 2023. [link](#)

5. Lin, P-S., **Wang, Z.**, Keita, Y., and Yang R. *Development of Crash Modification Factors for Speed Management of Traffic Signal Progression.* Florida Department of Transportation (FDOT), Florida, 2022. [link](#)
6. Lin, P-S, Concas, S., Kourtellis, A., Li, X., **Wang, Z.**, Kummetha, V., Shindgikar, S., Mohammadnazar, A., Yuksel, E., Li, M. *USF-CUTR I-4 FRAME Project “Before” Study: Data Collection and Analysis of Safety and Mobility Conditions Prior to Implementation.* Florida Department of Transportation (FDOT), Florida, 2021. [link](#)
7. **Wang, Z.**, Lin, P-S, Katkoori, S., Li, M., Vasili, A., Yang, R. *Development of Automated Roadway Lighting Diagnosis Tools for Nighttime Traffic Safety Improvement, Phase II.* Center for Transportation, Equity, Decisions and Dollars (CTEDD), USDOT University Transportation Center, Texas, 2022
8. Walker, J., Hansen M., Lin, P-S., **Wang, Z.**, Li, A., Tereshchenko, I., Forscher, T., Li, M., Yang, R., *Demand-Side Management of Auto Traffic for Urban Parcel Delivery.* National Institute for Congestion Reduction (NICR), Florida, 2021.
9. Lee, C., **Wang, Z.**, and Yang, R. *Understanding Florida Motorcycle Crashes and Injury Outcomes Using the Motorcycle Crash Causation Study (MCCS) Dataset.* Florida Department of Transportation (FDOT), Florida, 2021. [link](#)
10. **Wang, Z.**, Lin, P-S, Vasili, A. *Rail Dynamic Envelope (RDE) Pavement Markings Before-After Study in FDOT District 7.* Florida Department of Transportation, District 7, Tampa, Florida, 2021
11. Lin, P-S., **Wang, Z.**, Street Lighting Measurements on Selected Corridors in FDOT District 7 (2020). JMT Inc., Tampa, Florida, 2020
12. **Wang, Z.**, Lin, P-S, Katkoori, S., Li, M., Vasili, A., Yang, R. *Development of Automated Roadway Lighting Diagnosis Tools for Nighttime Traffic Safety Improvement.* Center for Transportation, Equity, Decisions and Dollars (CTEDD), USDOT University Transportation Center, Texas, 2020
13. **Wang, Z.** Lin, P-S, Hadi, M., Wang, T., Echeverri, C., Yang, R., Vasili, A. *Application of Dynamic Crash Prediction Methodologies to FDOT Safety and Transportation System Management and Operational (TSM&O) Programs.* Florida Department of Transportation, Tallahassee, Florida, 2020.
14. Lin, P-S., **Wang, Z.**, Vasili, A., Yang, R. *Pilot Implementation for Preventing Incorrect Turns at Highway-Rail Grade Crossings.* Florida Department of Transportation, Tallahassee, Florida, 2019.
15. Lin, P-S., **Wang, Z.**, Street Lighting Measurements on Selected Corridors in FDOT District 7 (2019). Florida Department of Transportation, District 7, Tampa, Florida, 2019
16. Lin, P-S., **Wang, Z.**, Vasili, A., Kolla, R., *Quality Assurance Review of Intersection Lighting Retrofits,* Florida Department of Transportation, Tallahassee, Florida, 2019.
17. Pei-Sung Lin, Achilleas Kourtellis, **Zhenyu Wang**, and Cong Chen. *Integration of a Robust Automated Pedestrian Detection System for Signalized Intersections.* Florida Department of Transportation, Tallahassee, Florida, 2019.
18. Lin, P., Kourtellis, A., **Wang, Z.**, Chen, C., and Jackman, J., *Understanding Interactions between Drivers and Pedestrian Features at Signalized Intersections, Phase III,* FHWA/Florida Department of Transportation, University of South Florida, 2018.

