CURRICULUM VITAE

Feng Hong, Ph.D., P.E.

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Ingram School of Engineering
Texas State University
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Current Position

Associate Professor of Practice, Texas State University

EDUCATION

Ph.D., Civil Engineering 2007
The University of Texas at Austin

TECHNICAL AREAS

- Transportation asset management: integrated management information system, deterioration modeling, life-cycle analysis, optimal management policy, asset management planning, infrastructure resilience
- Roadway infrastructure testing and evaluation: non-destructive testing, semi-automatic/automatic data collection, structural and functional performance evaluation
- Pavement design and analysis: empirical approach, mechanistic-empirical approach, rehabilitation design, reliability-based design
- Roadway materials: performance-based hot-mix asphalt, recycled asphalt pavement material, sustainability evaluation

HONORS AND AWARDS

- Journey Toward Excellence Award, for the implementation of the automated/semi-automated pavement data collection process, Texas Department of Transportation, Western Association of State Highway and Transportation Officials, 2019.
- Journey Toward Excellence Award, for the development and implementation of Pavement Analyst® pavement management system, Texas Department of Transportation, Western Association of State Highway and Transportation Officials, 2017.
- Outstanding Reviewer for Journal of Infrastructure Systems, American Society of Civil Engineers, 2012.
- Third Place Winner, Eighth ASCE-LTPP International Contest on LTPP Data Analysis for the paper entitled “development of transverse cracking initiation models in asphalt pavements by applying generalized linear models to long-term pavement performance data”, American Society of Civil Engineers and Federal Highway Administration, 2007.
- Robert Herman Endowed Scholarship, for the best transportation engineering doctoral student of the year, The University of Texas, 2007.

- Dwight David Eisenhower Graduate Transportation Fellowship, U.S. Department of Transportation, 2006.

WORK EXPERIENCE

- **Associate Professor of Practice** August 2022 – Present
  At Texas State University
- **Pavements Branch Manager (State Job Title Director II)** March 2020 – August2022
  At Texas Department of Transportation, Maintenance Division
- **Transportation Engineer & Lead Transportation Engineer** February 2014 – February 2020
  At Texas Department of Transportation, Maintenance Division
- **Pavement Specialist & Transportation Engineer** August 2007 – January 2014
  At Texas Department of Transportation, Construction Division
- **Postdoctoral Fellow** June 2007 – August 2007
  At The University of Texas at Austin, Center for Transportation Research
- **Research Assistant** August 2002 – May 2007
  At The University of Texas at Austin, Center for Transportation Research
- **Teaching Assistant** August 2005 – May 2006
  At The University of Texas at Austin
- **Research Staff** July 1999 – July 2001
  At Southeast University, Highway Research Institute, China

PUBLICATIONS

- **Theses**
  1. Ph.D. thesis: Modeling Heterogeneity in Transportation Infrastructure Deterioration: Application to Pavement. The University of Texas at Austin. 2007. Committee: Professors Jorge A. Prozzi, C. Michael Walton, Robert B. Gilbert, Samer M. Madanat (UC Berkeley), Yingyao Hu.
- **Refereed Journal Publications**
  1. Peng, L., L. Gao, F. Hong, and J. Sun. Evaluating Pavement Deterioration Rates Due to Flooding Events Using Explainable AI. *Buildings 2025*, 15(9), 2025.
  2. Li, R., J. A. Prozzi, and F. Hong. Quantification of Post-Rainfall Moisture Content in Unbound Layers Using LTPP Data. *Transportation Research Record: Journal of the Transportation Research Board*, accepted for publication, 2025.
  3. Xu, H., J. A. Prozzi, and F. Hong. Cost-effective Pavement Friction Management using Machine Learning. *Journal of Computing in Civil Engineering*, American Society of Civil Engineers, Vol. 39, No. 4, 2025.
  4. Hong, F. and J. Prozzi. Assessment of Flooding Impact on Thin Pavement Structure in Texas Coastal Region. *International Journal of Transportation Science and Technology*. In Press, 2024. https://doi.org/10.1016/j.ijtst.2024.07.001.
  5. Wang, F., X. Luo, J. Tao, F. Ajmain, H. Gong, and F. Hong. Enhancing Reliability in Automated Pavement Condition Data: A Data Quality Check Approach for Highway Agencies. *Transportation Research Record: Journal of the Transportation Research Board*, 2024. https://doi.org/10.1177/03611981241246247.

