AASHTOWare BrDR 7.5.0 Feature Tutorial RATE1 – Bridge Explorer Rating Example This example illustrates how to perform a rating analysis for bridges from the Bridge Explorer.

Select TrainingBridge1 and PCITrainingBridge1 on the right portion of the Bridge Explorer.

Note:

- To select one bridge, click on the bridge.
- To select consecutive bridges, click the first bridge, press and hold down Shift, and then click the last bridge.
- To select bridges that are not consecutive, press and hold down Ctrl, and then click each bridge.

Br 🖁				AASHT	OWare Bridge Design and Rating			? – 🗆	×
BRIDGE EXPLORER BRID	GE	FOLD	ER RATE	TOOLS V	IEW				
New Open Batch •	Find (Сору	Paste Copy Tov	Remove Delete From					
Bridge	_		Manage			1			
		B	ID	Bridge ID	Bridge Name	District	County	Facility	
Recent Bridges			1 TrainingBr	idge1	Training Bridge 1(LRFD)	District 11	01 Abbeville	SR 0051	1
All Bridges			2 TrainingBr	idge2	Training Bridge 2(LRFD)	Unknown	Unknown (P)	N/A	
Image: Image			3 TrainingBr	idge3	Training Bridge 3(LRFD)	District 11	01 Abbeville	I-79	
Deleted blidges		÷.	4 PCITrainin	gBridge1	PCI TrainingBridge1(LFD)				
			5 PCITrainin	gBridge2	PCITrainingBridge2(LRFD)				
			6 PCITrainin	gBridge3	PCI TrainingBridge3(LFD)				
			7 PCITrainin	gBridge4	PCITrainingBridge4(LRFD)				T
			8 PCITrainin	gBridge5	PCI TrainingBridge5(LFD)				
			9 PCITrainin	gBridge6	PCITrainingBridge6(LRFD)				
			10 Example7		Example 7 PS (LFD)				
			11 RCTraining	Bridge1	RC Training Bridge1(LFD)				
			12 TimberTrai	iningBridge1	Timber Tr. Bridge1 (ASD)				
				TrainingBridge1	FloorSystem GFS Training Bridge 1	District 6	15 Colleton	NJ-Turnpike	
			14 FSys FS Tra	ainingBridge2	FloorSystem FS Training Bridge 2	District 11	333 Norfolk	1-95	
				ainingBridge3	FloorSystem GF Training Bridge 3	District 7	06 Barnwell	1-95	Ť.
									_
						Total Bridge Count:	38		

Rate

After the bridges are selected, open the **Analysis Settings** window by clicking the **Rate** button from the **Rate** ribbon (or by right-clicking and selecting **Rate** from the right-click menu) as shown below.

Br				AAS	SHTOWare	Bridge De	sign and Rating	I	1	?	-	×
BRIDG	E EXPLOR	ER E	RIDGE	FOLDER	RATE	TOOLS	VIEW					
æ	$\overline{\mathfrak{S}}$	I <mark>5%</mark> I				王 <mark>5%</mark> 王	01 10	a#				
Rate	Update Ratings	Rating Results	Recent Rati Results		je Analysis vents	Open Route	Precomputed Data	Load Rating Tool				
Rate	BrM		Re	sults		Routing	Rating	Tool				

RATE1 - Bridge Explorer Rating Example

Br	AASHTOWar	e Bridge Design a	and Rating	? –	□ ×
BRIDGE EXPLORER BRIDGE	FOLDER RATE	TOOLS V	IEW		
Rate Update Rating Recent F	Rating Manage Analys	is Open Pred	01		
Ratings Results Resu	ts Events	Route	Data Tool		
Rate BrM	Results	Routing	Rating Tool		
····· Ø Recent Bridges		Bridge ID		ge Name	
🖻 🎾 All Bridges	1 TrainingBrid 2 TrainingBrid	-	Training Bridge 1(LRFD) Training Bridge 2(LRFD)		— Ē
🗄 🎾 Sample Bridges	3 TrainingBrid	-	Training Bridge 3(LRFD)		
····· 📁 Deleted Bridges	4 PCITraining	Bridge1	DOLT D.1 4/4.55		=
	5 PCITraining	Bridge2	Сору	Ctrl+C	
	6 PCITraining	Bridge3 \\ 🛍	Delete		
	7 PCITraining	Bridge4	Rate		
	8 PCITraining	Bridge5	Rating Results		
	9 PCITraining	-		;	
	10 Example7	2			
	11 RCTraining				
		ningBridge1 🛏 rainingBridge1	FloorSystem GFS Trainin		
	14 FSys FS Tra		FloorSystem FS Training		
	15 ESvie GE Tra		FloorSystem GE Training	-	•
	◀				
		•	Total Bridge Count:	38	
Analysis Settings					×
Analysis Sectings					~
O Design review Rating		Rating meth	od: LFR	~	
		Save ana	lysis results		
Analysis type: Line Girder	ed V				
Lane / Impact loading type: As Requeste	ed 🗸	Apply preter	ence setting: None	~	
Vehicles Output Engine Des	cription				
Traffic direction: Both directions	~		Refresh Temporary vehicl	es Advanced	
Vehicle selection		Ve	hicle summary		
■-Vehicles		É	Rating vehicles		
Standard			····Inventory ····Operating		
EV2			Legal operating		
EV3 H 15-44			·····Permit inventory ·····Permit operating		
H 20-44 HS 15-44		Add to			
HS 20 (SI)		>>			
HS 20-44 NRL					
SU4 SU5					
SU6		Remove from			
····SU7 ····Type 3		<<			
Type 3-3					
Agency					
User defined Temporary					

