

Inya Nlenanya

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IOWA STATE UNIVERSITY
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EDUCATION

- PhD, Civil Engineering, Iowa State University
- MS, Agricultural Engineering, Iowa State University
- BEng, Electronic Engineering, University of Nigeria, Nsukka

PROFESSIONAL EXPERIENCE

- Research Scientist, Institute for Transportation, Iowa State University, Ames, IA, 2020–present
- Adjunct Assistant Professor, Civil, Construction, and Environmental Engineering, Iowa State University, Ames, IA, 2020–present
- Transportation Research Specialist/Geographic Information Systems (GIS) Analyst, Center for Transportation Research and Education, Institute for Transportation, Iowa State University, Ames, IA, 2008–2020

RESEARCH PROJECTS (Principal investigator)

- *Development of a Trail Management Program*, Des Moines Area Metropolitan Planning Organization

RESEARCH PROJECTS (Co Principal Investigator)

- *Alternative Funding for Iowa Road*, Iowa Highway Research Board, Iowa DOT
- *Pavement Management Support: Iowa DOT and Local Agencies*, Iowa DOT
- *Implementation of the Iowa DOT Pavement Management Optimization Model*, (Co-PI) Iowa DOT
- *Planning, Implementation, and Operation of the Iowa Pavement Management Program*, Iowa DOT
- *The Actual Cost of Food Systems on Roadway Infrastructure*, Leopold Center, Iowa State

OTHER RESEARCH PROJECTS

- *Guide for Preventing and Mitigating the Risk of Bridge and Tunnel Strikes by Motor Vehicles*, National Cooperative Highway Research Program, Transportation Research Board
- *Unreported Deer Crashes on Major Iowa Highways*, Iowa DOT
- *US Road Assessment Program (usRAP) Evaluation of Interstate Truck Routes*, MRI Global
- *Concrete Overlay Performance on Iowa's Roadways*, National Concrete Pavement Technology Center
- *Local Road Safety Plans*, Kimerly-Horn and Associates
- *Iowa DOT District Safety Plans*, Kimerly-Horn and Associates
- *High Friction Surface Treatment for High Crash Locations Phase II: Performance Assessment*, Iowa DOT
- *Naturalistic Driving Study: Development of the Roadway Information Database*, Strategic Highway Research Program (SHRP 2), Federal Highway Administration
- *Safety and Mobility Impacts of Winter Weather Phase III*, Iowa DOT

- *Pavement Management Performance Modeling: Evaluating the Existing PCI Equations*, Iowa DOT
- *Development of Railroad Highway Grade Crossing Consolidation Rating Formula*. Iowa DOT
- *Statewide Heavy-Truck Crash Assessment*, Iowa DOT
- *Safety and Mobility Impacts of Winter Weather Phase 1*, Midwest Transportation Consortium
- *Infrastructure Impacts of Iowa's Changing Economy*, Iowa Highway Research Board, Iowa DOT
- *A Transportation Safety Planning Tool for the City of Ames*, Midwest Transportation Consortium
- *Evaluation of Iowa's Driver Improvement Program*, Midwest Transportation Consortium
- *Asset Management: A Performance Perspective*, Midwest Transportation Consortium
- *Enhancing Motorcycle Conspicuity Awareness in Iowa*, Iowa DOT
- *Pavement Marking and Safety*, Iowa Highway Research Board, Iowa DOT
- *Evaluation for Effective Shielding of Bridge Piers*, Iowa Highway Research Board, Iowa DOT
- *Local Agency Pavement Management System*, Iowa DOT
- *International Road Assessment Program*, MRI Global