6. Hong, F., H. Wu, J. Li, and E. Paul. Evaluation of Flood-Vulnerable Pavement Network in Support of Resilience in Pavement System Management. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2677, No. 8, 2023 pp. 474–482.
7. Gao, L., F. Hong, and Y. Ren. Impact of Seasonal and Annual Weather Variations on Network-Level Pavement Performance. *Infrastructures*, Vol. 4. No.27, 2019.
8. Zuniga-Garcia, N., W. Martinez-Alonso, A. Smit, F. Hong, and J. A. Prozzi. Economic Analysis of Pavement Preservation Techniques. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2672, No. 12, 2018, pp. 10-19.
9. Hong, F. and J. A. Prozzi. Evaluation of Recycled Asphalt Pavement Using Economic, Environmental, and Energy Metrics Based on Long-Term Pavement Performance Sections. *Road Materials and Pavement Design*, Vol. 19, No. 8, 2018, pp. 1816-1831.
10. Hong, F. and D. Chen. Evaluation of Asphalt Overlay Permanent Deformation Based on Ground Penetrating Radar Technology. *Journal of Testing and Evaluation*, American Society for Testing and Materials, Vol. 44, No. 4, 2016, pp. 1716-1723.
11. Hong, F. and J. A. Prozzi. Using Count Data to Model Distress Initiation and Progression of Transportation Infrastructure. *Journal of Infrastructure Systems*, American Society of Civil Engineers, Vol. 21, No. 1, 2015.
12. Hong, F. and J. A. Prozzi. Pavement Deterioration Model incorporating Unobserved Heterogeneity for Optimal Life-Cycle Rehabilitation Policy. *Journal of Infrastructure Systems*, American Society of Civil Engineers, Vol. 21, No.1, 2015.
13. Chen, D. and F. Hong. Long-Term Performance of Diamond Grinding. *Journal of Performance of Constructed Facilities*, American Society for Civil Engineers, Vol. 29, No. 1, 2015.
14. Chen, D., F. Hong, W. Zhou, W. Ying. Estimating the Hot-mix Asphalt Air Voids from Ground Penetrating Radar. *NDT & E International*, Vol. 68, 2014, pp. 120-127.
15. Chen, D. and F. Hong. Bonded Continuously Reinforced Concrete Overlay on Jointed Concrete Pavement. *Canadian Journal of Civil Engineering*, Vol. 41, No. 5, 2014, pp. 432-439.
16. Hong, F. and R. Huang. Measurement and Characterization of Asphalt Pavement Surface Macrotexture Using 3D Laser Scanning Technology. *Journal of Testing and Evaluation*, American Society for Testing and Materials, Vol. 42, No. 4, 2014, pp. 881-890.
17. Hong, F., R. Guo, and F. Zhou. Impact of Recycled Asphalt Pavement Materials Variability on Pavement Performance. *Road Materials and Pavement Design*, Vol. 14, No. 4, 2014, pp. 841-855.
18. Hong, F. Asphalt Pavement Overlay Service Life Reliability Assessment Based on Non-Destructive Technologies. *Structure and Infrastructure Engineering*, Vol. 10, No. 6, 2014, pp.767-776.
19. Chen, D., T. Scullion, F. Hong, and J. Lee. Pavement Swelling and Heaving at State Highway 6. Journal of Performance of Constructed Facilities, American Society of Civil Engineers, Vol. 26, No. 3, 2012, pp. 335-344.
20. Chen, D., F. Hong, and J. Yuan. Effect of tie bars on the field performance of full-depth repair on concrete pavement. *Road Materials and Pavement Design*, Vol. 13, No. 1, 2012, pp. 12-25.
21. Chen, D., M. Won, and F. Hong. Dowel Bar Retrofit (DBR) performance in Texas. *Construction and Building Materials*, Vol. 25, No. 4, 2011, pp. 1762-1771.

