LTRC Research (Section 19) Publications and Presentations FY 2023-2024

Publications

1. Gautreau, et al. Pavement Preservation Journal, Edge Drop off 19-1GT, Spring 2024, https://www.pavementpreservationjournal-digital.com/fppq/0124_spring_2024/MobilePagedArticle.action?articleId=1961002#articleId1961002
2. Gautreau et al. Technology Today, Researchers Explore Solutions to Roadway Edge Drop-offs, Volume 36, Issue 3, https://www.ltrc.lsu.edu/pdf/2023/TechToday_vol36issue3_online.pdf
3. Shoaib, M., and Abu-Farsakh, M., 2024 "Developing Tree-Based Machine Learning Models for Estimating the Pile Setup Parameter for Clay Soils." Journal of Transportation Research Record (doi.org/10.1177/03611981241236180).
4. Abu-Farsakh, M., and Shoaib, M., 2024 "Estimating the Ultimate Capacity of Piles Using Machine Learning Models Based on CPT Data." Proceedings of the International Foundation Conference and Equipment Expo (IFCEE) 2024 conference, Dallas, Texas.
5. Izadifar, M., Abu-Farsakh, M., and Chen, S., 2024 "A Case Study on Instrumenting and Monitoring Geosynthetic-Reinforced Pile-Supported MSE Wall Built over Soft Soil." Journal of Transportation Research Record (doi.org/10.1177/03611981231224738).
6. Shoaib, M., and Abu-Farsakh, M., 2024 "Exploring Tree-Based Machine Learning Models to Estimate the Ultimate Pile Capacity from Cone Penetration Test Data." Journal of Transportation Research Record (doi.org/10.1177/03611981231170128).
7. Abu-Farsakh, M., and Shoaib, M., 2024 "Machine Learning Models to Evaluate the Load-Settlement Behavior of Piles from Cone Penetration Test Data," Geotechical and Geological Engineering Journal, Vol. 42, No. 5 (doi.org/0.1007/s10706-023-02737-6).
8. Khasib, I., and Abu-Farsakh, M., 2024 "Assessment of Axial Resistance of Piles Considering Consolidation Setup and Aging Setup Using Direct Pile-CPT Methods." Journal of Transportation Research Record (doi.org/10.1177/03611981241236789).
9. Haque, Md. N., and Abu-Farsakh, M., 2024 "Evaluation of Design Parameters (α and β) for Analysis and Design of Piles on Soft Clays." Journal of Transportation Research Record (doi.org/10.1177/03611981241236484).

10. Rousti, F., Abu-Farsakh, M., 2024 “An Elastoplastic Model to Simulate Pile Installation and Setup in Clay Soils,” Geotechical and Geological Engineering Journal, Vol. pp. 3027–3041.
11. Abu-Farsakh1, M., Rahman, Md H., and Jafari, N. 2024 “Assessment of Different Spatial Interpolation Techniques for Generating Synthetic Soil Boring Data.” Journal of Transportation Research Record, Vo. 2678, No. 6, pp. 1020-1035. (doi.org/10.1177/03611981231203230).
12. Chaabani, W., Ramadna, M., and Abu-Farsakh, M., 2023 “Numerical Modeling of the Effect of a Weak Zone on the Bearing Capacity of Strip Footings,” Geotechnical and Geological Engineering Journal, Vol. 41.
13. Abu-Farsakh, M., and Idries, A., 2023 “Evaluate the Impact of Heating and cooling on the Interface Shear Strength between Clay and Concrete Surface.” Proceedings of the fifth International Conference on Advanced Technology for Humanity (ICATH) 2023, Rabat, Morocco.
14. Bian, R., T. Tolford, and M. Rana Bhat. Developing a Statewide Active Transportation Planning Dashboard with Mobility Data. Transportation Planning and Technology, Vol. XX, No. XX, April. 2024, pp. XX–XX. (https://doi.org/10.1080/03081060.2024.2343901)
15. Bian, R., P. Murray-Tuite, J. Trainor, P. Edara, and K. Triantis. Sequentially Modeling Household Accommodation, Destination, and Departure Time Choices. International Journal of Mass Emergencies and Disasters, Vol. 41, No. 2-3, November. 2023, pp. 223–240. (https://doi.org/10.1177/02807270231211834)
16. Bian, R., K. Smiley, S. Parr, J. Shen, and P. Murray-Tuite. Analyzing Gas Station Visits during Hurricane Ida: Implications for Future Fuel Supply. Transportation Research Record: Journal of the Transportation Research Board, Vol. 2678, No. 4, August. 2023, pp. 1–13. (https://doi.org/10.1177/03611981231186600)
17. Bian, R., T. Tolford, S. Liu, and S. Gangireddy. Lessons Learned from Evaluating Complete Streets Project Outcomes with Emerging Data Sources. Transportation Planning and Technology, Vol. 46, No. 6, May. 2023, pp. 754–772. (http://doi.org/10.1080/03081060.2023.2214136) (Note: this is not reported in the last year.)
18. Tolford, T. and R. Bian. Complete Streets Policy in Louisiana: Insights from a Decade of State DOT Implementation. Case Studies on Transport Policy, Vol. 12, June. 2023, pp. 1–8. (https://doi.org/10.1016/j.cstp.2023.101012)
19. Gangireddy, S., R. Bian, T. Tolford, and H. Hasan. (2024) Project-Based Crash Analysis for Crash Risk Reduction during Pavement Preservation. ASCE Conference Proceedings of the 2024 International Conference on

