

## **Railroad Bridge Working Group Report to the Railroad Safety Advisory Committee**

**September 10, 2008**

The Railroad Safety Advisory Committee (RSAC) of the Federal Railroad Administration (FRA) constituted the Railroad Bridge Working Group (RBWG) on February 20, 2008 with the following assignment: "Report to the Federal Railroad Administrator on the current state of railroad bridge safety management, updating the findings and conclusions of the 1993 Summary Report of the FRA Railroad Bridge Safety Survey, including recommendations for further action."

The RBWG met on April 24, June 12, and August 7, 2008, and has completed the immediate assignment. The Working Group has two recommendations for the RSAC and FRA. The Working Group members also shared information with the entire group and with FRA which has proven useful in developing these recommendations. One item of information is an updated count of railroad bridges in the United States provided by the owners of a large majority of the Nation's railroad bridges. This count represents only bridges that carry railroad tracks.

This information item consists of data presented to the Working Group by some of its members, and does not represent a consensus or a position of the Working Group itself. The Working Group agreed by consensus to pass the information to the RSAC and to FRA, and it is presented as Attachment 1.

Other items presented to the Group and FRA include the results of a survey taken by the Association of American Railroads during the development of the recommended Essential Elements of a Railroad Bridge Management Program, indicating the degree to which the AAR member railroads presently conform to the items found in the recommended list, documentation from several railroads showing the current state of their bridge management programs, and technical information related to bridge integrity.

The Working Group reached consensus on two particular recommendations, which it now presents to the RSAC.

1. The Working Group agreed by unanimous vote to recommend that the RSAC present to the Federal Railroad Administrator the attached Essential Elements of a Railroad Bridge Management Program, with the further recommendation that FRA add the Essential Elements to the Agency Policy on the Safety of Railroad Bridges, Appendix C of Title 49, Code of Federal Regulations, Part 213, Federal Track Safety Standards, Appendix C. This Appendix consists of non-regulatory guidelines for Railroad Bridge Safety, and this action would not constitute a rule-making proceeding. The text of the Essential Elements of a Railroad Bridge Management Program is Attachment 2. FRA would incorporate these Essential Elements with appropriate editorial modifications to maintain the proper context with the parent document.
2. The Working Group agreed by unanimous vote to recommend to the RSAC, and hereby recommends, that the Railroad Bridge Working Group be continued in existence in an inactive status, in order that it may be called upon by the RSAC should the expertise of the Working Group be needed to address further issues regarding the safety of railroad bridges.

Attachment 1

<b>RSAC Bridge Working Group</b>					
<b>2008 Bridge Count for US Railroads</b>					
<b>Railroad Classification</b>	<b>Number of Bridges</b>	<b>Miles of Bridges</b>			
		<b>Metal</b>	<b>Masonry</b>	<b>Timber</b>	<b>Total</b>
<b>Class 1 Freight</b>	60,688	792.26	368.92	278.02	1,439.20
<b>Passenger</b>	2,129	36.16	17.74	0.24	54.14
<b>Short Line &amp; Regional</b>	14,033	106.64	20.24	140.01	266.88
<b>GRAND TOTAL</b>	76,850	935.05	406.90	418.27	1,760.22
<b>1993 Percent</b>		47%	17%	36%	
<b>2008 Percent</b>		53%	23%	24%	

<b>Railroad Classification</b>	<b>Track Miles</b>	<b>Route Miles</b>	<b>Bridges per Mile</b>	<b>Feet per Bridge</b>	<b>Bridge Feet per Mile</b>
<b>Class 1 Freight</b>	162,924	94,614	0.64	125.21	80.32
<b>Passenger</b>	3,266	1,629	1.31	134.27	175.48
<b>Short Line &amp; Regional</b>	25,125	22,226	0.63	100.42	63.40
<b>GRAND TOTAL</b>	191,315	118,469	0.65	120.94	78.45

September 4, 2008

## Essential Elements of Railroad Bridge Management Programs

- 1 Assignment of responsibility for decisions regarding integrity of structures.
- 2 Have a bridge inventory that indicates party responsible for management of each bridge.
  - 2.1 Identify each bridge by milepost location or other unique identifier.
  - 2.2 The location (city, if applicable & state).
  - 2.3 What the bridge crosses.
  - 2.4 Number of tracks.
  - 2.5 Number of spans.
  - 2.6 Span length.
  - 2.7 Type(s) of construction of the
    - 2.7.1 Substructure.
    - 2.7.2 Superstructure.
    - 2.7.3 Deck.
  - 2.8 Overall length.
  - 2.9 Dates of:
    - 2.9.1 Construction.
    - 2.9.2 Major renovation.
    - 2.9.3 Strengthening.
- 3 Known capacity of railroad bridges as determined by rating by competent engineer or by design documents.
- 4 Procedures for the control of movement of high, wide or heavy loads exceeding the nominal capacity of bridges
- 5 Maintenance of permanent records of design, construction, modification, and repair
- 6 Railroad specific procedures for design and rating of bridges
- 7 Inspection of railroad bridges
  - 7.1 Inspector Qualifications
    - 7.1.1 Bridge experience or appropriate educational training
    - 7.1.2 Trained on bridge inspection procedures
    - 7.1.3 Trained on Railroad Workplace Safety
  - 7.2 Type and frequency of inspection
    - 7.2.1 Periodic (at least annually)
    - 7.2.2 Underwater
    - 7.2.3 Special
    - 7.2.4 Seismic
    - 7.2.5 cursory inspections of overhead bridges that are not the responsibility of the railroad.
  - 7.3 Inspection schedule
  - 7.4 Documentation
    - 7.4.1 Date
    - 7.4.2 Name of inspector
    - 7.4.3 Reporting Format

- 7.4.4 Coherence of information
- 7.5 Inspection Report Review Process
- 7.6 Record retention
- 7.7 Tracking of critical deficiencies to resolution
- 8 Protection of train operations following an inspection noting a critical deficiency, repair, modification or adverse event
- 8.1 Qualifications of personnel permitted to authorize train operations.
- 9 Program audit procedures