22. Chen, D., F. Hong, and F. Zhou. Premature Cracking from the Cement Treated Base and the Treatment to Mitigate Its Effect. *Journal of Performance of Constructed Facilities*, American Society of Civil Engineers, Vol. 25, No. 2, 2011, pp. 113-120.
23. Chen, D., F., Hong, Z. Yao, and J. Bilyeu. Improving the performance of full-depth repairs by understanding the failure mechanisms. *KSCE Journal of Civil Engineering*, Vol. 15, No. 1, 2011, pp. 91-99.
24. Hong, F., D. Chen, and M. Mikhail. Long-term Performance Evaluation of Recycled Asphalt Pavement Results from Texas: Pavement Studies Category 5 Sections from the Long-Term Pavement Performance Program. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2180, 2010, pp. 58-66.
25. Hong, F. and J. A. Prozzi. Roughness Model Accounting for Heterogeneity Based on In-Service Pavement Performance Data. *Journal of Transportation Engineering*, American Society of Civil Engineers, Vol. 136, No. 3, 2010, pp. 205-213.
26. Prozzi, J. A. and F. Hong. Average Treatment Effect for Modeling Pavement Maintenance Work. *Journal of Infrastructure Systems*, American Society of Civil Engineers, Vol. 6, No. 2, 2010, pp. 122-128.
27. Hong, F. and D. Chen. Calibrating Mechanistic-Empirical Design Guide Permanent Deformation Models Based on Accelerated Pavement Testing. *Journal of Testing and Evaluation*, American Society for Testing and Materials, Vol. 37, No. 1, 2009, pp. 31-39.
28. Chen, D. and F. Hong. Field Verification of Pavement Smoothness Requirement for Weigh-in-Motion Approaches. *Journal of Testing and Evaluation*, American Society for Testing and Materials, Vol.37, No. 1, 2009, pp. 40-47.
29. Hong, F. and D. Chen. Effects of Surface Preparation, Thickness, and Material on Asphalt Pavement Overlay Transverse Crack Propagation. *Canadian Journal of Civil Engineering*. Vol. 36, No. 9, 2009, pp. 1411-1420.
30. Prozzi, J. A., F. Hong, and A. Leung. Effect of Traffic Load Measurement Bias on Pavement Life Prediction: A Mechanistic-Empirical Perspective. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2087, 2008, pp. 91-98.
31. Hong, F., J. A. Prozzi, and A. Leung. Sampling Schemes for Weigh-in-Motion Traffic Data Collection. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2049, 2008, pp. 38-44.
32. Prozzi, J. A. and F. Hong. Transportation Infrastructure Performance Modeling through Seemingly Unrelated Regression Systems. *Journal of Infrastructure Systems*, American Society of Civil Engineers, Vol. 14, No. 2, 2008, pp. 129-137.
33. Hong, F., J. Prozzi, and J. A. Prozzi, A New Approach for Allocating Highway Cost. *Journal of the Transportation Research Forum*, Vol. 46, No. 2, 2007, pp. 5-19.
34. Prozzi, J. A. and F. Hong. Optimum Statistical Characterization of Axle Load Spectra Based on Load-Associated Damage. *International Journal of Pavement Engineering*, Vol. 8, No. 4, 2007, pp. 323-330.
35. Prozzi, J. A. and F. Hong. Effect of Weigh-in-Motion System Measurement Errors on Load-Pavement Impact Estimation. *Journal of Transportation Engineering*, American Society of Civil Engineers, Vol. 133, No. 1, 2007, pp. 1-10.
36. Hong, F. and J. A. Prozzi. Estimation of Pavement Deterioration Using Bayesian Approach. *Journal of Infrastructure Systems*, American Society of Civil Engineers, Vol. 12, No. 2, 2006, pp. 77-86.