SELECTED PUBLICATIONS

- Nlenanya, I. and O. Smadi. 2021. Database Design and Integration Framework for Risk Management for State Highway Agencies, *Transportation Research Record*. doi: 10.1177/03611981211020004.
- Nlenanya, I. and O. Smadi. 2021. A Risk Management Database Framework Implementation for Transportation Asset Management. *Civil Eng*, 2(1), pp.193-213.
- Chen, Y. A., H. Ceylan, I. Nlenanya, O. Kaya, O. G. Smadi, P. C. Taylor, S. Kim, K. Gopalakrishnan, and D. E. King. 2020. Long-Term Performance Evaluation of Iowa Concrete Overlays. *International Journal of Pavement Engineering*, pp.1-12.
- Nlenanya, I. 2019. *GIS-Based Risk Management Database Integration and Implementation Framework for Transportation Agencies*, PhD Dissertation. Iowa State University, Ames IA.
- Nlenanya, I. and O. Smadi. 2018. Risk Management and Data Needs: A State of the Practice Survey of State Highway Agencies. *Transportation Research Record: Journal of the Transportation Research Board*.
- Alhasan, A., I. Nlenanya, O. Smadi, and C. MacKenzie. 2018. Impact of Pavement Surface Condition on Roadway Departure Crash Risk in Iowa. *Infrastructures*, Vol. 3, No. 2, 14 pp.
- Bektas, F., O. Smadi, and I. Nlenanya. 2015. Pavement Condition: A New Approach for the Iowa DOT. *Proceedings of the 94th Transportation Research Board Annual Meeting*, January 11–15, Washington, DC.
- Pyrialakou, V. D., I. Nlenanya, and K. Gkritza. 2014. Passenger Transportation Networks and Urbanization Level: Comparison of Classification Schemes. *Proceedings of the 93rd Transportation Research Board Annual Meeting*, January 12–16, Washington, DC.
- Gkritza, K., I. Nlenanya, W. Jiang, R. Sperry, and D. Smith. 2012. Bioeconomy and Transportation Infrastructure Impacts. *Green Energy and Technology: Bioenergy and Bioproducts*, SpringerVerlag Inc.
- Gkritza, K., I. Nlenanya, W. Jiang, R. Sperry, and D. Smith. 2011. Infrastructure Impacts of Iowa's Renewable Energy. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2205, pp. 238–246.

- Nlenanya, I. 2008. *Building an Environmental GIS Knowledge Infrastructure for Development in Sub-Saharan Africa in Data Mining Applications for Empowering Knowledge Societies*. Hershey PA: IDEA Group Inc.
- Nlenanya, I. 2005. Knowledge Discovery Interface for Environmental Science Applications, MS thesis.

TECHNICAL REPORTS

- Smadi, O., N. Hawkins, Z. Hans, B. A. Bektas, S. Knickerbocker, I. Nlenanya, R. Souleyrette, and S. Hallmark. 2015. *Naturalistic Driving Study: Development of the Roadway Information Database*, No. SHRP 2 Report S2-S04A-RW-1.
- Hans, Z., C. Albrecht, P. M. Johnson, and I. Nlenanya. 2015. *Development of Railroad Highway Grade Crossing Consolidation Rating Formula*. InTrans Project Report #104.
- Hans, Z., K. Gkritza, D. Cerwick, Y. Huang, and I. Nlenanya. 2014. *Statewide Heavy-Truck Crash Assessment*, InTrans Project Report #68.
- Gao, J., K. Gkritza, O. Smadi, N. Hawkins, B. A. Bektas, and I. Nlenanya. 2012. *Asset Management and Safety: A Performance Perspective*, Midwest Transportation Consortium, Project No. 2009-01.
- Hans, Z., N. Hawkins, I. Nlenanya, and S. Lavrenz. 2012. *Safety Impacts of Winter Weather on Iowa's Rural Primary Highways*, No. WM-STW12-113A.
- Hans, Z., N. Hawkins, and I. Nlenanya. 2011. *Safety and Mobility Impacts of Winter Weather—Phase I*. Institute for Transportation, Iowa State University, Ames, IA.
- Smadi, O., I. Nlenanya, M. Ghandour, and S. Lopez Barrera. 2011. *The Actual Cost of Food Systems on Roadway Infrastructure*, InTrans Project Report #25.
- Gkritza, K., D. E. Smith, R. B. Sperry, I. Nlenanya, and W. Jiang. *Iowa's Renewable Energy and Infrastructure Impacts*, IHRB Project No. TR-593. Iowa Department of Transportation, Ames, IA.

RECENT CONFERENCE PRESENTATIONS

- Nlenanya, I. and O. Smadi. 2020. Database Design and Integration Framework for Risk Management for State Highway Agencies. *Proceedings of the 99th Transportation Research Board Annual Meeting*, Washington, DC, January 12–16.
- Bou-Saab, G., I. Nlenanya, and A. Alhasan. 2019. Correlating Visual–Windshield Inspection Pavement Condition to Distresses from Automated Surveys Using Classification Trees. *Proceedings of the 12th International Conference on Low-Volume Roads*, September 15–18, Kalispell, Montana.
- Nlenanya, I. 2018. Risk Management and Data Needs: A State of the Practice Survey of State Highway Agencies. *Proceedings of the 97th Transportation Research Board Annual Meeting*, January 7–11, Washington, DC.
- Nlenanya, I. (Poster, Co-presenter). 2017. Quality Assessment of Pavement Roughness Data Using Conditional Inference Trees & Data Visualization Techniques. *Proceedings of the 96th Transportation Research Board Annual Meeting*, January 8–12, Washington, DC.

PROFESSIONAL AFFILIATIONS, AND HONORS

- Member, Transportation Research Board, AKD30, Low Volume Road Committee
- Alpha Epsilon, The Honor Society of Agricultural, Food, and Biological Engineering
- Associate Member, American Society of Civil Engineers