BRIDGE SESSIONS

Innovative Bridge Applications
AND
Physical Testing for Bridge Load Rating

ICEA Midyear Meeting
July 10, 2003
Session Speakers

- Justin Doornink, Ph.D. Student
- Travis Konda, Ph.D. Student
- Van Robbins, M.S. Student
- J. S. Ingersoll, WHKS & Co.
- Terry Wipf, ISU
- F. Wayne Klaiber, ISU
- Brent Phares, CTRE
- Scott Neubauer, Iowa DOT
Timber Bridges – A Viable Alternative

Terry Wipf, Doug Wood,
Brent Phares, Travis Hosteng

Bridge Engineering Center
Iowa State University
Approx. Span Lengths of 16 to 38 ft.
Longitudinal Glued Laminated Deck

- Wearing surface
- Deck
- Panel joint
- Connector
- Stiffener beam
Approx. Span Lengths 19 to 40 ft.
Glued Laminated Stringer

- Glulam deck
- Wearing surface
- Glulam beam
Approx. Span Lengths 35 to 150 ft.
FRP Reinforced Glulam Girders

FRP Laminate
Bridge Engineering Center Activities

- Design Specifications
- Design Standards
- Design Manual
- Research Needs
- Timber Coalition
Timber Bridges Tested - Highway and Railway
Instrumentation

VEHICLE ACCELEROMETER

STORAGE OSCILLOSCOPE

PC MOUNTED IN CAB OF VEHICLE

PC

TRANSDUCERS

CONTROLLER

TAPESWITCH

SIMULTANEOUS

VEHICLE ACCELEROMETER
Timber Railroad Bridges
Plans for Crash-Tested Bridge Railings for Longitudinal Wood Decks

Michael A. Ritter
Ronald K. Fuller
Paule D. Hillrich Lee
Barry T. Rossen
Shelia Flaim Durado
Plans for Crash-Tested Wood Bridge Railings for Concrete Decks

Michael A. Ritter
Ronald K. Fuller
Paula D. Wilbourn Lee
Barry T. Roseen
Shmali Rimal Duvadi

Plans for Crash-Tested Bridge Railings for Longitudinal Wood Decks on Low-Volume Roads

Michael A. Ritter
Ronald K. Fuller
Steve Russell
Paula D. Wilbourn Lee
Barry T. Roseen
Timber Bridges
Design, Construction, Inspection, and Maintenance