37. Prozzi, J. A. and F. Hong. Seasonal Time Series Models for Supporting Traffic Input Data for Mechanistic-Empirical Design Guide. *Transportation Research Record: Journal of the Transportation Research Board*, No. 1947, 2006, pp. 175-184.

- **Published Refereed Conference Proceeding Papers**

1. Mahajan, G., F. Hong, X. Luo, and F. Wang. Quantification and Prediction of Pavement Flushing Using Surveying, Texture, and Traffic Data. In *Proceedings of 105th Transportation Research Board Meeting*, Paper #26-02758, Washington, D. C., January 11-15, 2026.
2. Hong, F., and L. Gao. Rational Evaluation of Pavement Construction Quality and Determination of Placement Pay Adjustment Factors through Ground Penetrating Radar Technology. In *Proceedings of 105th Transportation Research Board Meeting*, Paper #26-03575, Washington, D. C., January 11-15, 2026.
3. Pawar. N., J. A. Prozzi, F. Hong, and S. Congress. Deep Learning Framework for Infrastructure Maintenance: Crack Detection and High-Resolution Imaging of Infrastructure Surfaces. In *Proceedings of* 104th *Transportation Research Board Meeting*, Paper #25-00742, Washington, D. C., January 5-9, 2025.
4. Hong, F., J. Li, and M. Mikhail. Effect of Financial Factors Uncertainty on the Network-Level Pavement Performance Prediction Reliability. *11th National Conference on Managing Pavement Assets*, Chicago, Illinois, June 2022.
5. Prasad, T., L. Gao, F. Hong, and Y. Zhang. Integrated Planning and Scheduling in Pavement Maintenance Management. In *Proceedings of 97th Transportation Research Board Meeting*, Paper #18-05662, Washington, D. C., January 7-11, 2018.
6. Hong, F., E. Perrone, M. Mikhail, and A. Eltahan. Planning Pavement Maintenance and Rehabilitation Projects in the New Pavement Management System in Texas. In *Proceedings of 96th Transportation Research Board Meeting*, Paper #17-02001, Washington, D. C., January 8-12, 2017.
7. Hong, F. and M. Mikhail. Survival Analysis of Rigid Pavement Expected and Remaining Service Life Based on Long-Term Pavement Performance Sections. In *Proceedings of 95th Transportation Research Board Meeting*, Paper #16-2367, Washington, D. C., January 10-14, 2016.
8. Hu, S., F., Zhou, T. Scullion, F. Hong, and D. Chen. Asphalt Overlay Reflective Cracking Survey and Prediction. In *Proceedings of 94th Transportation Research Board Meeting*, Paper #15-5268, Washington, D. C., January 11-15, 2015.
9. Aguiar, J., F. Hong, and J. A. Prozzi. Reclaimed Asphalt Pavement: Save Today, Pay Later? In *Proceedings of 90th Transportation Research Board Meeting*, Paper #11-1017, Washington, D. C., January 23-27, 2011.
10. Hong, F., V. I. Rosales-Herrera, and J. A. Prozzi. Development of Asphalt Pavement Transverse Crack Initiation Models Based on LTPP Data. In *Proceedings of 87th Transportation Research Board Meeting*, Paper #08-1121, Washington, D. C., January 13-17, 2008.
11. Aguiar, J., F. Hong, and J. A. Prozzi. The Use of Texas LTPP Database to Support Validation and Calibration of the MEPDG. In *Proceedings of 87th Transportation Research Board Meeting*, Paper #08-2148, Washington, D. C., January 13-17, 2008.
12. Prozzi, J. A. and F. Hong. Statistical Analysis of Highway Traffic in the U.S.-Mexico Trade Corridor based on Highway Damage: A Case Study in Texas. In *Proceedings of*

86th Transportation Research Board Meeting, Paper #07-0593, Washington, D. C., January 21-25, 2007.

