



MaineDOT

ENGINEERING INSTRUCTION

Title: Design Load Capacity for the
Rehabilitation of Vehicular Bridges

Number: S1

Discipline: Structures

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Chief Engineer

Background:

This policy integrates the design live load used on bridge rehabilitation projects with the Highway Corridor Priority (HCP) and Customer Service Level (CSL) framework that MaineDOT has adopted to manage Maine's highway system. This will help ensure that the appropriate level of work is done for each project and help allocate scarce financial resources to the projects that will have the greatest impact.

Applicability:

This policy applies to the rehabilitation of all vehicular bridges with spans ≥ 10 feet and supplements the guidance contained in the MaineDOT Load Rating Guide and Section 3.2 of the Bridge Design Guide. Minor maintenance repairs that do not add load to a structure such as in-kind wearing surface replacements, rail repair/replacement, and bridge joint replacements are exempt.

Policy:

Rehabilitated bridges shall provide a CSL of A for Bridge Posting as defined in the following table. Projects that do not meet a CSL of A will require the approval of the Bridge Posting Committee.

Corridor Priority	Customer Service Level A
1	Open (Inventory Rating Factor ≥ 1 HL-93 live load)
2	Open (Inventory Rating Factor ≥ 1 HL-93 live load)
3	Open (Rating Factor ≥ 1 for Maine's Legal Loads)
4	Open (Rating Factor ≥ 1 for Maine's Legal Loads)
5&6	May be posted*

*The Bridge Posting Committee considers impacts to the traveling public, as well as the complexity and cost of strengthening a bridge, when determining if a load posting is acceptable. The Designer is encouraged to consider a design live load capacity as low as 22T if it will have limited traffic impacts and significant financial benefits.

Commentary:

- The Design Live Load or safe load-carrying capacity (posting) achieved for each rehabilitation project shall be shown on the Title Sheet.
- All rehabilitation projects shall be designed and rated by AASHTO Load and Resistance Factor Design and Load and Resistance Factor Rating methodology.
- Specific guidance on Load and Resistance Factor Rating can be found in the MaineDOT Load rating Guide and the latest edition of the AASHTO Manual for Bridge Evaluation.

Responsibility:

Bridge Program Manager, Bridge Maintenance Engineer