Transportation & Development (ICTD) (https://ascelibrary.org/doi/abs/10.1061/9780784485514.012)
20. Hossain, A., X. Sun, A. Rahman, and S. Khanal. Safety evaluation of centerline rumble strips on rural two-lane undivided highways: Application of intervention time series analysis," IATSS Research, vol. 47, no. 2, pp. 286–298, Jul. 2023, (https://doi.org/10.1016/j.iatssr.2023.05.001)
21. Hossain. A., X. Sun, S. Islam, A. Rahman, and S. Das, Single-vehicle roadway departure crashes at rural two-lane highway curved segments: A diagnosis using pattern recognition. International Journal of Transportation Science and Technology, p. S2046043023000801, Oct. 2023. (https://10.1016/j.ijtst.2023.10.005)
22. Rahman, A. S. Das, J. Codjoe, E. Mitran, X. Sun, K. Abedi, M. M. Hossain. Applying Data Mining Methods to Explore Animal-Vehicle Crashes. Transportation Research Record: Journal of the Transportation Research Board, vol. 2677, no. 11, pp. 665–681, Nov. 2023. (https://doi.org/10.1177/03611981231166688)
23. Das, S., R. Tamakloe, H. Zubaidi, I. Obaid, and A. Rahman. Bicyclist injury severity classification using a random parameter logit model. International Journal of Transportation Science and Technology, vol. 12, no. 4, pp. 1093–1108, Dec. 2023. (https://doi.org/10.1016/j.ijtst.2023.02.001)
24. Hossain, M. M. and A. Rahman. Understanding the potential key risk factors associated with teen driver crashes in the United States: a literature review. d, vol. 2, no. 4, pp. 268–277, 2023, (https://doi.org/10.48130/DTS-2023-0022)
25. Ahmed, S. T., A. Rahman, E. Mitran, X. Sun, and Z. S. Shorna, Investigating safety and cost-effectiveness of cable median barriers in Louisiana. Traffic Injury Prevention, vol. 25, no. 3, pp. 544–552, Apr. 2024. (https://doi.org/10.1080/15389588.2024.2314596)
26. Das, S., A. Hossain, M. A. Rahman, A. Sheykhfard, and B. Kutela. Case Study on the Traffic Collision Patterns of E-Scooter Riders. Transportation Research Record: Journal of the Transportation Research Board, vol. 2678, no. 4, pp. 575–589, Apr. 2024. (https://doi.org/10.1177/03611981231185770)
27. Hossain, A., X. Sun, S. Das, M. Jafari, and A. Rahman. Investigating pedestrian-vehicle crashes on interstate highways: Applying random parameter binary logit model with heterogeneity in means. Accident Analysis & Prevention, vol. 199, p. 107503, May 2024. (https://doi.org/10.1016/j.aap.2024.107503)
28. Rahman, A., S. Das, A. Hossain, J. Codjoe, E. Mitran, and X. Sun, Exploring Attribute Associations in Pedestrian-Involved Hit-and-Run Crashes through

Cluster Correspondence Analysis, Transportation Research Record, May 2024. (https://doi.org/10.1177/03611981241242751) .
29. Rahman, A., E. Mitran, J. Codjoe, and K. K. Ampofo-Twumasi. Investigating the contributing factors of crashes on interstate bridges in Louisiana using latent class clustering and association rule mining. International Journal of Transportation Science and Technology, May 2024. (https://doi.org/10.1016/j.ijtst.2024.04.011)
30. Khadka, N. and Hassan, H. Exploring the Effects of Connected and Autonomous Vehicles on Traffic Safety and Operation at Full-Cloverleaf Interchanges, Journal of Transportation Safety and Security, In press (accepted June 2024).
31. KC, A., & Hassan, H.(under review). Exploring countermeasures for improving pedestrian safety on high-speed arterials: Nationwide survey among DOTs professionals. Journal of Transportation Engineering, Part A: Systems.
32. Hossain, A., Sun, X., Das, S., Jafari, M., & Codjoe, J. (2024). Investigating older driver crashes on high-speed roadway segments: a hybrid approach with extreme gradient boosting and random parameter model. Transportmetrica A: Transport Science, 1-35.
33. Abedi, K., Codjoe, J., Thapa, R., & Gopu, V. (2023). Making Data-Driven Transportation Decisions for Freight Operations. Journal of Transportation Technologies, 13(3), 411-442.
34. Hossain, A., Sun, X., Zafri, N. M., & Codjoe, J. (2023). Investigating pedestrian crash patterns at high-speed intersection and road segments: Findings from the unsupervised learning algorithm. International Journal of Transportation Science and Technology. ISSN 2046-0430, https://doi.org/10.1016/j.ijtst.2023.04.007.
35. Abedi, K., Codjoe, J., Thapa, R., & Gopu, V. (2023). Making Data-Driven Transportation Decisions for Freight Operations. Journal of Transportation Technologies, 13(3), 411-442.
36. Abedi, K., J. Codjoe, & R. Thapa (2023). A Nationwide Evaluation of the State of Practice of Performance Measurements for Intelligent Transportation Systems, Journal of Transportation Technologies, 13, 222-242.
37. Yeboah, Yeboah, A. S., Codjoe, J., & Thapa, R. (2023). Estimating average daily traffic on low-volume roadways in Louisiana. Journal of the Transportation Research Board Vol. 2677(1) 1732-1740.
38. Chen, Q., Tao, M., Mallick R.B., and Zhang, Z. (2024). A Holistic and Practical Approach for Assessing Flood Risks of Low Volume Asphalt Roads. Transportation Research Record. (In Production).

