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EDUCATION

University of Illinois at Urbana-Champaign	Civil Engineering	Ph.D., October 1997
Jordan University of Science and Technology	Civil Engineering	M.S., August 1991
Jordan University of Science and Technology	Civil Engineering	B.S., January 1990

PROFESSIONAL EXPERIENCE

9/2014 – Present	Associate Professor, Civil Engineering, Texas A&M University
8/2008 – 8/2014	Assistant Professor, Civil Engineering, Texas A&M University
1/2004 – 8/2008	Assistant Professor, Civil Engineering, University of Texas at El Paso
6/1997 – 1/2004	Senior Engineer, Applied Research Associates (ARA), Inc.
1/1994 – 6/1997	Graduate Research Assistant, University of Illinois at Urbana-Champaign
11/1992 – 12/1993	Engineer, Nishikawa Gumi Corporation, Japan

PUBLICATIONS

† indicates student under the advisement of Dr. Gharaibeh (committee chair). * indicates student advised by Dr. Gharaibeh as a committee member.

Refereed Journal Papers (Published)

- Oti[†], I.C., Gharaibeh, N.G., Hendricks*, M., Meyer, M.A., Van Zandt, S., Masterson, J.H., Horney, J., and Berke, P.R. (2019). "Validity and Reliability of Drainage Infrastructure Monitoring Data Obtained from Citizen Scientists." *Journal of Infrastructure Systems*. DOI: 10.1061/(ASCE)IS.1943-555X.0000495.
- Gharaibeh, N.G., Oti[†], I.C., Meyer, M.A., Hendricks*, M., and Van Zandt, S. (2019). "Potential of Citizen Science for Enhancing Infrastructure Monitoring Data and Decision-Support Models for Local Communities." *Risk Analysis*. DOI: 10.1111/risa.13256.
- Masterson, J.H., Meyer, M.A., Gharaibeh, N., Hendricks*, M., Lee, R.J., Musharrat, S., Newman, G., Sansom, G., and Van Zandt, S. (2019). "Interdisciplinary Citizen Science and Design Projects

for Hazard and Disaster Education,” *International Journal of Mass Emergencies and Disasters*, March 2019, Vol. 37, No. 1, pp. 6-24.

4. Neupane†, S. and Gharaibeh, N.G. (2018). “A Heuristics-based Method for Obtaining Road Surface Type Information from Mobile Lidar for Use in Network-Level Infrastructure Management.” *Measurement*. Vol. 131, pp. 664-670. DOI:10.1016/j.measurement.2018.09.015.
5. Hendricks*, M.D., Meyer, M.A., Gharaibeh, N. G., Van Zandt, S., Masterson, J, Cooper, J. T., Horney, J., and Berke, P. (2018). “The development of a participatory assessment technique for infrastructure: Neighborhood-level monitoring towards sustainable infrastructure systems.” *Sustainable Cities and Society*, Vol. 38, pp. 265-274. doi: 10.1016/j.scs.2017.12.039.
6. Meyer, M.A., Hendricks, M.D., Newman, G.D., Masterson, J.H., Cooper, J.T., Sansom, G., Gharaibeh, N., Horney, J., Berke, P., van Zandt, S., Cousins, T. (2018) "Participatory action research: tools for disaster resilience education", *International Journal of Disaster Resilience in the Built Environment*, Vol. 9 Issue: 4/5, pp.402-419, <https://doi.org/10.1108/IJDRBE-02-2017-0015>.
7. Dalla Rosa, F., Liu†, L., and Gharaibeh, N.G. (2017) “IRI Prediction Model for Use in Network-Level Pavement Management Systems.” *Journal of Transportation Engineering, Part B*, 143(1):04017001. doi: 10.1061/JPEODX.0000003.
8. Menendez†, J. R., and Gharaibeh, N.G. (2017) “Incorporating Risk and Uncertainty into Infrastructure Asset Management Plans for Pavement Networks.” *Journal of Infrastructure Systems*, ASCE, 23(4):04017019. doi: 10.1061/(ASCE)IS.1943-555X.0000379.
9. Zabihi Siabil†, S., and Gharaibeh, N.G. (2017) “Assessing the Effect of Considering Multiple Data Properties on Detecting Potential Errors in Pavement Condition Data.” *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2639, pp. 39-45. doi: 10.3141/2639-05.
10. Gurganus†, C.F., Gharaibeh, N.G., and Scullion, T. (2017) “Case Study on the Use of Mobile LiDAR to Produce a Preliminary Drainage Design.” *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2655, pp. 82-90. doi: 10.3141/2655-11.
11. Zabihi Siabil†, S., and Gharaibeh, N.G. (2016) “Computational Technique for Detecting Errors in Network-level Pavement Condition Data.” *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2589, pp. 14-19. doi: 10.3141/2589-02.
12. Saliminejad†, S. and Gharaibeh, N. G. (2016) “Proximity-Based Outlier Detection Method for Roadway Infrastructure Condition Data.” *Journal of Computing in Civil Engineering*, Vol. 30, No. 1, pp 1-8. doi: 10.1061/(ASCE)CP.1943-5487.0000468.
13. Liu†, L. and Gharaibeh, N.G. (2015) “Simulation-Based Methodology for Developing Performance-Related Specifications for Pavement Preservation Treatments.” *Journal of Transportation Engineering*, Vol. 141, No. 8, pp 1-10. doi: 10.1061/(ASCE)TE.1943-5436.0000778.

