

Proceedings of the Workshop on New Approaches to Liquefaction Analysis

New Approaches to Liquefaction Analysis
Washington, DC
Sunday, 10 January 1999
Annual Meeting of the Transportation Research Board

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R. Dobry, Abdoun, and O'Rourke, from the Proceedings of the 4th Caltrans Seismic Research Workshop, 9-11 July, 1996.

[Paper \(first page only\): Post Triggering Response to Liquefied Sand in the Free Field and Near Foundations](#)

Dobry and Abdoun, ASCE Geotechnical Special Publication No. 75, Proceedings of the ASCE Specialty Conference on Geotechnical Earthquake Engineering and Soil Dynamics III, Seattle, Washington, 3-8 August 1998, pp. 270-300.

[Paper: Centrifuge Modeling of Liquefaction Effects](#)

Ramos and Dobry, Progress Report to NCEER, 21 July 1998.

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E. Kavazanjian, Jr., prepared for the TRB Workshop on New Approaches to Liquefaction Analysis, 10 January 1999.

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J.A. Farrar, J. Nickell, M.G. Allen, G. Gobel, and J. Berger, ASCE Geotechnical Special Publication No. 75, Proceedings of the ASCE Specialty Conference on Geotechnical Earthquake Engineering and Soil Dynamics III, Seattle, Washington, 3-8 August 1998, pp. 554-567.

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Paper (first page only): Summary of Standard Penetration Test (SPT) Energy Measurement Experience

J.A. Farrar, Proceedings of the International Conference of Geotechnical Site Characterization, Robertson and Mayne, editors, Atlanta, Georgia, 19-22 April 1998, Balkema, pp. 919-926.

Technical Report: Geotechnical Engineering Circular No. 3, Design Guidance: Geotechnical Earthquake Engineering for Highways, Volume 1 — Design Principals

FHWA Publication No. FHWA-SA-97-076, May 1997. **Note: Chapters 4 and 8 presented in "kavy.pdf" supersede Chapters 4 and 8 of this report.**

Technical Report: Geotechnical Engineering Circular No. 3, Design Guidance: Geotechnical Earthquake Engineering for Highways, Volume 2 — Design Examples

FHWA Publication No. FHWA-SA-97-076, May 1997.

Paper: Evolution of Dynamic Analysis in Geotechnical Earthquake Engineering

W.D.L. Finn, prepared for the TRB Workshop on New Approaches to Liquefaction Analysis, 10 January 1999, revised 22 January 1999.

Excerpts: Proceedings of the FHWA/NCEER Workshop on the National Representation of Seismic Ground Motion for New and Existing Highway Facilities

NCEER Technical Report NCEER-97-0010, edited by I.M. Friedland, M.S. Power, and R. Mayes.

Lecture Notes: An Update to the Seed-Idriss Simplified Procedure for Evaluating Liquefaction Potential

I.M. Idriss, prepared for the TRB Workshop on New Approaches to Liquefaction Analysis, 10 January 1999, revised 22 January 1999.

Chapter 4 (Ground Motion Characterization) and Chapter 8 (Liquefaction and Seismic Settlement): Reference Manual, Training Course in Geotechnical Earthquake Engineering

FHWA Publication No. HI-99-012, December 1998. **Note: These Chapters supersede chapters 4 and 8 in the FHWA Circular on Geotechnical Earthquake Engineering for Highways, Volume 1.**

Presentation Overheads: Remediation of Bridge Foundations in Liquefiable Soil

G.R. Martin, prepared for the TRB Workshop on New Approaches to Liquefaction Analysis, 10 January 1999.

Reference List: Some Recent References on Improvement of Liquefiable Soils

J.K. Mitchell, prepared for the TRB Workshop on New Approaches to Liquefaction Analysis, 10 January 1999.

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R.B. Seed, prepared for the TRB Workshop on New Approaches to Liquefaction Analysis, 10 January 1999.

Paper: Liquefaction Resistance Based on Shear Wave Velocity

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R.D. Andrus and K.H. Stokoe, III, preprint of a paper delivered at the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils. Note: a detailed report on this subject with updated plots and methodology is now available through the National Institute of Standards and Technology (NIST).

Lecture Notes: Evaluation of Liquefaction Resistance Using Shear Wave Velocity

K.H. Stokoe, III, prepared for the TB Workshop on New Approaches to Liquefaction Analysis, 10 January 1999.

Excerpts: Screening Guide for Rapid Assessment of Liquefaction Hazard at Highway Bridge Sites

T.L. Youd, MCEER Technical Report MCEER-98-0005, 16 June 1998.

Excerpts: Executive Summary: Liquefaction Hazard Evaluation of Interstate, Federal and State Highway Bridges Sites in Utah, Report to the Utah Department of Transportation

T.L. Youd, P.S. Wiley, S.G. Gilstarp, and C.R. Peterson, 30 December 1998.

Geotechnical Engineering Publication web site: <http://www.fhwa.dot.gov/bridge/geopub.HTM>