13. Hong, F. and J. A. Prozzi. Equivalent Damage Factors Based on Mechanistic-Empirical Pavement Design. In *Proceedings of 86th Transportation Research Board Meeting*, Paper #07-2490, Washington, D. C., January 21-25, 2007.
14. Hong, F. and J. A. Prozzi. Incorporating Unobserved Heterogeneity in Pavement Deterioration Modeling. In *Proceedings of 9th International Conference on Applications of Advanced Technology in Transportation*, August 13-16, 2006, Chicago, Illinois, pp. 31-36.
15. Prozzi, J. A., F. Hong, and J. Leidy. Implementation Aspects of Traffic Characterization by Means of Axle Load Spectra in the NCHRP Mechanistic- Empirical Design Guide. In *Proceedings of 10th International Conference on Asphalt Pavements*, August 12-17, 2006, Quebec, Canada.
16. Hong, F. and J. A. Prozzi. Modeling Transportation Infrastructure Performance through System of Regression Equations. In *Proceedings of 2nd Annual Inter-university Symposium on Infrastructure Management*, University of Delaware, June 10, 2006.
17. Hong, F. and J. A. Prozzi. Updating Pavement Deterioration Models Using the Bayesian Principles and Simulation Techniques. In *Proceedings of 1st Annual Inter-university Symposium on Infrastructure Management*, University of Waterloo, Canada, August 6, 2005.
18. Hong, F., F. M. Pereira, and J. A. Prozzi. Comparison of Equivalent Single-Axle Loads from Empirical and Mechanistic-Empirical Approaches. In *Proceedings of 85th Transportation Research Board Meeting*, Paper # 06-1874, Washington, D. C., January 22-26, 2006.
19. Prozzi, J. A. and F. Hong. Hierarchical Axle Load Data for M-E Design. In *Proceedings of 84th Transportation Research Board Meeting*, Paper # 05-1839, Washington, D. C., January 9-13, 2005.
20. Hong, F. and J. A. Prozzi. A Probabilistic Rigid Pavement Study Based on Axle Load Spectra. In *Proceedings of 84th Transportation Research Board Meeting*, Paper # 05-0500, Washington, D. C., January 9-13, 2005.

- **Published Technical Reports**

1. Birt, A., J. A. Prozzi, F. Hong, J. Weissmann, A. Mostafavi, J. Ma, and R. Li. *Systematic and Quantitative Approaches to Assess the Probability of Extreme Weather and Resilience Risks for TxDOT Highways and Bridges*. Report No. FHWA/TX-25/0-7191-R1, Texas Department of Transportation, 2025.
2. Xu, H. R. Li, C. Sabillon, F. Hong, and J. A. Prozzi. *Incorporation of Network-level Texture Data into Pavement Performance Management*. Report No. FHWA/TX-25/0-7178-1. Texas Department of Transportation, 2025.
3. Hong, F., J. Aguiar, and J. A. Prozzi. *First Year Progress Report on the Development of the Texas Flexible Pavement Database*. Report No. FHWA/TX-09/0-5513-1, Texas Department of Transportation, 2008.
4. Hong, F., J. Aguiar, and J. A. Prozzi. *Development of Texas Flexible Pavement Database*. Report No. FHWA/TX-07/0-5513-1, Texas Department of Transportation, 2007.
5. Hong, F., J. Prozzi, and J. A. Prozzi. *Characterizing Highway Traffic in the U.S.-Mexico Trade Corridors Based on the Damaging Effects on the Surface Transportation*

Infrastructure. Report No. 167555-1, Southwest Region University Transportation Center, 2007.