14. Liu[†], L. and Gharaibeh, N.G. (2014) “Bayesian Model for Predicting the Performance of Pavements Treated with Thin Hot-Mix Asphalt Overlays.” *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2431, pp. 33-41. doi: 10.3141/2431-05.
15. Arambula, E. and Gharaibeh, N. (2014) “Methods for Accumulating Construction and Material Quality Test Results and Their Effect on Acceptance Decisions.” *Journal of Construction Engineering and Management*, Vol. 140, No. 8, August 2014, pp. 1-3. doi: 10.1061/(ASCE)CO.1943-7862.0000867.
16. Gharaibeh, N.G. and Lindholm[†], D. B. (2014). “A condition assessment method for roadside assets.” *Structure and Infrastructure Engineering: Maintenance, Management, Life-Cycle Design and Performance*, 10:3, pp. 409-418. doi: 10.1080/15732479.2012.757330.
17. Saliminejad[†], S. and Gharaibeh, N. G. (2013) “Impact of Error in Pavement Condition Data on Output of Network-Level Pavement Management Systems.” *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2366, pp. 110–119. doi: 10.3141/2366-13.
18. Menendez[†], J.R., Zabihi Siabil[†], S., Narciso[†], P., and Gharaibeh, N.G. (2013) “Prioritizing Infrastructure Maintenance and Rehabilitation Activities Under Various Budgetary Scenarios: Evaluation of Worst-First and Benefit-Cost Analysis Approaches.” *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2361, pp. 56–62. doi: 10.3141/2361-07.
19. Wani[†], S. S. and Gharaibeh, N. G. (2013) “Evaluating the Use of Contractor-Performed Test Results in Highway Construction and Materials Acceptance Decisions.” *Journal of Infrastructure Systems*, ASCE, Vol. 19, No. 1, pp. 67-73. doi: 10.1061/(ASCE)IS.1943-555X.0000113.
20. Saliminejad[†], S. and Gharaibeh, N. G. (2012) “A Spatial-Bayesian Technique for Imputing Pavement Network Repair Data.” *Journal of Computer-Aided Civil and Infrastructure Engineering*, Volume 27, Issue 8, pp. 594–607. doi: 10.1111/j.1467-8667.2012.00762.x.
21. Gharaibeh, N. G., Liu[†], L., and Wani[†], S. S. (2012) “Skip-Lot Acceptance Sampling Plans for Highway Construction and Materials.” *Journal of Construction Engineering and Management*, ASCE, Volume 138, No. 7, pp. 791-796. doi: 10.1061/(ASCE)CO.1943-7862.0000494.
22. Gurganus[†], C. F. and Gharaibeh, N.G. (2012) “Project Selection and Prioritization of Pavement Preservation: A Competitive Approach.” *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2292, pp. 36–44. doi: 10.3141/2292-05.
23. Ahmed[†], J., Gharaibeh, N.G., and Damnjanovic, I. D. (2012) “Best-Value Bid Selection Methods for Performance-Based Roadway Maintenance Contracts.” *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2292, pp. 12–19. doi: 10.3141/2292-02.
24. Gharaibeh, N. G., Zou[†], Y., and Saliminejad[†], S. (2010) “Assessing the Agreement among Pavement Condition Indexes.” *Journal of Transportation Engineering*, ASCE, Volume 136, Issue 8, pp. 765-772. doi: 10.1061/(ASCE)TE.1943-5436.0000141.

25. Gharaibeh, N.G., Garber, S.I., and Liu[†], L. (2010) “Determining Optimum Sample Size for Percent-Within-Limits Specifications.” *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2151, pp. 77–83. doi: 10.3141/2151-10.
26. Tirado*, C., Carrasco, C., Mares[†], J. M, Gharaibeh, N. G., Nazarian, S., Bendana, L. J. (2010) “Process to Estimate Permit Costs for Movement of Heavy Trucks on Flexible Pavements.” *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2154, pp. 187–196. doi: 10.3141/2154-19.
27. Gharaibeh, N.G., Valenzuela[†], B., Machado[†], J., and Cook, S. (2009) “A Green Approach for Coping with the High Cost of Infrastructure Services in U.S. Colonias.” *Journal of Infrastructure Systems*, ASCE, Vol. 15, No. 4, pp. 417-424. doi: 10.1061/(ASCE)1076-0342(2009)15:4(417).
28. Gharaibeh, N.G. and Shirazi*, H. (2009) “A Risk-based Model for Pricing Highway Infrastructure Warranties.” *Journal of Infrastructure Systems*, ASCE, Vol. 15, No. 4, pp. 378-382. doi: 10.1061/(ASCE)1076-0342(2009)15:4(378).
29. Gharaibeh, N.G., Camacho[†], G., Elgendy[†], M., and Ramirez, I.D. (2009) “Geographic Information System Framework for Stormwater Drainage Asset Management.” *Transportation Research Record, Journal of the Transportation Research Board*, Vol. 2121, pp. 1-12. doi: 10.3141/2121-01.
30. Gharaibeh, N.G., and Miron, A. (2008) “Warranty Specifications for Highway Construction: Current Practices and Evolution to Advanced Quality Systems.” *Transportation Research Record, Journal of the Transportation Research Board*, Vol. 2081, pp. 77-82. doi: 10.3141/2081-08.
31. Gharaibeh, N.G., Chiu, Y-C., and Gurian, P.L. (2006). “A Decision Methodology for Allocating Funds across Transportation Infrastructure Assets.” *Journal of Infrastructure Systems*, ASCE, Volume 12, Issue 1, pp. 1-9. doi: 10.1061/(ASCE)1076-0342(2006)12:1(1).
32. Velivelli[†], K.L., Gharaibeh, N.G., and Nazarian, S. (2006). “Sample Size Requirements for Seismic and Traditional Testing of Concrete Pavement Strength.” *Transportation Research Record, Journal of the Transportation Research Board*, Vol. 1946, pp. 33-38. doi: 10.3141/1946-04.
33. Gharaibeh, N.G. and Darter, M.I. (2003). “Probabilistic Analysis of Highway Pavement Life for Illinois.” *Transportation Research Record, Journal of the Transportation Research Board*, Vol. 1823, pp. 111-120. doi: 10.3141/1823-13.
34. Gharaibeh, N.G., Stefanski, J. A., and Darter, M.I. (2002). “Evaluation of Concrete Pavement Construction Scenarios Under Performance-related Specifications.” *Transportation Research Record, Journal of the Transportation Research Board*, Vol. 1813, pp. 21-27. doi: 10.3141/1813-03.
35. Gharaibeh, N.G. and Darter, M.I. (2001). “Benefits and Costs of Jointed Plain Concrete Pavement Design Features.” *Transportation Research Record*, Vol. 1778, pp. 1-8. doi: 10.3141/1778-01.

