

BRIDGE SEISMIC DESIGN & RETROFITTING

OBJECTIVES:

This course is intended to provide detailed guidance in seismic evaluation, design, analysis and strategies for retrofitting highway bridges. Training will also include screening and evaluation methods, hands-on retrofit design examples, geotechnical modeling, computer modeling techniques and various retrofitting measures. It will also reflect major changes in seismic design code and the newly updated FHWA Seismic Retrofitting Manual for Bridges.

AGENDA:

Time	Day 1	Day 2	Day 3
8:30 AM	<ul style="list-style-type: none">• Course Overview• Lessons Learned• Design Code Evolution	<ul style="list-style-type: none">• Screening Methods for Bridges in Categories C & D	<ul style="list-style-type: none">• SAP2000 Modeling Techniques and Hand Check Methods
10:00 AM	Break	Break	Break
10:30 AM	<ul style="list-style-type: none">• Seismic Retrofit of Bridges – Introduction and Overview• Seismic and Geotechnical Hazards	<ul style="list-style-type: none">• Pushover Analysis• Design Examples	<ul style="list-style-type: none">• Retrofit Measures for Bridges in Categories C & D• Substructure Components & Design Examples
12:00 PM	Lunch	Lunch	Lunch
1:00 PM	<ul style="list-style-type: none">• Screening and Evaluation Procedures for Bridges in Categories A & B	<ul style="list-style-type: none">• Evaluation Methods for Bridges in Categories C & D and Structural Modeling	<ul style="list-style-type: none">• Retrofit Measures for Bridges in Categories C & D• Comprehensive Retrofit Example
2:30 AM	Break	Break	Break
3:30 PM	<ul style="list-style-type: none">• Retrofit Measures for Bridges in Categories A & B	<ul style="list-style-type: none">• Geotechnical Modeling and Capacity Assessment for Bridges in Categories C & D	<ul style="list-style-type: none">• Retrofit Measures for Bridges on Hazardous Sites• Course Summary

TARGET AUDIENCE:

The target audience would be State bridge engineers, County engineers, consultant structural engineers, Federal bridge/structural engineers involved and responsible for seismic design, analysis and retrofit of bridges.

INSTRUCTORS:

Dr. Philip Yen, P.E. is the Program Manager of Seismic Hazard Mitigation Program of Office of Infrastructure R&D. His professional experience includes: assistant civil engineer with Bureau of Residence and Urban Development in Taiwan, 1979-1980; civil engineer and senior civil engineer of Taiwan Power Company in Nuclear Power Division, 1980-1986; graduate research assistant of Virginia Transportation Research Council, 1987-1988; graduate research assistant of University of Virginia, 1988-1991; and highway engineer and research structural engineer of Federal Highway Administration. Dr. Yen was named "The Engineer of the Year 2000" for the FHWA. He received many outstanding awards from the agency including an Engineering Excellence Award in 1999.

Derrell Manceaux, P.E. is currently a licensed Professional Engineer in Colorado and is a senior bridge engineer in Denver, Colorado. He has been with the Federal Highway Administration for 22 years and spent 19 years in actual bridge design as a designer and Team Leader with the Federal Lands Highway Division. Derrell has designed numerous structures types over most of the United States and has a special interest in designing structures in high seismic areas. He joined the FHWA Resource Center in 2004 and has been providing seismic workshops throughout the country. He also has been involved with providing workshops to individual State DOT's for security of highway structures. In addition, Derrell is working with the AASHTO T3 committee in reviewing the seismic specifications currently being developed. He has assisted several agencies in seismic related work and assistance to design and analysis concerns.

Registration Procedure

- 1) Please contact Gail Ikeda at 956-8367, 956-8851 (FAX) or gail@eng.hawaii.edu by **Tuesday, April 11, 2006**.
- 2) Attendance is limited to 40 participants.
- 3) Private company registration fee is \$150 (includes parking pass).

Cancellations

Please contact us if you must cancel your registration or if someone will be substituting for you. Refunds will be made if notice of cancellation is received at least 3 workdays prior to the workshop date.

Parking

Parking for the East West Center is \$4/day (total \$12). If you would like to a parking pass, please contact us by April 11, 2006. Make checks payable to **Research Corporation of the University of Hawaii (RCUH)** and mail to:

Hawaii LTAP
University of Hawaii
Dept of Civil and Environmental Engineering
2540 Dole St, Holmes 383
Honolulu, HI 96822
Attn: Gail Ikeda

BRIDGE SEISMIC DESIGN & RETROFITTING

April 25 – 27, 2006

East-West Center

Jefferson Hall

Asia Room

8:30 a.m. – 4:30 p.m.

Workshop sponsored by the

**Federal Highway Administration
and the
Hawaii Local Technical Assistance
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*Hawaii State Department of Transportation
University of Hawaii's Department of Civil Engineering*

Hawaii Local Technical Assistance Program

University of Hawaii at Manoa
Department of Civil & Environmental Engineering
2540 Dole Street, Holmes Hall #383
Honolulu, Hawaii 96822