19. Butorac, M., Bonneson, J., Connolly, K., Ryus, P., Schroeder, B. (Kittelson & Associates, Inc.), Williams, K., **Wang, Z.**, Ozkul, S. (University of South Florida), Gluck, J. (AECOM, Inc.), *NCHRP Report 900 Guide for the analysis of multimodal corridor access management*, Research Report to National Cooperative Highway Research Program, Transportation Research Board; National Academies of Sciences, Engineering, and Medicine, 2018
20. **Wang, Z.**, Lee, C., Lin, P-S., Guo R., Xin, C., Kolla, R., Yang, R., Vasili, A. *Study on motorcycle safety in negotiation with horizontal curves in Florida and development of crash modification factors*. Research Report to the Florida Department of Transportation, University of South Florida, 2018
21. Lin, P-S., **Wang, Z.**, Vasili, A., Schultz, D. *A pilot study for preventing incorrect turns at highway-rail grade crossings*, Research Report to the Florida Department of Transportation, University of South Florida, 2017
22. Lin, P-S., **Wang, Z.**, Li, X., Parsafard, M. *Optimization of Road Rangers operations for FDOT District 7 freeway systems*, Research Report to the Florida Department of Transportation, University of South Florida, 2017
23. Lin, P-S., **Wang, Z.**, Chen, C., Guo, R., Zhang, Z. *Development of Statewide Guidelines for Implementing Leading Pedestrian Intervals in Florida*. Research Report to the Florida Department of Transportation, University of South Florida, 2017
24. Lin, P., Kourtellis, A., **Wang, Z.**, Chen, C., and Guo, R. *Understanding Interactions between Drivers and Pedestrian Features at Signalized Intersections, Phase II*, Research Report to the Florida Department of Transportation, University of South Florida, 2017.
25. Lin, P., Kourtellis, A., **Wang, Z.**, and Guo, R. *Understanding Interactions between Drivers and Pedestrian Features at Signalized Intersections*, Research Report to the Florida Department of Transportation, University of South Florida, 2015.
26. Lin, P., Kourtellis, A., **Wang, Z.**, and Guo, R. *Understanding Interactions between Drivers and Pedestrian Features at Signalized Intersections, SHRP2 Implementation Assistance Program (IAP) – Round 4 Concept to Countermeasures – Research to Deployment Using SHRP2 Safety Data*, Summary Report to Federal Highway Administration (FHWA) and American Association of State Highway and Transportation Officials (AASHTO) Safety Task Force, University of South Florida, 2015.
27. Lin, P., and **Wang, Z.** *Street Lighting Measurements on Selected Corridors in FDOT District 7 – Phase IV*, Research Report to the Florida Department of Transportation, University of South Florida, 2015.
28. Lin, P., and **Wang, Z.** *Street Lighting Measurements on Selected Corridors in FDOT District 7 – Phase III*, Research Report to the Florida Department of Transportation, University of South Florida, 2014.
29. Lin, P., and **Wang Z.**, et al. *Coordinated Pre-Preemption of Traffic Signals to Enhance Railroad Grade Crossing Safety in Urban Areas and Estimation of Train Impacts to Arterial Travel Time Delay*, Research Report to the Florida Department of Transportation, University of South Florida, 2014
30. Lin, P., and **Wang, Z.** *Street Lighting Measurements on Selected Corridors in FDOT District 7 – Phase II*, Research Report to the Florida Department of Transportation, University of South Florida, 2013.
31. Lee, C., and **Wang, Z.** *Assessing the Impact of Proposed Transit Investment and Public Policy Choices on Land Use Patterns*, Research Report to the Florida Department of Transportation, University of South Florida, 2012