36. Gharaibeh, N.G., Darter, M.I., and Uzarski, D.R. (1999). "Development of a Prototype Highway Asset Management System." *Journal of Infrastructure Systems*, ASCE, Vol. 5, No. 2, pp. 61-68. doi: 10.1061/(ASCE)1076-0342(1999)5:2(61).
37. Gharaibeh, N.G., Darter, M.I., and Heckel, L.B. (1999). "Field Performance of Continuously Reinforced Concrete Pavement in Illinois." *Transportation Research Record*, Vol. 1684, pp. 44-50. doi: 10.3141/1684-06.
38. Gharaibeh, N.G., Wilson, C., Darter, M.I., and Jones, G. (1998). "Development of a Bike Path Management System for the University of Illinois at Urbana-Champaign." *Transportation Research Record*, Vol. 1636, pp 56-63. doi: 10.3141/1636-09.
39. Gharaibeh, N.G., LaTorre, F., Darter, M.I., and Lippert, D.L. (1997). "Use of Pavement Management System Data for Pavement Engineering Applications." *Transportation Research Record*, Vol. 1592, pp. 35-45. doi: 10.3141/1592-05.

Journal Articles in Review

1. Oti[†], I.C., and Gharaibeh, N.G. "Assessment of Transportation Infrastructure Data Management Practices." *Public Works Management & Policy*. (Original manuscript submitted 12/5/2018; revised manuscript submitted 5/9/2019).

Refereed Conference Proceedings

1. Gurganus[†], C. F. and Gharaibeh, N.G. (2019). "Evaluating Hydroplaning Potential Using Mobile LiDAR Measurements." *Proceedings of the 98th Annual Meeting of the Transportation Research Board*, Washington, D. C., January 2019. (Best poster award).
2. Neupane[†], S. and Gharaibeh, N.G. (2017). "Use of Reflectivity Data from Mobile LiDAR System for Classification of Road Surface Types." *Proceedings of the 96th Annual Meeting of the Transportation Research Board*, Washington, D. C., January 2017. (Best Paper Award at the Annual Inter-University Symposium on Infrastructure Management, University of Delaware, Newark, DE, June 11, 2016).
3. Zabihi Siabil[†], S., Saliminejad[†], S., and Gharaibeh, N.G., (2015). "Detecting Potential Errors in Pavement Condition Data," 9th International Conference on Managing Pavement Asset (ICMPA), Washington D.C., May 18-21, 2015. (First place in the Young Professionals and Students Pavement Challenge).
4. Dalla Rosa, F., Gharaibeh, N.G., Fernando, E.G. and Wimsatt, A. (2016). "Quality Assurance for Automated and Semi-Automated Pavement Condition Surveys." *Proceedings of the ASCE Transportation and Development Institute (T&DI) International Conference on Transportation & Development (ICTD)*, pp. 192-201. DOI: 10.1061/9780784479926.018.
5. Liu[†], L., Rashed[†], A., and Gharaibeh, N. G. (2016). "CRCP Performance Patterns Gleaned from Texas Pavement Management Data." *Proceedings of the 11th International Conference on Concrete Pavements (ICCP)*, San Antonio, Texas, August 28-September 1, 2016.
6. Gurganus[†], C. F., Narciso[†], P. J. R., and Gharaibeh, N. G. (2016). "Understanding the Links between Asset Management and Performance Measurement Decision Making Processes."

Proceedings of the 95th Annual Meeting of the Transportation Research Board, Washington, D. C., January 2016.

7. Gharaibeh, N.G. and Lindholm[†], B. (2013). “Development of Performance-Based Specifications for Roadside Maintenance.” *Proceedings of the ASCE Green Streets, Highways, and Development 2013: Advancing the Practice*, Austin, Texas, November 3-6, 2013, pp. 78-88. doi: 10.1061/9780784413197.007.
8. Gharaibeh, N. G. and Saliminejad[†], S. (2013). “Clustering Pavement Condition Data Based on Spatiotemporal Patterns.” *Proceedings of the Airfield and Highway Pavement 2013: Sustainable and Efficient Pavements, ASCE Transportation and Development Institute (T&DI)*, Los Angeles, California, June 9-12, 2013, pp. 772-780. doi: 10.1061/9780784413005.063.
9. Hart[†], W. S., and Gharaibeh, N. G. (2011). “Use of Micro Unmanned Aerial Vehicles in Roadside Condition Surveys.” *Integrated Transportation and Development for a Better Tomorrow, Proceedings of the 1st Transportation and Development Institute (T&DI) Congress*, ASCE, Chicago, IL., March 2011, pp. 80-92. doi: 10.1061/41167(398)9.
10. Camacho[†], G. L., Gharaibeh, N. G., Chang-Albitres, C., Aldouri, R. (2010). “A GIS Technique for Managing Dynamic Infrastructure Data.” *Proceedings of the 89th Annual Meeting of the Transportation Research Board – CDROM*, Washington, D. C., January 2010.
11. Gharaibeh, N.G., Button, J. W., and Jalvi[†], P. (2009). “Case Studies of Design-Build Project Delivery for Highway Pavements.” *Proceedings of the 1st International Conference on Transportation Construction Management*, Orlando, FL, February 2009.
12. Gharaibeh, N.G., Button, J. W., and Jalvi[†], P. (2007). “Concrete Pavement Aspects in Design-Build Contracts: Case History Projects from Texas.” *Proceedings of the 86th Annual Meeting of the Transportation Research Board – CDROM*, Washington, D. C., January 2007.
13. Gharaibeh, N.G., Smith, K.L., and Plei, M.N. (2005). “A Methodology for Evaluating the Cost-Effectiveness of CRCP Design Features.” *Proceedings of the 8th International Conference on Concrete Pavements*, Volume II, Colorado Springs, Colorado, August 2005, pp. 658-673.
14. Gharaibeh, N.G. and Walter, J.D. (2004). “Evaluation of Data Collection and Processing Techniques for Transportation Asset Management.” *Proceedings of the 2nd Gulf Conference on Roads*, Abu Dhabi, United Arab Emirates.
15. Gharaibeh, N.G. (2003) “Longevity of Highway Concrete Pavements in the United States.” *Proceedings of the International Conference on Highway Pavement Data, Analysis, and Mechanistic Design Applications*, Vol. 1, Columbus, Ohio, pp. 241-250.
16. Bham, G.H., Darter, M.I., and Gharaibeh, N.G. (2002) “Consequences of Utilizing Alternative Pavement Ratings for Prioritizing Pavement Rehabilitation of Illinois's Interstate Highway Network.” *Proceedings of the Application of Advanced Technologies in Transportation Conference*, ASCE, pp. 537-544. doi: 10.1061/40632(245)68.
17. Gharaibeh, N.G., Darter, M.I., Kopac, P., and Hoerner, T.E. (2001) “Effect of Variability and Central Tendency in Performance-Related Specifications for Concrete Pavement.” *Proceedings of the 7th International Conference on Concrete Pavements*, Vol. 1, Orlando, Florida, pp. 513-524.

