Montana Department of Transportation **Bridge Design / Management Memo**	**Bridge Memo Number:** 13-01 **Date Issued:** February 8, 2013 **Date Effective:** February 8, 2013 **Date Revised:**
Subject: Safe Posting Load, Railroad Car Bridges	

To: Bridge Bureau

From: Kent M. Barnes, P.E.
Bridge Engineer

☐ **In-House Design**	☐ **Consultant Design**
☒ **Bridge Management**	☒ **Condition Inspection**

Introduction

Old railroad cars are sometimes used as bridges. These cars can make good bridges. However, the differing configurations and unknown history makes full evaluation difficult. That evaluation is outside the scope of MDT's bridge inspection program.

Policy / Guidelines

There are 3 options for determining a safe Posting Load for these bridges. Bridge Bureau assumes Option 1. Options 2 or 3 may be selected by the bridge owner.

1) **Assign a 5 ton limit.**
2) **Load testing.**
   The owner may load test the bridge by placing a vehicle of known weight on the structure. The owner needs to provide the Bridge Bureau the axle configuration, front to back, and the weight applied to each axle along with a picture of the test. The Bridge Bureau will convert the test truck into an equivalent weight for a Type 3 truck. The safe Posting Load will be 40% of the equivalent Type 3 weight. The reduction accounts for the effects of moving vehicle impact and a factor of safety.
3) **Load rating by a Montana Professional Engineer.**
   The owner may have the bridge evaluated by a Montana Professional Engineer. The engineer will gather field data, perform any needed testing, research member properties and strengths, and perform load rating calculation to determine a safe Posting Load. The owner needs to provide the following items to the Bridge Bureau.
   - A letter signed by the Montana Professional Engineer giving the safe Posting Load.
   - For record purposes, provide copies of the following information;
     - Bridge measurements, drawings, and sketches used in rating analysis.
     - Results of any testing performed.
     - Engineering calculations supporting the safe Posting Load.

   Once this information is received, assign the safe Posting Load provided in the letter to the bridge. This option is likely to give the highest safe Posting Load.

Closing

MDT is committed to bridge safety. Adherence to this policy will promote bridge safety while allowing for owner options where situations warrant further effort.

KMB:BRIDGE MEMO 13-01

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