6. Hong, F. and J. A. Prozzi. *Evaluation of Equipment, Methods, and Pavement Design Implications of the AASHTO 2002 Axle Load Spectra Traffic Methodology*. Report No. FHWA/TX-06/0-4510-1, Texas Department of Transportation, 2006.
7. Wang, F., F. Hong, and J. A. Prozzi. *Evaluation of Equipment, Methods, and Pavement Design Implications of the AASHTO 2002 Axle Load Spectra Traffic Methodology: Literature Review and Level 1 Data*. Report No. FHWA/TX-06/0-4510-2, Texas Department of Transportation, 2006.
8. Prozzi, J. A. and F. Hong. *Traffic Characterization for a Mechanistic-Empirical Pavement Design*. Report No. FHWA/TX-06/0-4510-4, Texas Department of Transportation, 2006.

SELECTED RESEARCH PROJECTS

- **At Texas State University**
  1. *Update and Improve Pavement Management Information System (PMIS) Treatment Decisions and Effectiveness*. Project No. FHWA/TX/0-7251 Texas Department of Transportation, 2025-2027, funding 261,433 (PI – TXST).
  2. *Revisions for the TxDOT Pavement Management Information System (PMIS) Rater's Manual*. Project No. FHWA/TX/25-051, Texas Department of Transportation, 2024-present, funding $142,390 (PI – TXST).
  3. *Maintenance and Pavement Preservation Activities Support*. Contract No. 0000032268, Texas A&M Transportation Institute, 2024, funding $22,412.80. (PI– TXST).
  4. Analyzing pre- and post-coastal pavement conditions to optimize response strategies for coastal infrastructure resilience, Costal Research and Education: Action for Transportation Equity, The U.S. Department of Transportation, 2024 – present, funding $110,988.9. (CO-PI– TXST).
  5. *Determine Hydroplaning Potential Using Existing Pavement Asset Data*. Project No. FHWA/TX/25-023, Texas Department of Transportation, 2024-present, funding $230,000 (CO-PI – TXST).
  6. *Develop Systematic and Quantitative Approach to Assess the Probability of Extreme Weather and Resilience Risks for TxDOT Highways and Bridges.* Project No. FHWA/TX/0-7178, Texas Department of Transportation, 2023-present, Funding $70,639.58. (PI– TXST).
  7. *Use Network Level Texture to Enhance Pavement Management.* Project No. FHWA/TX/0-7091, Texas Department of Transportation, 2023-present, Funding $96,890.89. (PI– TXST).

- **At Texas Department of Transportation**
  8. *Develop Models for Field Performance of Friction and Skid Number.* Project No. FHWA/TX/0-7102, 2021-2022. (Project Champion).
  9. *Improve Data Quality for Automated Pavement Distress Data.* Project No. FHWA/TX/0-7072, 2020-2022. (Project Advisor).
  10. *Towards Efficient Predictions of Highway Friction on An Annual Basis on Texas Network*. Project No. FHWA/TX/0-7031, 2019-2020. (Project Champion).