18. Gharaibeh, N.G., Hicks, J.E., and Hall, J.P. (1997). "Statistical and Spatial Analyses of Accidents, Traffic, and Pavement Conditions." *Proceedings of the Traffic Congestion and Traffic Safety in the 21st Century: Challenges, Innovation, and Opportunities*, ASCE, Chicago, IL, pp. 396-402.

Invited Significant Seminars

1. Gharaibeh, N.G. (12/2018). *Application of Life-Cycle Cost Analysis in Pavement Management and Engineering*, Federal University of Rio Grande do Sul, Porto Alegre and Universidade de Passo Fundo, Brazil, Dec. 19-20, 2018.
2. Gharaibeh, N.G. (2/2018). NSF Workshop Series on Methods of Disaster Research: Interdisciplinary Approaches, University of Colorado-Boulder, February 8-9, 2018
3. Gharaibeh, N.G. (1/2017). *Detecting and Assessing the Impact of Errors in Pavement Condition Data*, Dalarna University, Borlänge, Sweden, January 19, 2017.
4. Gharaibeh, N.G. (4/2016). *Infrastructure Asset Management: A Close Look at Data Quality*. Qatar University, Doha, Qatar, April 21, 2016.
5. Gharaibeh, N.G. (12/2012). *Recent Advances in Pavement Design Procedures: AASHTO's Mechanistic-Empirical Pavement Design Procedure*. Universidade Federal do Paraná Curitiba, Brazil, Dec 17-18, 2012.
6. Gharaibeh, N.G. (2009). Alternatives to the Use of Contractor Test Data. Presented at the Federal Highway Administration (FHWA) Technical Working Panel Brainstorming Session, McLean, Virginia, February 2, 2009.
7. Gharaibeh, N.G. (2009). Quality Systems for Concrete Pavement. Presented at the 10th Annual Pennsylvania Concrete Conference, Grantville, Pennsylvania, January 28, 2009.
8. Gharaibeh, N.G. (2006). Pavement Warranty Specifications. Presented at the Federal Highway Administration (FHWA) Advanced Quality Systems Workshop, Alexandria, Virginia, November 7-8, 2006.
9. Gharaibeh, N.G. (2005). Development of a Prototype Construction Information System for El Paso. Presented at the Quad Section-ASCE Fall 2005 Conference, El Paso, Texas.
10. Gharaibeh, N.G., Darter, M.I., and Bham, G.H. (2003). Development of a Prototype GIS-based Pavement Information and Management System for Illinois. 2003 GIS for Transportation Symposium, Colorado Spring, Colorado.
11. Gharaibeh, N.G. (2003). Implementation of Performance-Related Specifications for PCC Pavement. Presented at the Southeastern Association of State Highway and Transportation Officials (SASHTO) Quality Conference, Williamsburg, Virginia, March 3-6, 2003.
12. Gharaibeh, N.G. (2002). Comparative Performance and Costs of In-Service Highway Pavements. Presented at Iowa Concrete Pavement Association (ICPA) Annual Workshop, Des Moines, Iowa, February 7-8, 2002.
13. Gharaibeh, N.G., C. A. Beckemeyer, and K. Smith (2001). Maintenance Quality Assurance - How Do Your Asset Preservation Efforts Measure Up? Presented at the 1st International Conference and Exhibition on the Quality Control and Quality Assurance of Construction Materials, Dubai, United Arab Emirates, October 29-30, 2001.

14. Gharaibeh, N.G., B. Killingsworth, and J. Hall (2001). Performance-Related Specifications for Highway Pavements: Current Status and Future Directions. Presented at the 1st International Conference and Exhibition on the Quality Control and Quality Assurance of Construction Materials, Dubai, United Arab Emirates, October 29-30, 2001.

Published Technical Reports

1. Gurganus†, C., Scullion, T., Gharaibeh, N., Ravipati, D., and Neupane†, S. (2018). *Developing a Surface Drainage Rating for Inclusion in TxDOT's Asset Management System*, Report No. FHWA/TX-18/0-6896-1, Texas Department of Transportation and Federal Highway Administration.
2. Gharaibeh, N., Oti†, I., Schrank, D., Zmud, J. (2017). *Data Management and Governance Practices*, NCHRP Synthesis of Highway Practice, Issue 508, Transportation Research Board, ISSN: 0547-5570.
3. Gharaibeh, N.G., Narciso†, P., Cha, Y., Oh, J., Menendez†, J.R., Dessouky, S., and Wimsatt, A. (2014). *A Methodology to Support the Development of 4-Year Pavement Management Plan*, Report No. FHWA/TX-14/0-6683-1, Texas Department of Transportation and Federal Highway Administration.
4. Gharaibeh, N., Freeman, T., Saliminejad, S., Chang-Albitres, C., Weissman, J., Weissman, A., Wimsatt, A., and Charles Gurganus (2012). *Evaluation and Development of Pavement Scores, Performance Models, and Needs Estimates for the TXDOT Pavement Management Information System*, Report No. FHWA/TX-12/0-6386-3, Texas Department of Transportation and Federal Highway Administration.
5. Gharaibeh, N., Wimsatt, A., Saliminejad†, S., Menendez†, J.R., Weissmann, A.J, Weissmann, J., and Chang-Albitres, C. (2012). *Implementation of New Pavement Performance Prediction Models in PMIS*, Report No. FHWA/TX-12/5-6386-01-1, Texas Department of Transportation and Federal Highway Administration.
6. Gharaibeh, N.G, Shelton†, D., Ahmed, J., Chowdhury, A., and Krugler, P.E. (2011) *Development of Performance-Based Evaluation Methods and Specifications for Roadside Maintenance*, Report No. FHWA/TX-11/0-6387-1, Texas Department of Transportation and Federal Highway Administration.
7. Hart†, W.S., and Gharaibeh, N.G. (2010) *Use of Micro Unmanned Aerial Vehicles in Roadside Condition Assessment*, Report No. SWUTC/10/476660-00019-1, Southwest Region University Transportation Center.
8. Papagiannakis, A., Gharaibeh, N., Weissmann, J., and Wimsatt, A. (2009). *Pavement Scores Synthesis*, Report No. FHWA/TX-09/0-6386-1, Texas Department of Transportation and Federal Highway Administration.
9. Evans, L., Smith, K. L., Gharaibeh, N. G., and Darter, M. I. (2008). *Development and Implementation of a Performance-Related Specification for SR 9A, Florida*, Final Report, Report No. FHWA-HIF-09-016, Federal Highway Administration, Washington DC.

