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	AASHTOWare Bridge Design and Rating ? - 🗆 🗙											
BRIDGE EXPLORER BRIDGE	FOLDE	R RATE TOOLS VIEW	N									
New Open Batch Find	Copy F	Paste Copy Remove Delete To •										
Bridge		Manage										
	BID	Bridge ID	Bridge Name	District	County	Facility	/					
Recent Bridges	1	TrainingBridge1	Training Bridge 1(LRFD)	District 11	01 Abbeville	SR 0051						
All Bridges	2	TrainingBridge2	Training Bridge 2(LRFD)	Unknown	Unknown (P)	N/A						
Deleted Bridges	3	TrainingBridge3	Training Bridge 3(LRFD)	District 11	01 Abbeville	I-79						
- Deleted bildges	▶ 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	District 6	15 Colleton	NJ-Turnp	ike					
	14	FSys FS TrainingBridge2	FloorSystem FS Training Bridge 2	District 11	333 Norfolk	1-95						
	15	FSys GF TrainingBridge3	FloorSystem GF Training Bridge 3	District 7	06 Barnwell	1-95		•				
	•						•					
			Tot	al 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			AASHTOWare Bridge Design and Rating									×
BRIDG	E EXPLOR	ER	BRIDGE	FOLDER	RATE	TOOLS	VIEW					
æ\$	Θ	1 <mark>5%</mark> 1 <u>1</u>		1		I I I	01 10	≈\$				
Rate	Update Ratings	Rating Results	Recent Ra Result	ating <mark>Man</mark> ts	age Analysis Events	Open Route	Precomputed Data	Load Rating Tool				
Rate	BrM		F	Results		Routing	Rating	Tool				

RATE1 - Bridge Explorer Rating Example

Br	AASHTOWare Bridge Design and Rating	? – 🗆 X
BRIDGE EXPLORER BRIDGE	FOLDER RATE TOOLS VIEW	
	sting Manage Analysis Open Precomputed Lo	ad Bating
Ratings Results Resu	s Events Route Data	Tool
Rate BrM	Results Routing Rating To	
Recent Bridges	BID Bridge ID	Bridge Name
🖙 📁 All Bridges	2 TrainingBridge1 Training Bridge2 Training Bridge2	ridge 2(LRFD)
🗄 🎾 Sample Bridges	3 TrainingBridge3 Training Br	ridge 3(LRFD)
····· 📁 Deleted Bridges	4 PCITrainingBridge1	
	5 PCITrainingBridge2 Copy	Ctrl+C
	6 PCITrainingBridge3	
	7 PCITrainingBridge4 III Rate	
	8 PCITrainingBridge5 🛛 Rating Res	ults
	9 PCITrainingBridge6 📰 Manage A	nalysis Events
	10 Example7 Report Too	L
	11 RCTrainingBridge1 General Pr	eferences
	12 Timber TrainingBridge 1	m GES Training Bridge 1
	14 Esvs ES TrainingBridge2 EloorSyste	m Grs training bridge 1
	15 ESus GE TrainingBridge3 EloorSuste	m GE Training Bridge 2
	◀	•
	Total Bridge C	ount: 38
Analysis Settings		×
1 Maysis seconds		
O Design review Rating	Rating method:	R
	Save analysis results	
Analysis type: Line Girder		
Lane / Impact loading type: As Requeste	Appiy preference setting: IN	one v
Vehicles Output Engine Des	iption	
Traffic direction: Both directions	▼ Refresh 1	emporary vehicles Advanced
Vehicle selection	Vehicle summary	
■-Vehicles	-Rating vehicles	
	····Inventory ····Operating	
EV2	Legal opera	ting
EV3 H 15-44	Permit inver Permit oper	ating
H 20-44	Add to	
HS 20 (SI)	>>	
HS 20-44 NRL		
SU4		
SU6	Remove from	
SU7 Type 3	<<	
Type 3-3		
Iype 352 Agency		
User defined		
Reset Clear Oper	template Save template	OK Cancel

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			
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 □-H1-93 (US) □-H1-93 (US) □-H1-93 (US) □-H5 15-44 □-H5 20 (SI) □-H5 20 (SI)	Add to Ad	cles gn load rating nventory)perating atigue load rating loutine pecialized hauling it load rating) ntory (\$ 20-44 ating (\$ 20-44 I operating it inventory it operating	
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.



