

Vision of a Rating Tool

The need for speed!!



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Challenge

- Rating analysis can take a long time.
- This can be a problem for evaluating overweight permits.
- Screening tools must be used.
- Time is money!



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Proposed Solution

- New rating tool for BrR
- Pre-store as much information as possible
 - ✓ Dead Loads
 - ✓ Capacities
 - ✓ Influence Lines
- Make use of multi-thread processing
- Capable of talking with automated routing systems

Why AASHTOWare?



- Works directly with the database you already have.
- Stores dead loads and capacities you have already checked during the load rating process.
- You have ownership in the product! As a user you have in say in what the product becomes.

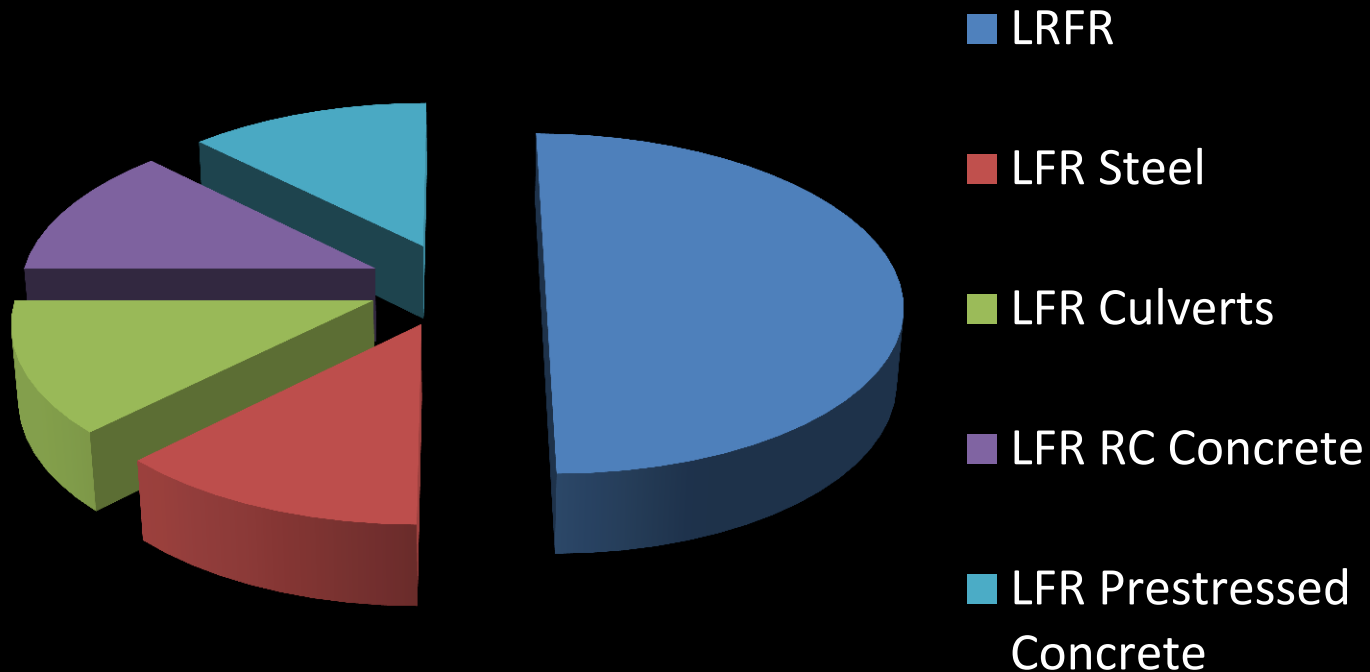
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Scope



Rating Tool Pie (Multi-girder Bridges & Culverts)



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Preliminary Requirements



- LFR rating only
- Ability to rate straight superstructures and reinforced concrete culverts only
- Single girder analysis only (analysis of a single girder that uses influence lines that include effects of LL distribution factors)
- Single culvert analysis only (analysis that uses influence lines that include effects of LL distribution factors)
- Ability to rate (LFR) reinforced concrete multi-girder superstructures currently supported in BrR
- Ability to rate (LFR) prestressed concrete multi-girder superstructures currently supported in BrR
- Ability to rate (LFR) steel multi-girder superstructures currently supported in BrR
- Ability to rate (LFR) reinforced concrete culverts currently supported in BrR

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Preliminary Requirements Cont.

- Supports standard gage analysis only based on distribution factors
- Rating for a primary vehicle only
- Provides minimal reporting (there should be an option to control the amount of output)
- Ability to produce the current xml report produced by a BrR “Permitting” analysis:

Code	Explanation
X	Denied
1	Pass, no restrictions
2	Conditional Pass
NA	Not rated, bridge not in BrDR database OR Not rated, review the error description for more details.



Conditional Passes Codes:

Code	Explanation
10	Truck speed restriction to 5 mph
11	Bridge restricted to all other vehicles

- To the extent practical, the ability to use pre-computed data such as influence lines, capacities, and dead load actions to minimize the runtime calculations. BrR would be modified to perform a “special” analysis that generates the pre-computed data.
- Compatible with the BrR Analysis API and provided as an option instead of running BrR. The BrR Analysis API should be enhanced (not in the current scope) to optionally use this tool instead of BrR for bridges that have current pre-computed data.

How you can participate



- Contact myself or one of the task force members

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- Information on service units can be found at

<http://www.aashtoware.org/Bridge/Pages/Service-Units.aspx>

<http://www.aashtoware.org/Pages/Public-Downloads.aspx>

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Questions?



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