10. Miron, A.G., Gharaibeh, N., Rasmussen, R., Rogers, R., Ferragut, T. (2007). *Defining an Advanced Quality System and the Elements that Integrate It*, Report No. FHWA-HRT-07-058, Federal Highway Administration, Washington DC.
11. Gharaibeh, N.G. and Elgendy†, M. (2006). *Integration of TxDOT's Pavement Forensic Studies*, Final Report, IAC 46-6PVIA012, Texas Department of Transportation, Center for Transportation Infrastructure Systems, The University of Texas at El Paso.
12. Gharaibeh, N.G., Button, J. W., and Jalvi†, P. (2005). *Pavement Aspects in Design-Build Contracting for Highway Projects*, Report No. TTI-2005-1, Texas Transportation Institute, Texas Department of Transportation.
13. Bham, G.H., Gharaibeh, N.G., and Darter, M.I. (2003). *GIS-ILLINET Version 2.0 Pavement Management and Information System-User's Guide*, Report No. FHWA-IL-UI-286, Illinois Cooperative Highway Research Program.
14. Gharaibeh, N.G. and Darter, M.I. (2002). *Longevity of Highway Pavements in Illinois-2000 Update*, Report No. FHWA-IL-UI-283, Illinois Cooperative Highway Research Program.
15. Hoerner, T.E., Darter, M. I., Gharaibeh, N. G., and Crow, T. L. (2001). *Comparative Performance and Cost of In-Service Highway Pavements—I-15, Utah*, PCA R&D Serial No. 2209a, Portland Cement Association.
16. Gharaibeh, N.G., and Crow, T. L. (2000). *Comparative Performance and Costs of In-Service Highway Pavements I-40, Tennessee*, PCA R&D Serial No. 2209, Portland Cement Association.
17. Gharaibeh, N.G., Darter, M.I., and Heckel, L.B. (1999). *Field Performance of Continuously Reinforced Concrete Pavement in Illinois*, Report No. FHWA-IL-UI-268, Illinois Cooperative Highway Research Program.
18. ERES Consultants (Owusu-Antwi, E.B., Khazanovich, L., Gharaibeh, N.G., and Darter, M.I.) (1999). *Evaluation of Unbonded Portland Cement Concrete Overlays*, Report No. 415, National Cooperative Highway Research Program (NCHRP), National Academy Press.
19. Gharaibeh, N.G., LaTorre, F., and Darter, M.I. (1997). *Performance of Original and Resurfaced Pavements on the Illinois Freeway System*, Report No. 540-1, FHWA-IL-UI-261, Illinois Cooperative Highway Research Program.
20. M. Demos, Gharaibeh, N.G., and Darter, M.I. (1995). *Evaluation of Potential Application of End-Result and Performance-Related Specifications, Portland Cement Concrete Pavements*, Report No. 425, FHWA-IL-UI-256, Illinois Cooperative Highway Research Program.

RESEARCH PROJECTS FUNDED

At Texas A&M University

Transportation Asset Management Engineering Support

PI: J. Epps. Co-PI: Gharaibeh 11/2017-5/2020

Sponsor: TxDOT.

Texas A&M Center for Environmental Health Research

PI: D. Threadgill. Co-I: Gharaibeh5/2019-3/2024
Sponsor: NIEHS, NIH.

EAGER Citizen Science for Infrastructure Monitoring at the Neighborhood Level

PI: Gharaibeh. Co-PIs: Meyer, Van Zandt, and Berke9/2016-9/2018
Sponsor: NSF.

Data Management Practices

PI: Gharaibeh. Co-PI: None. Co-I: None11/2015-2/2017
Sponsor: NCHRP.

Developing a Surface Drainage Rating for Inclusion in TxDOT’s Asset Management System

PI: C. Gurganus. Co-PI: Gharaibeh. Co-I: T. Scullion9/2015-12/2017
Sponsor: TxDOT.

Test Procedure for Validation of Automated Distress Data

PI: A. Wimsatt. Co-PI: None. Co-I: N. Gharaibeh, T. Freeman, E. Fernando.11/2014-3/2016
Sponsor: TxDOT.

Framework for Implementing Performance Planning for Rural Planning Organizations

PI: J. Overman. Co-PI: None. Co-I: C. Miller, P. Ellis, M. Pratt, N. Gharaibeh, S. Sharma, C. Morgan, G. Stoeltje, T. Carlson1/2015-7/2016
Sponsor: TxDOT.

Development of a Pavement Project Evaluation Index to Support the 4-Year Pavement Management Plan

PI: N. Gharaibeh. Co-PI: None. Co-I: A. Wimsatt, S. Dessouky (UT-San Antonio)9/2011-9/2013
Sponsor: TxDOT.

Implementation of New Pavement Performance Prediction Models in PMIS

PI: A. Wimsatt. Co-PI: None. Co-I: N. Gharaibeh9/2011-9/2012
Sponsor: TxDOT.

Performance-Related Specifications for Pavement Preservation Treatments – Phase 1

PI: Gharaibeh. Co-PI: J. Epps, D. Zollinger7/2010-2/2012
Sponsor: NCHRP.

Advanced Quality Systems: Alternatives to the Use of Contractor Test Results: Phase 2

PI: Gharaibeh. Co-PI: None. Co-I: None9/2009-7/2011
Sponsor: FHWA, through The Transtec Group.

Advanced Quality Systems: Alternatives to the Use of Contractor Test Data: Phase 1

PI: Gharaibeh. Co-PI: None. Co-I: None9/2008-9/2009

Sponsor: FHWA, through The Transtec Group.

Use of Micro Unmanned Aerial Vehicles (MUAVs) for Roadside Condition and Inventory Surveys

PI: N. Gharaibeh. Co-PI: None. Co-I: None9/2009-9/2010

Sponsor: US Department of Transportation, SWUTC.

Performance-based Roadside Maintenance Specifications

PI: N. Gharaibeh. Co-PI: None. Co-I: A. Chowdhury, P. Krugler, W. Fan (UT-Tyler)9/2008-9/2010

Sponsor: TxDOT.

