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Frangopol contributes expertise to update of AASHTO bridge evaluation manual

Revised national guidelines on bridge load testing seek to improve accuracy of capacity assessments

Dan M. Frangopol, Lehigh's inaugural Fazlur R. Khan Endowed Chair of Structural Engineering and Architecture, is part of a writing team that has updated load testing guidelines for the AASHTO Manual for Bridge Evaluation.

The team revised Section 8 on load testing of bridges of the AASHTO Manual for Bridge Evaluation. This manual was developed to assist bridge owners by establishing inspection procedures and evaluation practices that meet the National Bridge Inspection Standards (NBIS), and first adopted by the American Association of State Highway and Transportation Officials Highways Subcommittee on Bridges and Structures in 2005.

Improved load testing procedures are expected to lead to more accurate assessments of bridge capacities.

The AASHTO Technical Committee T-18 on Bridge Management, Evaluation and Rehabilitation recently approved the update.

In addition to Frangopol, the writing team includes Sreenivas Alampalli (STANTEC, USA), Jesse Grimson (Senior Consultant, USA), David Kosnik (CTL Group, USA), Marvin W. Halling (Utah State University, USA), Eva O.L. Lantsoght (Delft University of Technology, The Netherlands, and Universidad San Francisco de Quito, Ecuador), David Y. Yang, (Portland State University, USA), and Y. Edward Zhou (AECOM, USA).

The group members are the authors of "Bridge Load Testing: State-of-the-Practice," a 2021 review paper published in the ASCE Journal of Bridge Engineering, as well as co-authors of the [Primer on Bridge Load Testing](#) (Transportation Research Circular E-C257), published by the Transportation Research Board of National Academies of Science, Engineering, and Medicine. The primer served as the basis for the updates to Section 8 of the Manual for Bridge Evaluation.

Lubin Gao (Federal Highway Administration) provided guidance and useful comments in the final stage of the revisions. Anne Rearick (Indiana Department of Transportation) worked on the ballot and moved the proposed changes toward acceptance.

Published in 1971, the original NBIS created the United States' first coordinated bridge inspection program to evaluate deficiencies of existing bridges and ensure that unsafe bridges are closed.

Frangopol is the Founding President of the [International Association for Bridge Maintenance and Safety \(IABMAS\)](#) and of the [International Association for Life Cycle Civil Engineering \(IALCCE\)](#), and Founding Vice-President of the [International Society for Structural Health Monitoring of Intelligent Infrastructure \(ISHMII\)](#). He is the Past Vice-President of the [International Association for Structural Safety and Reliability \(IASSAR\)](#), and Past Vice-President of the [Engineering Mechanics Institute of ASCE](#) and Past Member of its Board of Governors. He is also the Founder and Inaugural Chair of the ASCE-SEI Technical Council on life-cycle performance, safety, reliability and risk of structural systems and of the [IASSAR Technical Committee on life-cycle performance, cost and optimization](#). He has held numerous leadership positions in national and international professional societies including Chair of the Technical Activities Division of the 20,000+ members of the [Structural Engineering Institute \(SEI\)](#) of the ASCE, Chair of Executive Board of [IASSAR](#), Chair of [IABSE](#) Working Commission 1 on Structural Performance, Safety and Analysis, and Chair of [IFIP WG 7.5 on Reliability and Optimization of Structural Systems](#). He is an inaugural Fellow of SEI and EMI; a Fellow of ACI, IABSE, ISHMII, and JSPS; and a Distinguished Member of ASCE.

Read more about Frangopol's research and achievements [here](#).

Related Links:

- [Dan M. Frangopol: The Fazlur R. Khan Endowed Chair of Structural Engineering and Architecture Professor of Civil Engineering](#)
- ["Bridge Load Testing: State-of-the-Practice"](#)
- [Primer on Bridge Load Testing \(Transportation Research Circular E-C257\)](#)

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Professor Dan M. Frangopol is the inaugural Fazlur R. Khan Endowed Chair of Structural Engineering and Architecture at Lehigh.

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