39. Elnaml, I., Liu, J., Mohammad, L., Dylla, H., Wasiuddin, N., Cooper III, S., & Cooper Jr, S. (2024). Recycling waste plastics in asphalt mixture: Engineering performance and environmental assessment. Journal of Cleaner Production, 453, 142180.
40. Ma, Y., Liu, J., Mohammad, L. N., Cooper III, S. B., Cooper Jr, S. B., & Duvvuru, M. K. R. (2024). Use of Random Forest to Predict Intermediate Temperature SCB Jc Parameter of Long-Term Aged Asphalt Mixtures. Transportation Research Record, 2678(3), 177-189.
41. Elnaml, I., Mohammad, L. N., Baumgardner, G. L., Liu, J., Cooper III, S., & Cooper Jr, S. (2024). Influence of Petroleum-Based and Bio-Derived Recycling Agents on High-RAP Asphalt Mixtures Performance. Buildings, 14(3), 567.
42. Elnaml, I., Liu, J., Mohammad, L. N., Cooper III, S. B., & Cooper Jr, S. B. (2024). Use of the Iron Chloride Type of Lewis Acid Catalyst in High Reclaimed Asphalt Pavement Content Asphalt Mixtures. Transportation Research Record, 2678(2), 430-440.
43. Elnaml, I., Dylla, H., Liu, J., Mohammad, L. N., Cooper III, S. B., & Cooper Jr, S. B. (2023). Incorporating environmental impact analysis into Louisiana's balanced asphalt mixture design. Transportation Research Record, 03611981231214231.
44. Abualia, A., Liu, J., Mohammad, L. N., Cooper III, S. B., Cooper Jr, S. B. (2024) Effect of High Polymer, Crumb Rubber, and Epoxy Modified Asphalt Binders on Laboratory Performance of OGFC Mixtures. Transportation Research Record. (Accepted).
45. Vlachakis, C., Su, Y.F., Wang, X., and Al-Tabbaa, T. "Mechanics-Perspective Evaluation of Self-Sensing Geopolymer Coatings in Structural Health Monitoring." Developments in the Built Environment, Vol. 18, April 2024. https://doi.org/10.1016/j.dibe.2024.100387
46. Elnaml, I., Heather, D., Liu, J., Mohammad, L. N., Cooper, III, S., and Cooper, Jr, S., "Incorporating Environmental Impact Analysis into Louisiana's Balanced Asphalt Mixture Design." The National Academies of Science, Engineering, and Medicine. Transportation Research Record, Journal of the Transportation Research Record, 2023, pp. 1-13.
47. Elnaml, I., Liu, J., Mohammad, L. N., Wasiuddin, N., Cooper, III, S., and Cooper, Jr, S., "Developing Sustainable Asphalt Mixtures Using High-Density Polyethylene Plastic Waste Material." Sustainability 15, No. 13: 9897, 2023, pp 1-15.
48. Ma, Y., Liu, J., Mohammad, L. N., Cooper, III, S., Cooper, Jr, S., and Duvvuru, M., "Use of Random Forest to Predict Intermediate Temperature SCB Jc Parameter of Long-Term Aged Asphalt Mixtures." The National Academies

of Science, Engineering, and Medicine. Transportation Research Record, Journal of the Transportation Research Record, 2023, pp. 1-13.
49. Subedi, S., Hassan, M., Arce, G., Barbato, M., Noorvand, H., and Mohammad, L. N., “Properties of Engineered Cementitious Composites Using Combined Systems of Fly Ash and Post-Processed Bagasse Ash as Supplementary Cementitious Materials.” The National Academies of Science, Engineering, and Medicine. Transportation Research Record, Journal of the Transportation Research Record, 2023, pp. 1-18.
50. Wang, H., Zhu, Y., Zhang, W., Shen, S., Wu, S., Mohammad, L. N., and She, X., “Effects of Field Aging on Material Properties and Rutting Performance of Asphalt Pavement.” Materials, Volume 16, Issue 1, 2023, pp. 1-14.
51. Shirzad, S., Idris, I., Hassan, M., and Mohammad, L. N. “Self-Healing Capability and Mechanical Properties of Asphalt Mixtures Prepared with Light-Activated Polyurethane Prepolymer Modified Asphalt Binder.” The National Academies of Science, Engineering, and Medicine. Transportation Research Record, Journal of the Transportation Research Record, 2023, pp. 1-19
52. Hungria, R., Arce, G., Hassan, M., Mohammad, L. N., Mahdi, M., and Rupnow, T., “Interface bond strength of engineered cementitious composites (ECC) in pavement applications.” International Journal of Pavement Research and Technology, Volume 17, 2024, pp. 952-966.
53. Arafat, S., Wasiuddin, N., Mohammad, L. N., Evaluation of Bio-based and Petroleum-Based Rejuvenator Based on Cracking Susceptibility of Hot Mix Asphalt with High RAP Content. Construction and Building Materials, Vol. 371, 2023, pp. 1-16
54. Akentuna, M., Jun, L., Mohammad, L. N., Sachdeva, S., Cooper III, S., and Cooper Jr, S., “Moisture Susceptibility of Asphalt Mixtures: Conditioning and Testing Protocols.” The National Academies of Science, Engineering, and Medicine. Transportation Research Record, Journal of the Transportation Research Record, 2023, pp. 1-11.
55. Zhang, W., Ahmad, K., Tong, Z., Hu, Z., Wang, H., Wu, M., Zhao, K., Yang, S., Farooq, H., and Mohammad, L. N., “In-time Density Monitoring of In-place Asphalt Layer Construction via Intelligent Compaction Technology." ASCE Journal of Materials in Civil Engineering, Vol. 35(1), 2023, pp. 04022386: 1-8.
56. Okeil, A. M. and Canales, M.T. (2024) “Field Monitoring of Bridge Link Slab Performance Under Long-term and Live Load Effects,” 12th International Conference on Bridge Maintenance, Safety and Management (IABMAS 2024), June 24 – 28, 2024, Copenhagen, Denmark. Jensen, Frangopol, & Schmidt (Eds.). (2024). Bridge Maintenance, Safety, Management,

