

Bridge Design and Maintenance Guidelines and References

Following are references, grouped by category, that may provide guidance for the design and maintenance of bridges. We also embed links when the references are available on-line.

A. General Bridge Design and Maintenance

(1) *AASHTO LRFD Bridge Design Specifications, Customary U.S. Units*, 4th edition. Washington, DC: American Association of State Highway and Transportation Officials, 2007 with current interim specifications.

(2) *Bridge Inspector's Reference Manual*. U.S. Department of Transportation. Federal Highway Administration. Washington, DC: Government Printing Office, 2002 (Revised 2006).

(3) *Federal Lands Highway Project Development and Design Manual*. U.S. Department of Transportation. Federal Highway Administration. Washington, DC: Government Printing Office, 2008.

(4) *Improving Highway Safety at Bridges on Local Roads and Streets*. U.S. Department of Transportation. Federal Highway Administration. Washington, DC: Government Printing Office, 1998.

(5) *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges*. U.S. Department of Transportation. Federal Highway Administration. Washington, DC: Government Printing Office, 1995.

(6) *Timber Bridges: Design, Construction, Inspection and Maintenance*. U.S. Department of Agriculture. U.S. Forest Service. Washington, DC: Government Printing Office, 1990.

B. Bridge Barrier Systems

(1) *AASHTO LRFD Bridge Design Specifications, Customary U.S. Units*, 4th edition. Washington, DC: American Association of State Highway and Transportation Officials, 2007 with current interim specifications.

(2) *Design and Evaluation of Two Bridge Railings for Low-Volume Roads*. Faller, Ronald K., et al. Proceedings of 6th International Conference on Low-Volume Roads; June 25–29, 1995; Minneapolis, MN. Washington, DC: National Academy Press: 357-372; 1995. Vol. 2. 1995.

(3) *Recommended Procedures for the Safety Performance Evaluation of Highway Features*. National Cooperative Highway Research Program (NCHRP) Report No. 350. Transportation Research Board. National Research Council. Washington, DC: 1993.

(4) *Roadside Design Guide*, 3rd edition with updated Chapter 6, Washington, DC: American Association of State Highway and Transportation Officials, 2006.

C. Bridge Roadway Widths

(1) *AASHTO LRFD Bridge Design Specifications, Customary U.S. Units*, 4th edition. Washington, DC: American Association of State Highway and Transportation Officials, 2007 with current interim specifications.

(2) *Federal Lands Highway Project Development and Design Manual*. U.S. Department of Transportation. Federal Highway Administration. Washington, DC: Government Printing Office, 2008.

(3) *Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT≤400)*, 1st edition. Washington, DC: American Association of State Highway and Transportation Officials, 2001.

(4) *Improving Highway Safety at Bridges on Local Roads and Streets*. U.S. Department of Transportation. Federal Highway Administration. Washington, DC: Government Printing Office, 1998.

(5) *A Policy on Geometric Design of Highways and Streets*, 5th edition. Washington, DC: American Association of State Highway and Transportation Officials, 2004. (The "Green Book").

D. Live Loads on Bridges

(1) *AASHTO LRFD Bridge Design Specifications, Customary U.S. Units*, 4th edition. Washington, DC: American Association of State Highway and Transportation Officials, 2007 with current interim specifications.

(2) *Manual for Bridge Evaluation, First Edition*, Washington, DC: American Association of State Highway and Transportation Officials, 2008.

E. Bridge Signs: *Manual on Uniform Traffic Control Devices (MUTCD)*. U.S. Department of Transportation. Federal Highway Administration. 2003 edition with Revisions 1 and 2 incorporated.

F. Treated Wood

(1) *Guide for Minimizing the Effect of Preservative-Treated Wood on Sensitive Environments*. Lebow, Stan T. and Tippie, Michael. 2001. General Technical Report FPL- GTR-122. Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory.

(2) *Guidelines to Protect Fish and Fish Habitat from Treated Wood Used in Aquatic Environments in the Pacific Region*. Hutton, K. E. and Samis, S. C. 2000. Canadian Technical Report of Fisheries and Aquatic Sciences 2314; Fisheries and Oceans Canada.

(3) *Treated Wood in Aquatic Environments*. Western Wood Preservers Institute, 2006.

(4) *Wood Handbook, Chapter 15: Wood Preservation*. Lebow, Stan T. 2010 General Technical Report FPL- GTR-190. Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory.

G. Ecological Bridge Design: *Stream Simulation: An Ecological Approach to Provide Passage for Aquatic Organisms at Road-Stream Crossings*, USDA Forest Service, National Technological and Development Program, August 2008.

(H) Bridge Design and Maintenance Links

(1) American Association of State Highway and Transportation Officials (AASHTO)

(2) American Wood Protection Association (AWPA)

(3) Federal Highway Administration (FHWA)

(4) Federal Lands Highway

(a) Eastern Federal Lands Highway

(b) Central Federal Lands Highway

(c) Western Federal Lands Highway

(5) Western Wood Preservers Institute (WWPI)