11. *Develop Decision Tree Incorporating Surface Conditions.* Project No. FHWA/TX/0-7005, 2018-2019. (Project Advisor).
12. *Quantification of the Performance of Preventive Maintenance and Rehabilitation Strategies*, Project No. FHWA/TX/0-6988, 2018- 2019. (Project Advisor).
13. *Full Depth Reclamation in Maintenance Operations using Emerging Technologies*, Project No. FHWA/TX/0-6880, 2017-present. (Project Advisor).
14. *Asset Management, Extreme Weather, and Proxy Indicators Pilot Study*. FHWA, U.S. Department of Transportation, 2018-2019. (Project Advisor).
15. *Estimating Freight Value Moved on TxDOT-Maintained Roadways for Investment Decision-Making*, Project No. FHWA/TX0-6898, 2016-2017. (Project Advisor).
16. *Mechanics Based Approach to Characterize Damage in Asphalt Mixtures and Economize Pavement Sections*, Project No. FHWA/TX/14-16, 2013-2015. (Project Advisor).
17. *Improved Overlay Tester for Fatigue Cracking Resistance of Asphalt Mixtures,* Project No. FHWA/TX/14-21, 2013-2015. (Project Advisor).
18. *Review and Evaluation of Current Gross Vehicle Weights and Axle Load Limits*, Project No. FHWA/TX/14-23, 2013-2015. (Project Advisor).
19. *A Process for Designating and Managing Overweight Truck Routes in Coastal Port Regions*, Project No. FHWA/TX/14-27, 2013-2015. (Project Advisor).
20. *Implementation of Texas Asphalt Concrete Overlay Design System*, Project No. FHWA/TX/5-5123-03, 2011-2013. (Project Advisor).
21. *Continuous Pavement Evaluation with Rolling Dynamic Deflectometer*, Project No. 46-2PVIA039, 2012-2013. (Project Manager).
22. *Evaluate the Improvement in Ride, Distress, and Condition Based on Different Treatment Types*, Project No. FHWA/TX/0-6673, 2012-2013. (Project Advisor).
23. *Evaluation of Bonus/Penalty Pay Adjustment Systems for Ride Specifications of Concrete and Asphalt Pavements*, Project No. FHWA/TX/0-6675, 2012-2013. (Project Advisor).
24. *Performance of Permeable Friction Course (PFC) Pavements over Time*, Project No. FHWA/TX/0-5836, 2009-2013. (Project Advisor).
25. *Performance Evaluation and Mix Design for High RAP Mixtures*, Project No. 0-FHWA/TX/6092, 2009-2011. (Project Advisor).
26. *Implementation of an FCC Compliant Radar*, Project No. FHWA/TX/5-4820-01, 2008-2009. (Project Director).

- **At The University of Texas at Austin**
  1. *Development of a Flexible Pavements Database*, for Texas Department of Transportation, and Federal Highway Administration, Project No. 0-5513, 2006-2007.
  2. *Integration and Consolidation of Border Freight Transportation Data for Planning Applications and Characterization of NAFTA Truck Loads for Aiding in Transportation Infrastructure Management*, for Texas Department of Transportation and Federal Highway Administration, Project No. 0-5339, 2005-2007.
  3. *Tracking the Performance of HMA Mixtures in Texas*, for Texas Department of Transportation and Federal Highway Administration, Project No. 0-5496, 2007.
  4. *Characterizing Highway Traffic in the U.S.-Mexico Trade Corridors Based on the Damaging Effects on the Surface Transportation Infrastructure*, for the U.S. Department of Transportation, Project No. 167555, 2004-2005.

5. *Evaluate Equipment, Methods, and Pavement Design Implications for Texas Conditions of the AASHTO 2002 Axle Load Spectra Traffic Methodology*, for Texas Department of Transportation and Federal Highway Administration, Project No. 0-4510, 2002-2005.

PROFESSIONAL ACTIVITIES

- **Registration**
  Professional Engineer: Texas, No. 102121
- **Committee**
  National Academies of Sciences, Engineering, and Medicine, Transportation Research Board: Standing Committee on Maintenance Management Systems, AKT70, 2024 – current
  National Academies of Sciences, Engineering, and Medicine, Transportation Research Board: Standing Committee on Geo-Environmental and Climatic Impacts on Geomaterials, AKG30, 2022 – 2025
  National Academies of Sciences, Engineering, and Medicine, Transportation Research Board: Standing Committee on Seasonal Climatic Effects on Transportation Infrastructure, AFP50, 2016 – 2022
  TxDOT Research Division: Functional Area Committee Member for Construction, Maintenance, and Material, 2018 – 2022
  U.S. Department of Transportation, Federal Highway Administration: Transportation Pooled Fund Study 5(375): National Partnership to Determine the Life Extending Benefit Curves of Pavement Preservation Techniques, 2018 – 2022
  U.S. Department of Transportation, Federal Highway Administration: Transportation Pooled Fund Study 5(354): Improving the Quality of the Highway Profile Measurement, 2017 - 2022
  National Academies of Sciences, Engineering, and Medicine, Transportation Research Board: Standing Committee on Highway Traffic Monitoring, ABJ35, 2007 – 2012
- **Membership**
  Transportation Research Board (TRB), student member, 2002 – 2007, member, 2007 – present
- **Reviewer**
  ASCE Journal of Infrastructure Systems: 32 papers
  ASCE Journal of Materials in Civil Engineering: 6 papers
  ASCE Journal of Performance of Constructed Facilities: 11 papers
  ASCE Journal of Transportation Engineering: 9 papers
  ASTM Journal of Testing and Evaluation: 8 papers
  Canadian Journal of Civil Engineering: 1 paper
  International Journal of Pavement Engineering: 6 papers
  International Journal of Transportation Science and Technology: 3
  International Journal of Pavement Research and Technology: 1
  Journal of the Transportation Research Board: 49 papers
  Journal of Transport Policy: 1 paper
  Structure and Infrastructure Engineering: 4 papers
  Transportation Planning and Technology: 1 paper
  Transportation Research Part D: Transport and Environment: 2 papers
  Asphalt Rubber 2006 Conference: 3 papers
  The 9th International Conference on Low-Volume Roads: 3 papers