Select **Member Alternative** as the **Rating Method** to be used for the analysis. When **Member Alternative** is selected as the **Rating Method**, the default rating method in the Member Alternative Description window will be used.

Add the vehicle HS 20-44 in Inventory and Operating under LFD/ASD rating method for use in the analysis.

Analysis Settings			×
O Design review Rating	Rating method:	Member Alternative	
	Save analysis results		
Analysis type: Line Girder V Lane / Impact loading type: As Reguested V			
Lane / Impact loading type: As Requested	Apply preference setting:	None	
Vehicles Output Engine Description			_
Traffic direction: Both directions	Refresh	Temporary vehicles Advanced	
Vehicle selection	Vehicle summary	/	
 → Vehicles → Alternate Military Loading → EV2 → EV3 → H 15-44 → H 20-44 → HL-93 (SI) → H 1-93 (US) → H 5 15-44 → HS 20-544 → HS 20-544 → LRFD Fatigue Truck (SI) → LRFD Fatigue Truck (US) → NRL → SU5 → SU6 → SU7 → Type 33 → Type 35 	Add to	gn load rating nventory)perating atigue I load rating loutine pecialized hauling hit load rating) tooy IS 20-44	
Reset Clear Open template Save tem	nplate	OK Cancel	

Click OK to start rating the bridges. The Analysis Progress window will open.

BrDR will rate all appropriate member alternatives for each selected bridge. To do this, BrDR searches for bridge components that are marked as **Existing**. BrDR uses the bridge alternative marked as **Existing** and rates each structure in that bridge alternative. For each structure, BrDR processes the structure alternative marked as **Existing** and for each of the structure alternatives, BrDR processes the superstructure definition assigned to it. For the superstructure definition, BrDR continues to process member alternatives within the superstructure definition that are marked as **Existing**.

RATE1 - Bridge Explorer Rating Example

After the analysis is complete, click **OK** to close the **Analysis Progress** window and the **Bridge Rating Results** window will open. See images below.



Bridge Rating Result	i													-		×
System of units		Lane/impact loa		Display fo Multiple		vels per row	>									
Bridge ID	Vehicle	Inventory rating factor	Operating rating factor	Legal operating rating factor	Legal rating factor	Permit inventory rating factor	Permit operating rating factor	Permit rating factor	Inventory rating method	Operating rating method	Legal operating rating method	Legal rating method	Permit inventory rating method	Permit operating rating method	Per rating r	
TrainingBridge1	HS 20-44	0.877	1.464						LFR	LFR						-
PCITrainingBridge1	HS 20-44	1.245	2.079						LFR	LFR						
PCITrainingBridge1	HS 20-44	1.245	2.079						LFR	LFR						

Select **TrainingBridge1** and click on the **View structure rating results** button to view the superstructure rating results.

US customary SI / metric As requested Detailed Multiple rating levels per row Bridge id Structure Vehicle Inventory rating factor Operating rating factor Legal operating rating factor Permit inventory rating factor Permit rating factor Permit rating rating rating factor Permit rating factor Permit rating rating rating rating factor Permit rating rating rating rating factor Permit rating rating rating rating rating rating factor Legal operating rating factor Permit rating rating rating rating rating rating factor Permit rating ra	Structure Rating Res	ults										-	
Bridge id Structure Vehicle Inventory rating factor Operating rating factor operating rating factor inventory rating factor Permit rating rating factor Permit rating rating rating rating Permit rating rating factor Permit rating rating factor Permit rating rating rating Inventory rating rating Operating rating method Legal ope rating method TrainingBridge1 Single HS 20-44 0.877 1.464	System of units	SI / metric				·	vels per ro	w V					
	Bridge id	Structure	Vehicle			operating rating	rating	inventory rating	operating	rating	rating	rating	
	TrainingBridge1	Single	HS 20-44	0.877	1.464						LFR	LFR	
	4												•
	/iew member rating r	a su a litera										Print	Close

Select TrainingBridge1 and click on the View member rating results button to view the member rating results.