Digitalization and Sustainability. CRC Press. https://doi.org/10.1201/9781003483755
57. Okeil, A. M. and Ghimire, S. (2024) “Reliability Analysis of End Cracking in Continuous Prestressed Concrete Girders,” 12th International Conference on Bridge Maintenance, Safety and Management (IABMAS 2024), June 24 – 28, 2024, Copenhagen, Denmark. Jensen, Frangopol, & Schmidt (Eds.). (2024). Bridge Maintenance, Safety, Management, Digitalization and Sustainability. CRC Press. https://doi.org/10.1201/9781003483755
58. Canales, M.T. and Okeil, A. M. (2024) “Numerical Modeling of Bridge Continuity Joints Under Temperature Gradient Induced Moments: Full vs. Partial Continuity,” 103rd Annual Meeting of the Transportation Research Board, January 7 – 11, 2024, Washington, D.C.
59. Mahdi, M., Wu, Z., Liu, Y. (2023). “Investigation of In Situ Thermal Properties and Early-Age Pavement Behavior in the Design and Performance Evaluation of Roller Compacted Concrete in Louisiana,” Transportation Research Record: Journal of the Transportation Research Board, No. 2677 (10), 508–518.
60. Chowdhury A., Nourian P., Wasiuddin N., Peters A., Investigation of Polymer-Asphalt Compatibility Using Molecular Dynamics Simulation (2024), 128 (19), pp. 4821 – 4829. DOI: 10.1021/acs.jpcb.4c00672
61. Islam M.R., Salomon D., Wasiuddin N.M., Investigation of oxidative aging of field-extracted asphalt binders at various conditions using carbonyl index. (2024), 415, art. no. 134969 DOI: 10.1016/j.conbuildmat.2024.134969

Presentations

1. G. Gautreau, X. Peng: Digital Integration of AASHTO Updates for Enhanced Engineering Decisions and Project Deliveries Southwest Geotechnical Engineering Conference (SWGEC), Albuquerque, NM, May 2024, https://kutc.ku.edu/2024SWGECPresentations
2. J. Rauser, G. Gautreau, M. Nobahar, T. Rupnow: Forensic Investigation of a Cracked Highway Embankment Pavement in Louisiana: A Case Study, 2024 TRB Annual Meeting, Session Presentation, TRBAM-24-05533
3. G. Gautreau, N. Ferguson, M. Nobahar: Evaluation of Lightweight Aggregate (LWA) with the Dynamic Cone Penetrometer (DCP), 2024 TRB Annual Meeting, Poster Presentation, TRBAM-24-00124
4. G. Gautreau, Geotechnical Asset Management in Louisiana, 2024 TRB Annual Meeting, Committee Presentation, TRB AKG00(1) Committee Meeting
5. Abu-Farsakh, M., and Shoaib, M., 2024 “Estimating the Ultimate Capacity of Piles Using Machine Learning Models Based on CPT Data.” Presented at

the International Foundation Conference and Equipment Expo (IFCEE) 2024 conference, Dallas, Texas, May 7-10, 2024.

6. Abu-Farsakh, M. Y., Rauser, J. and Gautreau, G., 2024. “Update the “Louisiana Pile Design from Cone Penetration Test (LPD-CPT)” software.” Presented during the TRB AKG70 Committee meeting on Foundations of Bridges and other infrastructures, TRB 103rd Annual Meeting, Washington, D.C., January 6-11, 2024.
7. Abu-Farsakh, M. Y., and Shoaib, M. M., 2024. Exploring Tree-Based Machine Learning Models to Predict Load-Settlement Behavior of Piles from Cone Penetration Test Data, presented at the TRB 103rd Annual Meeting, Washington, D.C., January 6-11, 2024.
8. Abu-Farsakh, M. Y., Rahman M. H., Nobahar M., and Okeil, A., 2024. Implementing Site Variability into LRFD Design of Shallow Foundations on Cohesive Soils, presented at the TRB 103rd Annual Meeting, Washington, D.C., January 6-11, 2024.
9. Hossain, M. I., and Abu-Farsakh, M. Y., 2024. Develop Regression Models to Evaluate the Undrained Shear Strength of Clay soils from Cone Penetration Tests, presented at the TRB 103rd Annual Meeting, Washington, D.C., January 6-11, 2024.
10. Zadehmohamad, M., Abu-Farsakh, M. Y., and Voyiadjis, G., 2024. Development of Reduction Factors for Sublayers of MEPDG Rutting Equations in Geosynthetic Reinforced/Stabilized Pavements, presented at the TRB 103rd Annual Meeting, Washington, D.C., January 6-11, 2024.
11. Izadifar, M., Abu-Farsakh, M. Y., and Chen, S., 2024. A Case Study on Instrumenting and Monitoring Geosynthetic-Reinforced Pile-Supported MSE Wall Built over Soil, presented at the TRB 103rd Annual Meeting, Washington, D.C., January 6-11, 2024.
12. Haque, M. N., and Abu-Farsakh, M. Y., 2024. Evaluation of Design Parameters (α and β) for Analysis and Design of Piles on Soft Clays, presented at the TRB 103rd Annual Meeting, Washington, D.C., January 6-11, 2024.
13. Khasib, I., and Abu-Farsakh, M. Y., 2024. Assessment of Axial Resistance of Piles Considering Consolidation Setup and Aging Setup Using Direct Pile-CPT Methods, presented at the TRB 103rd Annual Meeting, Washington, D.C., January 6-11, 2024.
14. Abu-Farsakh, M., and Idries, A., 2023 “Evaluate the Impact of Heating and cooling on the Interface Shear Strength between Clay and Concrete Surface.” Presented at the fifth International Conference on Advanced Technology for Humanity (ICATH) 2023, Rabat, Morocco, December 25-26, 2023.