Evaluation and Development of Pavement Scores, Performance Models, and Needs Estimates

PI: A. Wimsatt. Co-PI: None. Co-I: N. Gharaibeh. T. Freeman, C. Chang (UT-El Paso), S. Nazarian (UT-El Paso), J. Weissmann (UT-San Antonio), T. Papagiannakis (UT-San Antonio)9/2008-9/2011

Sponsor: TxDOT.

At the University of Texas at El Paso

A Partnership for Advancing Technology in Colonia Housing: Access to Technology, Capital, and Knowledge

PI: S. Cook. Co-PI: N. Gharaibeh10/2004-8/2008

Sponsor: Department of Housing and Urban Development (HUD).

Advanced Quality Systems: Determining Optimum Sample Sizes for Acceptance Sampling and Testing Plans

PI: Gharaibeh. Co-PI: None. Co-I: None8/2007-8/2008

Sponsor: FHWA, through The Transtec Group.

Enhancements to El Paso's GIS-based Infrastructure Management Systems

PI: Gharaibeh. Co-PI: None. Co-I: None6/2007-8/2008

Sponsor: City of El Paso.

Development of a Prototype GIS for Integrating Storm Water Drainage Infrastructure Data for El Paso

PI: N. Gharaibeh. Co-PI: None. Co-I: None1/2006-1/2007

Sponsor: Geospatial Service Center/UTEP.

Review of TxDOT's Pavement Forensic Studies

PI: N. Gharaibeh. Co-PI: None. Co-I: S. Nazarian1/2006-1/2007

Sponsor: TxDOT.

Synthesis of Pavement Design and Construction Requirements for Alternate Procurement Projects (Design-Build Contracts and Comprehensive Development Agreements)

PI: N. Gharaibeh. Co-PI: None. Co-I: S. Nazarian1/2005-1/2006
Sponsor: TxDOT.

At Applied Research Associates, Inc. (Research & Consulting Projects)

Field Trial of Performance-Related Specifications (PRS) for PCC Pavement in Tennessee

PI: N. Gharaibeh. Co-PI: M. Darter2003-2004
Sponsor: FHWA.

Beta Testing and Validation of HMA PRS

PI: B. Killingsworth. Co-PI: N. Gharaibeh, J. Hall.....2000-2004
Sponsor: NCHRP.

Development of the 2002 Guide for the Design of New and Rehabilitated Pavement Structures

PI: J. Hallin. Co-PI: M. Darter, M. Witzak. Co-I: N. Gharaibeh1998-2002
Sponsor: NCHRP.

Development of a Roadway Infrastructure Management System GIS Visual Model

PI: N. Gharaibeh. Co-PI: C. Beckemeyer2003-2004
Sponsor: Illinois State Toll Highway Authority (ISTHA).

Development and Implementation of PRS for highway JPCP Construction in California

PI: N. Gharaibeh. Co-PI: M. Darter2002-2003
Sponsor: California Department of Transportation (CALTRANS).

Determine Actual Lifecycle Costs of Highway Pavements

PI: N. Gharaibeh. Co-PI: M. Darter, T. Crow.....2002-2003
Sponsor: American Concrete Pavement Association (ACPA).

Technical Guide for the Construction of Continuously Reinforced Concrete Pavement (CRCP)

PI: M. Ayers. Co-PI: N. Gharaibeh.....2002-2003
Sponsor: FHWA.

Development and Implementation of Performance-Related Specifications (PRS) for Highway Jointed Plain Concrete Pavement (JPCP) Construction in Florida

PI: T. Crow. Co-PI: N. Gharaibeh.2001-2003
Sponsor: Florida Department of Transportation (FDOT).

Enhancements to Illinois Pavement Management System

PI: M. Darter. Co-PI: N. Gharaibeh..... 2001-2003
Sponsor: Illinois Department of Transportation (IDOT).

On-call Technical Assistance for Purdue University for the Development and Implementation of PRS for JPCP Construction in Indiana

PI: N. Gharaibeh. 2001-2003
Sponsor: Purdue University.

Benefit-Cost Analysis for CRC Pavements

PI: N. Gharaibeh. 2001-2002
Sponsor: Concrete Reinforcing Steel Institute (CRSI).

Technical Assistance for University of Florida for the Investigation of Relationships between Cost and Quality in PRS

PI: N. Gharaibeh. 2002
Sponsor: FHWA.

Comparative Performance and Costs of In-service Highway Pavements

PI: N. Gharaibeh. Co-PI: M. Darter, T. Crow..... 1998-2001
Sponsor: American Concrete Pavement Association (ACPA).

Performance of In-service Highway Pavements in Florida

PI: N. Gharaibeh. Co-PI: T. Crow 1999-2000
Sponsor: Florida Concrete and Products Association (FC&PA).

Pavement Management System Implementation for the City of Livonia, Michigan

PI: T. Crow. Co-PI: N. Gharaibeh 1998-2000
Sponsor: City of Livonia, Michigan.

Review of Life-Cycle Costing Analysis Procedures

PI: M. Darter. Co-PI: N. Gharaibeh..... 1997-1998
Sponsor: Ontario Ministry of Transportation (MTO), Canada.

TEACHING & ADVISING

Courses Taught at Texas A&M University

- CVEN 624 Infrastructure Engineering and Management
Average class size: 19 students
Average students evaluation: 4.0 (Fall 18), 4.83 (Fall 17), 4.60 (Fall 16), 4.69 (Fall 15), 4.88 (Fall 2014), 4.64 (Fall 13), 4.89 (Fall 12), 4.52 (Fall 11), 4.96 (Fall 10), 4.36 (Fall 09)

- CVEN 303 Civil Engineering Measurement
Average class size: 61 students
Average students evaluation: 3.9 (Spring 18), 4.45 (Spring 17), 4.38 (Spring 16), 4.1 (Fall 15), 4.5 (Spring 15), 4.16 (Spring 14), 4.22 (Fall 13), 4.41 (Spring 13), 4.14 (Fall 10), 4.25 (Spring 10), 4.39 (Fall 09), 3.84 (Spring 09), 3.89 (Fall 08)
- CVEN 418/612 Tools for Highway Materials and Pavement Design (stacked course)
Average class size: 11 students
Average students evaluation: 4.10 for CVEN418 & 4.77 for CVEN689 (Spring 11), 4.92 for CVEN418 & 4.5 for CVEN689 (Spring 12)
- CVEN 403 Applied Civil Engineering Surveying. Summer 2012-2019 (co-taught with instructors from industry).
- CVEN 489 Sensor Technology for the Built Environment. Summer 2012 (co-taught with Drs. Hurlebaus, Cahill, Chang, & Socolofsky)

