

Brent Phares, PhD, PE	
Research Associate Professor, Department of Civil, Construction, and Environmental Engineering Institute for Transportation Iowa State University 2711 South Loop Dr. Suite 4700 Ames, IA 50010	(515) 294-5879 bphares@iastate.edu IOWA STATE UNIVERSITY Institute for Transportation

BACKGROUND

Dr. Brent M. Phares is a Research Associate Professor at Iowa State University. He has substantial experience in project management, development of practical engineering solutions, analytical modeling, and testing of full- and partial-scale transportation infrastructure components. He is considered an international expert in the field of bridge evaluation using quantitative information and has become a national player in the field of accelerated bridge construction through his work with the Iowa Department of Transportation. He currently has a rolling, three-year contract with the Iowa Department of Transportation to provide “on-demand” research and other expertise. One of his key attributes is his ability to manage collaborative projects, produce timely and result-oriented research that meets stakeholder needs, and to listen to and meet client needs. He regularly integrates outreach activities into research to act as a conduit between the academic community and transportation practitioners, thus allowing technology and research results to be adopted.

EDUCATION

- PhD, Civil Engineering, Iowa State University, Ames, IA, 1998
- MS, Civil Engineering, Iowa State University, Ames, IA, 1996
- BS, Civil Engineering, Iowa State University, Ames, IA, 1994

PROFESSIONAL EXPERIENCE

- Research Associate Professor, 2014–Present
- Associate Director, Institute for Transportation, 2012–Present

SELECTED RESEARCH PROJECTS

- *Development of Non-Proprietary Ultra-High-Performance Concrete (UHPC) for Iowa Bridges*, Iowa Highway Research Board, Iowa Department of Transportation, and Accelerated Bridge Construction University Transportation Center (Co-PI, 2018–2022)
- *Fiber-Reinforced Concrete for Bridge Decks*, Iowa Highway Research Board and Iowa Department of Transportation (Co-PI, 2018–2021)
- *Beam End Repair for Prestressed Concrete Beams*, Iowa Department of Transportation (Co-PI, Phase I: 2018–2022; Phase II: 2022–2025)
- *Assessment of Bridge Decks with Glass Fiber Reinforced Polymer (GFRP) Reinforcement*, Minnesota Department of Transportation (Co-PI, 2018–2023)

- *Increase Service Life at Bridge Ends through Improved Abutment and Approach Slab Details and Water Management Practices*, Iowa Highway Research Board (Co-PI, 2017–2022)
- *Evaluation of Service Life of Bridges*, Iowa Department of Transportation (PI, 2016–2022)
- *Initiative for Big Data-Driven Prediction of Long-Term Bridge Performance and Management Improvement*, Midwest Transportation Center (Co-PI, 2016–2018)
- *Evaluation of the Performance of A1010 Bridge Steel*, Iowa Department of Transportation and Iowa Highway Research Board (PI, 2016–2020)
- *Evaluation of Corrosion Resistant Reinforcing Steel in the Deck Slab of a Three Span Prestressed Girder Bridge*, Iowa Department of Transportation (PI, 2012–2016)

SELECTED PUBLICATIONS

- Phares, B., Y. S. Lee, T. K. Hosteng, and J. Nelson. 2021. Investigation of Grouted Coupler Connection Details for Accelerated Bridge Construction. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2675, No. 8, pp. 562–569.
- Liu, Z. and B. Phares. 2020. Material Selection for the Joint between Adjacent Box Beams. *Journal of Materials in Civil Engineering*, Vol. 32, No. 4, pp. 1–13.
- Liu, Z., K. Freeseaman, and B. Phares. 2020. Evaluation of the Need for Negative Moment Reinforcing in Prestressed Concrete Bridges in the View of Service Loads. *Journal of Engineering Structures*, Vol. 207, Article no. 110206, pp. 1–8.
- Liu, Z., B. Phares, W. Shi, and B. Shafei. 2020. Full-Scale Evaluation of an Innovative Joint Design between Adjacent Box Beams. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2674, No. 2, pp. 33–44.
- Shi, W., B. Shafei, Z. Liu, and B. Phares. 2019. Early-Age Performance of Longitudinal Bridge Joints Made with Shrinkage-Compensating Cement Concrete. *Journal of Engineering Structures*, Vol. 197, Article no. 109391, pp. 1–11.
- Dopko, M., M. Najimi, B. Shafei, X. Wang, P. Taylor, and B. Phares. 2018. Flexural Performance Evaluation of Fiber Reinforced Concrete Incorporating Multiple Macro-Synthetic Fibers. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2672, No. 27, pp. 1–12.

PROFESSIONAL AFFILIATIONS, HONORS, AND SERVICE

- Member, American Society of Civil Engineers, 1990–Present
- Voting member, AREMA Committee on Timber – Committee 7, 2005–Present
- Secretary, Transportation Research Board Subcommittee on Nondestructive Evaluation of Structures, 1998–Present
- Team Coordinator, FHWA Virtual Team on Structural Health Monitoring, 2004–Present
- Member, Transportation Research Board Committee on Dynamics and Field Testing of Bridges, voting member, 1999–2003; friend of committee 1997–1998, 2003–Present
- Friend, Transportation Research Board Committee on Concrete Bridges, 1997–Present
- Member, ACI Committee 342, Evaluation of Concrete Bridges and Bridge Elements, 1997–Present
- Associate Member, ACI Committee 228, Nondestructive Testing of Concrete, 1998–Present