15. Bian, R., T. Tolford, and M. Rana Bhat*. Developing a Statewide Active Transportation Planning Dashboard with Mobility Data. American Society of Civil Engineers (ASCE) – International Conference on Transportation & Development (ICTD), Atlanta, Georgia, U.S. June 17, 2024
16. Bian, R. Analyze Crashes during Extreme Weather: Introducing the CREW Dashboard Developed for Louisiana. 6-Minute Showcase Lectern: Sustainability, Resilience, and Society. Transportation Research Board 103rd Annual Meeting, Washington, D.C., U.S. January 8, 2024
17. Bian, R. Thinking on the Wheels: Promoting Active Transportation in a Car-Dependent Culture. The 26th Chinese Overseas Transportation Association (COTA) TRB Winter Symposium, Washington, D.C., U.S. January 7, 2024 (Invited Presentation)
18. Bian, R., T. Tolford., and M. Rana Bhat*. Analyzing Human Mobility for Active Transportation Planning in Louisiana. Deep South Institute of Transportation Engineers (DSITE), Lafayette, Louisiana. U.S. October 5, 2023
19. Bian, R. Analyze Crashes during Extreme Weather: Introducing the CREW Dashboard Developed for Louisiana. the 86th Annual Educational Conference & Exhibition (AEC 2023), National Environmental Health Association (NEHA), New Orleans, Louisiana. U.S. August 1, 2023
20. Bian, R. Analyze Crashes during Extreme Weather: Introducing the CREW Dashboard Developed for Louisiana. TRB Resilience Section (AMR000) Midyear Meeting: 6-Minute Showcase, (Online). July 20, 2023.
21. Rahman, A. Understanding Drowsy Driving Crash Patterns in Louisiana. Southeast Symposium on Contemporary Engineering Topics/Arkansas Engineering Forum Meeting. Little Rock, Arkansas. September 15, 2023.
22. Moomen, M. Updating and Implementing the Grade Severity Rating System for Mountain Passes. Southeast Symposium on Contemporary Engineering Topics/Arkansas Engineering Forum Meeting. Little Rock, Arkansas. September 15, 2023.
23. Rahman, A. Understanding Drowsy Driving Crash Patterns in Louisiana. Deep South ITE Fall Meeting. Lafayette, Louisiana. October 6, 2023.
24. Moomen, M. Updating and Implementing the Grade Severity Rating System for Mountain Passes. Deep South ITE Fall Meeting. Lafayette, Louisiana. October 6, 2023.
25. Moomen, M. Autonomous Vehicles – Promise, Challenges and Rethinking Deployment Strategies. Gulf Region ITS Spring Meeting. Baton Rouge, Louisiana. March 19th 2024.
26. Das, S., V. Vierkant, and A. Rahman. A Comprehensive Analysis of Fatal Crashes Involving Child Restraints. Transportation Research Board 103rd Annual Meeting, Washington, D.C., U.S. January 8, 2024.

27. Elisabeta Mitran. Safety Effectiveness of Cable Median Barriers in Louisiana. 2nd International Conference and Peer Exchange on Roadside Safety, Orlando, FL, June 23-26, 2024
28. Gangireddy, S., R. Bian, T. Tolford, and H. Hasan. (2024) Project-Based Crash Analysis for Crash Risk Reduction during Pavement Preservation. American Society of Civil Engineers (ASCE) – International Conference on Transportation & Development (ICTD), Atlanta, Georgia, U.S. June 16, 2024
29. Bian, R. Leveraging the Power of Location Based Service Data in Understanding Human Mobility during Disasters. National Academies of Sciences, Engineering, and Medicine (NASEM) The First Connections to Sustain Science in Latin America Symposium, Barranquilla, Colombia. February 29, 2024
30. Bian, R. Analyze Crashes during Extreme Weather for Public Sharing. Rise and Shine Poster Session. The 2024 Gulf of Mexico Conference (GOMCON), Tampa, Florida, U.S. February 21, 2024
31. M. Blouin, M. Domingue, and R. Bian. Analyze Crashes during Extreme Weather: Showcasing Work of Undergraduate Students. 6-Minute Showcase Poster: Sustainability, Resilience, and Society. Transportation Research Board 103rd Annual Meeting, Washington, D.C., U.S. January 8, 2024
32. Monshizadegan, A., R. Bian, P. Stopher, and H. Hassan. Impacts of Large-Scale Transportation Infrastructure Investments on Communities. Transportation Research Board 103rd Annual Meeting, Washington, D.C., U.S. January 8, 2024
33. Rana Bhat, M., R. Bian, T. Tolford, and H. Hassan. Understanding Social Impacts of Major Disruptions from the Perspective of Destination Access. Transportation Research Board 103rd Annual Meeting, Washington, D.C., U.S. January 9, 2024
34. Appiah, D., Moomen, M., Rahman, A., and Codjoe, J. Evaluating the Safety Effectiveness of Control of Access Fencing Using a Propensity Scores Framework. Transportation Research Board 103rd Annual Meeting – January 2024. Presented in Poster Session 2036. Washington DC.
35. Rahman, A., Moomen, M., Gopu, V., and Codjoe, J. Investigating Key Factors of Large Truck Rollover Crashes on Interstates: A Study Using the Random-Parameter Binary Probit Model. Transportation Research Board 103rd Annual Meeting – January 2024. Presented in Poster Session 2037. Washington DC.
36. Khan, W., Moomen, M., Rahman, A., Khan, A., and Codjoe, J. “Development of Incident Duration Prediction Models and Analyzing Factors Impacting Crash-Related Incident Clearance Time on Louisiana’s Urban Interstates.

