

# Reality of a Rating Tool

## Speed To Succeed!



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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!

# Proposed Solution

- New rating tool for BrR
- Pre-store as much information as possible
  - ✓ Dead Loads
  - ✓ Capacities
  - ✓ Influence Lines

# 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 a say in what the product becomes.

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# What has happened in the last year?



- States donated Service Units to the Rating Tool development
- Scope of work was finalized and approved by the Task Force
- Beta version will be available to the TAG soon
- Demo version will be unveiled today

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# Capabilities of First Version



- Speedy, LFR, standard gage analysis, of straight multi-girder bridges
  - Steel
  - Reinforced Concrete
  - Prestressed Concrete
- Can be initiated from a third party system or from within BrR
- Returns pass codes

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# Pass Codes



General | Bridge Workspace | Control Options | Superstructure Analysis | Specifications | Substructure Analysis | Tolerance | Custom Agency Fields | Rating Tool

Load Rating Tool Repository: C:\RatingToolRepository\ \B65CE460-B71F-43B2-8878-230F7B39525F-6.8.0.3001

Processing Order	Code	Description	Pass Condition	% Impact (%)	One Lane Restriction
1	1	Pass, no restrictions		100	<input type="checkbox"/>
2	2	Pass with conditions	10 - Truck speed restriction to 5 mph	0	<input type="checkbox"/>
3	2	Pass with conditions	10 - Truck speed restriction to 5 mph; 11 - Bridge restricted to all other vehicles	0	<input checked="" type="checkbox"/>

Move Up | Move Down | New | Duplicate | Delete

Denied Code: X

Not Rated Code: NA

## ITD defaults:

Processing Order	Code	Description	Pass Condition	% Impact (%)	One Lane Restriction
1	1	Pass with no restrictions		100	<input type="checkbox"/>
2	2	Pass with reduced speed of 45 mph		70	<input type="checkbox"/>
3	3	Pass with reduced speed of 5mph		0	<input type="checkbox"/>
4	4	Pass with one lane restriction (no traffic in adjacent lane)		100	<input checked="" type="checkbox"/>
5	5	Pass with one lane restriction & reduced speed of 45 mph		70	<input checked="" type="checkbox"/>
6	6	Pass with one lane restriction & reduced speed of 5 mph		0	<input checked="" type="checkbox"/>

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# Analysis Points

- Analysis points can match the settings in the BrR file (default setting)
- Analysis points can be customized when generating the pre-computed data



# Analysis Points



Precomputed Data

Generate Maintain

Analysis Type: Line Girder

Rating Method: LFD

Points of Interest

Override bridge points of interest

Steel Member

- Generate at tenth points
- Generate at section change points
- Generate at user-defined points

Concrete Member

- Generate at tenth points except supports
- Generate at support points
- Generate at support face & critical shear points
- Generate at section change points
- Generate at user-defined points

Overwrite existing precomputed data

Stop on first error

Save as System Defaults Generate

Close

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# Future of The Rating Tool



- Accommodate additional structure types
  - Girder Floorbeam Systems
  - Trusses
  - Multicell Boxes
  - Curved Steel Girders
  - Culverts
- LRFR
- Input custom influence lines for structure types BrR does not analyze.

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# Rating Tool Demonstration!

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