32. **Wang, Z.**, Lu, J.J., and Zhang, Z. *Roadway Data Representation and Application Development Phase IV*, Research Report to the Florida Department of Transportation, University of South Florida, 2012
33. **Wang, Z.**, Lu, J.J., and Zhang, Z. *Roadway Data Representation and Application Development Phase III*, Research Report to the Florida Department of Transportation, University of South Florida, 2011
34. **Wang, Z.**, Lu, J.J., and Zhang, Z. *Roadway Data Representation and Application Development Phase II*, Research Report to the Florida Department of Transportation, University of South Florida, 2010
35. Lu, J.J., **Wang, Z.**, Chen, H., Lu, L., and Zhang, Z. *Safety Performance Evaluation of Freeway Exit Ramps*, Final Research Report to Southeastern Transportation Center, Department of Civil and Environmental Engineering, University of South Florida, December 2010
36. Lu, J.J., Lu, L., Lin, P., **Wang, Z.**, and Chen, H. *Development of an Interface between FDOT's Crash Analysis Reporting System and the SafetyAnalyst*, Research Report to the Florida Department of Transportation, University of South Florida, 2009
37. Lu, J.J., and **Wang, Z.**, *Roadway Data Representation and Application Development*, Research Report to the Florida Department of Transportation, University of South Florida, 2009
38. Lu, J.J., **Wang, Z.**, Liu, P., and Wang, X. *Integrated Work Zone Safety Management System and Analysis Tool*, Research Report to the Florida Department of Transportation, Research Report to the Florida Department of Transportation, University of South Florida, 2008
39. Wang, Q., Lu, J.J., and **Wang, Z.** *Identification of Contributing Factors for Work Zone Crashes*, Final Research Report to US DOT UTRC Southeastern Transportation Center, Department of Civil and Environmental Engineering, University of South Florida, December 2008
40. Lu, J.J. and **Wang, Z.** *Development of a Procedure for Prioritizing Intersections for Improvements Considering Safety and Operational Factors*, Research Report to the Florida Department of Transportation, Department of Civil and Environmental Engineering, University of South Florida, December 2005

TEACHING EXPERIENCE

- | | |
|-------------|--|
| Spring 2022 | Instructor, “ Transportation Safety ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa |
| Spring 2021 | Instructor, “ Transportation Safety ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa |
| Spring 2020 | Instructor, “ Computer Application in Transportation Engineering ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa |
| Spring 2020 | Instructor, “ Transportation Safety ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa |
| Spring 2019 | Instructor, “ Transportation Safety ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa |
| Spring 2018 | Instructor, “ Transportation Safety ”, Graduate Level, Civil & Environmental |

	Engineering, University of South Florida, Tampa
Spring 2017	Instructor, “ Transportation Safety ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa
Fall 2014	Instructor, “ Traffic Flow Theory ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa
Summer 2014	Instructor, “ Transportation Engineering I ”, Undergraduate Level, Civil & Environmental Engineering, University of South Florida, Tampa
Spring 2014	Instructor, “ Transportation Safety ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa
Fall 2013	Instructor, “ Intelligent Transportation System ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa
Fall 2013	Instructor, “Intelligent Transportation System”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa
Fall 2011	Instructor, “ Geotechnical Laboratory ”, Undergraduate Level, Civil & Environmental Engineering, University of South Florida, Tampa
Summer 2011	Instructor, “ Data Management in Transportation Engineering ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa
Spring 2011	Instructor, “ Computer Application in Transportation Engineering ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa
Fall 2010	Instructor, “ Geotechnical Laboratory ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa
Spring 2010	Instructor, “ Access Management ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa
Summer 2009	Instructor, “ Data Management in Transportation Engineering ”, Graduate Level, Civil & Environmental Engineering, University of South Florida, Tampa

GRADUATE STUDENT COMMITTEES

Dongfang Zhao	University of South Florida, 2021	(Ph.D. Dissertation, Chair)
Ahmad Tazay	University of South Florida, 2016	(Ph.D. Dissertation)
Tatok Raharjo	University of South Florida, 2016	(Master’s Thesis)
Shengdi Chen	University of South Florida, 2013	(Ph.D. Dissertation)
Sujan Sikder	University of South Florida, 2013	(Ph.D. Dissertation)
Weiping Deng	University of South Florida, 2013	(Ph.D. Dissertation)
Bing Huang	University of South Florida, 2012	(Ph.D. Dissertation)
Linjun Lu	University of South Florida, 2009	(Ph.D. Dissertation)
Bing Cao	University of South Florida, 2009	(Ph.D. Dissertation)
Chauhan Arjun	University of South Florida, 2010	(Master’s Thesis)
Wang Qing	University of South Florida, 2009	(Master’s Thesis)

