

INDOT | BRIDGE LOAD RATING AIDS

BLRA BIM 3-4.01 & 3-4.02 | FEBRUARY 11, 2019

BRR 6.8.3 LOAD RATING VEHICLE CONFIGURATION

As of February 11, 2019, INDOT has updated to BrR Version 6.8.3.3001

About Bridge Rating



Bridge Rating
Version 6.8.3.3001
Build date Oct 2 2018

Based on the available data, BrR 6.8.3.3001 does not yet handle FHWA Fast Act Emergency Vehicles appropriately. BrR is not combining the Truck loads with the Lane loads as described in the Manual for Bridge Evaluation (1st edition) sections 6A.4.4.2.1a and 6A.4.5.4.1. The following vehicle configurations are recommended to evaluate the FAST Act Vehicles:

EV2 Configurations

Axle No.	Axle Load (kip)	Gage dist. (ft)	Wheel Contact Width (in)	Axle Spacing (ft)	
				Minimum	Maximum
1	24.00	6.00	15.0000		
2	33.50	6.00	20.9375	15.00	15.00

Totals: 57.50 15.00 15.00

Axle No.	Axle Load (kip)	Gage dist. (ft)	Wheel Contact Width (in)	Axle Spacing (ft)	
				Minimum	Maximum
1	18.00	6.00	15.0000		
2	25.13	6.00	20.9375	15.00	15.00

Totals: 43.13 15.00 15.00

Uniform Lane Load = 0.200 kip/ft

Concentrated Load for Moment = kip

Concentrated Load for Shear = kip

Add a second, equal magnitude concentrated load in one other span to determine maximum negative moment for continuous spans

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EV3 Configurations

Library - Standard Gage Vehicle

Name: EV3-Indiana
 Description: Legal Rating

Store units as:
 US
 SI

Library:
 Standard
 Agency Defined
 User Defined

Truck | Tandem | Lane

Axle No.	Axle Load (kip)	Gage dist. (ft)	Wheel Contact Width (in)	Axle Spacing (ft)	
				Minimum	Maximum
1	24.00	6.00	15.0000		
2	31.00	6.00	19.3750	15.00	15.00
3	31.00	6.00	19.3750	4.00	4.00

Totals: 86.00 19.00 19.00

New Duplicate Delete

Save Close

Notional Vehicle
 Rating:
 LRFD
 ASD/LFD
 LRFR

Design:
 LRFD
 ASD/LFD

Library - Standard Gage Vehicle

Name: EV3-Indiana (Lane-Type)
 Description: Legal Rating (GVW = 86K)

Store units as:
 US
 SI

Library:
 Standard
 Agency Defined
 User Defined

Truck | Tandem | Lane

Axle No.	Axle Load (kip)	Gage dist. (ft)	Wheel Contact Width (in)	Axle Spacing (ft)	
				Minimum	Maximum
1	18.00	6.00	15.0000		
2	23.25	6.00	19.3750	15.00	15.00
3	23.25	6.00	19.3750	4.00	4.00

Totals: 64.50 19.00 19.00

New Duplicate Delete

Save Close

Notional Vehicle
 Rating:
 LRFD
 ASD/LFD
 LRFR

Design:
 LRFD
 ASD/LFD

Library - Standard Gage Vehicle

Name: EV3-Indiana (Lane-Type)
 Description: Legal Rating (GVW = 86K)

Store units as:
 US
 SI

Library:
 Standard
 Agency Defined
 User Defined

Truck | Tandem | Lane

Load per axle line:
 Uniform Lane Load = 0.200 kip/ft
 Concentrated Load for Moment = kip
 Concentrated Load for Shear = kip

Add a second, equal magnitude concentrated load in one other span to determine maximum negative moment for continuous spans