PhD Advisee at Texas A&M University (Committee Chair)

- Rohan Singh Wilkho, (expected 2022)
- Shi Chang (expected 2022)
- Cheng-Chun Lee, (expected 2020)
- Feiyue Wang, (expected 2020)
- Isaac Oti, Viability of Citizen Science for Enhancing the Quality of Infrastructure Monitoring Data, (graduated 8/2018)
- Charles Gurganus, Improving Roadway Diagnostics Using Network-Level Data, (graduated 8/2018)
- Salar Zabihi Siabil, Integration of Heuristics and Statistics to Improve the Quality of Network-Level Pavement Condition Data, (graduated 12/2016).
- Jose Rafael Menendez, Incorporating Risk and Uncertainty into Pavement Network Maintenance and Rehabilitation Budget Allocation Decisions, (graduated 8/2014).
- Litao Liu, A Methodology for Developing Performance-Related Specifications for Pavement Preservation Treatments, (graduated 12/2013).
- Siamak Saliminejad, GIS-Based Probabilistic Approach for Assessing and Enhancing Infrastructure Data Quality, (graduated 12/2012).

MS Advisee at Texas A&M University (Committee Chair)

- Sina Abbasgholipour, Developing Pavement Management Systems for Small to Medium Size Cities: Challenges, Solutions, and a Case Study, (graduated 9/2018).
- Saurav Neupane, Methods for Automated Identification of Roadway Drainage-Related Features from Mobile LiDAR Data (graduated 12/2017).
- Amir Rashed, Evaluation of Pavement Network Performance in Texas Considering Multiple Performance Metrics, (graduated 12/2016).

- Jing Li, Measuring the Effect of Uncertainty in Unit Cost and Pre-Treatment Condition on Pavement Maintenance and Rehabilitation Decisions, (graduated 8/2014).
- Paul John Narciso, Development of a Pavement Maintenance and Rehabilitation Project Formation and Prioritization Methodology that Reflects Agency Priorities and Improves Network Condition, (graduated 8/2013).
- Charles Gurganus, Bridging the Gap between Network and Project Selection Levels in Pavement Management, (graduated 5/2011).
- William S. Hart, Use of Micro Unmanned Aerial Vehicles in Transportation Infrastructure Condition Surveys, (graduated 8/2010).
- Debora (Brooke) Shelton Lindholm, Development of Quality Assurance Methods for Performance-Based Maintenance Contracts for Roadway Assets, (graduated 8/2010).
- Jubair Ahmed, Methods for Identifying Best-Value Bid for Performance-based Maintenance Contracts, (graduated 8/2010).
- Sujay Wani, Alternatives to the use of Contractor's Quality Control Data for Acceptance and Payment Purposes, (graduated 5/2010).

ME Advisee at Texas A&M University (with project report)

- Adrianus Prakoso, Roadway Infrastructure Management Application: A 5-Year Maintenance & Rehabilitation Plan for The Roadway Pavement Network at Texas A&M University (graduated 12/2017).
- Andrew Lange, Infrastructure Management program, Construction Project Review (graduated 5/2017).
- Someshwar Katukuri, Retarding Aging of Asphalt Using Anti-Oxidant Additives (graduated 5/2016).
- Kiran Ravi, A Report on NC-55 Pavement Design (graduated 12/2015).
- Nathaniel V. Wood, White Paper on Engineered Cementitious Composite, (graduated 12/2013).
- Sunny K. Goklani, A GIS Framework for Reducing Carbon Footprint of Concrete Production in Texas, (graduated 12/2013).
- Elkin Mosquera, Smart Meters: Making Sense of the Data, (graduated 8/2012).
- Roberto Alvarado Vazquez, Maintenance and Rehabilitation Plan for Texas A&M University Campus, (graduated 8/2010).
- Sagar Kale, Statistical Analysis of the Effect of Acceptance Lot Size on Pavement Quality (graduated 5/2010).

Graduate Committee Member at Texas A&M University

- Issa M. Issa, Civil Engineering, PhD (on going)
- Nataly De La Fuente, Optimal Material Model for Analysis of Wood Guardrail, Civil Engineering, MS, graduated 5/2018.

- Melissa Martinez, Using Vehicle Dynamics Simulation and Metamodels to Evaluate Factors and Mechanisms Affecting Roll Angle: An Initial Assessment, Civil Engineering, MS, graduated 5/2018.
- Marccus Hendricks, The Infrastructures of Equity and Environmental Justice, Landscape Architecture and Urban Planning, PhD, graduated 2017
- Yu Chen, Prediction of Top-Down Cracking of Asphalt Pavement Layers Under Thermal Loading, Civil Engineering, MS, graduated 2016
- Mustafa M. Cobanoglu, Statistical Modeling of Corrosion Failures in Natural Gas Transmission Pipelines, Civil Engineering, MS, graduated 5/2014.
- Aishwarya Baranikumar, Imparting Electrical Conductivity into Asphalt Composite Using Graphite, Civil Engineering, MS, graduated 8/2013.
- Narain Hariharan, Effect of Ionic Stabilization on Vertical Movement in Expansive Subgrade Soils in Texas, Civil Engineering, MS, graduated 8/2013.
- Meng Ling, Complex Modulus Prediction of Asphalt Concrete Pavement Cores, Civil Engineering, MS, graduated 8/2013.
- Yasser Koochi, Analytical-Numerical Methodology to Measure Undamaged, Fracture and Healing Properties of Asphalt Mixtures, Civil Engineering, Ph.D., graduated 12/2012.
- Brandon Pitre, Application of the Modified Methylene Blue Test to Detect Clay Minerals in Coarse Aggregate Fines, Civil Engineering, MS, graduated 12/2012.