	System of units US customary OSI / m			oading type - ed () Detaile	Display field	ormat: : rating levels p	ber row					
	Bridge id	Structure	Member	Vehicle	Inventory rating factor	Operating rating factor	Legal operating rating factor	Legal rating factor	Permit inventory rating factor	Permit operating rating factor	Permit rating factor	
Þ	TrainingBridge1	Single	G1	HS 20-44	1.376	2.298						4
	TrainingBridge1	Single	G2	HS 20-44	0.877	1.464						
	TrainingBridge1	Single	G3	HS 20-44	0.877	1.464						П
	TrainingBridge1	Single	G4	HS 20-44	1.376	2.298						П
	4			1								

Click the Close button on the Member Rating Results window to return to the Structure Rating Results window.

Click the Close button on the Structure Rating Results window to return to the Bridge Rating Results window.

The **Save all** button on the **Bridge Rating Results** window saves all the rating results to the database and closes the window.

Close the **Bridge Rating Results** window.

Rating Results

Click on the **Rating Results** button from the **Results** group of the **Rate** ribbon (or right-click and select **Rating Results** from the right-click menu) as shown below to open the **Bridge Rating Results** window for the currently selected bridges in the Bridge Explorer.

BrR	ļ	AASHTOWare Bridge Design	and Rating ? - D	×				
BRIDGE EXPLORER BRIDGE	FOLDER	RATE TOOLS	VIEW					
Ratings Results Result		age Analysis Events Open Route Routing	ecomputed Load Rating Data Tool					
🚖 Favorites Folder	BID	Bridge ID	Bridge Name					
Recent Bridges	1	TrainingBridge1	Training Bridge 1(LRFD)					
All Bridges	2	TrainingBridge2	Training Bridge 2(LRFD)					
····· 📁 Sample Bridges ····· 🎾 Deleted Bridges	3	TrainingBridge3	Training Bridge 3(LRFD)					
Deleted Bridges	▶ 4	PCITrainingBridge1	DCI Tesising Reides 1/LED)					
	5	PCITrainingBridge2	Copy Ctrl+C					
	6	PCITrainingBridge3	📸 Delete					
	7	PCITrainingBridge4	III Rate					
	8	PCITrainingBridge5	🛛 Rating Results					
	9	PCITrainingBridge6	Manage Analysis Events					
	10	Example7	Report Tool					
	11	RCTrainingBridge1	General Preferences					
	12 TimberTrainingBridge1							
	13 FSys GFS TrainingBridge1 FloorSystem GFS Training Br							
	14	FSys FS TrainingBridge2	FloorSystem FS Training Bridge 2					
	15	ESve GE TrainingBridge?	FloorSystem GE Training Bridge 3	•				
Total Bridge Count: 38								

While **TrainingBridge1** is selected in the Bridge Explorer, clicking the **Rating Results** button will display the following **Bridge Rating Results** window.

Br 🖁 E	ridge Rating Results														-		×
	stem of units US customary () SI /		ane/impact lo		Display f		vels per row	~									
	Bridge ID	Vehicle	Inventory rating factor	Operating rating factor	Legal operating rating factor	Legal rating factor	Permit inventory rating factor	Permit operating rating factor	Permit rating factor	Inventory rating method	Operating rating method	Legal operating rating method	Legal rating method	Permit inventory rating method	Permit operating rating method	Pe rating	rmi me
Þ	FrainingBridge1	HS 20-44	0.877	1.464						LFR	LFR						-
	4			III													×
S	how up-to-date results	s only 🗌 Sho	ow most recen	t results only													
Vie	w structure rating resul	lts													Print	Clo	se

The **Show up-to-date results** only check box will display only up-to-date results (results for bridges that have not been modified since the last rating event) when checked. If the box is not checked, then this window will also display results that are not up-to-date (results for bridges that have been modified since the last rating event).

Recent Rating Results

Clicking on the **Recent Rating Results** button from the **Results** group of the **Rate** ribbon will open the **Bridge Rating Results** window for the most recent analysis as shown below.