Totals: 64.50 19.00 19.00

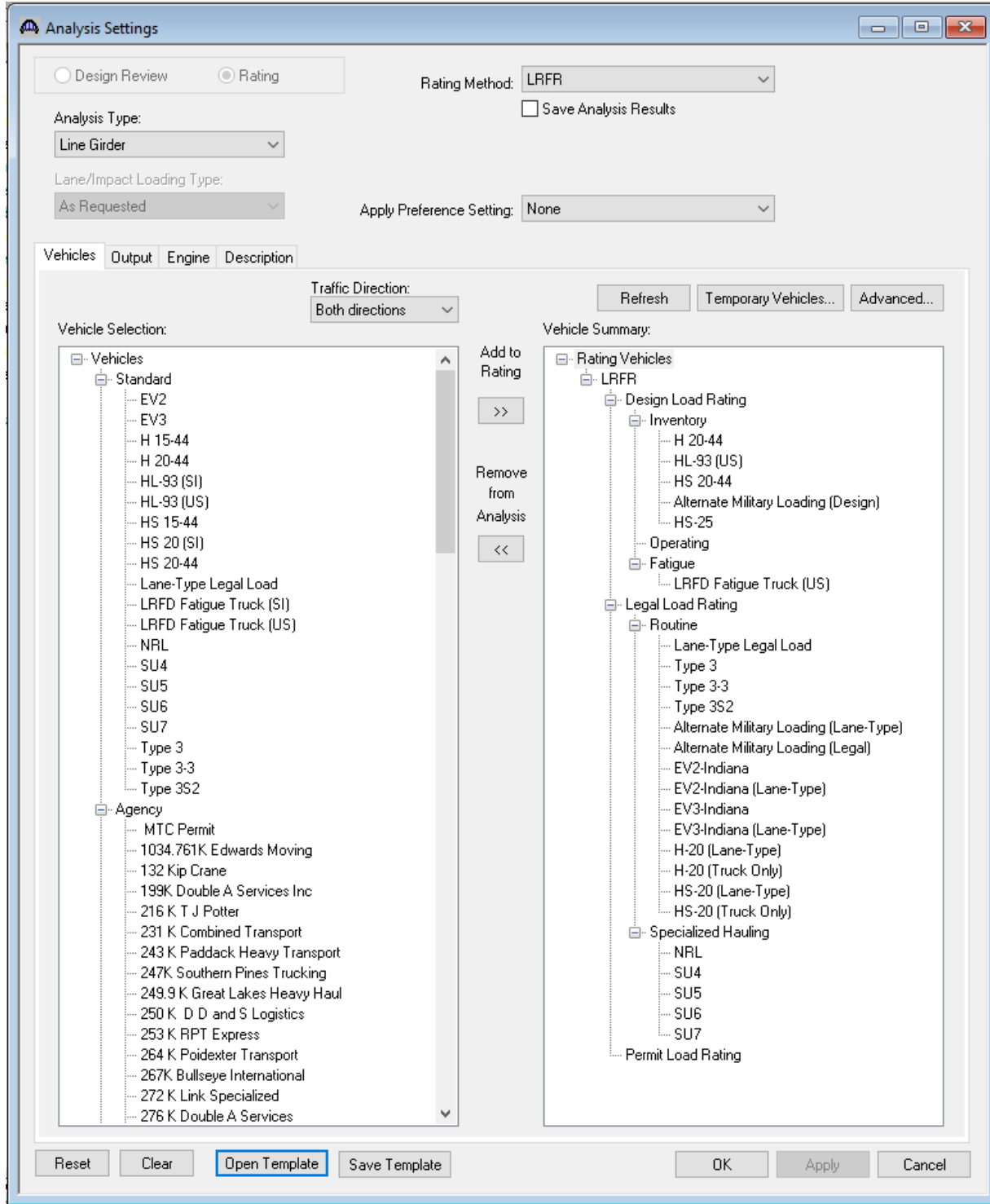
New Duplicate Delete

Save Close

Notional Vehicle
 Rating:
 LRFD
 ASD/LFD
 LRFR

Design:
 LRFD
 ASD/LFD

Recommended Vehicle Template for LRFR Analysis



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Advanced Vehicle Properties for LRFR Analysis Template

Vehicle Properties X

Vehicle	Tandem Train	Scale Factor	Impact	Single Lane Loaded	Legal Pair	Override	Legal Live Load Factor	Frequency	Loading Condition	Override	Permit Live Load Factor
H 20-44	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
HL-93 (US)	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
HS 20-44	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
Lane-Type Legal Load	<input type="checkbox"/>	1		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
LRFD Fatigue Truck (US)	<input type="checkbox"/>	1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
NRL	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
SU4	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
SU5	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
SU6	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
SU7	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
Type 3	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
Type 3-3	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
Type 3S2	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
Alternate Military Loading (Design)	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
Alternate Military Loading (Lane-Ty	<input type="checkbox"/>	1		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
Alternate Military Loading (Legal)	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
EV2-Indiana	<input type="checkbox"/>	1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1.3	Single Trip	Mixed with tr	<input type="checkbox"/>	
EV2-Indiana (Lane-Type)	<input type="checkbox"/>	1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.3	Single Trip	Mixed with tr	<input type="checkbox"/>	
EV3-Indiana	<input type="checkbox"/>	1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1.3	Single Trip	Mixed with tr	<input type="checkbox"/>	
EV3-Indiana (Lane-Type)	<input type="checkbox"/>	1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.3	Single Trip	Mixed with tr	<input type="checkbox"/>	
H-20 (Lane-Type)	<input type="checkbox"/>	1		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
H-20 (Truck Only)	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
HS-20 (Lane-Type)	<input type="checkbox"/>	1		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
HS-20 (Truck Only)	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	
HS-25	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with tr	<input type="checkbox"/>	

Permit lane load: kip/ft Adjacent vehicle live load factor:

Exclude permit lane load from permit vehicle location