DISSERTATION/THESIS COMMITTEE

- PhD dissertation committee member: topic-TBD, by Gauri Ravikant Mahajan, Texas State University, 2025 - present.
- PhD dissertation committee member: Quantifying Pavement Resilience Under Extreme Precipitation: A Dynamic Framework for Structural Vulnerability to Moisture, by Ruohan Li, The University of Texas at Austin, 2024 - 2025.
- Master thesis committee member: Use Machine-Learning in Pavement Distress Recognition, by Carlos Sanchez, Texas State University, 2024 - 2025.
- Master thesis committee member: Pattern Recognition In U-Turn Crashes: A Comparative Analysis of Crash Severity Levels Using Association Rule Mining, by Syed Aaqib Javed, Texas State University, 2024- present.
- Master thesis committee member: An Exploration of Roundabout Crashes using a Data Mining Approach, by Rohit Chakraborty, Texas State University, 2024- 2025.
- Master thesis committee member: Hysteresis Effect to Detect on Fouled Ballast Materials, by Aaron Gonzalez, Texas State University, 2024-2025.
- Master thesis committee member: Complex Electrical Impedance Experimental Protocol & Measurements for Fouled Ballast, by Drew Price, Texas State University, 2024.
- Master thesis committee member: Updating the Acceptance Thresholds for Data Quality Assurance Using Statistical Analysis Methods, by Ajmain Faieq, Texas State University, 2022-2023.
- PhD dissertation committee member: Improving Network Pavement Performance Management Using Machine Learning, by Hongbin Xu, The University of Texas at Austin, 2021-2023.

FACULTY SEARCH COMMITTEE

- Industrial Engineering Faculty of Practice, Assistant/Associate Professor of Practice Search Committee, Texas State University, 2025-2026.
- Transportation Faculty, Assistant Professor Search Committee, Texas State University, 2024-2025.
- Professor of Practice Faculty, Associate Professor of Practice Search Committee, Texas State University, 2023-2024.

TEACHING COURSES

- CE3310 (undergraduate): Applications in Smart Infrastructure, Fall 2022, Spring 2023, Fall 2023, Spring 2024, Fall 2024, Spring 2025, Fall 2025, Spring 2026
- CE4390 (undergraduate): Civil Engineering Design I, Fall 2022
- CE4391(undergraduate): Civil Engineering Design II, Spring 2023
- CE4100 (undergraduate): Undergraduate Research, Spring 2023
- CE/ENGR5360 (graduate): Pavement Design, Spring 2023, Spring 2024, Spring 2025, Fall 2025
- CE5360 (doctoral): Pavement Design, Spring 2025, Fall 2025
- CE/ENGR5361 (graduate): Pavement Asset Management, Fall 2023, Fall 2024

- CE7361 (doctoral): Pavement Asset Management, Spring 2026
- ENGR5100 (graduate): Seminar in Engineering, Fall 2024, Spring 2025, Fall 2025, Spring 2026