Br	A	ASHTOWare Bridge Design an	id Rating ? - 🗆 🗙
BRIDGE EXPLORER BRIDGE	FOLDER	RATE TOOLS VIE	W
Rate Update Rating Recent R Results Results			D1 CARATING mputed Load Rating Data Tool Rating Tool
	BID	Bridge ID	Bridge Name
Recent Bridges	1	TrainingBridge1	Training Bridge 1(LRFD)
Sample Bridges Deleted Bridges	2	TrainingBridge2 TrainingBridge3	Training Bridge 2(LRFD) Training Bridge 3(LRFD)
Deleted bridges	▶ 4	PCITrainingBridge1	PCI TrainingBridge1(LFD)
	5	PCITrainingBridge2	PCITrainingBridge2(LRFD)
	6	PCITrainingBridge3	PCI TrainingBridge3(LFD)
	7	PCITrainingBridge4	PCITrainingBridge4(LRFD)
	8	PCITrainingBridge5	PCI TrainingBridge5(LFD)
	9	PCITrainingBridge6	PCITrainingBridge6(LRFD)
	10	Example7	Example 7 PS (LFD)
	11	RCTrainingBridge1	RC Training Bridge1(LFD)
	12	TimberTrainingBridge1	Timber Tr. Bridge1 (ASD)
	13	FSys GFS TrainingBridge1	FloorSystem GFS Training Bridge 1
	14	FSys FS TrainingBridge2	FloorSystem FS Training Bridge 2
	15	ESus GE TrainingBridge3	EloorSystem GE Training Rridge 3
		То	tal Bridge Count: 38

Bridge ID Vehicle Inventory rating factor Operating rating rating factor Legal operating rating factor Permit inventory rating factor Permit operating rating factor Inventory rating factor Operating rating factor Defermit rating factor Permit operating rating factor Defermit rating rating factor Legal rating rating factor Legal rating rating rating factor Permit rating rating rating factor Defermit rating rating rating rating rating method Legal rating method Permit rating method Permit rating method		ystem of units US customary () SI /		ane/impact loa		Display fo Multiple		vels per row	>								
		Bridge ID	Vehicle			operating rating	rating	inventory rating	operating rating	rating	rating	rating	operating rating	rating	inventory rating	operating rating	
PCITrainingBridge1 HS 20-44 1.245 2.079 LFR LFR LFR	T	TrainingBridge1	HS 20-44	0.877	1.464						LFR	LFR					
		PCITrainingBridge1	HS 20-44	1.245	2.079						LFR	LFR					

Manage Analysis Events

Clicking on the **Manage Analysis Events** button from the **Results** group of the **Rate** ribbon (or by right-clicking and selecting **Rating Results** from the right-click menu) will open the **Analysis Events Summary** window for the currently selected bridges in the Bridge Explorer as shown below.

Br	AASHTOWare Bridge Design and Rating	? – 🗆 X
BRIDGE EXPLORER BRIDGE	FOLDER RATE TOOLS VIEW	
Ratings Results Result	ting Manage Analysis esults Routing Routing Rating Tool	
🚖 Favorites Folder	BID Bridge ID	Bridge Name
🧭 Recent Bridges	1 TrainingBridge1 Training Bridge	1(LRFD)
🖻 🎽 All Bridges	2 TrainingBridge2 Training Bridge	2(LRFD)
···· ₩ Sample Bridges	3 TrainingBridge3 Training Bridge	3(LRFD)
Deleted Bridges	4 PCITrainingBridge1 PCI TrainingBrid	ge1(LFD) 🔳
	5 PCITrainingBridge2 PCITrainingBridge	ge2(LRFD)
	6 PCITrainingBridge3 PCI TrainingBrid	ge3(LFD)
	7 PCITrainingBridge4 PCITrainingBridge	ge4(LRFD)
	8 PCITrainingBridge5 PCI TrainingBrid	ge5(LFD)
	9 PCITrainingBridge6 PCITrainingBridg	je6(LRFD)
	10 Example7 Example 7 PS (L	FD)
	11 RCTrainingBridge1 RC Training Brid	ge1(LFD)
	12 TimberTrainingBridge1 Timber Tr. Bridg	e1 (ASD)
	13 FSys GFS TrainingBridge1 FloorSystem GF	S Training Bridge 1
	14 FSys FS TrainingBridge2 FloorSystem FS	Training Bridge 2
	15 ESur GE TrainingBridge3 EloorSustem GE	Training Rridge 3
		-
	Total Bridge Count:	38

While **PCITrainingBridge1** is selected in the Bridge Explorer, clicking the **Manage Analysis Events** button will display the following **Analysis Events Summary** window.

4	Analysis Events Summary										×
	BID	Bridge ID	Bridge name	DB	Up to date	Time stamp	Entered by	Description	Analysis method	Rating/design review	
	▶ 4	PCITrainingBri	PCI TrainingBridge1(L	1	V	Wednesday, 11 January 2023 16:12:37	Bridge	BrDR new analysis event.	Member Alternative	Rating	-
											-
	View rat	ing results						Unloa	d Delete	Save Clo	se

The Unload button will remove the selected analysis event from memory but not from the database.

The **Delete** button will remove the selected analysis events from memory and from the database.

The **Save** button will save the selected analysis events to the database.