Undergraduate Research Assistants at Texas A&M University

- Yazan Zakaria, Mobile LiDAR Modelling and Creating an Infrastructure Health Index, CVEN 389 Directed Studies, Summer 2016.
- Emily Woodrow, Statistical Analysis for Texas A&M Utilities (Electricity, Natural Gas, and Water), Engineering Honor Program, Fall 2015.
- Joshua Rivera, Evaluation of Pavement Preservation Treatments, Undergraduate Transportation Scholars Program (UTSP), Summer 2011.
- Dyane Bates, Roadside Maintenance, College of Engineering Undergraduate Summer Research Grants (USRG), Summer 2010.
- Jennifer Tovar: Pavement Performance Prediction Modeling, Undergraduate Transportation Scholars Program (UTSP), Summer 2010.
- Tom Dobson, Student worker appointment, Fall 2010.
- Justin L. Lansdowne, Student worker appointment, Spring 2009.

Courses Taught at the University of Texas at El Paso

- CE 6301 Infrastructure Management
- CE 3313 Engineering Measurements
- CE 5324 Construction Management

- BE 3373 Engineering Probability and Statistical Models
- CE 6195 Civil Engineering Seminar

MS Advisee at the University of Texas at El Paso (Committee Chair)

- Mohamed Elgendy, Condition Assessment and Data Integration for GIS-Based Storm Water Drainage Infrastructure Management Systems, (graduated 8/2008).
- Brian Valenzuela, Assessment of Energy Efficiency in a Passive Solar Housing Development, (graduated 12/2007).
- Prashant Jalvi, Best Bid Identification in Design-Build Contracting Using Game Theory, (graduated 5/2006).
- Josue Machado, Assessment of Housing and Infrastructure Conditions in El Paso County Colonias, (graduated 5/2006).
- Lakshmi Velivelli, Construction Acceptance Methods for Concrete Pavement Based on Seismic Testing, (graduated 8/2005).

Graduate Committee Member at the University of Texas at El Paso: Gema Camacho, Srinivasa Rao Manduva, Yaqi Wanyan, Hua Yang, Gilda Lizeth Carrasco Martinez.

Undergraduate Research Assistants at the University of Texas at El Paso: Jesus Avila, Tania Balboa, Lorena Blanco, Julie Ann Flores, Christopher Genera, Alberto Hernandez, Iraki Ibarra, Alejandra Nunez, Albert Ortega, and Pablo Ruiz.

HONORS

- Fellow and Discovery Lead for Community Infrastructure, Institute for Sustainable Communities (IfSC), (2017-present)
- Service Impact Award (2017), Zachry Department of Civil Engineering
- Appointment as holder of the Zachry Career Development Professorship I in Civil Engineering. (9/2016-present).
- Birdwell Excellence in Teaching Award (2014), Zachry Department of Civil Engineering
- Research Diversity Bonus Award (2011), Texas A&M Transportation Institute

SERVICES

Journal Editorial Services

ASCE Journal of Infrastructure Systems, Member of the Editorial Board, (2009 - Present).

Conference Organization

- Member of the Scientific committee for the ASCE Transportation and Development Institute's 2019 International Airfield and Highway Pavements Conference, Chicago, IL, July 21-24, 2019.

- Member of the Scientific committee for the ASCE Transportation and Development Institute's 2015 Airfield and Highway Pavement Conference, Miami, FL, June 7-10, 2015.
- Member of Scientific Committee for ASCE 2013 Green Streets, Highways and Development Conference, Austin, TX, November 2013.
- Member of Scientific Committee for ASCE 1st Transportation and Development Institute (T&DI) Congress: Advanced Technologies in Transportation Systems, Chicago, IL, March 2011.

Webinars

Data Management and Governance Practices at Transportation Agencies, TRB (2/26/2018).

Journal Paper Reviewer

ASCE Journal of Infrastructure Systems; ASCE Journal of Transportation Engineering, Parts A and B; ASCE Journal of Construction Engineering and Management; Structure and Infrastructure Engineering; Transportation Research Record; International Journal of Pavement Engineering; Journal of Environmental Management; Building and Environment Journal; Canadian Journal of Civil Engineering; Construction Management and Economics, Computer-Aided Civil and Infrastructure Engineering..

Proposal Reviewer

- National Science Foundation (NSF): 2006, 2007, 2008, 2009, 2011, & 2014.
- Qatar National Research Fund (QNRF): 2013 & 2015

Department & College Services

- Zachry Department of Civil Engineering, Division Head, Transportation & Materials Engineering, 9/2016-present.
- Zachry Department of Civil Engineering, Graduate Area Advisor, Materials area, 8/2012-8/2016.
- Zachry Department of Civil Engineering, Curriculum Committee, 8/2014-present.
- Zachry Department of Civil Engineering, Curriculum Assessment & Implementation Team (CAIT), 2013-present.
- Zachry Department of Civil Engineering, Coordinator for Surveying Program (upgraded equipment, hosted industry representatives, and conducted ABET mock and final reviews), 10/2008-present.
- Zachry Department of Civil Engineering Committees: Sensors Committee, member 2011; CEOB Reorganization Committee, member, 2016; Faculty Evaluation Criteria Committee, Chair, 2016.
- Advised Texas A&M University chapter of Engineers Without Borders on performing construction and topographical surveys using total station for their project in Costa Rica (5/2009, 2/2010)
- Zachry Department of Civil Engineering, Coordinated the Instructional Enhancement Fees (IEF) requests for the Materials Lab and the Surveying Lab, (FY 2009, FY 2010, and FY 2012).
- College of Engineering, Member of the Doctor of Engineering Admissions Committee, 10/2011-present.

University Services

- Institute for Sustainable Communities, Discovery Lead for Community Infrastructure, 2017-present.
- Reviewer for TAMU's Graduate Diversity Fellowship: 2015, 2016, and 2017.

National Committee Membership

- Member, Transportation Research Board Standing Committee on Geographic Information Science and Applications (2017-present).
- Member, Transportation Research Board Standing Committee on Pavement Management Systems (4/2014-present).
- Member, ASCE Infrastructure Systems Committee (ISC) (4/2009-present).
- Member, ASCE Highway Pavement Committee (HPC) (4/2009-present).
- Member, Transportation Research Board Committee on Portland Cement Concrete Pavement Construction (4/2004-4/2014).
- Member, Transportation Research Board Standing Committee on Management of Quality Assurance (4/2006-4/2012).

Membership in Professional Societies

- American Society of Civil Engineers (ASCE)
- Transportation Research Board (TRB), The National Academies of Sciences, Engineering, and Medicine.

Professional Licensing

Professional Engineer, Ohio (License No. 68391)