Presented in poster session at the ASCE International Conference on Transportation and Development, June 2024. Atlanta, Georgia.

37. Hossain, A., X. Sun, S. Das, M. Jafari, and A. Rahman. Investigating Pedestrian-Vehicle Crashes on Interstate Highways: Applying Random Parameter Logit Model. Transportation Research Board 103rd Annual Meeting – January 2024. Presented in Poster Session 4070. Washington DC.
38. Rahman, Ashifur; Hossain, Ahmed; Mitran, Elisabeta; Codjoe, Julius; Das, Subasish; and Sun, Xiaoduan; "Exploring the context of roadway geometry and operational characteristics in severe pedestrian crashes: Application of association rule mining", Transportation Research Board 103rd Annual Meeting – January 2024. Presented in Poster Session 4070. Washington DC.
39. S. Das, A. Hossain, A. Rahman, and X. Sun. Exploring Factors Contributing to Frontage Roadway Crashes Using a Probabilistic Graphical Model. Transportation Research Board 103rd Annual Meeting – January 2024. Presented in Poster Session 4070. Washington DC.
40. S. Das, and A. Rahman. Examining Encroachment-Related Work Zone Crash Contributing Factors Using Probabilistic Graphical Method. Transportation Research Board 103rd Annual Meeting – January 2024. Presented in Poster Session 2096. Washington DC.
41. Khadka, N. & Hassan, H. Analyzing the Impacts of Connected and Autonomous Vehicles on Traffic Operation and Safety at Cloverleaf Interchange, 103rd Annual Meeting of Transportation Research Board (TRB), Washington Convention Center, Washington DC, Jan. 09, 2024.
42. KC, A., & Hassan, H. Exploring countermeasures for improving pedestrian safety on high-speed arterials. Presented at the 12th Annual Graduate Student Research Conference, Louisiana State University, April 19, 2024.
43. Khadka, N. & Hassan, H. Analyzing the Impacts of Connected and Autonomous Vehicles on Traffic Operation and Safety at Cloverleaf Interchanges. Presented at the 12th Annual Graduate Student Research Conference, Louisiana State University, April 19, 2024.
44. Chen, Q., and Zhang, Z. (2024). Feasibility Study on Use of Drone-Based Infrared Thermography for Soil Moisture Detection in Highway Embankment and Dam Inspection. 2024 TRB Annual Meeting (lectern)
45. Chen, Q., Tao, M., Mallick R.B., and Zhang, Z. (2024). A Holistic and Practical Approach for Assessing Flood Risks of Low Volume Roads. 2024 TRB Annual Meeting (lectern)
46. Akentuna, M., Chen, Q. Zhang, Z., and Rupnow, T. (2024). Non-Destructive Techniques for Evaluating Pavements with Unusual Surface Distresses: Two Case Studies in Louisiana. 2024 TRB Annual Meeting (lectern)

47. Elnaml, I., Liu, J., Mohammad, L. N., Cooper III, S. B., & Cooper Jr, S. B. (2004). Use of the Iron Chloride Type of Lewis Acid Catalyst in High Reclaimed Asphalt Pavement Content Asphalt Mixtures. 2024 TRB Annual Meeting. (poster)
48. Abualia, A., Liu, J., Mohammad, L. N., Cooper III, S. B., Cooper Jr, S. B. (2004). Effect of High Polymer, Crumb Rubber, and Epoxy Modified Asphalt Binders on Laboratory Performance of OGFC Mixtures. 2024 TRB Annual Meeting. (poster)
49. Rupnow, Tyson. "Bentley / LTRC Grant." Presented to the LTRC Foundation, Baton Rouge, LA, July 9, 2024.
50. Rupnow, Tyson and Liu, Zhen. "Investigation of Piezoelectric and Other Advanced Sensors in Concrete." Presented to the Project Review Committee and Louisiana Concrete Association's Summer Convention. June 12-15, 2024, Destin, FL.
51. Rupnow, Tyson. "Return on Investment - Performance." Presented at the 2023 AASHTO RAC Meeting, Chattanooga, TN, July 24-27, 2023.
52. Rupnow, Tyson. "Southeast Transportation Consortium Peer Exchanges." Presented at the 2023 AASHTO RAC Meeting, Chattanooga, TN, July 24-27, 2023.
53. Rupnow, Tyson and Liu, Zhen. "Investigation of Piezoelectric and Other Advanced Sensors in Concrete." Presented to the Project Review Committee and Louisiana Concrete Association's Summer Convention. June 12-15, 2024, Destin, FL.
54. Y.-F. Su and K. Taj. "Development of 3D Printable Self-Sensing Concrete for Smart Precast Structural Component", ASCE EMI 2024, Chicago, IL, USA, 2024.
55. Y.-F. Su, C. Vlachakis, S. Rengaraju, X. Wang, G. Milone, J. Morse, K. Taj, A. Al-Tabbaa "Feasibility of Leveraging Data-driven Approach on Materials Design Exploration for Self-Sensing Cementitious Composites", ACI Convention, New Orleans, LA, USA, 2024.
56. K. Taj, Y.-F. Su, "Additive Manufacturing of Intelligent Concrete Columns with Embedded Self-Sensing" ACI Convention, New Orleans, LA, USA, 2024.
57. Mohammad, L. N., "Rational Approach for Durable and Sustainable Asphalt Mixtures: Design, Production, and In-service." Presented at the Iraqi Professional Engineering Board meeting, May 11, 2024, Mustansiriyah University, Baghdad, Iraq (Invited Presentation).
58. Mohammad, L. N., "Asphalt Pavement: Environmental Stewardship vs. Sustainable Engineering." Presented at the 2nd International Conference of