Br	Bridge Rating Results														-		×
	System of units US customary OSI / metric SA srequested O Detailed Multiple rating levels 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	rmi me
1	TrainingBridge1	HS 20-44	0.877	1.464						LFR	LFR						-
	PCITrainingBridge1	HS 20-44	1.245	2.079						LFR	LFR						
	Image: Constraint of the second se																

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

Br	Structure Rating Resul	ts										_		
	System of units	/ metric	⊂ Lane/impa ● As requ	act loading typ uested () Deta	e Displa ailed Multi	y format: ple rating le	vels per ro	w ¥						
	Bridge id	Structure	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 ope rating me	
	TrainingBridge1	Single	HS 20-44	0.877	1.464						LFR	LFR	A	-
	4												•	
V	Show up-to-date resul	lts only												
	View member rating res	ults										Print	Close	

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

Br	🖁 Member Rating Results									_		×
	System of units US customary OSI / metric		e/impact lo As requeste	oading type – ed 🔵 Detaile	Display for Multiple	ormat: rating levels p	per 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	
	TrainingBridge1	Single	G1	HS 20-44	1.376	2.298						-
	TrainingBridge1	Single	G2	HS 20-44	0.877	1.464						
	TrainingBridge1	Single	G3	HS 20-44	0.877	1.464						
	TrainingBridge1	Single	G4	HS 20-44	1.376	2.298						
												-
i L	◀										•	
	Show up-to-date results only									Print	Close	

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.

AASHTOWare Bridge Design and Rating ? - 🗆										
BRIDGE EXPLORER BRIDGE	FOLDER	RATE TOOLS	VIEW							
Rate Update Rating Results Result Result	ecomputed Load Rating Data Tool									
Favorites Folder										
🧭 Recent Bridges	1	TrainingBridge1	Training Bridge 1(LRFD)							
E All Bridges	2	TrainingBridge2	Training Bridge 2(LRFD)							
Sample Bridges	3	TrainingBridge3	Training Bridge 3(LRFD)							
Deleted bridges	► 4	PCITrainingBridge1	DCL Tesising Reidag 1/LED)	=						
	5	PCITrainingBridge2	Copy Ctrl+C							
	6	PCITrainingBridge3	Delete Delete							
	7	PCITrainingBridge4	III Rate							
	8	PCITrainingBridge5	Rating Results							
	9	PCITrainingBridge6	Manage Analysis Events							
	10	Example7	Report Tool							
	11	RCTrainingBridge1	General Preferences							
	12	TimberTrainingBridge1	·····ber ··· bridge · (ribb)							
	13	FSys GFS TrainingBridge1	FloorSystem GFS Training Bridge 1	_						
	14	FSys FS TrainingBridge2	FloorSystem FS Training Bridge 2	-						
	15	ESve GE TrainingBridge3	EloorSystem GE Training Rridge 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	Bridge Rating Results														-		×
- Sj	vstem of units	metric	ane/impact lo	ading type — d () Detailed	Display f	ormat: rating le	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	TrainingBridge1	HS 20-44	0.877	1.464						LFR	LFR						-
	4			III													•
\checkmark	Show 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.

AASHTOWare Bridge Design and Rating ? -											
BRIDGE EXPLORER BRIDGE	FOLDER	RATE TOOLS VIE	W								
Rate Update Rating Recent R Results Results	lating Mar Its Results	age Analysis Open Events Route Routing	D1 CARATING mputed Load Rating Data Tool Rating Tool								
	BID	Bridge ID	Bridge Name								
Recent Bridges	1	TrainingBridge1	Training Bridge 1(LRFD)								
i in Sample Bridges	3	TrainingBridge3	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								

Ridge Rating Results														-		×
System of units	/ metric	ane/impact loa	ading type — d () Detailed	Display f	ormat: e rating le	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
TrainingBridge1	HS 20-44	0.877	1.464						LFR	LFR						
PCITrainingBridge1	HS 20-44	1.245	2.079						LFR	LFR						
4			111													
Show up-to-date result	ts only		111													P
View structure rating resu	ults													Print	Clo	se

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								
BRIDGE EXPLORER BRIDGE	FOLDER RATE TOOLS VIEW								
Rate Update Rating Recent Ratings Results Results	Ing Manage Analysis Kuts Route Isults Routing Rating Tool	Aating ool							
	BID Bridge ID	Bridge Name							
🗭 Recent Bridges	1 TrainingBridge1 Training Brid	ge 1(LRFD)							
🖻 🎽 All Bridges	2 TrainingBridge2 Training Brid	ge 2(LRFD)							
🕮 📂 Sample Bridges	3 TrainingBridge3 Training Brid	ge 3(LRFD)							
Deleted Bridges	4 PCITrainingBridge1 PCI TrainingB	Bridge1(LFD)							
	5 PCITrainingBridge2 PCITrainingB	ridge2(LRFD)							
	6 PCITrainingBridge3 PCI TrainingB	3ridge3(LFD)							
	7 PCITrainingBridge4 PCITrainingB	ridge4(LRFD)							
	8 PCITrainingBridge5 PCI TrainingB	sridge5(LFD)							
	9 PCITrainingBridge6 PCITrainingB	ridge6(LRFD)							
	10 Example7 Example 7 PS	S (LFD)							
	11 RCTrainingBridge1 RC Training E	3ridge1(LFD)							
	12 TimberTrainingBridge1 Timber Tr. Br	idge1 (ASD)							
	13 FSys GFS TrainingBridge1 FloorSystem	GFS Training Bridge 1							
	14 FSys FS TrainingBridge2 FloorSystem	FS Training Bridge 2							
	15 ESus GE TrainingBridge3 EloorSustem	GE Training Bridge 3							
		F							
	Total Bridge Cou	nt: 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.