MEMBERSHIP

2018 –	Friend, TRB Visibility Standard Committee (AND40), TRB Highway/Rail Grade Crossings (AHB60), TRB Access Management (AHB 70)
--------	---

- 2018 – President, International Chinese Transportation Professional Association (ICTPA) Florida Chapter
- 2015 – 2017 Vice President, International Chinese Transportation Professional Association (ICTPA) Florida Chapter.
- 2016 Committee Member, The 11th Asia Pacific Transportation Development Conference and 29th ICTPA Annual Conference, May 27-29, 2016, in Hsinchu, Taiwan.
- 2014 Technical Committee Member, The 10th Asia Pacific Transportation Development Conference and 27th ICTPA Annual Conference, May 25-27, 2014, in Beijing, China.
- 2013 Technical Committee Member, The 26th ICTPA Annual Conference, May 24-26, 2013, in Tampa, USA.

INVITED REVIEWER FOR PEER-REVIEW JOURNALS

1. Accident Analysis & Prevention
2. Journal of Advanced Transportation
3. Advances in Transportation Studies
4. Journal of Highway and Transportation Research and Development
5. IATSS Research
6. Journal of Transportation Safety & Security
7. Safety Science
8. Scientia Iranica
9. Traffic Injury Prevention
10. Transportation Research Part C
11. Transportation Research Board Annual Meetings (2009 – 2016)
12. Journal of Southeast University
13. Journal of Traffic and Transportation Engineering
14. Journal of Chang'an University (Natural Science Edition)

TRANSPORTATION PROFESSIONAL APPLICATIONS DEVELOPED

Detect-and-Track (DNT) Tool (2020 – present)

- An AI tool to enhance safety before-after studies
- SOTA computer vision technologies to retrieve surrogate safety data from videos
- Implemented in FDOT District 7 projects
- <https://its.cutr.usf.edu/dnt>

Intelligence Lighting Analysis (LITA) Tool (2019 - present)

- *A web-based application that analysis high-resolution ALMS lighting data using AI/ML algorithms for nighttime safety management*
- *Visualize lighting data and nighttime crash risks in web-GIS maps*

- *Provide decision-making support to maintain or upgrade roadway lighting system*
- <http://its.cutr.usf.edu/lita>

Advanced Lighting Measurement System (ALMS) (2012 - present)

- *An automatic data surveillance system for collecting high-resolution lighting data for big-scale roadway networks*
- *Provide cost-effective solutions for data-driven nighttime safety management and analysis, especially for pedestrians*
- *Has been used to lighting data collection and safety analysis for 400+ center miles of roadway corridors in FDOT Districts 1 and 7*
- <http://its.cutr.usf.edu/alms/>

FDOT Alert Today and Alive Tomorrow Website (2013-2019)

- *The official website of the Comprehensive Pedestrian Safety Campaign supported by Safety Office, Florida Department of Transportation*
- <http://www.alerttodayflorida.com>

Florida Straight-Line Diagrammer (2009-2012)

- *A web-based application to generate Straight-Line Diagrams (SLDs) based on the roadway data dynamically retrieved from the Florida RCI database using a fully automatic and customized approach*
- *Implemented by Statistics Office, Florida Department of Transportation*

Florida SafetyAnalyst Data Convertor (2009)

- *A stand-alone application to prepare crash data for implementation of Highway Safety Manual and SafetyAnalyst in Florida*
- *Implemented by Safety Office, Florida Department of Transportation*

Florida Work Zone Crash Database (2007)

- *A web-based application to manage work zone related crash data and provide statistical analysis tool*
- *Implemented by Construction Office, Florida Department of Transportation*

Prioritization of Intersections for Safety and Operational Improvements (2005)

- *A decision support tool to optimize selection of intersection improvement projects considering both safety and operational factors*
- *Implemented by Traffic Engineering and Operations Office, Florida Department of Transportation*