Engineering Sciences, May 7-8, 2024, Mustansiriyah University, Baghdad, Iraq (Keynote Presentation).

59. Mohammad, L. N., "Louisiana's Asphalt Sustainability Program." Presented at the FHWA Climate Challenge – Training with Department of Transportation and Development, April 22-23, 2024, Baton Rouge, Louisiana. (Invited Presentation).
60. Mohammad, L. N., "The Pursuit of Sustainable Asphalt Mixtures." Presented at the ASCE CI & CRC Joint Conference, March 20-23, 2024, Des Moines, Iowa. (Invited Presentation).
61. Mohammad, L. N., "Balancing Asphalt Mixtures Engineering Performance with Environmental Impacts." Presented at the Southeast Asphalt User Producer Group Annual Meeting, November 14 – 15, 2023, Little Rock, Arkansas. (Invited Presentation).
62. Mohammad, L. N., "Louisiana's Asphalt Sustainability Program." Presented at the FHWA Asphalt Pavement and Materials Technical Feedback Group Meeting, October 17-18, 2023, Reno, Nevada. (Invited Presentation).
63. Mohammad, L. N., "Environmental Impact Analysis into Louisiana's Balanced Asphalt Mixture Design: A case Study." Presented at the Louisiana Civil Engineering Conference and Show October 4-5, 2023, New Orleans, Louisiana. (Invited Presentation).
64. Mohammad, L. N., "Rational Approach for Durable and Sustainable Asphalt Mixtures: Design, Production, and In-service." Presented to Faculty and Graduate Students at the Department of Road Engineering, Tongji University, July 11, 2023. (Invited Presentation).
65. Mohammad, L. N., "Assessment of Environmental Impact of Recycled Materials within Balanced Asphalt Mixture Design Framework." Presented at the 13th International Conference on Road and Airfield Pavement Technology, July 6-8, 2023, Beijing, China. (Keynote Presentation).
66. Pant, S., Akentuna, M, Mohammad, L. N., Cooper, III, S., and Cooper, Jr., S., "Long-Term Performance of Flexible Pavements Containing Crumb Rubber Modified Asphalt in Louisiana." Presented at the 103rd Transportation Research Board Annual Meeting, January 7-11, 2024, Washington, D.C.
67. Game, D., Alvarado, A., Giwa, I., Noorvand, H., Hassan, M., and, Mohammad, L. N., "Sustainable High-Strength and Ultra-High Strength Engineered Cementitious Composites with Substitution of Fly Ash by Alternative Supplementary Cementitious Materials." Poster presentation at the 103rd Transportation Research Board Annual Meeting, January 7-11, 2024, Washington, D.C.
68. Elnaml, I., Liu, J., Mohammad, L. N., Baumgardner, G., Cooper, III, S., and Cooper, Jr., S., "The Influence of Petroleum-Based and Bio-Derived

Recycling Agents on Performance of High Reclaimed Asphalt Pavement Asphalt Mixtures." Presented at the 103rd Transportation Research Board Annual Meeting, January 7-11, 2024, Washington, D.C.

