

Load Rating Report Component – Vehicle Analysis Template

Guidance and Examples

Include the following on the BrR Vehicle Analysis Template component of the Load Rating Report:

- Vehicle Summary (Analysis Template)
- Vehicle Properties (Advanced Settings)
 - *Hint – cannot adjust size of this window; may have to adjust column widths to fit in one screenshot*
 - *Note – this will need to be updated for LRFR if EV live load factor is changed*
- Any non-standard library vehicle definitions
 - For ASR/LFR
 - Use standard definitions for all vehicles
 - No additional screenshots necessary, please note that standard vehicle definitions were used for all vehicles
 - For LRFR
 - Use modified contact area for EVs
 - Include screenshots of agency defined vehicles (i.e. EVs, Adjacent Type 3-3)

GENERAL NOTES:

- MDT Vehicle Analysis Templates and MDT Agency-Defined Vehicles (*BrR .xml files*) are available for download from MDT's [Load Rating Website](#)
- Please ensure that the template attached to the load rating report is the actual template used in the rating
- Only the analysis template that's applicable to rating methodology used needs to be attached to the report. For mixed material/mixed code bridges, please include both.
- Contact MDT's [Load Rating Engineer](#) for guidance on incorporating additional templates (e.g. BrR bug workarounds)

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Example Vehicle Template for LFR/ASR Analysis

Analysis Settings:

Vehicle Summary:

- [-] Rating Vehicles
 - [+] LRFR
 - [+] LFD/ASD
 - [-] Inventory
 - EV2
 - EV3
 - HS 20-44
 - SU4
 - SU5
 - SU6
 - SU7
 - Type 3
 - Type 3-3
 - Type 3S2
 - [-] Operating
 - EV2
 - EV3
 - HS 20-44
 - SU4
 - SU5
 - SU6
 - SU7
 - Type 3
 - Type 3-3
 - Type 3S2
 - Legal Operating
 - Permit Inventory
 - Permit Operating

Advanced Settings:

Vehicle Properties

Vehicle	Tandem Train	Scale Factor	Impact	Single Lane Load	Legal Pair	Override	Legal Live Load	Frequency	Loading Condition	Override	Permit Live Load
EV2	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
EV3	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
HS 20-44	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
SU4	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
SU5	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
SU6	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
SU7	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
Type 3	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
Type 3-3	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
Type 3S2	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	

Permit lane load: kip/ft

Adjacent vehicle live load factor:

Exclude permit lane load from permit vehicle location

*****Standard library definitions used for all vehicles***

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Example Vehicle Template for LRFR Analysis

Analysis Settings:

Vehicle Summary:

- [-] Rating Vehicles
 - [-] LRFR
 - [-] Design Load Rating
 - [-] Inventory
 - HL-93 (US)
 - [-] Operating
 - HL-93 (US)
 - [-] Fatigue
 - LRFD Fatigue Truck (US)
 - [-] Legal Load Rating
 - [-] Routine
 - Lane-Type Legal Load
 - Type 3
 - Type 3-3
 - Type 3S2
 - [-] Specialized Hauling
 - SU4
 - SU5
 - SU6
 - SU7
 - EV2m (Single Lane)
 - EV3m (Single Lane)
 - [-] Permit Load Rating
 - [-] EV2m (Multi-Lane)
 - [-] Adjacent Vehicle
 - Adjacent Type 3-3
 - [-] EV3m (Multi-Lane)
 - [-] Adjacent Vehicle
 - Adjacent Type 3-3

Advanced Settings:

Vehicle Properties

Vehicle	Tandem Train	Scale Factor	Impact	Single Lane Load	Legal Pair	Override	Legal Live Load	Frequency	Loading Condition	Override	Permit Live Load
HL-93 (US)	<input type="checkbox"/>	1		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<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 traffic	<input type="checkbox"/>	
LRFD Fatigue Truck (US)	<input type="checkbox"/>	1		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
SU4	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
SU5	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
SU6	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
SU7	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
Type 3	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
Type 3-3	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
Type 3S2	<input type="checkbox"/>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
EV2m (Multi-Lane)	<input type="checkbox"/>	1		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input checked="" type="checkbox"/>	1.3
EV2m (Single Lane)	<input type="checkbox"/>	1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1.3	Single Trip	Mixed with traffic	<input type="checkbox"/>	
EV3m (Multi-Lane)	<input type="checkbox"/>	1		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input checked="" type="checkbox"/>	1.3
EV3m (Single Lane)	<input type="checkbox"/>	1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1.3	Single Trip	Mixed with traffic	<input type="checkbox"/>	

Permit lane load: kip/ft

Adjacent vehicle live load factor:

Exclude permit lane load from permit vehicle location

****EVs and Adjacent Type 3-3 are Agency Defined vehicles – see next page**

Standard library definitions used for all other vehicles

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Guidance and Examples

Example Vehicle Template for LRFR Analysis – Agency Defined Vehicles

Library - Standard Gage Vehicle

Name: EV2m (Single Lane)
 Description: EV2 with modified contact width, for use with LRFR

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	33.50	6.00	21.0000	15.00	15.00

Totals: 57.50 15.00 15.00

Notional Vehicle

Rating: LRFD ASD/LFD LRFR

Design: LRFD ASD/LFD

New Duplicate Delete Save Close

Library - Standard Gage Vehicle

Name: EV2m (Multi-Lane)
 Description: EV2 with modified contact width, for use with LRFR

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	33.50	6.00	21.0000	15.00	15.00

Totals: 57.50 15.00 15.00

Notional Vehicle

Rating: LRFD ASD/LFD LRFR

Design: LRFD ASD/LFD

New Duplicate Delete Save Close

Library - Standard Gage Vehicle

Name: EV3m (Single Lane)
 Description: EV3 with modified contact width, for use with LRFR

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	19.0000	15.00	15.00
3	31.00	6.00	19.0000	4.00	4.00

Totals: 86.00 19.00 19.00

Notional Vehicle

Rating: LRFD ASD/LFD LRFR

Design: LRFD ASD/LFD

New Duplicate Delete Save Close

Library - Standard Gage Vehicle

Name: EV3m (Multi-Lane)
 Description: EV3 with modified contact width, for use with LRFR

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	19.0000	15.00	15.00
3	31.00	6.00	19.0000	4.00	4.00

Totals: 86.00 19.00 19.00

Notional Vehicle

Rating: LRFD ASD/LFD LRFR

Design: LRFD ASD/LFD

New Duplicate Delete Save Close

Library - Standard Gage Vehicle

Name: Adjacent Type 3-3
 Description: AASHTO Type 3-3, for use as adjacent vehicle ir

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	12.00	6.00	12.2475		
2	12.00	6.00	12.2475	15.00	15.00
3	12.00	6.00	12.2475	4.00	4.00
4	16.00	6.00	14.1422	15.00	15.00
5	14.00	6.00	13.2289	16.00	16.00

Totals: 80.00 54.00 54.00

Notional Vehicle

Rating: LRFD ASD/LFD LRFR

Design: LRFD ASD/LFD

New Duplicate Delete Save Close