

Omar Smadi, PhD

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IOWA STATE UNIVERSITY
Institute for Transportation

BACKGROUND

Dr. Smadi has nearly 25 years of experience in the area of infrastructure and asset management ranging from pavements, bridges, safety, pavement marking, signs, and other infrastructure assets. He is currently serving as principal investigator for several research projects for the Iowa DOT, IHRB, federally-funded Midwest Transportation Center, Minnesota DOT, NCHRP, SHRP2, and Federal Highway Administration (FHWA). He is a member of the Transportation Research Board (TRB) Committees on Pavement Monitoring and Evaluation, Pavement Management, and Asset Management. Dr. Smadi developed and taught the FHWA Data Integration workshop and helps teaching the National Highway Institute's (NHI's) Asset Management classes. Dr. Smadi manages a data collection contract for pavement distress and video log for over 40,000 miles for the state of Iowa and cities and counties in the state. He manages the Iowa Pavement Management Program (IPMP) to support pavement management activities: data collection, training, PMS software, and GIS tools, and also manages the Roadway Information Database (RID) for the TRB and FHWA. This supports users from multiple agencies (over 65 users) to allow access, training, research and development utilizing the RID.

EDUCATION

- PhD, Transportation Engineering, Iowa State University, Ames, IA
- MS, Transportation Engineering, Iowa State University, Ames, IA
- BS, Civil Engineering, Yarmouk University, Jordan

PROFESSIONAL EXPERIENCE

Iowa State University (ISU), Department of Civil, Construction, and Environmental Engineering

- Associate Professor, 2014–Present

Institute for Transportation, Iowa State University

- Director, Center for Transportation Research and Education (CTRE), 2015–Present
- Director, Roadway Infrastructure Management and Operations Systems (RIMOS) program, 2010–Present
- Research Scientist, 1994–Present

SELECTED RESEARCH PROJECTS

- *Pavement Marking Management System*, Iowa DOT
- *Pavement Marking Management System*, MnDOT

- *Pavement Marking on Challenging Surfaces*, MnDOT
- *Evaluating All-Weather Pavement Markings in IL*, IL DOT and ITC
- *Iowa Pavement Management Program*, Iowa DOT
- *Pavement Management Optimization*, Iowa DOT
- *Integrating Maintenance Activities into Pavement Management Systems*, Iowa DOT
- *NCHRP 24-46: Development of an Implementation Manual for Geotechnical Asset Management for Transportation Agencies*, Iowa State University participated as a subcontractor to Shannon & Wilson, Inc.
- *PONTIS (Bridge Management) Implementation and Operation*, Iowa DOT.
- *Automated Pavement Condition Data: Analysis, Feasibility, and Data Integration*, FHWA and Iowa DOT
- *Use of Functional Silos to Optimize Agency Decision Making*, Midwest Regional University Transportation Center, University of Wisconsin
- Development of a monograph on the “Science of Transportation Asset Management,” in partnership with the Office of Asset Management, FHWA

SELECTED PUBLICATIONS

- Khatami, D., B. Shafei, and O. Smadi. 2016. Management of Bridges under Aging Mechanisms and Extreme Events: Risk-Based Approach. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2550, pp. 89–95.
- Chen, C. R., C. Williams, M. Marasinghe, J. Ashlock, O. Smadi, S. Schram, and A. Buss. 2015. Assessment of Composite Pavement Performance by Survival Analysis. *Journal of Transportation Engineering*, Vol. 141, No. 9.
- Bektas, F., O. Smadi, and I. Nlenanya. 2015. Pavement Condition: New Approach for Iowa Department of Transportation. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2523, pp. 40–46.
- Zimmerman, K. and O. Smadi. 2014. Investigating Consistency in Highway Performance Monitoring System and Pavement Management Reporting. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2455, pp. 37–43.

PROFESSIONAL AFFILIATIONS, HONORS, AND SERVICE

- Transportation Research Board (TRB)
 - Member, TRB Committee AFD20 – Pavement Monitoring and Evaluation (Chair for 6 years)
 - Member, TRB Committee AFD10 – Pavement Management (2000 to 2012)
 - Member, TRB Committee ABC40 – Asset Management
- American Society of Civil Engineers (ASCE)
 - Member, ASCE Infrastructure Management Committee
 - Member, ASCE Advanced Technology Committee
- Institute of Transportation Engineers (ITE)
- Friend, AAHSTO Asset Management Subcommittee
- International Road Federation (IRF): Asset Management Committee (Chair for 4 years)
- World Road Association (PIARC): Infrastructure Asset Management Group