69. Anas Abualia, Liu, J., Mohammad, L. N., Baumgardner, G., Cooper, III, S., and Cooper, Jr., S., "Effect of High Polymer, Crumb Rubber, and Epoxy-Modified Asphalt Binders on Laboratory Performance of Open-Graded Friction Course Mixtures." Poster presentation at the 103rd Transportation Research Board Annual Meeting, January 7-11, 2024, Washington, D.C.
70. Pant, S., Akentuna, M, Mohammad, L. N., Cooper, III, S., and Cooper, Jr., S., "Field Validation of Louisiana's Specified Asphalt Balanced Mix Design Criteria." Poster presentation at the 103rd Transportation Research Board Annual Meeting, January 7-11, 2024, Washington, D.C.
71. Pant, S., Akentuna, M., Mohammad, L. N., and Cooper, Jr., S. "Field Evaluation of Crumb Rubber Modified Hot Mix Asphalt Pavement Sections in Louisiana. Presented at the 2023 AAPT Annual Meeting, September 25-28, 2023, San Diego, California.
72. Elnaml, I, Liu, J., Mohammad, L. N., Cooper, III, S., and Cooper, Jr., S. "Incorporating Environmental Impact Analysis into Louisiana's Balanced Asphalt Mixture Design." Presented at the 2023 AAPT Annual Meeting, September 25-28, 2023, San Diego, California.
73. Pant, S., Akentuna, M., Mohammad, L. N., and Cooper, Jr., S. "Field Evaluation of Crumb Rubber Modified Hot Mix Asphalt Pavement Sections in Louisiana. Presented at the 2023 AAPT Annual Meeting, September 25-28, 2023, San Diego, California.
74. Elnaml, I, Liu, J., Mohammad, L. N., Cooper, III, S., and Cooper, Jr., S. "Incorporating Environmental Impact Analysis into Louisiana's Balanced Asphalt Mixture Design." Presented at the 2023 AAPT Annual Meeting, September 25-28, 2023, San Diego, California.
75. Okeil, A. "Reliability Analysis of End Cracking in Continuous Prestressed Concrete Girders," (June 26, 2024) 12th International Conference on Bridge Maintenance, Safety and Management (IABMAS 2024), June 24 – 28, 2024. (with S. Ghimire)
76. Okeil, A. "Field Monitoring of Bridge Link Slab Performance Under Long-term and Live Load Effects," (June 25, 2024) 12th International Conference on Bridge Maintenance, Safety and Management (IABMAS 2024), June 24 – 28, 2024. (with M. Canales)
77. Okeil, A. "Numerical Modeling of Bridge Continuity Joints Under Temperature Gradient Induced Moments: Full vs. Partial Continuity," (January 9, 2024) 103rd Annual Meeting of the Transportation Research Board, January 7 – 11, 2024, Washington, D.C. (with M. Canales)

78. Okeil, A. “Revisiting Load Distribution Formula for Louisiana Reinforced Concrete Box Culverts Under Low Fill Depths,” (January 7, 2024) AASHTO Culvert Liaison Committee Meeting, January 7, 2024, Washington, D.C. (with N. Jafari)
79. Wu, Z. (2024). “Prediction of Network-Level Cracking Performance for Flexible and Rigid Pavements in Louisiana Using Neural Network Models”. Presented at 103th Transportation Research Board Annual Meeting, Washington, DC, January 7-11, 2024
80. Lu, H. and Wu, Z. (2024). “Prediction of Alligator Cracking Index for Asphalt Overlay Pavements in Louisiana Using Markov Chain Models”. Presented (Poster) at 103rd Transportation Research Board Annual Meeting, Washington, DC, January 7-11, 2024
81. Wu, Z. (2024). “Evaluation of Louisiana Maintenance and Rehabilitation Treatment Decision Matrix for Pavement Preservation” Presented at the 2024 Southeast Pavement Preservation Partnership (SEPPP) Annual Meeting held in Hot Springs, Arkansas, on March 19-21, 2024.
82. Chowdhury, A., P. Nourian, N. M. Wasiuddin, and A. Peters. 2023. “MD Simulation of Waste Plastic-Asphalt Compatibility.” Presented at the 2023 AIChE Annual Meeting. Orlando, FL: AIChE.
83. Peters, A., and N. M. Wasiuddin. 2024. “A Coarse-Grained Model for Asphalt Binder and Polymer Mixtures Based on the MARTINI Forcefield.” Presented at the 103rd Annual Meeting of the Transportation Research Board. Washington, DC: Transportation Research Board.
84. Selim, S., M. R. Islam, N. M. Wasiuddin, A. Peters. 2024. “A Thermodynamic Approach to Investigate Compatibility of HDPE, LDPE, and PP Modified Asphalt Binders Using a Novel Differential Scanning Calorimeter (DSC) Method.” Presented at the 103rd Annual Meeting of the Transportation Research Board. Washington, DC: Transportation Research Board.

Dissertations/theses

1. Zadehmohamad, M., 2024, *Development of Design Method for Geosynthetics Reinforced Flexible Pavements*. M.S. Thesis submitted to the Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, LA, 198 p.
2. Shoaib, M., 2023, *Exploring Machine Learning in Deep Foundation and Soil Classification Application*. Ph.D. Dissertation submitted to the Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, LA, 112 p.
3. Sirisha Gangireddy. Incorporating the Concept of Complete Streets into Pavement Preservation (Thesis; Fall 2023) (LTRC Project 21-2SS)

4. Armaghan Monshizadegan. Impacts of Large-Scale Transportation Infrastructure Investments on Louisiana Communities (Thesis; Spring 2024) (LTRC Project 19-5SS)
5. Manika Rana Bhat. Understanding Social Impacts of Major Disruptions from the Perspective of Destination Access (Thesis; Summer 2024) (LTRC Project 22-5SS)
6. Ibrahim Elnaml, Dissertation: “Assessment of Engineering Performance and Environmental Impacts of High Reclaimed Asphalt Pavement (RAP) Asphalt Mixtures in Flexible Pavements,” LTRC Projects No. 21-3B and 24-1B.
7. Mahesh Duvvuru, MS report: Assessing Moisture Damage Performance of Asphalt Mixtures Utilizing Different Additives and Conditioning Techniques,” LTRC Project No. 19-2B.
8. Shasank Pant, MS thesis: Improving Long-Term Flexible Pavement Performance in Louisiana: Effect of Balanced Asphalt Mixture Design Method and Construction Techniques,” LTRC Project 21-2B.
9. Sudhir Bharati, M.S. Thesis: Evaluation of DOTD’s Aggregate Sources Friction using Laboratory and Accelerated Testing. LTRC Project 20-4P.